2202 South Riverside Drive | Ames, Iowa 50010 USA

Ag Leader®

InCommand® Go
Display User Guide
Firmware Version 1.0
PN 2006767—ENG Rev. 2411

515-735-7000 515-735-7001 info@agleader.com agleader.com

2202 South Riverside Drive
Ames, Iowa 50010 USA

General Information

Startup

Configurations

Guidance

Read user guide completely before operating display. Understand and follow all operating and safety instructions for proper use of this display. Failure to use display properly could result in an impairment of the safety features of this product.

End-User License Agreement (EULA)

This product is subject to Ag Leader Technology's End-User License Agreement (EULA), which may be found on your product's About page. The EULA includes terms that you agree to if you use this product. The About page also contains additional important information, including Ag Leader Technology's copyright and open source notices, which we recommend you review.

The About Page can be found under Setup/Display/Advanced:

> **End User Licence Agreement**

Service and Support

There are no user-serviceable parts inside the display. Contact a local Ag Leader Dealer or Distributor to setup a return for repair. For Technical Support contact local dealer or Ag Leader Support at the number below.

ph: (515) 735-7000

e-mail: support@agleader.com

This display has an internal lithium coin cell battery that is good for the life of the product and does not need to be replaced. There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the battery manufacturer's instructions.

Color Touch-Screen

Here are a few key things to remember when using a touch screen device:

- Do not use any sharp objects for running the touch screen device, this could result in damage to the display. Using the tip of a finger is the recommended method of operating the display touch screen.

- Do not use any harsh chemicals to clean the touch screen. Using a damp soft cloth or an anti-static wipe made specifically for cleaning computer displays is the correct way to clean the screen and the enclosure.
- The display uses a capacitive screen that is touch sensitive. It requires only a brief, gentle touch to operate correctly. A common mistake is to try to navigate too quickly through the system using firm taps instead of gentle presses.

Technical Specifications

Do not exceed the specifications below:

- Storage Temperature: -22 to +176 °F (-30 to +80 °C)
- Operating Temperature: -4 to +158 °F (-20 to +70 °C)
- Operating Input Voltage: 9 –16 V DC
- Environmental Protection Rating: IP64
- No Protective Grounding required
- Use 150V minimum insulation rating for external circuits: SAE J1128 rated wire
- Pollution Degree 3 per ISO 62368-1:2018 Section 5.4.1.5

Exceeding these specifications may result in degraded operation and/or damage to the display.

System and Upgrades

Required software updates will be available free of charge for download automatically or can be manually downloaded at www.agleader.com. It is recommended that the user check for available updates frequently to ensure display is updated.

Automated Module Firmware Upgrade

In the display, all display and module firmware upgrades are packaged in a single .fw3 file. The module firmware files are stored internally in the display. A warning is shown when a module upgrade is required. All files can be upgraded in a single batch by using an upgrade screen.

Product Registration

Ag Leader Technology products can be registered by one of the following methods. Registering allows the option of receiving notice of any new product updates or features.

Register at the Ag Leader Web site:

http://www.agleader.com

Operator Safety

Symbols

These symbols are used throughout the manual to designate where extra attention is necessary for the reader. The four symbols have following meaning.

 **DANGER!:** This symbol indicates that instructions MUST be read, understood, and followed otherwise serious injuries or death are VERY LIKELY to occur.

 **WARNING!:** This symbol indicates that instructions must be read, understood, and followed otherwise serious injuries or death MAY occur.

 **ATTENTION!:** This symbol indicates that instructions are provided for better, easier and safer operation. Instructions must be read, understood, and followed to avoid possible injuries.

 **NOTE!:** This symbol indicates that specific information applies.

Precautions

Follow these recommended precautions and safe operating practices before using equipment.

General info

 **DANGER!:** Read and understand this user guide before using the equipment. It is equally important that other operators of this equipment read and understand this user guide also.

If any portion of this user guide remains unclear after reading it, contact dealer for further explanation before using the equipment.

 **DANGER!:** Keep children away from the equipment.

Service

 **DANGER!:** Never service or repair the equipment while it is operating. Always replace all safety devices or shields immediately after servicing.

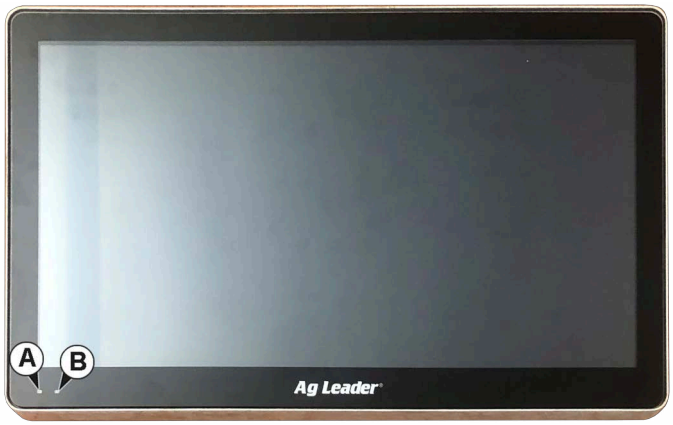
DANGER!: Turn electrical power off before connecting and disconnecting the display and transducers, servicing or using a battery charger.

DANGER!: If an arc welder is used on the equipment or anything connected to the equipment, disconnect power leads before welding.

DANGER!: Do not use a high pressure cleaner to clean the electronic components.

Display Hardware

Front side



A. **Light sensitivity sensor**—Used to automatically dim the display during night-time or low-light situations.

B. **Power light**—The power light displays one of three states:

Green	= ON
Pulses amber	= Standby Mode
Solid amber	= Running on battery power

Rear

A. **USB C** — Data Transfer/Charge up to 15 Watts

B. **USB A** — Data Transfer/Charge up to 7.5 Watts

C. **Cellular Module**

D. **Speaker** — The built-in speaker is used for audible warnings. The volume can be adjusted through the display setup routine.

E. **Mounting Bracket Connections**

F. Antenna — Do not block

G. **Antenna** — Do not block

H. **Ethernet Connection, E2**—Supports Power-Over-Ethernet devices up to 15 watts.

I. **19-pin auxiliary connection**—Used for camera input.

J. **19-pin plug** — The 19-Pin round display connector contains CAN, RS-232 serial, and system power and ground connections. It is compatible with some certain other displays.

K. **Ethernet Connection, E1** — Supports Power-Over-Ethernet devices up to 15 watts.

4-pin connection used for communication with SteerCommand® Z2/SteadySteer™.

L. **Power/Reset switch**

The Power/Reset switch is used for turning the display on and off in installations where the system is connected to a continuous power supply.

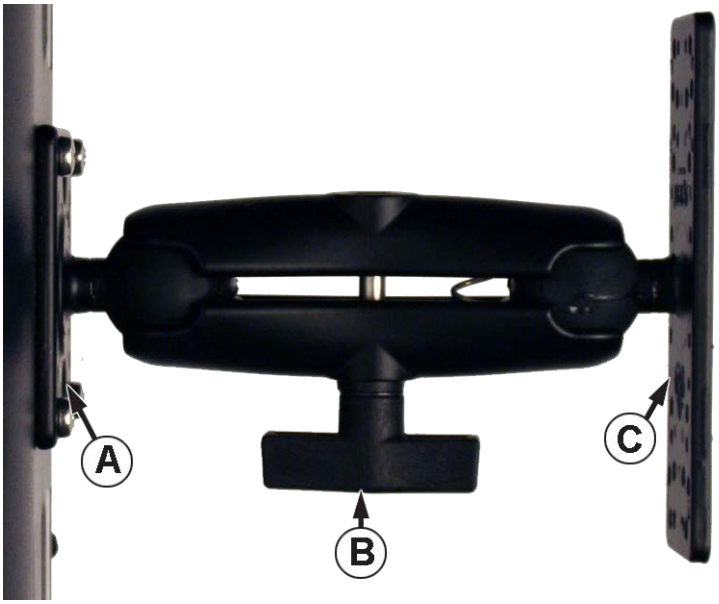
If the display ever stops responding, the manual power switch may be held in for five seconds to restart the system. Only do this as a last resort, data loss could occur during times of improper shutdown.

M. **Switch Panel Mounts**

Installation Instructions

All machine installation and mounting kits are shipped with instructions specific to that kit. Instructions include special details relating to mounting, wiring and display configuration.

Mount the display securely inside the vehicle cab. The following must be considered when choosing a mounting location:



• The display must be readily accessible to the machine operator.

• The display must not obstruct the machine operator's normal driving view.

• The display must not interfere with or limit access to any of the existing machine controls.

• Ensure the display is mounted such that the minimum distance from the cellular antennas to any part of the body of a nearby person is greater than 20cm.

• The CAN system cabling must be routed and secured without interfering with existing machine controls.

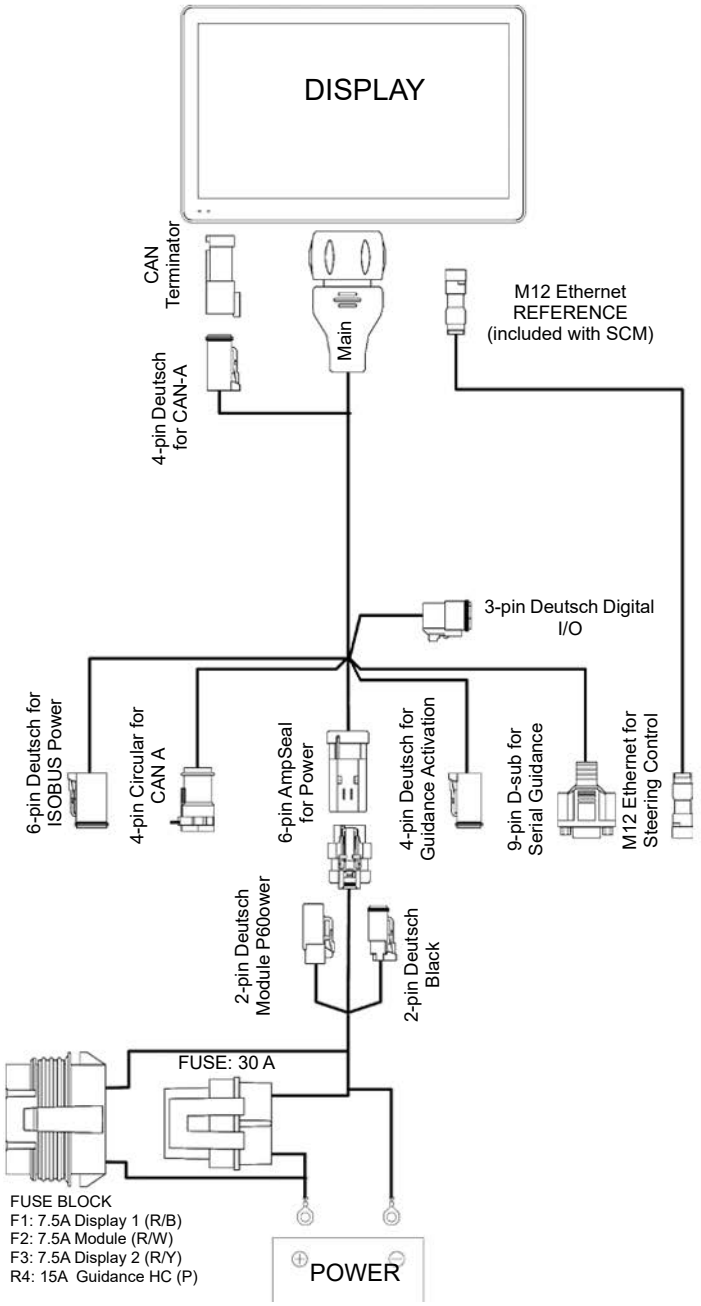
(A) RAM Base

(B) RAM Arm

(C) Base

DANGER!: If drilling holes is required during the mounting process, care must be taken to insure that damage is not done to existing vehicle wiring, mechanical, or cab structure. Refer to vehicle manufacturer documentation for specific details on equipment. Follow all OEM instructions, cautions, and warnings when working around equipment.

Fuse Installation and Replacement



WARNING!: Do not connect legacy display adapter cables to InCommand® Go displays. The following display adapter cables originally intended to adapt Ag Leader Integra, Versa, Compass, InSight and Edge display harnesses to InCommand® 1200 & InCommand® 800 displays should not be used to connect to InCommand® Go displays.

The display amperage draw exceeds the capacity of these legacy cables. Use only with supported display harnesses for InCommand® or InCommand® Go displays.

DO NOT USE Legacy Display Harness Adapter Part Numbers: 4004399, 4006628, 4006218, 260069300, 26068401 or 693929.

- Refer to your dealer for a complete list of supported cables.

Fuses on Battery Cable

Fuse Type: MINI Blade

Rating: 32 VDC

- Fuse 1: USB Charging 7.5A

  Power over Ethernet
- Fuse 2: Modules/Cameras 7.5A
- Fuse 3: Display 7.5A
- Fuse 4: Guidance 15A

Certifications and Compliance Labelling

The About Page can be found at:

or

Press  twice to return to home screen.

NOTE!: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct

the interference at his own expense.

This device complies with part 18 of the FCC Rules.

Product Name: InCommand Go 16 or InCommand Go 10

Product Model: InCommand Go 16 or InCommand Go 10

Manufacturer: Ag Leader Technology, Inc.

2202 South Riverside Drive
Ames, IA 50010
(515) 735-7000

	InCommand® Go 16	InCommand® Go 10
FCC ID:	Contains: 2AYNW-JODYW263	Contains: 2AYNW-JODYW263
IC:	Contains: 8595A-JODYW263	Contains: 8595A-JODYW263

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).

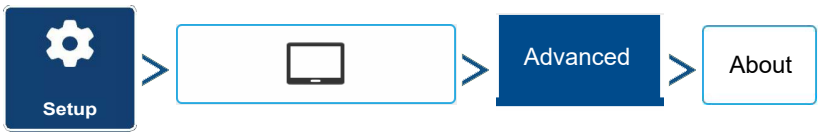
Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

InCommand Go Displays shall be installed at distances greater than 20 cm to ensure RF Exposure compliance.

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados. Para maiores informações, consulte o site da ANATEL – www.anatel.gov.br

Instructions for access to electronic identification:



In instances where e-labeling is used, the user can access the label:

This product has not been tested for compliance with USB extension cables. Do not use this product with USB extension cables longer than 3 meters.

- Storage Temperature: -22 to +176 °F (-30 to +80 °C)
- Operating Temperature: -4 to +158 °F (-20 to +70 °C)
- Operating Input Voltage: 9 –16 V DC
- Environmental Protection Rating: IP64
- No Protective Grounding required
- Use 150V minimum insulation rating for external circuits: SAE J1128 rated wire
- Pollution Degree 3 per ISO 62368-1:2018 Section 5.4.1.5

Radio Module Technical Specifications:

Wi-Fi 5:

- 802.11 b/g/n (BW20/40) 2.4 GHz – SISO 1x1
- 802.11 a/n/ac (BW20/40/80) 5 GHz (Full bands) – SISO 1x1

Bluetooth 5: (no software support)

- EDR – 1 & 3 Mbit
- LE – 1 & 2 Mbit

Cellular (if equipped):

- WWAN 2G (GSM/GPRS/EDGE): 850/900/1800 MHz
- 3G: Bands: 1,2,4,5,6,8,19 (WCDMA/HSUPA/HSDPA/HSDPA+)
- 4G (LTE): Bands: 1,2,3,4,5,7,8,9,12,13,14,18,19,20,25,26,28

Model InCommand Go 16

Model InCommand Go 10

Initial Startup

General info

An Initial Setup wizard is presented on startup. The wizard is presented if the display is brand new out-of-the-box.

NOTE!: Not all of the following parts may be required to follow - it depends on specific setup.

Once the wizard is completed, it is not shown again unless the display memory is cleared.

Initial Setup Wizard

The Initial Setup wizard proceeds though the following setup items:

Time\Date, Time Zone, Unit System, Language

- Advanced Options
  - Restore Backup
  - Upgrade Firmware
  - Unlock Display Features

Single or Multiple Display Setup

- Single—use single display if this is the only display that is getting setup
- Multiple Display—use multiple display if there is more than one display in the operation and the plan is to share management data between displays. After initial setup is complete, enter management information and create an .agsetup file.

