Viper PRO Do’s and Don’ts

1. **Do** have the Viper PRO serial number and firmware revision available when calling for technical assistance. It is best if the user is in the machine and in front of the Viper PRO when calling for tech support.

2. **Do** read the manual in its entirety before using Viper PRO.

3. **Do** power the DGPS receiver and the Raven console or CANbus system before powering Viper PRO.

4. **Don’t** turn Viper PRO off when in a job, without properly closing the job first. If Viper PRO loses power when in a job, part of the information within the job files will not be saved and the associated files may become corrupt.

Basic Startup

Touch the Power button to turn on the Viper PRO console.

Backlight Adjustment

1. Touch **Menu / About / Adjust Brightness**.

   ![Adjust Brightness](image)

   2. Touch ▲ to increase screen intensity.
   
   Touch ▼ to decrease screen intensity.

   3. The screen can be adjusted between 100 (brightest) and 0 (dimmest).
Main Screen Areas

See the screen below and the corresponding numbers on the next page for a description of each screen area.
1. **Profile** - The machine profile contains configuration settings for specific vehicles, when created by the user.

2. **Current Heading** - The current heading of the vehicle in compass degrees.

3. **Speed** - The current speed of the vehicle (CAN or GPS).

4. **Map Area** - Information that is associated with the current tab.

5. **Tabs** - Used to access the features, functions, and screen displays for the Viper console. Touch a tab to access.

6. **Application Rates** - Target Rate (R₁) and Actual Rate (R₂). Touch in this area to set or change rates (Available for CAN systems only).

7. **Booms** - Booms turn green when on, grey when off. Touch in this area to configure your AccuBoom system.

8. **GPS Status Indicator** - Status of the DGPS receiver displays in this area. Touch this area for additional GPS information.

9. **AutoSteer Status Display** - The status of the AutoSteer system is displayed in this area. Touch this area to view the AutoSteer Status screen. The AutoSteer Status screen displays the current SAM Status, and firmware version as well as the SAM’s Serial Number.

10. **Product Control Status** - Product Control Status of the Raven console or the Raven CAN system displays in this area. Touch this area to modify Product Control settings.

11. **Autoboom Status Display** - If an optional Autoboom system is installed with the Viper Pro system, this area displays the status of Autoboom system. Touch this area to enable/disable or configure Autoboom system.

12. **Display Data** - Status of CAN Tally Register. Touch this area to view the CAN Tally Register data. Touch the area again to hide the data.

13. **Engage/Disengage AutoSteer** - Touch this button to engage or disengage the AutoSteer system. When AutoSteer is active, this icon will appear with a green steering wheel.
AutoSteer Status Screen

This screen displays the status of the AutoFarm Steering System and communication with the SA Module. You may create several vehicle profiles which will allow you to move the Viper PRO console to other vehicles with different characteristics. This screen also displays the SA Module’s serial number and current firmware version.

<table>
<thead>
<tr>
<th>Steering Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAM Status: OK</td>
</tr>
<tr>
<td>SAM Serial Number: DEMO</td>
</tr>
<tr>
<td>SAM Firmware Version: DEMO</td>
</tr>
<tr>
<td>SAM Hardware Type: WHEELED</td>
</tr>
<tr>
<td>Vehicle Name: DEMO</td>
</tr>
<tr>
<td>Vehicle Type: WHEELED</td>
</tr>
<tr>
<td>Solution: No Problems Detected</td>
</tr>
</tbody>
</table>

The SAM Serial Number and Firmware Version are displayed on the Steering Status screen.

The Steering Status screen also displays the current Vehicle and Hardware settings programmed through the AutoFarm FarmPRO Application.

The Response Rate setting increases or decreases the on-line aggressiveness of the FarmPRO automatic steering system. Touch the up and down arrows to increase or decrease this setting.

Touch the Default Nudge button to access the Nudge Settings screen.

The Steer Diag button launches the AutoFarm FarmPRO application and displays the Vehicle Steering Diagnostics screen.

See the FarmPRO Operation Manual for more calibration and tuning information and a full description of these settings in the Interface Box.
The GPS Status screen displays the current status and mode of operation for the FarmPRO RTK Base Station and Roof Array.

