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INTRODUCTION

Congratulations on your purchase of the Bottom Line® Tournament 2100™! Your new SONAR includes Bottom Line's advanced high-clarity bottom graph *plus* water temperature and boat speed (with optional sensor) to make the most out of your boating and fishing experience.

Make sure that your package contains the following items:

- ✓ Tournament 2100 display unit with mounting bracket
- ✓ Transducer with mounting screws
- ✓ Power cord
- ✓ Warranty card (back page of this manual)

Proper installation is essential in getting the best performance from your 2100. Please read these directions carefully. If you do not feel comfortable performing the installation yourself, contact your authorized Bottom Line® dealer for a professional installation.

Here is what you will need to do *in this order*:

1. Mount the display
2. Mount the transducer
3. Route the transducer cable
4. Route and connect the power cable

1. Mount the Display

Your 2100 has been designed to mount either on a flat surface using the gimbal bracket provided, or in a dash using accessory hardware #019122 In-Dash Mount Accessory kit (not provided).

For a gimball bracket mount:

Four holes in the base of the gimbal bracket allow for wood screws or through-bolt mounting. Here are a few tips

- Check for interference before mounting next to radio equipment.
- If the mounting surface is made from thin fiberglass, a piece of wood underneath it will help secure the bracket.
- The bracket is designed to hide a ¾" hole in case you want route the cable through the mounting surface.

△ **Caution:** The mount must be strong enough to handle the roughest ride that your boat provides.

2. Mount the Transducer

Your choice of where and how to mount the transducer will have a direct impact on the performance of your 2100. Before you get started, you need to know these basic principles:

- Your transducer will not work when it is not in the water.
- Even turbulent water or water filled with air bubbles can cause interference or completely inhibit transducer operation.

The 2100 transducer can be mounted in one of four basic locations:

1) Outside hull mount. This is the best option for easy installation and good overall performance. The transducer mounts on the bottom of the hull using the screws provided (see page 3).

2) Inside Hull Mount. This option is recommended for the best high-speed performance (above 40MPH or 65KHP), but reduces sonar sensitivity and temperature sensor responsiveness (see page 5).

3) Electric Trolling Motor Mount. This requires hardware #019107 EZ Mount Trolling Motor Bracket (not provided).

4) Transom Mount. This requires #019106 EZ Mount Transom Bracket (not provided) and is an option for special cases, such as pontoon boats, where mounting the transducer on the bottom of the hull will not work.

Outside Hull Mount

In order to mount the transducer on the bottom of the boat at the transom, you will need the following tools and materials:

- ✓ Pencil
- ✓ Drill with an 1/8" bit
- ✓ Clear 100% silicone caulk
- ✓ Phillips screwdriver

☐ *STEP 1 – Choose the right location*

The transducer must be located on the bottom of the hull, close to the transom at the back of the boat (see Figure 1). It should be as close to the center as possible excluding the turbulent area in front of the propeller. If your hull has several steps, only the lowest step may be in the water at high speeds.

You may get the best results by taking a test run with your boat before the install, having a helper find the spot where the water flows clearest behind the transom.

△ **Caution:** Make sure that the location you choose is a flat surface, to prevent transducer case warp when the screws are tightened.

△ **Caution:** Make sure that the location you choose will not cause the boat to rest on the transducer when the boat is trailered.

Note: On a riveted aluminum boat, do not mount the transducer behind a row of rivets, because they can cause turbulence that interferes with the transducer operation at speed.

☐ *STEP 2 – Prepare the surfaces*

Remove and clean any debris, oil, gas or detergent from the mounting area and let it dry. Make sure that the transducer is also clean and dry.

☐ *STEP 3 – Mark and drill the holes*

Place the transducer at the chosen position and mark both hole locations with the pencil. Drill the holes, making sure not to drill deeper than the length of the screws provided.

☐ *STEP 4 – Very important! Apply the silicone*

Fill the holes drilled in step 3 with silicone caulk. Then, apply a generous amount silicone caulk to the surfaces of the transducer that will contact the boat (see Figure 1).

☐ *STEP 5 – Mount the transducer*

Using the two screws provided, mount the transducer into place. Tighten until the transducer is snug against the hull. Do not over-tighten.