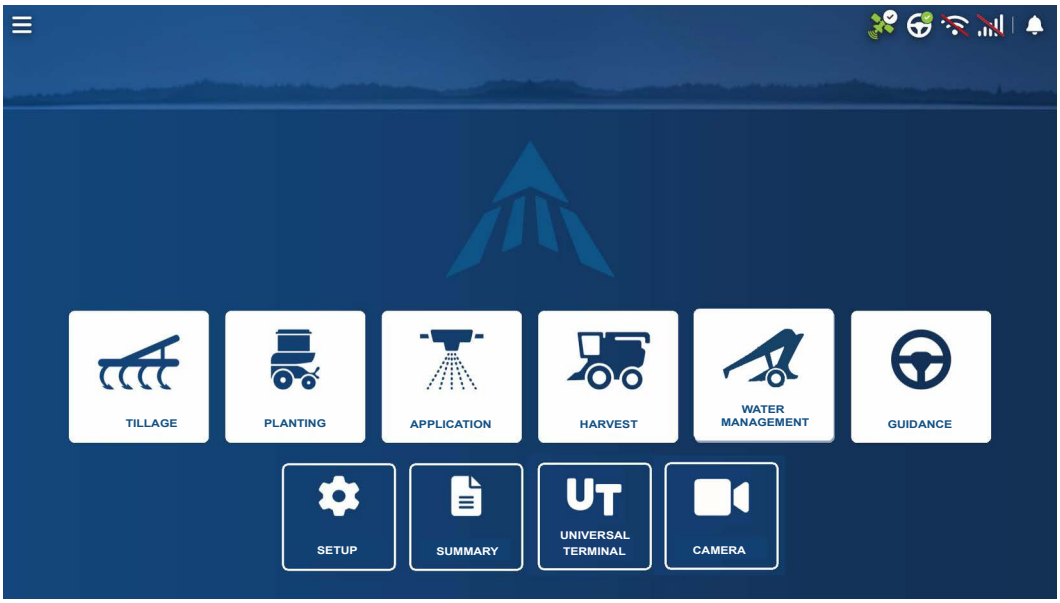
NOTE!: Using the Restore backup option is not the proper method to get multiple displays set up to be the same. Use the .agsetup file.

It is acceptable to complete the Initial Setup wizard and then upgrade. Setup information will not change.

- On a “clean” display going out for service, to stand in for a failed display, the customer should use the Restore backup option in the Initial Setup wizard.

ATTENTION!: The business created on the first display, and any other management and equipment items, will be imported to the additional displays.

Homescreen Layout



Setup—Access display's setup items

Summary—Used to access previously logged data, maps, reports

Universal Terminal—Used to interact with UT based ECU's. It must be enabled in setup

Camera—View cameras attached to the display. It must be enabled in setup

Tillage—Create configuration or start operation specific to tillage

Planting—Create configuration or start operation specific to planting

Application—Create configuration or start operation specific to application

Harvest—Create configuration or start operation specific to harvest

Water Management—Create configuration or start operation specific to water management

Guidance—Used to start guidance steering or CartACE operation

AgFiniti® Status Indicator

Active Alerts Indicator

Satellites Status Indicator

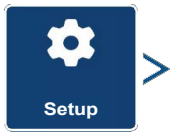
Wireless Status Indicator

Cellular Status Indicator

Most of the functionality of the display is not available until the basic setup process is completed.

Complete these initial configuration steps for the Run Time Environment to be active:

Go to the Configurations screen



or

Press  to setup Configurations for Equipment and Products.

Press  to setup configurations for Grower/Farm/Field, Season, Users, and Businesses

Press  to return to home screen and then press one the buttons below to setup the configuration for your specific operation.

Status Indicators

 Status Indicators are used to show different states of external equipment connected to the display and provides easy access to data.

 AgFiniti

 AgFiniti Mobile

 AgFiniti Cloud Mobile Connected

 AgFiniti Not Connected

 AgFiniti User Action Needed

 Area Logging Off

 Area Logging On - Active

 Area Logging On - InActive

 AutoSwath Disabled

 AutoSwath Off

 AutoSwath On

 GPS Ready

 GPS Warning

 GPS Standby

 Steering Disabled

 Steering Engaged

 Steering Line Acquisition

 Steering Manual

 Jump Start Off

 Jump Start On

 Master Switch Off

 Master Switch On

 Master Switch On, Implement Switch On

 Master Switch Off, Implement Switch Off

 Master Switch On, Implement Switch Off

 Master Switch Off, Implement Switch On

 Zoom Top Down

 Zoom Perspective

 Map Orient

 Map Locate

 Map Zoom Field

AgFiniti Status Symbol Descriptors

 Connected to hotspot/network with active internet and AgFiniti connection.

• Display is ready for use with AgFiniti.

 Connected to hotspot/network with internet connection, but not logged into AgFiniti (if not signed in shows an exclamation).

•Verify AgFiniti login credentials have been entered properly.

• Default status when not using AgFiniti but display is connected to the internet (NTRIP RTK on InCommand® Go).

 Present if there is a problem with the current AgFiniti account such as an expired license or changed credentials.

Network Status Symbol Descriptors

 Shows whether the display is connected to a Wi-Fi or cellular network, internet connection is illustrated by green traffic arrows as shown.

A red slash will be present if there is no active internet connection.

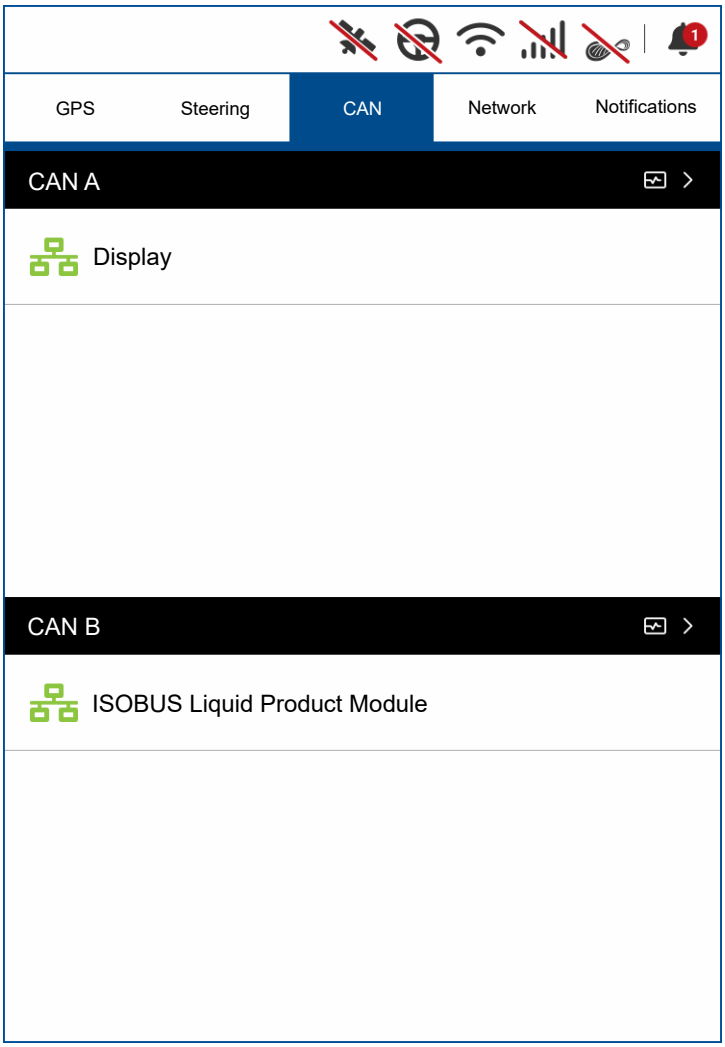
 Green traffic arrows will be present on current active data connection, display will prioritize the strongest signal (Wi-Fi or cellular).

Display is signed into an AgFiniti account but does not have an active internet connection.

 Display has a stored hotspot/network connection but no active internet, hotspot, or AgFiniti connection.

- Verify WiFi adapter is plugged into the back of the display.
- Will only populate after a hotspot/network has saved in the display.

Display Diagnostics



Technical support may request information from these screens for help in diagnosing a problem.

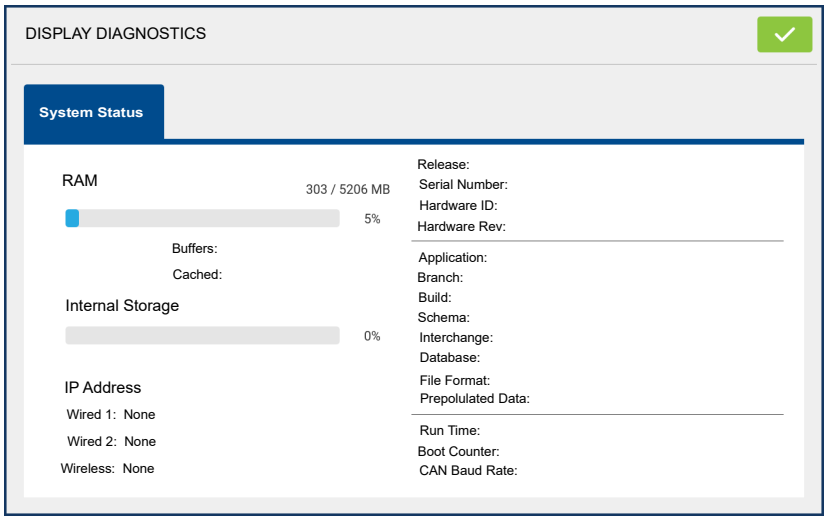
The Devices screen displays the modules that are connected to the CAN A and CAN B bus (CAN B is for ISOBUS). Select a device to display its particular firmware and hardware information.

Tap on the Display bar to show the Display Diagnostics screen.

NOTE!: Check the CAN device list to ensure that all hardware modules appear there.

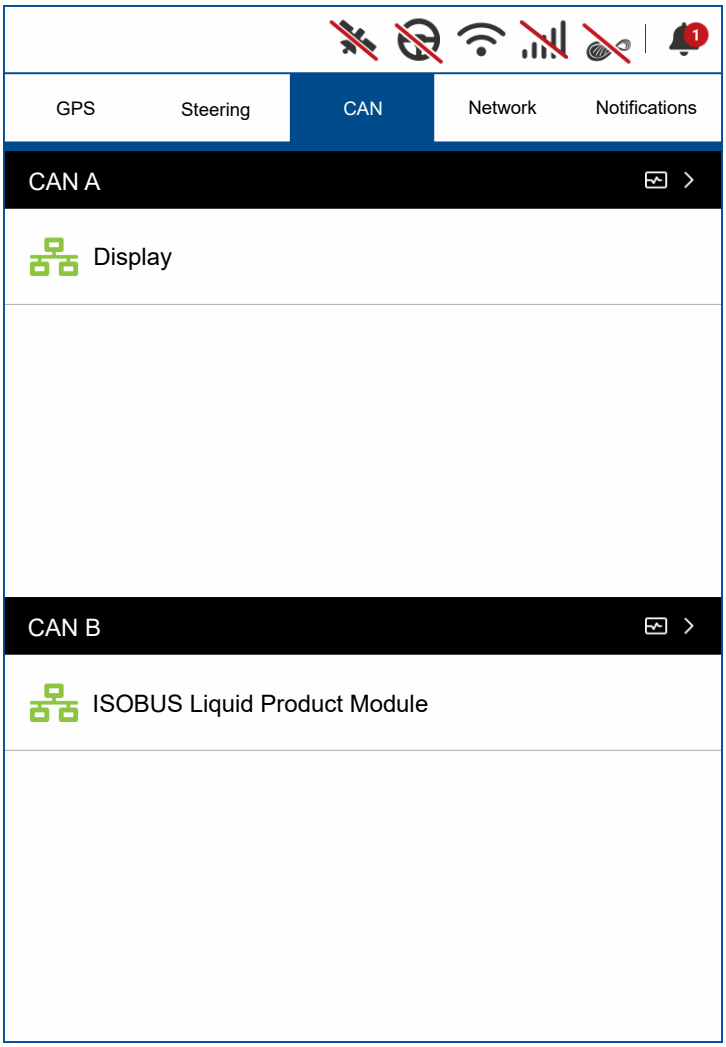
System Status screen

Tap on the Display bar to show the Display Diagnostics screen.



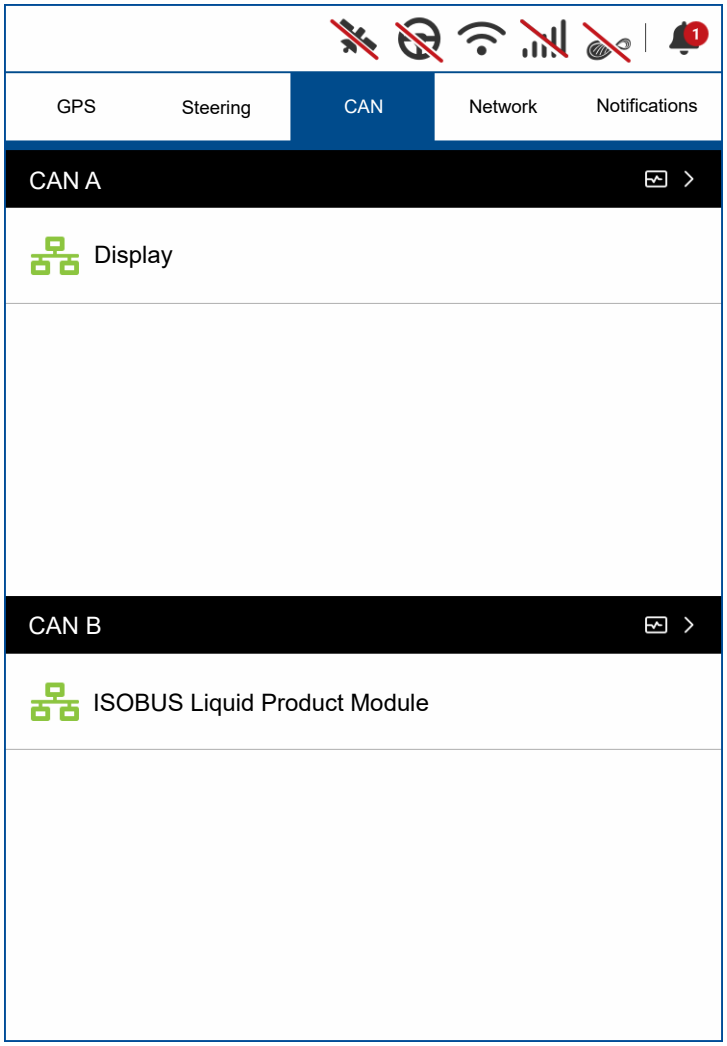
The System Status tab includes information about the system memory usage and available memory, IP addresses, and hardware/software specifics.

CAN B



If an ISOBUS ECU is connected to the system, the ECU description will populate underneath the CAN B tab.

Notifications



• Keeps history of up to 10,000 alarms/notifications

• When limit is reached oldest ones are eliminated

Alarms

• Anything that appears as a red bar warning across the top of the screen

• Uncheck to hide from history list

Notifications

• Anything that appears as a pop-up on the bottom center of mapping screen

• Uncheck to hide from history list

InCommand® Go 10 Guidance Only details

InCommand® Go 10 Guidance Only display comes with all field apps disabled besides tillage, guidance and UT options. Contact Ag Leader dealer to unlock functionality of display.

