PiranhaMAX 143, 153, and 180 Installation and Operations Manual

532044-1_B

HUMMINBIRD®

PiranhaMAX

Thank You!

Thank you for choosing Humminbird®, the #1 name in fishfinders. Humminbird® has built its reputation by designing and manufacturing top-quality, thoroughly reliable marine equipment. Your Humminbird® is designed for trouble-free use in even the harshest marine environment. In the unlikely event that your Humminbird® does require repairs, we offer an exclusive Service Policy-free of charge during the first year after purchase,and available at a reasonable rate after the one-year period. For complete details, see the Warranty section of this manual. We encourage you to read this installation and operations manual carefully in order to get full benefit from all the features and applications of your Humminbird® product.

Contact our Customer Resource Center at **1-800-633-1468** or visit our Web site at **humminbird.com.** The following models are covered in this manual:

- **PiranhaMAX 143** - Single Beam, 160 V x 128 H Monochrome Display
- **PiranhaMAX 153** - Dual Beam, 160 V x 128 H Monochrome Display
- **PiranhaMAX 180** - Tri Beam, 240 V x 160 H Monochrome Display

WARNING! *This device should not be used as a navigational aid to prevent collision, grounding, boat damage, or personal injury. When the boat is moving, water depth may change too quickly to allow time for you to react. Always operate the boat at very slow speeds if you suspect shallow water or submerged objects.*

WARNING! *Disassembly and repair of this electronic unit should only be performed by authorized service personnel. Any modification of the serial number or attempt to repair the original equipment or accessories by unauthorized individuals will void the warranty.*

WARNING! *Do not travel at high speed with the unit cover installed. Remove the unit cover before traveling at speeds above 20 mph.*

WARNING! *This product contains chemicals known to the State of California to cause cancer and/or reproductive harm.*

NOTE: *Some features discussed in this manual require a separate purchase, and some features are only available on international models. Every effort has been made to clearly identify those features. Please read the manual carefully in order to understand the full capabilities of your model.*

NOTE: *To purchase accessories for your fishfinder, visit our Web site at* ***humminbird.com*** *or contact our Customer Resource Center at* ***1-800-633-1468****.*

NOTE: *The procedures and features described in this manual are subject to change without notice. This manual was written in English and may have been translated to another language. Humminbird® is not responsible for incorrect translations or discrepancies between documents.*

NOTE: *Illustrations in this manual may not look the same as your product, but your unit will function in the same way.*

ATTENTION INTERNATIONAL CUSTOMERS: Products sold in the U.S. are not intended for use in the international market. Humminbird® international units provide international features and are designed to meet country and regional regulations. Languages, maps, time zones, units of measurement, and warranty are examples of features that are customized for Humminbird® international units purchased through our authorized international distributors.

To obtain a list of authorized international distributors, please visit our Web site at **humminbird.com** or contact our Customer Resource Center at **(334) 687-6613**.

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NOTE: *Entries in this Table of Contents which list (International Only) are only available on products sold outside of the U.S. by our authorized International Distributors. It is important to note that products sold in the U.S. are not intended for resale in the international market. To obtain a list of authorized International Distributors, please visit our Web site at* ***humminbird.com*** *or contact our Customer Resource Center at* ***1-800-633-1468*** *to locate the distributor nearest you.*

Installation Overview

Before you start installation, we encourage you to read these instructions carefully in order to get the full benefit from your PiranhaMAX.

There are three basic installation tasks that you must perform for the PiranhaMAX:

- Installing the control head
- Installing the transducer
- Testing the complete installation and locking the transducer position.

Control Head Installation

Determine Where to Mount

Begin the installation by determining where to mount the control head. Consider the following to determine the best location:

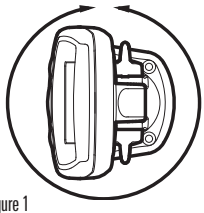


Figure 1

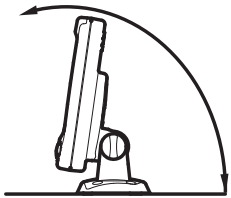


Figure 2

- To check the location planned for the control head, test run the cables for the power and transducer. See the installation section for your transducer type in order to plan the location of the transducer.
- The mounting surface should be stable enough to protect the control head from excessive wave shock and vibration, and should provide visibility while in operation.
- Your PiranhaMAX may have one of two different types of mounting bases, either a tilt mounting base or a tilt and swivel mounting base. The mounting area should allow sufficient room for the unit to pivot freely, to swivel if capable, and for easy removal and installation (Figures 1 and 2).

Connect the Power Cable to the Boat

A 6' long power cable is included to supply power to the control head. You may shorten or lengthen the cable using 18 gauge multi-stranded copper wire.

CAUTION! *Some boats have 24 or 36 Volt electric systems, but the control head MUST be connected to a 12 VDC power supply.*

The control head power cable can be connected to the electrical system of the boat at two places: a fuse panel usually located near the console, or directly to the battery.

NOTE: *Make sure that the power cable is not connected to the control head at the beginning of this procedure.*

NOTE: *Humminbird® is not responsible for over-voltage or over-current failures. The control head must have adequate protection through the proper selection and installation of a 1 amp fuse.*

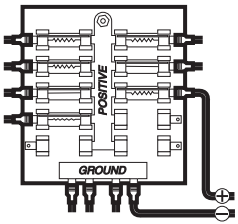
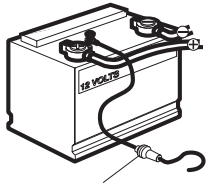


Figure 3

1a. If a fuse terminal is available, use crimp-on type electrical connectors (not included) that match the terminal on the fuse panel. Attach the black wire to ground (-), and the red wire to positive (+) 12 VDC power (Figure 3). Install a 1 amp fuse (not included) for protection of the unit. Humminbird® is not responsible for over-voltage or over-current failures.

or...



Inline Fuse Holder

Figure 4

1b. If you need to wire the control head directly to a battery, obtain and install an inline fuse holder and a 1 amp fuse (not included) for the protection of the unit (Figure 4). Humminbird® is not responsible for over-voltage or over-current failures.

NOTE: *In order to minimize the potential for interference with other marine electronics, a separate power source (such as a second battery) may be necessary.*

Assembling the Control Head Base

Your control head base will either have a tilt mount or a tilt and swivel mount. Refer to procedures A or B below to assemble and mount the control head base.

A. If you have a tilt mount, follow these steps:

1. Set the tilt mount control head base in place on the mounting surface. Mark the four mounting screw locations with a pencil or punch.
2. Set the base aside, and drill the four mounting screw holes using a 9/64" bit.
3. Proceed to ***Routing the Control Head Cables Under the Deck***.

Tilt and Swivel Mount Control Head Base Assembly

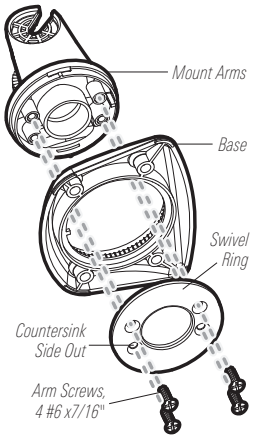


Figure 5

B. If you have a tilt and swivel mount, follow these steps:

1. Insert the mount arms into the base. Then, hold the mount arms in place as you turn the base upside down.
2. Insert the swivel ring into the base, with the countersink holes for the arm screws facing out.
3. Secure the mount arms with the four #6 screws provided (Figure 5). **Hand tighten only!**
4. Set the assembled control head base in place on the mounting surface. Mark the four mounting screw locations with a pencil or punch.
5. Set the base aside, and drill the four mounting screw holes using a 9/64" bit.
6. Proceed to ***Routing the Control Head Cables Under the Deck***.

Routing the Control Head Cables Under the Deck

Use the following steps to route the control head cables under the deck.

NOTE: *Under the deck cable routing is not always possible. If this is not an option, the cables should be routed and secured above deck.*

NOTE: *See the installation section for your transducer type in order to plan the location of the transducer and cable route.*

Tilt Mount or Tilt and Swivel Mount Control Head Base

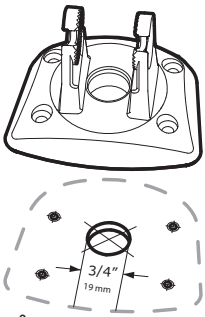


Figure 6

Tilt Mount or Tilt and Swivel Mount:

1a. Mark and drill a 3/4" hole as shown in Figure 6. Route the cables through the hole. The cables will exit through the center hole on the control head base.

