

Envizio Pro™ Series Quick Reference Guide

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Overview

Envizio Pro Series field computers are an all-in-one tool capable of providing product control for up to four products (with required activation key), supplying GPS information to other in-cab devices (Envizio Pro or Envizio Pro II only), and providing on-screen guidance during field applications. All of these features may be controlled at the same time with an easy to use touch screen.

Several optional systems are available to enhance field operation or data management.

Refer to the *Envizio Pro Series Installation and Operation Manual* or contact a local Raven dealer for more information or a complete list of optional features or components available for use with the field computer.

Startup

To power up the Envizio Pro, press the power button located on the right side of the field computer.



Do's and Don'ts

Do have the part number, serial number, hardware revision, and software version available when calling for technical assistance. It is best if the user is in the machine and in front of the field computer when calling for support.

Do review the manual in its entirety before operating the field computer.

Don't jump start or weld on any part of the vehicle with the field computer or any control nodes connected to the vehicle battery. To prevent damage to the field computer, disconnect the main and auxiliary cable connectors on the back of the field computer. Disconnect any power connections to control nodes to avoid damage to electrical components.

Don't turn the field computer off without properly closing any open jobs and powering down the computer. If the field computer loses power during a job, information within the job files may be lost and the associated files may become corrupt.

Don't use sharp objects or harsh chemicals on the field computer touch screen as they may damage the display.

Don't use the USB ports to charge mobile devices such as phones, tablets, or mp3 players.

Home Screen

Touch  anywhere it appears to return to the **Home** screen.



Touch the:



Start Job icon to begin a new job or resume an existing job.



Tools icon to access the **Tools Menu**. The **Tools Menu** contains the settings and calibrations for the field computer and control system.



Shutdown icon to power down the field computer. The Shutdown icon only appears when a job is not in progress. Be sure to shutdown the console before switching the computer off.



End Job icon to close a job in progress. The End Job icon only appears if a job is in progress and replaces the Shutdown icon on the Home screen.



Info icon in the upper, right corner of the display to view the current software and firmware versions of the field computer. If the field computer is connected to a CANbus system, additional system information is available by selecting the  on the 'About Envizio Pro' screen.

DGPS Status Indicator

The current source and status of DGPS reception is displayed in the upper, left corner of the **Home Screen**.



The **DGPS Status Indicator** will display:



if the status of Differential GPS is ready.



if an error or cautionary condition has been encountered.



if DGPS is non-functional. Make sure the DGPS antenna cable connections are secure and the antenna has a clear, 360° view of the sky.

Note: Touch the GPS Status indicator on the **Home** screen to display the **GPS Health** screen. For more information regarding the GPS Status, Status Indicator icons, or GPS features and settings available for each correction type, refer to the *Envizio Pro Series Installation & Operation Manual*.

RTK Fixed and Float Modes

When using an RTK correction source with the internal dual frequency GPS receiver, the GPS status indicator may be used to determine whether the receiver is operating in RTK fixed or float modes. The RTK shield will display:



when the receiver has a full RTK position fix and is providing sub-inch corrections.

Note: The GPS Health screen will display a value of 4 for the differential mode when operating in RTK fixed mode.



when the receiver is operating in RTK float mode. This mode indicates that the receiver is not able to provide a full RTK position lock due to the distance from the base station, visibility of the sky, time of day or interference around the base station location. In the float mode, the receiver is still providing a coarse RTK correction signal, but corrections may not provide sub-inch accuracy.

Note: The GPS Health screen will display a value of 5 for the differential mode when operating in RTK float mode.

Wireless Communications Status

The current status of wireless communication is displayed along the top of the Home screen display. This icon will appear:



Grey if no wireless communications device is connected to the field computer.



Green if communication is okay.



Yellow if an error condition has been encountered.



Red if wireless communication is not available.

Touch the shield icon to display the Wireless Status screen. For more information regarding the Wireless Status and Status Indicator icons, refer to the *Envizio Pro Series Installation and Operation Manual*.

Start a Job

1. To begin a job, touch the  icon on the Home screen. The **Start Job - Verify Settings** screen will display.

By default, the field computer creates a new job when the **Start Job - Verify Settings** screen will display. Touch the  at any time to cancel the job setup process.