Upgrading Display Firmware

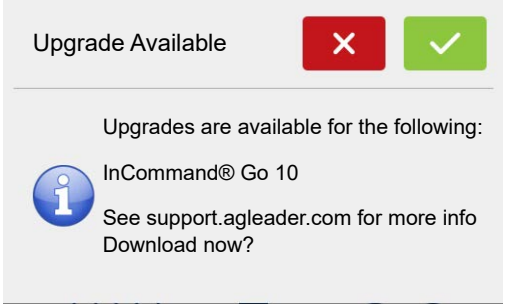
- Automatic Firmware Updates
- Manual Updates

Automatic Firmware Updates

Automatic firmware updates provide the ability for the display to check for updates and, if one is available, automatically install it. Requirements for automatic updates are:

- Internet connection
- Logged into AgFiniti account

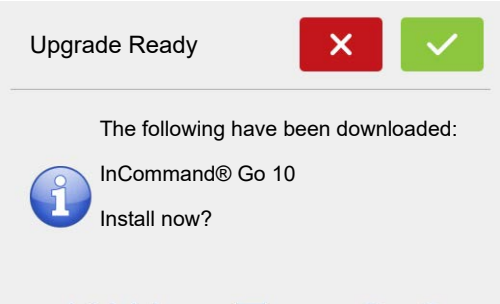
Upgrade Available



If a new update is detected a message will appear.

- Clicking ✓ will begin the download of the update. The display can be used as normal while the download is occurring.

Upgrade Ready



- Once downloaded, you can choose to start the update by clicking ✓ or wait and use the “Install Downloaded Firmware” button.
- Once the update is started, the steps are the same as the manual update process.

Manual Updates

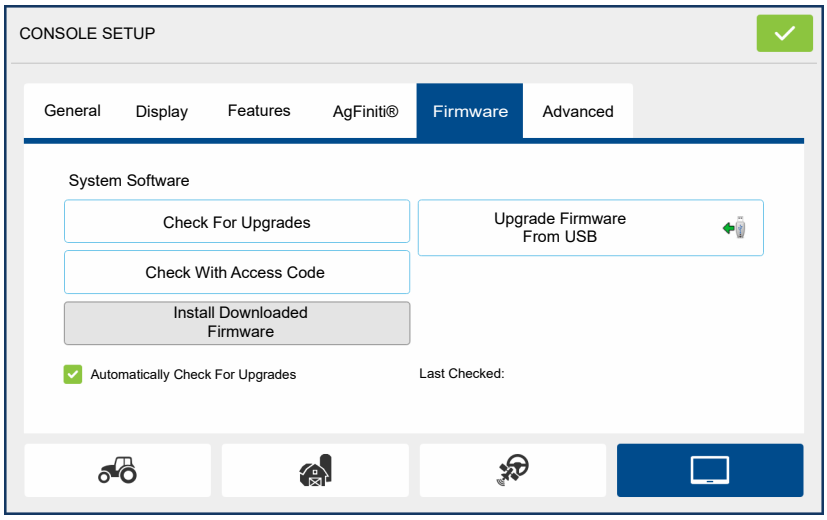
Manual firmware updates can be performed if

- Connection with AgFiniti is unavailable
- No account is present

Firmware can be downloaded from support.agleader.com. Place the downloaded *.fw3 file on a USB drive and place in display.

Press:

or

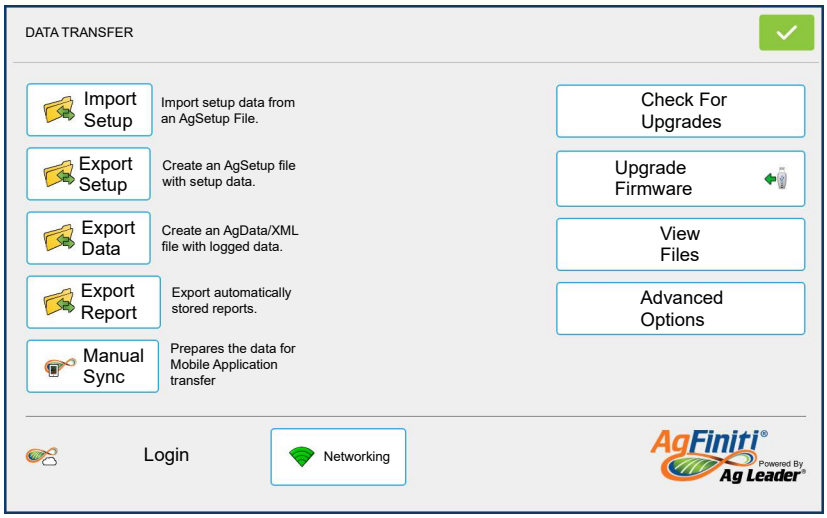


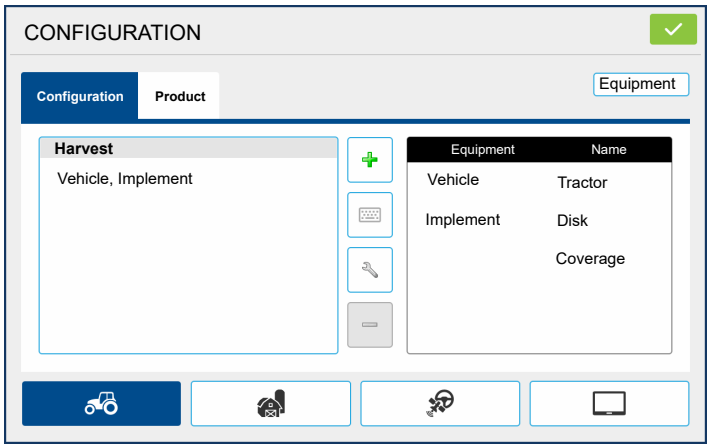
Select “Upgrade Firmware From USB”.

Press ✓ to continue and the upgrade will begin.

Press ✓ to confirm start of update.

or





The Setup buttons are shown at the bottom of the Setup screens. Toggle between screens to adjust settings for Configuration, Management, GPS, and Display.

Configuration button

Press to adjust the configuration settings particular to vehicle and equipment; as well as enter and edit product information.

Management button

Press to access and edit Grower, Farm, Field and Operator information.

GPS button

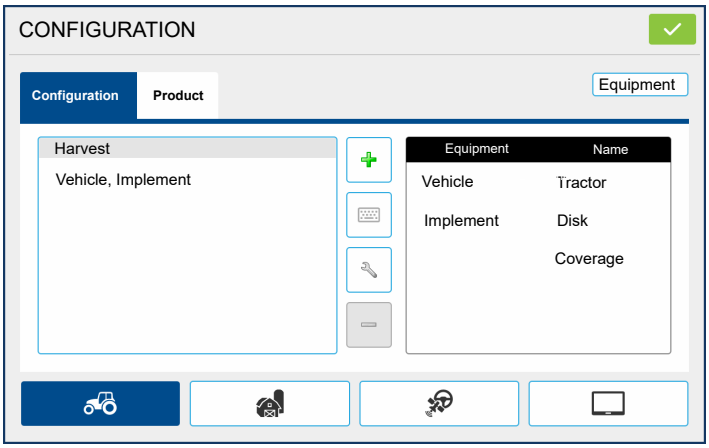
Press to adjust Guidance settings, GPS settings, and lightbar settings.

Display button

Press to adjust settings for time and date, brightness and volume settings, operating units, language, enable video, view features, and also create and restore backups.

Equipment Setup

Configuration tab



The Configuration tab is used to create, view and change configuration settings.

An operating configuration is a task-specific association of vehicle, implement, controller, and speed source that is saved for use over different seasons and on different displays.

• When finished, the new configuration appears in the list on the left side of the screen.

• When highlighting the configuration, the equipment in the configuration is listed in the box on the right side of the screen.

NOTE!: Information regarding configurations for specific operations is given in each operations feature user guide.

WARNING!: When a configuration is removed, all data logged with that configuration will also be removed! However, all log files will remain in memory until exported to the USB drive.

Equipment Press to add, edit, or remove information for a specific vehicle, implement or controller.

Vehicle Offsets

Vehicle offsets can be entered during configuration setup or later using configuration settings.

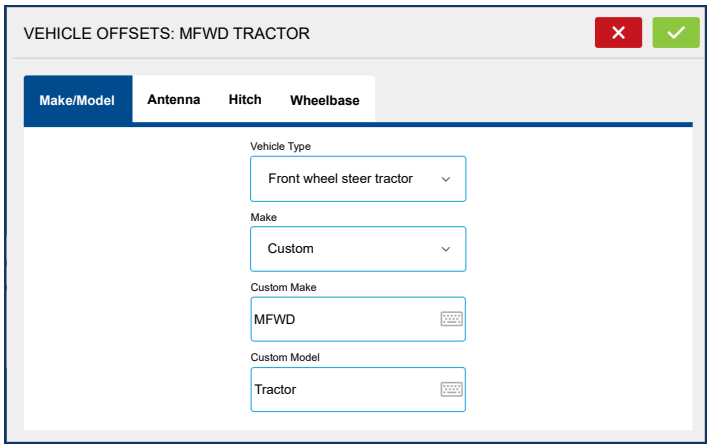
Vehicle offsets define where the machine's rear axle and hitch is in relation to the GPS antenna. These settings are used for accurate mapping and AutoSwath™.

When the process of setting up a vehicle is completed, vehicle offsets can be re-configured later.

The vehicle offsets settings consist of two tabs: the Antenna tab and the Hitch tab.

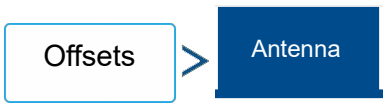
NOTE!: Accuracy when measuring for a specific setting is essential to ensure proper machine performance.

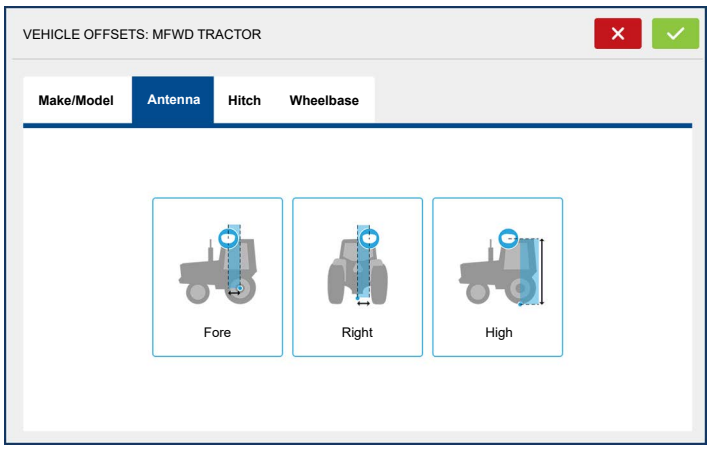
Make/Model tab



From the drop down boxes select the vehicle type and make. Custom can also be select and operator will type in make and model using  .

Antenna Offsets tab





Enter the distance from locations on the vehicle to the antenna.

• Measure and enter the horizontal distance from the rear axle to the position of the GPS antenna.

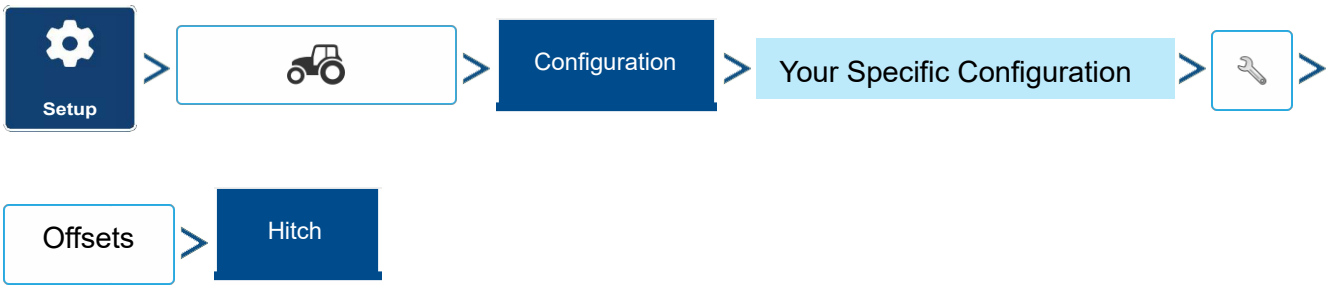
Select IN FRONT or BEHIND to indicate the position of the antenna in relation to the rear axle.

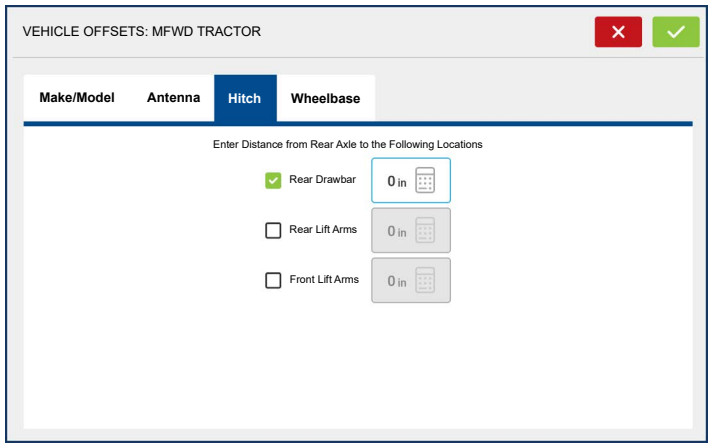
- Measure and enter the horizontal distance from the center line of the vehicle to the position of the GPS antenna.

  Select LEFT or RIGHT to indicate the position from the vehicle center line.

- Measure and enter the vertical height of the antenna above the ground.

Hitch Settings tab



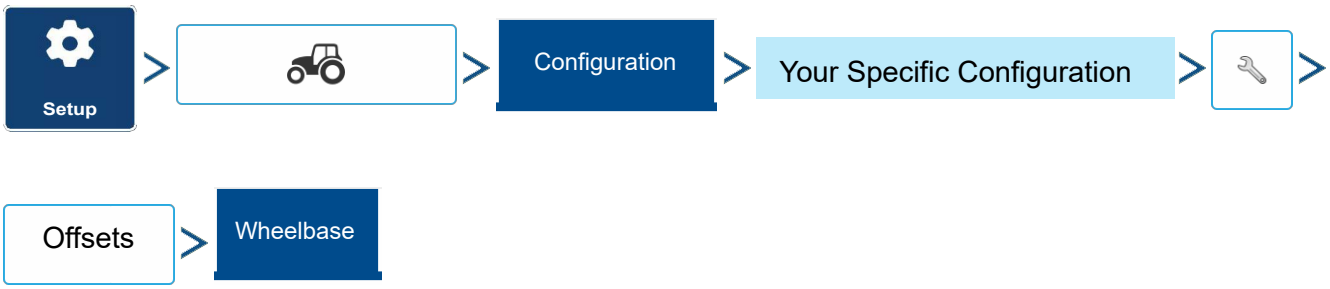


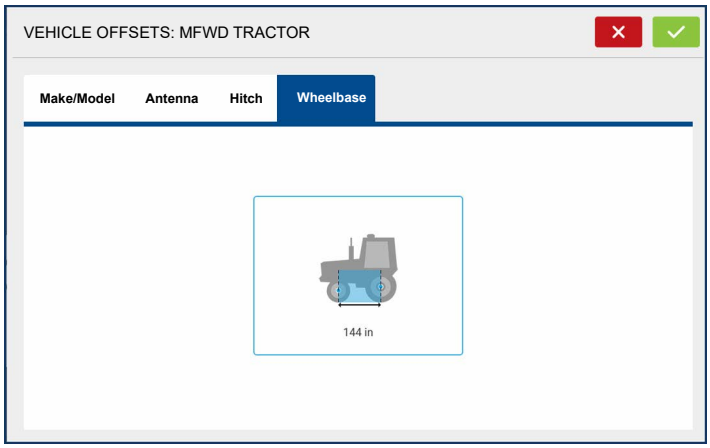
The Hitch tab is used to enter in the distance from three different mounting positions on the tractor to the rear axle.

Press 0 in to enter these values in if using the hitch point.

NOTE!: Accuracy when measuring for a specific setting is essential to ensure proper machine performance.

Wheelbase tab





Enter the wheelbase distances on the vehicle.

Mount Tab Settings

Setup > > Configuration > Your Specific Configuration > >

Offsets > Mount

The Mount tab will only be available when using a Self-Propelled sprayer. Enter in the application location from the rear axle. Press 0 in to enter in the distance and the drop-down box to select if it is in front or behind of the axle.