1b. If the cables cannot be routed directly beneath the control head base, mark and drill a 3/4" hole that will allow you to run the cables close to the control head base.

Attaching the Control Head to the Base

Follow these steps to attach the control head to the already-assembled base:

NOTE: *The transducer cable and power cable should be routed prior to securing the mounting bracket to the deck.*

1. Apply marine-grade silicone sealant to the drilled holes for the mounting bracket.
2. Place the mounting bracket on the mounting surface, aligning with the drilled holes.
3. Insert the four #8 Phillips countersink wood screws into the mounting holes and **hand tighten only!**

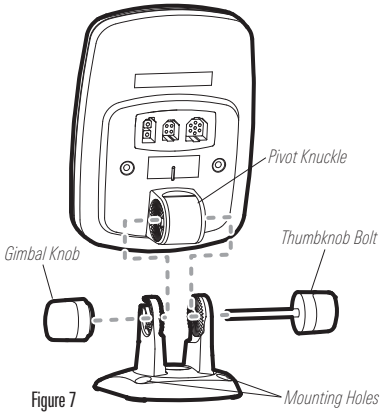


Figure 7

4. Insert the thumbknob bolt through the pivot knuckle on the control head (Figure 7).
5. Align the pivot knuckle with the mount base arms and slide into place, twisting slightly if necessary, until the unit is firmly seated.
6. Rotate the control head to the desired angle and hand tighten the thumbknob bolt.
7. Thread the gimbal knob onto the pivot bolt and tighten.

Attaching the Cables to the Control Head

Follow these steps to attach the power and transducer cables to the control head:

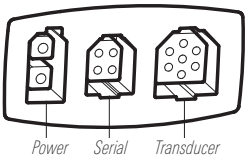


Figure 8

1. Matching the cable plugs to the shape and orientation of the sockets, insert the transducer and power cables into the correct sockets on the control head (Figure 8).

NOTE: *The serial port is for authorized service personnel use only. Do not connect a cable to this port. The serial port does not require a port cover.*

2. With the control head in place, tilt and/or swivel the unit through its full range to make sure there is enough cable slack for the unit to move freely. Hand tighten the thumbknob bolt when you achieve the desired position for the control head.

You are now ready to install the transducer. See ***Transducer Installation Overview*** and then find the section that refers to your transducer type.

Transducer Installation Overview

The transducer can be installed on the transom of the boat, inside the hull, or onto a trolling motor, depending on your transducer type. The type of transducer you have will also determine how the cable will be routed. Go to the section that describes your transducer, and follow the steps to position and mount the transducer on your boat.

NOTE: *Due to the wide variety of hulls, only general instructions are presented in this installation guide. Each boat hull represents a unique set of requirements that should be evaluated prior to installation. It is important to read the instructions completely and understand the mounting guidelines before beginning installation.*

NOTE: *If the included transducer will not work for your application, you may exchange it, NEW and UNASSEMBLED, with mounting hardware included, for a transducer appropriate for your application - often at very little or no charge depending on the transducer. Call the Humminbird® Customer Resource Center at* ***1-800-633-1468*** *for details and pricing, or visit* ***humminbird.com****.*

NOTE: *In addition to the hardware supplied with your transducer, you will need a powered hand drill and various drill bits, various hand tools, including a ruler or straightedge, a level, a 12" plumb line (weighted string or monofilament line), marker or pencil, safety glasses and dust mask, and marine-grade silicone sealant.*

NOTE: *When drilling holes in fiberglass hulls, it is best to start with a smaller bit and use progressively larger drill bits to reduce the chance of chipping or flaking the outer coating.*

Transom Transducer Installation

Locating the Transducer Mounting Position

Turbulence: You must first determine the best location on the transom to install the transducer. It is very important to locate the transducer in an area that is relatively free of turbulent water. Consider the following to find the best location with the least amount of turbulence:

NOTE: *Traveling over 65 mph with the transducer in the water is not recommended for the Tri Beam transom mount transducer, as damage might occur. If speed above 65 mph is critical, you may want to consider mounting it inside the hull. See* ***Inside the Hull Transducer Installation*** *for details.*

Areas of Possible Turbulence

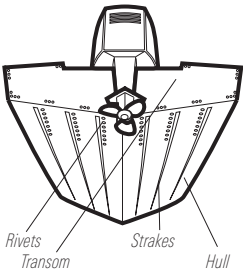


Figure 9

- As the boat moves through the water, turbulence is generated by the weight of the boat and the thrust of the propeller(s) - either clockwise or counter-clockwise. This turbulent water is normally confined to areas immediately aft of ribs, strakes or rows of rivets on the bottom of the boat, and in the immediate area of the propeller(s). Clockwise propellers create more turbulence on the port side. On outboard or inboard/outboard boats, it is best to locate the transducer at least 15" to the side of the propeller(s) (Figure 11).

Stepped Hull

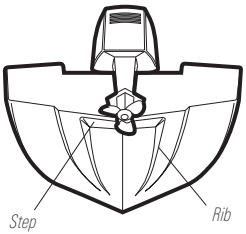


Figure 10

- The best way to locate turbulence-free water is to view the transom while the boat is moving. This method is recommended if maximum high-speed operation is a high priority. If this is not possible, select a location on the transom where the hull forward of this location is smooth, flat and free of protrusions or ribs (Figure 9).
- On boats with stepped hulls, it may be possible to mount the transducer on the step. Do not mount the transducer on the transom behind a step to avoid popping the transducer out of the water at higher speeds. The transducer must remain in the water for the control head to maintain the sonar signal (Figure 10).

- If the transom is behind the propeller(s), it may be impossible to find an area clear from turbulence, and a different mounting technique or transducer type should be considered, such as an Inside the Hull Transducer.
- If you plan to trailer your boat, do not mount the transducer too close to trailer bunks or rollers to avoid moving or damaging the transducer during loading and unloading of the boat.
- If high speed operation is critical, you may want to consider using an In-Hull transducer instead of this Transom Mount transducer.

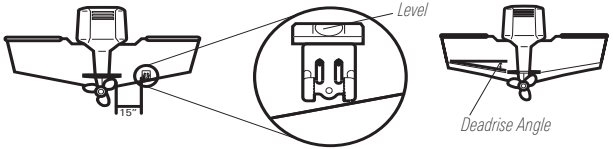


Figure 12

Find a turbulence-free location at least 15" from the propeller(s) and not in line with trailer bunks or rollers. (Figure 11).

NOTE: *The hydrodynamic shape of your transducer allows it to point straight down without deadrise adjustment (Figure 12).*

NOTE: *If you cannot find a transom mount location that will work for your high-speed application, find an In-Hull Transducer by contacting our Customer Resource Center at either* ***1-800-633-1468*** *or by visiting our Web site at* ***humminbird.com****.*

Preparing the Mounting Location

After determining the mounting location for the transducer, follow the steps below to position and mount the transducer bracket.

Positioning the Mounting Bracket

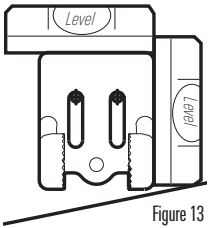
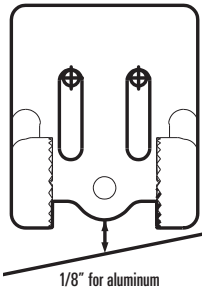


Figure 13

Boat Hull Types Require Different Mounting Positions



1/8" for aluminum
1/4" for fiberglass

Figure 14

Using the Mounting Bracket to Mark the Initial Drill Holes

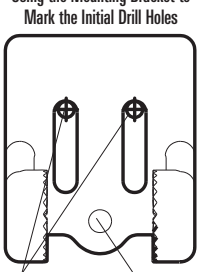


Figure 15

1. Make sure that the boat is level on the trailer, both from port to starboard and from bow to stern, by placing your level on the deck of the boat, first in one direction, then in the other.

2. Hold the mounting bracket against the transom of the boat in the location you have selected (Figure 13). Align the bracket horizontally, using the level. Make sure that the lower screw hole protrusion does not protrude past the bottom of the hull, and there is at least 1/4" clearance between the bottom of the bracket and the bottom of the transom for fiberglass boats, and 1/8" clearance for aluminum boats (Figure 14).