<table>
<thead>
<tr>
<th>GPS Status</th>
<th>Position Ok</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPS Mode:</td>
<td>RTK Fixed</td>
</tr>
<tr>
<td>Position:</td>
<td>10</td>
</tr>
<tr>
<td>RTK Init:</td>
<td>100%</td>
</tr>
<tr>
<td>Base Station:</td>
<td>9</td>
</tr>
<tr>
<td>Radio Link:</td>
<td>96%</td>
</tr>
<tr>
<td>SBAS Satellite:</td>
<td>135</td>
</tr>
<tr>
<td>PDOP:</td>
<td>1.30</td>
</tr>
<tr>
<td>Dist to Base:</td>
<td>2.0 Miles</td>
</tr>
<tr>
<td>Latitude:</td>
<td>N43°41'46.212000&quot;</td>
</tr>
<tr>
<td>Longitude:</td>
<td>W096°42'26.196000&quot;</td>
</tr>
<tr>
<td>Elevation:</td>
<td>0.00 Feet</td>
</tr>
<tr>
<td>Solution:</td>
<td>No Problems Detected</td>
</tr>
</tbody>
</table>

The **Position** display is the number of satellites which the FarmPRO system is currently locked onto and using to determine correction.

**RTK Init** displays the progress of the FarmPRO system while determining RTK accuracy.

The **Base Station** and **Radio Link** bars help determine the status of communication with the RTK Base Station. The **Radio Link** value must be above 80% to allow for RTK assisted steering.

The **Dist to Base** value is the distance of the machine from the Base Station.

Touch the **GPS Setup** button to launch the AutoFarm FarmPRO application and view the GPS Configuration screens.

Touch the **GPS Diag** button to launch the AutoFarm FarmPRO application and view the GPS Diagnostics screens.

For a full description of the GPS Status screen, refer to the FarmPRO Operation Manual.
## CAN Controller Status Screen Areas

See the screen below and the corresponding numbers on the next page for a description of each screen area.

### CAN Controller Status

<table>
<thead>
<tr>
<th>Boom Cals</th>
<th>Miscellaneous</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 120</td>
<td>Speed Sensor</td>
</tr>
<tr>
<td>2 240</td>
<td>Speed Cal</td>
</tr>
<tr>
<td>3 360</td>
<td>Self Test</td>
</tr>
<tr>
<td>4 240</td>
<td>Pump RPM</td>
</tr>
<tr>
<td>5 120</td>
<td>Speed</td>
</tr>
<tr>
<td></td>
<td>Units</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Node</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Flow %</td>
<td>50</td>
<td>Flow/Shaft Alarm</td>
<td>Off</td>
<td>Smoothing</td>
<td>On</td>
</tr>
<tr>
<td>Off Rate %</td>
<td>30</td>
<td>Vac/Bin Alarm</td>
<td>Off</td>
<td>Agitator</td>
<td>Off</td>
</tr>
<tr>
<td>Low Tank</td>
<td>0.0</td>
<td>Decimal Shift</td>
<td>Off</td>
<td>Ratio Rate</td>
<td>Off</td>
</tr>
<tr>
<td>Low Limit</td>
<td>0.0</td>
<td>Zero Shutoff</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Tank Vol  | 0.0 | Spreader        | 0   | Pre Set Pw| 0  |
| Area/ Hour| 0.0 | Valve Cal       | 2123| Pw Freq   | 122|
| Vol/Min   | 0.0 | Valve Cal       | 20  | Ratio Rate| 0.0|
| Rate Cal  | 15.0| Pump Cal        | 0   | Valve Delay| 0.0|
| Rate +/-  | 2.0 | Min Pw          | 0   | PWM        | 0  |
| Meter Cal | 700.0| Max Pw          | 253 |            |    |

Pressure 1 100  
Pressure 2 100

| Application | Liquid Standard Valve |

- Tally Registers
- Current Alarms
- OK
1. **Boom Cals Area** - Current booms that have been configured. Touch in this area to access the Boom Select screen and assign booms to products.

