AutoChart

Installation & Operations Guide

532257-1_A

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Contact Humminbird Customer Service at **humminbird.com** or call **1-800-633-1468**.

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! The electronic chart in your Humminbird unit is an aid to navigation designed to facilitate the use of authorized government charts, not to replace them. Only official government charts and notices to mariners contain all of the current information needed for the safety of navigation, and the captain is responsible for their prudent use.

WARNING! Do NOT delete or change the AC folder, LkMaster folder, or SI folder on the ZeroLine Map Card. Changing these folders will permanently damage the ZeroLine Map Card. To understand the ZeroLine Map Card folder structure, see ***Managing your AutoChart*** Files.

WARNING! Humminbird is not responsible for the loss of data files (waypoints, routes, tracks, groups, recordings, etc.) that may occur due to direct or indirect damage to the unit's hardware or software. It is important to back up your PC, control head, and ZeroLine Map Card data files periodically. Data files should also be saved to your PC before restoring the control head defaults or updating the software. See your Humminbird online account at **humminbird.com** and ***Managing your AutoChart Files*** in this manual for more information.

NOTE: Do NOT leave the control head SD slot cover open. The slot cover should always be closed to prevent water damage to the unit.

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: The illustrations in this manual may not look the same as your product, but your unit will function in the same way.

NOTE: To purchase accessories for your control head, visit our Web site at **humminbird.com** or contact Humminbird Customer Service 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: 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.

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.

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

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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.

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Overview

AutoChart uses data from an installed GPS receiver and transducer to create detailed maps of your favorite waters. Whether you are using recorded data or live data, AutoChart displays a depth map that can be converted to a Humminbird LakeMaster map with contours. You can mark and edit waypoints, add tracks and iTracks, shorelines, and more. If you have AutoChart PRO, you can display bottom hardness, Side Imaging Mosaic, and 360 Imaging Mosaic. We encourage you to read the manual to understand the capabilities of your Humminbird software.

There are two options for creating a map with your AutoChart PC software:

Recorded Data: Record data on the water, save it to the ZeroLine Map Card, and then import it into the AutoChart PC software (off the water).

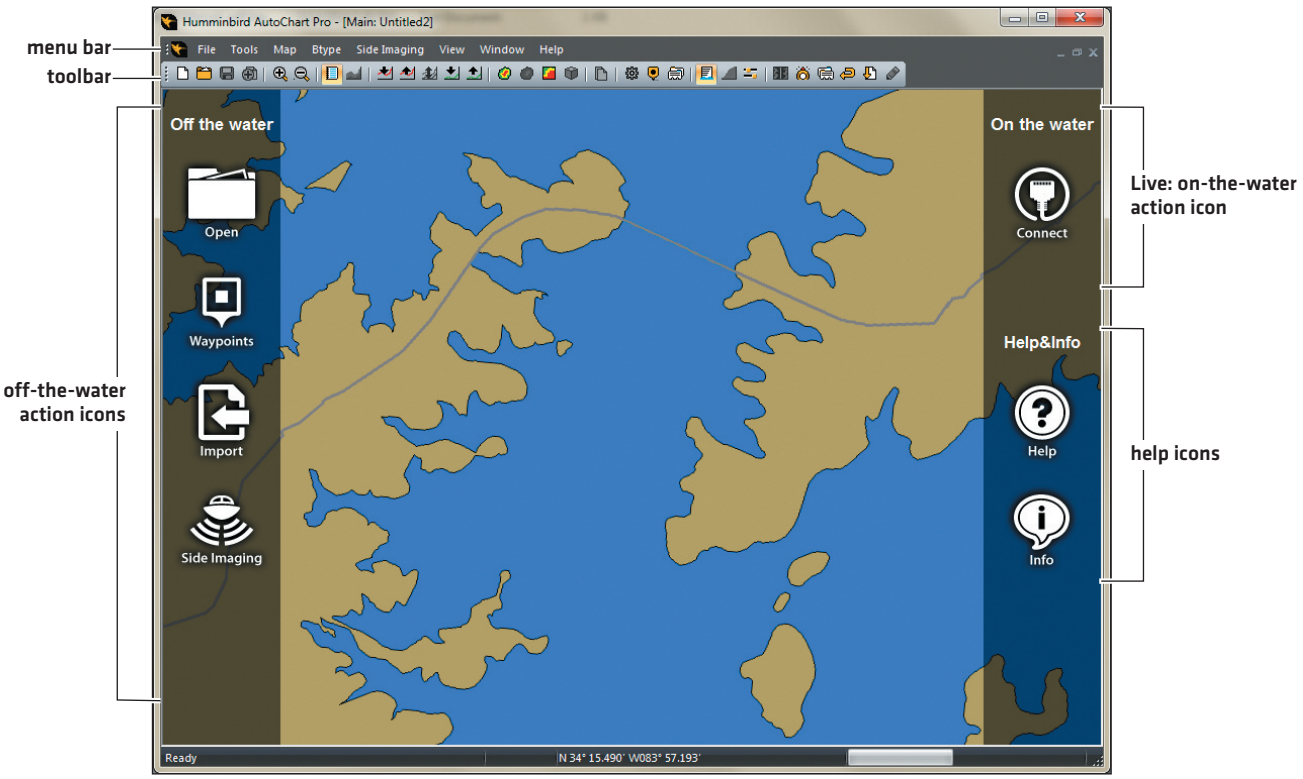
Live Data: If you connect your Humminbird control head to your PC (on the water), AutoChart will create and display maps in real time.

What's on the Start Screen

When you open AutoChart and start a new map, the start screen and icons panel are displayed. The actions shown on the side panels can also be accessed through the menu bar and the toolbar.

Open the Start Screen and Start a New File: On the menu bar, select File > New.

AutoChart Start Screen



This section is an overview of the the menus, buttons, and icons in AutoChart. Each feature is detailed throughout the manual.

Menu Bar: Click the menu name to open the submenu.

Toolbar: Hover the mouse pointer over a button to display the button name and function. Click the button to start the action.

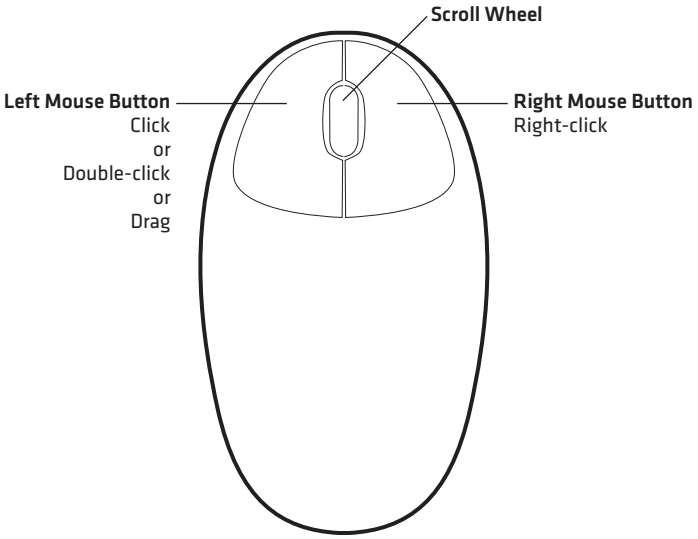
Off-the-Water Icons: Click the off-the-water icons to open an AutoChart file (.acd) or import files.

On-the-Water Icon: Click the Connect icon to start AutoChart live on the water with your PC. This feature must be installed and configured with AutoChart.

Help & Info Icons: Click the Help icon to search for menu definitions and descriptions. Click the Info icon for an AutoChart tutorial.

Mouse Functions

When you are using AutoChart on your PC, you will use mouse functions to complete various tasks.



Click: Press and release the left mouse button once.

Double-click: Press and release the left mouse button quickly twice.

Drag: Press and hold the left mouse button while you move the mouse pointer to a new area.

Hover: Move the mouse pointer over a button on the toolbar, and the button function will display on-screen.

Right-click: Press and release the right mouse button. The right-click function is often used to open a related submenu.

Scroll: Click a window scroll bar on the screen, and move the mouse scroll wheel up or down to view more of the window. You can also use the scroll wheel to zoom in or out.

Keyboard Functions

You will also use your PC keyboard with AutoChart. Some of the instructions in this manual include holding down the Shift key or the Control key (Ctrl). The instructions are described throughout this manual.

To access a keyboard shortcut overview, select Help > Shortcuts on the menu bar.

Built-in Help

AutoChart includes a built-in help section. We also encourage you to read this manual to install and configure AutoChart and understand the capabilities of your Humminbird software.

To open AutoChart Help, click the Help icon on the start screen, or select Help > Help (F1) on the menu bar.

1. Install AutoChart

Preparation: The PC must be connected to the Internet to complete the installation. During installation, you will need to register the software in your account at **humminbird.com**.

Supplies: PC with Internet connection, tape measure.

Minimum PC Requirements: Microsoft® Windows® operating system (XP, VISTA, 7, 8, or greater), 1 GHz Pentium 4 or Athlon CPU*, 512 MB RAM*, 10 GB free hard drive, DVD-ROM Drive.

*(recommended: 2 GHz, 1024 MB RAM)

Install AutoChart

1. Power on the PC.
2. Insert the AutoChart DVD into the disc drive.
3. Double-click the AutoChart setup icon (.exe).
4. Follow the on-screen prompts to start installation.

   During the installation, you will be prompted to register the software in your account at **humminbird.com**. When registration is completed, a license code will be provided so you can complete the installation on your PC.
5. Enter the license code and follow the on-screen prompts to finish the installation.

2. Set up Transducer and Mapping Preferences

Use the Settings dialog box to configure the installed transducer and GPS receiver with AutoChart. The measurements will improve the quality of the data you collect on the water. For example, if the GPS receiver is installed 10 feet from the transducer, AutoChart will compensate for the distance between the hardware.

Take Measurements

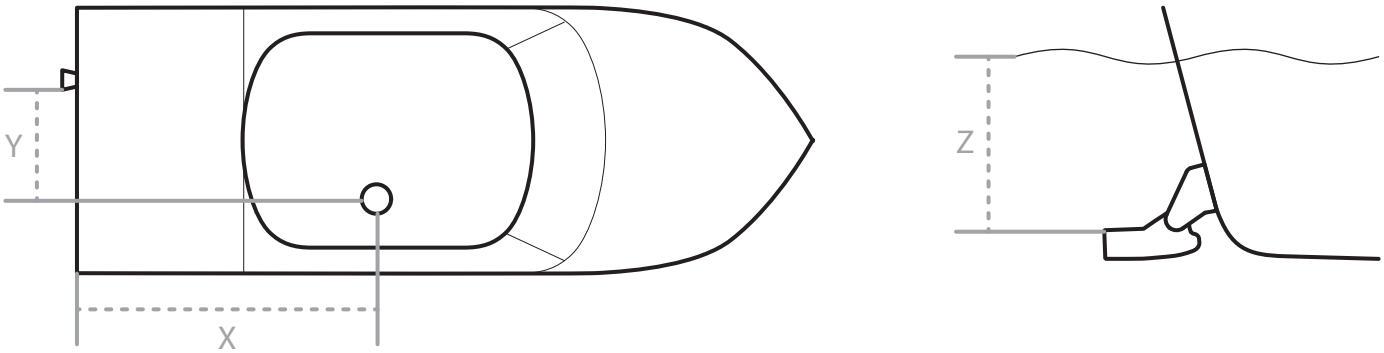
Take the following measurements on your boat. **The measurements must be taken in centimeters.**

X(cm) = the distance between the transducer and the GPS receiver, lengthwise, from bow to stern.

Y(cm) = the distance between the transducer and the GPS receiver, across the boat, from port to starboard.

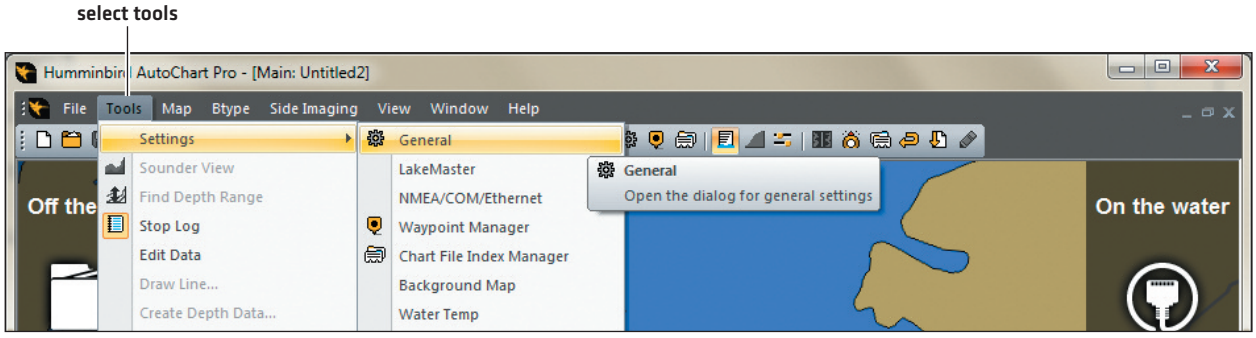
Z(cm) = the distance between the transducer and the water surface.

Recording Measurements on the Boat



Enter Measurements

1. Open AutoChart. (Double-click the AutoChart icon on your desktop)
2. On the menu bar at the top of the screen, select Tools > Settings > General.



3. Enter the following measurements from the ***Take Measurements*** section:

Configuration Settings	
X (cm)	If the GPS receiver is installed in front of the transducer (closer to the bow), enter a positive value. If the GPS receiver is installed behind the transducer, enter a negative value.
Y (cm)	If the GPS receiver is installed on the starboard side of the transducer, enter a positive value. If the GPS receiver is installed on the port side of the transducer, enter a negative value.
Tilt	Set to 0 (zero). This measurement will be auto-calculated if you tune your data. See ***Tuning and Corrections***.
Latency	Set to 0 (zero). This measurement will be auto-calculated if you tune your data. See ***Tuning and Corrections***.
Cone Angle	Enter the largest angle the transducer handles. For example, with a 20°/60° transducer, enter 60. If you do not know the cone angle of your transducer model, visit our Web site at humminbird.com to find your transducer model specifications.
Z (Keel Offset)	Enter the distance between the water surface and the transducer as a positive value.
Use X/Y/T	Leave this box unchecked unless you are tuning your data. See ***Tuning and Corrections*** for information.
Halo (live data only)	If checked the current position will be highlighted with a halo effect during live data collection.
Display sonar footprint on live data (live data only)	If checked a circle will be drawn indicating what the sonar sees at the current depth during live data collection. See ***Cone Angle***.

4. Click OK. For the remaining settings in this dialog box, you can use the AutoChart default settings.

   For more information, select Help on the menu bar. Select Settings for descriptions of each field.

Set up Reminders

Set up AutoChart so it will request the tide level correction when you open AutoChart and import files. See ***Tuning and Corrections*** for details.

1. On the menu bar, select Tools > Settings > Tide Correction.
2. **If you will be using AutoChart live on the water,** add a check mark to Display this Dialog when I start AutoChart.

   If you will be using AutoChart off the water (with imported files), add a check mark to Ask for Tide Correction when importing data.

3. Update your Control Head Software

It is important to install the latest software update on your control head to enable the maps you create in AutoChart and AutoChart PRO.

1. Before the control head software is updated or restored to system defaults, export your navigation data and copy your screen snapshots to an SD card. See your operations manual for instructions.

   ⚠ **WARNING! Humminbird is not responsible for the loss of data files (waypoints, routes, tracks, groups, recordings, etc.) that may occur due to direct or indirect damage to the unit's hardware or software. It is important to back up your PC, control head, and ZeroLine Map Card data files periodically.**

2. Insert a blank SD card into the PC card slot.
3. Go to **humminbird.com**, and select My Humminbird to sign in to your account.
4. Select the My Equipment tab. The available software updates are listed as Downloads under each registered product.
   - Under Downloads, click the file name.
   - Read the instructions in the dialog box and select Download.
   - Follow the on-screen prompts to save the software file to the SD card.
5. Power on your Humminbird control head. Start Normal mode.
6. Insert the SD card (with the software file) into the control head card slot.
7. Follow the on-screen prompts to update the control head software. See your control head manual for details.

4. Set up to use Live Data (optional, on-the-water operation only)

If you connect your Humminbird unit to your PC (on the water), AutoChart will display maps in real time. If you are not going to use AutoChart live on your boat, you can skip this section and proceed to ***Planning your Map***.

> You can use Ethernet or NMEA 0183 to create a live data connection between your control head and your PC. The majority of Humminbird control heads will use Ethernet. If you have a Humminbird control head that does not include Ethernet (such as the 600ci Series), use NMEA 0183.

Ethernet Connection: AutoChart will receive GPS and sonar data to make a depth map in real time. If you have the AutoChart PRO version, it will also provide bottom hardness, Side Imaging Mosaic, and 360 Imaging Mosaic.

NMEA 0183 Connection: AutoChart will receive GPS and sonar data to make a depth map in real time.

NOTE: Your control head must have Side Imaging or 360 Imaging installed to enable Mosaic in AutoChart PRO. See our Web site at **humminbird.com** for more compatibility and purchasing details.

Install and Configure with Ethernet

You can connect the PC to the Ethernet port on a Humminbird control head, or you can connect to the Ethernet network through an Ethernet Switch.

1. Purchase Ethernet Cables and Equipment

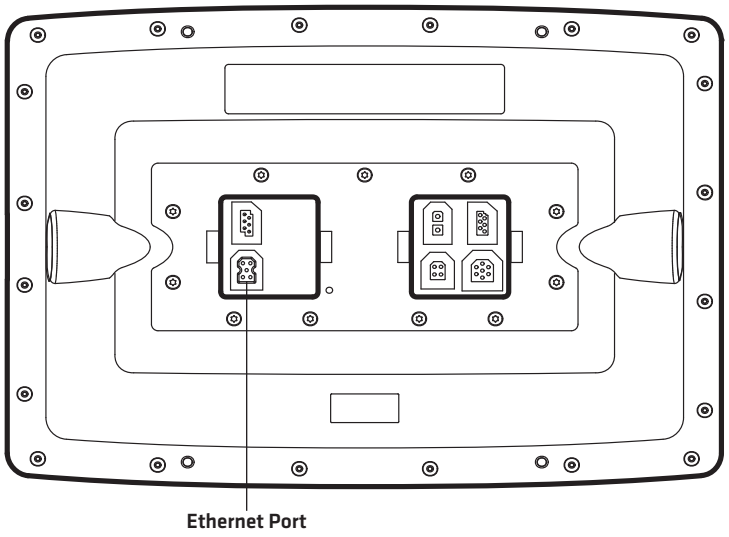
1. Review the illustrations on the following pages. Find your control head model and locate the Ethernet port.

   The shape of the Ethernet port determines the cable(s) you need to purchase, as shown in the following table. The Ethernet port will be round or shaped like an hourglass. The ports on the Ethernet switch are round.

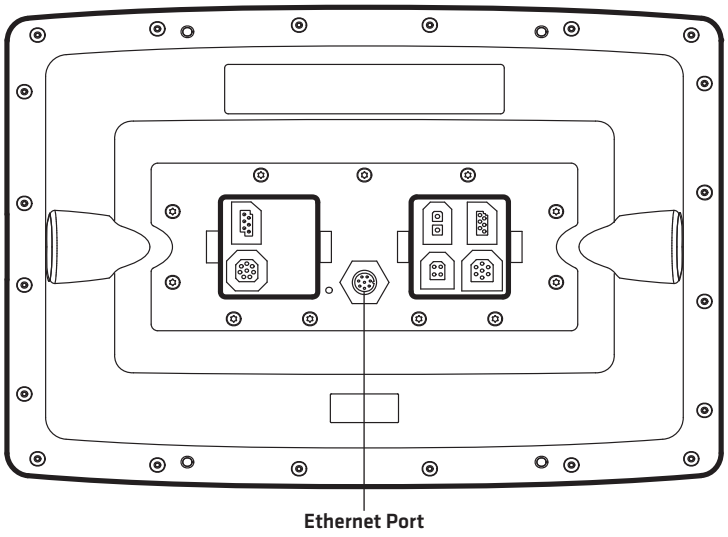
Hardware	Required Cables
Control Head with Hourglass-shaped Ethernet Port	(1) AS EC QDE & (1) AS EC Chart
Control Head with round Ethernet Port	(1) AS EC Chart
Ethernet Switch (AS ETH 5PXG)	(1) AS EC Chart

NOTE: To purchase Ethernet switches and extension cables, visit our Web site at **humminbird.com** (select Products > Accessories > Ethernet).

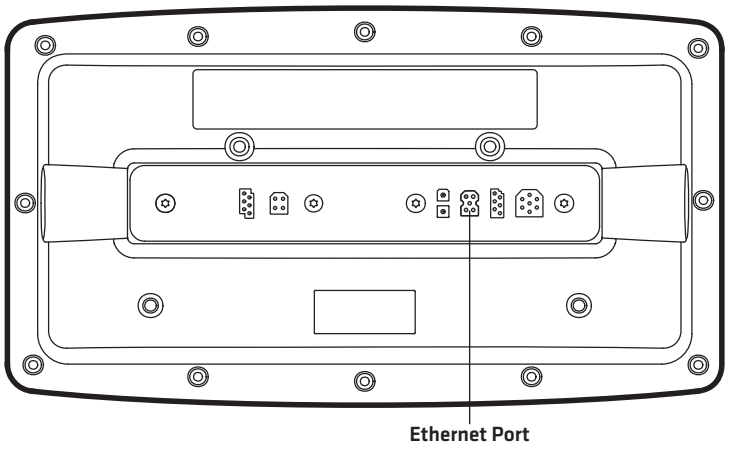
1100ci Series HD Control Head with Hourglass-shaped Ethernet Port



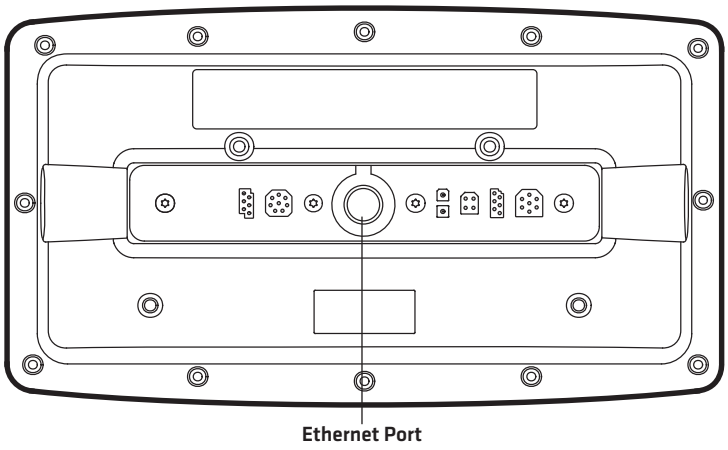
1100c Series Control Head with Round Ethernet Port



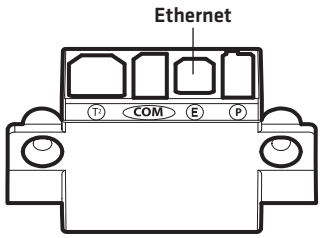
800ci Series/900ci Series HD Control Head with Hourglass-shaped Ethernet Port



800c Series/900c Series Control Head with Round Ethernet Port



700 Series HD Cable Collector with Hourglass-shaped Ethernet Port

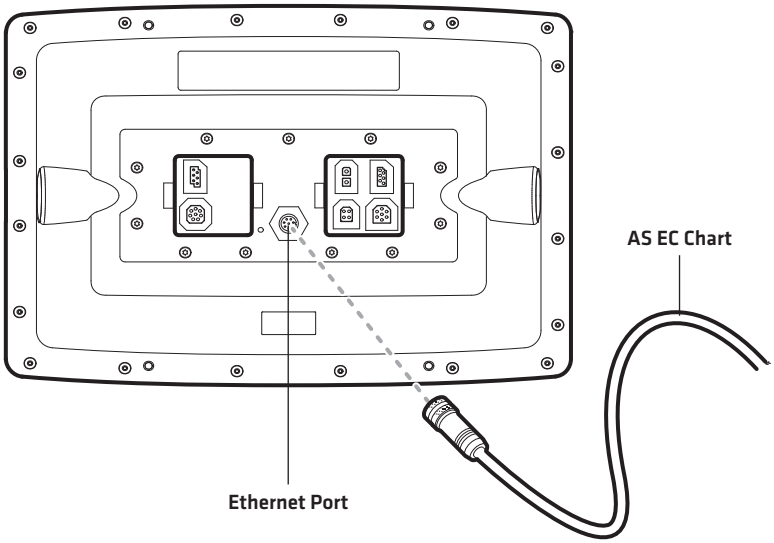


2. Connect your PC to the Humminbird Ethernet Network

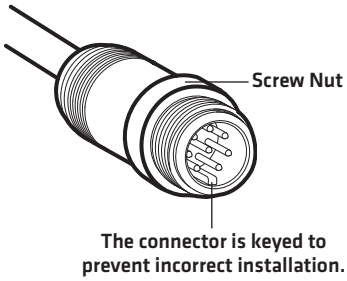
1. Confirm that the control head(s) and network are powered off.
2. Insert the RJ45 connector (from the AS EC Chart cable) into the port on your PC.
3. If applicable to your installation, connect the adapter cables (AS EC QDE) and extension cables to the AS EC Chart cable.
4. Connect the cable to the Ethernet port on the control head or the Ethernet Switch, noting the following:
   - **The connectors are keyed to prevent incorrect installation,** so be careful not to force the connectors into the port.
   - **On round cable connectors,** hand-tighten the screw nut to secure the connection.
   - **Ethernet Port:** If the control head has a round Ethernet port, the Ethernet cable can be connected directly to the control head. The 700 Series HD, 800 Series HD, and 900 Series HD units are installed through a Cable Collector. Consult your control head installation guide for details.

CAUTION! Do NOT mount the cables where the connectors could be submerged in water or flooded. If cables are installed in a splash-prone area, it may be helpful to apply dielectric grease to the inside of the connectors to prevent corrosion. Dielectric grease can be purchased separately from a general hardware or automotive store.

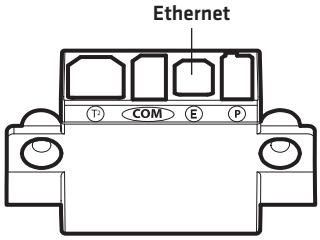
Connecting to a Round Ethernet Port



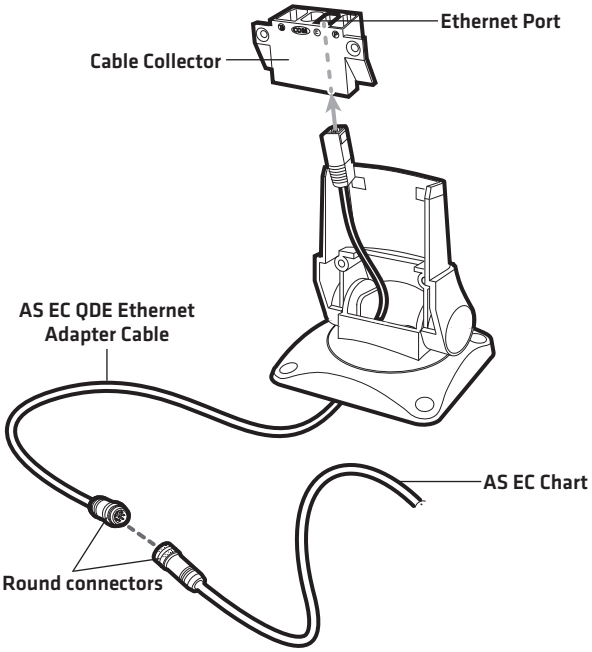
Hand-Tightening the Screw Nut



700 Series HD Quick Disconnect Mount Cable Collector

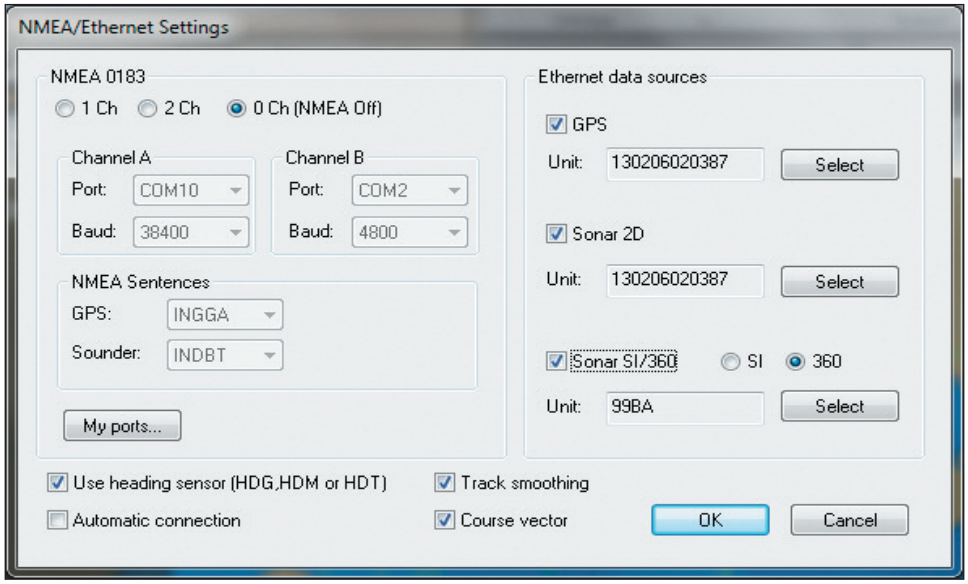


Connecting the Ethernet Cables to a 700 Series HD Unit



3. Set up AutoChart to work with Ethernet

1. On your PC, open AutoChart. (Double-click the AutoChart icon on your desktop)
2. Power on the control heads and Ethernet network.
3. On the menu bar, select Tools > Settings > NMEA/COM/Ethernet.
4. Set the following items to enable Ethernet with AutoChart (also, see the illustration):
   - Under **NMEA 0183** select 0Ch (NMEA off).
   - Under **Ethernet Data Sources**, check GPS and Sonar 2D.
   - **If you have AutoChart PRO with Side Imaging or 360 Imaging (installed on the control head),** check Sonar SI/360 and select SI or 360 to enable Mosaic features (Side Imaging or 360 Imaging).
   - On the Humminbird control head, select the Main Menu > Sonar Tab > Connected Transducer to confirm the same transducer is selected. If the transducer is on the network, select Main Menu > Network > Network Source Setup.
   - Under each **Ethernet Data Source** you've checked, click the Select button. Select the unit or data source from the list.