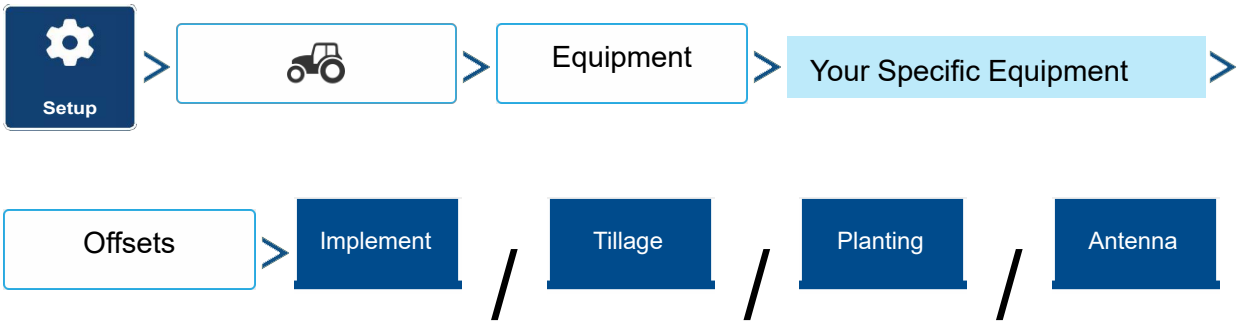
Head Tab Settings

Setup > > Configuration > Your Specific Configuration > >

Offsets > Head

The Head tab will only be available when using a Self-Propelled Combine. Enter in the crop intake location from the rear axle. Press 0 in to enter in the distance.

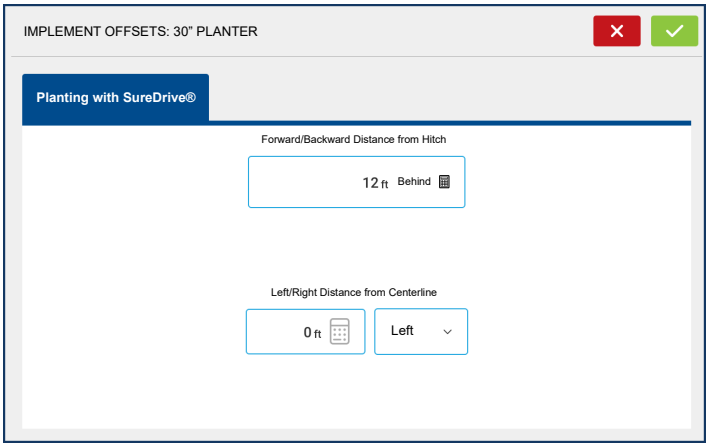
Implement Offsets



Tabs shown are dependent on selected configuration.

Implement offsets are used to accurately portray how equipment is setup and operating. An implement offset may be needed to account for incorrect guess rows and minimizing skip/overlap.

Section Offsets

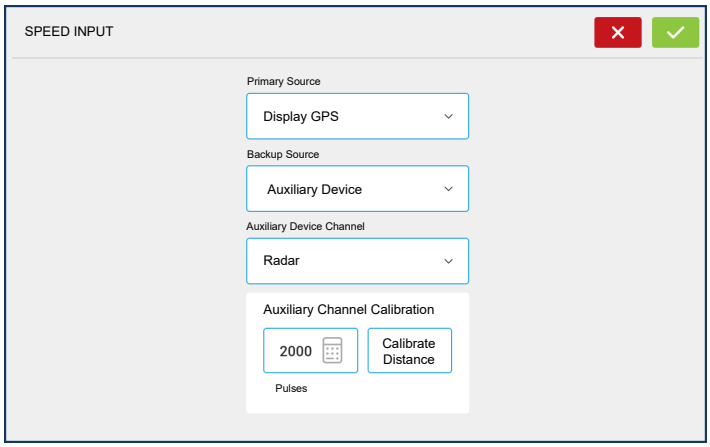


- Press the first 0 in to enter the distance that the application point is located from the hitch point.
- Press the second 0 in to enter the distance from the mid-point of the swath section to the machine's centerline. Select to the left/to the right to indicate the direction the swath section is located from the vehicle centerline.
- Press ✓ when finished.
- Multiple tabs will appear across the top if different controller types are used in the configuration.

Speed Input Settings

Speed Input

Speed will be displayed in the upper left corner of display when loaded to a configuration.



Choices for Primary Source include:

- Display GPS
- Auxiliary Device
- Manual Speed

Primary vs Secondary Speed Source—By default the display will use the primary speed source when operating on the Map screen. If for some reason the primary speed source is unavailable it will revert to the secondary speed source.

Display GPS—The display will use the GPS receiver attached to the display via Serial or CAN (Intellislope®) as the speed source.

Auxiliary Device—An auxiliary device can be either radar or wheel speed (combine). When using an auxiliary device be sure to calibrate it for an accurate speed input.

Manual Speed—In the event GPS speed or an auxiliary device is unavailable the display can be set to manual speed.

Auxiliary Settings

Auxilary Input

Auxiliary Input Settings provide the ability to assign custom switch functions per configuration.

Automatic Swath Control

Automatic Swath Control

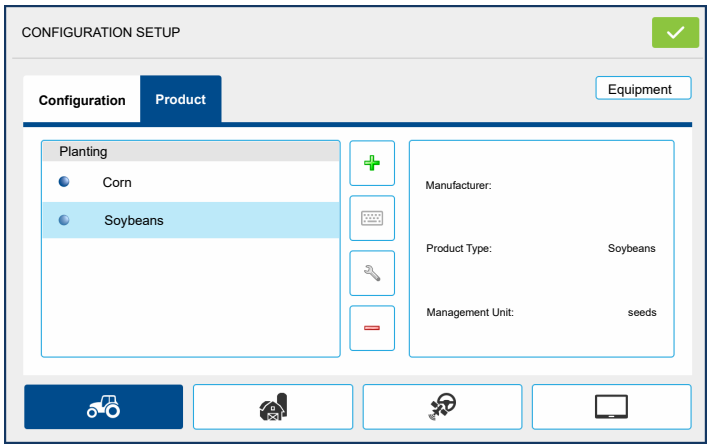
Automatic Swath Control Settings allow the user to adjust automatic coverage logging options such as start and stop delays.

Equipment Settings

Equipment Settings

Equipment Settings allow the user to set implement switch polarity, rate settings and look-ahead values.

Product tab



The Product tab is used to perform the following tasks:

- Add or import Planting products.
- Add or import Application products.
- Add product template (such as a tank mix, or a dry blend of multiple products).
- Add or import Harvest products.

Add button

Press to add or import a product. At the following screen, choose a Product Option: Add Product, Import Product, or Add Product Mix (if in Application). From here, an on-screen wizard continues through each step of the setup process.

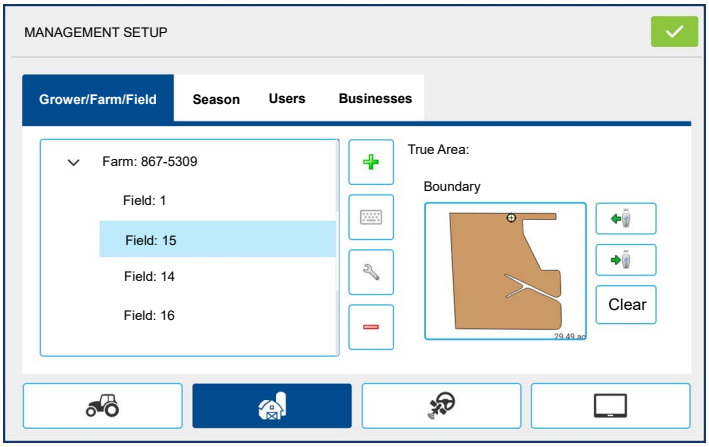
- When finished, the new product appears in the Product tab.
- When product is highlighted, information about the product appears on the right side of the screen.
- Specific planting and application product information can be viewed in those respective user guides.

ATTENTION!: When a product is removed, all regions using that product will also be removed.

Management Setup

Management button—from this screen the operator can access Grower/Farm/Field, Season, User, and Businesses tabs.

Grower/Farm/Field tab



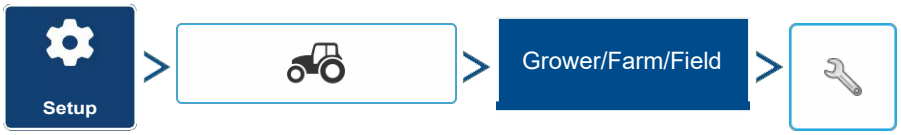
Grower

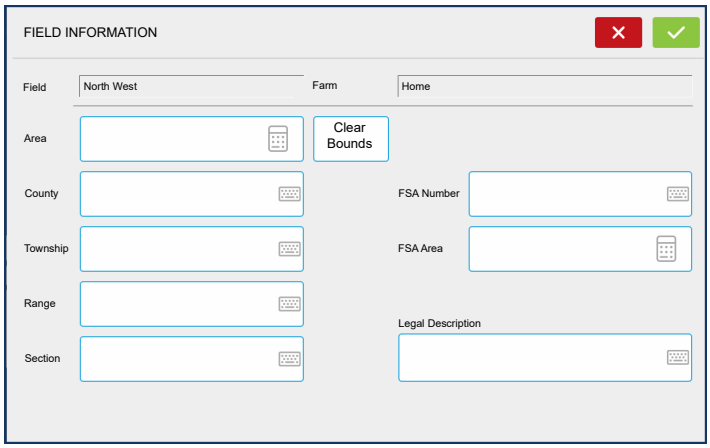
The Grower refers to the business or person that the system is in operation for. Contact information can also be entered for each Grower. The Grower information will be passed into mapping software for automatic Grower setup within desktop software.

Personal Information entered at this screen can be added or edited at any time.

Farm and Field

In the display, farms are subdivided into fields. Field names can be associated with a particular Farm or Grower. If the display will be used for multiple Growers, enter each Grower business name and associate the Farm and Field names with the correct Grower when the fields are set up within the system.





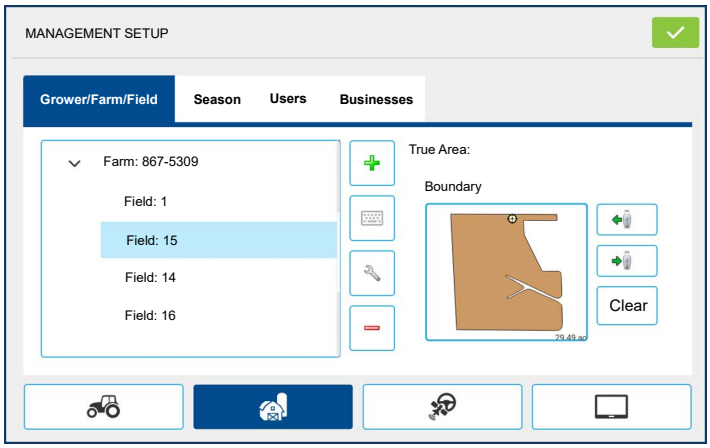
Field name information that can be added or edited by pressing  including Farm, County, Township, Range, Section Number, Area, FSA Number, FSA Area and Legal Description.

Area—shown in the total acres (hectares) of the field. Used to calculate area remaining in field.

Clear Bounds button—press to center the map on the current GPS position.

The Clear Bounds feature is particularly useful with flyer points or a logged point outside the mappable range of current location.

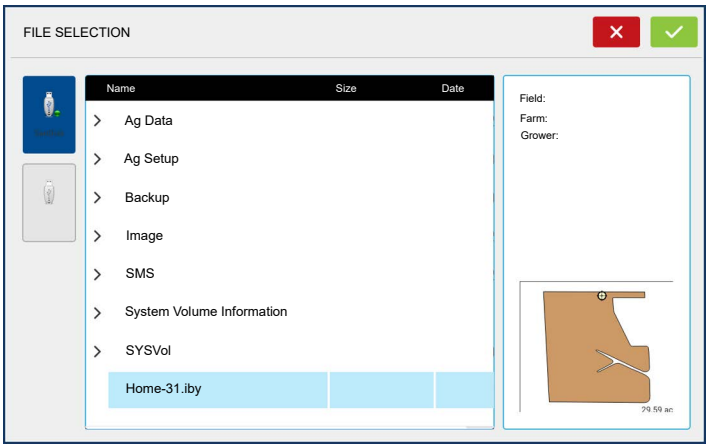
Importing and Exporting Field Boundaries



Boundaries can be created with the display or imported from desktop GIS software. Any boundary files present in the display can also be exported for use in desktop mapping software.

To export a boundary to the USB drive, highlight the correct field in the Farm/Field list and press the USB Export button.

To import a boundary from the USB drive, highlight the correct field in the Farm/Field list and press the USB Import button.



Highlight the desired file to import.

Press  to complete the import process.

Operator can import/export all fields and boundaries at once with an .AGSETUP file.

To export a boundary to the USB drive, highlight the correct field in the Farm/Field list and press the USB Export button. At the File Selection screen, highlight the desired field to export. A screen will appear indicating that the boundary was successfully exported. Press  return to the field setup screen.

Season tab

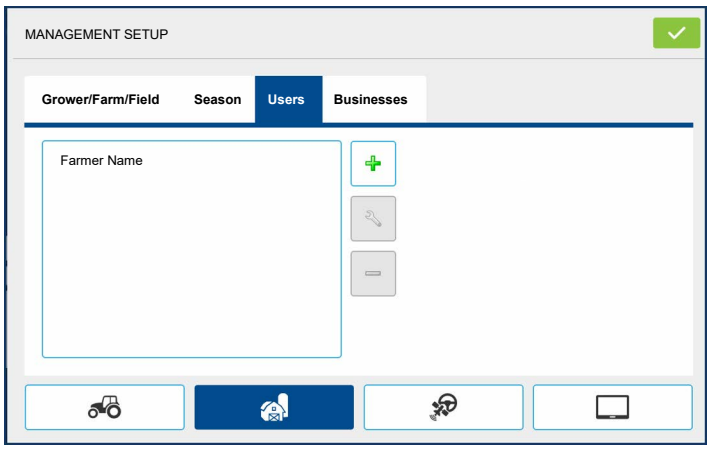
A Season is defined as the calendar year that the crop will be harvested. A Season has a start and an end date. Creating a Season and setting it to active is required prior to the system logging any data.

The seasons are displayed in lists, with the active season displayed in bold face type. All new data is logged to the active season; therefore a Season must be set as active before any new data can be logged to it.

If a user would like to remove logged data from the display they can delete a season from the display. Before deleting a Season make sure that all logged data has been properly archived within management software or AgFiniti® Mobile.

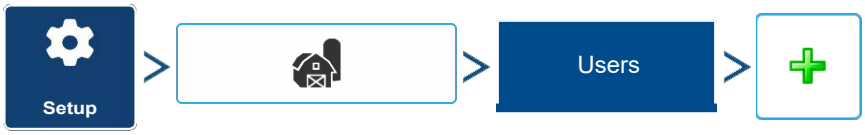
ATTENTION!: Deleting a season while using DisplayCast will delete the season on all connected displays.

Users tab



User tab allows user to add, modify, or delete users from the display.

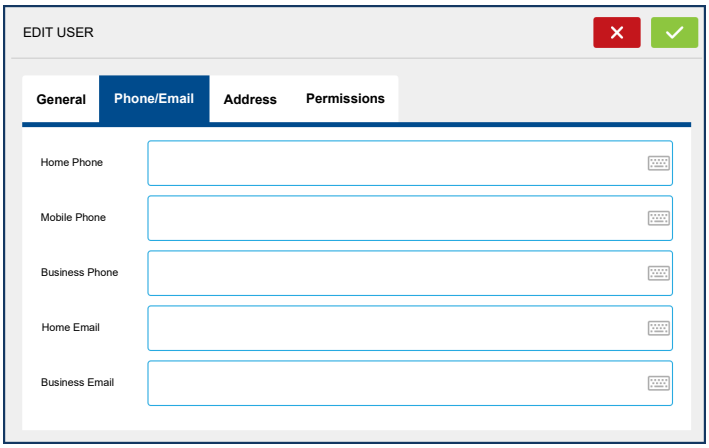
Add a User



1. Enter first name and/or last name (have to enter a first or last name, recommend entering both).
2. Enter applicator license (optional). Press > to continue.
3. Select Operator or Manager (can select either, none, or both). Press > to continue.
4. Enter and verify password (optional).
   - Locks the displays ability to load/change operating configurations, access setup and USB, if Manager has a password set
   - Leaves display unsecured unless each manager sets a password
   - No restriction for password format (can be any combination of letters, numbers, and special characters)
   - Case sensitive

5. Press  to accept.

Edit User Profile



Edit User screen allows user to edit information originally entered when profile was added. Edit button also allows access to more phone, email, and address information.