NOTE: *If you have a flat-bottomed aluminum boat, some additional adjustment may be needed to accommodate the rivets on the bottom of the boat (i.e. the gap may need to be a little smaller than 1/8"). This will help you to avoid excessive turbulence at high speeds.*

NOTE: *If your propeller moves clockwise as the boat moves forward (as you're facing the stern of the boat from behind), mount the transducer on the starboard side, and align the bottom right corner of the mounting bracket with the bottom of the boat. If your propeller moves counter-clockwise as the boat moves forward (as you're facing the stern of the boat from behind), mount the transducer on the port side, and align the bottom left corner of the mounting bracket with the bottom of the boat.*

3. Continue to hold the bracket on the transom of the boat, and use a pencil or marker to mark where to drill the two mounting holes. Mark the drill holes near the top of each slot, making sure that your mark is centered in the slot (Figure 15).

NOTE: *The third hole should not be drilled until the angle and height of the transducer is finalized, which you will not do until a later procedure.*

4. Make sure that the drill bit is perpendicular to the actual surface of the transom, NOT parallel to the ground, before you drill. Using a 5/32" bit, drill the two holes only to a depth of approximately 1".

NOTE: *On fiberglass hulls, it is best to use progressively larger drill bits to reduce the chance of chipping or flaking the outer coating.*

Assembling the Transducer and Initial Mounting

In this procedure, you will assemble the transducer using the hardware provided, then mount it and make adjustments to its position without locking it in place.

NOTE: *You will initially assemble the transducer and the mounting bracket by matching the two ratchets to a numbered position on the transducer knuckle. Further adjustments may be necessary.*

1a. If you already know your transom angle, refer to the chart below for the initial position to use to set the ratchets (Figure 16). If your transom is angled at 14 degrees (a common transom angle for many boats) use position 1 for the ratchets. In either case, go to step 2.

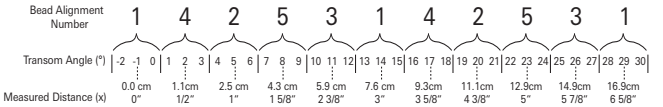


Figure 16

or...

Measuring the Transom Angle

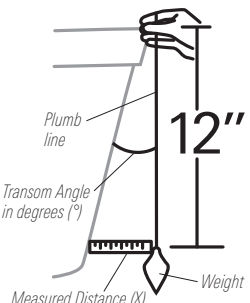


Figure 17

1b. If you do not know your transom angle, measure it using a plumb line (weighted nylon string or monofilament line) exactly 12 inches long. Hold the top of the plumb line against the top of the transom with your finger, and wait until the line hangs straight down (Figure 17). Using a ruler, measure the distance from the **bottom** of the plumb line to the back of the transom, then use the chart (Figure 16).

NOTE: *It is important to take your measurement in the location shown in Figure 17, from exactly 12 inches down from the top of the transom.*

2. Place the two ratchets, one on either side of the transducer knuckle, so that the beads on each ratchet line up with the desired position number on the knuckle (Figure 18a). If you are setting the ratchets at position 1, the beads on each ratchet will line up with the rib on the transducer knuckle to form one continuous line on the assembly (Figure 18b).

NOTE: *The ratchets are keyed. Make sure that the square teeth on each ratchet face the square teeth on the transducer knuckle, and the triangular teeth face outward.*

Hold the ratchets on the transducer knuckle with one hand and fit the mounting bracket over them until it snaps into place with the other hand. Refer to the illustration (Figure 18d).

Transducer Knuckle Positions

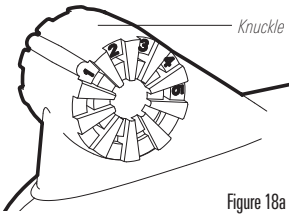


Figure 18a

Ratchets Placed in Position 1

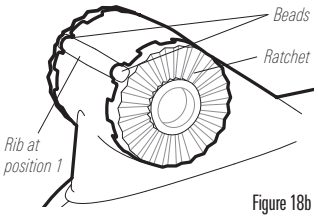


Figure 18b

Ratchets Placed in Position 2

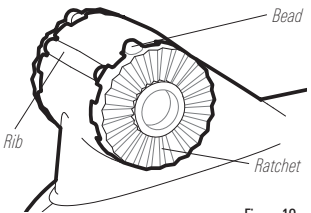


Figure 18c

Fitting the Mounting Bracket Over the Ratchet

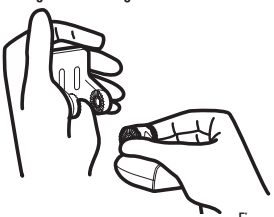


Figure 18d

Inserting the Pivot Bolt

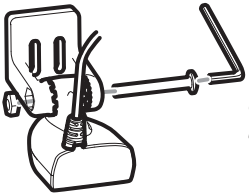


Figure 19

3. Put the pivot bolt through the assembly to hold it in position and loosely install the nut, but do NOT tighten the nut at this time (Figure 19).

CAUTION! *Do not use a high speed driver on this combination of fasteners. Hand tighten only.*

4. Align the mounting bracket transducer assembly with the drilled holes in the transom. With a 5/16" socket driver, mount the assembly to the transom using the two #10 - 1" long screws provided (Figure 20). **Hand tighten only!**

Mounting the Assembly to the Transom

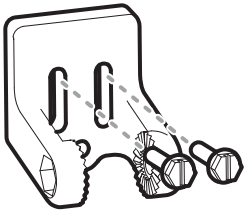


Figure 20

NOTE: *Make sure that the mounting screws are snug, but do not fully tighten the mounting screws at this time to allow the transducer assembly to slide for adjustment purposes.*

5. Adjust the initial angle of the transducer from back to front by rotating the transducer until the side seam on the transducer is almost parallel with the bottom of the boat, one click at a time in either direction (Figure 21 and 22).

Adjusting the Initial Transducer Angle

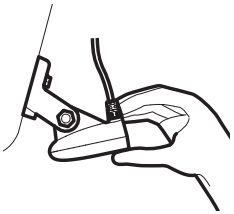


Figure 21

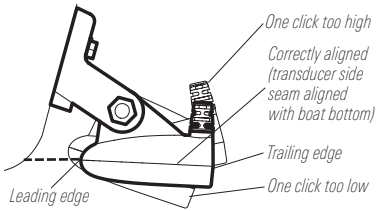
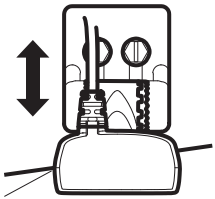


Figure 22

Adjusting the Transducer Mounting Position



Seam aligned with boat hull

Figure 23

Leveling the Mounting Assembly Horizontally

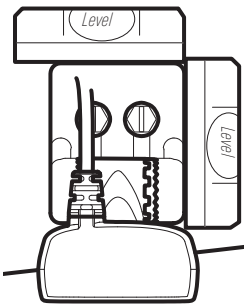


Figure 24

6. Adjust the transducer assembly vertically, until the seam on the leading edge of the transducer (the edge closest to the transom of the boat) is level and just slightly below the hull (Figure 23).

NOTE: *The transducer has a natural downward slant of 4-5 degrees from leading edge (closest to the boat transom) to trailing edge (farthest away from the boat). Looking at the back of the transducer, the seam should be slightly below the bottom of the hull.*

7. Continue to adjust until the bracket is also level from port to starboard (horizontally level as you look at the transducer from behind the boat [Figure 24]).

8. Mark the correct position on the transom by tracing the silhouette of the transducer mounting bracket with a pencil or marker.

9. Tighten the pivot bolt, using the pivot screw and nut to lock the assembly. **Hand tighten only!**

CAUTION! *Do not use a high speed driver on this combination of fasteners. Hand tighten only.*

10. Hand-tighten the two mounting screws.

NOTE: *You will drill the third mounting hole and finalize the installation after you route the cable and test and finish the installation in the following procedures.*

Routing the Cable

The transducer cable has a low profile connector, which must be routed to the point where the control head is mounted. There are several ways to route the transducer cable to the area where the control head is installed. The most common procedure routes the cable through the transom into the boat.