5. Click the boxes to add a check mark to the following settings, as follows:

Additional NMEA/Ethernet Settings	
Use Heading Sensor (HDG, HDM, HDT)	If checked, AutoChart will use heading data (if available) from an installed heading sensor (AS GPS HS). If you run the 2 Ch mode, both channels will look for heading data.
Automatic Connection	If checked, AutoChart will start the live connection when you open the program.
Track Smoothing	If checked, the GPS data will be filtered for more stable speed and course estimates. This setting will also apply to importing recorded data.
Course Vector	If checked, a black vector showing the course will be drawn on-screen. If heading data is available, there will also be a red vector indicating the boat heading.

6. Click OK.
7. **Enable your Windows Firewall:** On your PC, open the control panel (Control Panel > Windows Firewall > Exceptions). Select the Add Program button to provide AutoChart Ethernet access.

   NOTE: Firewall settings may vary. See your Microsoft Windows operating system manual for more information.

8. Proceed to ***Configure Additional Settings to use Live Data***.

Install and Configure with NMEA 0183

Use the NMEA 0183 connection if your unit does not include Ethernet (such as the 600ci Series).

1. Purchase Equipment

You will need the **AS PC 3 cable** to connect the control head to the USB port on your PC. For more information, visit our Web site at **humminbird.com**.

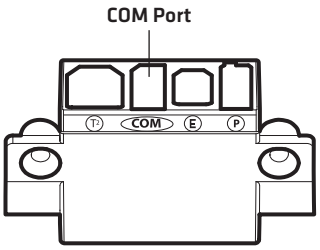
NOTE: If your PC does not have a USB port, you can use the AS PC 2 to connect to a serial port on your PC.

2. Connect your PC to the Humminbird Control Head

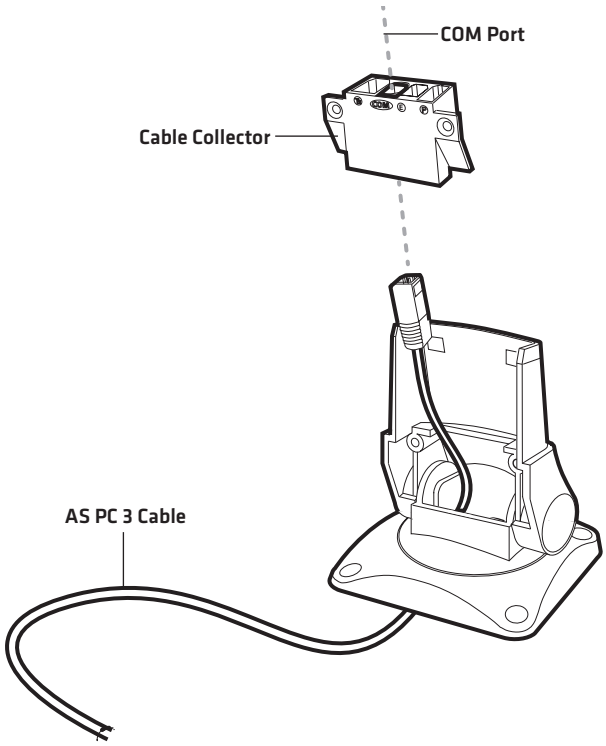
See your control head installation guide for more information about the COM connector and connecting to your control head or cable collector.

1. Confirm that the control head(s) and network are powered off.
2. Insert the COM connector into the COM port on the control head cable collector. Connect the other end of the cable to the USB port on your PC.

600ci Series Quick Disconnect Mount Cable Collector



Connecting the AS PC 3 Cable to the 600ci Series COM Port



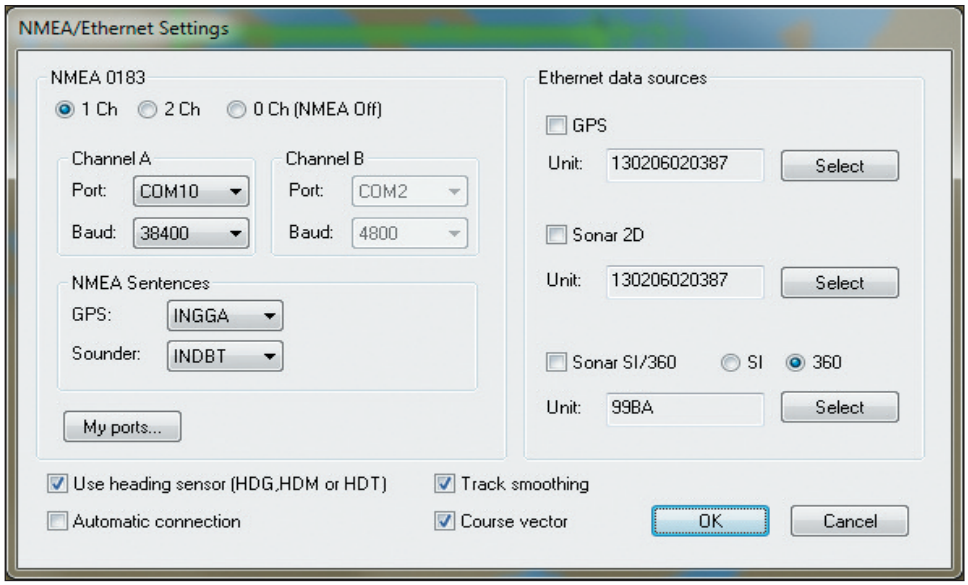
CAUTION! Do NOT mount the cables where the connectors could be submerged in water or flooded. If cables are installed in a splash-prone area, it may be helpful to apply dielectric grease to the inside of the connectors to prevent corrosion. Dielectric grease can be purchased separately from a general hardware or automotive store.

3. Set up NMEA 0183 Output on the Control Head

1. Power on the Humminbird control head network.
2. Start Normal mode on the control head.
3. Press the MENU key twice.
4. Select Setup > User Mode > Advanced.
5. Press the EXIT key once.
6. Select Setup > NMEA 0183 Output > On.

4. Set up AutoChart to work with NMEA 0183

1. On your PC, open AutoChart. (Double-click the AutoChart icon on your desktop)
2. On the menu bar, select Tools > Settings > NMEA/COM/Ethernet.



3. Under NMEA 0183, select 1Ch.

NOTE: To receive NMEA data from two different sources (GPS from one source, depth from the other source), set the channel setting to 2 Ch. Confirm that the unit providing GPS data is connected to Channel A, and the settings for Channel B apply to the transducer. You will need to apply Port and Baud settings for both channels in the following steps.

4. Click the My ports... button. Note the port name and number displayed in the dialog box.
5. Under Channel A, click the Port drop-down menu. Select the port name and number displayed in step 4 (COM1).
6. Baud Rate:

   If the GPS data is from a Humminbird control head with internal GPS, or from an external GPS receiver (puck), select 4800.

   If the GPS data is from the Humminbird GPS + Heading Sensor (AS GPS HS), select 38400.
7. NMEA sentences: use the default settings shown in the dialog box.
8. Click the boxes to add a check mark to the following settings, as follows:

Additional NMEA/Ethernet Settings	
Use Heading Sensor (HDG, HDM, HDT)	If checked, AutoChart will use heading data (if available) from an installed heading sensor (AS GPS HS). If you run the 2 Ch. mode, both channels will look for heading data.
Automatic Connection	If checked, AutoChart will start the live connection when you open the program.
Track Smoothing	If checked, the GPS data will be filtered for more stable speed and course estimates. This setting will also apply to importing recorded data.
Course Vector	If checked, a black vector showing the course will be drawn on-screen. If heading data is available, there will also be a red vector indicating the boat heading.

9. Click OK. Proceed to ***Configure Additional Settings to use Live Data***.

Configure Additional Settings to use Live Data

Turn on Auto Save

1. **Turn on Auto Save:** On the menu bar, select File > Auto Save and Default Index.
2. Click Auto Save On to add a check mark to the box.
3. Enter a default file name for all files. This base file name will include an automatic time tag.
4. Browse your PC directory to select a save location. Your files will be saved here.
5. Click OK.

Turn on Automation (Internal Map Border)

AutoChart works with an internal map that is updated as new data is logged. The border of the internal map is displayed as a red box. It is important to set the red box to adjust automatically to live data. See ***Changing the Internal Map Border*** for more information.

1. On the menu bar, select Tools > Settings > General.
2. Under Map Generation, click the Automation drop-down menu. Select Auto Re-center (Auto RC).
3. Click OK.

Set up Gamepad (separate purchase required)

If you've connected a Gamepad to your PC, activate the Gamepad to be used with AutoChart.

1. On the menu bar, select Tools > Settings > General.
2. Under User Interface, check Gamepad.
3. Click OK.

Mapping Overview

AutoChart uses data from an installed GPS receiver and transducer to create personalized, detailed maps of your favorite waters. There are two options for creating a custom map with your AutoChart PC software:

Live Mapping: If you connect your Humminbird control head to your PC, AutoChart will create and display maps in real time. See ***Using AutoChart Live*** to start the live connection.

OR

Recorded Data: Record data on the water, save it to the ZeroLine Map Card, and import it into the AutoChart PC software. See ***Recording Data*** to set up the control head and record data.

Planning Your Map

Before getting started, consider the areas where you want to create maps. Review the following tips to help you plan your map(s):

General Tips

- Start with your favorite fishing hot spots. It is not recommended to record survey data of an entire lake, as it will require a lot of time to map and might include areas you don't want.
- Take a different route to and from each fishing spot every trip. You may discover new and interesting areas to map.
- Start a new track or recording when you start for the day. Record new data every trip to create new maps or improve existing maps.
- Navigate the boat at a consistent speed when recording data.
- See the illustration below for instruction on how to navigate your boat while recording survey data.

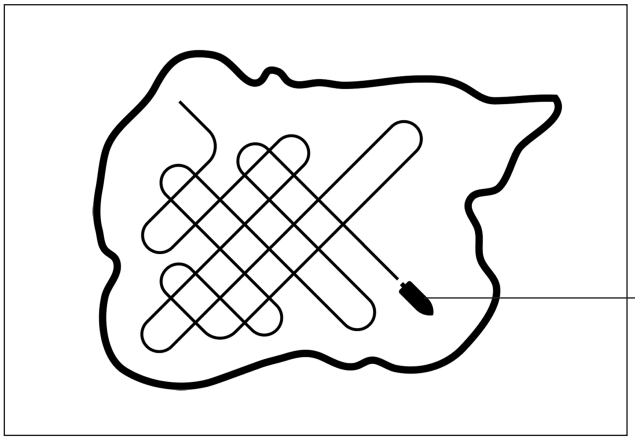
Mapping a Specific Area or Object in Detail

- Navigate the boat across the area rather than alongside.
- Turn the boat where the area and/or object is out of range of the transducer beam(s).
- Try to reduce the measurement time, so as to reduce the error due to possible GPS variations.

Mapping an Entire Lake

- Follow a plan.
- Follow the maximum gradient of the sea floor (up or down).
- Keep a steady speed.
- Turn the boat where the bottom is flat if possible.

Navigating the Boat to Record Survey Data



Using AutoChart Live (on the water)

If you have connected your PC to the control head network and configured it for live mapping on the water, use the instructions in this section to start live mapping.

NOTE: To install and configure the Ethernet or NMEA 0183 Connection, see ***Set up to use Live Data***.

If you are not using your PC on the water, proceed to ***Recording Data (preparing for off-the-water mapping)***.

1 | Open AutoChart

1. Power on the Humminbird control head network. Start Normal mode and select a Chart View.
2. Insert the ZeroLine Map Card into the card slot on your PC.
3. On your PC, open AutoChart. (Double-click the AutoChart icon on your desktop)

2 | Enter the Water Level Correction

When you start your mapping for the day, it is important to note if the water level is higher or lower than usual. For example, if you know the lake is down 3 feet, enter a Fixed Correction of -3 in AutoChart, and AutoChart will adjust the map for the difference.

1. On the menu bar, select Tools > Settings > Tide Correction.
2. Select Fixed Correction (TC1).
3. **If the water level has not changed (normal),** select No Correction.

   If the water level has changed, select Fixed Correction.

   If the water level is higher than normal, enter a positive amount in the Correction field.

   If the water level is lower than normal, enter a negative amount in the Correction field.

NOTE: The Variable Correction (TC2) compensates the data with the current tide. The live NMEA 0183 connection and WXTide32 are required to enable this feature. For more information, see the Tide Correction section of AutoChart built-in help.

NOTE: If you've set up the water level correction reminder in the installation steps, this dialog box will display automatically when you open AutoChart (see ***Set up Transducer and Mapping Preferences: Set up Reminders***).

3 | Start Live Mapping

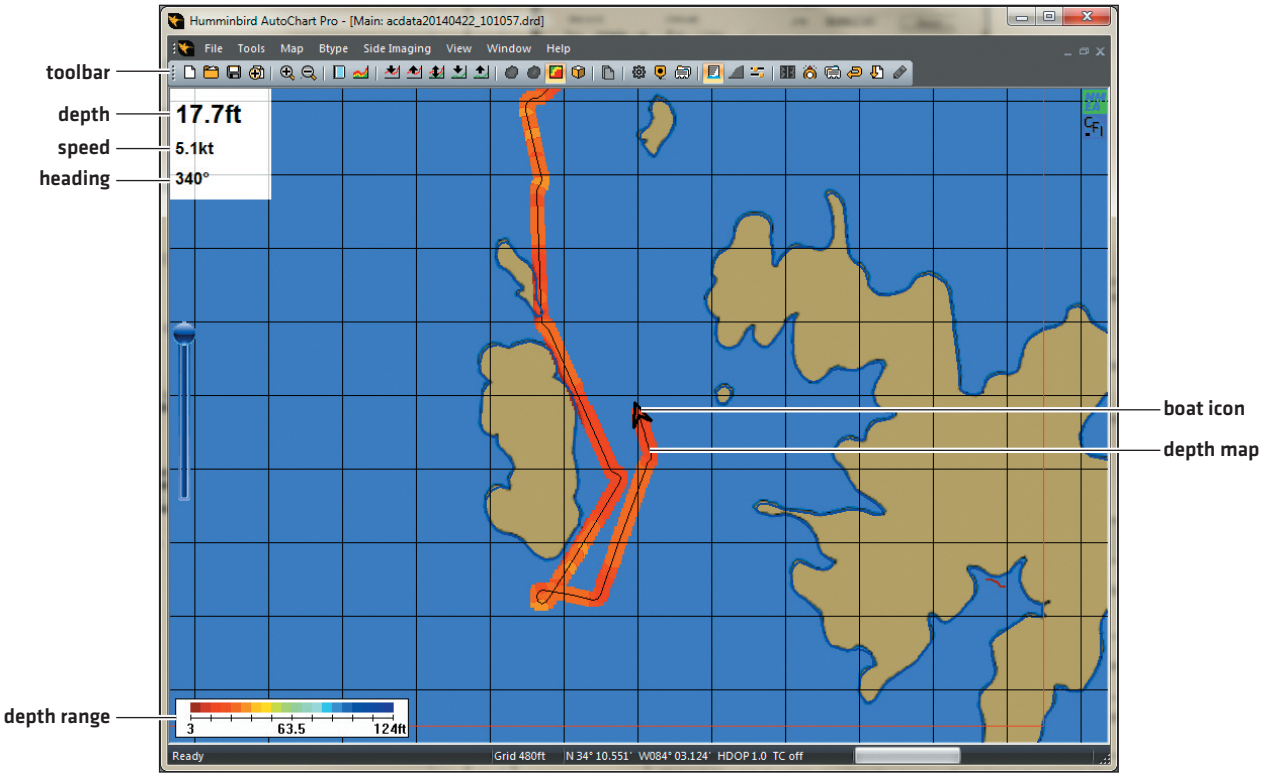
1. On the AutoChart start screen, click the Connect icon.

   OR

   Select Tools > Connect on the menu bar.

Connect Icon

2. Click the Local Update button.



3. Confirm that AutoChart is detecting the control head.

   Digital Readouts: Compare the digital readouts displayed on AutoChart (on your PC) and your control head.

   Depth Map: Confirm that the depth map is being displayed on AutoChart (on your PC) as the boat travels.

If you do not see the depth digital readout or the depth map displayed, check the following:

AutoChart PRO: Click the Show Depth button on the toolbar.

NMEA 0183: If you are using a NMEA 0183 Connection, select Tools > Settings > NMEA/COM/Ethernet. Under NMEA Sentences, change the NMEA sentence selected for Sounder.

Ethernet: If you are using an Ethernet Connection, select Tools > Settings > NMEA/COM/Ethernet. Under Ethernet, Ethernet Data Sources, confirm a source is listed for 2D.

Installation: Confirm all cable connections are secure and review the installation instructions.

NOTE: If you notice waviness in the depth map, you might need to tune your data. See ***Tuning and Corrections*** for more information.

4. To display Mosaic data, click the Show Mosaic button on the toolbar.
5. To display Bottom Hardness, click the Show Hardness button on the toolbar.

NOTE: If you will be using the Bottom Hardness feature with AutoChart PRO, see ***Displaying Bottom Hardness*** to set up AutoChart PRO and set the Gain using your first map.

NOTE: To enable the Bottom Hardness feature and the Mosaic feature with AutoChart live, you must have AutoChart PRO installed with an Ethernet connection. Also, your control head must have Side Imaging or 360 Imaging installed to enable Mosaic. For more information, see ***Displaying Bottom Hardness*** and ***Displaying Mosaic***.

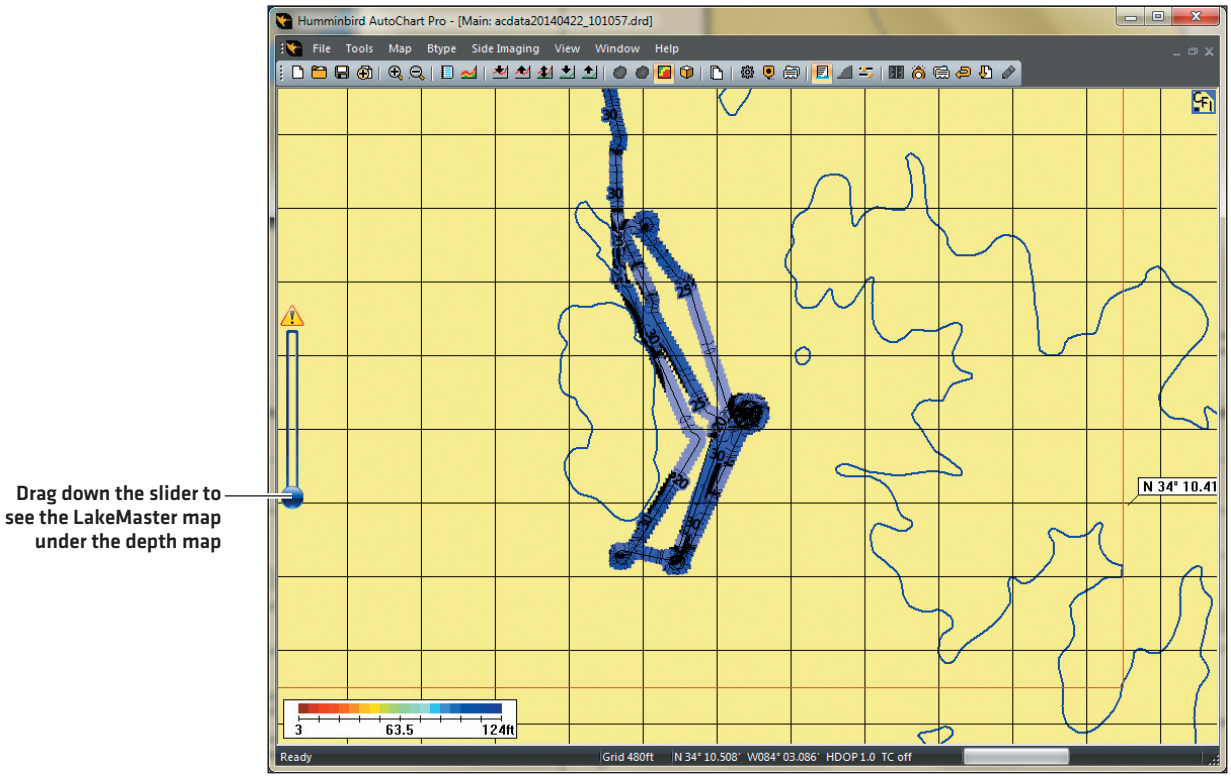
4 | Convert the Map to LakeMaster

When you are finished for the day, use the following instructions to create your LakeMaster custom map and save your data to the ZeroLine Map Card.

1. **Disconnect:** Select Tools > Connect (remove the check mark).
2. On the toolbar, click the Save button.
3. On the toolbar, click the LakeMaster Update button.
4. When the conversion is completed, click and drag the slider (on the left side of the screen) to see the LakeMaster layer.

   The custom map is saved to the ZeroLine Map Card.

Map Converted to Humminbird LakeMaster



Recording Data (preparing for off-the-water mapping)

Use the instructions in this section to record data on the water. Then, you can import the recordings into your AutoChart PC software to create maps off the water.

1 | Prepare

When you start mapping for the day, it is important to note if the water level is higher or lower than usual. For example, if you know the lake is down 3 feet, you will enter the amount when you import the files in a later step. See ***Creating your Map with Recorded Data*** for more information.

2 | Record Survey Data

You can use the track log or sonar recording to create your customized AutoChart maps. You only have to use one method to record data, and it is important to select the best method and confirm it is set up correctly.

Track Logs record GPS data and depth data. Track Logs will result in smaller files than sonar recordings. Track logs do not include bottom hardness data or sonar data, which are required for Bottom Hardness and Mosaic features.

Sonar Recordings record GPS, sonar data, and bottom hardness data. Sonar recordings will result in larger files than track logs. Use Sonar Recording if you have AutoChart PRO and plan to use bottom hardness or SI Mosaic.

Record Tracks

Start a new track when you start each trip. When the current track is saved, a new current track is automatically started.

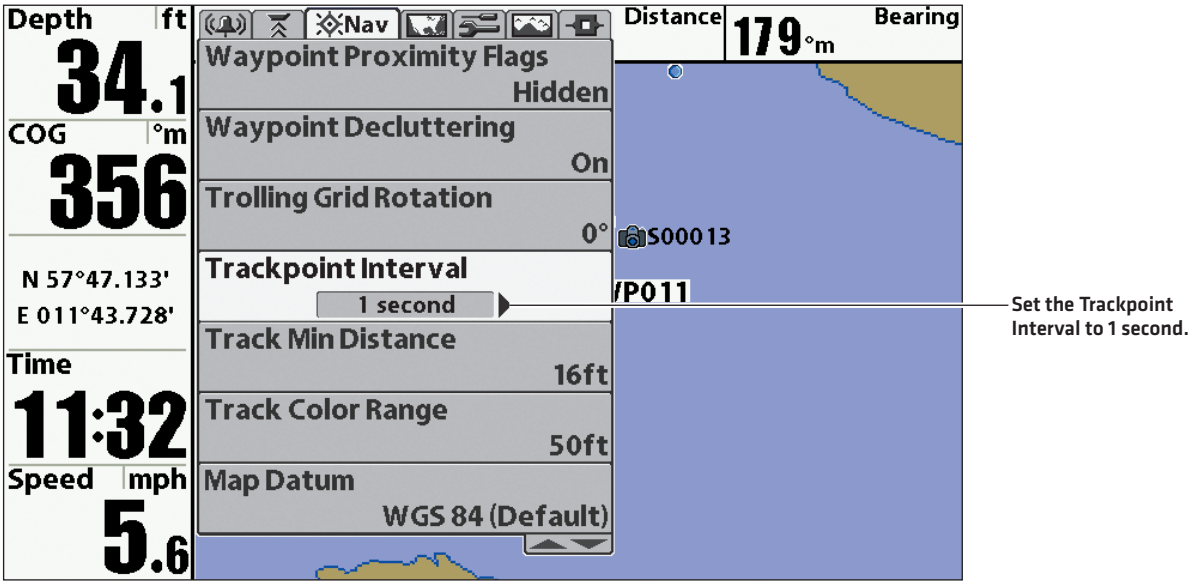
NOTE: If you have AutoChart PRO and plan to use Bottom Hardness or create a Side Imaging Mosaic, use the Record Sonar instructions instead of the Record Tracks instructions.

1. Insert the ZeroLine Map Card into the control head card slot.

   Install it First: If you have more than one SD card installed on the control head, snapshots, recordings, and exported navigation data will be saved to the card that was installed first. To save tracks to your ZeroLine Map Card, insert it into the control head card slot first.

2. Press and hold the VIEW key. Select Chart > Chart View.
3. Press the MENU key twice. Select the Nav tab.
4. Select Trackpoint Interval. Press the LEFT or RIGHT Cursor key to select 1 second.
5. Select Track Min Distance. Press the LEFT or RIGHT Cursor key to select 16 feet.

Setting the Trackpoint Interval (800 Series)



WARNING! Track Log memory is limited to approximately 20,000 points. At a 1-second Trackpoint Interval, the memory will last approximately 6 hours. After that, the memory will begin overwriting the oldest data. If you are recording data for more than 6 hours, save the current track and start a new track to prevent losing data.

6. Select Current Track. Press the RIGHT Cursor key and select Start Tracking. Press the RIGHT Cursor key.

   If tracking is already in progress, Start Tracking won't be displayed in the submenu, and you can proceed to the next step.

7. Navigate your boat in a zig-zag pattern, first in one direction and then in the other (see ***Planning your Map*** for more information).

8. **When you are finished navigating,** press the MENU key twice. Select the Nav tab.

9. Select Current Track, and press the RIGHT Cursor key. Select Save, and press the RIGHT Cursor key.

   WARNING! Save the current track before you power off the control head or the depth data will be lost.

10. Press the RIGHT Cursor key to confirm.

11. Repeat steps 6 through 9 as needed to record multiple tracks.

Record Sonar

Use Sonar Recording to record GPS and sonar data. If you have AutoChart PRO and plan to display bottom hardness or Side Imaging Mosaic, use this method to record your mapping data.

NOTE: To enable Mosaic from a recording in AutoChart PRO, your Humminbird control head must have Side Imaging installed and selected as the connected transducer (Main Menu > Sonar > Connected Transducer).

1. Insert the ZeroLine Map Card into the control head card slot.

   Install it First: If you have more than one SD card installed on the control head, snapshots, recordings, and exported navigation data will be saved to the card that was installed first. To save the recording to your ZeroLine Map Card, insert it into the control head card slot first.