2. The  icon displays the current direction of travel detected by the field computer. If this indicator displays the direction of travel incorrectly, touch the icon to manually toggle the course direction for the current or last direction of travel.

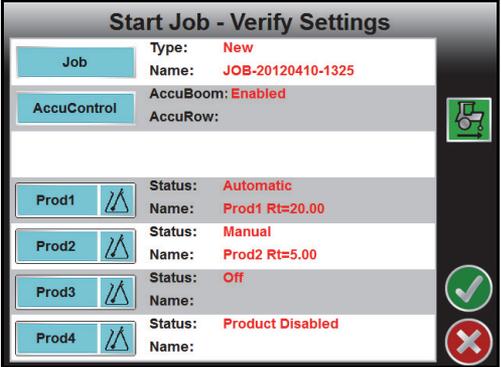
3. Touch the Job button and select the Create New  icon along the top of the screen to rename the new job file or select a previous job file from the list.
4. When finished, touch the  icon to return to the **Start Job - Verify Settings** screen.

5. If an optional section control feature will be used, touch the AccuControl button to enable the feature. To create or load a zone map, select Enable Zone Map.
6. Touch the Product buttons to select the control mode and set the target application rate for the job.

Note: If the CAN Switch Box is installed, the product control mode must be set using the Product Control switches on the switch box. The field computer will display the current selection for each product.

If an optional variable rate key has been activated, a prescription map may be selected by touching the  symbol on the Product button.

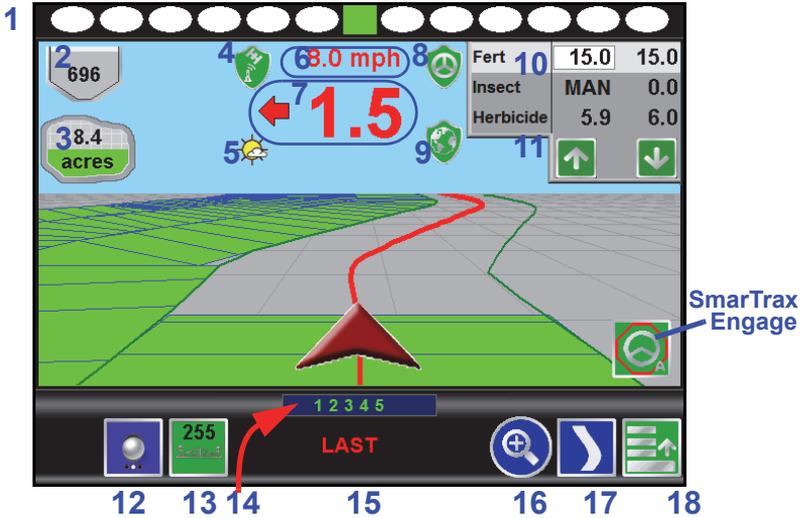
7. When finished setting up features and options for the job, touch the  icon on the **Start Job - Verify Settings** screen to accept the displayed settings.
8. If the optional AutoBoom system is detected on the CANbus, the AutoBoom Setup screen will be displayed. See the **AutoBoom** section in this guide or the *AutoBoom Calibration and Operation* manual for more information.
9. Touch the  icon to display the **Guidance** screen.



Start Job - Verify Settings	
Job	Type: New Name: JOB-20120410-1325
AccuControl	AccuBoom: Enabled AccuRow:
Prod1	Status: Automatic Name: Prod1 Rt=20.00
Prod2	Status: Manual Name: Prod2 Rt=5.00
Prod3	Status: Off Name:
Prod4	Status: Product Disabled Name:

Guidance Screen

The **Guidance** screen is the main screen viewed during product application.