☐ *STEP 6 – Clean-up (also very important)*

In order to ensure the best performance from your transducer, make sure that no silicone remains that would disturb the smooth flow of water across its surfaces. Wipe off all excess silicone with a cloth or paper towel and make sure that the transition area between the hull and the transducer is very smooth and that any gaps are completely filled.

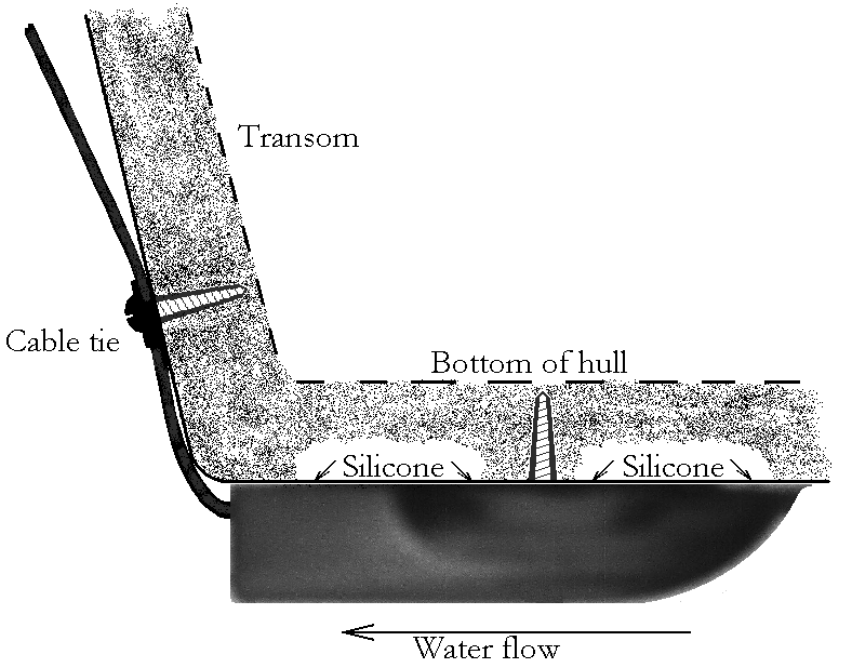

Figure 1: ***Outside Hull Mount***

Inside Hull Mount

An in-hull mount only works on fiberglass boats. The transducer is bonded to the hull with a quality two-part epoxy (not included).

△ **Caution:** If you do are not confident that you can do this yourself, consider contacting your boat dealer for a professional installation.

☐ *STEP 1 – Choose the right location*

Choose a hull location that will be in contact with smooth, clear water at all speeds. This is usually close to the transom, near the center of the boat. In this area the hull must be a flat, solid layer of fiberglass with no voids or air pockets. Some fiberglass boats have an area specifically for in-hull mounts.

☐ *STEP 2 – Prepare the surfaces*

Remove and clean any debris, oil, gas or detergent from the surface of the fiberglass and let it dry. Make sure that the transducer is also clean and dry.

☐ *STEP 3 – Mix the epoxy and install*

For proper operation the entire flat portion of the transducer smooth side (the side furthest away from the mounting ears) must contact the epoxy. Mix the epoxy per the manufacturer's recommendation (do not ignore temperature guidelines) and apply a generous amount to the fiberglass. Immediately, press the transducer into the epoxy and work back and forth until it is close to the fiberglass and you are sure that there is no trapped air. Hold in place until the epoxy is firm.

3. Route the Transducer Cable

Route the transducer and power cables up to the display unit, observing:

- Route the cable away from high traffic areas and clear of any areas where it might be cut or frayed (e.g., consider possible damage by the propeller).
- In order to reduce interference, route the cable away from other wiring or electronic equipment.
- Do not coil the cable to take up slack. Instead, use a figure "8" pattern, which is less prone to noise and interference.

△ **Caution:** For outside hull mounts, secure the transducer cable to the transom close to the transducer (see Figure 1). This may help prevent the transducer from swinging into the boat if it is knocked off at high speeds.

4. Route & Connect the Power Cable

Finish by routing the power cable as necessary to reach the battery, keeping the routing suggestions above in mind. The 2100 works from a 12-volt battery system and requires ¼ amp during use (1-amp peak). For the best results, attach

the power cable directly to the battery. You can attach the power cable to the accessory panel, however you may experience electrical interference. Connect the cable to the battery as follows:

- Red wire to positive (+) terminal.
- Black wire to negative (-) terminal.