NOTE: *Your boat may have a pre-existing wiring channel or conduit that you can use for the transducer cable.*

1. Unplug the other end of the transducer cable from the control head. (The transducer cable was connected in the earlier section ***Attaching the Cables to the Control Head***). Make sure that the cable is long enough to accommodate the planned route by running the cable over the transom.

CAUTION! *Do not cut or shorten the transducer cable, and try not to damage the cable insulation. Route the cable as far as possible from any VHF radio antenna cables or tachometer cables to reduce the possibility of interference. If the cable is too short, extension cables are available to extend the transducer cable up to a total of 50'. For assistance, contact the Customer Resource Center at* ***humminbird.com*** *or call* ***1-800-633-1468*** *for more information.*

NOTE: *Allow enough slack in the cable for slight movement at the pivot point. It is best to route the cable to the side of the transducer so the transducer will not damage the cable during movement.*

2a. If you are routing the cable over the transom of the boat, secure the cable by attaching the cable clamp to the transom, drilling 9/64" diameter holes for the #8 x 5/8" wood screws, then skip directly to step 5 to connect the cable.

or...

2b. If you will be routing the cable through a hole in the transom, drill a 5/8" diameter hole above the waterline. Route the cable through this hole, then fill the hole with marine-grade silicone sealant and proceed to the next step immediately.

Routing the Cable

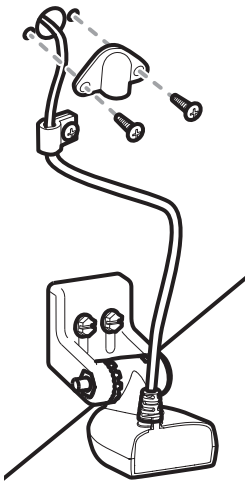


Figure 25

Storing Excess Cable

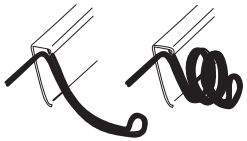


Figure 26

3. Place the escutcheon plate over the cable hole and use it as a guide to mark the two escutcheon plate mounting holes. Remove the plate, drill two 9/64" diameter x 5/8" deep holes, and then fill both holes with marine-grade silicone sealant. Place the escutcheon plate over the cable hole and attach with two #8 x 5/8" wood screws. **Hand tighten only!**

4. Route and secure the cable by attaching the cable clamp to the transom. Drill one 9/64" diameter x 5/8" deep hole, then fill hole with marine-grade silicone sealant, then attach the cable clamp using a #8 x 5/8" screw. **Hand tighten only!**

   NOTE: *If there is excess cable that needs to be gathered at one location (as shown in the illustration), dress the cable routed from both directions so that a single loop is left extending from the storage location. Doubling the cable up from this point, form the cable into a coil. Storing excess cable using this method can reduce electronic interference (Figure 26).*

5. Plug the cable connector back into the control head. The slots are keyed to prevent reversed installation, so be careful not to force the connector into the holder.

Your control head is now ready for operation.

Test and Finish the Installation

Once you have installed both the control head and the transom transducer, and have routed all the cables, you must perform a final test before locking the transducer in place. Testing should be performed with the boat in the water.

1. Press POWER once to turn the control head on. If the unit does not power up, make sure that the connector is fully plugged into the terminal slot and that power is available.
2. If all connections are correct and power is available, the Humminbird® control head will enter Normal operation.
3. If the bottom is visible on-screen with a digital depth readout, the unit is working properly. Make sure that the boat is in water greater than 2' but less than the depth capability of the unit, and that the transducer is fully submerged, since the sonar signal cannot pass through air.

NOTE: *The transducer must be submerged in water for reliable transducer detection.*

4. If the unit is working properly, gradually increase the boat speed to test high-speed performance. If the unit functions well at low speeds, but begins to skip or miss the bottom at higher speeds, the transducer requires adjustment.
5. If you have the correct angle set on the transducer, yet lose a bottom reading at high speed, adjust the height and the running angle in small increments to give you the ideal transducer position for your boat. First, adjust the height in small increments (Figure 23).

NOTE: *The deeper the transducer is in the water, the more likely that a rooster tail of spray will be generated at high speeds, so make sure that the transducer is as high as it can be and still be submerged in the water.*

If you are still not getting good high speed readings, you may need to disassemble the transducer mounting assembly and re-position the ratchets (Figures 18a - 18d).

If you do change the transducer position, re-trace the position of the mounting bracket before proceeding.

NOTE: *It is often necessary to make several incremental transducer adjustments before optimum high speed performance is achieved. Due to the wide variety of boat hulls, however, it is not always possible to obtain high speed depth readings.*

6. Once you have reached a consistently good sonar signal at the desired speeds, you are ready to lock down the transducer settings. Remove the transducer from the bracket (after noting where the ratchets are assembled), then re-align the mounting bracket against the transom of the boat to match the traced silhouette. Check the bracket position with the level again to make sure it is still level, then mark the third mounting hole using a pencil or marker. Unscrew and remove the mounting screws and the transducer bracket and set aside.

7. Drill the third mounting hole, using a 5/32" drill bit. Use a marine-grade silicone sealant to fill all three drilled mounting holes, especially if the holes penetrated the transom wall.

NOTE: *On fiberglass hulls, it is best to use progressively larger drill bits to reduce the chance of chipping or flaking the outer coating.*

Fully Tighten All Three Mounting Screws

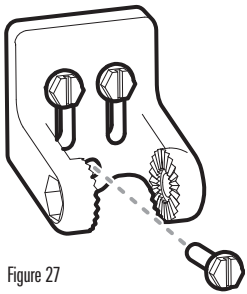


Figure 27

8. Re-position the transducer bracket against the transom of the boat, then hand-install all three screws. Make sure that the transducer location has not changed, then fully tighten all three mounting screws (Figure 27). **Hand tighten only!** Re-install the transducer to the mounting bracket, making sure to assemble the ratchets in the same location they had before. (See Figures 18a - 18d and Figure 21 - 22). If you have performed the preceding procedures correctly, the transducer should be level and at the right height for optimal operation.

Inside the Hull Transducer Installation

In-hull mounting generally produces good results in single thickness fiberglass-hulled boats. Humminbird® cannot guarantee depth performance when transmitting and receiving through the hull of the boat, since some signal loss occurs. The amount of loss depends on hull construction and thickness, as well as the installation position and process.

NOTE: *In-hull mounting requires an installed and operational control head.*

NOTE: *The integral temperature probe will not work with in-hull mounting, so you may either want to consider purchasing a Temp Sensor or obtaining a different transducer. Humminbird® offers a transducer exchange program to swap the NEW and UNASSEMBLED transducer, accompanied by mounting hardware, for one without an integral temperature probe. Call the Humminbird® Customer Resource Center at* ***1-800-633-1468*** *for details, or visit* ***humminbird.com*** *for more information.*

This installation requires slow-cure two-part epoxy. Do not use silicone or any other soft adhesive to install the transducer, as this material reduces the sensitivity of the unit. Do not use five-minute epoxy, as it has a tendency to cure before all the air bubbles can be purged, thus reducing signal strength.

Determine the Transducer Mounting Location

Decide where to install the transducer on the inside of the hull. Consider the following to find the best location:

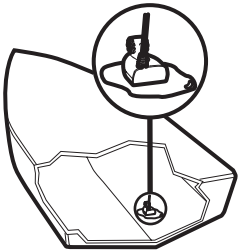


Figure 28

- Observe the outside of the boat hull to find the areas that are mostly free from turbulent water. Avoid ribs, strakes and other protrusions, as these create turbulence (Figure 28).
- As a general rule, the faster the boat can travel, the further aft and closer to the centerline of the hull the transducer has to be located in order to remain in contact with the water at high speeds (Figure 29).

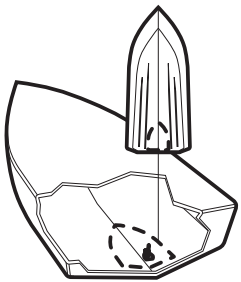


Figure 29

Trial Installation

You will not be able to adjust the mounting after an inside the hull transducer is installed. It is best, therefore, to perform a trial installation first that includes running the boat at various speeds, in order to determine the best mounting area before permanently mounting the transducer.

1. Plug the transducer into the control head, then power up the control head. When the control head detects a functioning transducer, it will automatically enter Normal operating mode.