2. Press and hold the VIEW key. Select System > Screen Snapshot and Recording View.

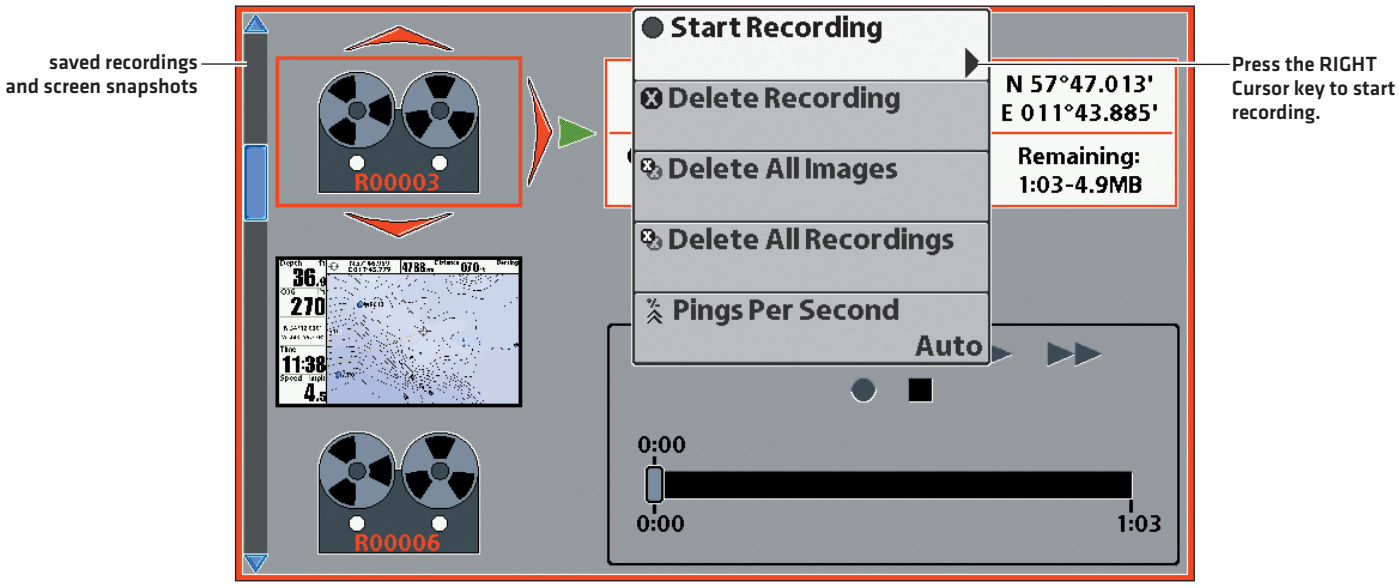
   OR

   Press the VIEW key until the Screen Snapshot and Recording View is displayed on-screen.

3. Press the MENU key once to open the Snapshot and Recording X-Press Menu.

4. Select Start Recording. Press the RIGHT Cursor key to start recording.

Starting Sonar Recording (800 Series)



5. Navigate your boat in a zig-zag pattern, first in one direction and then in the other (see ***Planning your Map*** for more information).
6. **When you are finished navigating,** press the MENU key once to open the X-Press Menu.
7. Select Stop Recording, and press the RIGHT Cursor key.
8. Repeat steps 2 through 7 as needed to record multiple recordings.

3 | Export Tracks to the ZeroLine Map Card

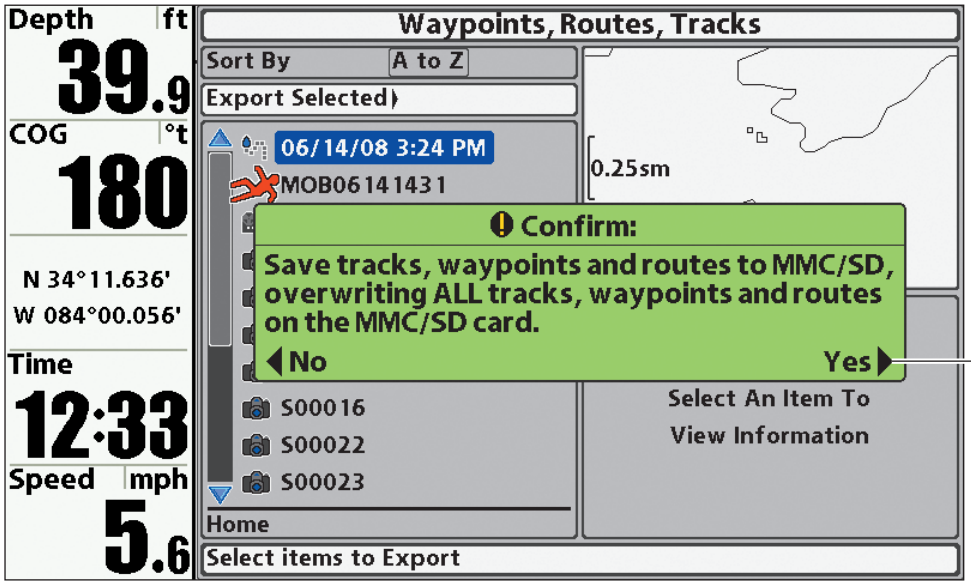
When you are finished recording, export your tracks to the ZeroLine Map Card. Sonar Recordings are saved automatically to the installed SD Card (see ***Record Sonar*** for more information).

NOTE: See your control head operations manual and the Waypoint Management Guide for more information.

1. Press the MENU key twice. Select the Nav tab.
2. Select Waypoints, Routes, Tracks. Press the RIGHT Cursor key to open the Waypoint Management dialog box.
3. Select Options. Press the RIGHT Cursor key to open the submenu.
4. Select Select All and..., and press the RIGHT Cursor key.
5. Select Export, and press the RIGHT Cursor key.

   A confirmation message will be displayed. Press the RIGHT Cursor key to confirm the export.

Exporting Saved Navigation Data (800 Series)



6. When the export is completed, remove the ZeroLine Map Card from the card slot.
7. Proceed to ***Creating your Map with Recorded Data***.

Creating your Map with Recorded Data

Use the instructions in this section to create your map using imported tracks and sonar recordings.

1 | Import your Track Logs and Recordings into AutoChart

You can import tracks and sonar recordings from your ZeroLine Map Card, an SD card, or your PC. The instructions in this section use the ZeroLine Map Card directory. To understand the ZeroLine Map Card file structure, see ***Managing your AutoChart Files***.

WARNING! Do NOT delete or change the AC folder, LkMaster folder, or SI folder. Changing these folders will permanently damage the ZeroLine Map Card. See ***Managing your AutoChart Files***.

WARNING! Humminbird is not responsible for the loss of data files (waypoints, routes, tracks, groups, recordings, etc.) that may occur due to direct or indirect damage to the unit's hardware or software. It is important to back up your PC, control head, and ZeroLine Map Card data files periodically. See ***Managing your AutoChart Files: Back up your Files***.

1. Insert the ZeroLine Map Card into the card slot on your PC.
2. Open AutoChart. (Double-click the AutoChart icon on your desktop)
3. On the AutoChart start screen, click the Import icon (or select File > Import/Convert).
4. **Import Tracks:** Make sure the file type is set to Humminbird tracks (*.ht). Select the ZeroLine Map Card from your computer directory. Open the MATRIX folder, and select the track file to import. Select Open.
5. The Tide/Level Water Correction dialog box will display automatically if it was set up during installation. See ***Tuning and Corrections*** for more information.

   If the water level has not changed (normal), select No Correction.

   If the water level has changed, select Fixed Correction.

   If the water level is higher than normal, enter a positive amount in the Correction field.

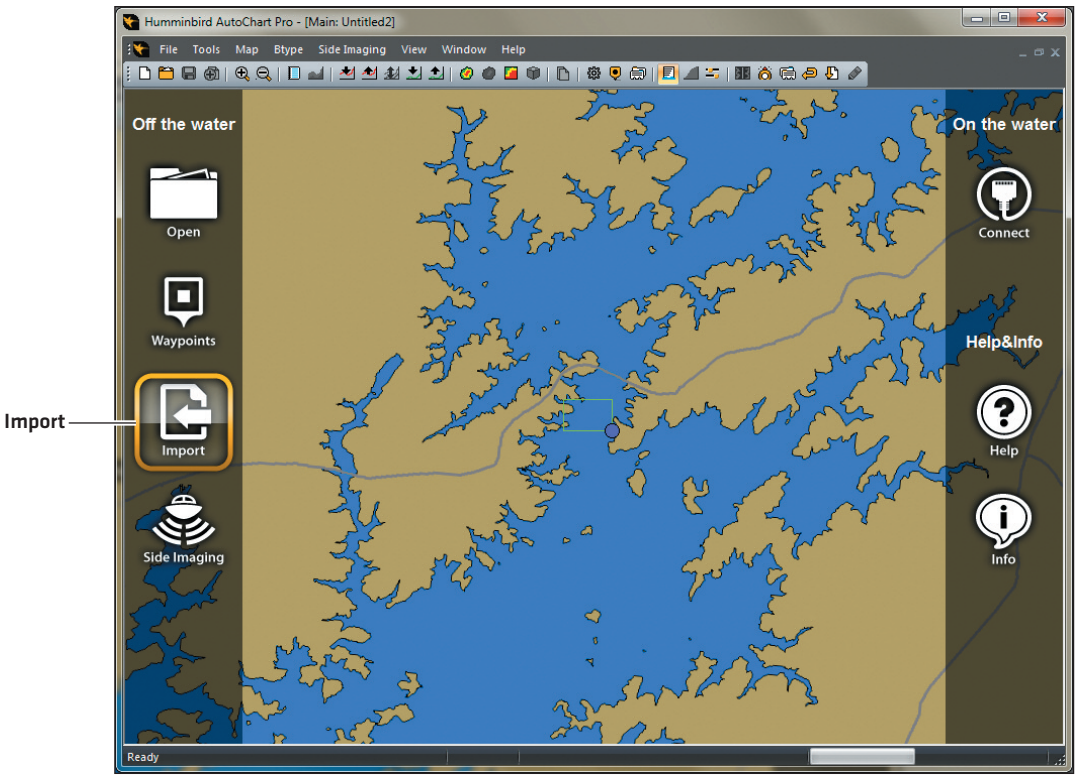
   If the water level is lower than normal, enter a negative amount in the Correction field.
6. **Import Sonar Recordings:** On the AutoChart start screen, click the Import icon (or select File > Import/Convert).

   Make sure the file type is set to Humminbird sonar logs (*.dat). Select the ZeroLine Map Card from your computer directory. Open the RECORD folder, and select the *.dat file to import. Select Open.

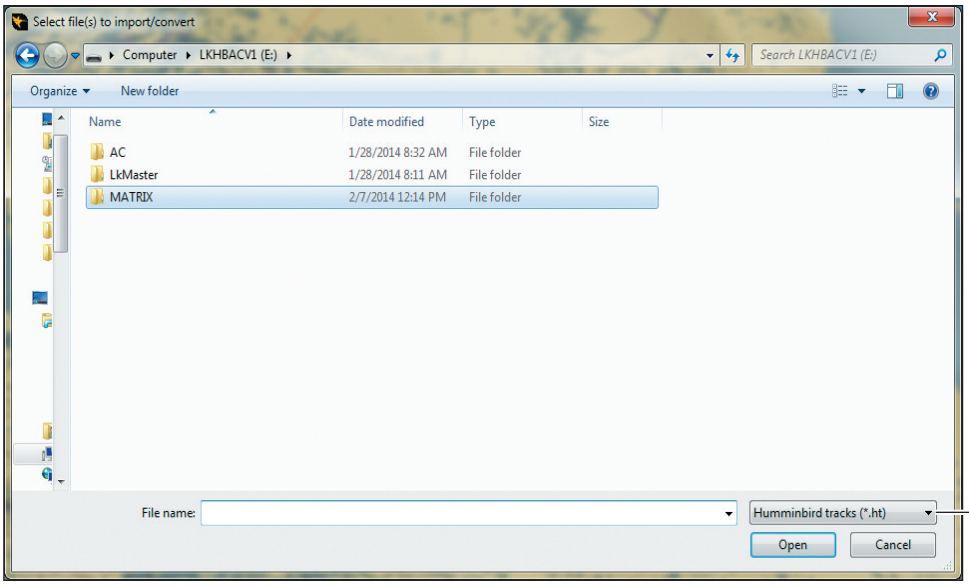
   If you have more than one sonar recording, you can repeat this step to import additional or all sonar log files (*.dat).

NOTE: If you will be using the Bottom Hardness feature with AutoChart PRO, see ***Displaying Bottom Hardness*** to set up AutoChart PRO and set the Gain using your first sonar recording.

Selecting Import from the Start Screen



Selecting Tracks from the MATRIX Folder

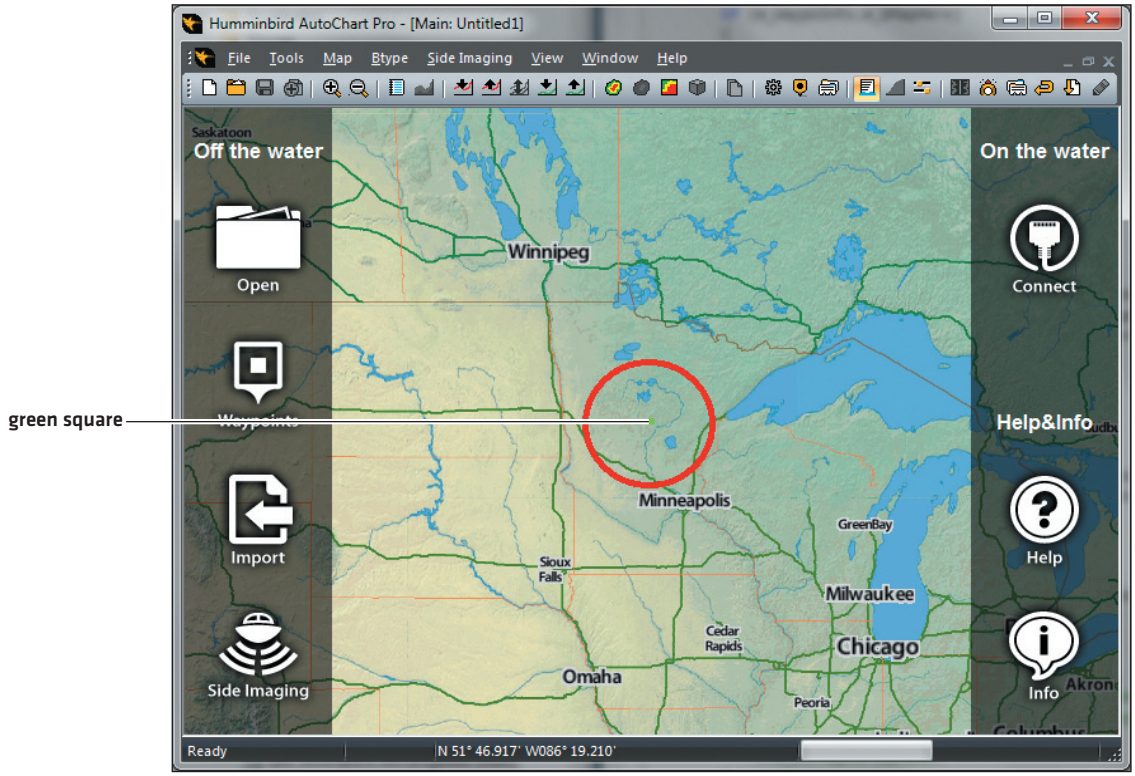


2 | Create your Depth Map

1. On the start screen, locate the green square on the map.

   NOTE: If the start screen does not open, or if you do not see a green square on the map, select File > New.

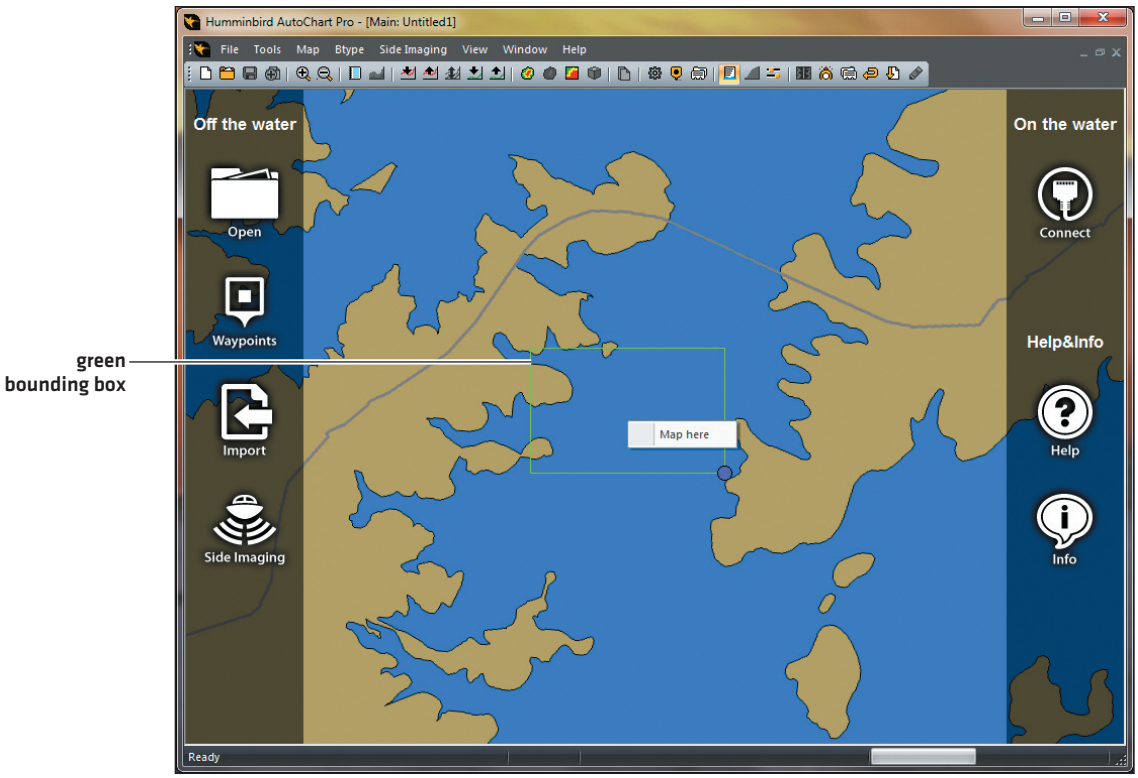
Locating the Green Square on the Map



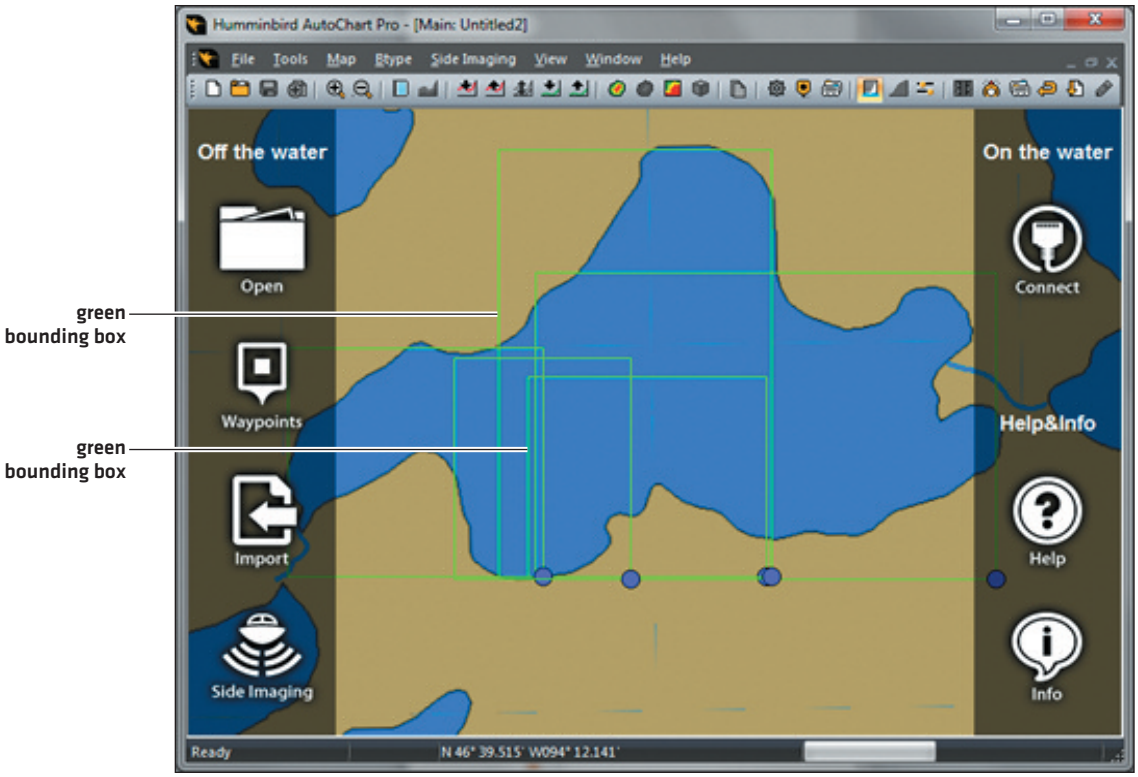
2. Click the Zoom In button or the Zoom Out button on the toolbar until you have a clear view of the green bounding box.
3. Right-click in the middle of the green bounding box. Select Map Here.

   If you have more than one bounding box displayed, right-click in the middle of the lake, and select Map Here.
4. Click the Create Map button on the toolbar.

Locating the Green Bounding Box on the Map



Creating a Map with Multiple Bounding Boxes

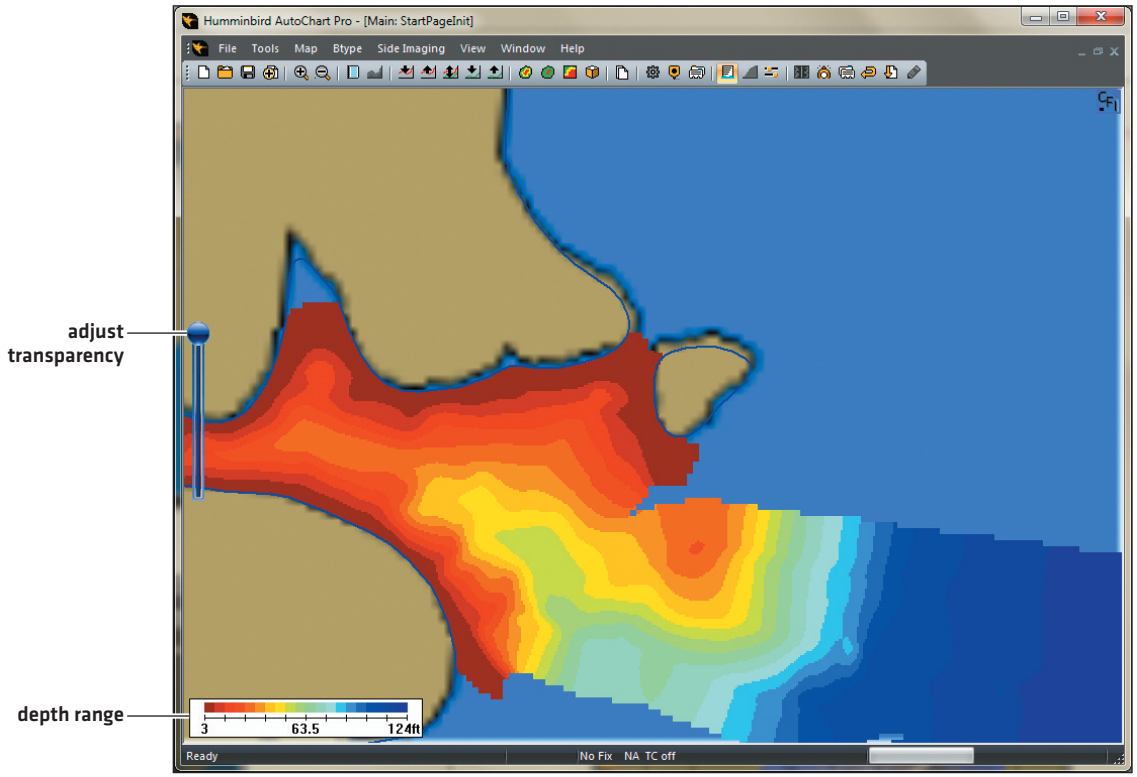


3 | Convert the Map to LakeMaster

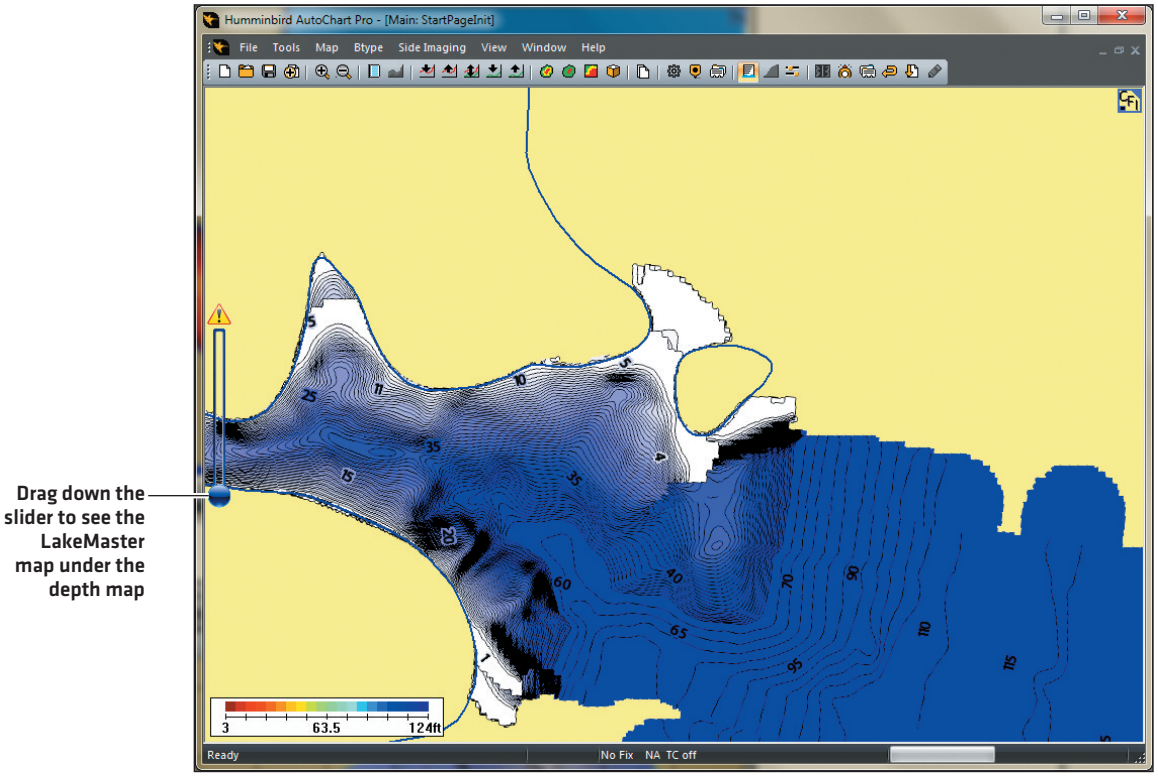
1. Click the LakeMaster Update button on the toolbar.
2. When the conversion is completed, click and drag the slider (on the left side of the screen) to see the LakeMaster layer.

NOTE: If you notice waviness in the depth map, you might need to tune your data. See ***Tuning and Corrections*** for details.

Depth Map (before converted to Humminbird LakeMaster)



Map Converted to Humminbird LakeMaster



Saving AutoChart Data to your ZeroLine Map Card

See the remaining sections of this manual to add or edit shorelines (zero lines), create tracks and iTracks, mark waypoints, and add Side Imaging Mosaic.

When you are finished customizing your map for the day, use the following instructions to save your data to the ZeroLine Map Card, so it can be displayed on your Humminbird control head.

WARNING! Do NOT delete or change the AC folder, LkMaster folder, or SI folder. Changing these folders will permanently damage the ZeroLine Map Card. To understand the ZeroLine Map Card folder structure, see *Managing your AutoChart Files*.

WARNING! Humminbird is not responsible for the loss of data files (waypoints, routes, tracks, groups, recordings, etc.) that may occur due to direct or indirect damage to the unit's hardware or software. It is important to back up your PC, control head, and ZeroLine Map Card data files periodically. See *Managing your AutoChart Files: Back up your Files*.

Save AutoChart Data to your ZeroLine Map Card

1. To save the current .acd file, click the Save button on the toolbar.

   The .acd file is saved to your PC. See ***Managing your AutoChart Files*** for details.

2. Click the LakeMaster Update button on the toolbar.

   When you click the LakeMaster Update button, the custom LakeMaster maps, contours, shorelines, and Mosaic data are saved to your ZeroLine Map Card. To understand the ZeroLine Map Card folder structure, see ***Managing your AutoChart Files.***

3. Tracks and iTracks must be saved to the MATRIX folder on the ZeroLine Map Card. See ***Creating Tracks and iTracks***.