1. The **On-Screen Light Bar** is displayed along the top of the **Guidance** screen. Settings for the light bar may be found by selecting:
Tools Menu  **Computer Menu**  **Display** 
2. The **Tank** or **Bin Indicator** displays the calculated volume of product remaining in the tank or bin. Touch this indicator to display the **Tank** or **Bin Volume Configuration** screen.
3. The **Area Covered** displays a tally of the total area covered by active sections (sections toggled on) within the current job. Touch the rate display in the upper, right corner of the display to toggle the area covered display for each control channel.
4. The **GPS Status** status indicator displays the status of GPS reception and the currently selected correction source on the Guidance screen. See the **DGPS Status Indicator** on page 2 for more information.
5. Touch the **Display Mode** icon to toggle the day or night modes for the guidance screen display.
6. This area displays the **Speed** or **Course Over Ground (COG)**. Touch this area to toggle the information displayed.
7. The **Distance to Swath** display shows the distance and direction to the displayed Guidance path.
8. The **SmarTrax Status** is displayed if an optional automated steering system is connected to the field computer. This indicator appears **green** if the system is engaged or **red** if the system is disengaged. If a CAN SmarTrax node is installed, the SmarTrax engage/disengage icons will be displayed in the lower, right corner of the guidance display. Refer to the Installation and Operation Manual for the automated steering system for additional assistance.

9. The current status of **Wireless Communication** is displayed on the guidance screen. See the See **Wireless Communications Status** on page 3 for more information.
10. The **Product Rate Display** shows target and actual application rates as well as indicates the selected product. Touch the name of a product to toggle the selected product or touch in the rates area to access the **In Job Product Configuration** screen. Additional display options may be activated on the **In Job Product Configuration** screen.
11. Touch the **Rate Bump** buttons to increase or decrease the rate of the selected product. When operating in Automatic control mode, the rate bump buttons will increase or decrease the target rate. In Manual control mode, these buttons will adjust the actual application rate.
12. Touch the **On-Screen Switch Box** icon to access the automatic section control feature screen. See the See **AccuBoom** on page 9 for details.
13. The **AutoBoom Status Indicator** is displayed if an optional AutoBoom system is connected to the field computer. See the See **AutoBoom** on page 11 for more information regarding the AutoBoom Status Indicator.
14. The **Section Status Display** shows information for each configured section. Active sections appear **green** while sections currently disabled (or toggled off) appear in white.
15. The **Swath Information** displays the number of the current swath when using the Straight Line, Fixed Contour, or Pivot patterns. When using the Enhanced Last Pass pattern, this area displays **LAST**.
16. Use the **Zoom In** and **Out** icons to change the level of detail shown on screen.
17. Touch the **Guidance Pattern** icon to select a different guidance pattern for the job in progress.
18. Access the **Menu** to display additional tools and features of the job in progress. The Menu contains the tools for recording a field boundary and creating or editing a Guidance Path.

Menu

Touch the Menu icon on the Guidance screen to access additional tools and features of the field computer. The Menu also offers access to the **Home** screen. The following tools and features may not be accessible at the same time. Be sure to read the descriptions and ensure appropriate information is displayed on-screen to allow access to the following features and tools.

Guidance Views

The following views are available for the Guidance screen:



The Down Field view is displayed each time the guidance screen is displayed. This view represents the view from the vehicle cab.



Switch to the Bird's Eye view to display a view looking down from above the vehicle's current location.



Use the Field Review Mode to display large areas of an application map and areas of the field in which the vehicle is not currently located.

Markers



Touch the Field Markers button to mark the current vehicle location. Markers may be used to save locations such as well heads, rock piles, or points of interest during a field operation.



Touch a Field Marker and select the Info button to access marker information at any point during the field operation.



Touch a Field Marker and select the Delete button to remove the marker. The marker will be removed from all field operations.

Weather Station



If a weather station is connected to the field computer, select the Weather Station button to display current weather conditions or take a “snapshot” of the weather for the job report.

Guidance Path (A-B) Tools

The following tools and features may be found in the Menu when the Straight Line, Fixed Contour, or Pivot guidance patterns are active.

To Load an A-B Line:



Touch the Load A-B Line icon to load a previously saved line into the current job. This icon will not appear if an A-B Line has already been set. Reset the line to access the Load A-B Line tool.

To Create A-B Line:

Note: The Set A and Set B icons will be displayed on the **Guidance** screen when the Straight Line Guidance Pattern is active.



Touching the Set A icon will place the first, or A, point of the path at the current vehicle location. Regardless of where the vehicle moves from this point, the field computer will use the selected pattern to connect this point with the next set point. After the Set A icon is selected, the Set B icon will appear.