Note: Connecting to the same circuit as other devices such as tachometers, radios or trim switches may cause electrical interference.

△ **Caution:** To protect both the cable and the display unit, Bottom Line highly recommends that you install an in-line 1-amp fast-blow fuse (available at automotive stores) in series with the red wire *at the battery*.

FUNCTIONS AND FEATURES

The best way to get familiar with your 2100 is to power-up in demo mode and start pressing buttons. You won't hurt anything by doing so, but you may lose or mess-up some settings. Don't worry. Your 2100 has a reset feature that restores everything back to factory settings.

Power on and off, demo mode

POWER ON – *press and release* the **POWER-MENU** button.

DEMO MODE – While powering on the 2100, keep the **POWER-MENU** button pressed until the words **REAL** and **DEMO** appear on the screen. Use the ▲ and ▼ buttons to move the fish symbol in front of your selection, then press the **POWER-MENU** button to continue.

POWER OFF – *press and hold* the **POWER-MENU** button until the display is blank.

Note: The 2100 remembers your previous settings every time you power it on again (this does not happen in demo mode).

Set and adjust features

After power-up, features can be adjusted using this button sequence:

1. Press the **POWER-MENU** button to display feature settings.
2. Press the ▲ and ▼ buttons to find the feature you want to adjust.
3. Press the **POWER-MENU** button to select the feature for adjustment.
4. Press the ▲ and ▼ buttons to adjust the feature (see specific instructions below for Range and Depth Alarm),
5. Press the **POWER-MENU** button to restore the normal display.

Tip: When no menu is displayed, press and hold the ▲ or ▼ button to freeze the graph.

CONTRAST – Contrast is the darkness or lightness of the display. Both your viewing angle and the ambient temperature affect the contrast.

LIGHT – The 2100 has a display backlight for use when there is not enough daylight to view the screen. The backlight also generates heat and can be used to help warm the display in cold weather.

GAIN – The gain control sets the graph's overall sensitivity to echoes. Generally, a higher gain number means that more fish and structure are shown. Lowering the gain may help reduce interference caused by trolling motors and other sources of noise.

Tip: Use as much gain or as little gain as you want, but remember that the bottom depth readout may not work under all settings.

SCC – The screen clutter control reduces undesirable signals on the graph. Such signals may include surface clutter (created by turbulence around the transducer), thermocline, air bubbles, algae bloom, and etceteras. Turn on SCC if these signals inhibit the display of the bottom.

ICE MODE – The ice fishing mode control overrides the screen clutter control and increases the gain significantly to help display smaller objects. Although this improves the picture in most ice fishing situations, it may increase clutter and is normally turned off for other types of fishing.

RANGE – The bottom range control allows you to set how deep the bottom graph will display. The bottom range is displayed in the upper-left corner of the graph (see Figure 2). In automatic mode, the 2100 sets the graph range to graph from the water surface down to just below the bottom.

A This symbol in the upper-left corner of the display indicates automatic range mode.

You may want to set the range manually if the bottom reading becomes unreliable or if you are only interested in seeing the top portion of the water. In this case, the **A** symbol will disappear indicating that you set the range yourself.

In bottom-tracking mode, the 2100 sets the range to graph the 10ft (3m) of water just above the bottom. This zoomed-in graph is useful for determining bottom features and for marking fish lying close to the bottom.

B-TRACK This word in the upper-left corner of the display indicates bottom-tracking mode.

Press and release the ▲ or ▼ button to select automatic or bottom-tracking mode, or *press and hold* ▲ or ▼ to set a manual range.

FISH ALARM – The fish alarm chimes and displays fish symbols for echoes that are likely to be from fish (see Figure 2). The fish symbol depth is also shown if there is room on the display. The symbol size indicates the relative signal strength of the echo, with the largest representing the strongest echo (see 'How Your 2100 Works' on page 9).

Note: A timer function prevents the alarm from chiming too often.

DEPTH ALARM – The depth alarm sounds when the depth (from the *transducer* to the estimated bottom) is less than the setting.

