OmniRow® Quick Reference Guide (Software Version 3.9)

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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 *OmniRow Calibration 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.

USB Port

Do's and Don'ts

Do have the part number, serial number, hardware revision, as well as the 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**.

RTK or CORS	OmniSTAR HP	OmniSTAR XP/G2	Satellite GS	Slingshot GS	SBAS (WAAS/ EGNOS)	GI1de® or e-Dif	Standard

The **DGPS Status Indicator** will display:

if the status of Differential GPS is O.K.

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.

2

Note: Touch the **GPS Status** indicator on the **Home** screen to display the **GPS Health** screen. For more information regarding the GPS Status and Status Indicator icons, refer to the *OmniRow Calibration and 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:

Gray 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 *OmniRow Calibration and Operation Manual*.

Start a Job ▶

Note: If the seed type or variety is changed between jobs, verify that the meter cal is properly configured prior to starting a new job. Review the See **To Modify the Meter Cal for Different Seed Types or Varieties:** on page 14.
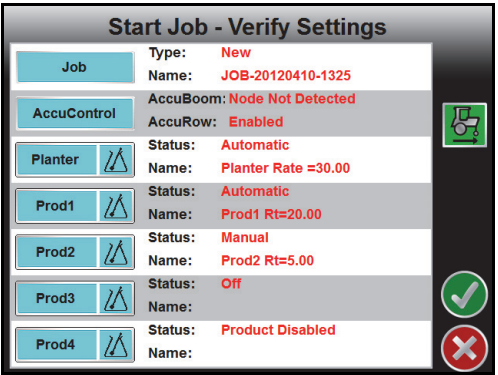
1. To begin a job, touch the ▶ icon on the Home screen.

   The **Start Job - Verify Settings** screen will be displayed.

   By default, the field computer creates a new job when the **Start Job - Verify Settings** screen is displayed.

   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.

Start Job - Verify Settings		
Job	Type:	New
	Name:	JOB-20120410-1325
AccuControl	AccuBoom:	Node Not Detected
	AccuRow:	Enabled
Planter ⋀	Status:	Automatic
	Name:	Planter Rate =30.00
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:	

3. Touch **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 the **'Enable Zone Map'** option.

Note: AccuRow is always enabled for jobs started with the OmniRow system.

6. Touch the **Planter** button to access the Planter Settings screen and configure planter settings.

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 **Planter** button.

Note: The **Planter** setup features are not available when the Envizio Pro is in AccuRow and Monitoring Only mode.

7. Touch the **Rate** button to enter the target rate for planting operations.

   Available selections for the Rate Control buttons are also selected on this screen. Enable the "Use Preset Rate Values" or "Use Rate Bump" options to display Rate Control buttons on the guidance screen.

8. Touch the **Job Setup** button to select which row units will be active when starting the job. Enable the Multi-Hybrid feature when controlling a multi-hybrid implement.

9. Touch the **Variety** or **Primary** and **Secondary** buttons to select or enter variety information and assign row units to each variety.

10. Touch the ✓ icon to return to the Verify Settings screen.

11. 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.

12. 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 and display the **Guidance** screen.

Guidance Screen

The **Guidance** screen is the main screen viewed during product application.
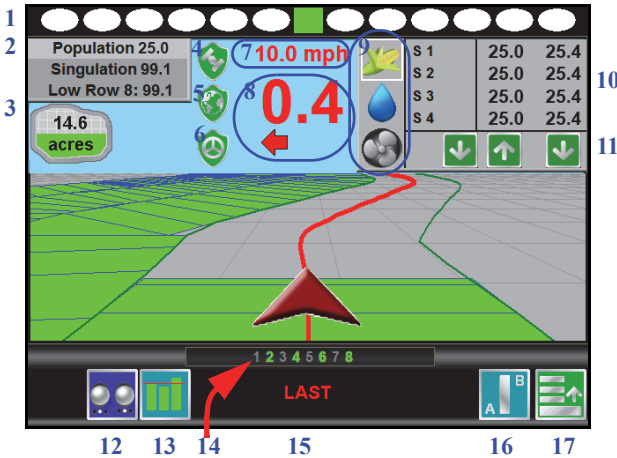
1. The **On-Screen Light Bar** is displayed along the top of the **Guidance** screen. Settings for the light bar may be found by selecting:

Tools Menu 🛠 ➡ **System Menu** 🖥 ➡ **Light Bar** 📍

2. The **Planter Status Area** displays a summary of the planter population and singulation for the current operation.

Touch the **Planter Status Area** to view the detailed **Planter Status Display**. The following information is accessible on the detailed Planter Status screens.