2. **Miscellaneous Area** - Various system settings and actual system readouts. Touch in this area to change the displayed settings.

3. **Data Box 1** - User configuration settings and product node selector. Touch in this area to access and/or change the user configuration.

4. **Data Box 2** - More user configuration settings. Touch in this area to access and/or change the user configuration.

5. **Pressure Area** - Dual pressure readouts for two different systems. Touch in this area to calibrate pressure readouts.

6. **Application Area** - Valve and application types used to apply the product. Touch in this area to select a different valve type and/or application type.

7. **Tally Registers** - Touch this button to access the tally registers. Also displays the distance traveled by the vehicle. All values can be reset to zero, when not in a job.

8. **Current Alarms** - Touch this button to view any current system alarms.
# Screen Icons & Symbols

<table>
<thead>
<tr>
<th>Icon Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cursor Lock</strong></td>
<td>When the <strong>Cursor Lock icon</strong> is active, Viper is in the auto-pan mode. Select this mode when running a job.</td>
</tr>
<tr>
<td><strong>Information</strong></td>
<td>The <strong>Information icon</strong> is only available when you are not running a job and you have selected the Main tab on the Viper console, or when you have selected the Scout tab when in a job.</td>
</tr>
<tr>
<td><strong>Prescription</strong></td>
<td>The <strong>Prescription icon</strong> is only available when on the Rx tab (if a prescription map had been previously loaded) or the Cov tab.</td>
</tr>
<tr>
<td><strong>Pan</strong></td>
<td>The <strong>Pan icon</strong> is used to move screen information up/down or left/right.</td>
</tr>
<tr>
<td><strong>Zoom Out</strong></td>
<td>The <strong>Zoom Out icon</strong> zooms the map area displayed out to view a larger area on the map.</td>
</tr>
<tr>
<td><strong>Zoom In</strong></td>
<td>The <strong>Zoom In icon</strong> zooms into the map area display and allows more detailed viewing of information contained within the display.</td>
</tr>
<tr>
<td><strong>Zoom Extents</strong></td>
<td>The <strong>Zoom Extents icon</strong> allows you to quickly bring all map information back onto the display.</td>
</tr>
</tbody>
</table>

### Map Symbols

### Status Symbols

<table>
<thead>
<tr>
<th>Icon Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thumbs Up</strong></td>
<td><strong>Thumbs Up</strong>: System is normal and all operating conditions are met.</td>
</tr>
<tr>
<td><strong>Caution</strong></td>
<td><strong>Caution</strong>: There is a system alert. User should investigate cause of condition and correct it.</td>
</tr>
<tr>
<td><strong>Red ‘X’</strong></td>
<td><strong>Red ‘X’</strong>: The system is down and requires immediate attention. This problem must be corrected before proceeding with application.</td>
</tr>
</tbody>
</table>
Setting Application Rates

1. Touch the **Application Rates Area**.
2. Touch the **Node** you want to set/change.
3. Enter **Target Rate**. Touch **Next** to change other Nodes or **OK** to save changes and close.

**Note:** You can only set Application Rates if you are using a CAN system.
Profiles save vehicle and implement information which can then be recalled as needed when moving the system between vehicles or using different implements.

**Saving a Profile**

1. Select **Menu**, then **Setup**, and **Boom/Impl**.

2. Select the machine or implement type and enter a **profile name** and touch **Next**.
3. Follow the on-screen instructions and touch OK to complete setup.

### Loading a Saved Profile

1. Select **Menu**, then **Setup, Local, Profile, and Load Profile**.

2. Select a profile from the list and touch **OK**.

---

**Select Profile**

- SPRAYER.ini  08Mar11 08:43
- TRACTOR.ini  08Mar11 08:43

**Load Profile**

You have loaded a new Profile. You must re-start the Viper program now.

**OK**
Starting a New Job

1. Select **Menu, Start Job, then New Job**.

2. Type in a **Job Name**, Select a **Swath Pattern**, and enter the number of products.
3. Type a **Product Name**.

4. Select **Booms** (typically ‘All’), if necessary.

5. If a Variable Rate map will be used, select **VRC** and proceed with the steps below. Otherwise, click **OK**.
   a. Click **Browse** to find an Rx Map file. Select the file and click **OK**.
   b. Click on the **Rate field** (outlined in red below) and click **Next**.
   c. Type in a **Rate Conversion** (if necessary) and click **OK**.