Press and hold the ▲ or ▼ to activate the alarm and set the depth, and *press and release* the ▲ or ▼ button to turn the depth alarm on and off.

METRIC – The 2100 can display in either U.S. or metric units.

RESET – This feature resets most menu settings back to the factory defaults. Try using reset when the 2100 does not appear to be working properly and you are not sure if the problem is in the settings. When the Reset menu is on the screen, press the ▲ or ▼ button to reset the settings.

BATTERY VOLTAGE – The last feature in the menu is the battery readout, which simply displays the voltage (there are no settings for it).

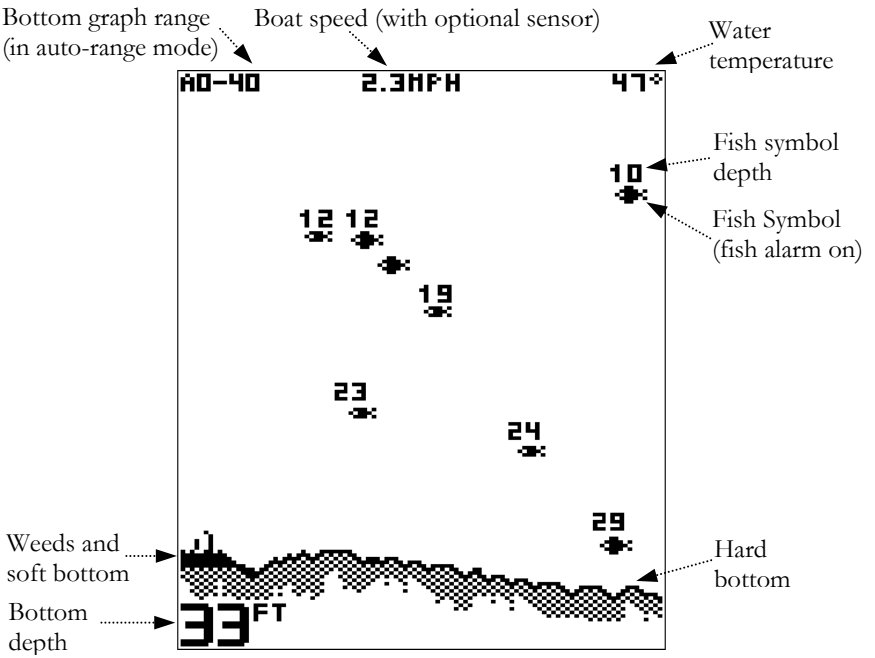

Figure 2. ***Tournament 2100 Display***

How Your 2100 Works

The 2100 uses active SONAR, short for Sound Navigation and Ranging, to locate and identify objects in the water. The transducer sends out short bursts of ultrasonic sound waves into the water and then listens for echoes to come back from objects and the bottom. The further away the object or bottom is, the longer it takes the echo to return.

These ultrasonic waves "illuminate" the water, forming a beam that is strongest in the direction that the transducer is pointed (see Figure 3). Weaker side-lobes split off from the main beam and with enough gain can be used for finding fish as well. You can calculate the approximate diameter of the main beam on the bottom as the depth divided by six.

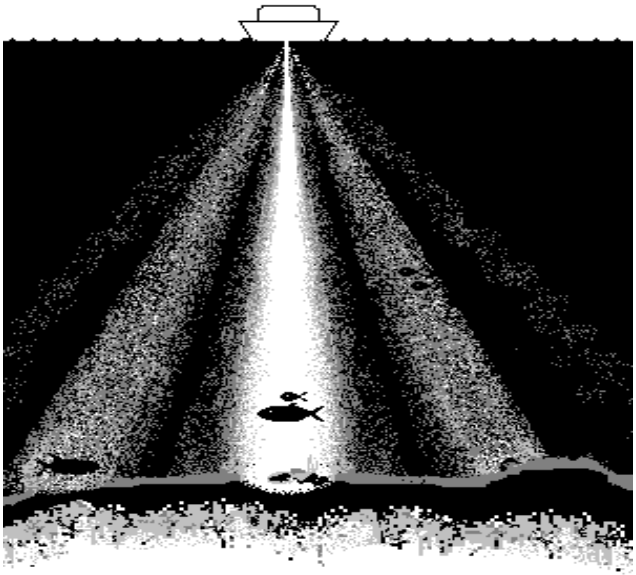

Figure 3. ***SONAR beam (cross-section)***

Reading the Graph

The bottom graph is created by drawing all of the echoes from a single burst in a vertical column on the display, with the echoes from deepest objects drawn lowest on the display. After all the echoes from the burst are drawn, the graph is shifted to the left and the process is repeated (see Figure 2).