Touch the Set B icon to place the second, or B, point of the guidance path. Once the B point has been set, the field computer will use the selected Pattern to create the Guidance Path displayed on the **Guidance** screen.

Set B by Heading Feature:



Use the Set B by Heading feature to create a guidance path along a heading. Touch this icon and use the displayed keypad to enter a heading between 0° and 359° (with 0° being due North).

Note: The Set B by Heading feature is only available with the Straight Line Guidance Pattern.

To Configure a Displayed A-B Line:



Select the A-B Tools icon to access additional tools for use with the current A-B Line.



Select the Reset A-B Line icon to clear the displayed path. If the displayed path will need to be recalled in the future, be sure to save the current path before selecting reset.



Touch the Save A-B Line icon to save the displayed path. Once saved, an A-B Line can be recalled at any time or loaded into other jobs. In addition, saved paths can be transferred from the field computer via the File Maintenance feature. Refer to the *Envizio Pro Series Installation and Operation Manual* for details on the File Maintenance feature and transferring saved paths.



Use the Re-calibrate A-B Line tool to re-calibrate the displayed path to the current vehicle position. Due to DGPS drift over time, this feature allows the operator to re-calibrate the A-B Line to a known position in a field.

In-Job Nudge Settings:

The Nudge Feature allows the operator to fine tune the displayed path for actual field conditions.



Touch the Nudge Settings icon to display options for the in-job nudge controls and enable the on-screen nudge controls.

With the on-screen nudge controls enabled:



Touch the Nudge Right icon to move the guidance path to the right in the increments set on the Nudge Settings screen.



Touch the Nudge Left icon to move the guidance path to the left in the increments set on the Nudge Settings screen.

Drift Shift



The drift shift allows the operator to manually adjust the position of recorded field features and coverage to “recalibrate” for GPS drift observed between field operations in the same job or when field features are reused at a later date or time.

Recording a Field Boundary

To Record a Field Boundary:

1. Begin a job file by following the procedure outlined in the [Starting a Job](#) section.
2. With the vehicle stopped and positioned at the start of the field boundary, touch:



3. Begin driving the boundary of the field. The field computer will record the vehicle path displayed in **yellow**.
4. At anytime you may press Pause  to temporarily stop recording the field boundary. This feature is useful when refilling a product or when the vehicle's path will not reflect the actual field boundary. Touch Resume  to continue recording the current boundary.
5. To close the field boundary, touch the End  icon on the Guidance screen. The field computer will connect the starting point of the boundary to the vehicle's current location with a straight line when closing a boundary.

Other Field Boundary Tools

The following icons will be used while creating a Field Boundary.

-  Touch the Boundary Tools icon to display boundary tools available for the current job.
-  A previously recorded boundary can be loaded into the current job file by selecting the Load Field Boundary icon in the Menu. A list of boundary files stored on the field computer is displayed. Select the desired boundary name to load the selected Field Boundary into the current job.
-  Touch the Delete Boundary icon to reset the current Field Boundary. A field boundary must be present in the current job or this icon will not appear in the Menu.
-  Touch the Record Field Boundary icon to begin recording a New Field Boundary. While a Field Boundary is being recorded, the Pause and End Field Boundary icons are displayed on the Guidance screen.

Note: Review the **AccuBoom** section on page 9 for information on recording spray zone and field boundaries with the AccuBoom feature enabled.

AccuBoom

The following sections offer an overview of the optional Raven AccuBoom system when used with the Envizio Pro. Refer to the *Envizio Pro Series Installation and Operation Manual* for additional information regarding the AccuBoom system.

Setup

To view current settings for an optional AccuBoom system, touch:

Tools Menu  → **System Menu**  → **Product Control**  → **AccuBoom**

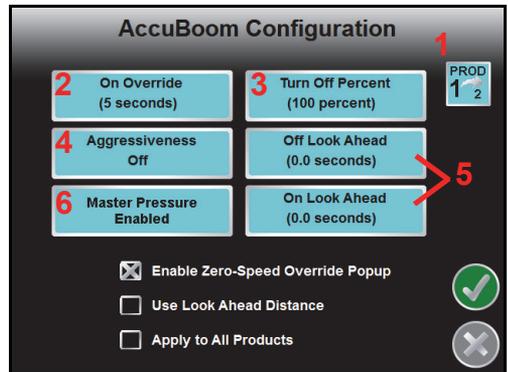
The **AccuBoom Configuration** screen will be displayed.