- Average seed population information as well as the low and high rows.
- Singulation, skips and multiples and planter row data.
- Planter row and node diagnostics.

3. The **Area Covered** displays a tally of the total area covered by active sections (sections toggled on) within the current job.

4. The **GPS Status** status indicator displays the status of GPS reception and the currently selected correction source on the Guidance screen. See the See **DGPS Status Indicator** on page 2 for more information.

5. The current status of **Wireless Communication** is displayed on the guidance screen. See the See **Wireless Communications Status** on page 3 for more information.

6. 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 SmarTrax and SmartSteer Installation and Operation Manual for more information.

7. This area displays the **Speed** or **Course Over Ground (COG)**. Touch this area to toggle the information displayed.

8. The **Distance to Swath** display shows the distance and direction to the displayed Guidance path.

9. Touch the **Rate Display Mode** selection icons to display the desired section and rate information in the **Rate Display Area**.

10. The **Rate Display Area** shows target and actual seed or application rates or fan pressures for selected monitored or controlled products.

Touch the planter control section or row heading to toggle the selected row or touch in the rates area to access the **In Job Section Configuration** screen.

Note: This display is not available in the AccuRow and Monitoring Only control mode.

11. The **Rate Control** buttons available for use with the selected seed control selection display below the **Rate Display Area**.

Section Control

| S 1 | 15.0 | 15.0 |
| S 2 | 15.0 | 15.0 |

| 15.0 | 22.0 | 27.0 |

- If the "Use Preset Rate Values" option is enabled during the Job Setup, up to three preset rate values display for the Rate Control buttons. Touch the section label and select a rate preset value to change the target rate for the section.
Select the "Preset changes all sections at once" option to allow selection of the preset button to change the target seed rate for all sections simultaneously.

Row Control

R 5	23.0	23.0
R 6	23.0	23.0
R 7	23.0	23.0
R 8	23.0	23.0

Row View   Rate Bump

- If the "Use Rate Bump" option is enabled during the Job Setup, the Rate Bump buttons will display below the target and actual rate. Use the Rate Bump buttons to increase or decrease the target rate for all rows.

12. The **AccuRow Switch Status** is displayed in this area. Touch the AccuRow Master switch icon to display the AccuRow Override screen. This icon may display:

AccuRow enabled for all sections. This status is only displayed if all sections are in automatic control mode.

The AccuRow master switch displays on if one or more sections are in the manual on position.

The AccuRow master switch displays off if one or more sections are in the manual off position.

The On/Off icon will be displayed if at least one section is in the manual on position and at least one section is in the manual off position.

6

 The Disabled icon will be displayed for sections currently disabled based upon the implement configuration. Refer to the Calibration and Operation manual for additional assistance with configuring implements.

 Touch the AccuRow Override icon to override all seed rate sections or zones on for the set on override time. This icon will replace the AccuRow master switch on the guidance display and a countdown for the remaining override time will be displayed.

13. Touch the **Row Population Status Display** icon to view the status of each row. The row status display may show the following status:

- Red - Below target rate
- Purple - Above target rate
- Orange - At rate but previously off rate within the last four seconds
- Green - At target rate

Note: The seed rate display values are shown in relation to the off rate percentage entered by the operator on the Alarm Settings screen.

14. The **Row Status Display** shows information for each configured section. Active sections appear green while sections currently disabled (or toggled off) appear in white. Sections which AccuRow has controlled off will display amber.