Greyscale

The 2100 display uses a grey checkered pattern to display the strongest signals, which are usually from a hard bottom (see Figure 2). Weaker signals above the bottom are displayed as black. This allows you to separate the bottom from weeds and to differentiate a hard bottom from a soft, muddy one. A soft bottom typically gives a thinner bottom image that is mostly black. A hard bottom is displayed as a thin, black line over a much thicker area of checkered grey. Light weed cover above the bottom will give a thicker, sketchy black area above the checkered grey.

Note: The size of the object does not always correlate directly with the strength of the signal.

Fish

To view the natural echoes from fish and other objects in the water, turn the fish alarm symbols off (see page 8). Many fishermen have heard that an arch is a good way of determining fish, but other objects you troll across may also produce arches.

A better way of determining fish is to watch for subtle patterns on the graph. Solid horizontal lines across the screen are often fish hovering under the transducer. These lines may go up and down suggesting some movement if they are fish. Generally, thicker marks come from larger fish. Clouds of pixels are often schooling baitfish. Groups of diagonal lines are usually bubbles rising steadily up from the bottom. As you get more familiar with the 2100 and the water that you fish in, you will pick out many other patterns as well.

MAINTENANCE

Your 2100 should work reliably for many years, however, there are a few things you may want to consider and check periodically:

- When cleaning the acrylic display lens, do not use ammonia or alcohol-based cleaners.
- If possible, periodically clean the surface of the transducer with soap and water to remove any oil film. Oil and dirt on the transducer will reduce the sensitivity or may completely inhibit transducer operation.
- Consider using commonly available corrosion inhibitors on the back-panel connectors in harsh environments.

SPECIFICATIONS

Unit dimensions	5.0"W x 5.3"H x 2.5"D
Power requirement	10.5-14V ¼ amp continuous, 1-amp peak
Display viewing area	3.1" x 2.3"
Display pixel matrix	160Vx104H
Depth range	Up to 240 feet
Transducer frequency	455KHz
Transducer cone angle	9°

Computrol, Inc. reserves the right to change specification without notice.

Notice: The bottom depth range specified above is under best conditions. No guarantee of maximum depth capability is made due to the unlimited types of waters in which the 2100 is used.

△ **Caution:** Facing the screen toward the sun for extended periods may cause the display to reach its upper temperature limit and turn black. If this occurs and you cannot adjust it lighter (see "Set and adjust features" on page 6), *immediately* cover the screen or turn it away from the sun.

△ **Caution:** The 2100 may not operate properly if the outside temperature is below 14°F (-10°C) or exposure to the sun or other heat sources causes the case to reach 140°F (60°C). Permanent damage will occur to the liquid crystal display if stored or used where the temperature is below -4°F (-20°C) or exposure to the sun or other heat sources causes the case to reach 158°F (+70°C). This type of damage is *not* covered by the warranty.

IF YOU ARE HAVING PROBLEMS

If you are having problems with the operation of your 2100, please try the suggestions in this section. Should all other remedies fail, please try using the reset settings feature (see page 8).

Problem: Unit won't turn on.

- Check the power cable installation (see page 5).
- Make sure that the unit is within the temperature limits (see page 9).

Problem: Unit beeps but the screen stays blank or black.

- When first turned on, the contrast setting may be incorrect. Right after turning the 2100 on, press and release the **POWER-MENU** button twice followed ▲ or ▼ button to adjust the contrast.
- The screen may be black and just too hot to work at all. In this case immediately cover the screen or turn it away from the sun.

Problem: Unit does not pass self-test.

- Make sure that the power source has between 10.5-14V 1-amp and that the connector is fully inserted into the back of the unit.
- If the test fails repeatedly, call our customer service number listed in the warranty.

Problem: No bottom or wrong bottom depth is found.