2. View the sonar signal at its best by holding the transducer over the side, immersed in the water, so that it is pointing straight down over a known flat bottom. Use the display to benchmark against the sonar signal that will be detected once the transducer is placed in the hull.

3. Place the transducer body face down at the identified mounting location inside the hull, with the pointed end towards the bow (Figure 28).

4. Fill the hull with enough water to submerge the transducer body. Use a sand-filled bag or other heavy object to hold the transducer in position. The transducer cannot transmit through air, and the water purges any air from between the transducer and the hull, and fills any voids in the coarse fiberglass surface.

5. View the sonar signal on the display and compare against what was observed in Step 2, making sure that the boat is in the same location as it was during your observations in Step 2. If the results are comparable, move on to Step 6. Otherwise, locate a new position in the hull and repeat Steps 3 through 5.

6. Run the boat at various speeds and water depths while observing the screen on the control head. If depth performance is required, test the transducer in water at the desired depth. If the performance is acceptable, move on to Step 7. If the performance is not acceptable, repeat Steps 3 through 6.

7. Once you have determined the best mounting location using the above steps, mark the position of the transducer.

Route the Cable

1. Once the mounting location is determined and you have marked the position of the transducer, route the cable from the transducer to the control head.

Permanently Mount the Transducer

1. Make sure the position of the transducer is marked.
2. You may have to disconnect the cable to the control head and reconnect it at the end of this procedure.
3. Remove the water from inside the hull and thoroughly dry the mounting surface. If the surface is excessively rough, it may be necessary to sand the area to provide a smooth mounting surface.

Figure 30

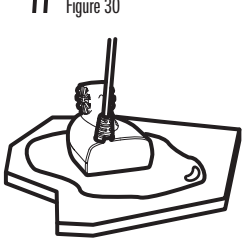


Figure 31

4. Mix an ample quantity of two-part slow cure epoxy slowly and thoroughly. Avoid trapping air bubbles (Figure 30).
5. Coat the face of the transducer and the inside of the hull with epoxy (Figures 28 and 30).
6. Press the transducer into place with a slight twisting motion to purge any trapped air from underneath, keeping the pointed end of the transducer body pointed forward, towards the bow (Figure 31).

NOTE: *Proper operation requires the pointed end of the transducer body to face towards the bow.*

7. Weight the transducer so that it will not move while the epoxy is curing.

NOTE: *When the epoxy cures, no water is necessary inside the hull.*

8. If you unplugged the transducer cable at the beginning of this procedure, plug it back into the control head.

Your control head is now ready for operation.

NOTE: *Neither water, spilled gasoline, nor oil will affect the performance of the transducer.*

Trolling Motor Transducer Installation

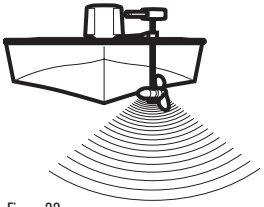


Figure 32

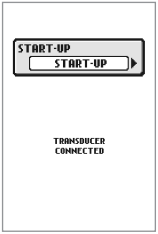
Several styles of the transducer are compatible with trolling motor mounting. (Figure 32). If you have a trolling motor bracket, refer to the separate installation instructions that are included with the bracket.

You may purchase a Trolling Motor Adapter kit that will allow you to mount the transducer on the trolling motor.

NOTE: *Call the Humminbird® Customer Resource Center at* ***1-800-633-1468*** *for details and pricing, or visit* ***humminbird.com*** *for more information.*

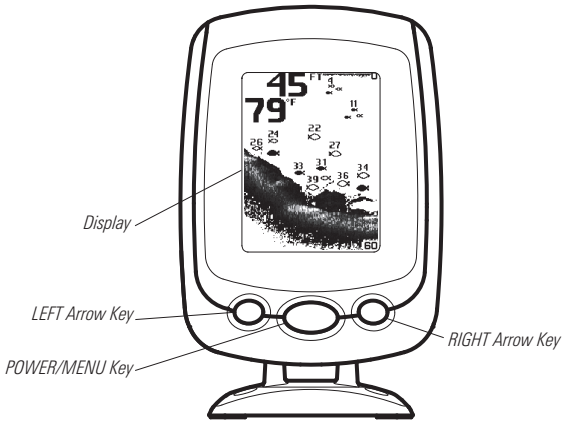
Powering ON and OFF

Press and hold the POWER-MENU key until the PiranhaMAX powers on, then release the key. To power off, press and hold the POWER-MENU key until the unit shuts down.



When the PiranhaMAX powers on, the Start-Up menu temporarily appears. From this menu, select either Start-Up, Simulator, or Setup.

- Use Start-Up for on the water use.
- Use Simulator for learning how to use the system with simulated sonar data. Access Simulator by pressing the Right Arrow Key once.
- Use Setup to display additional set-up menu choices. Access Setup by pressing the Right Arrow Key twice (See ***Setup Menu*** for more information).

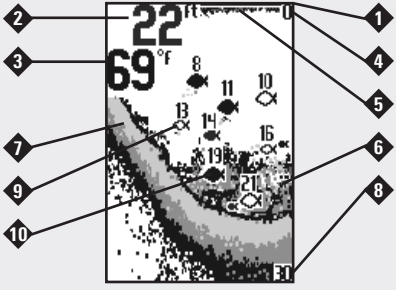


What You See On the Display

The PiranhaMAX displays underwater information in an easy-to-understand format. The top of the display corresponds to the water surface at the transducer, and the bottom of the display corresponds to the Depth Range automatically selected for the current water depth. The Bottom Contour varies as the depth under the boat changes. Digital readouts provide precise information for depth, fish, and water temperature.

As the boat moves, terrain and bottom composition variations are displayed. Fish, baitfish, and thermoclines (underwater temperature changes) are displayed when detected. Underwater conditions vary greatly, so some experience and interpretation is needed to realize all the benefits of the PiranhaMAX – use the following illustration as a guide to the most common conditions and practice using your PiranhaMAX over known bottom types.

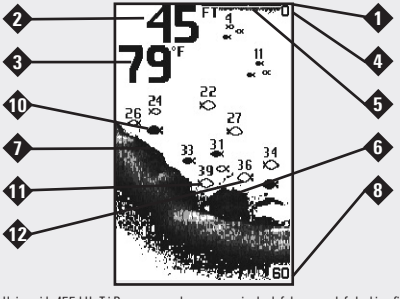
PiranhaMAX 143 (Single Beam) and PiranhaMAX 153 (Dual Beam) Display



* Units with 83 kHz Dual Beam sonar show targets in the wide beam as hollow fish icons.

1 - Water Surface Line
2 - Depth - Measured at the Transducer
3 - Temperature
4 - Upper Range
5 - Surface Clutter
6 - Structure
7 - Bottom Contour
8 - Lower Range
9 - 83 kHz, Wide Beam Hollow Fish Symbol (Dual Beam Units only)*
10 - 200 kHz, Narrow Beam Shaded Fish Symbol
11 - 455 kHz, Right Beam Fish Symbol (Tri Beam Unit only)**
12 - 455 kHz, Left Beam Fish Symbol (Tri Beam Unit only)**

PiranhaMAX 180 (Tri Beam) Display

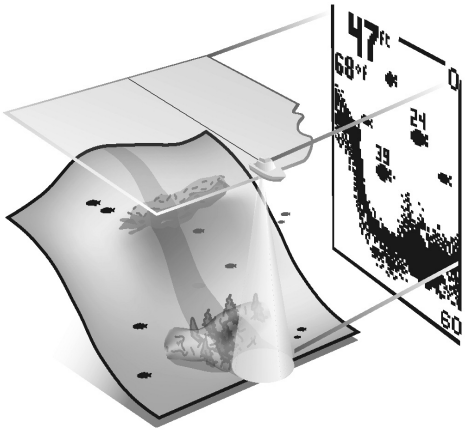


** Units with 455 kHz Tri Beam sonar show targets in the left beam as left-looking fish symbols, and targets in the right beam as right-looking fish symbols.

PiranhaMAX Sonar Technology

The PiranhaMAX is the easiest to use fishfinder ever. For most anglers, all you'll ever need to do is power on and fish! The PiranhaMAX automatically determines depth and makes adjustments to keep the bottom and fish visible on the display.

The PiranhaMAX uses sonar technology to send sound waves from the transducer into the water. The returned "echoes" are plotted on the display, creating a very accurate picture of the underwater world, including distance to underwater objects such as the bottom, fish, and structure.