4. Waypoints must be exported to the ZeroLine Map Card. See ***Marking and Managing Waypoints: Export Waypoints***.

5. **Close AutoChart:** On the menu bar, select File > Exit.

6. Eject the ZeroLine Map Card from your PC.

Displaying Custom Maps on your Humminbird Control Head

After you have created your customized maps and saved the data to the ZeroLine Map Card, the maps can be displayed on your Humminbird control head.

NOTE: Your custom maps can only be displayed on your Humminbird control head using the ZeroLine Map Card.

1. Insert the ZeroLine Map Card into the card slot on your control head.

2. Press the POWER key.

   Start Normal mode. When the first view is displayed on-screen, proceed to the next step.

3. Press and hold the VIEW key. Select Chart > Chart View.

4. Press the MENU key twice. Select the Chart tab.

5. Select Chart Select (if applicable for your Humminbird control head model), and select the ZeroLine Map Card installation location.

   Press the DOWN Cursor key to select the menu options in the following steps.

6. Select Base Layer. Select AC (AutoChart map) or SI (Side Imaging Mosaic).

7. Select Overlay. Select AC (AutoChart map) or SI (Side Imaging Mosaic).

   See your ZeroLine Map Card manual for more information. The manual can be downloaded from our Web site at **humminbird.com**.

Managing your AutoChart Files

It is important to understand how your ZeroLine Map Card and AutoChart are set up so you know where to import files, where to save them, and how to back them up.

ZeroLine Map Card Folder Structure

Whether you are using the ZeroLine Map Card on your Humminbird control head or your PC, it is helpful to understand the folder structure on the card.

⚠ **WARNING! Do NOT delete or change the AC folder, LkMaster folder, or SI folder. Changing these folders will permanently damage the ZeroLine Map Card.**

⚠ **WARNING! Humminbird is not responsible for the loss of data files (waypoints, routes, tracks, groups, recordings, etc.) that may occur due to direct or indirect damage to the unit's hardware or software. It is important to back up your PC, control head, and ZeroLine Map Card data files periodically. See *Managing your AutoChart Files: Back up your Files*.**

AC: When you click the LakeMaster Update button, map data is saved to the AC folder on the ZeroLine Map Card. The AC folder stores your custom map files. **Do NOT change the contents of this folder!**

LkMaster: This folder provides the basemap files for your regional map. **Do NOT change the contents of this folder!**

SI: If you've created Mosaic data in AutoChart, and then click the LakeMaster Update button, the Side Imaging Mosaic data is saved to the SI folder on the ZeroLine Map Card. **Do NOT change the contents of this folder!**

MATRIX: Your navigation data (waypoints, routes, tracks, iTracks) is saved to the MATRIX folder. When you copy the contents of this folder to back them up, keep the files together.

SNAPSHOTS: If you've taken screen snapshots on your control head, they are saved to the SNAPSHOTS folder on the ZeroLine Map Card. You might notice that a .DAT file or .TXT file is created for every .PNG screen snapshot. This data is required for viewing the screen snapshots on your control head, so don't delete these files. When you copy the contents of this folder to back them up, keep the files together.

RECORD: If you've saved sonar recordings from your control head, they are saved to the RECORD folder on the ZeroLine Map Card. In addition to the .DAT file, there will be several other files in your recordings file (.SON, TXT, etc.). This data is required for viewing the recordings, so don't delete these files. When you copy the contents of this folder to back them up, keep the files together.

AutoChart Files (.acd)

When you import a file into AutoChart (such as tracks or sonar recordings), it is converted to AutoChart format as an .acd file. It is important to keep your AutoChart files organized.

- **Save your Files:** Save your .acd files to your PC and back up your files on an external drive. If you lose your ZeroLine Map Card, you can use your .acd files to reload your maps onto a new ZeroLine Map Card.
- **Find:** If you cannot locate an .acd file, check the Chart File Index for the directory location.

Open an .acd File

Use the instructions in this section to open an .acd file and display it on the current map. To edit an .acd file in a separate tab, see *Edit an .acd File*.

NOTE: Use Open to open an individual file to review new data or edit data on the map. For example, you would open an .acd file to review the latest file you logged. Use Add when you want to load all your data to create a new updated map. The Add Data button starts the same command as right-clicking the map and selecting Map Here.

1. On the menu bar, select File > Open.

   OR

   On the toolbar, click the Open button.
2. To save changes to the .acd file, click the Save button. The new data will be added to the file.

Edit an .acd File

Use the instructions in this section to open an individual .acd file and edit it in a separate tab.

1. On the menu bar, select File > Open (Edit Only Tab).
2. When you are finished editing, click the Save button.
3. Click the X on the tab to close the file.

Editing an .acd File

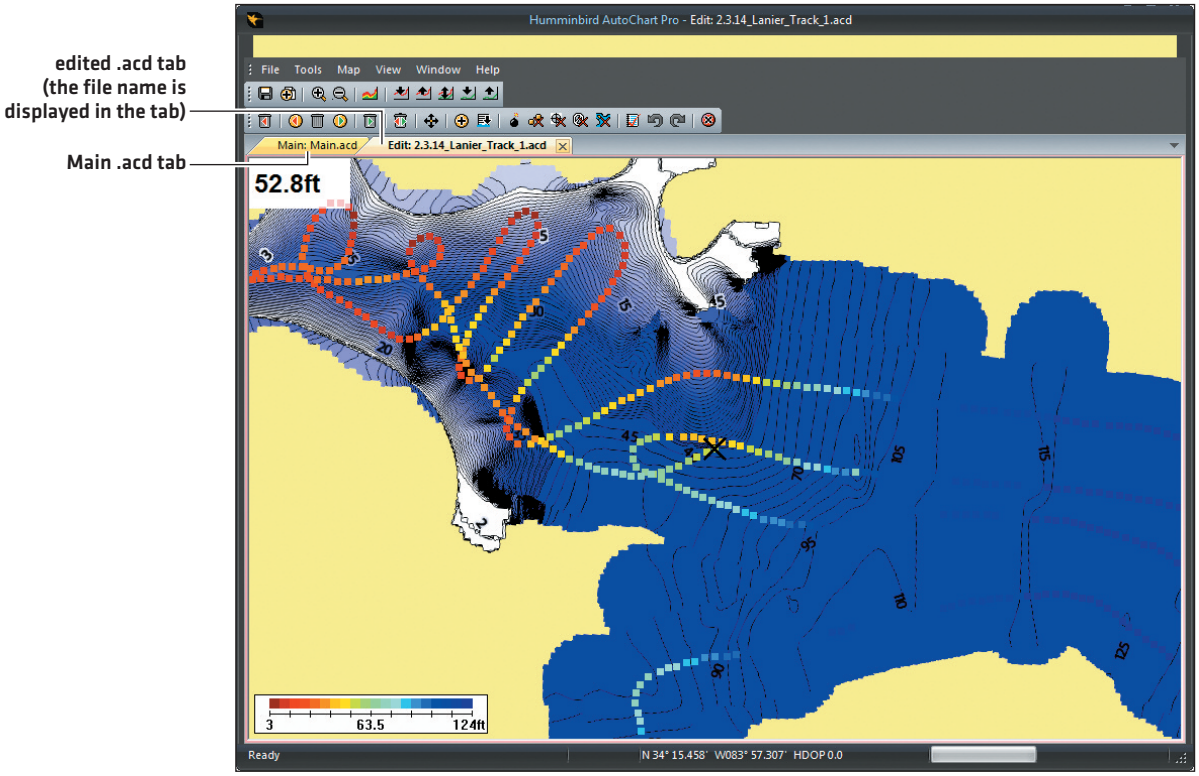


Chart File Index (.cfi)

The Chart File Index shows the main directory for your AutoChart files. If you're trying to find where you saved an AutoChart file, look in the Chart File Index (see ***Open a Chart File Index***).

The Chart File Index is set up automatically when you install AutoChart. Any time you import data or use live data in AutoChart, the files are added automatically to the Chart File Index.

Most users need only one Chart File Index. However, if you are collecting data for different locations (for example, 2 different lakes or 2 different states), or if you want to group water level references in a separate file, you can create more than one index.

Open a Chart File Index

Open the Chart File Index to review the file list and where each file is saved.

NOTE: It is helpful to keep related files saved to the same directory on your computer so they're not difficult to find.

1. On the menu bar, select Tools > Settings > Chart File Index Manager.
2. To open the default Chart File Index, click Open Default.

   To open any saved Chart File Index, click Open.

Add a New Chart File Index

Typically, you will not need more than one Chart File Index. However, if you are collecting data for different locations (for example, 2 different lakes), you can create an additional index.

1. On the menu bar, select Tools > Settings > Chart File Index Manager.
2. Click New.

   To add files to the Chart File Index, click Add Files.

Change the Default Chart File Index

If you've created more than one Chart File Index, you can select which file will be used when you open AutoChart.

1. Use the mouse to drag the map to the new target area.

   OR

   Live Mapping: Select Tools > Connect. Skip to step 5.
2. Right-click and select Mark Waypoint from the submenu.
3. Double-click the new waypoint.
4. Click Map Here from the Waypoint Management dialog box.
5. On the menu bar, select File > Add File or Chart File Index.
6. Select the chart file index (*.aci).
7. On the toolbar, click the Save button.

Back up your Files

When you save files to your PC, keep your AutoChart files together in a directory that is easy to locate, and keep copies of your files saved to an external drive. It is also important to manage the storage space on your ZeroLine Map Card and keep copies of your files saved to your PC and an external drive.

⚠ **WARNING! Humminbird is not responsible for the loss of data files (waypoints, routes, tracks, groups, recordings, etc.) that may occur due to direct or indirect damage to the unit's hardware or software. It is important to back up your PC, control head, and ZeroLine Map Card data files periodically.**

Tips for Copying and Pasting Files

The basic instructions for copying and pasting a file to another folder are shown in this section. These instructions will vary with the type of Microsoft Windows operating system you are using. For more information, consult your Microsoft Windows manual.

1. Double-click a folder to open it.
2. Select the file(s) you want to copy:

   To select one file, click it.

   To select all files in a Folder, select Ctrl + A on your keyboard.

   To select several individual files, hold down the Ctrl key on your keyboard. Click a file to select it. Continue to hold down the Ctrl key and select additional files.
3. Right-click the selected file(s). Select Copy from the submenu.
4. Open the destination folder.
5. Right-click the folder directory. Select Paste from the submenu.

Back up the ZeroLine Map Card Files

Your ZeroLine Map Card includes several Gigabytes of available storage, so you can save tracks, iTracks, sonar recordings, and waypoints directly to it. It is important to keep copies of these files on your PC and another external drive.

If you've backed up your ZeroLine Map Card folders (MATRIX, SNAPSHOTS, and RECORD), you can remove the files from the ZeroLine Map Card to make space for new files. You can also use these instructions to copy files from another SD card.

⚠ **WARNING! Do NOT delete or change the AC folder, LkMaster folder, or SI folder. Changing these folders will permanently damage the ZeroLine Map Card.**

⚠ **WARNING! Do NOT separate or delete files that are saved to the same folder. See *ZeroLine Map Card Folder Structure* for details.**

1. On your PC, open the directory where you want to keep your file copies.
2. Right-click the directory and select New > Folder. Create a MATRIX folder (name the folder with all capital letters). Repeat this step to create a RECORD folder and a SNAPSHOTS folder.
3. Insert the ZeroLine Map Card into the card slot on your PC.
4. Open the ZeroLine Map Card on your computer.
5. Open the MATRIX folder. Select all the files in the folder and copy them to the MATRIX folder on your PC.
6. Open the SNAPSHOTS folder. Select all the files in the folder and copy them to the SNAPSHOTS folder on your PC.
7. Open the RECORD folder. Select all the files in the folder and copy them to the RECORD folder on your PC.
8. If you've saved .acd files to the ZeroLine Map Card, copy them to a folder on your PC.
9. **Optional:** Once the contents of the MATRIX folder, SNAPSHOTS folder, and RECORD folder are copied to your PC, you can delete them from your ZeroLine Map Card to make space for new data files.
10. Proceed to ***Back up your PC Files***.

Back up your PC Files

It is also important to keep copies of your PC files on an external drive (or another computer), so if your computer is damaged, you will have back up files of your AutoChart data.

WARNING! Do NOT separate or delete files that are saved to the same folder. See ***ZeroLine Map Card Folder Structure*** for details.

1. Right-click the **MATRIX folder** on your PC.
2. Select Copy from the submenu.
3. Open the external drive directory and right-click it.
4. Select Paste from the submenu.
5. Repeat the above steps to copy the following folders and files from your PC to the external drive:

   SNAPSHOTS

   RECORD

   all .acd files

   Waypoint Notes (drdwptv2.dwp, acwptnotes.dnt): In the Microsoft Windows Vista operating system and Microsoft Windows 7 operating system, these files are located in C:\ProgramData\AutoChart\User Data. In the Windows XP operating system, they are located in the installation directory of AutoChart.

   Custom Color Definition Files (optional): see AutoChart built-in help for details.

   NOTE: You might have your files saved to other SD cards or directories on your PC. Be sure to back up all files.

Adjusting the Transparency Sliders

AutoChart displays your data in layers on the map from top to bottom as follows:

Top Layer: Bottom Hardness (AutoChart PRO and sonar recording required, see ***Displaying Bottom Hardness*** for details)

Middle Layer: 2D Color Display (200 kHz, sonar recording required)

Bottom Layer: LakeMaster Map

Adjust the Transparency Sliders

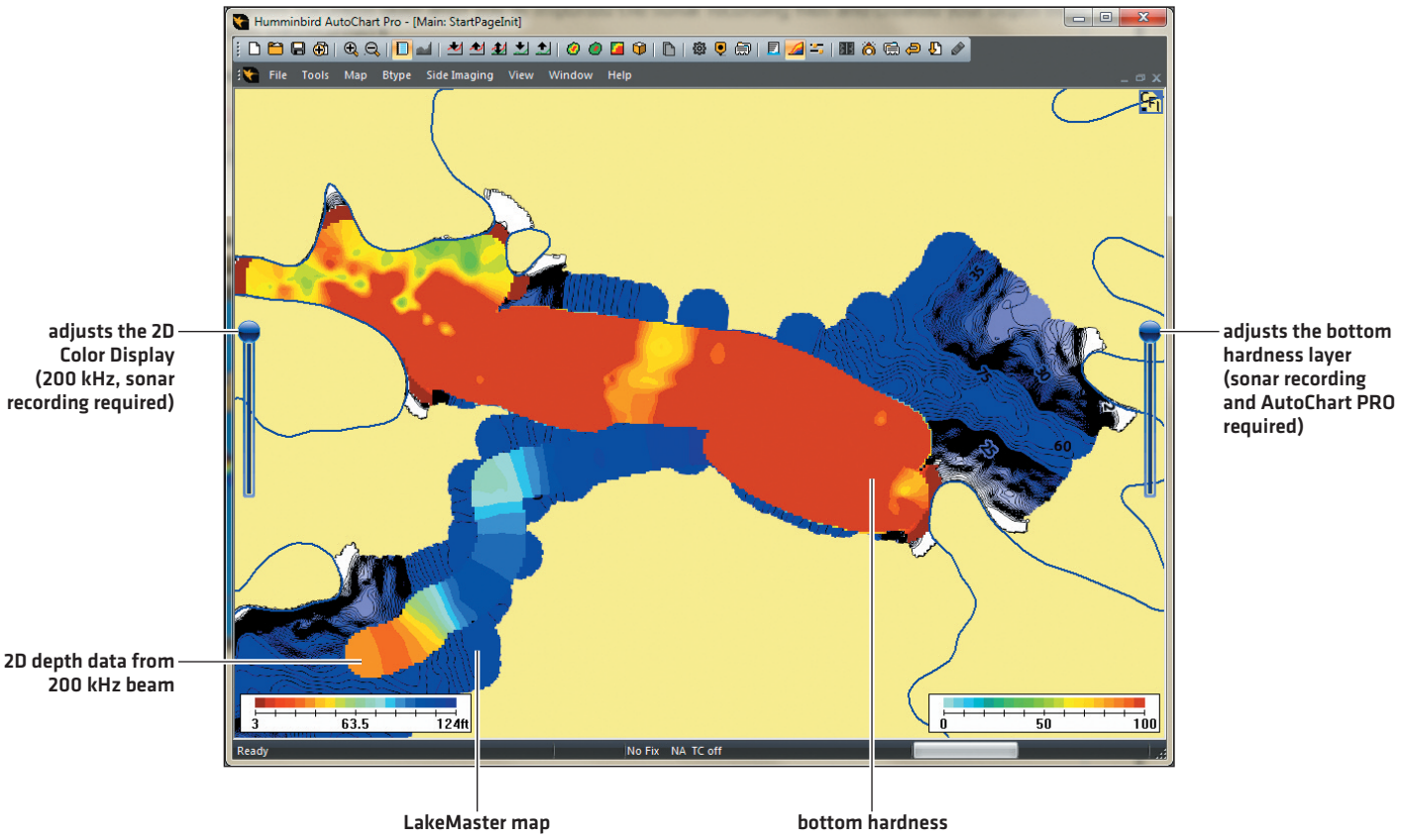
Use the sliders to set the transparency of the the bottom hardness layer and 2D Color Display layer, revealing more or less of the LakeMaster map underneath.

Adjust the 2D Color Display (200 kHz beam data): Click and drag the left slider down or up.

Adjust the Bottom Hardness Layer : Click and drag the right slider down or up.

Display the LakeMaster Map Only: Click and drag each slider down all the way.

Adjusting the Transparencies



Adjusting the Depth Range

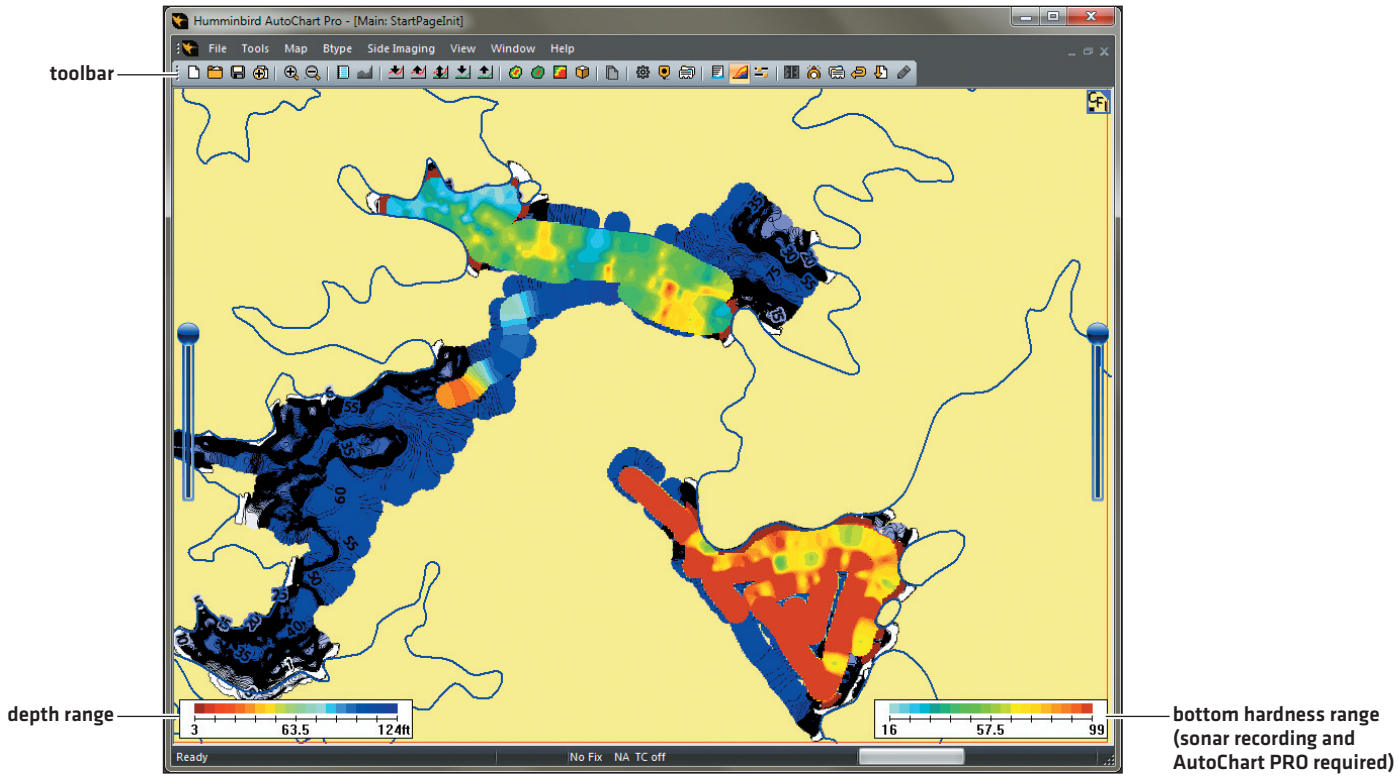
The depth range can be changed from the settings menu or by clicking the arrow buttons on the toolbar. Using the arrow buttons is the fastest way to update the display, however, the depth range and bottom hardness range (AutoChart PRO required) will be updated at the same time. To update the bottom hardness range separately, see ***Displaying Bottom Hardness: Change the Bottom Hardness Range***.

When you adjust the depth range, you will see the numbers change in the scale and the colors will change to show the adjustment.

Click the following buttons on the toolbar to adjust the depth range lower or higher:

- Decrease the lower range (Min.)
- Increase the lower range (Min.)
- Decrease the upper range (Max.)
- Increase the upper range (Max.)
- **Find Depth Range:** This button is used to calibrate the gain setting. **Do NOT click it after the gain has been set.** See ***Displaying Bottom Hardness: Set up Bottom Hardness***.

Adjusting the Depth Range



Displaying/Hiding Map Features

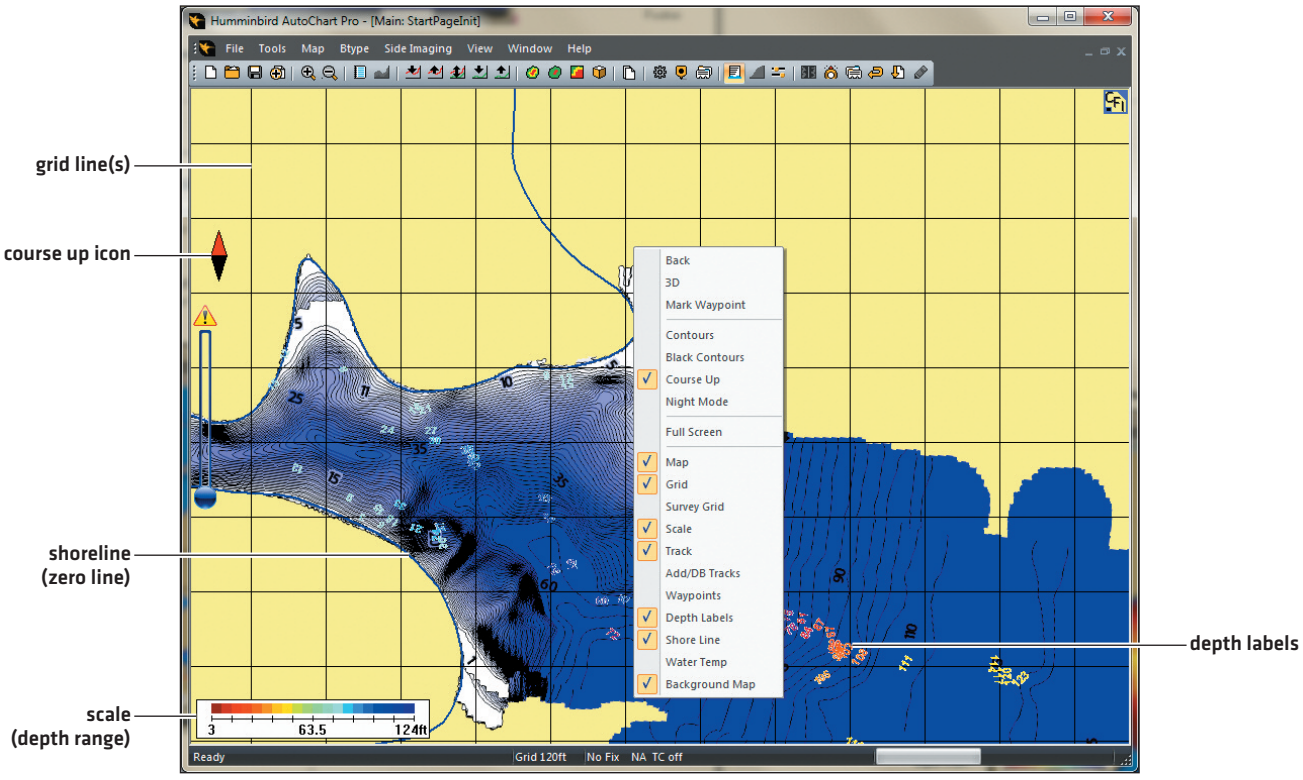
Use the instructions in this section to change the appearance of the display. You can display or hide the grid lines, shorelines, waypoints, depth labels, contours, and more.

You can also change the perspective of the display. If you choose 3D, additional menu options will be available when you right-click the map.

Display/Hide Map Features

1. Right-click the map.
2. Select an item from the menu and (left) click it. If a check mark is displayed, the item will be displayed on the map. If the check mark is removed, the item will be hidden.

Right-Clicking to Access Display on/off Menus



Displaying the Depth Map in 3D

Displaying the map in 3D allows you to view a different perspective of the depth map. Also, if you select 3D, additional menu options will be available in the submenu when you right-click the map.

NOTE: To convert the map to LakeMaster, change it back to the 2D display. The LakeMaster map cannot be converted from a 3D map.

Display the Depth Map in 3D

1. Right-click the map. Select 3D.

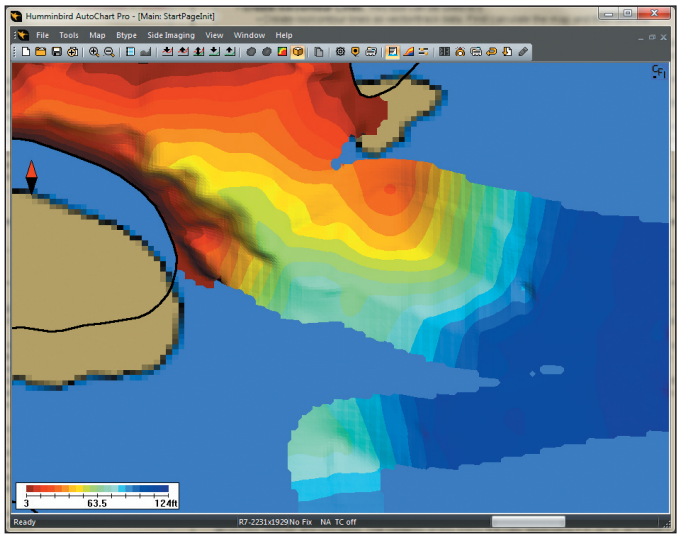
   OR

   Click the View 3D button on the toolbar.

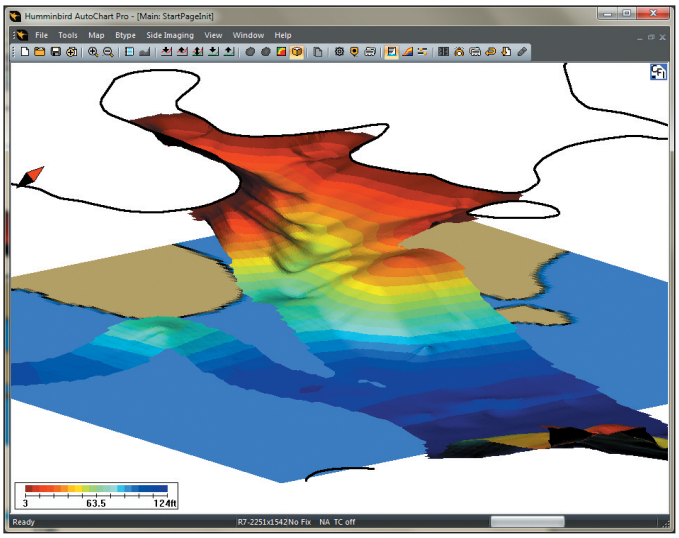
Pivot the 3D Map

1. Move the mouse pointer to a point on the map. This will be your pivot point.
2. Right-click the map. Select Set Pivot.
3. Move the mouse pointer to any part of the map.
4. Press and hold the left mouse button, and move your mouse to the right, left, up, or down. Try different angles until you have the rotation and view you want.