**Note:** The steps above are for a single product. If you have more than one product, you will be guided through the product setup for each product.
Adding to Existing Jobs

1. Select **Menu, Start Job, From File, then Add to Job.**

2. Select **Existing Job** and touch **OK.** Then touch **Menu** and **Cont Job** to un-pause the job.
Setting, Saving, and Loading A-B Lines

When a Job with Straight Line (A-B) guidance has been opened and the Guide tab is selected, use the following steps to set an A-B Line.

1. With the Guide tab selected, touch the Set A button.

2. When the Set B button appears, touch the button to set the B point of the A-B Line. The set A-B Line appears on the screen in blue.

To save the currently displayed A-B Line:

1. With the Guide tab selected, touch the Menu icon.

   ![Menu Icon]

2. Touch the Save A-B button and follow the on-screen instructions to save the displayed Guidance path.

To load a saved A-B Line:

1. Reset any currently displayed Guidance paths.
2. With the Guide tab selected, touch the Menu icon.
3. Touch the Load A-B button and follow the on-screen instructions to load a selected Guidance path.
Resetting Tank Volume

1. Touch **Product Control**.

2. Touch **Tally Registers**.

3. To reset all tank volumes to the previously entered values, touch **Reset** above **Tnk Vol**.

4. To reset individual nodes, touch **Next**.

5. On the Odometer screen, touch **Next**.

6. Type in a value for the **Tank Volume** and then touch **Set**.

7. Touch **Next**. Do the same process for all nodes, if needed, and touch **OK** when finished.

8. Touch **OK** again to exit the Product Control screen.
Marking a Field Boundary

1. Touch the **Scout tab** and then **Record**.

2. Touch **Zone**.

3. The Record Field Feature screen displays. Select the **name**, choose your **options**, and touch **OK**.

**Note:** The Field Boundary will automatically close if the machine comes within one boom width of the starting point. To manually close the boundary, touch the **Finish** button in the Map area and select the zone or feature to close.
If no CAN Nodes are found, touch the **Retry CAN Init** button. If you still have CAN issues, see Chapter 2 in the FarmPRO Operation Manual for more information.
AccuBoom Setup

1. Touch the **Booms Area**.
2. Enter **Look-Ahead** values and touch **Next**.
3. Select the **booms** for AccuBoom automatic boom section control and touch **OK**.

![AccuBoom Control Setup Diagram]
AutoBoom Calibration

**UltraGlide**

1. Touch in the center of the AutoBoom Area
2. Select Autoboom ON and UltraGlide for mode.
3. Touch the Calibrate button.
4. Touch Cal Left and wait for left boom calibration to complete, then touch Cal Right and wait for right boom calibration to complete.
5. Touch OK.
1. Touch in the center of the **AutoBoom Area**.

2. Select Autoboom **ON** and **PowerGlide Plus** for mode.

   **Note:** The AutoBoom Control screen in PowerGlide Plus mode will appear similar to the screens shown in the previous UltraGlide section. Refer to the UltraGlide section to locate the **ON** and **Calibrate** buttons if necessary.

3. Touch the **Calibrate** button and then touch the **Cal Boom** button. Wait for the calibration to complete.

4. Touch **OK**.
On-Screen Lightbar

1. Touch **Menu**, **Setup**, then **Lightbar**.
2. Select **On-Screen Lightbar** to display the Lightbar on Guidance screen.
3. Touch **Next** to set it up.
4. Touch **OK** when finished.
Viper PRO Sub-Menu Structure

* Buttons with arrows go to sub-menus. Buttons without arrows go directly to selection screens.
For technical support, call your local dealer first. If any additional technical support is required, AutoFarm support may be reached at (U.S./Canada):

Phone: 1-877-947-7327
Web: www.gpsfarm.com

Outside U.S./Canada, call your local dealer for country-specific requirements.

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