Your PiranhaMAX will have Single, Dual, or Tri Beam sonar. Find the correct sonar description that applies to your unit.

Single Beam Sonar

The **PiranhaMAX 143** uses a 200 kHz single beam sonar system with a 20° area of coverage. Boat speed, wave action, bottom hardness, water conditions and transducer installation can all affect depth capability.

Dual Beam Sonar

The **PiranhaMAX 153** uses a 200/83 kHz dual beam sonar system with a wide (60°) area of coverage. Dual Beam sonar is optimized to show the greatest bottom definition using a narrow (20°) beam yet can still indicate fish found in the wide (60°) beam when the Fish ID+™ feature is turned on. Dual Beam is ideal for a wide range of conditions - from shallow water to very deep water in both fresh and salt water. Boat speed, wave action, bottom hardness, water conditions and transducer installation can all affect depth capability.

Tri Beam Sonar

The **PiranhaMAX 180** uses two frequencies and three different sonar elements, one narrow, two wide, that transmit signals to the left, right and straight down from your boat. The downward beam is 200 kHz with a 20° area of coverage. This beam maintains a continuous digital depth readout from the bottom directly beneath your boat. The side beams are 455 kHz with a 35° area of coverage, for a total 90° area of coverage. Boat speed, wave action, bottom hardness, water conditions, and transducer installation can all affect depth capability.

The Menu System

A simple menu system allows you to access your PiranhaMAX adjustable settings. To activate the menu system, press the POWER-MENU key. Press the POWER-MENU key repeatedly to display the PiranhaMAX menu settings, one at a time. When a menu setting is on the display, use the RIGHT and LEFT Arrow keys to adjust the menu setting. Menu settings are saved and removed from the screen automatically after several seconds. In Normal operating mode, most menu settings saved to memory will not return to their default values when the unit is turned off. See individual menu choices for more information.

NOTE: *Each time the POWER-MENU key is pressed, the backlight momentarily illuminates for easy viewing at night. Adjust the LIGHT menu setting to keep the backlight on.*

NOTE: *If Simulator Mode is selected from the Start-Up Menu and a transducer is plugged in, some menu setting changes will be saved in memory even after the unit is powered down. Menu setting changes will not be saved from Simulator mode when a transducer is not connected.*

NOTE: *Turning on the Setup menu choice from the Main Menu System allows you to access additional set-up menu choices. See* ***Setup Menu*** *for more information.*

Light

(Setting Not Saved in Memory)

Press the POWER-MENU key until LIGHT appears. Use the backlight for night fishing. Select either 0 (Off), or 1 through 5 to activate the backlight at the desired level. (0 to 5, Default = 0)

NOTE: *Continuous backlight operation will significantly decrease the battery life for PiranhaMAX Portables.*

Sensitivity

(Setting Saved in Memory)

Press the POWER-MENU key until SENSITIVITY appears. Sensitivity controls how much detail is shown on the display. Increasing the sensitivity shows more sonar returns from small baitfish and suspended debris in the water; however, the display may become too cluttered. When operating in very clear water or greater depths, increased sensitivity shows weaker returns that may be of interest. Decreasing the sensitivity eliminates the clutter from the display that is sometimes present in murky or muddy water. If Sensitivity is adjusted too low, the display may not show many sonar returns that could be fish. (0 – 10, Default = 5)

Depth Range

(Setting Not Saved in Memory)

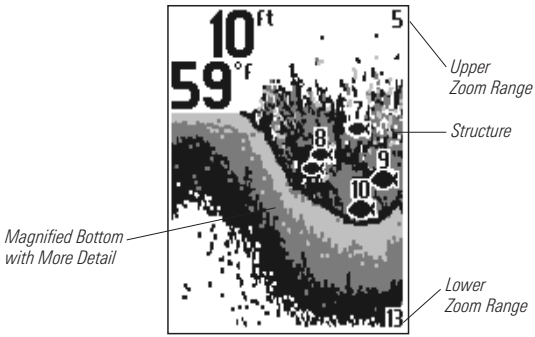
Press the POWER-MENU key until DEPTH RANGE appears. Automatic is the default setting. When in automatic, the lower range will be adjusted by the unit to follow the bottom. (Auto, 15 to 600 ft [PiranhaMAX 143/153], 15 to 800 ft [PiranhaMAX 180], Default = Auto)

NOTE: *In manual operation, if the depth is greater than the depth range setting, the bottom will not be visible on the display. Select AUTO to return to automatic operation.*

Zoom

(Setting Not Saved in Memory)

Press the POWER-MENU key until ZOOM appears. Select Auto to magnify the area around the bottom in order to reveal fish and structure close to the bottom that may not be visible during normal operation. When ZOOM is set to Auto, the upper and lower Depth Ranges are automatically adjusted to keep the area above and below the bottom on the display. Select Off to return to normal operation. (Off, Auto, Manual Ranges, Default = Off)



There is also a series of manual ranges which can be selected. The manual depth ranges are determined by the present depth conditions.

Chart Speed

(Setting Saved in Memory)

Press the POWER-MENU key until CHART SPEED appears. Select a setting from 1-5 to increase or decrease the chart speed, where 1 is the slowest and 5 is the fastest chart speed. Chart speed determines the speed at which the sonar information moves across the display, and consequently the amount of detail shown. A faster speed shows more information and is preferred by most anglers; however, the sonar information moves across the display quickly. A slower speed keeps the information on the display longer, but the bottom and fish details become compressed and may be difficult to interpret. (1 to 5, Default = 5)

Fish Alarm

(Setting Saved in Memory)

Press the POWER-MENU key until FISH ALARM appears. Select Off for no fish alarm, or one of the following symbols to set the alarm. An alarm will sound when the PiranhaMAX detects fish that correspond to the alarm setting. Fish Alarm will only sound if Fish ID+™ is also set to On. (Off, Large, Large/Medium, All, Default = Off)

Large fish only

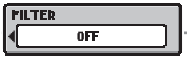
Large/Medium fish only

All fish

Depth Alarm

(Setting Saved in Memory)

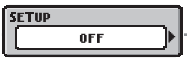
Press the POWER-MENU key until DEPTH ALARM appears. Select OFF for no Depth Alarm, or select 3 to 99 feet to set the alarm depth. An audible alarm sounds when the depth is equal to or less than the setting. (Off, 3 to 99 feet, Default = Off)



Filter

(Setting Saved in Memory)

Press the POWER-MENU key until FILTER appears. Select either Off or On. Filter adjusts the sonar filter to limit interference on the display from sources such as your boat engine, turbulence, or other sonar devices. (On, Off, Default = Off)



Setup Menu

(Setting Not Saved in Memory)

Press the POWER-MENU key until Setup appears. Press the RIGHT Arrow key to select On. (Off, On, Default = Off)

When you activate Setup, additional menu choices will become available that are not a part of the Main Menu system. After selecting Setup, press the POWER-MENU key to display the Setup menu choices, one at a time. Setup Menu choices include:

- Contrast
- Fish ID+™
- Bottom View
- Battery Alarm
- Language (International only)
- Units (International only).

Scroll through all Setup menu choices to exit the Setup menu.

Contrast (Setup Menu)

(Setting Saved in Memory)

Make sure that the Setup menu is selected, then press the POWER-MENU key until CONTRAST appears. Select a setting from 1 through 5. (1 to 5, Default = 3)

Scroll through all Setup menu choices to exit the Setup menu.

Fish ID+™ (Setup Menu)

(Setting Saved in Memory)

Make sure that the Setup menu is selected, then press the POWER-MENU key until FISH ID+™ appears. Select either Off to view "raw" sonar returns or On to view Fish symbols. Fish ID+™ uses advanced signal processing to interpret sonar returns, and will display a Fish Symbol when very selective requirements are met. A select number of possible fish returns will be displayed with their associated depth. (On, Off, Default = On)

Scroll through all Setup menu choices to exit the Setup menu.