Displaying the Depth Map in 3D



Pivoting the 3D Map



Display/Hide 3D Map Features

There are additional display options when the map is changed to 3D, such as True AR (True Aspect Ratio), mesh, and black contours. You can also set the map resolution from this menu.

1. Right-click the map.
2. Select an item from the menu and (left) click it. If a check mark is displayed, the item will be displayed on the map. If the check mark is removed, the item will be hidden.

Creating and Editing Shorelines (zero lines)

AutoChart works with your ZeroLine Map Card to automatically create shorelines (zero lines) based on the data collected on the water. These zero lines mark 0 depth on your maps. You can also manually add your own shorelines to a body of water or edit a shoreline to trim an existing map.

NOTE: If you have an i-Pilot Link connected to your Humminbird control head network, you can set a distance from the shoreline by activating Contour Offset. For more information about Follow the Contour, see your ZeroLine Map Card manual and the i-Pilot Link manual for details. Visit our Web site at **humminbird.com** to purchase an i-Pilot Link.

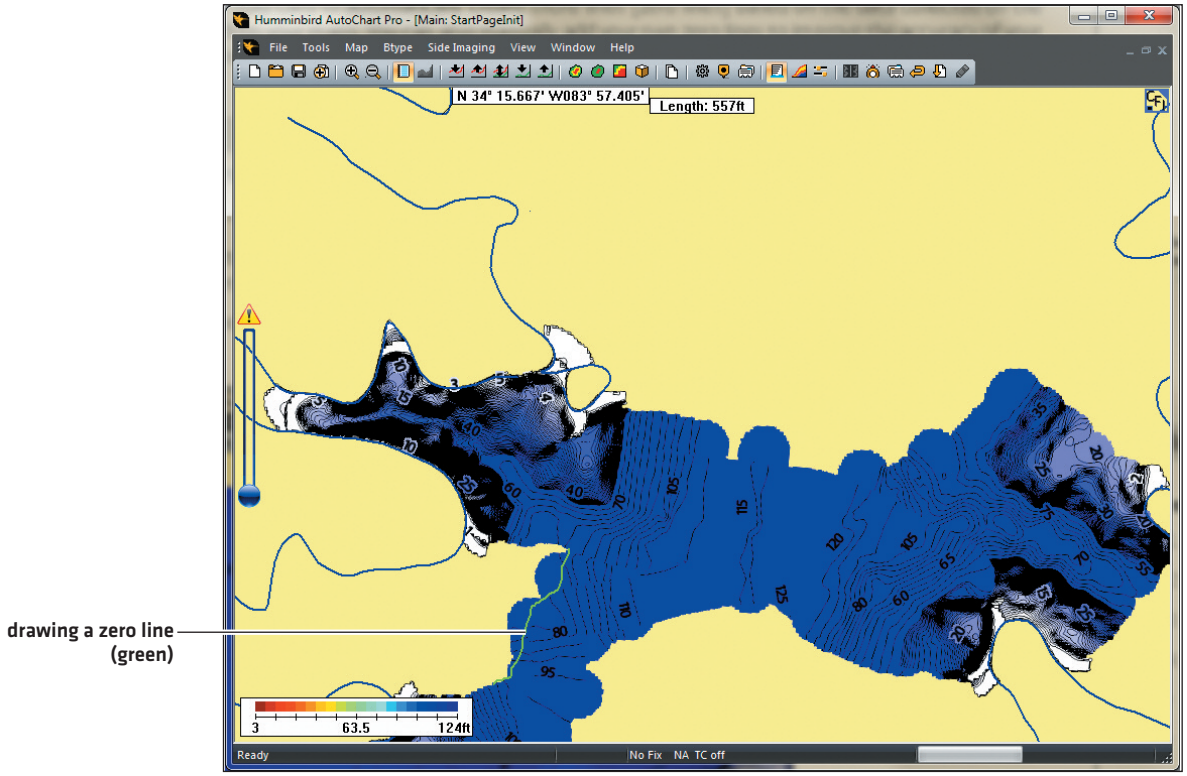
Draw a Shoreline

Use the instructions in this section to draw a line on the map and convert it to a shoreline.

1. On the menu bar, select Tools > Draw Line.
2. Hold down the left mouse button at the selected shoreline start point. Drag the mouse, and continue to hold down the left mouse button until the shoreline you want is completed. When you are finished, release the left mouse button.

   To clear the shoreline and start over, select Tools > Draw Line (so that the check mark is removed).

Drawing a Shoreline



3. Right-click the drawn line. In the Set Data Type dialog box, under Lines, select the water location in relation to the line. See the illustration ***Setting the Type***.

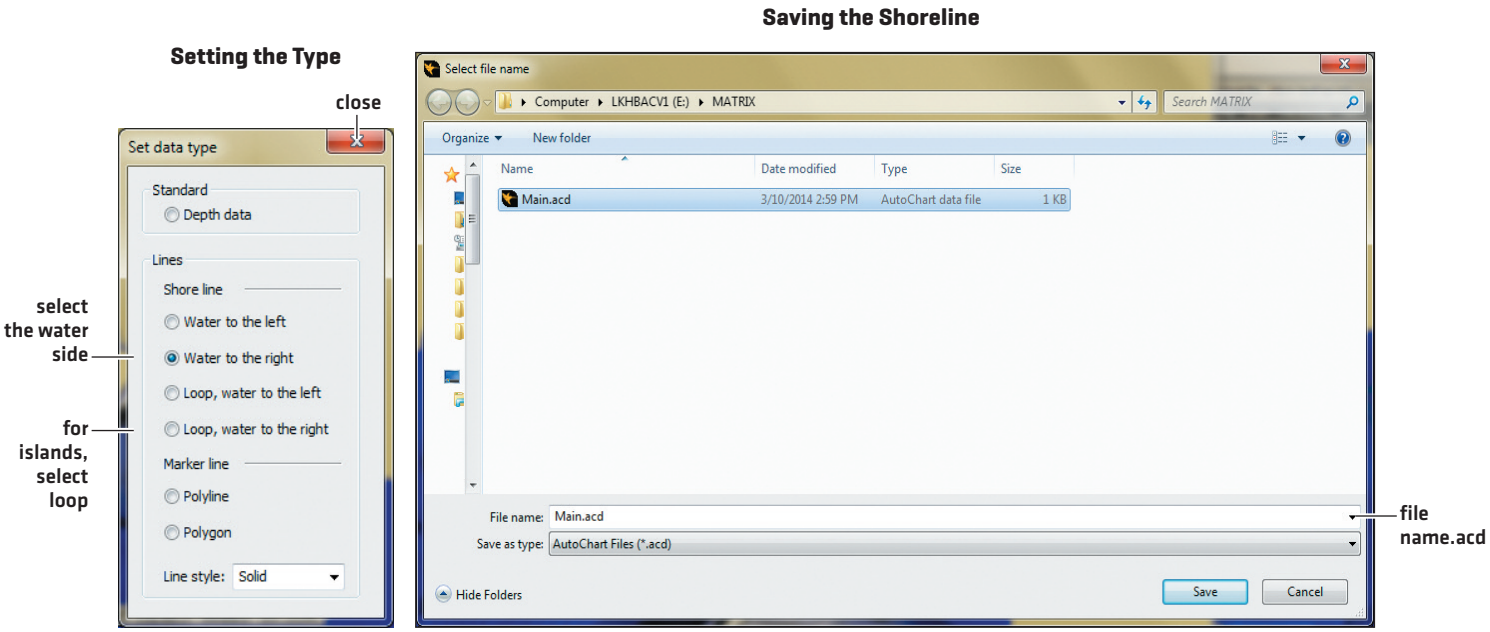
   Water to the Left: Water is located to the left as you walk the line in the order it was drawn.

   Water to the Right: Water is located to the right as you walk the line in the order it was drawn.

   Loop, Water to the Left: The loop will be closed automatically. Use the loop option to create a lake or an island.

   Loop, Water to the Right: The loop will be closed automatically. Use the loop option to create a lake or an island.
4. Click the X to close the dialog box.
5. Save the line as a new file (*.acd). Click Save.

   Follow the on-screen prompts to save the shoreline and add it to the Chart File Index. See the illustration ***Saving the Shoreline***.



Import a Shoreline from Google Earth™ Mapping Service

Create a Shoreline in Google Earth Mapping Service

1. On the menu bar, select Tools > Launch Google Earth.
2. Zoom in (+) until you have a clear view of the area.
3. Enter a name in the dialog box. Do NOT close the dialog box.
4. Use your mouse to draw the shoreline in one of the following ways:

   Hold down the left mouse button, and drag the pointer along the shoreline.

   OR

   Click points across the shoreline.
5. When you are finished drawing, click OK in the dialog box.
6. In the Places panel (on the left side of the Google Earth screen), right-click your saved path file.
7. Select Save Place As.
8. Save the file as a .kml file.

Import the Shoreline

Use the instructions in this section to import the shoreline you created in Google Earth mapping service.

1. Open AutoChart.
2. On the menu bar, select File > Import/Convert.
3. Select the .kml file you saved in the previous section (***Create a Shoreline in Google Earth Mapping Service***).

   The file will be converted to an .acd file.
4. On the menu bar, select File > Open.

   Select the file.acd you created in step 3.

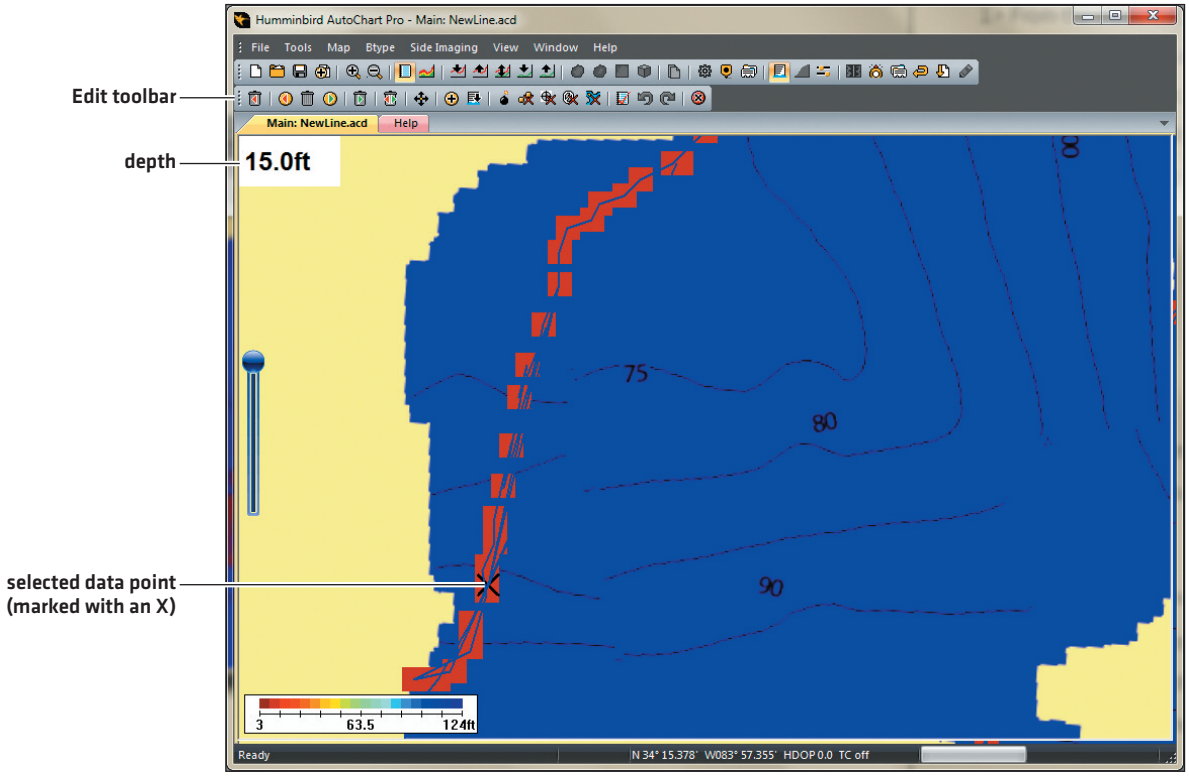
Edit Shorelines and Data Points

If you want to change a shoreline after you've saved it, use the instructions in this section.

Open a Line File to Edit it

1. On the menu bar, select File > Open (Edit Only Tab).
2. Open the shoreline.acd file you want to edit.
3. On the menu bar, select Tools > Edit Data.
4. The Edit toolbar will display at the top of the screen. The Edit toolbar functions are detailed in this section.

Editing a Shoreline



Undo/Redo

While you're editing a line, you may need the following buttons:

Undo Changes

Redo Changes

Select a Data Point

1. Double-click a point on the line.

   Click the Next button or the Previous button to move to the next/previous data point in the line.

Insert a Data Point

1. Click the Add/Insert button.
2. Double-click a position on the map.

   Repeat step 2 to add additional data points to the line.
3. When you are finished adding data points, click the Add/Insert button so it is not active (highlighted) on the toolbar.

Delete Data Points

1. Double-click a point on the line.
2. Click the following buttons to delete a selected data point or a range of data points:

   Delete Current Data Point: deletes the selected data point.

   Delete All Older Data: deletes the data points created earlier than the selected data point.

   Delete All More Recent Data: deletes the data points created after the selected data point.

   Delete Range: deletes a range of data. The selected data point is the start point. Click the Delete Range button. Double-click another point on the line to indicate the end of the range. Data points between the start data point and end data point will be deleted.

Move the Line Position

Use the instructions in this section to shift the line position or adjust the depth relative to the variations in water level. To set a fixed depth for a data point, see ***Change the Depth or Position***.

1. Double-click a point on the line.
2. Click the Move Data button.
3. **To adjust the line position,** enter an amount in the Adjust Position field. Click the North, South, East, or West button.

   To adjust the depth so the line adjusts based on the water level, enter an amount in the Adjust Depth field. Click the Up or Down button.

   In both cases, you can click the buttons repeatedly to adjust the position.
4. Click the X to close the dialog box.

Change the Depth or Position

Use the instructions in this section to set the fixed depth of a data point or all data points in a line. To use a relative depth to compensate for water level variations and shift the line, see ***Move the Line Position***.

1. Double-click a point on the line.
2. In the Edit toolbar, click the Edit Depth button.
3. Enter a depth for the selected data point.

   To set the depth for all data points in the line, add a check mark to Apply to All.

   NOTE: If you do not want the point to be included when the map is calculated, set the depth to -1.
4. Click the X to close the dialog box.

Change the Line Type (Data Type)

Use the instructions in this section to change where the water is displayed in relation to the shoreline, change the line type, or change the line appearance.

1. Click the Set Data Type button in the Edit toolbar.
2. Use the dialog box to change the line to depth data, shoreline, or marker line. If you select shoreline, select one of the following:

   Water to the Left: Water is located to the left as you walk the line in the order it was drawn.

   Water to the Right: Water is located to the right as you walk the line in the order it was drawn.

   Loop, Water to the Left: The loop will be closed automatically. Use the loop option to create a lake or an island.

   Loop, Water to the Right: The loop will be closed automatically. Use the loop option to create a lake or an island.
3. Click the X to close the dialog box.

Clean up the Line

1. Double-click a point on the line.
2. Click the following buttons to clean up data points or smooth the line:

   Decimate Data: filters the data so the amount of data in the line is reduced. The extra data will be permanently removed from the file.

   Remove Closely Spaced Points: deletes data points that are close together or identical.

   Remove Range Limit: deletes all data outside the set depth.

   Remove all Points with Zero Depth: deletes all data points with 0 ft/m depth.

   Clean Shoreline: deletes identical points and resolves problematic sections in the shoreline data.

Save Changes and Close Editing Mode

1. Click the Save button on the toolbar.
2. Click the Quit Editing button.

   When you quit editing, the Edit toolbar will be removed from the screen.

Use Custom Shorelines

AutoChart uses the shorelines from the ZeroLine Map Card to display maps on your PC and control head. You can also use your custom shorelines.

1. On the menu bar, select Tools > Settings > General.
2. Under Shorelines, add a check mark to Use Shorelines.
3. Under Source, select one of the following:

   To use LakeMaster shorelines (from the ZeroLine Map Card), select Use LakeMaster Data.

   To use your custom shorelines, select User Defined Data.

Creating Tracks and iTracks

When you convert your depth map to a LakeMaster custom map, contour lines are displayed. Contour lines can be converted to tracks or iTracks. You can also draw a free-form line in AutoChart and convert it to a track or iTrack.

If you have an i-Pilot Link connected to your Humminbird control head network, you can navigate a saved iTrack or follow a contour.

NOTE: Visit our Web site at **humminbird.com** to purchase an i-Pilot Link. For more information about Follow the Contour and iTracks, see your ZeroLine Map Card manual and the i-Pilot Link manual.

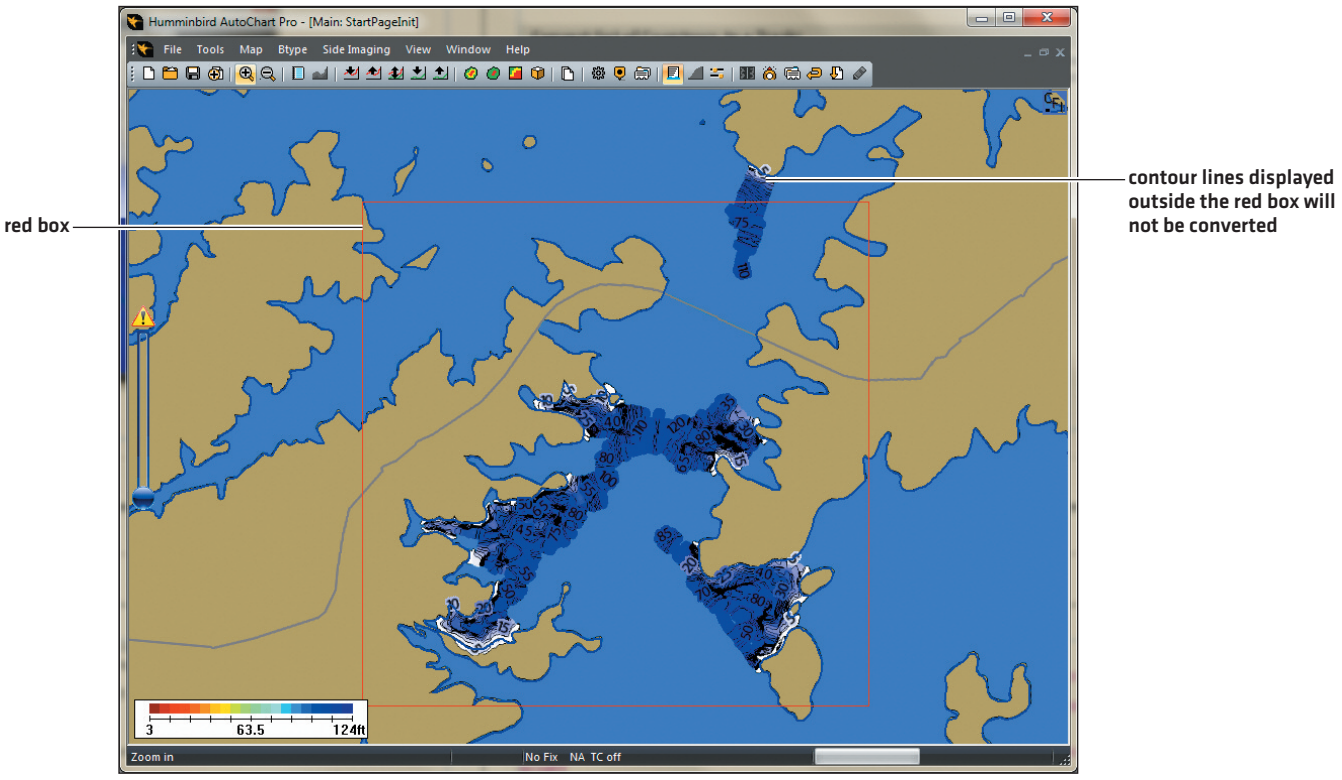
Display Contour Lines

1. Right-click a position on the map.
2. Select Contours and (left) click it. If a check mark is displayed, contours will be displayed on the map. If the check mark is removed, contours will be hidden.

Convert a Set of Contours to a Track

AutoChart will convert all contour lines displayed in the red box to a track or iTrack. You can also create a file with waypoints with depth labels, which show the depth of the contour line. The converted file can be saved to the ZeroLine Map Card. When the navigation data is displayed on the control head, you will see the contour lines displayed as a saved track on the chart.

The LakeMaster Map Displayed in the Red Box (Internal Map)



Adjust the Selection

When you convert a set of contours to a track, AutoChart will convert all contours inside the red box. You can adjust the centering of the red box to select the data you want to convert (see ***Changing the Internal Map Border***).

To convert a single contour line to a track or iTrack, see ***Convert a Contour Line to a Track or iTrack*** in this section.

Convert Contour Lines to a Saved Track

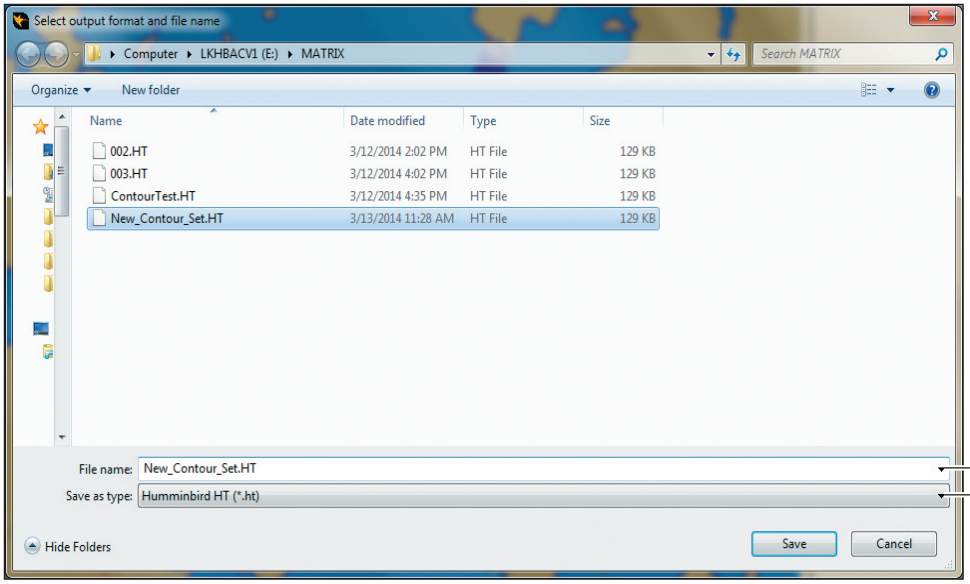
You can choose to convert contour lines as one track or separate tracks, and you can also add waypoints with depth labels, which indicate the depth of the contour line.

1. On the menu bar, select Tools > Create Contour Lines.
2. Find the ZeroLine Map Card in your PC directory, and open the MATRIX folder.

   To save the contour lines as a single track, save the new file name as a track (.ht). Follow the on-screen prompts to convert the file. To include depth labels as a waypoint file (.hwr), select yes.

   To save the contour lines as separate tracks, save the new file name as .gpx. Follow the on-screen prompts to convert the file and save the contours as separate tracks. These files will be saved as .gpx format. Import the track.gpx file into HumminbirdPC and export it to an SD card (the file will be converted to .hwr). See HumminbirdPC built-in help for details.

Saving the Contour Lines as a Track



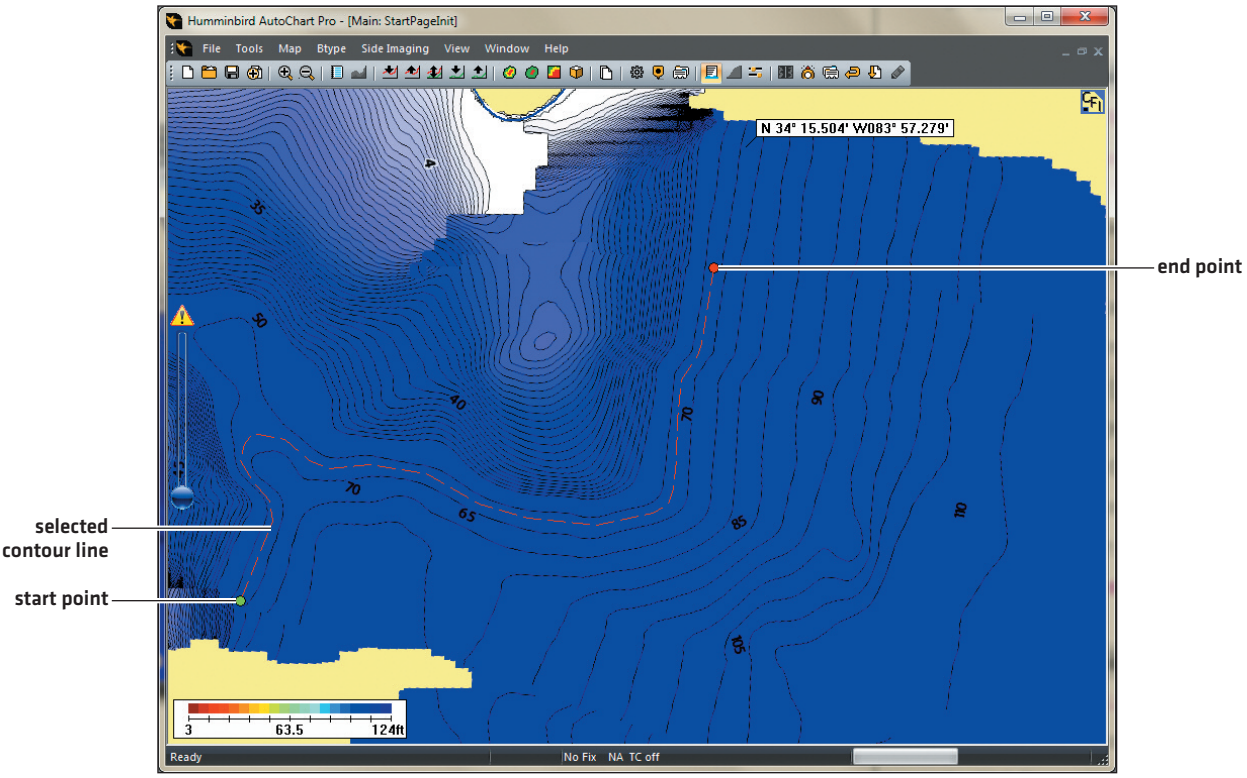
3. Click Save.

Convert a Selected Contour Line to a Track or iTrack

Use the instructions in this section to convert a selected contour to a track or iTrack.

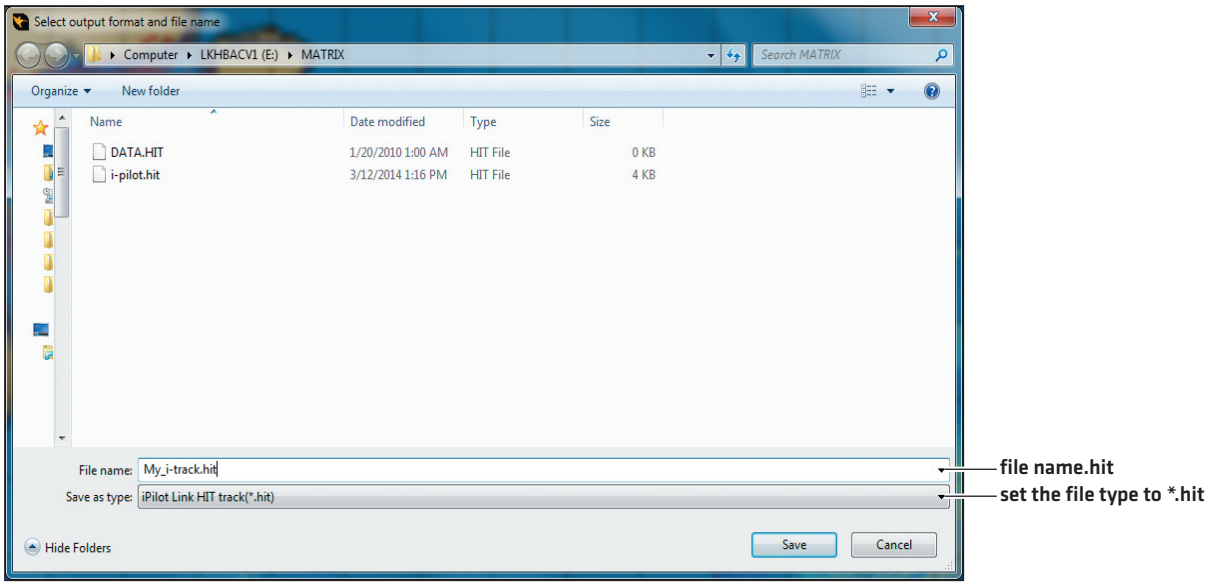
1. Hold down the right Ctrl key on your PC keyboard, and double-click a contour line.