General tab

- First and Last Name
- Set and Clear Password
- Applicator License
- Memo

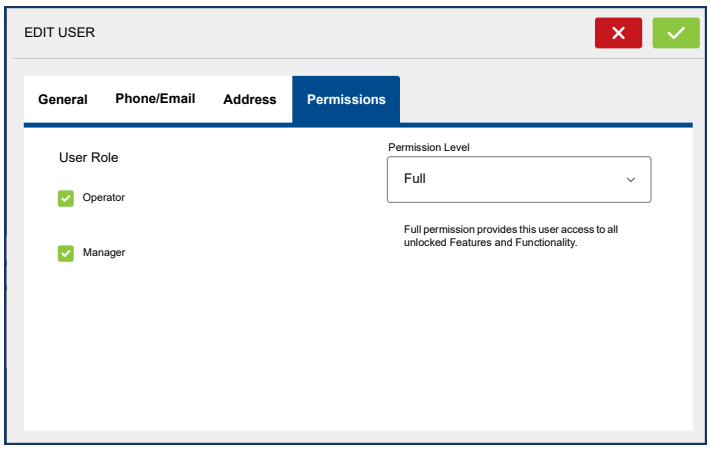
Phone/Email tab

- Home Phone
- Mobile Phone
- Business Phone
- Home Email
- Business Email

Address tab

- Address
- Extended Address
- City/Locality
- State/Province
- Country
- Postal Code

Permissions tab



This is an optional function that defines what access the user will have in the display. Users are defined as Operator or Manager (can select either, none, or both).

Operators

- Have full or limited access
- Can import from USB from Map screen (RX, patterns, boundaries)
- Manager sets up privileges

Managers

- Full access to the display settings and functions
- Only user that can change the selected configuration
- Ability to log out of the display

System can be set up with operators only. Passwords are not used when set up this way.

Permission Level For Operators

Full Permission—Provides full access to features and functionality on the map and home screen. A user, set only as an Operator, cannot select a different configuration and cannot access data transfer or setup, when a manager is setup in the display.

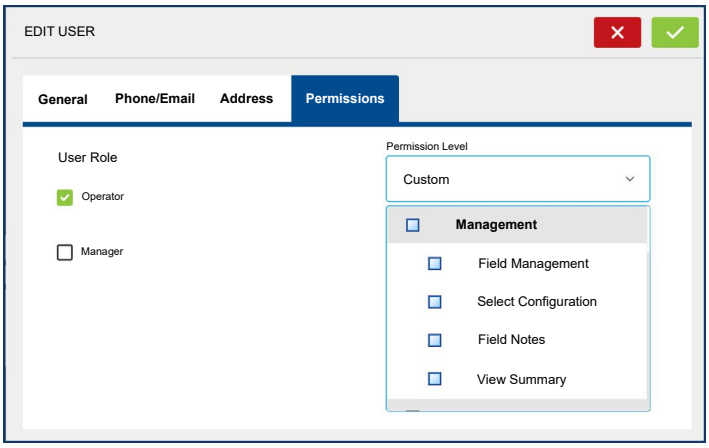
Basic Permission—No access to:

- Summary screen

- Legend tab on Map screen
- Marks tab on Map screen
- Boundary tab on Map screen

  Limits Guidance options to:

  - Creating & loading Straight AB or SmartPath patterns
  - Nudge
  - Remark A
  - Save or reset guidance line



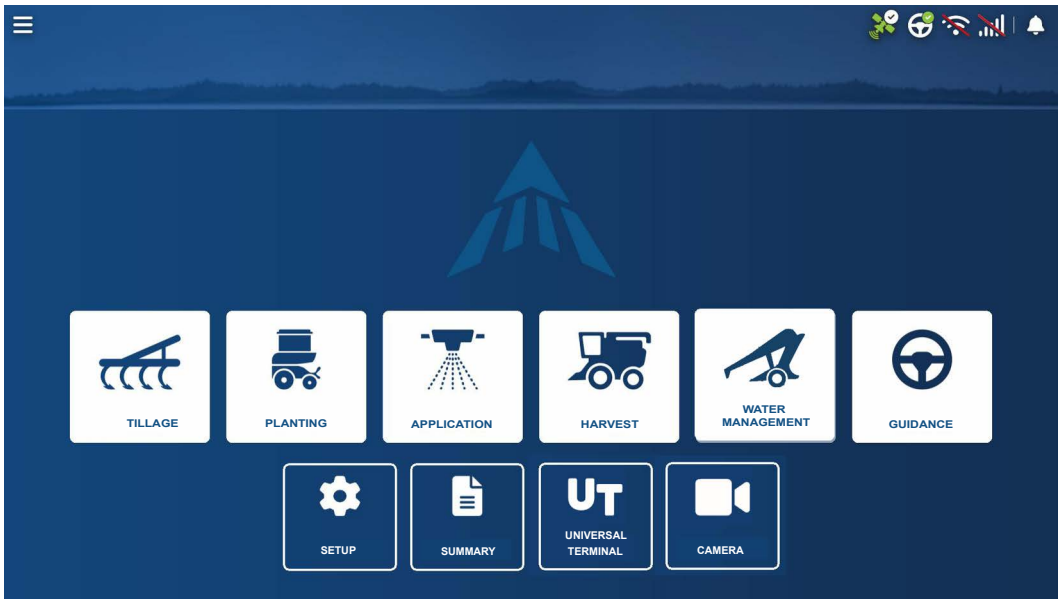
Custom Permission—Can allow or deny the following options:

- Management screen
- Pan/Zoom controls
- Legend Toolbox
- Marks Toolbox
- Boundary Toolbox
- Guidance Toolbox
- Minimize Toolbox
- Each individual guidance pattern
- Ability to remove guidance pattern

Display uses Traditional mode when Field Management is checked.

Events using the Traditional mode are tied to the Grower/Farm/Field structure.

Display uses Events Only mode when Field management is unchecked.



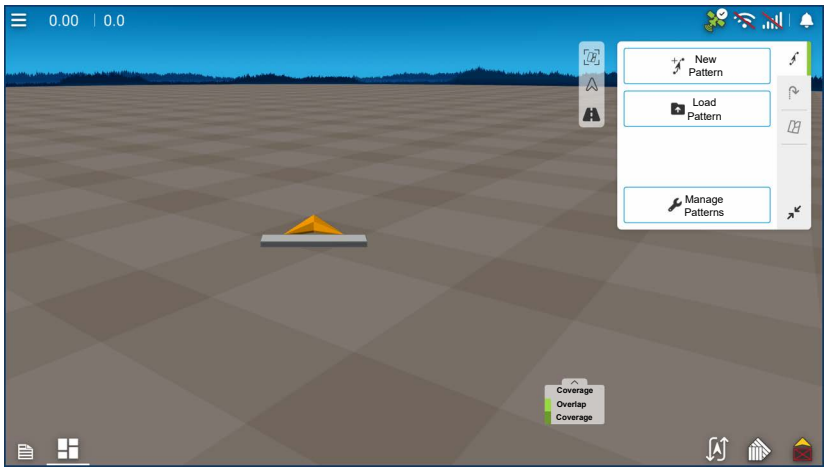
The Home and Map screen will appear different depending on the assigned user permissions.

Basic Permissions - Home screen

- Summary screen locked
- Operator Change - Option to continue or start new operation when operators change

Full Permissions - Home screen

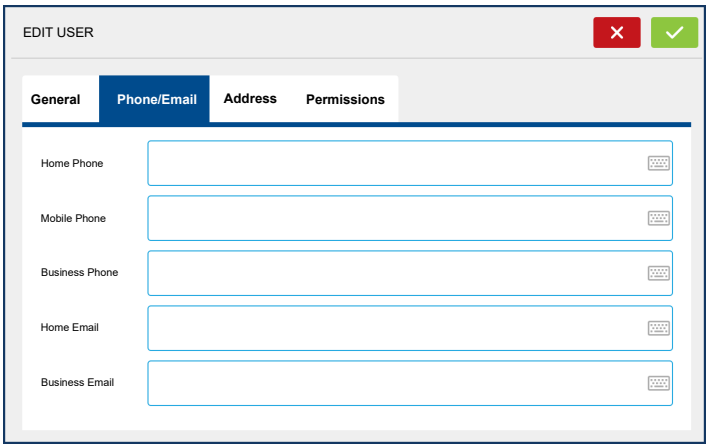
- Summary screen button is accessible.
- A manager can access these buttons by pressing the button and inputting their password.
- Configuration is locked when field operation is started.



- Guidance and Legend tab
- Create guidance lines
- Straight AB
- SmartPath®
- Nudge
- Guidance setup

Forgotten Passwords

When a Manager forgets his password he won't be able to access Setup. Tech Support will be able to generate a password based on the serial number and firmware of the monitor.



Password generator will require the following information:

A. Display serial number

B. Release—Firmware version

Only needed when a Manager forgets their password and works within the display until firmware is upgraded.

How will Tech Support identify if the person calling in is a Manager or not?

They will ask the caller, “Are you a Manager in the display?” If the customer answers yes, Tech Support will generate the password. If the customer answers no, Tech Support will require a Manager to authorize the display to be unlocked.

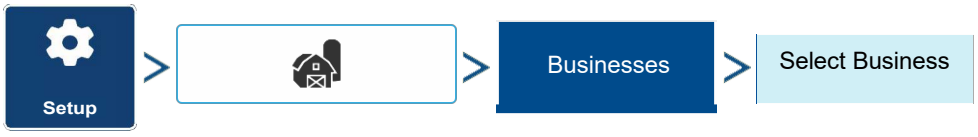
What if a customer doesn’t want to risk forgetting passwords and generating new ones?

A display does not need to be locked with a password. The display can be operated without passwords. Operators can also be setup with limited or customized access without passwords.

Tips:

- Managers keep a record of all passwords set in the display.
- Operators write down personal password.
- To avoid Operators obtaining unwanted access to a display, instruct them to call a Manager for help with passwords before Tech Support.

Businesses tab



The businesses are displayed in lists, with the active business displayed in bold face type. All new data is logged to the active business; therefore a business must be set as active before logging any new data to it.

Display Setup

The Display screen contains the following tabs:

General — Displays settings related to time, date, display screen settings, operating units, enabling video input, and ISOBUS settings.

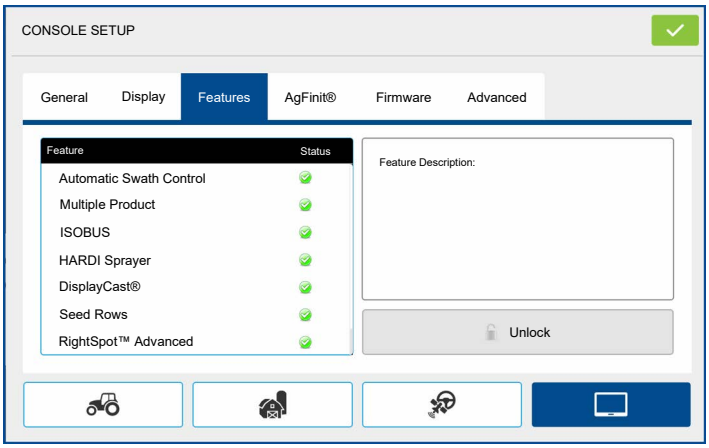
Display — Setting up and make any needed edits to the owner personal information.

Features — Lists unlocks for display.

AgFiniti® — Access AgFiniti account settings and options.

Advanced — Includes information related to log files and system backups.

Features tab



The Features tab is used to enter unlock codes. Unlock codes are unique to the serial number of each display and the feature registration number. Supply these numbers to dealer when purchasing unlock codes.

Press  to enter the unlock code and press  to enable the feature. 

NOTE!: Once a feature is unlocked, that feature remains with that display and cannot be transferred to another.

Advanced tab

The tab allows to specify:

- Settings for copying log files.
- Specify Key Switch Standby settings.
- View and manually upgrade module firmware.
- Create and restore backup files.

WARNING!: The Export Diagnostic Files, Advanced Parameters, Copy Debug Files, Clear Debug Files and Service Mode functionality on the Advanced tab is reserved for use by the manufacturer. DO NOT change any of these settings without specific instruction from the manufacturer.

Key Switch Standby

This setting allows the display to remain powered up after the vehicle power has been shut down. The display will switch into standby mode and will appear to be shut off; however the power light will change to an amber color. Pressing the touch-screen while it is in standby

mode will immediately turn the screen back on again. For this feature to work, the display must be connected to switched power.

Use ▲ / ▼ to specify a length of time for display to remain powered up in standby mode after the vehicle power has been shut down.

NOTE!: When the time specified in Key Switch Standby is nearly expired, then the amber-colored power light will flash on and off immediately preceding shutdown. Touch the display to restart the Key Switch Standby countdown.

About button

Displays product licensing information and copyright information.

Memory

Adjusts information stored in the display's internal memory.

- Create Backup.

  Press to create a backup file of all configuration settings, products, and Grower-Farm-Field Management data structure on the USB drive. Backup files are stored using the .ibk4 file format.

- Restore Backup.

  Press to restore a backup file from the external data drive to the internal memory of the display.

- Clear Internal Memory.

  Press this button to clear the internal memory of the display. The system will present a warning dialogue box and ask if a backup file should be created prior to clearing the memory.

WARNING!: Once the system's internal memory is cleared, this information is deleted and cannot be restored unless a backup has been made.

View Module Firmware

Displays the Module Firmware Management screen, which is a list of all firmware modules and firmware versions that are available for the display.

NOTE!: The Module Firmware Management list includes module firmware that may not be running.

- Upgrade

  Update module firmware with firmware stored on the display.
- Upgrade from USB

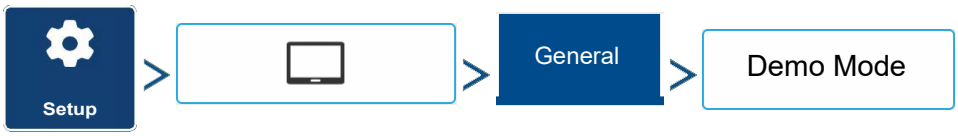
  Upgrades an individual module directly from the USB.
- Suppress Upgrade Alarms

  Display will no longer prompt to automatically upgrade modules.

Remove Patterns

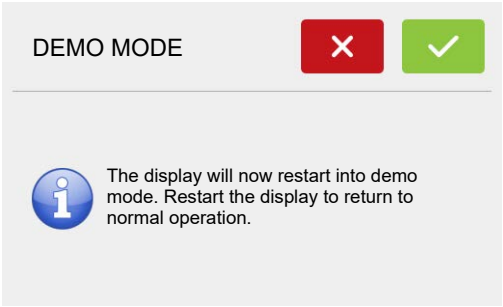
NOTE!: Pressing this button permanently erases all guidance patterns from the display's memory.

Demo Mode



Demo Mode is used for training and demonstration purposes. Demo Mode gives the ability to show the display in a fully functioning environment without the need for a CAN or GPS simulator. Demo mode is a completely separate run environment from the normally operating mode. This keeps all customer data separate to remove the risk of data getting deleted. Any data that is added, removed or changed while in demo mode will be deleted upon power cycling the display and returning to a normal operating state.