Single Beam	Raw Sonar, Fish ID+™ Off	200 kHz Narrow beam, Fish ID+™ On	
Dual Beam	Raw Sonar, Fish ID+™ Off	200 kHz Narrow beam, Fish ID+™ On	83 kHz Wide beam, Fish ID+™ On
Tri Beam	Raw Sonar, Fish ID+™ Off	200 kHz Narrow beam, Fish ID+™ On	455 kHz Left and right beam, Fish ID+™ On

NOTE: *Returns from the 200 kHz narrow beam are shown with shaded fish symbols while the 83 kHz wide beam (and 455 kHz beam) returns are displayed with hollow fish symbols.*

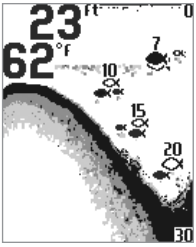
NOTE: *Hollow fish symbols are not available on 200 kHz Single Beam sonar units.*

Bottom View (Setup Menu)

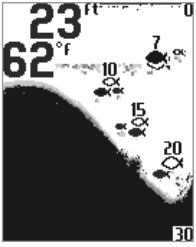
(Setting Saved in Memory)

Make sure that the Setup menu is selected, then press the POWER-MENU key until BOTTOM VIEW appears. Bottom View selects the method used to represent the bottom and structure on the display. (Structure ID, Black, WhiteLine, Inverse, Default = Inverse)

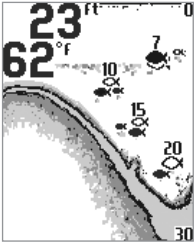
Scroll through all Setup menu choices to exit the Setup menu.



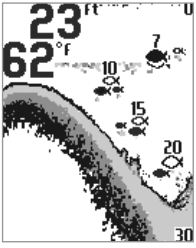
Structure ID® represents weak returns as light pixels and strong returns as dark pixels. This has the benefit of ensuring that strong returns will be clearly visible on the display.



Black (Bottom Black) displays all pixels below the bottom contour as black, regardless of signal strength. This has the benefit of providing a high contrast between the bottom and other sonar returns on the display.



WhiteLine™ highlights the strongest sonar returns in white resulting in a distinctive outline. This has the benefit of clearly defining the bottom on the display.



Inverse is a method where weak returns are shown with dark pixels and strong returns with lighter pixels. This has the benefit of ensuring that weak signals will be clearly visible on the display.

Battery Alarm (Setup Menu)

(Setting Saved in Memory)

Make sure that the Setup menu is selected, then press the POWER-MENU key until BATTERY ALARM appears. Select Off or 8.5 to 13.5 Volts. Battery Alarm sounds when the input battery voltage is equal to or less than the menu setting. (Off, 8.5 to 13.5 Volts, Default = Off)

Scroll through all Setup menu choices to exit the Setup menu.

Language (Setup Menu)

(Setting Saved in Memory, International only)

Make sure that the Setup menu is selected, then press the POWER-MENU key until LANGUAGE appears (International Units only). LANGUAGE selects the display language for menus. (Settings vary, Default = English)

Scroll through all Setup menu choices to exit the Setup menu.

Units (Setup Menu)

(Setting Saved in Memory, International only)

Make sure that the Setup menu is selected, then press the POWER-MENU key until UNITS appears (International Units only). UNITS selects the units of measure. (Feet/F, Meters/C, Fathoms/C, Default = Meters/C, where F stands for Fahrenheit and C stands for Celsius)

Scroll through all Setup menu choices to exit the Setup menu.

Maintenance

Your PiranhaMAX is designed to provide years of trouble-free operation with virtually no maintenance. Follow these simple procedures to ensure your PiranhaMAX continues to deliver top performance.

If the unit comes into contact with salt spray, wipe the affected surfaces with a cloth dampened in fresh water.

Do not use a chemical glass cleaner on the lens - this may cause cracking in the lens.

When cleaning the LCD protective lens, use a chamois and non-abrasive, mild cleaner. Do not wipe while dirt or grease is on the lens. Be careful to avoid scratching the lens.

If your boat remains in the water for long periods of time, marine growth can reduce the effectiveness of the transducer. Periodically clean the face of the transducer with liquid detergent.

If your boat remains out of the water for a long period of time, it may take some time to wet the transducer when returned to the water. Small air bubbles can cling to the surface of the transducer and interfere with proper operation. These bubbles dissipate with time, or you can wipe the face of the transducer with your fingers after the transducer is in the water.

Never leave the unit in a closed car or trunk—the extremely high temperatures generated in hot weather can damage the electronics.

Troubleshooting

Do not attempt to repair the PiranhaMAX yourself. There are no user-serviceable parts inside, and special tools and techniques are required for assembly to ensure the waterproof integrity of the housing. Repairs should be performed only by authorized Humminbird® technicians.

Many requests for repair received by Humminbird® involve units that do not actually need repair. These units are returned "no problem found." If you have a problem with your PiranhaMAX, use the following troubleshooting guide before calling the Customer Resource Center or sending your unit in for repair.

1. Nothing happens when I turn the unit on.

Check the power cable connection at both ends. Be sure the cable is connected correctly to a reliable power source — red lead to positive, black lead to negative or ground. Ensure the power available is between 10 and 20 VDC. If the unit is wired through a fuse panel, ensure the panel is powered. Often accessory fuse panels are controlled by a separate switch or the ignition switch.

Also, often a fuse can appear to be good when it is not. Check the fuse with a tester or replace it with a fuse known to be good.

Check the power connection to the PiranhaMAX. It is possible to force the power cable connector into the cable holder incorrectly. If the connector is reversed, the unit will not work. Examine the contacts on the back of the unit to ensure there is no corrosion.

2. There is no transducer detected.

The PiranhaMAX has the ability to detect and identify that a transducer is connected. When powering on, if a message indicates "transducer not connected", make sure that an appropriate transducer connector is plugged into the unit. In addition, inspect the transducer cable from end to end for breaks, kinks, or cuts in the outer casing of the cable. Also make sure that the transducer is fully submerged in water. If the transducer is connected to the unit through a switch, temporarily connect it directly to the unit and try again. If none of these actions identifies an obvious problem, the transducer itself is probably at fault. Be sure to include the transducer if returning the unit for repair.

3. There is no bottom reading visible on the display.

If the loss of bottom information occurs only at high boat speeds, the transducer needs adjusting – see your PiranhaMAX Installation Guide for details. Also, in very deep water, it may be necessary to increase the sensitivity setting manually to maintain a graphic depiction of the bottom. If you are using a transducer switch to connect two transducers to the PiranhaMAX, make sure that the switch is in the correct position to connect a transducer that is in the water. (If a trolling motor transducer is selected and the trolling motor is out of the water, no sonar information appears.) If none of these actions solves the problem, inspect the transducer cable from end to end for breaks, kinks, or cuts in the outer casing of the cable. If the transducer is connected to the unit through a switch, temporarily connect it directly to the unit and try again. If none of these actions identifies an obvious problem, the transducer itself may be at fault. Be sure to include the transducer if returning the unit for repair.

4. When in very shallow water, I get gaps in the bottom reading and inconsistent digital depth indication.

The PiranhaMAX will work reliably in water 3 feet (90 cm) or deeper. Remember that the depth is measured from the transducer, not from the surface of the water.

5. The unit comes on before I press the POWER-MENU key, and won't turn off.

Check the transducer cable — if the outer jacket of the cable has been cut and the cable is in contact with bare metal, you will need to repair the cut with electrical tape. If there is no problem with the cable, disconnect the transducer from the unit and see if the problem is corrected, to confirm the source of the problem.

6. I get gaps in the reading at high speeds.

Your transducer needs adjusting. If the transducer is transom-mounted, there are two adjustments available to you: height and running angle. Make small adjustments and run the boat at high speeds to determine the effect. It may take several tries to optimize high-speed operation. This can also be a result of air or turbulence in the transducer location caused by rivets, ribs, etc.

7. **My unit loses power at high speeds.**

   Your PiranhaMAX has over-voltage protection that turns the unit off when input voltage exceeds 20 VDC. Some outboard motors do not effectively regulate the power output of the engine's alternator and can produce voltage in excess of 20 Volts when running at high RPMs.

8. **The display begins to fade out. Images are not as sharp as normal.**

   Check the input voltage. The PiranhaMAX will not operate on input voltages below 10 VDC.

9. **The display shows many black dots at high speeds and high sensitivity settings.**

   You are seeing noise or interference caused by one of several sources. Noise can be caused by electronic devices. Turn off any nearby electronics and see if the problem goes away. Noise can also be caused by the engine. If engine noise is causing the interference, the problem will intensify at higher RPMs. Increase the engine speed with the boat stationary to isolate this cause. Propeller cavitation can also appear as noise on the display. If the transducer is mounted too close to the propeller, the turbulence generated can interfere with the sonar signal. Make sure that the transducer is mounted at least 15" (380 mm) from the propeller.