Note: Select the Apply to All Products option at the bottom of the screen to configure all control channels with the same settings.

1. Settings for the AccuBoom feature may be configured for each control channel. Touch the Cycle Product icon to select the next available channel on the CANbus.

2. The On Override option is the number of seconds for the AccuBoom Override. Be sure to check the Enable Override Popup option at the bottom of the screen to display the AccuBoom Override icon on the Guidance screen.

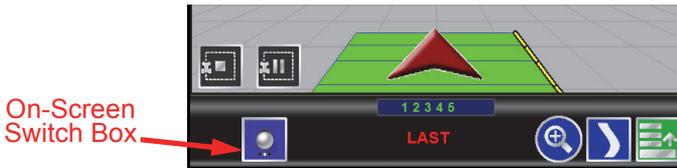
3. The Turn Off Percent value sets the percentage of the boom section width that must be in a previously applied area, or no-spray zone, before AccuBoom will control that section.



4. Select the Aggressiveness setting best suited for the field conditions and driving style. For more information on the AccuBoom aggressiveness feature, refer to the *Envizio Pro Series Installation and Operation Manual*.
5. Adjust the On or Off Look Ahead settings to compensate for the time required to open or close the control valve. Enable the 'Use Look Ahead Distance' option at the bottom of the screen to set the look ahead values in feet or meters.
6. The Master Pressure option is only available if the product control node is capable of controlling the AccuBoom feature based upon liquid product pressure at the boom. Refer to the *Envizio Pro Series Installation and Operation Manual* for more information on the master pressure feature and available settings.

Operation

If the Use Zone Map option has been enabled for the active job (see the [Start a Job](#) section), the Menu will contain tools for recording AccuBoom Zone Map features.



Touch the On-Screen Switch Box icon to toggle each configured section **on** , **off** , or set each section for automatic  section control.

Note: If an optional Raven CAN switch box is detected on the CANbus network, the on-screen switch box will not be available. Refer to the CAN switch box guide for assistance with controlling products or sections.

To Load a Zone Map with a Job in Progress:

1. Begin a job with the Enable Zone Map option selected (refer to the [Start a Job](#) section earlier in this guide).
2. Touch:



3. Select the name of the desired Zone Map from the list and touch  to load the map.

To Edit the Zone Map:

1. Begin a job with the Enable Zone Map option selected (refer to the [Start a Job](#) section earlier in this guide).
2. Touch:

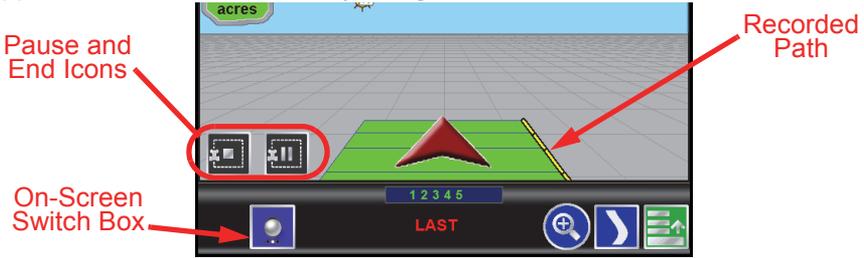


3. Select the following icons to begin recording a:



4. Select the reference point of the vehicle and then touch the  icon.

- The Guidance screen will re-appear and the field computer will begin recording the boundary or feature. On the Guidance screen, a Pause and End icon appear for the feature currently being recorded.



The Menu contains the tools for editing zones when editing a map. To exit the edit mode, touch the  icon within the Menu.

AutoBoom

The following sections offer an overview of setting up and using an optional Glide Series AutoBoom system with the Envizio Pro. Refer to the *AutoBoom Calibration and Operation* manual for detailed setup and calibration information regarding the AutoBoom system.