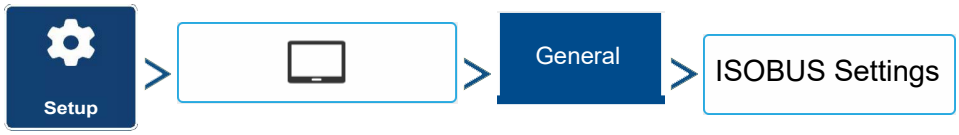
How Demo Mode Works

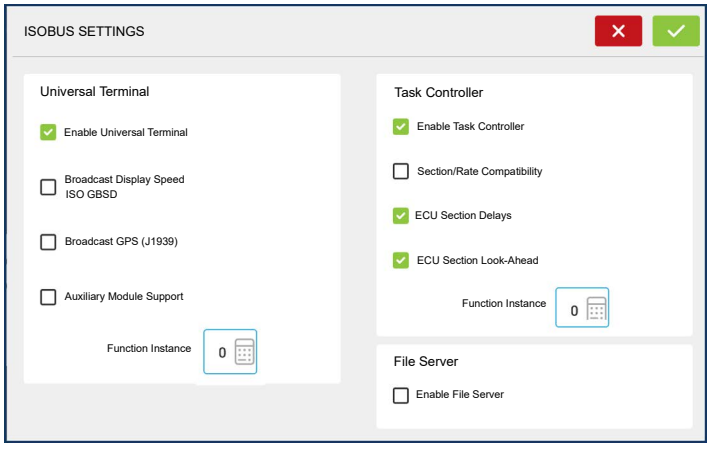


1. Pressing the Demo Mode button will trigger a request to restart the display. Once restarted, the display will automatically begin an event in demo mode.
2. The event that automatically starts will be a 12 row planter running clutch control, Ag Leader seed tube monitoring, and three variety split logging.
3. The event will continually run on the mapping screen. Users can interact will the menus and legends exactly like they would during a live operation.

4. The demo will continue to run until the field is completed. Once the field is completed the display will sit for 2 minutes then restart demo mode over again repeating the loop.
5. Coverage Logging can be manually toggled on an off by pressing the Master Switch icon in the lower right corner of the screen. With coverage logging off using can leave the mapping screen and go into all menus and setup screens normally. If they would like to continue the demo event it can be done by following the prompts via the Planting Operation Wizard.
6. Any time the display is not active on the mapping screen and left untouched for 2 minutes the display will prompt for demo mode to restart. If the prompt is not accepted within 30 seconds demo mode will automatically restart.
7. To return to normal operation, restart the display. Any data created in demo mode is automatically deleted on display restart.

ISOBUS Settings



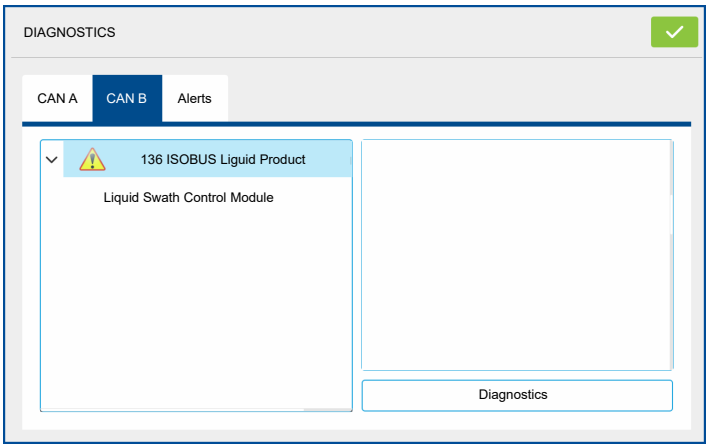


Universal Terminal

The display is compatible with the ISO 11783 (ISOBUS) Universal Terminal Standard. This enables support of many ISOBUS compliant implements on the display. Universal Terminal functionality enables the compliant implement's user interface to be viewed and controlled on the display.

Once Universal Terminal has been enabled, it will appear in the task bar. Toggle between the Universal Terminal screen and other display functions by pressing the UT button.

Task Controller



Highlighting a module and selecting diagnostics will display information about the controller that is necessary for building a task controller configuration such as number of sections and section widths.

ISO Load and Go

With a properly setup ISO ECU, ISO Load and Go streamlines the configuration building process for task controller ECU configurations. The Load and Go feature automatically builds a controller during the configuration building process based on the ECU device description. For this to work it requires the device description to have proper sections, section offsets, and product type setup on the ECU.

NOTE!: Maximum of 144 sections supported with 3rd party ECU's.

File Server

Diagnostic logging for the troubleshooting of Hardi Sprayers.

Common Terminology

ISOBUS Working Set—One or more ISOBUS modules that control an implement's functionality.

Working Set Master (WSM)—Main module responsible for coordinating all communication between the UT and the Working Set including loading of the Object Pool to the UT screen.

Object Pool—The graphic image presented to the user on the UT display. The Object Pool is sent to the UT by the ISOBUS module.

ATTENTION!: Before operating an ISOBUS implement with the display, read the operator's manual provided by the implement's manufacturer and follow all safety information provided in the manual. When this display is used with an ISOBUS implement, the information and functions on the display are provided by the implement ECU and are the responsibility of the implement manufacturer.

Broadcast Display Speed (ISO GBSD)—Checking this box allows speed source currently being utilized by the display to be broadcast over the ISOBUS to the implement ECU.

Broadcast GPS (J1939)—Checking this box allows GPS data being supplied by the GPS receiver to be broadcast over the ISOBUS to the implement ECU.

Auxiliary Module Support—Checking this box allows the Ag Leader Auxiliary Input Module or Smart Switchbox, to be used with ISOBUS ECUs that support AUX-N auxiliary functions.

Universal Terminal Functional Instance—Always set to 0 except when there are multiple UTs on the ISOBUS. Use to change instance. Reboot Display.

Section/Rate Compatibility—This setting determines how often the Display target rate message is sent to the ISOBUS ECU.

- When unchecked, the target rate message is only sent when it is changed on the display.
- When checked, the target rate message is sent at regular intervals. This is a non standard ISOBUS setting. Leave this setting off unless ISOBUS ECU has an issue with the target rate resetting to zero on its own.

ECU Section Delays—Determines the manner in which mapping delays are handled with ISOBUS ECUs.

- When checked (default), mapping delays are determined by ISOBUS ECU and the "look-ahead" interval stored in the Ag Leader display. Leave this checked when using DirectCommand Gen2 ISO Liquid.
- When unchecked, mapping delays are determined by the "look-ahead" interval stored in the Ag Leader display. This method is thought of as industry standard and is used by various manufacturers. Leave this unchecked when on ground AutoSwath performance is correct but display mapping is showing gaps/overlaps.

NOTE!: Enabling/disabling this setting does not effect on-ground section performance.

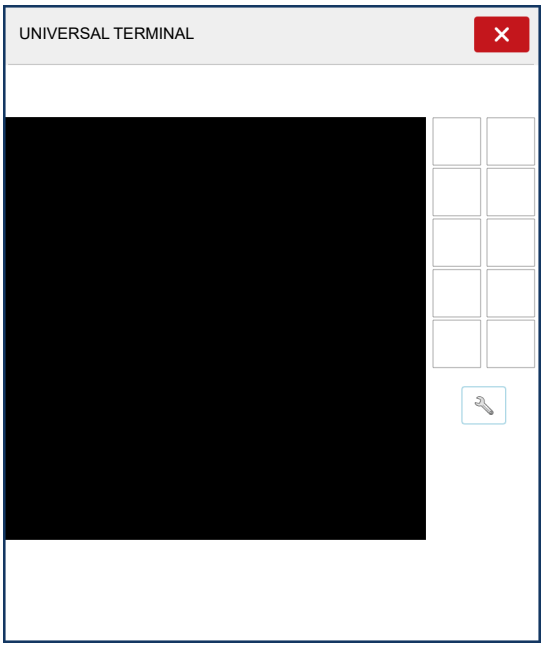
Enable File Server—Enables Hardi Sprayer specific diagnostic logging for troubleshooting purposes.

Task Controller Function Instance—Always set to 0 except when there are multiple TCs on the ISOBUS. Use to change instance. Reboot Display.

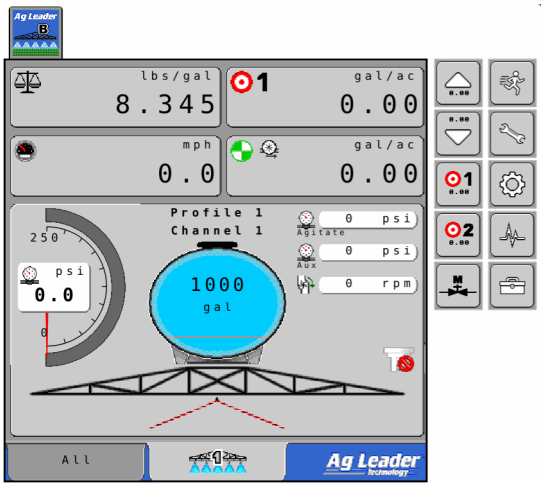
ECU Section Look-Aheads—Determines how look-aheads are used for AutoSwath with ISOBUS ECU.

- When checked (default), the display will use look-ahead settings from the ISOBUS ECU.
- When unchecked, the display will use look-ahead settings that are entered and stored in the displays Automatic Swath Control settings.

NOTE!: Enabling/disabling this setting will effect on-ground section performance.

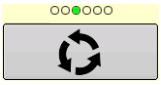


When an ISOBUS compliant implement is connected to the display for the first time, the implement WSM sends its graphic interface, called the Object Pool, to the display. The Status bar (A) appears while Object Pools are being loaded. This process might take several minutes depending on the number of Object Pools being loaded. Once loaded, object pools are stored in the display memory.



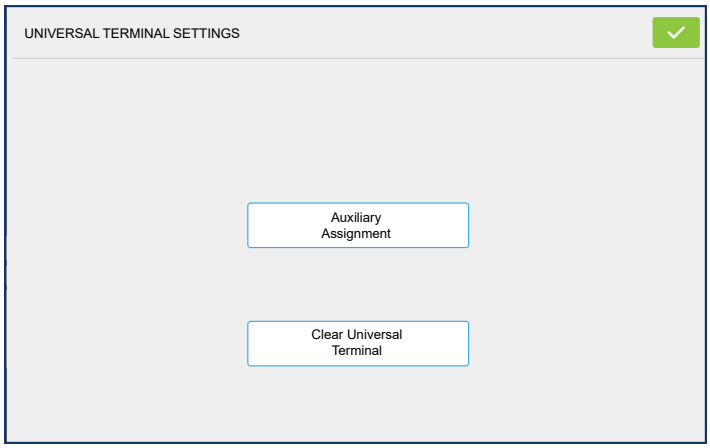
If there are multiple ISOBUS implements connected, press the UT button to toggle between Working Sets.

The Working Sets can also be accessed by pressing tabs individually.



Advance through multiple screens of buttons. This button remains hidden unless more than 10 buttons are present.

Opens the Universal Terminal Settings screen.



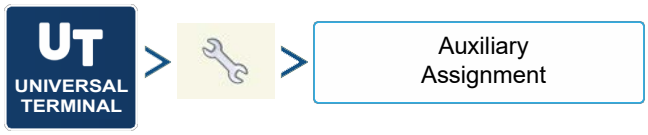
Auxiliary Assignment—assign implement functions to ISO compatible inputs.

Clear Universal Terminal—Allows operator to clear the Object Pools sent to the display from the implement WSM.

After the object pools have been cleared, the next time the implement is connected the object pools will be transferred from the implements WSM to the display again. When this button is pressed, a warning dialogue box appears with the following message:

“All Universal Terminal interfaces saved in the display will be cleared. Do you want to continue?”

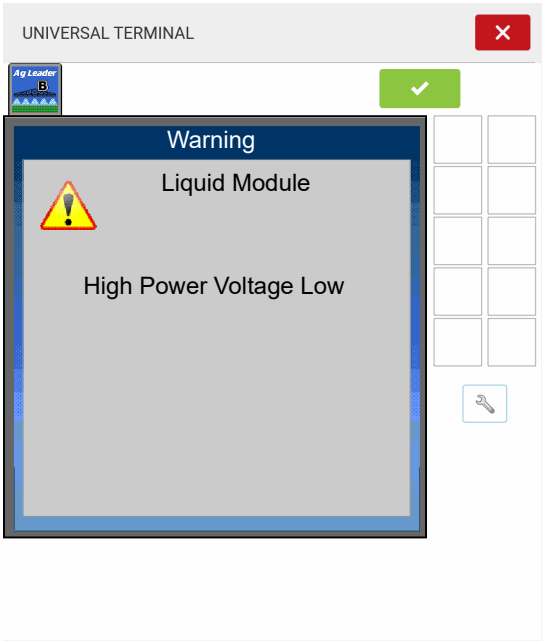
Auxiliary Assignment



Assign implement functions to ISO compatible inputs.

The number of functions and inputs shown on the Auxiliary Map screens will vary depending on the implement and input devices connected to the display.

UT Alarms and Trouble Codes

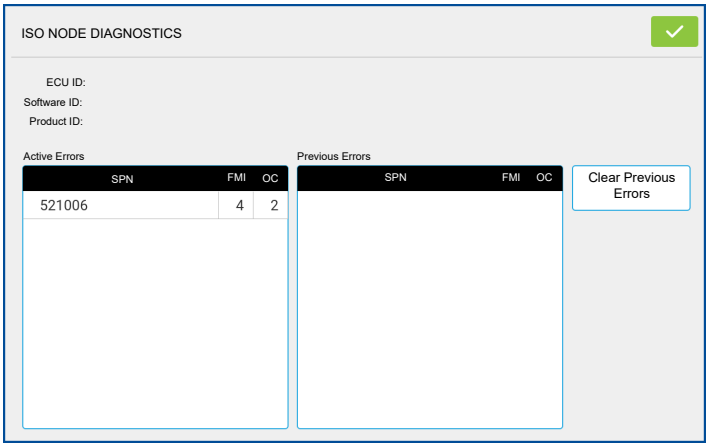


If the display receives an active trouble code, the Universal Terminal Alarm will appear in the Status bar at the top of the screen.

When an alarm is activated on the UT, the display will indicate the alarm by flashing “Universal Terminal Alarm” in the status bar.

Alarms are acknowledged and cleared by pressing  .

This button is only present when a Universal Terminal alarm has been activated.



The Devices screen displays the following information:

Caution icon indicates module has active trouble codes (DTCs)

Device Class

ECU Serial Number

UT Manufacturer, name and code

Pressing the Diagnostics button on the Devices screen brings up the ISO Node Diagnostics screen which shows the following information.

SPN— “Suspect Parameter Number” = Error Number

FMI—“Fault Mode Indicator” = Error State.

OC—“Occurrence Count”

DTC—Diagnostic Trouble Code

This is a combination of the SPN and the FMI (for example 522102.12).

Cross-reference DTC in equipment manufacturer’s operator manual for description of error.

Diagnostics

All diagnostic information is contained within the Diagnostic menu located in the upper right corner of the display.

To expand the menu, tap on any icon.

This is where users will find system & device health, diagnostics for GPS, Auto Steer, Network, and AgFiniti, and alert/error notifications.

GPS

For detailed GPS Information descriptions, see the GPS Setup section of the display user guide.

Receiver

Information specific to a connected receiver is available by selecting an available unit under the GPS tab in diagnostics.

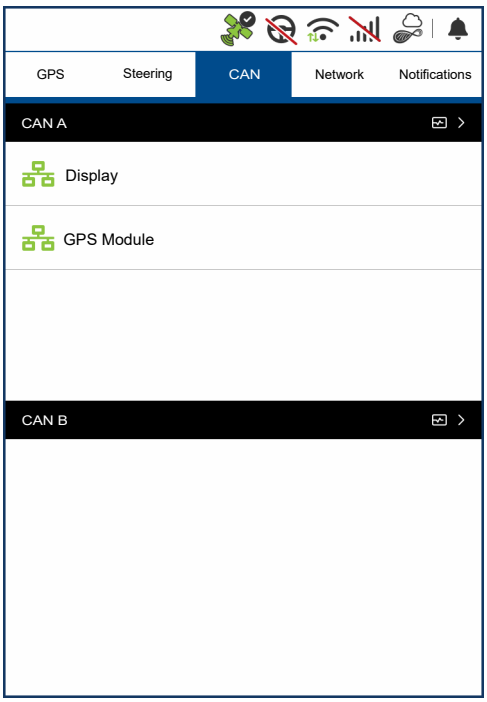
Steering

Displays steering system status and information (if connected).