International Purchases

A separate warranty is provided by international distributors for units purchased outside the United States. This warranty is included by your local distributor and this distributor maintains local service for your unit. Warranties are only valid in the area of intended distribution. Units purchased in the United States or Canada must be returned to our factory in the United States for service.

Humminbird® 1-Year Limited Warranty

We warrant the original retail purchaser that products made by Humminbird® have been manufactured free from defects in materials and workmanship. This warranty is effective for one year from the date of original retail purchase. Humminbird® products found to be defective and covered by this warranty will be repaired or replaced free of charge at Humminbird's option and returned to the customer freight prepaid. Humminbird's sole responsibility under this warranty is limited to the repair or replacement of a product that has been deemed defective by Humminbird®. Humminbird® is not responsible for charges connected with the removal of such product or reinstallation of replaced or repaired parts.

This warranty does not apply to a product that has been:

- Improperly installed;
- Used in an installation other than that recommended in the product installation and operation instructions;
- Damaged or has failed because of an accident or abnormal operation;
- Repaired or modified by entities other than Humminbird®.

Please retain your original receipt as a proof of the purchase date. This will be required for in-warranty service.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, OBLIGATIONS OR LIABILITIES ON THE PART OF HUMMINBIRD® AND WILL BE THE CUSTOMER'S EXCLUSIVE REMEDY, EXCEPT FOR ANY APPLICABLE IMPLIED WARRANTIES UNDER STATE LAW WHICH ARE HEREBY LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE. IN NO EVENT WILL HUMMINBIRD® BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY RELATING TO THE PRODUCTS.

Some states do not allow limitations on an implied warranty, or the exclusion of incidental or consequential damages, so the above exclusions may not apply to you. You may also have other rights, which vary from state to state.

Humminbird® Service Policy

Even though you'll probably never need to take advantage of our incredible service policy, it's good to know that we back our products this confidently. We do it because you deserve the best. We will make every effort to repair your unit within three business days from the receipt of your unit at our factory. This does not include shipping time to and from our factory. Units received on Friday are typically shipped by the following Wednesday, units received Monday are typically shipped by Thursday, etc.

All repair work is performed by factory-trained technicians to meet exacting factory specifications. Factory-serviced units go through the same rigorous testing and quality control inspections as new production units.

After the original warranty period, a standard flat rate service charge will be assessed for each repair (physical damage and missing parts are not included).

Any repairs made after the original warranty will be warranted for an additional 90 days after service has been performed by our factory technicians. You can contact our Customer Resource Center or visit our website to verify the flat rate repair fee for your product (visit the Product Support section):

http://www.humminbird.com

We reserve the right to deem any product unserviceable when replacement parts are no longer available or impossible to obtain. This Service Policy is valid in the United States only. This applies only to Humminbird® products returned to our factory in Eufaula, Alabama. This Service Policy is subject to change without notice.

DOMESTIC (USA) CUSTOMERS:

PLEASE DO NOT RETURN THIS PRODUCT TO STORE FOR SERVICE

For all technical issues please call **1-800-633-1468**
or visit **www.humminbird.com**, click **SUPPORT**.
Please reference product serial number and
model number when contacting Humminbird®.

Returning Your Unit for Service

Before sending your unit in for repair, please contact the factory, either by phone or by email, to obtain a Repair Authorization Number for your unit.

NOTE: *Please do not return your Humminbird® to the store for service.*

Please have your product model name and serial number available before calling the factory. If you contact the factory by e-mail, please include your product model name and serial number in the e-mail, and use Request for Repair Authorization Number for your e-mail subject header. You should include your Repair Authorization Number in all subsequent communications about your unit.

For IN-WARRANTY service, complete the following steps:

- Obtain a Repair Authorization Number from the Humminbird® Customer Resource Center.
- Tag product with your name, street address, phone number and your assigned Repair Authorization Number.
- Include a brief written description of the problem.
- Include a copy of your receipt (to show proof and date of purchase).
- Return product freight prepaid to Humminbird®, using an insured carrier with delivery confirmation.

For OUT-OF-WARRANTY service, complete the following steps:

- Obtain a Repair Authorization Number from the Humminbird® Customer Resource Center.
- Include payment in the form of credit card number and expiration date, or a money order. Please do not send cash.
- Tag product with your name, street address, phone number and your assigned Repair Authorization Number.
- Include a brief written description of the problem.
- Return product freight prepaid to Humminbird®, using an insured carrier with delivery confirmation.

Specifications

Depth Capability..... **PiranhaMAX 143/153:** 600 ft (185 m)
PiranhaMAX 180: 800 ft (250 m)

Power Output ..... **PiranhaMAX 143:** 800 Watts (PTP)
PiranhaMAX 153/180: 1600 Watts (PTP)

Operating Frequency..... **PiranhaMAX 143:** 200 kHz Single Beam
PiranhaMAX 153: 200 kHz and 83 kHz Dual Beam
PiranhaMAX 180 only: 200 kHz and 455 kHz Tri Beam

Area of Coverage..... **PiranhaMAX 143:** 20° @ -10 dB in 200 kHz

Area of Coverage..... **PiranhaMAX 153:** 60° @ -10 dB in 83 kHz
20° @ -10 dB in 200 kHz

Area of Coverage..... **PiranhaMAX 180:** 20° @ -10 dB in 200 kHz
90° Total Coverage (Two 35° Beams) @ -10 dB in 455 kHz

Target Separation ..... 2 1/2 Inches (63.5 mm)

Power Requirement..... 10-20 VDC

LCD Matrix ..... **PiranhaMAX 143/153:** 160 V x 128 H
PiranhaMAX 180: 240 V x 160 H

Transducer..... **PiranhaMAX 143/153:** XNT-9-20-T (includes built-in temperature probe)
PiranhaMAX 180: XNT-9-QB-90-T (includes built-in temperature probe)

Transducer Cable Length..... 20 ft (6 m)

NOTE: *Product specifications and features are subject to change without notice.*

NOTE: *Humminbird® verifies maximum stated depth in saltwater conditions, however actual depth performance may vary due to transducer installation, water type, thermal layers, bottom composition, and slope.*

ENVIRONMENTAL COMPLIANCE STATEMENT: *It is the intention of Johnson Outdoors Marine Electronics, Inc. to be a responsible corporate citizen, operating in compliance with known and applicable environmental regulations, and a good neighbor in the communities where we make or sell our products.*

WEEE DIRECTIVE: *EU Directive 2002/96/EC "Waste of Electrical and Electronic Equipment Directive (WEEE)" impacts most distributors, sellers, and manufacturers of consumer electronics in the European Union. The WEEE Directive requires the producer of consumer electronics to take responsibility for the management of waste from their products to achieve environmentally responsible disposal during the product life cycle.*

WEEE compliance may not be required in your location for electrical & electronic equipment (EEE), nor may it be required for EEE designed and intended as fixed or temporary installation in transportation vehicles such as automobiles, aircraft, and boats. In some European Union member states, these vehicles are considered outside of the scope of the Directive, and EEE for those applications can be considered excluded from the WEEE Directive requirement.

This symbol (WEEE wheelie bin) on product indicates the product must not be disposed of with other household refuse. It must be disposed of and collected for recycling and recovery of waste EEE. Johnson Outdoors Marine Electronics, Inc. will mark all EEE products in accordance with the WEEE Directive. It is our goal to comply in the collection, treatment, recovery, and environmentally sound disposal of those products; however, these requirements do vary within European Union member states. For more information about where you should dispose of your waste equipment for recycling and recovery and/or your European Union member state requirements, please contact your dealer or distributor from which your product was purchased.

ROHS STATEMENT: *Product designed and intended as a fixed installation or part of a system in a vessel may be considered beyond the scope of Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.*

Contact Humminbird®

Contact the Humminbird® Customer Resource Center
in any of the following ways:

By Telephone
(Monday - Friday 8:00 a.m. to 4:30 p.m. Central Standard Time):

1-800-633-1468

By e-mail
(typically we respond to your e-mail within three business days):

service@humminbird.com

For direct shipping, our address is:

Humminbird
Service Department
678 Humminbird Lane
Eufaula, AL 36027 USA

HUMMINBIRD®