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. Touch the **Guidance Pattern** icon to select a different guidance pattern for the job in progress.
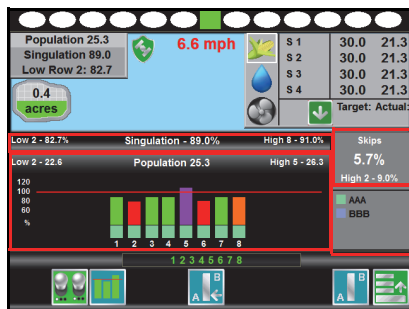
17. Access the **Menu** to display additional tools and features of the job in progress. The Menu contains the tools for recording a field boundary and creating or editing a Guidance Path.

18. Pressing on the planter control screen will open the planter summary configuration window. Select from the drop downs for the top, right top, right bottom, or graph bar indicator radial buttons to customize the planter control screen.
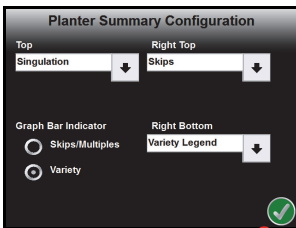
Menu 📗

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 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.

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.

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:

Menu ➡ **Field Boundary Tools** ➡ **Record Field Boundary**

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.

AccuRow™

The following sections offer an overview of the Raven AccuRow™ feature when used with the Envizio Pro. Refer to the OmniRow Calibration and Operation Manual for additional information about using the AccuRow feature.

Setup

To view current settings for the AccuRow planter section shut-off system, touch:

Tools Menu 🗙 ➡ **System Menu** 🖥 ➡ **Planter** ✈

and select the **AccuRow** button.

Note: The Planter Control icon is also accessible on the Planter Status screen. Refer to the See **Guidance Screen** on page 5.

The **AccuRow Settings** screen will be displayed.

1. Adjust the **On** or **Off Look Ahead** settings to compensate for the time required to turn on or turn off planter section or row control units.

2. The **Turn Off Percent** value sets the percentage of the toolbar section width that must be in a previously planted area, or in a no-plant zone, before AccuRow will control that section.
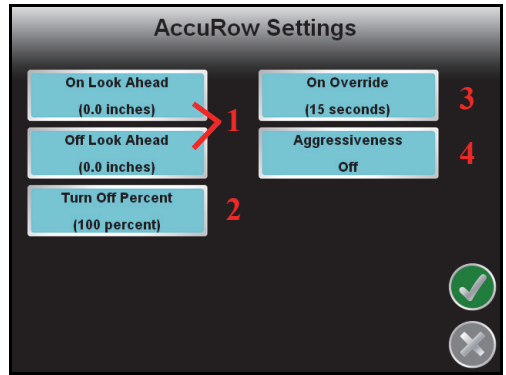
3. Touch the **On Override** and use the up or down arrows to set the time for the AccuRow override. Refer to the See **AccuRow™ Master Switch and Override** on page 13.

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.*

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 AccuRow 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.

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:

Menu ➡ **Zone Tools** ➡ **Load Zone Map**

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:

   Menu ➡️ **Zone Tools**

3. Select the following icons to begin recording a:

   Field Boundary   No-Plant Zone   Plant Zone

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

5. 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.

Pause and End Icons

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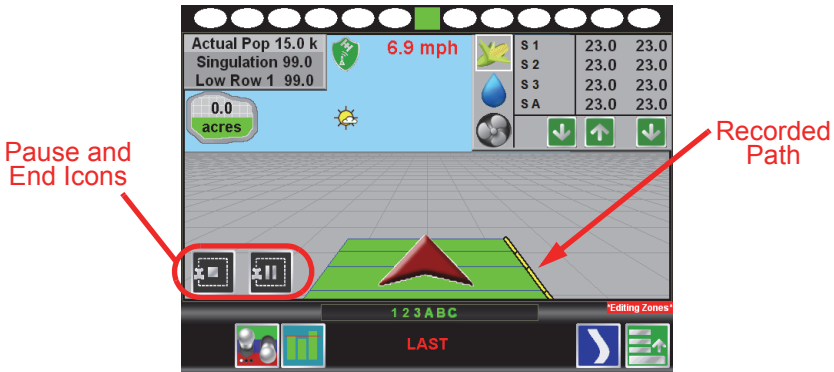
The **Menu** contains the tools for editing zones when editing a map. To exit the edit mode, touch the ✅ icon within the **Menu**.