Provides diagnostic and status information about the SteerCommand ® Z2 Steering Control Module (SCM) if present. Users may view items such as Inertial Measurement Unit (IMU) readings, battery supply voltage to controller, as well as the currently active steering profile and other items.

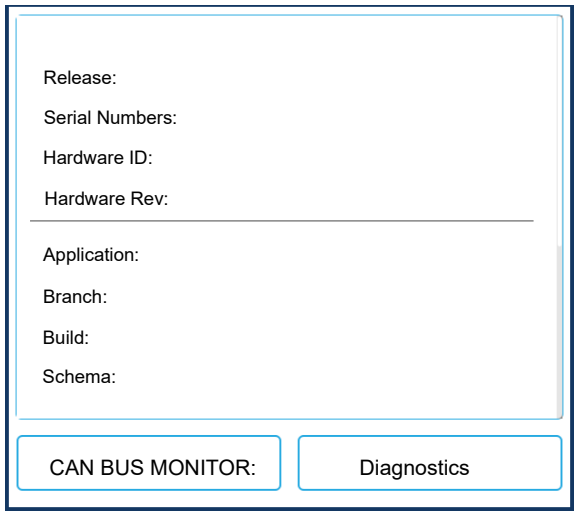
CAN

connected module and display diagnostics



Detailed module diagnostic information can be accessed by tapping:

or



A list will expand that shows currently connected modules, highlight a module and tap **Diagnostics** to show module diagnostic information.

Connected network options including Cellular, AgFiniti and Wi-Fi

Notifications

View past and present notifications and alarms for diagnostic troubleshooting

Network

The network tab provides diagnostic and status information about all connections to the display, both wireless and wired.

AgFiniti

Allows users to see their current AgFiniti account and license expiration. Diagnostic information will be displayed here if there are problems with the account or internet connection. If no account is present, a login button will be shown.

Wi-Fi

Includes General and Device information, tap Setup to open the wireless networking page and see available networks.

Use the slider to enable or disable the connection type.

Tap on an available network to open the status page to show detailed information about that network as well as Connect / Forget options.

Tap Diagnostics to show display Network Diagnostics including Wireless Adapter State, Network Connection, Internet Connection and AgFiniti Connection.

Cellular

Includes General and Device information, tap Setup to open the cellular settings page.

Use the slide to enable or disable the connection type.

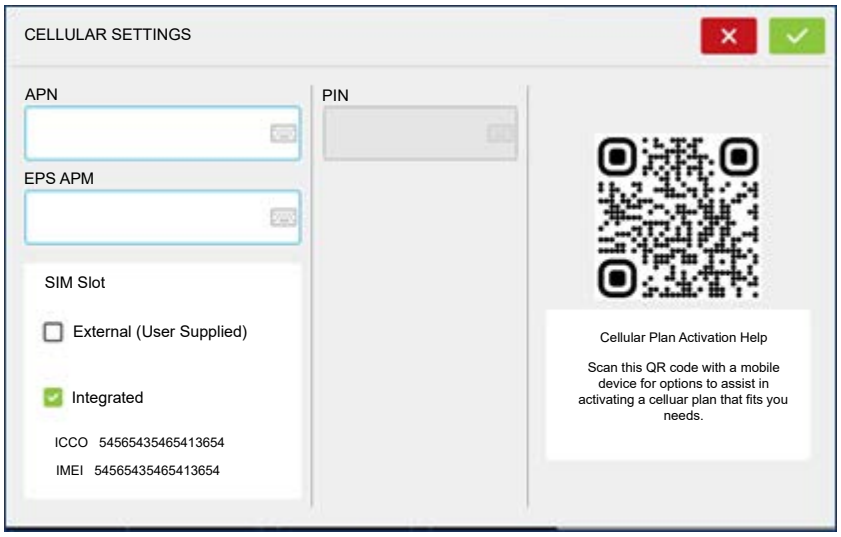
Cellular Settings (Setup)

The Cellular Settings page in the display contains all configuration options related to InCommand Go's cellular modem. These settings are necessary to properly configure the device for use with different wireless carriers.

- Access Point Name (APN) is required to connect to carriers. This will be auto-filled to work with the internal SIM card. This information is carrier specific and must be provided by the carrier.
- Evolved Packet System (EPS) bearer APN
- The PIN field allows users to lock their SIM card and require the PIN to be entered to use cellular features, note that SIM may be disabled if PIN is repeatedly entered incorrectly.
- SIM Slot

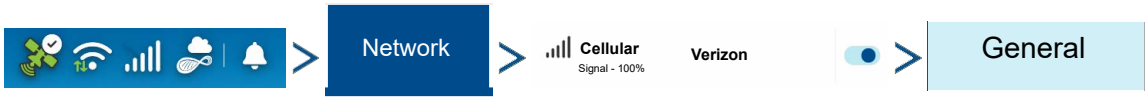
  External (User-Supplied) should be checked if user has provided their own SIM card. ICCID and IMEI information specific to this SIM will be listed below.

  Integrated should be checked if user intends to use the supplied SIM card on supported networks. ICCID and IMEI information specific to this SIM will be listed below.



Scan the QR code present in the display with your smart device to assist in activating.

Cellular—General



Connection State – Indicates whether connection to selected network is active or has failed.

Operator Name – Cell carrier name.

Operator Code – Specific to carrier, all telecommunications operators are assigned an Operator Code.

Access Technology – Connection type to network (e.g. LTE).

RSRQ – Reference Signal Received Quality indicates the ratio of carrier power to interference power.

RSRP – Reference Signal Received Power indicates the power of mobile signals spread over the bandwidth and narrowband.

RSSI – Received Signal Strength Indicator is the strength that the device is hearing from a specific device or signal.

SNR – Signal to Noise Ratio that compares the level of desired signal to interference.

IMSI – International Mobile Subscriber Identity.

ICCID – SIM Identification

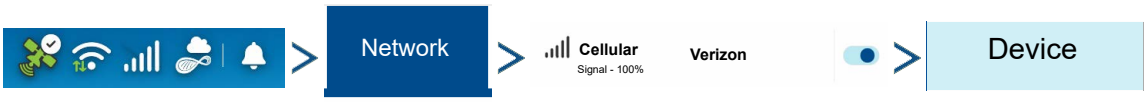
Registration State

Subscription State

Cell Tower ID – Current cell tower.

Packet Service State – Shows current state of packet domain service.

Cellular—Device



Manufacturer – Cellular modem manufacturer, TELIT.

Model – Model number of present cellular modem.

Firmware Package – Current cellular modem firmware package.

Modem Firmware – Current cellular modem firmware version.

IMEI – International Mobile Equipment Identity, needed for activating device.

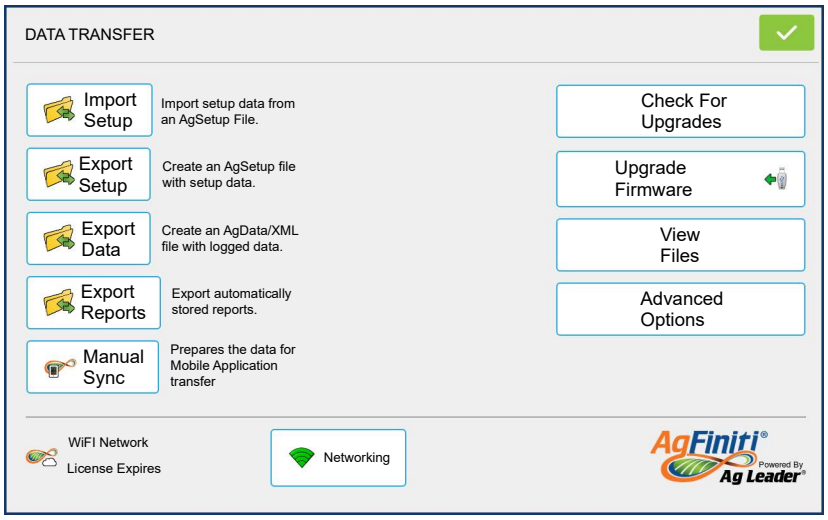
Device Phone Number – Phone number assigned to active SIM card. **Primary SIM Slot** – Active SIM slot.

Ethernet

Includes General and Device information.

Use the slide to enable or disable the connection type.

Data Transfer screen



Import Setup

Export Setup

Export Data

Export Reports

Manual Sync

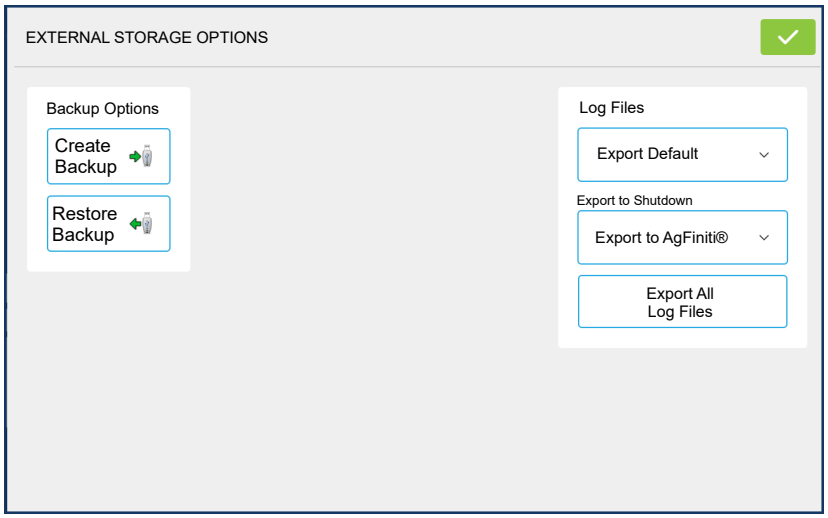
Check For Upgrades

Upgrade Firmware

View Files

Advanced Options

Data Transfer Advanced Options



Backup Options

- Create Backup
- Restore Backup

Log Files

- Export Default
- Export by Grower
- Export by Event
- Export ISO XML

Export on Shutdown

- Do Not Export
- Export to USB

- Export to AgFiniti®

Export All Log Files

.AGSETUP Files

Used to transfer setup information from display to display or from SMS™ and display

- Allows full synchronization of the following file formats:
  - Management Data (Growers, Farms, Fields, Seasons, Operators)
  - Products and Product Mixes
  - Boundaries
  - Guidance Patterns
  - Marker Sets and Markers
  - Configurations

NOTE!: Do not use the IBK to “clone” a display. Use AGSETUP or make a new setup.

Import .AGSETUP file from AgFiniti® or USB

The File Selection screen opens. Use the scroll bar to find the file to import.

Export .AGSETUP file to AgFiniti or USB

Use to transfer setup information from display to display or from SMS and display.

.AGDATA files

Used to transfer data to management software from the display via AgFiniti or USB.

- Includes all the necessary data to fully archive in SMS
- Includes recorded operation data
- Products Used
- Boundaries
- Equipment Used
- Marks Logged

- Guidance Patterns
- Flexible export options
- Able to export by Grower

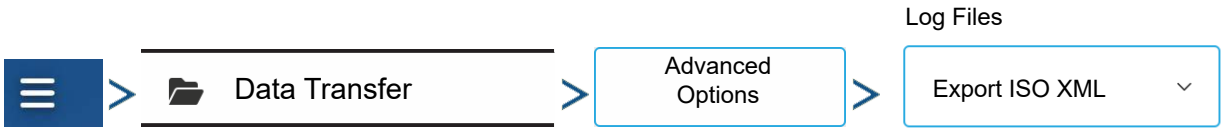
Exporting Logged Data

After a field operation is completed, data can be exported to USB or AgFiniti. This can be accomplished by pressing the “Export Data” button within the Data Transfer screen and selecting the export location. Under the advanced options menu within the Data Transfer screen, users can also choose to export by grower/event and/or at display shut down.

- Pressing the “Export Data” button will trigger all data to be exported based on the last time the export button was pressed. After data has been exported to the external device, it is still retained within the displays memory.
- If previously exported data needs to be retrieved from the display it can be accomplished by pressing the “Export all log files” button under advanced options within Data Transfer. Export all logs will export all logged data stored on the display.
- Data on the InCommand™ displays is not automatically deleted after any export operation. Users have the ability to delete old seasons.

Export .AGDATA file

ISO XML export



This function enables the export of data files in the TASKDATA.XML format.

Supported operations

- Multi-Product and Multi Channel liquid and Granular operations
- Rate Logged with ISO Modules
- Flow Logged with Proprietary Modules
- Single channel/drive planter
  - –Planter sections are mapped

- Site Verification
- Summary totals

Display Backups

A display backup creates an exact clone of a display's current contents. This includes all management information, configurations, and logged data on the display. Backups should be taken at regular intervals through an operating season to minimize any data loss in the event of a display failure. Display backups can only be used on a like display with the same or newer firmware than the backup was created on.

Example: a display backup from an InCommand® Go 10 cannot be installed on an InCommand® Go 16 display or vice versa.

When a display backup is restored onto a display it will overwrite all existing data on that display. Users moving data between multiple displays should use an .agsetup file instead of a backup file to accomplish this task. .Agsetup files have the ability to merge and add data to a secondary display so there will be no risk of data loss.

ibk4 files

- System backup file. Backup files are written to USB drive.

Create Backup File (USB drive Only)

Use to create backup file.

Ag Leader recommends backing up the display regularly to prevent/minimize data loss in the event of a display failure.

Restore Backup File

Upgrade Firmware.fw3

- See Upgrading Display Firmware In the Startup Section of the Display User Guide

WARNING!: Do not disconnect display power when the upgrade is taking place.

Export Reports

Exports Reports saved on internal memory.

Manual Sync

The Manual Sync button is used when logged data needs exported to AgFiniti Mobile when the display operator is still in the middle of the field operation. Pressing the Manual sync button will prepare data from the active event to be sent to be AgFiniti Mobile. The display operator must disable logging on the Mapping screen to accomplish this. When the AgFiniti Mobile app is opened, new data from closed or suspended events is automatically checked for and transfers at regular intervals. The Manual Sync button only needs to be used if the customer needs data from the active event and does not want to suspend or close it.

AgFiniti®

AgFiniti is Ag Leader's platform to provide users the ability to quickly and easily transfer data, view their display remotely, and take logged data when leaving the vehicle.

AgFiniti Mobile

AgFiniti Mobile is Ag Leader's native iOS®[1] app. It provides the ability to take maps and summary information from the cab and SMS™ Desktop Software then access it on an iPad®[2] anywhere. The app allows for a wireless connection to the display, reducing the need for a modem or Wi-Fi hotspot in the cab and providing a simple, direct connection to access data. AgFiniti Mobile also allows for multiple display connections, allowing for operations with multiple displays to have their logged data all in one iPad. Data imported into Mobile will remain there until removed by the user or the app is uninstalled.

AgFiniti Mobile Icons

Once the connection between iPad and display has been established and access granted on the display, the connection indicator will turn from red (not connected) to blue (downloading) to green (connected). The number by each icon indicates items remaining to be downloaded/synced.