Selecting a Contour Line



2. On the menu bar, select Tools > Convert Selected Contour.
3. Change the Save as Type drop-down menu to i-Pilot Link.hit or Humminbird track.ht.
4. Save the file to the ZeroLine Map Card MATRIX folder.

Saving the Contour Line as an iTrack



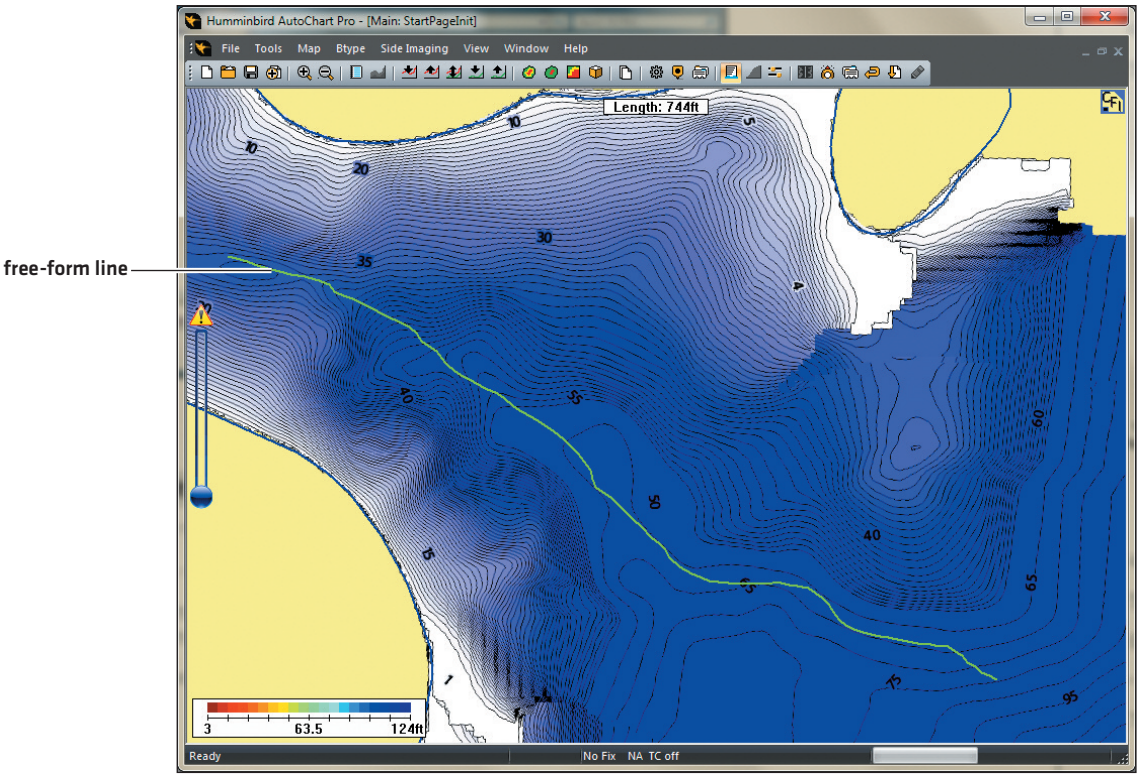
Draw a Line and Convert it to a Track or iTrack

Use the instructions in this section to draw a line on the map and convert it to a track or iTrack.

1. On the menu bar, select Tools > Draw Line.
2. Hold down the left mouse button at the track start point. Drag the mouse, and continue to hold down the left mouse button until the line you want is completed. When you are finished with the track, release the left mouse button.

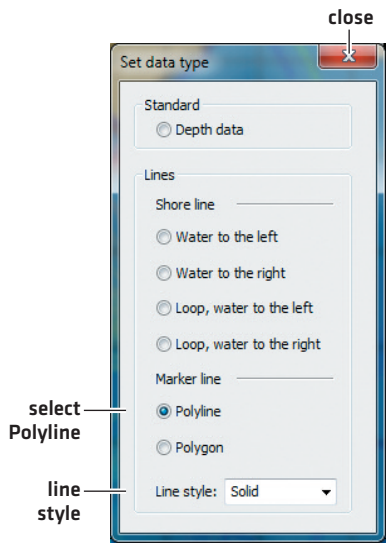
   To clear the track and start over, select Tools > Draw Line (so the check mark is removed).

Drawing a Line

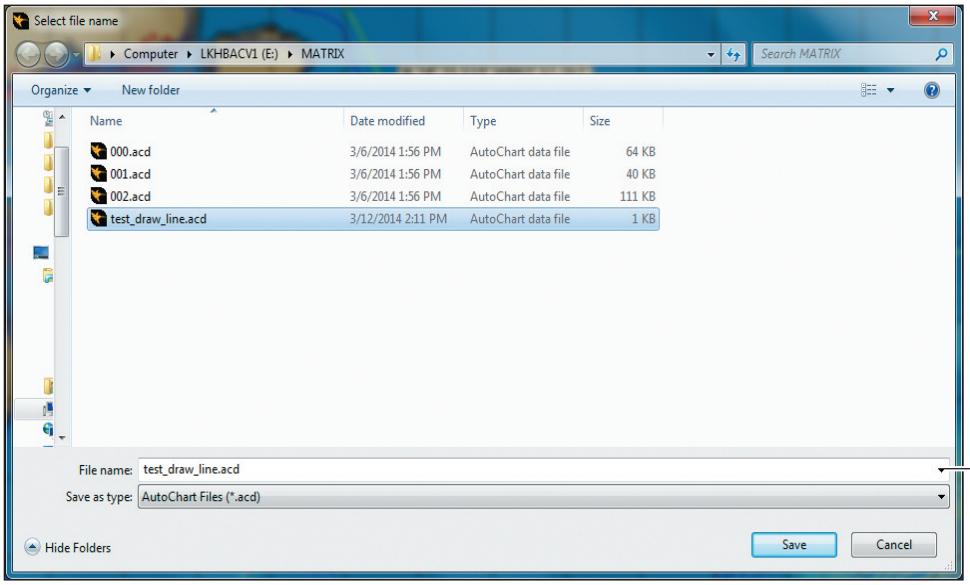


3. Right-click the drawn line. In the Set Data Type dialog box, under Marker Line, select Polyline. See the illustration ***Setting the Type***.
4. Click the X to close the dialog box.
5. Save the line with a new file name or select a saved file (*.acd). Click Save. See the illustration ***Saving the Line***.

Setting the Type



Saving the Line



6. On the menu bar, select Tools > Convert Line to Track.
7. Click the .acd file name you saved in step 5. Click the Open button.
8. To save the line as a track, select *.ht.

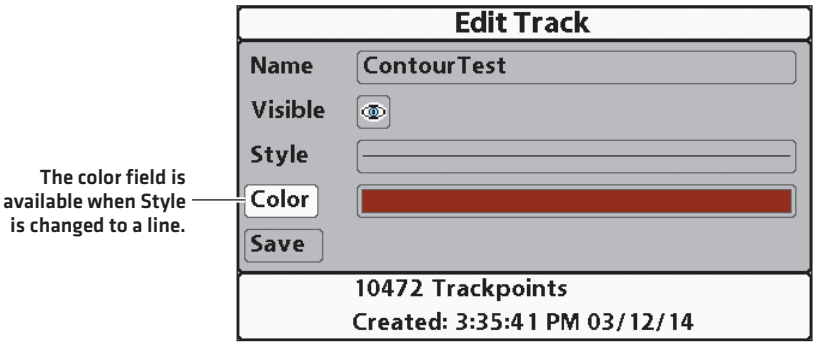
   To save the line as an iTrack for i-Pilot Link, select *.hit.
9. Click the X to close the dialog box and complete the conversion.

Change the Saved Track or iTrack Appearance on the Control Head

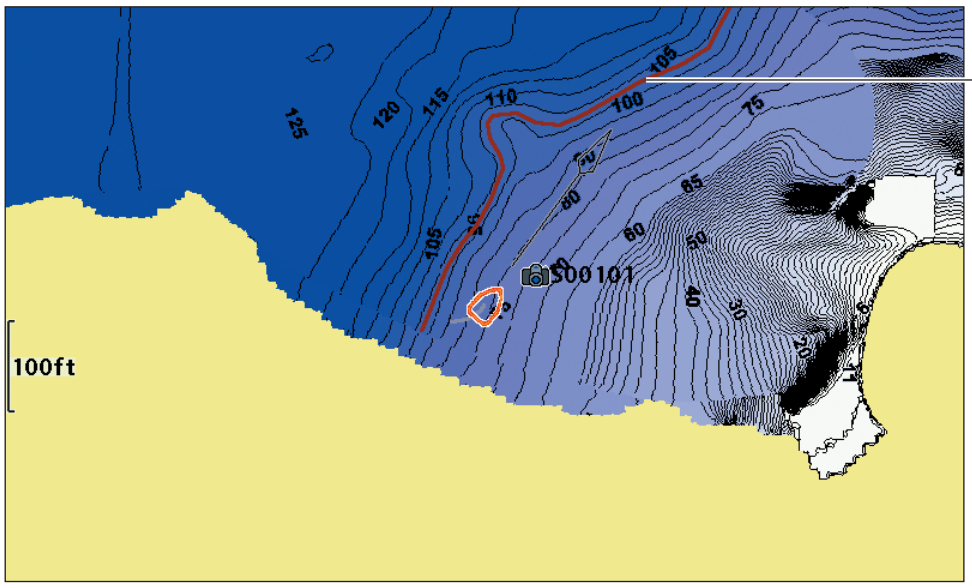
If you've converted a contour to a track (or iTrack), and saved it to the MATRIX folder on the ZeroLine Map Card, it will be imported with your other navigation data on your Humminbird control head. Use the instructions in this section to change the track appearance so it is easy to see on the Chart View. See your ZeroLine Map Card manual for details.

1. Insert the ZeroLine Map Card into the control head card slot.

   Follow the on-screen prompts to import your navigation data.
2. Press the MENU key twice.
3. Select the Nav tab.
4. Select Waypoints, Routes, Tracks. Press the RIGHT Cursor key to open the Waypoint Management dialog box.
5. Select the track or iTrack. Press the RIGHT Cursor key and select Edit.
6. Use the 4-WAY Cursor Control key to change the Style to a line.
7. Use the 4-WAY Cursor Control key to change the color to something that is easy to see on the chart.
8. Select Save, and press the RIGHT Cursor key.



Converting a Contour Line to a Track (1100 Series)



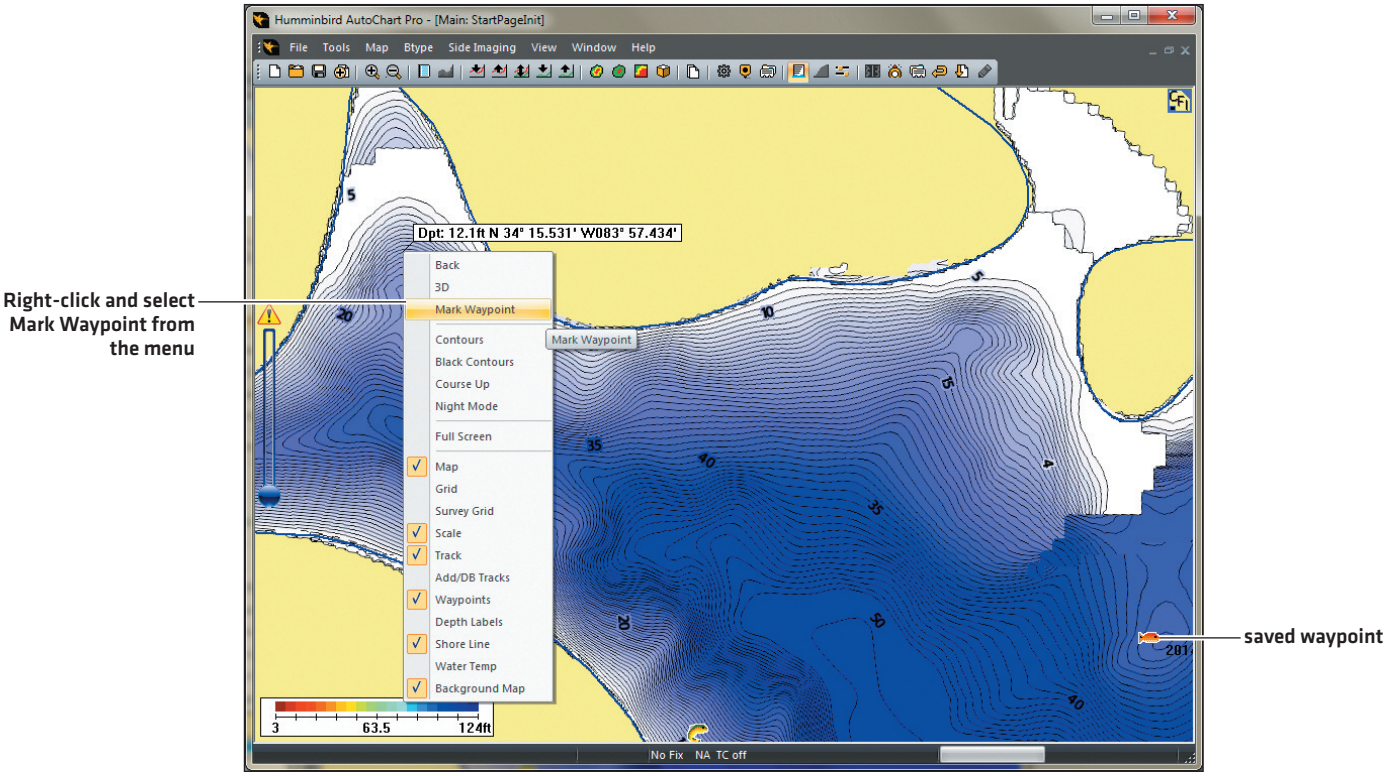
Marking and Managing Waypoints

AutoChart allows you to mark waypoints on the map. You can also use the Waypoint Manager to create new waypoints from scratch, edit waypoints, and import/export your waypoints.

Mark a Waypoint

1. Right-click a position on the map.
2. Select Mark Waypoint.

Marking a Waypoint



Display Waypoints on the Map

1. Right-click the map.
2. Select Waypoints. If a check mark is displayed, waypoints will be displayed on the map.

Open the Waypoint Manager

You can open the Waypoint Manager from the toolbar or from any waypoint on the map.

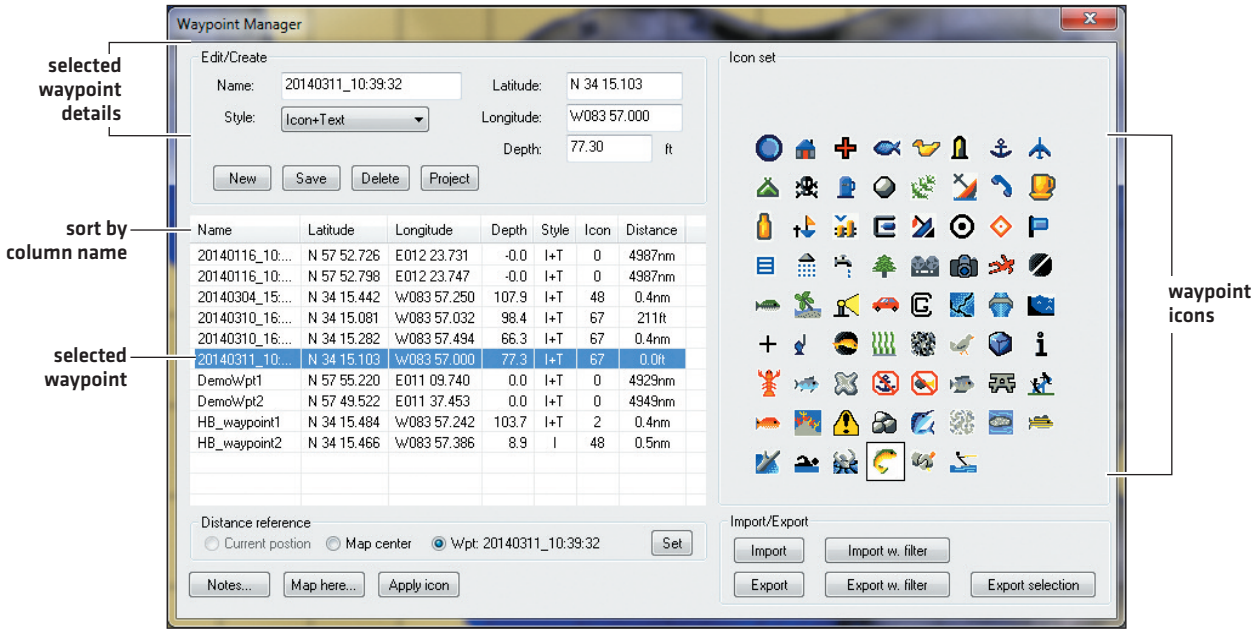
1. Click the Waypoint Manager button on the toolbar.

   OR

   Double-click any waypoint icon on the map.

2. **To select a waypoint,** double-click the waypoint in the list. The waypoint details are shown at the top of the Waypoint Manager.

   To sort the list, click a column name to sort by name, latitude, longitude, etc. The first click will sort the column low to high or A to Z. The second click will sort it high to low or Z to A.



NOTE: For more information about the Map Here button, see ***Changing the Internal Map Border: Adjust the Internal Map Manually***.

Create a New Waypoint

You can create a new waypoint by manually entering a name and coordinates, or you can create a waypoint based on a saved waypoint in the list.

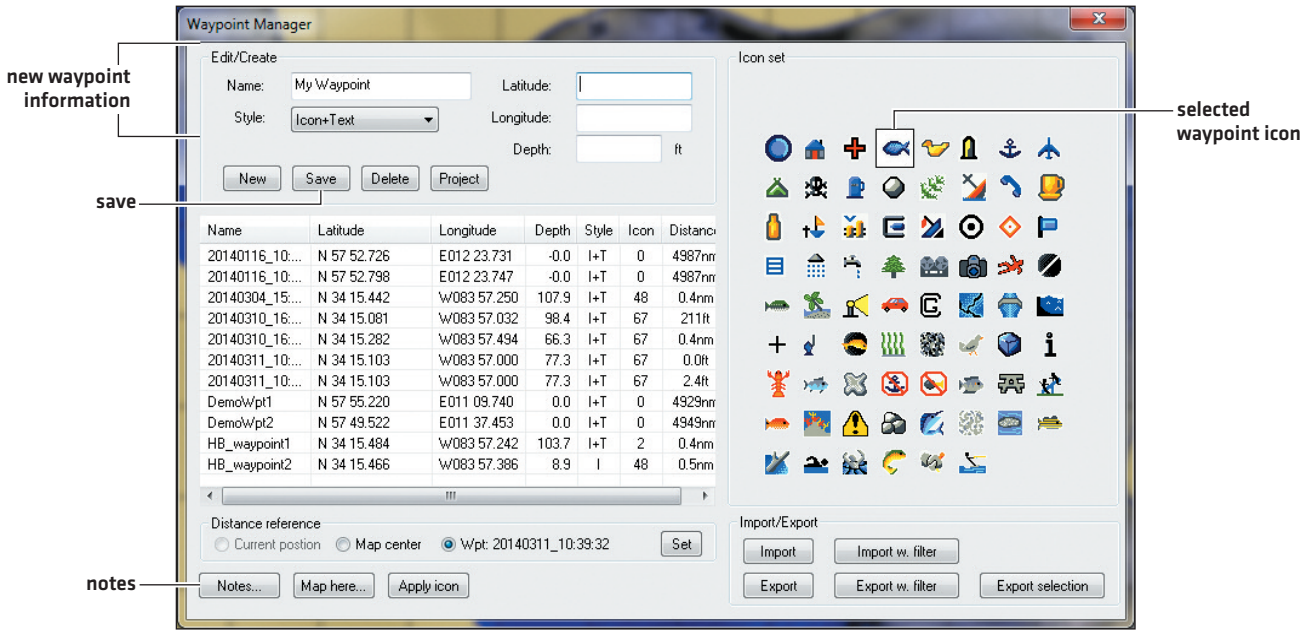
NOTE: When you name a waypoint, limit the name to 11 characters so that it can be displayed correctly on your Humminbird control head.

Create a New Waypoint

1. Open the Waypoint Manager.
2. Click any waypoint in the list once so that the fields at the top of the Waypoint Manager are blank.

   To create a new waypoint based on a saved waypoint, see ***Create a Waypoint Based on a Saved Waypoint***.
3. Type in the Name, Latitude, Longitude, and Depth.
4. Click a waypoint icon to assign an icon to your waypoint.
5. To add notes to the waypoint, click the Notes button.

   Type your notes, and click the Save button when you are finished. Click the X to close the dialog box.
6. Click the Save button.



Create a Waypoint Based on a Saved Waypoint

1. Open the Waypoint Manager.
2. Double-click the waypoint you want to copy.
3. Edit the Name, Latitude, Longitude, or Depth fields at the top of the Waypoint Manager dialog box.
4. Click a waypoint icon to assign an icon to your waypoint. If you want to keep the same icon, you can skip this step.
5. To add notes to the waypoint, click the Notes button.

   Type your notes, and click the Save button when you are finished. Click the X to close the dialog box.
6. Click the New button.
7. Click the Save button.

Create a Projected Waypoint

Use the instructions in this section to create a waypoint based on a projected X/Y distance from a saved waypoint.

1. Double-click the waypoint icon on the map. The projection will be started from this waypoint.
2. Click the Project button in the Waypoint Manager.
3. Enter the coordinates that will indicate the distance from the current waypoint that the new waypoint will be marked.
4. Click the OK button.
5. Click the Save button.

Edit a Waypoint

1. Double-click the waypoint icon on the map.

   OR

   Open the Waypoint Manager and double-click the waypoint you want to edit.
2. Edit the Name, Latitude, Longitude, or Depth fields at the top of the Waypoint Manager dialog box.
3. Click a waypoint icon to assign an icon to your waypoint.
4. To add notes to the waypoint, click the Notes button.

   Type your notes, and click the Save button when you are finished. Click the X to close the dialog box.
5. Click the Save button.

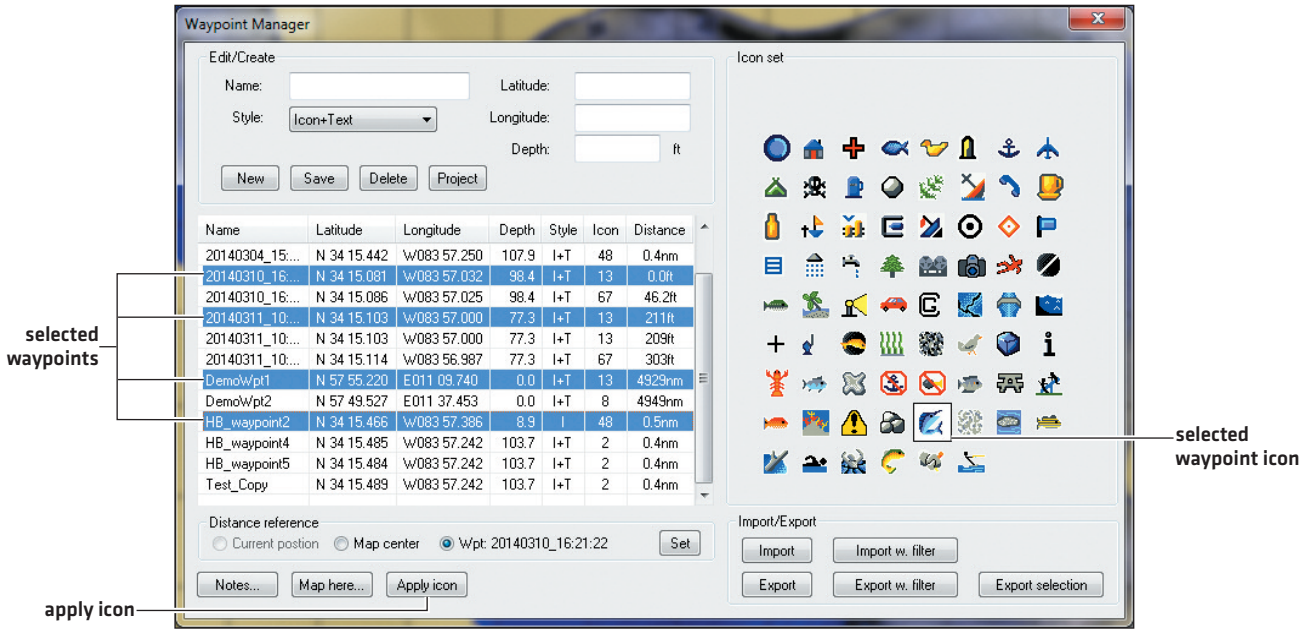
Edit a Waypoint Icon

Use the instructions in this section to change the waypoint icon for one waypoint or several waypoints at once.

1. Open the Waypoint Manager.
2. Click a waypoint to select it.

   To select more than one waypoint, hold down the Ctrl key on your keyboard, and click the waypoints you want to change.

   To select several waypoints in a row, hold down the Shift key on your keyboard. Click the first waypoint and the last waypoint on the list that you want to change.



3. Click an icon to select it.
4. Click the Apply Icon button.

Delete a Waypoint

Use the instructions in this section to delete the selected waypoints or several waypoints at once.

1. Open the Waypoint Manager.
2. Click a waypoint to select it.

   To select more than one waypoint, hold down the Ctrl key on your keyboard, and click the waypoints you want to delete.

   To select several waypoints in a row, hold down the Shift key on your keyboard. Click the first waypoint and the last waypoint on the list that you want to delete.
3. Click the Delete button.

Import Waypoints

Waypoints can be imported from the ZeroLine Map Card or from an SD card.

Import Waypoints

1. Insert the SD card into the PC card slot.
2. Open the Waypoint Manager.
3. Click the Import button.
4. Select the SD card from your computer directory. Open the MATRIX folder, and select a file to import.

   AutoChart can import the following file formats:

   Humminbird (.hwr)

   GPS exchange (.gpx)

   AutoChart/DrDepth (.dwp)

   etc.
5. Click the Import button.

Import Waypoints within a Selected Area

Use Import w. filter to import waypoints within the area of an AutoChart.acd file or Google Earth.kml file.

1. Insert the ZeroLine Map Card into the PC card slot.
2. Open the Waypoint Manager.
3. Click the Import w. Filter button.
4. Open the MATRIX folder, and select a file (.hwr) to import.
5. Select the AutoChart.acd file or Google Earth.kml file.

Export Waypoints

You can export all waypoints or selected waypoints from AutoChart. When you are exporting waypoints, it is important to consider the following:

File Format: AutoChart can export waypoints in various file formats. To display the waypoints on your Humminbird control head, save the files as an .hwr file.

MATRIX Folder: Waypoints exported from your Humminbird control head are saved automatically to the MATRIX folder on your ZeroLine Map Card. If you export waypoints to the ZeroLine Map Card (or a blank SD card), they must be saved to a MATRIX folder on the card. If you have to create the MATRIX folder, name it will all capital letters.

Export All Waypoints

Use the instructions in this section to export all waypoints shown in the AutoChart Waypoint Manager.

1. Insert the ZeroLine Map Card into the PC card slot.
2. Open the Waypoint Manager.
3. Click the Export button.
4. Name the waypoint file (.hwr) and save it to the MATRIX folder.

Export Selected Waypoints

Use the instructions in this section to select waypoints individually and export them.

1. Insert the ZeroLine Map Card into the PC card slot.
2. Open the Waypoint Manager.
3. Hold down the Ctrl key on the keyboard. Click to select each waypoint.
4. Click the Export Selection button.
5. Name the waypoint file (.hwr) and save it to the MATRIX folder.

Export Waypoints within a Selected Area

Use Export w. filter to export waypoints within the area of an AutoChart.acd file or Google Earth.kml file. For example, you can export waypoints from a specific lake by selecting the shoreline.acd file.

1. Insert the ZeroLine Map Card into the PC card slot.
2. Open the Waypoint Manager.
3. Click the Export w. Filter button.
4. Name the waypoint file (.hwr) and save it to the MATRIX folder.
5. Select the AutoChart.acd file or Google Earth.kml file.

Displaying Bottom Hardness (AutoChart PRO only, Sonar Required)

If you have used a live Ethernet connection or a sonar recording to collect your data, it will include bottom hardness data that can be displayed with AutoChart PRO. Working with bottom hardness data is similar to working with your depth map (see ***Creating your Map with Recorded Data*** for details).