Touch the Liquid or Seed icon in the upper, right corner to toggle the on-screen switch box display to toggle the switch box between seed rate control and liquid shutoff section control modes.

Refer to the OmniRow Calibration and Operation Manual for more information on controlling seed rate sections and liquid shutoff sections.
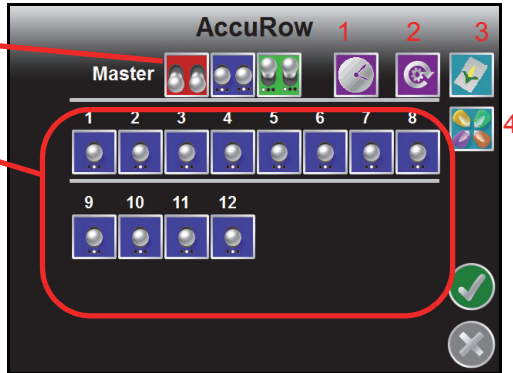
AccuRow™ Master Switch and Override

Touch the AccuRow Master Switch icon at the bottom of the guidance screen to access the AccuRow Override screen
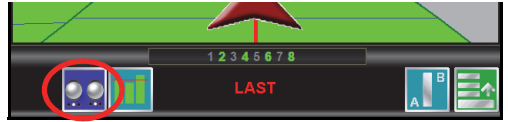
The AccuRow Master, Override, and Prime icons are available at the top of the AccuRow Override screen.

Touch any of the switch icons to toggle the status between automatic, on, and off. Touching the AccuRow Master switch icon will toggle all planter sections or rows simultaneously.

1. Touch the **Override** button to toggle all sections or rows on for the set override time. Refer to the AccuRow See **Setup** on page 11.

2. Touch the **Prime Seed Disks** button to turn all seed disks one full revolution. This feature is useful to prime seed disks after refilling row units.

3. Touch the **Switch Box Mode** button in the upper, right corner of the display to toggle the switch box display between liquid section and planter section control options.

4. If the Multi-Hybrid feature is enabled, select the **Hybrid Switch Box** to manually toggle between seed varieties for planter rows.
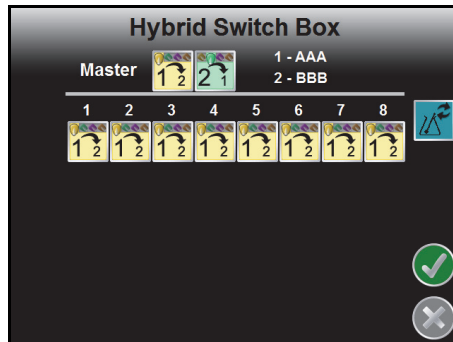

5. Press the **Variety Refresh Icon** to set all switch statuses to match the current prescription map position.

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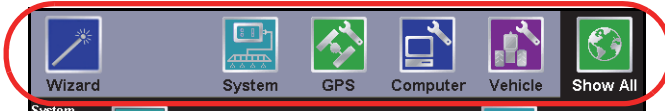
Touch the **Show All** icon to view all available menus within the **Tools Menu**.

Setup Wizard Menu

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

Note: It is recommended to use the setup wizards to verify the OmniRow setup prior to starting any planter control operations.

For more information or help completing the Setup Wizards, see the *OmniRow Calibration and Operation Manual*.

System

Access the **System** menu to make adjustments to the planter control system, or configure optional systems. The System menu also contains the setup screens for the optional TM-1 Tilt Module and 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 *Envizio Pro Series Installation and Operation Manual* for troubleshooting information and assistance.

To Modify the Meter Cal for Different Seed Types or Varieties:

The meter cal must be adjusted if the seed type or variety is changed. To change the meter cal:

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

Tools Menu ➡ **System Menu** ➡ **Planter**

Note: Touch the Planter Status area on the Guidance screen and select the Planter icon as shown above to access the Planter Control menu during an active job.

2. Touch the Planter Settings button on the Planter Control screen and select the Meter Cal button.

3. Select the Meter Cal Wizard button.

4. Set the 'Cells per Disk,' 'Meter to Motor Ratio' and 'Pulses per Rev' values for the new seed disks as follows:

Cells per Disk. Enter the number of cells each seed disk.