To view the Glide Series AutoBoom settings and to enable automatic boom height control, touch

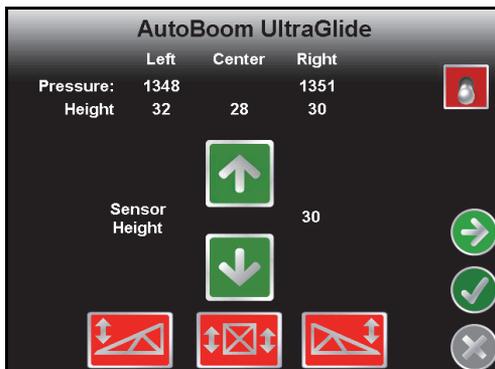


to access the Glide Series AutoBoom setup screens.

Enabling AutoBoom While Staring a Job

- Touch the  icon on the Home screen and configure any necessary options on the Start Job - Verify Settings screen.
- Complete the procedure in the **Start a Job** section earlier in this guide and select the  to accept the displayed settings.
- Before guidance will begin, the operator will be prompted to review the Glide Series AutoBoom system settings.

The AutoBoom Setup screen will display similar to the following:



4. If  is displayed in the upper right corner, touch the icon to toggle the AutoBoom system on.
 5. Touch the Left or Right Boom Disabled button to toggle automated boom height control for each boom.
- Important:** Booms may raise and lower unexpectedly. Make sure the area around the booms is clear of obstructions and people before touching these buttons.
6. Touch  if system adjustments are necessary, or to fine tune the AutoBoom system.
 7. Touch the  icon to open the job and begin guidance.

Operation

During a job, the AutoBoom Status Indicator will be displayed on the **Guidance** screen.



This area may display the following indicators for the current status of the AutoBoom system:



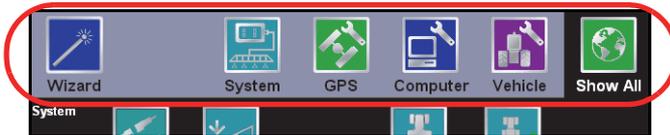
Status of the center rack is only displayed if a Glide Series AutoBoom system capable of controlling the center section is connected to the field computer. Touch the displayed status icon to access the **Glide Series AutoBoom Calibration** screen.

Tools Menu

The following sections offer an overview of the **Tools Menu** and some of the features available within the System, GPS, Computer, Vehicle, and Setup Wizard menus.

Quick Access Bar

While working in the **Tools Menu**, the **Quick Access Bar** remains at the top of the screen and allows access to the Setup Wizard, System, GPS, Computer, and Vehicle menus.



Touch the Show All icon to view all available menus within the **Tools Menu**.

Setup Wizard Menu

Touch the Setup Wizard Menu icon in the **Quick Access Bar** to display the available Setup Wizards. The Setup Wizards may be used to step through calibration of the field computer for a new machine or implement similar to the Initial Setup Wizard.

For more information or help completing the Setup Wizards, see the *Envivio Pro Series Installation and Operation Manual*.

System

Access the System menu to set up the product control system, or configure the optional AccuBoom, AutoBoom or SmarTrax systems. The System menu also contains the setup screens for the on-screen or external light bar.

To Retry the CANbus Connection:

If the field computer does not recognize CAN nodes when the computer is first powered up, the CANbus connection may need to be restarted.

1. From the **Home** screen, touch  →  → .
2. When prompted, touch the  to confirm and retry CANbus communication.

If CANbus communication is not re-established, refer to the *Envivio Pro Series Installation and Operation Manual* for troubleshooting information and assistance.

Vehicle

Access the **Vehicle** menu to set up or modify vehicle profiles for each machine or implement with which the field computer will be used. Profiles allow the operator to set up the GPS antenna height and offset, the swath width, and section setup for each implement and transfer those settings to a home or office PC, another Envizio Pro, or reload the Profile at a later date.

To Edit Profiles:

1. From the Home screen, touch:



2. The **Profile Manager** screen displays with the currently loaded profile highlighted in the list of profiles stored on the field computer.