Set up Bottom Hardness (initial setup only)

Your transducer data was set up during installation (see ***Set up Transducer and Mapping Preferences***). Follow the instructions in this section to set up Bottom Hardness using your first sonar recording or live mapping.

1. Indicate Saltwater

1. Click the Settings button on the toolbar.
2. **If your data was collected on saltwater,** click the Saltwater box to add a check mark.

   If your data was collected on freshwater, click the Saltwater box to remove the check mark.

2. Find the Gain Parameter

Use the instructions in this section to adjust the gain parameter so that a very hard bottom will give you a reading of 100% on the bottom hardness scale. The gain is unique for each transducer and control head combination.

1. Click the Settings button on the toolbar.
2. Set the Gain to 1. Click OK.
3. On the menu bar, select File > New.
4. To use live data, start live mapping (see ***Using AutoChart Live: Start Live Mapping***). Then, skip to step 8.

   OR

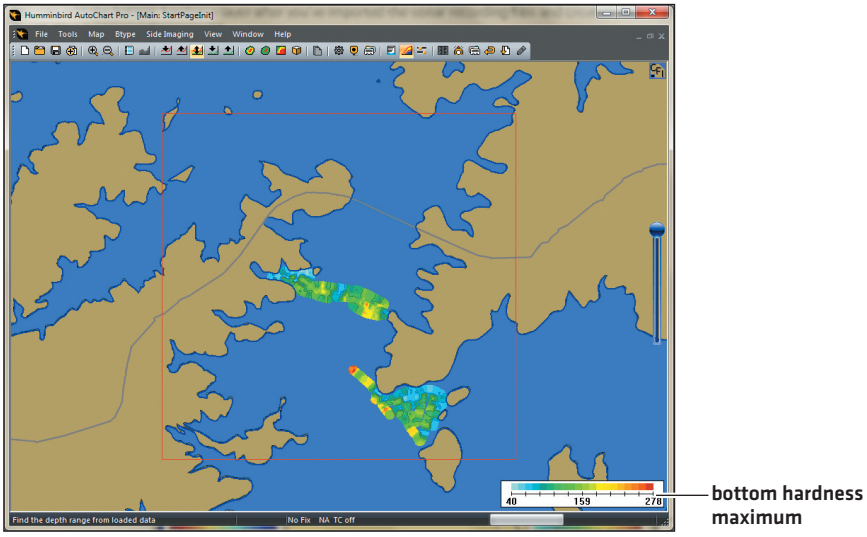
   To use a sonar recording, click the Import/Convert icon from the start screen. Proceed to step 5.
5. Select a single recording to import as your test calibration file. Note the file name.
6. Select File > Open on the menu bar. Open the .acd file of the recording you opened in step 5.

   For example, if you opened R0001.dat in step 5, open R0001.acd in step 6.
7. Click the Create Map button on the toolbar.
8. Click the Show Hardness button on the toolbar.
9. Click the Find Depth Range button on the toolbar.
10. Check the Bottom Hardness range maximum (on the right side of the display). Divide 100 by the bottom hardness maximum range to find the gain parameter.

    For example, in the illustration ***Identifying the Bottom Hardness Maximum***, the bottom hardness maximum is 278.

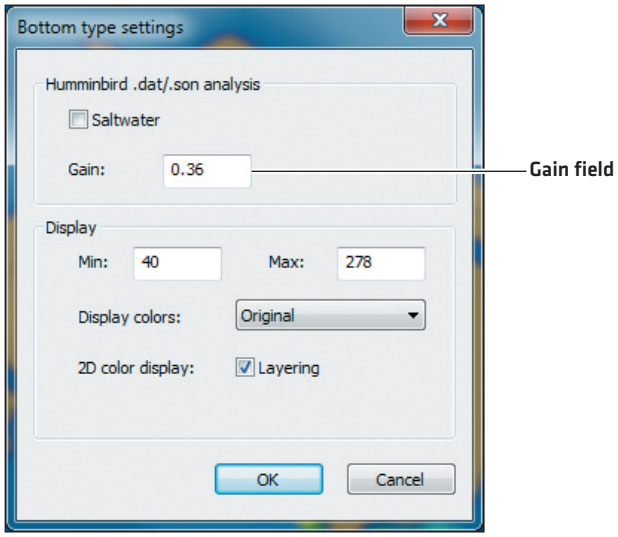
    100 ÷ 278 = .36 (gain parameter)

Identifying the Bottom Hardness Maximum



11. Click the Settings button on the toolbar. Enter the gain parameter from step 10.

Entering the Gain Parameter



12. Click OK. Proceed to the next section to finish the Gain calculation.

3. Finish the Gain Calculation

1. On the menu bar, select File > New. This will clear the on-screen data.
2. To use live data, start live mapping (see ***Using AutoChart Live: Start Live Mapping***). Then, skip to step 6.

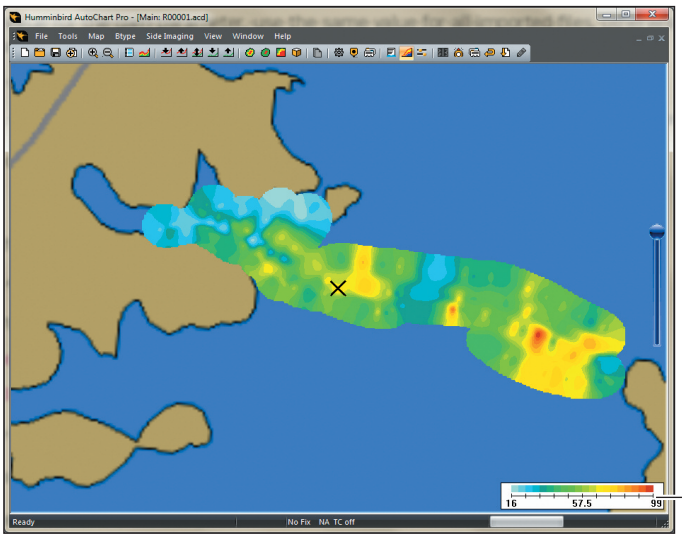
   OR

   To use a sonar recording, click the Import/Convert icon from the start screen. Proceed to step 3.
3. Select the same recording from the previous section (*.dat).
4. Select File > Open on the menu bar. Open the .acd file of the recording you opened in step 3.

   For example, if you opened R0001.dat in step 3, open R0001.acd in step 4.
5. Click the Create Map button on the toolbar.

6. Click the Show Hardness button on the toolbar.
7. Click the Find Depth Range button on the toolbar.
8. The bottom hardness maximum will change to +/- 100.

Reviewing the Bottom Hardness Maximum after Calibration



The gain setting is an estimated value, and you might want to adjust it in the future as you review more bottom hardness data. It is important to keep in mind the following:

- If you change the gain parameter, you will need to import all your data again.
- Once you have determined a value for the gain parameter, use the same value for all imported files, otherwise data from different files will not be comparable.
- If you share data with a friend, make sure to find gains for your respective setups that will make your data comparable.

Display Bottom Hardness

You can add the bottom hardness layer during live mapping or from a sonar recording.

Display Bottom Hardness during Live Mapping

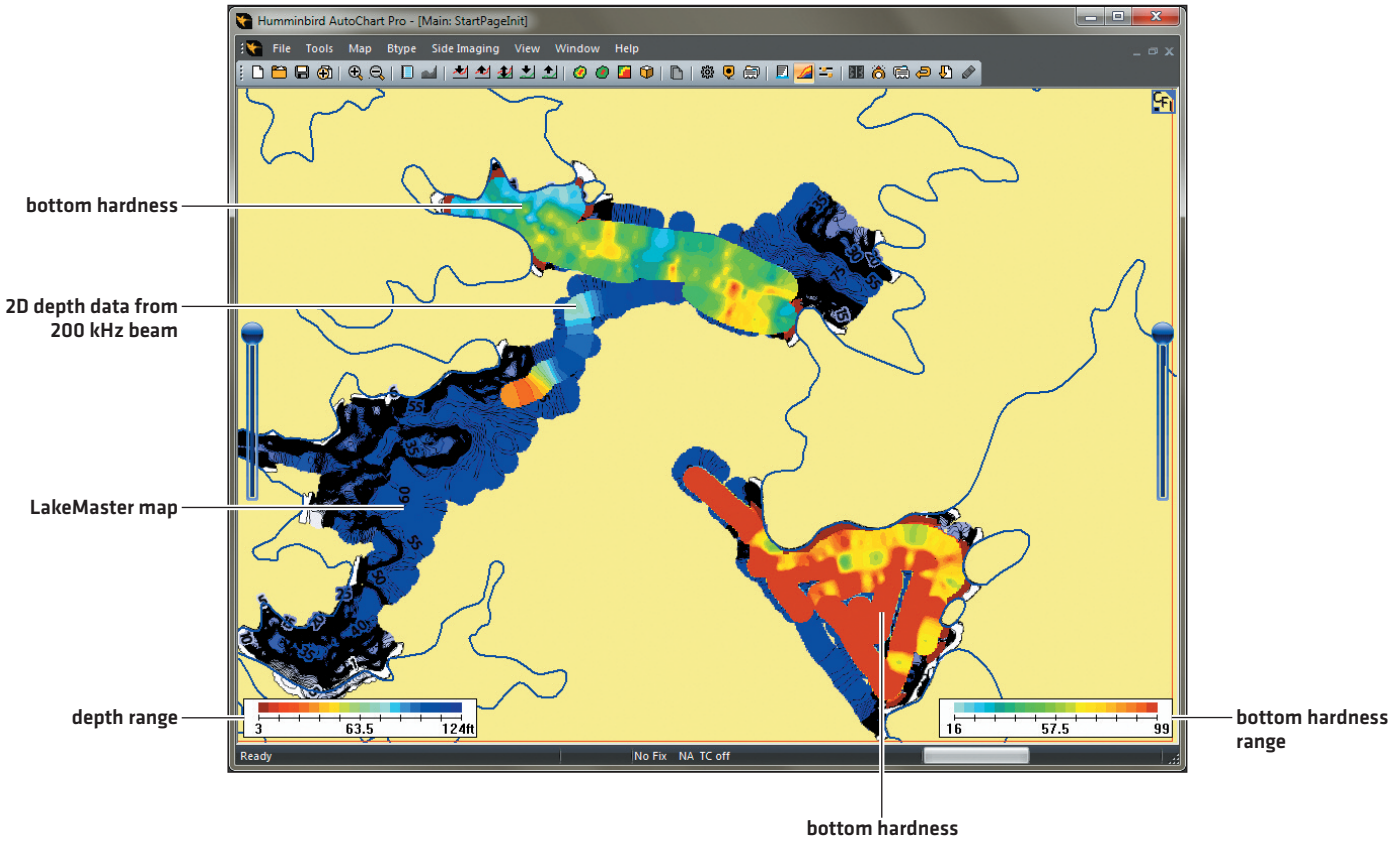
1. Start live mapping. See ***Using AutoChart Live: Start Live Mapping*** for details.
2. Click the Show Hardness button on the toolbar.

Display Bottom Hardness with Recorded Data

CAUTION! You must convert the depth map to LakeMaster before you add the bottom hardness layer to the display.

1. Import a sonar recording. See ***Creating your Map with Recorded Data*** for details.
2. Create your depth map. Convert it to LakeMaster.
3. Click the Show Hardness button on the toolbar.

Bottom Hardness



Open the Bottom Hardness Menu

1. On the menu bar, select Btype.

Open the Bottom Hardness Settings Menu

You used the Settings menu to find the gain and calibrate the bottom hardness range. You can also use this menu to change the bottom hardness display settings.

1. On the menu bar, select Btype > Settings.

   OR

   Click the Settings button on the toolbar.

Change the Bottom Hardness Range

Use the instructions in this section to change the lower range (minimum) or upper range (maximum). The numbers shown on the scale were adjusted automatically when you calibrated the gain at initial setup (see ***Set up Bottom Hardness***), but you can use these instructions to manually change the range.

1. Click the Settings button on the toolbar.
2. Under Display, enter an amount in the Min (Minimum = lower range) and Max (Maximum = upper range) fields.
3. Click OK.

NOTE: **You can also adjust the display minimum and maximum range using the arrow buttons on the toolbar. Using this method also changes the 2D depth range (see *Adjusting the Depth Range*).**

Change the Color Palette

Use the instructions in this section to change the color palette used to display the bottom hardness data.

1. Click the Settings button on the toolbar.
2. Click the Display Colors drop-down menu and select a palette.
3. Click OK.

Display/Hide 2D Depth Data

If you have AutoChart PRO, you can display or hide the 2D Color Display on the map. If you remove the layer from the display, the left slider will also be removed from the display (see ***Adjusting the Transparency Sliders***).

1. Click the Settings button on the toolbar.
2. Click the 2D Color Display Layering box to add or remove a check mark. If checked, the layer will be shown on the display.
3. Click OK.

Displaying Mosaic (AutoChart PRO only, Side Imaging Required)

The Mosaic feature allows you to display Side Imaging or 360 Imaging sonar data on your map. You can also change the display, change the perspective to 3D, and replay a sonar recording.

NOTE: 360 Imaging Mosaic can only be displayed when AutoChart is mapping live on the water. See ***Using AutoChart Live*** for more information.

Set up Side Imaging Mosaic

Side Imaging data can be displayed from sonar recordings or with live sonar data. It is important to review the following:

- **AutoChart Live:** If you are using AutoChart live, the Ethernet connection must be installed, and Side Imaging/360 Imaging must be enabled (see ***Set up to use Live Data: Install and Configure with Ethernet*** and ***Set up AutoChart to work with Ethernet***).
- **Record Sonar:** If you are using Side Imaging features with recorded data, you will import sonar recording files to create the Mosaic. See ***Recording Data: Record Sonar***.
- **Side Imaging Settings:** AutoChart includes default Side Imaging settings to optimize the performance of the data on the display, but you can change them at any time. On the menu bar, select Side Imaging > Settings.

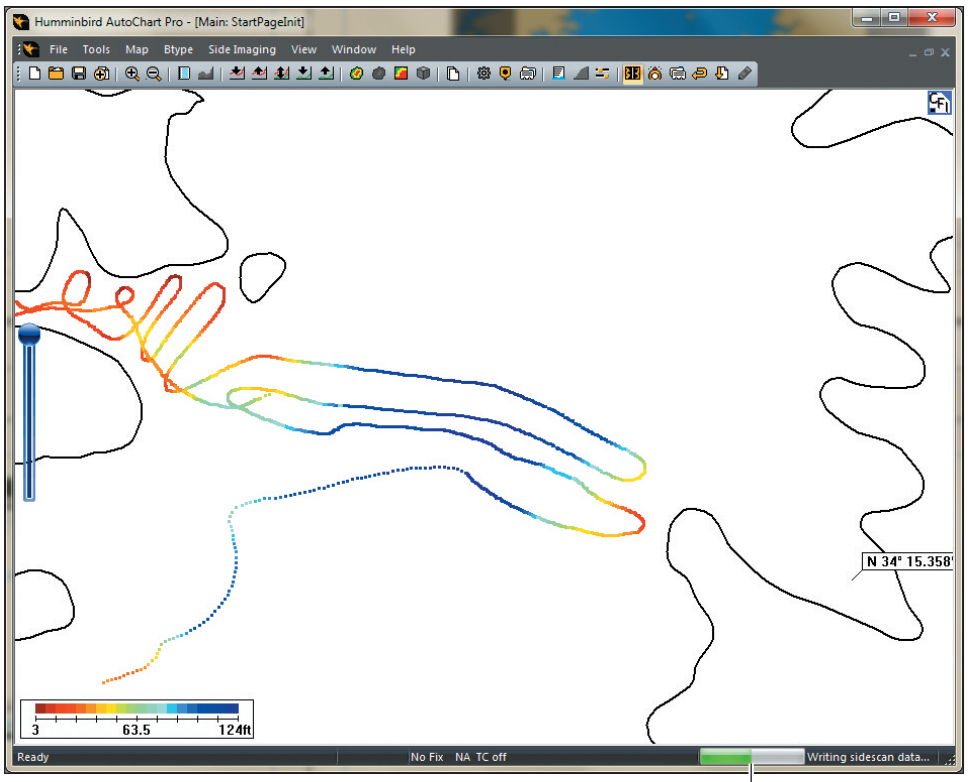
Display Mosaic during Live Mapping

1. Start live mapping. See ***Using AutoChart Live: Start Live Mapping*** for details.
2. Click the Show Mosaic button on the toolbar.

Display Side Imaging Mosaic with Recorded Data

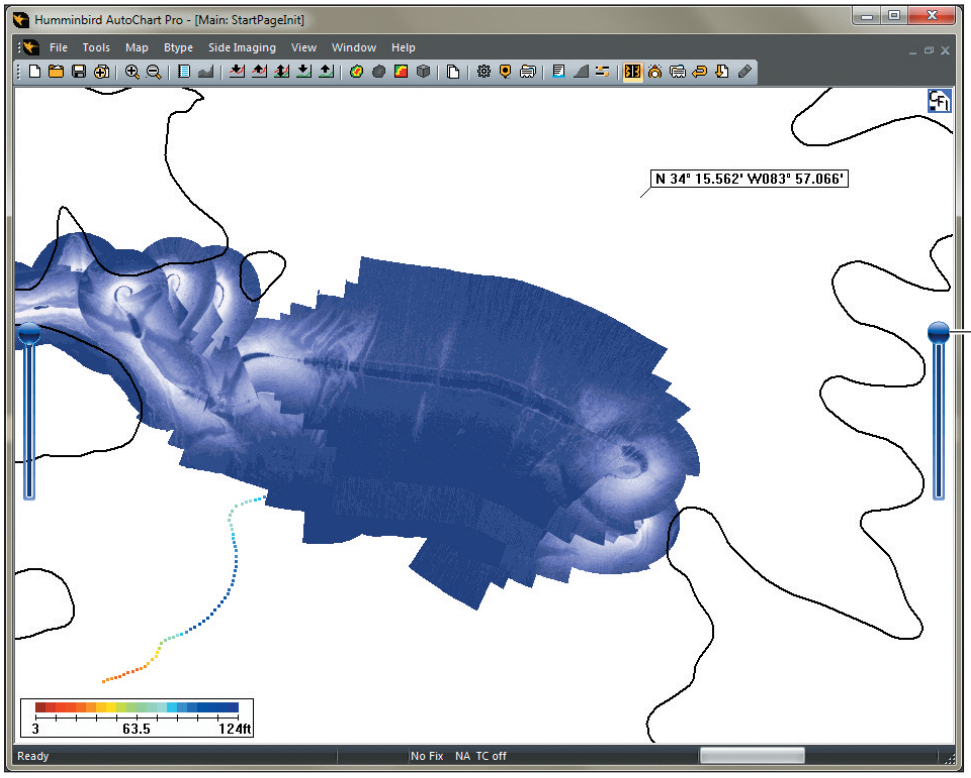
1. Click the Load SI Data button on the toolbar.
2. **Import Sonar Recording:** Make sure the file type is set to Humminbird sonar logs (*.dat). Open the RECORD folder on your ZeroLine Map Card or computer directory. Select the *.dat file to import.
3. Select Open.

Displaying Sonar Recording Depth Data (before converting)



Do NOT interrupt the conversion to Side Imaging

Displaying Side Imaging Mosaic



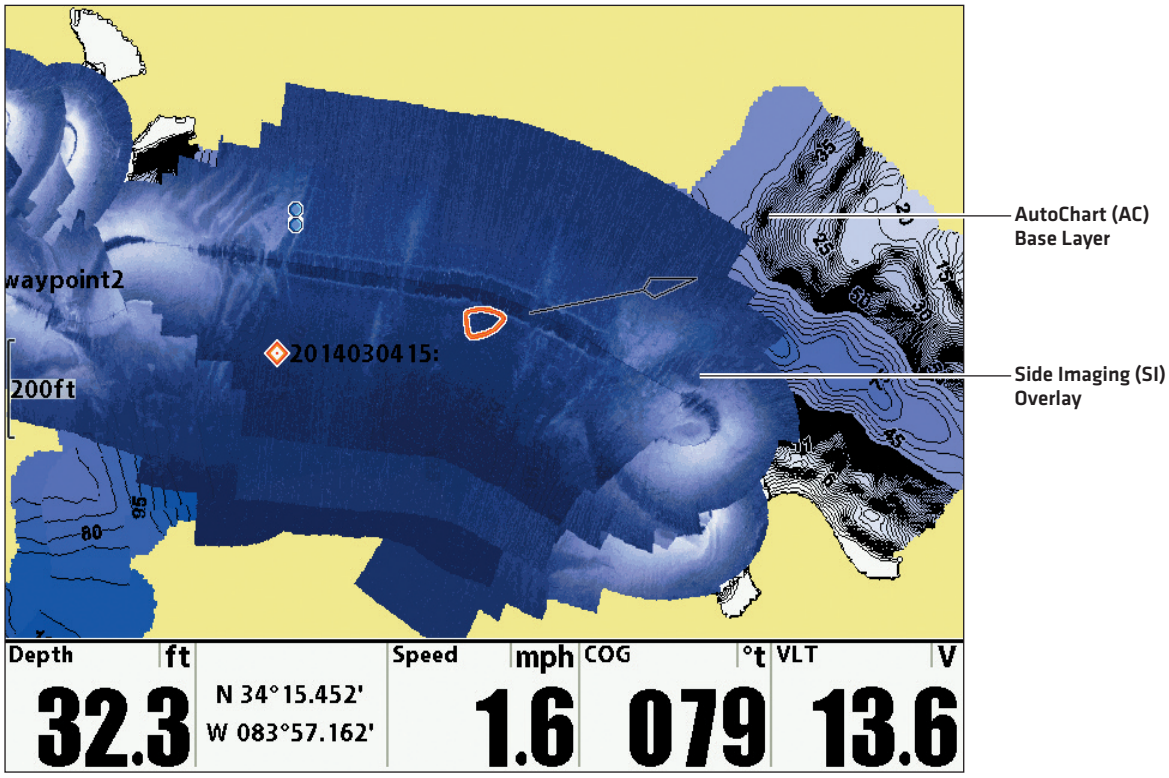
drag down to adjust the transparency

Save the Mosaic to your ZeroLine Map Card

1. Click the LakeMaster Update button on the toolbar.

   Clicking the LakeMaster Update button adds the Side Imaging Mosaic data to your ZeroLine Map Card. When you use the ZeroLine Map Card with your Humminbird control head, you can display the Side Imaging Mosaic Layer on your chart views. See the ZeroLine Map Card manual for details.

Chart View with Side Imaging Overlay Displayed (1100 Series)



Change the Display Settings

With the Mosaic displayed, you can continue to edit the map to show or hide grid lines, shorelines, waypoints, and more (see ***Displaying/Hiding Map Features***).

Display the Mosaic in 3D

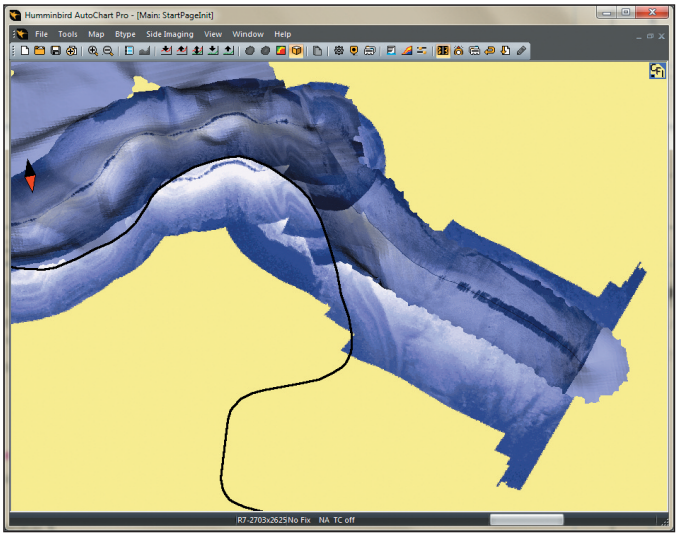
You can also change the perspective of the Mosaic. If you choose 3D, additional menu options will be available when you right-click the map. See ***Displaying/Hiding Map Features*** and ***Displaying the Depth Map in 3D*** for details.

1. Right-click the map. Select 3D.

   OR

   Click the View 3D button on the toolbar.

Displaying the Side Imaging Mosaic in 3D



Pivot the 3D Map

1. Move the mouse pointer to a point on the map. This will be your pivot point.
2. Right-click the map. Select Set Pivot.
3. Move the mouse pointer to any part of the map.
4. Hold down the left mouse button, and move your mouse to the right, left, up, or down. Try different angles until you have the rotation and view you want.

Adjust the Sensitivity and Contrast Automatically

1. On your PC keyboard, hold down the Ctrl key, and click the Find Depth Range button.

Adjust the Sensitivity and Contrast Manually

You can adjust the Sensitivity and Contrast manually from the Side Imaging Settings menu or with the Histogram.

1. On the toolbar, click the Side Imaging Settings button. Drag the sliders to adjust the sensitivity and contrast.

   OR

   On the menu bar, select Side Imaging > Histogram. Drag the black arrow and white arrow to the right or left.

Reduce Speckle

Use Reduce Speckle to reduce noise from the Side Imaging data.

1. On the menu bar, select Side Imaging > Reduce Speckle.

Change the Side Imaging Color Palette

1. On the toolbar, click the Side Imaging Settings button.
2. Click the Display Colors drop-down menu and select a palette.
3. Click OK.

Display/Hide the Side Imaging Mosaic Layer

Adjust the Transparency

1. On the right side of the screen, click and drag the slider down or up.

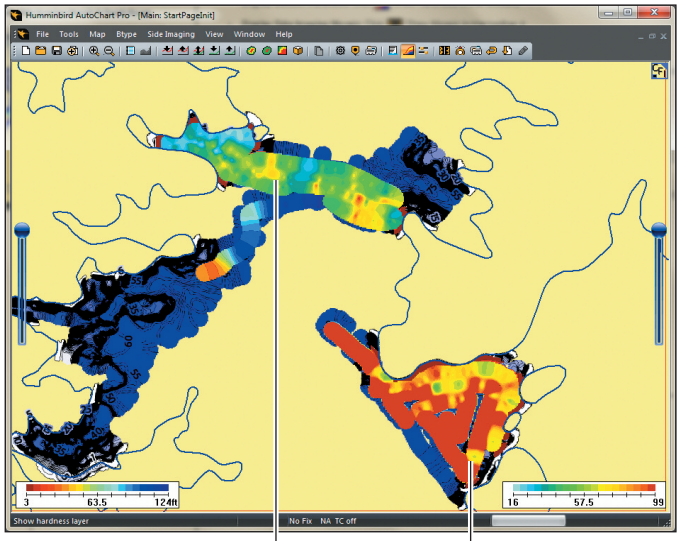
Switch Between Bottom Hardness and Side Imaging Mosaic

After you have imported the SI Mosaic data on the map, use the instructions in this section to switch between the Bottom Hardness layer and the Mosaic layer.

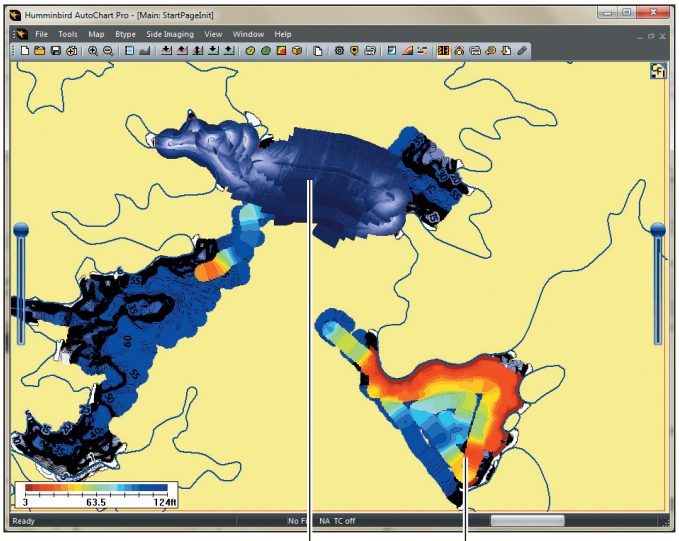
Display Bottom Hardness: Click the Show Hardness button on the toolbar.

Display the Side Imaging Mosaic: Click the Show Mosaic button on the toolbar.

Map Displayed with Bottom Hardness



Map Displayed with Side Imaging Mosaic



Clear the Mosaic

Use the instructions in this section to delete the Mosaic layer from the display.

NOTE: To display the Mosaic again, you can import it again. If you want to hide the Mosaic temporarily, use the slider on the right side of the screen instead of clearing the Mosaic.