- Make sure the transducer is at least 6" deep in the water and in an area where no bubbles or turbulence are present.
- If possible, rub the face of the transducer and clear off any air bubbles or debris.
- Check the clutter control (see page 7).
- The bottom may be deeper than the 2100 can display.

Problem: Loses bottom at high speed.

- Make sure that the transducer does not come out of the water when the boat is on plane.
- Check the transducer installation (see page 3). Make sure that the transducer is running through clear, undisturbed water.

Problem: No fish are displayed in the graph.

- When looking for fish in shallow water, remember that the bottom transducer beam covers a small area (see page 9).
- The gain may be too low. Try turning the gain up (see page 8).

Problem: No speed reading (with optional speed accessory).

- The speed wheel may be jammed with weeds or sand. Make sure it can turn freely.

Problem: The graph is speckled with too many marks.

- Some engine ignition systems may interfere with the 2100's operation. Aluminum boats can carry this interference throughout the hull. Confirm this by turning the engine on and off. Check the power connection (see page 5) and transducer cable routing (see page 5).
- Some pulse-width-modulated trolling motors may interfere with the 2100's operation. Confirm this by turning the trolling motor on and off. If possible, use a different power source from the trolling motor. Also try adjusting the Gain and SCC controls (see "Set and adjust features" on page 6).
- When running the boat at speed, it is typical to see scattered pixels on the screen, due to the water rushing past the transducer. Be sure that the transducer has been mounted correctly (see page 2).

ACCESSORIES AND REPLACEMENT PARTS

BOTTOM LINE offers a full line of accessories and replacement parts. These items should be available where you purchased your 2100. If the dealer does not carry an item you want, you may be able to order it at www.bottomlinefishfinders.com.

BOTTOM LINE WARRANTY AND SERVICE POLICY

Bottom Line warrants that if the accompanying product (see exclusions below) proves to be defective in material or workmanship within one (1) year from the date of original retail purchase, Bottom Line will, at Bottom Line's option, either repair or replace same without charge (but no cash refunds will be made). This limited warranty may be enforced only by the first consumer user; all subsequent purchasers acquire the product "as is" without any benefit of this limited warranty.

Exclusions

This warranty does not apply in the following circumstances:

- When the product has been serviced or repaired by anyone other than Bottom Line or an Authorized Bottom Line Service Center.
- When the product has been connected, installed, combined, altered, adjusted or handled in a manner other than according to the instructions furnished with the product.
- When any serial number has been effaced, altered, or removed.
- When any defect, problem, loss, or damage has resulted from any accident, misuse, negligence, carelessness, or from any failure to provide reasonable and necessary maintenance in accordance with the instructions of your owner's manual.

We reserve the right to make changes or improvements in our products from time to time without incurring the obligation to install such improvements or changes on equipment or items previously manufactured.

Limitation of Implied Warranties and Exclusion of Certain Damages

We disclaim liability for incidental and consequential damages, for breach of any express of implied warranty, including any implied warranty of merchantability, with respect to this product. This writing constitutes the entire agreement of the parties with respect to the subject matter hereof; no waiver or amendment shall be valid unless in writing signed by Company. Some states do not allow the exclusion or limitation of consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may have other rights that vary from state to state.

Non-Warranty Repairs
Bottom Line products for which the warranty does not apply, due to any of the above exclusions or warranty period expiration, will be repaired for a charge. All such repairs carry a 90 Day Limited Warranty, subject to the exclusions and limitations stated above.

To Enforce Warranty or to Obtain Repairs After Warranty
Please contact us at (208) 846-9000, and we will either instruct you to return the product to the Company or, if outside the United States, refer you to an Authorized Service Center (this limited warranty is not enforceable outside of the U.S.). You must at your expense, including postage, shipping charges, insurance costs and other expenses, deliver, mail or ship product, together with proof of purchase, to the Company, or if outside the United states, to an Authorized Service Center. Please do not return the product to the company without our prior authorization. However, if the necessary repairs are covered by the warranty, we will pay the return shipping charges to any destination within the United States.

Serial # _____

Date of Purchase _____

Store Where Purchased _____

Note: Keep your Proof of Purchase and/or sales receipt for your records.

Return Address: Computrol, Inc.
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FAX (208) 887-2000
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