To Create a New Profile:

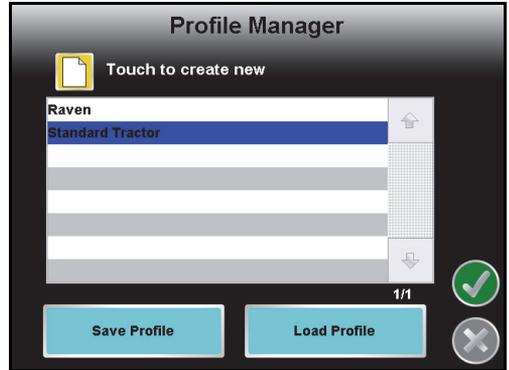
Touch the  icon and use the on-screen keyboard to enter the desired profile name.

To Save a Profile:

Touch the desired profile name in the list and select the Save Profile button. The current settings will be saved to the highlighted profile.

To Load a Profile:

Touch the desired profile name in the list and select the Load Profile button.



Computer

The Computer menu sets display and feature settings of the field computer. Access the Computer menu to change the display brightness, light bar sensitivity, language, and units, as well as activate features or update the field computer software.

File Maintenance

The File Maintenance feature allows the operator to transfer files to and from the field computer. Files such as saved field boundaries, guidance paths, coverage maps for completed jobs, and prescription maps may be transferred using the following procedure.

Note: Depending upon the size of the completed job(s), file maintenance may take several minutes to complete. A typical job of 200 acres should take approximately five minutes. Larger fields and coverage maps with larger implements or narrow section configurations system could take significantly longer. Check the File Maintenance screen available memory display periodically and perform file maintenance as necessary.

Note: The configure file output icon  allows the user to select the file types that will export from the Envizio Pro to a USB drive when the "Transfer to USB" or "Transfer all to USB" buttons are pressed on the file maintenance screen.

To Perform File Maintenance:

1. From the **Home** screen, select:

Tools Menu  → **Computer Menu**  → **File Maintenance** 

Note: If the USB flash drive has not been previously used with the field computer, touch the  icon to set up the required file structure on the connected drive.

Note: The configuration file output icon  allows the user to select the file type(s) to output to the computer.

2. Select the type of files on which to perform file maintenance.

3. Select the following icons to transfer files to the console or a connected USB flash drive.



For example, select Job Files and From Console to display the Job Files screen shown to the right.

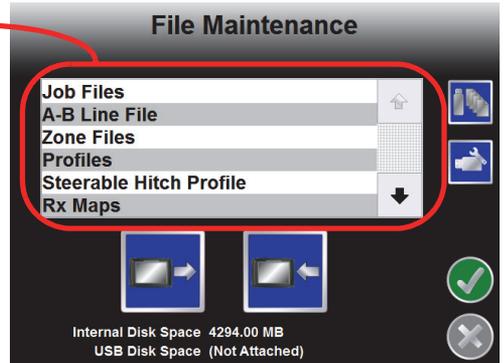
4. Select a file name from the list and touch the icon along the bottom of the screen. The field computer will perform one of the following actions to the selected file or file type.



Export Slingshot™
Data Package to USB



For example, touch the  to transfer all files of the selected file type to the connected flash drive or select a file name from the list and touch  to transfer the selected file to the flash drive.



Updates

Updates for field computer software are available at the Raven Applied Technology Division web site:

www.ravenhelp.com

Note: Refer to the *Envizio Pro Series Installation and Operation Manual* for assistance with updating CANbus nodes connected to the field computer.

To Apply the Latest Software Update:

1. Visit the Raven web site and download the latest software update.
2. Unzip or extract the downloaded software to the root directory (e.g. "F:\") where F is the drive letter of the flash drive) of the flash drive used with the field computer.
3. With the computer powered on, insert the flash drive into a USB port on the field computer.
4. From the **Home** screen, select:
Tools Menu  → **Computer Menu**  → **Updates** 
5. Select the update to apply and touch the  icon.
6. Once the update is complete, restart the field computer to finish the update procedure.

GPS

Use the GPS menu to adjust the internal GPS receiver or to enable the field computer to receive DGPS from an external receiver. The GPS menu also contains screens to review the status of GPS reception, set message outputs (for the internal DGPS receiver only), enable GPS reverse sensing, or select the differential satellite PRN (Pseudo-Random Noise).

To Setup GPS Message Outputs:

1. From the **Home** screen, touch:

Tools Menu  → **GPS Menu**  → **Output** 

- The **GPS Output** screen will display the available output messages, the current output frequency of each message, and the available baud rate settings for the internal GPS receiver.
2. Use the slider bar next to the desired output messages to set the output frequency, in hertz, for each message.
 3. Select the desired baud rate for the output messages from the list on the right side of the screen.