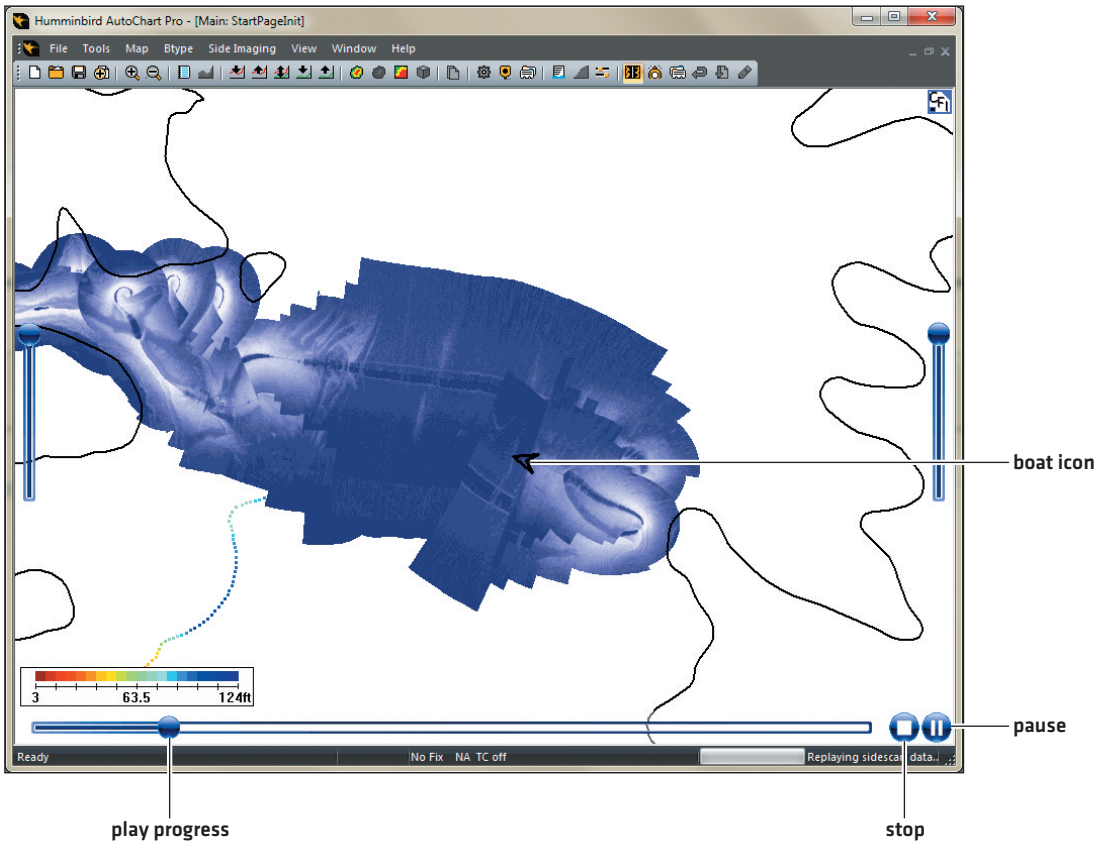
1. On the menu bar, select Side Imaging > Clear Mosaic.

   To display the Mosaic again, see ***Display Side Imaging Mosaic with Recorded Data***.

Play a Side Imaging Sonar Recording

1. Click the Replay SI Data button on the toolbar.
2. **Select a Sonar Recording:** Make sure the file type is set to Humminbird sonar logs (*.dat). Open the RECORD folder on your ZeroLine Map Card or computer directory. Select the *.dat file to import. Select Open.

Playing a Side Imaging Sonar Recording in AutoChart



Changing the Background Map

AutoChart uses Humminbird LakeMaster to display your background map. You can also use an online map or a custom map for your background map.

Display/Hide the Background Map

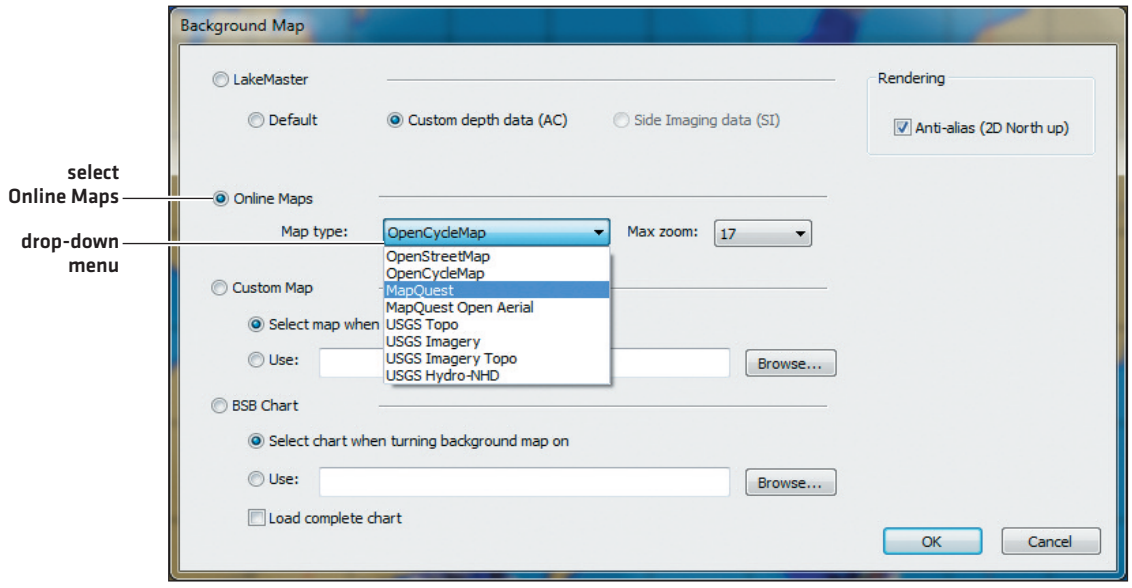
1. Right-click the map.
2. Select Background Map and (left) click it. If a check mark is displayed, the item will be displayed on the map. If the check mark is removed, the item will be hidden.

Display an Online Map

Preparation: Your PC must have an Internet connection for the instructions in this section. Also make sure AutoChart is not blocked by your Windows operating system or network firewall.

1. On the menu bar, select Tools > Settings > Background Map.
2. Select Online Maps.
3. Select the map type from the drop-down menu.
4. To change the zoom level, select an amount from the Max Zoom drop-down menu. If the level is set high, more detail and more data will be downloaded.
5. Click OK.

Selecting an Online Map for the Background Map



Display a Custom Map

You can display a custom map as your background map. AutoChart can import the following formats: Google Earth.kml, Fugawi.jpr, and OziExplorer.map.

Preparation: The map image should be north up. Save the map file to your PC in one of the following formats: Google Earth.kml, Fugawi.jpr, and OziExplorer.map.

1. Save your custom map to your computer.
2. On the menu bar, select Tools > Settings > Background Map.
3. Select Custom Map.
4. **To select the file each time Background map is selected,** select Select Map When Turning Background Map On.

   To import the file automatically when AutoChart is opened, select Use. Click Browse and find the location where you saved the file in your PC directory.
5. Click OK.

   If the background map doesn't update automatically, see ***Display/Hide the Background Map***.

Display a BSB Chart

You can display a non-encrypted BSB chart for your background map.

Preparation: The map image should be north up.

1. Save the BSB chart to your computer.
2. On the menu bar, select Tools > Settings > Background Map.
3. Select BSB Chart.
4. **To select the file each time Background map is selected,** select Select Chart When Turning Background Map On.

   To import the file automatically when AutoChart is opened, select Use. Click Browse and find the location where you saved the file in your PC directory.
5. **Optional:** To load the complete chart, instead of the internal map only, click the check box for Load Complete Chart.

   NOTE: Loading the complete chart uses a high level of memory.
6. Click OK.

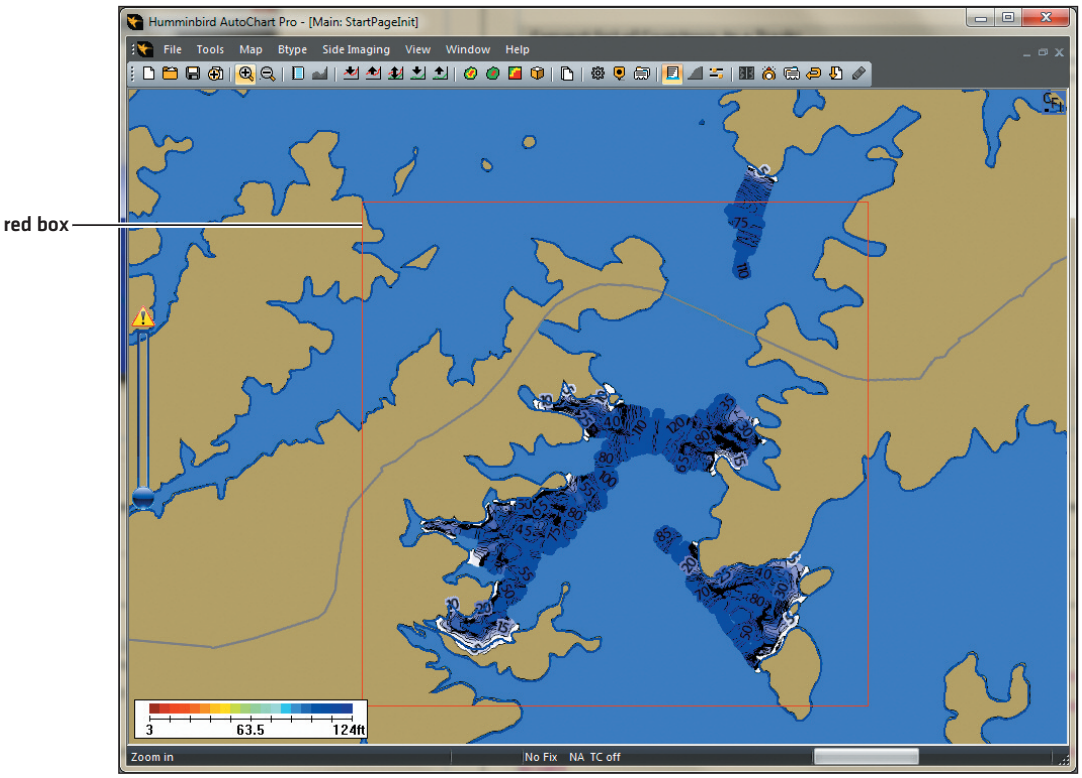
   If the background map doesn't update automatically, see ***Display/Hide the Background Map***.

Changing the Internal Map Border (red box)

AutoChart works with an internal map that is updated as new data is logged or a new map is calculated. The border of this map is displayed as a red box. Data within the box can be edited, exported, etc. Data collected outside the red box will not include depth data, so it is important to keep the box centered on the data you are using.

You can change the default size of the internal map border. You can also set the red box to adjust automatically to live data, or you can adjust the red box manually by centering it on a waypoint or a different section of the map.

Displaying the Internal Map Border



Display the Red Box

1. Click the Zoom Out button on the toolbar until you have a clear view of the red box.

Change the Internal Map Default Size

Use the instructions in this section to increase or decrease the size of the internal map default. Having a larger internal map allows you to view more of your data, however, a larger internal map uses more computer memory and might slow the amount of time it takes to update. If you are using AutoChart live, it is better to keep the internal map smaller and set the automation setting (see ***Adjust the Internal Map Automatically*** in this section).

1. On the menu bar, select Tools > Settings > General.
2. Under Map Generation, select the drop-down menu for Internal Map Size.
3. Click OK.

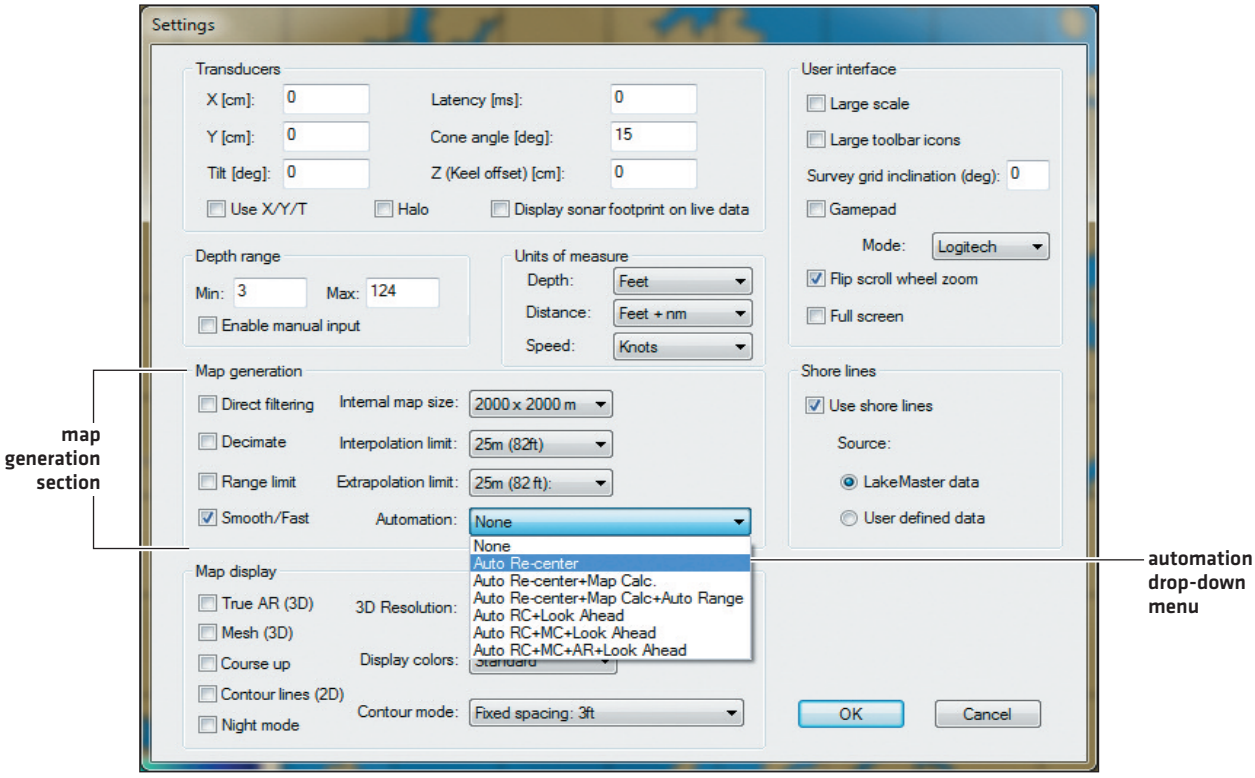
Adjust the Internal Map Automatically (live mapping only)

If you are using AutoChart live, you can set the red box to adjust automatically based on the area you travel.

For example, if you fish at a specific spot, set Automation to None to maintain the map at the target location. If you are drifting, set it to Auto Re-center(+Map Calc.). If you are trolling and will likely continue in a more or less straight line, set Automation to Auto RC+(MC)+Look Ahead.

1. On the menu bar, select Tools > Settings > General.

Setting the Red Box to Adjust Automatically



2. Under Map Generation, click the Automation drop-down menu, Select Auto-Recenter by itself or with another calculation combination:

   None: The red box will not adjust automatically. To adjust the red box manually (see ***Adjust the Internal Map Manually***).

   Auto Re-center (Auto RC): The red box adjusts automatically when the boat travels close to the border. The red box will be centered around the current position.

   + Map Calc (MC): The map updates to include the map generation settings you've made.

   + Auto Range (AR): The display depth range will adjust for the data in the new area.

   + Look Ahead: The new map will be centered around a position ahead of the boat.

Adjust the Internal Map Manually

You can manually center the red box on a waypoint, or you can drag it to a new area and re-center it.

Center the Red Box on a Waypoint

1. Double-click a waypoint icon on the map.

   OR

   Click the Waypoint Manager button on the toolbar. Double-click a waypoint in the list.

2. Click the Map Here button.

Center the Red Box on a New Area

1. Hold down the left mouse button. A green centering box will appear on the display.
2. Drag the mouse, and continue to hold down the left mouse button, until the X of the green box is centered on the area you want. When you are finished, release the left mouse button.
3. On the menu bar, select Map > Re-center.

Tune X/Y Tilt/Latency Data

AutoChart has settings to compensate for how the GPS receiver and the transducer are installed in relation to each other, and compensation for timing.

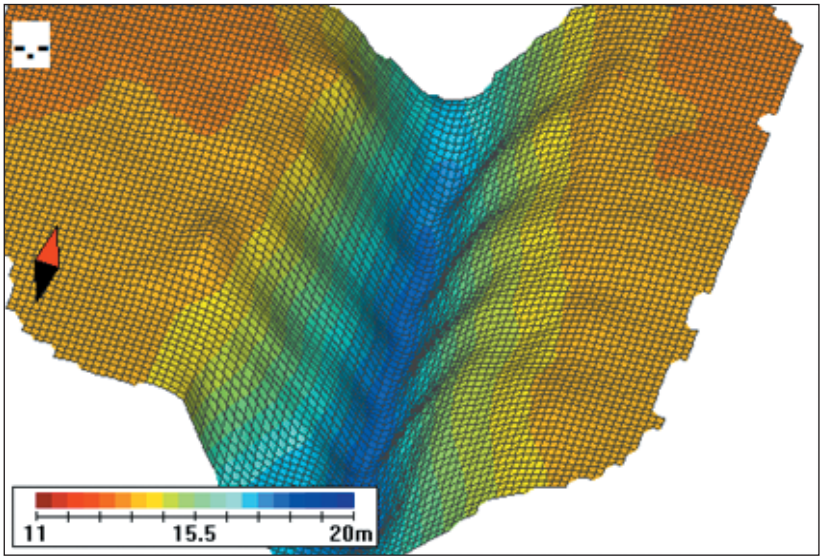
If you notice waviness in the depth map, you need to tune your data. It is a good idea to tune your data when you start using AutoChart so your maps are consistent and provide the best quality data. You can tune your data using recorded data or live data.

NOTE: Tuning is not a required, but it will improve the quality of your mapped data. Also, after you've run the tuning once, you do not need to tune the data each time you import a logged file.

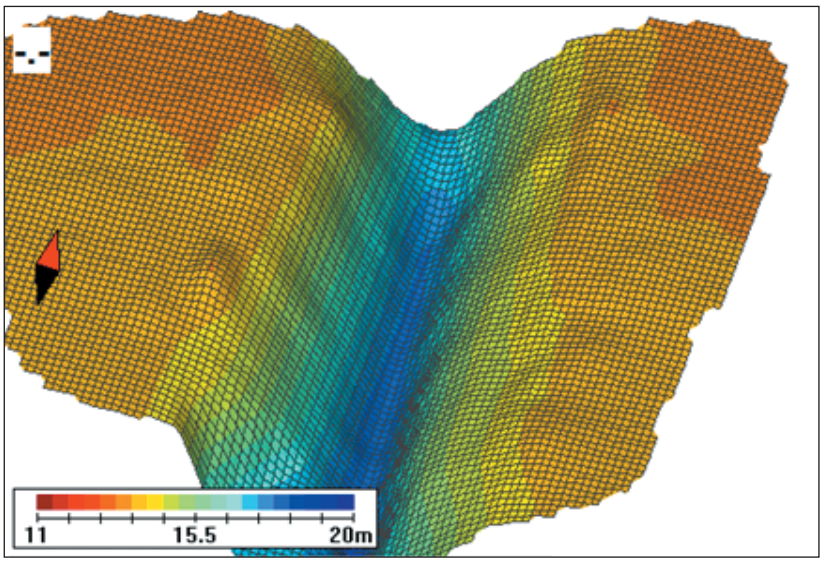
Tune the Transducer Parameters with Recorded Data

1. Start a new track or recording on your control head.
2. Make a test run with your boat, traveling up and down a steep slope, cross a ridge, or similar. Each pass should be approximately 10 ft (3m to 5 m) apart, and the depth should vary from approximately 0 to 65 ft (0 to 20 m). The important thing is to go in the "fall line". Imagine you already had a contour map - you would then go across the contours.
3. In your AutoChart PC software, select Tools > Settings > General on the menu bar. These measurements were entered during the installation. See ***Set up Transducer and Mapping Preferences*** for details.
   - Enter the X, Y, and Z measurements.
   - Set the Tilt and Latency to 0.
   - Click Use X/Y/T to add a check mark to the box.
4. Select File > Import to import your log file from Step 1. When prompted, click Yes to apply X/Y/T/Latency corrections.
5. Select File > Open to select the converted .acd file. It will have the same name as the imported file in step 4.
6. Click the Create Map button on the toolbar.

   The map may look like the map below, where a trench has been crossed several times. You can see that the steep sections are a bit wavy - this is caused by the Latency not being perfectly adjusted. You can see this in both 2D and 3D.



7. Change the Latency value in Tools > Settings > General and import the log file again. Test several Latency values (in steps of approximately 100 to 200 milliseconds) until you have found a value that removes the waviness.



8. **If you are not going to map details in deep water** (such as ship wrecks), you do not need to adjust the Tilt. Set it to zero.

   To tune the tilt value, repeat steps 1 to 6 , but drive the boat over deeper waters +/- 100 ft (40 m) when you record the log file. For the final adjustment, change the tilt value in steps of 1 degree until the waviness is removed.

Tune the Transducer Parameters with Live Data

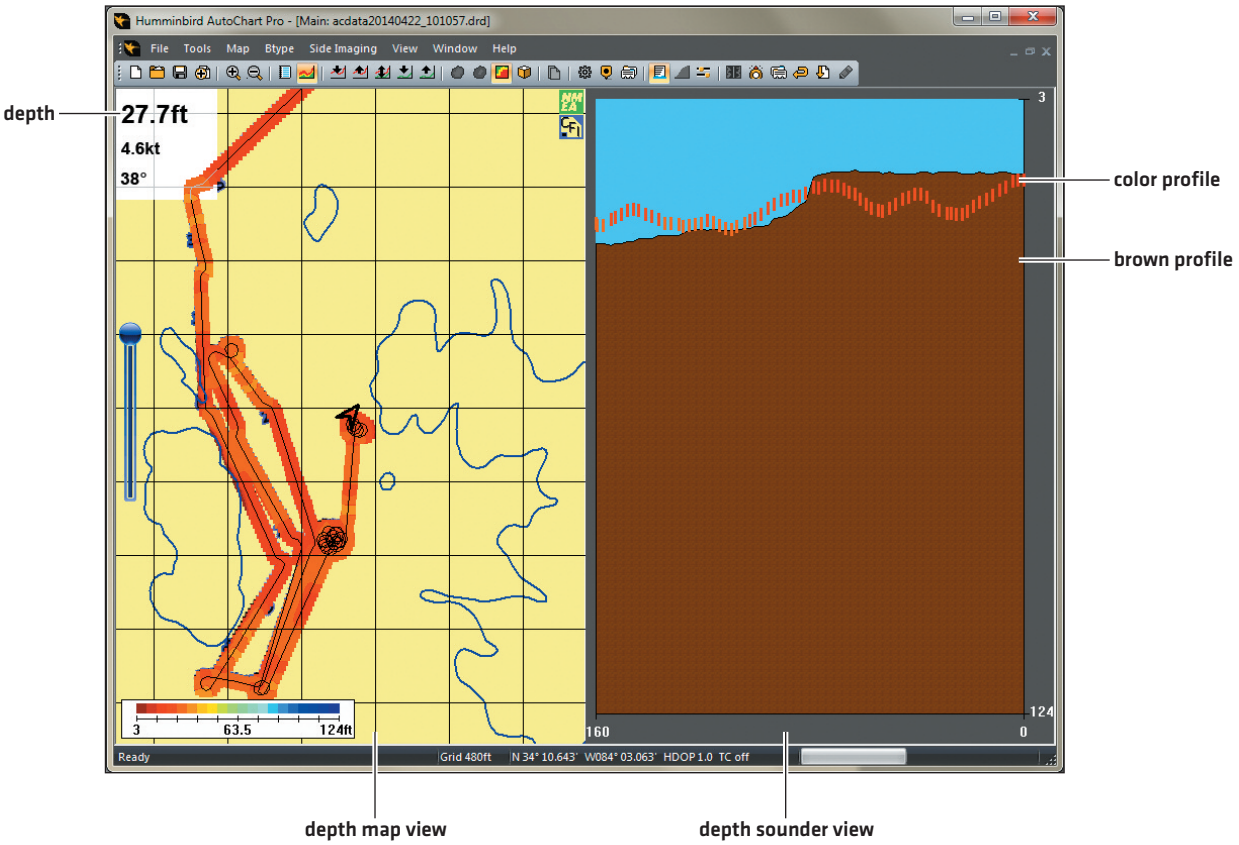
You will tune the Latency first, and then you will tune the Tilt. It is important to tune them in order.

1. On the menu bar, select Tools > Settings > General. These measurements were entered during the installation. See ***Set up Transducer and Mapping Preferences*** for details.
   - Enter the X, Y, and Z measurements.
   - Set the Tilt and Latency to 0.
   - Click Use X/Y/T to add a check mark to the box.
2. Start the Live Connection: On the menu bar, select Tools > Connect.
3. Click the Sounder View button.
4. Click the New button.
5. Click the Local Update button.
6. Drive the boat in a straight line, over uneven bottom +/- 30 ft (+/- 10 m) for approximately 300 ft (100 m).
7. Turn off Local Update: Click the Local Update button so it is not active on the toolbar.
8. Turn the boat and go back over the same route, traveling in the exact same track.
9. When the boat is back to the starting position, turn off logging. Select Tools > Stop log from the menu bar.

Select a zoom level so that the distance from the turning point to the end point is shown in the sounder view. The brown profile represents the way back, while the color profile shows the bottom profile before you turned (calculated by Local Update).

If you have followed the same track going both ways, the two profiles should match. If not, adjust the Latency value in steps of 100 milliseconds and redo the measurement until the two profiles match. If the brown profile is to the left of the colored profile, decrease the Latency value. If the brown profile is to the right of the color profile (as in the illustration below), increase the Latency value.

Adjusting the Latency until the Profiles Match



10. **If you are not going to map details in deep water** (such as ship wrecks), you do not need to adjust the Tilt. Set it to zero.

    To tune the tilt value, repeat steps 3 to 9 above, but drive the boat in a straight line over deeper waters +/- 150 ft (+/- 50 m) for approximately 300 ft (100 m). Also, tilt depends on boat speed, so travel at the speed you will be using for collecting data.

11. The sounder view will again show two depth profiles. Adjust Tilt in steps of 1 degree until the brown and color profiles match.

    If the brown profile is to the left of the colored one, increase the Tilt value, and if the brown profile is to the right, decrease Tilt.

Tide/Water Level Correction

When you start your mapping for the day, it is important to note if the water level is higher or lower than usual. For example, if you know the lake is down 3 feet, enter a Fixed Correction of -3 in AutoChart, and AutoChart will adjust the map for the difference.

You can set a reminder in AutoChart to prompt you for the correction amount when you start AutoChart or when you import files. See ***Set up Transducer and Mapping Preferences: Set up Reminders***.

Use the instructions in this section to open the dialog box and enter a corrected amount in AutoChart.

1. On the menu bar, select Tools > Settings > Tide Correction.
2. Select Fixed Correction (TC1).
3. **If the water level has not changed (normal),** select No Correction.

   If the water level has changed, select Fixed Correction.

   I**f the water level is higher than normal,** enter a positive amount in the Correction field.

   If the water level is lower than normal, enter a negative amount in the Correction field.

   NOTE: The Variable Correction (TC2) compensates the data with the current tide. The live NMEA 0183 connection and WXTide32 are required to enable this feature. For more information, see the Tide Correction section of AutoChart built-in help.

Adjust Map Coverage

Your custom map is saved to the AC file on the ZeroLine Map Card. Each custom map covers approximately 620 x 620 miles (1000 x 1000 km). This area is large enough for most users, but if you try to add new content outside this area, you will get an error message.

If you receive an error message, use the instructions in this section to add a new custom map folder. However, it is recommended that you review ***Changing the Internal Map Border*** before proceeding. It may be possible to adjust the red box to accommodate your map data instead of creating a new custom map folder. Also, see ***Managing your AutoChart Files*** for additional information.

WARNING! Do NOT delete or change the AC folder, LkMaster folder, or SI folder. Changing these folders will permanently damage the ZeroLine Map Card.

1. Open the ZeroLine Map Card.
2. Right-click the AC folder.
3. Select Re-name.
4. Name the folder AC1.
5. Create a new folder on the ZeroLine Map Card. (Right-click the card directory. Select New > Folder.)
6. Name the new folder AC.

   New custom map data will be added to the AC folder.

   If you want to add data to AC1 (the first map you created), rename the current AC folder to AC2. Then, rename AC1 to AC.

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Contact Humminbird Customer Service in any of the following ways:

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