Meter to Motor Ratio. Set the ratio of meter revolutions per revolution of the shaft on which the encoder is mounted.

Pulses per Revolution. Enter the number of pulses detected by the motor encoder for one revolution of the motor.

Note: The pulses per revolution setting for the Raven OmniRow hydraulic motor clutches is 60.31. For OEM or other aftermarket hydraulic motors, check the motor sensor body, or contact a dealer or OEM manufacturer for the pulses per revolution value.

To Test the Meter Cal with Test Speed:

The test speed feature may be used to test the system while the implement is stationary and may be performed while not in the field. To enter a test speed:

1. From the Home screen, touch:

Tools Menu ➤ **System Menu** ➤ **Planter**

2. Select the Speed button on the Planter Control screen.

3. Touch the Test Speed button and use the on-screen keypad to enter the normal operation speed for the implement.

Note: Be sure the implement master switch and at least one section switch is in the on position and the implement is lowered. Disconnect the speed sensor from the field computer to keep the test speed from clearing. Refer to the OmniRow Installation and Operation manual for more information.

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:

Tools Menu ➤ **Vehicle Menu** ➤ **Profiles**

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 or 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 5 minutes. Larger fields and coverage maps with the Individual Row Control system could take significantly longer. Check the File Maintenance screen available memory display periodically and perform file maintenance as necessary.

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 types that are exported from the EPro to a USB drive.

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.

From Console   To Console

For example, select **Job Files** and **From Console** to display the Job Files screen shown to the right.
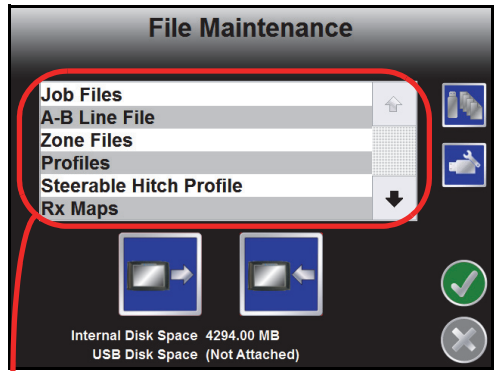
4. Select a file name from the list and touch the icon along the bottom of the screen. The field computer will perform one of the following actions to the selected field or file type.

Transfer to USB   Delete

All   Selected   All   Selected

Export Slingshot™ Data Package to USB

All   Selected

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.

File Maintenance

- Job Files
- A-B Line File
- Zone Files
- Profiles
- Steerable Hitch Profile
- Rx Maps

Internal Disk Space 4294.00 MB
USB Disk Space (Not Attached)

File Types

Job Files

- Kent NW40
- Round Up CSTMR #041

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Updates

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

www.ravenhelp.com

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.

OmniRow Remote Operation

The following functions will commonly be used to check functionality of the implement and OmniRow system using the OmniRow Remote Section Control. For additional remote functions, refer to the OmniRow Calibration and Operation manual.

Seed Disk Priming

To turn all seed disks one full revolution:

1. Press 0, 9, 9 and ON.

OmniRow Testing

To turn a section or row seed disk on at 5 RPM:

1. Press # and ON where '#' is the desired section number. The section or row seed disk will begin turning at a rate of 5 RPM.

Note: Turning a section or row on with the above procedure will override any other active sections or rows off.

2. Repeat the above command entry to activate other sections or rows as necessary.

3. Press the > key to increase the rate by 5 RPM or < to decrease rate by 5 RPM.

For example, press 1 and ON to turn the section or row 1 seed disk on. Press 1, 2 and ON to turn the section or row 12 seed disk on.

To cycle through sections or rows:

1. Press ON and > to turn on the first section or row starting at the left end of the implement. The section or row will begin turning at 5 RPM.

2. Press the > to cycle to the next section or row from left to right. Press < to cycle to the next section or row from right to left.

Note: Pressing the < key with the left-most section active will shut off all rows. Pressing the > key with the right-most section active will also shut off all rows.

Troubleshooting

Refer to the *OmniRow Calibration and Operation Manual* or the *Raven CANbus Installation Manual* for troubleshooting assistance and information.

RAVEN INDUSTRIES

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.

RAVEN INDUSTRIES
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.