Troubleshooting

Refer to the *Envizio Pro Series Installation and Operation Manual* or the *Raven CANbus Installation Manual* for troubleshooting assistance and information.

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Limited Warranty

What Does this Warranty Cover?

This warranty covers all defects in workmanship or materials in your Raven Applied Technology Division product under normal use, maintenance, and service when used for intended purpose.

How Long is the Coverage Period?

Raven Applied Technology Division products are covered by this warranty for 12 months from the date of retail sale. In no case will the Limited Warranty period exceed 24 months from the date the product was issued by Raven Industries Applied Technology Division. This warranty coverage applies only to the original owner and is non-transferable.

How Can I Get Service?

Bring the defective part and proof of purchase to your Raven dealer. If the dealer approves with the warranty claim, the dealer will process the claim and send it to Raven Industries for final approval. The freight cost to Raven Industries will be the customer's responsibility. The Return Materials Authorization (RMA) number must appear on the box and all documentation (including proof of purchase) must be included inside the box to be sent to Raven Industries.

What Will Raven Industries Do?

Upon confirmation of the warranty claim, Raven Industries will (at our discretion) repair or replace the defective product and pay for the standard return freight, regardless of the inbound shipping method. Expedited freight is available at the customer's expense.

What is not Covered by this Warranty?

Raven Industries will not assume any expense or liability for repairs made outside our facilities without written consent. Raven Industries is not responsible for damage to any associated equipment or products and will not be liable for loss of profit, labor, or other special damages. The obligation of this warranty is in lieu of all other warranties, expressed or implied, and no person or organization is authorized to assume any liability for Raven Industries.

Damages caused by normal wear and tear, misuse, abuse, neglect, accident, or improper installation and maintenance are not covered by this warranty.

R A V E N

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Extended Warranty

What Does this Warranty Cover?

This warranty covers all defects in workmanship or materials in your Raven Applied Technology Division product under normal use, maintenance, and service when used for intended purpose.

Do I Need to Register My Product to Qualify for the Extended Warranty?

Yes. Products/systems must be registered within 30 days of retail sale to receive coverage under the Extended Warranty. If the component does not have a serial tag, the kit it came in must be registered instead.

Where Can I Register My Product for the Extended Warranty?

To register, go online to www.ravenhelp.com and select Product Registration.

How Long is the Extended Warranty Coverage Period?

Raven Applied Technology products that have been registered online are covered for an additional 12 months beyond the Limited Warranty for a total coverage period of 24 months from the date of retail sale. In no case will the Extended Warranty period exceed 36 months from the date the product was issued by Raven Industries Applied Technology Division. This Extended Warranty coverage applies only to the original owner and is non-transferable.

How Can I Get Service?

Bring the defective part and proof of purchase to your Raven dealer. If the dealer approves with the warranty claim, the dealer will process the claim and send it to Raven Industries for final approval. The freight cost to Raven Industries will be the customer's responsibility. The Return Materials Authorization (RMA) number must appear on the box and all documentation (including proof of purchase) must be included inside the box to be sent to Raven Industries. In addition, the words "Extended Warranty" must appear on the box and all documentation if the failure is between 12 and 24 months from the retail sale.

What Will Raven Industries Do?

Upon confirmation of the product's registration for the Extended Warranty and the claim itself, Raven Industries will (at our discretion) repair or replace the defective product and pay for the standard return freight, regardless of the inbound shipping method. Expedited freight is available at the customer's expense.

What is Not Covered by the Extended Warranty?

Raven Industries will not assume any expense or liability for repairs made outside our facilities without written consent. Raven Industries is not responsible for damage to any associated equipment or products and will not be liable for loss of profit, labor, or other damages. Cables, hoses, software enhancements, and remanufactured items are not covered by this Extended Warranty. The obligation of this warranty is in lieu of all other warranties, expressed or implied, and no person or organization is authorized to assume any liability for Raven Industries.

Damages caused by normal wear and tear, misuse, abuse, neglect, accident, or improper installation and maintenance are not covered by this warranty.