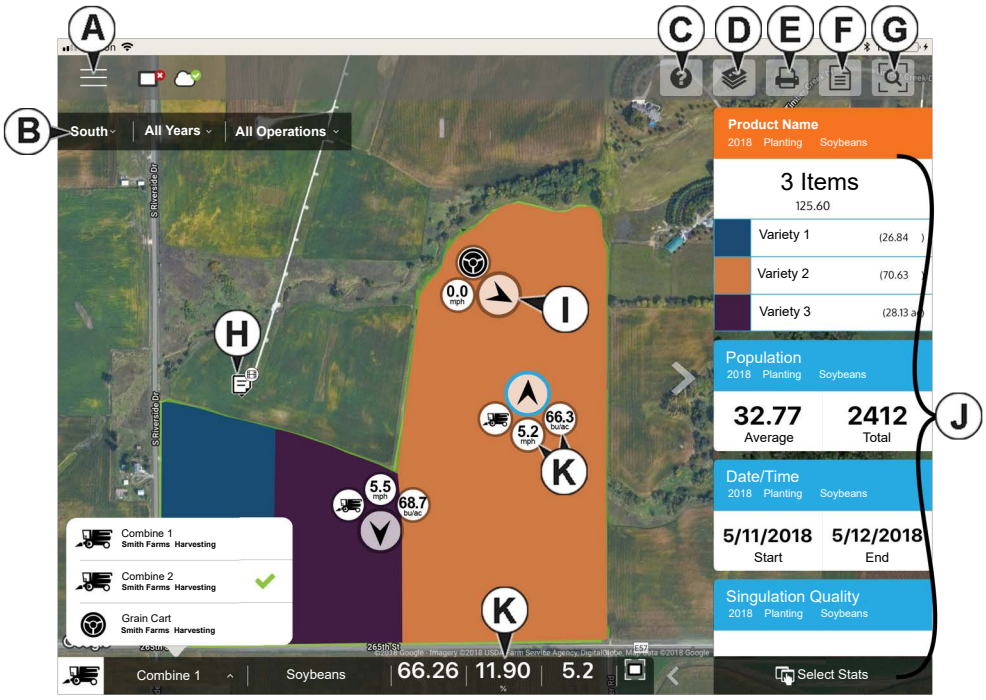
An additional icon that indicates maps are being built from the downloaded data will appear shortly after.

The data import process occurs automatically. Keep the app open until data finishes processing. After the import process completes, your maps/reports will be ready for reviewing.

NOTE!: AgFiniti Mobile will download data while running in the background but will need to be open in order to process information.

1.iOS® is a registered trademark of Apple Inc.
2.iPad® is a registered trademark of Apple Inc.

Map Screen



Tap any of these icons for additional sync details.

Once data is present, the layout shown is available:

A. Menu

B. Filters

C. Help

D. Area Query

E. Print

F. Summary Reports

G. Zoom Options

H. Notes

I. Display/Device Location

J. Stat Cards

K. LIve Stats and Live Stat Bar

NOTE!: An active internet connection is required to see satellite imagery.

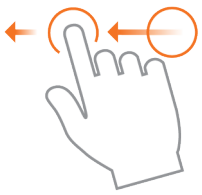
Gestures

As with any iOS app, AgFiniti Mobile uses gestures. Navigate around the app, select items, and make various changes using gestures. The most common gestures are outlined below.

Pinch In and Out— Using two fingers, touch the screen and pinch in and out to adjust the zoom level of the map. If zoomed out enough field coins will begin to appear which can be selected to see data for other fields. If zooming in far enough, row by row level data will be shown on applicable fields.

Tap to Zoom—By tapping on the map the zoom level can be controlled. Quickly double tap with one finger to zoom in and single tap with two fingers together to zoom out.

Tap—Tap items in AgFiniti Mobile to select them. Tap on the map to set a manual location within the field and view its specific data in the Stat Cards



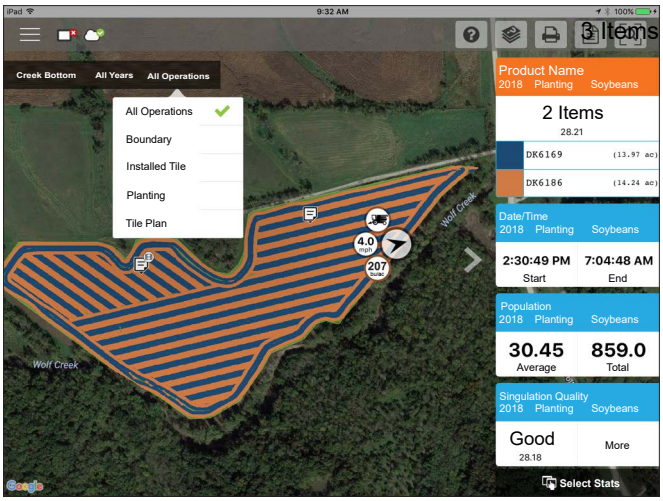
Swipe—Swipe finger to see additional menus on certain items.

Pan—Tap and hold finger on the screen to pan around the mapped data while maintaining the same zoom level.

Tap and Hold – Tap and hold on map to drop notes in AgFiniti Mobile.

Filters

To choose different fields, years, or operations, use the Field/Operation Filters present in the upper left.

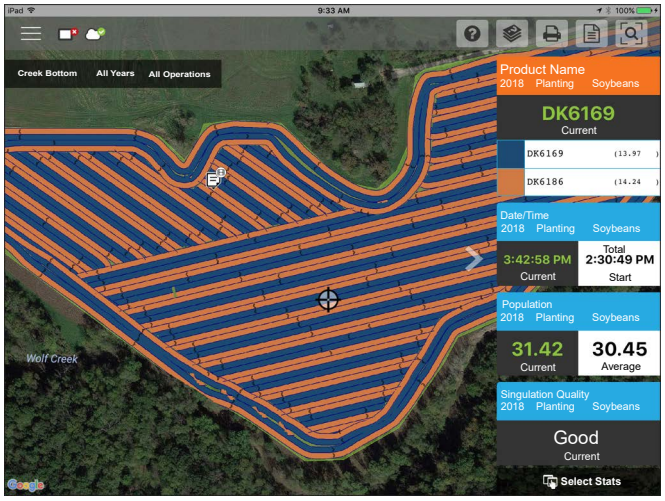


To choose different options, tap on one of the three filters and choose from the various options present. Use the search box to filter your fields/years/operations. This allows you to search for items like “soybeans” and just fields with soybean products will be shown. Choose All for both the season and operation filters to access all data present for a chosen year.

Use the tap gesture to make selections in the filter.

Use the pinch gesture to zoom the map in and out, and choose from other fields present in AgFiniti Mobile. If zoomed out far enough, field coins will appear, Tap a coin to see available fields.

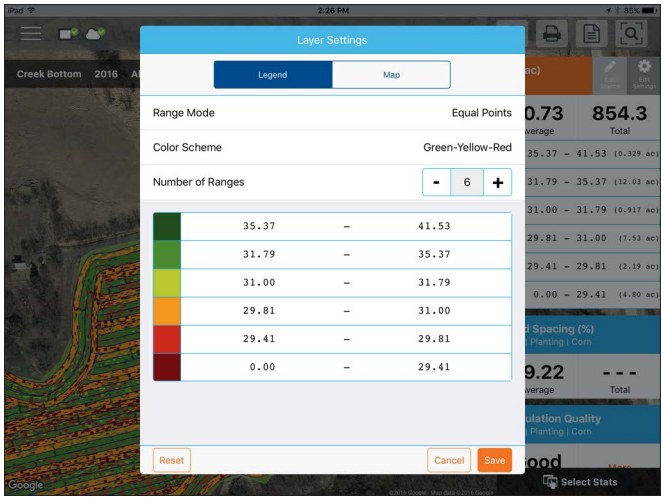
Stat Cards



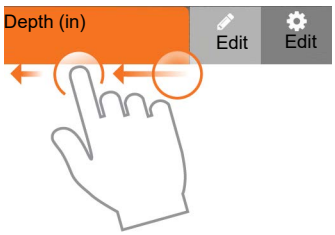
Along the right side of the app are Stat Cards. Stat Cards will contain information for data currently mapped. Tap on the Stat Card to view. The Stat Card that is currently mapped will appear orange in this list. The Stat Card will also indicate field average (if applicable), total and location specific values if a position is selected (as shown). Tap on a Stat Card's average or current box to view additional details for that specific stat.

Use the tap gesture to select a location to view additional information on Stat Cards or select another stat.

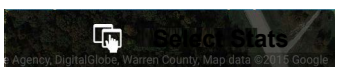
Collapse the Stat Cards by tapping on arrow present next to the Stat Cards and expand it out by tapping on the same arrow again.



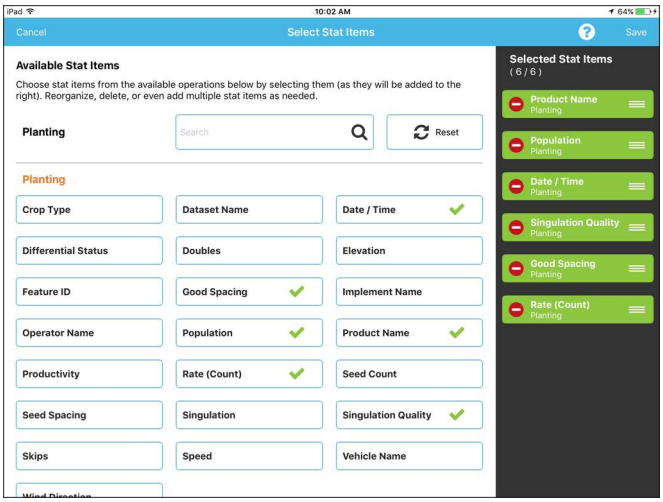
Edit the legend or map present by swiping the Stat Card title to access the stat options. This will display two options, Edit Source and Edit Settings.



Edit Source will allow selection of different years, operations, or events—for example switching between two years of yield data for the same field or showing information about a field that had been replanted.



Back on the map screen, tap on the Select Stats option to choose which Stat Cards are displayed.



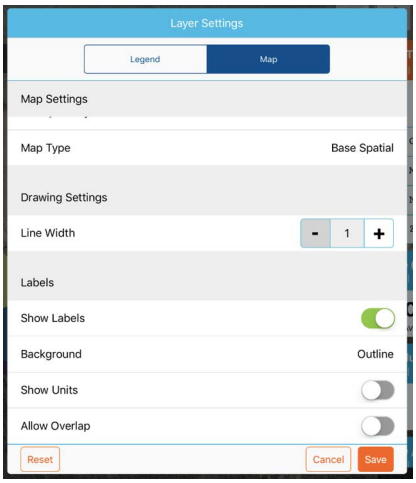
Tap on a Stat Card to add to the list on the right. To remove a Stat Card, tap on the red circle.

NOTE!: When changing or resetting Stat Cards, AgFiniti Mobile will do so by filtered operations. For example, if Planting is selected in the field filter and stats are changed, it will do so only for Planting.

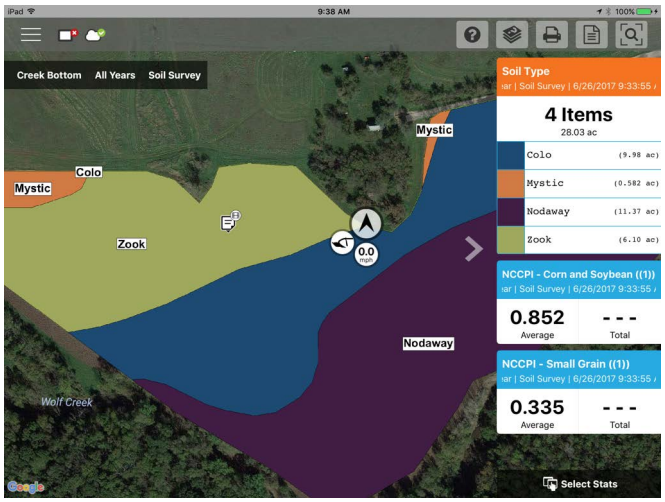
Use the tap gesture to make selections.

Labels

Labels can be turned on for sparsely populated base maps (soil sampling) and contoured maps (yield maps) and make it easier to view information for the mapped field.



To turn on labels, swipe left on the desired stat card and tap Edit Settings. Then tap the Map option, toggle labels on and make any needed changes to their appearance.



NOTE!: Make sure to set the map type to Contour in order to view labels on yield and other more dense datasets.

Area Query

Area Queries give you the ability to select a specific area within in the mapped field and gather more information for that selection. To begin, tap on the area query icon and draw the desired area. Once the query is drawn, the stat cards will display both average and total for the selected area and entire field. Tap on the stat card for additional details. To clear a query, tap on the cancel icon in the lower left.

NOTE!: Active area queries can be printed and shared with others. Just tap the print button while a query is active to either print or share.

Zoom Options

Use tap to make a selection.

 Access the various zoom options present in the app.

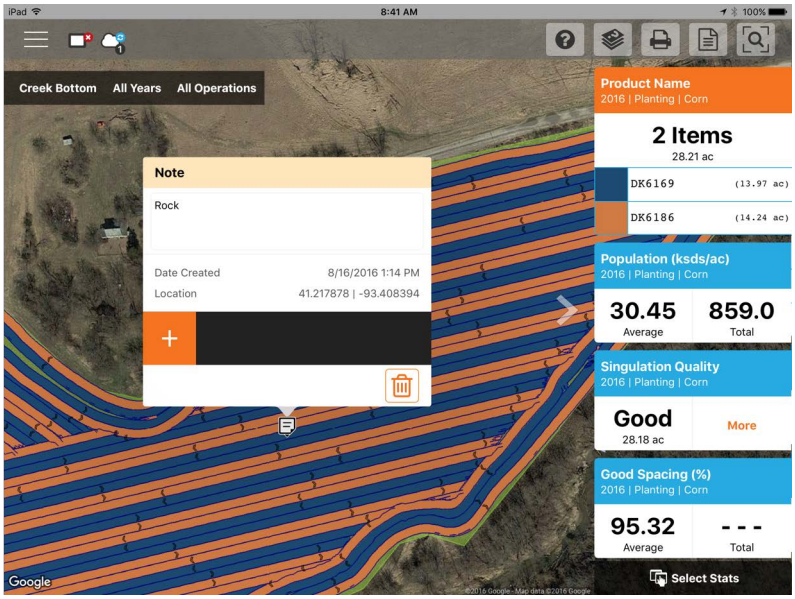
 **Zoom Current**—Sets the zoom level to your GPS location, keeps you centered on the map, and the stat cards will update as you move across the data for your field. Location access must be granted to the app.

 **Zoom Field**—Sets the zoom level to the currently mapped field shown in the Field/Seasons/Operations filter.

 **Zoom Device**—Sets the zoom level to all devices logged in AgFiniti (with GPS location and Essentials license). Only devices within 60 miles from the AgFiniti Mobile location will be displayed when Zoom Devices is pressed. Vehicles farther away can be viewed but user must manually pan the map to find them.

 **Zoom World**—Sets the zoom level to show ALL fields in the app.

Add Note



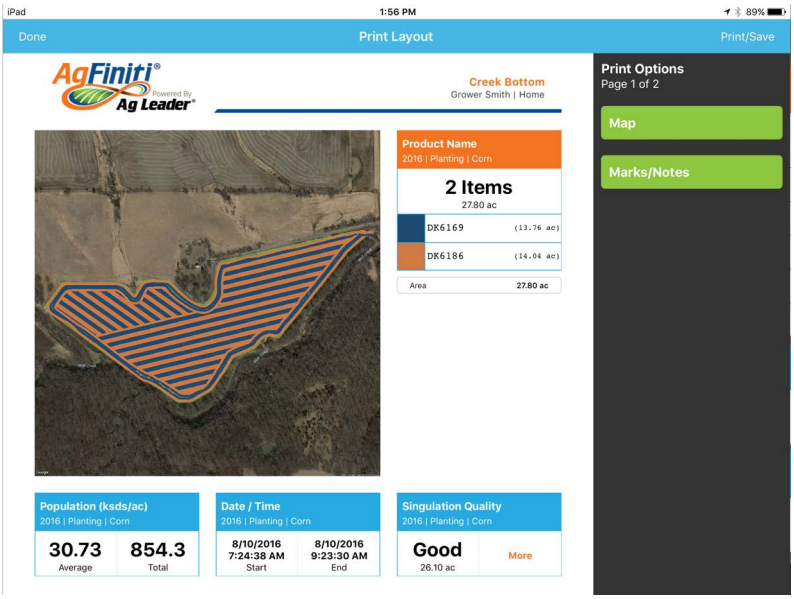
Tap and Hold on a specific location of a field to add a note. In the popup, enter a description by tapping in the description field. To link an image, tap the plus sign and choose to either take a new picture or link an existing one.

Tap and hold to add a note.

Once the note is created, move it by tapping and holding on the note and dragging it to the desired location. Also, delete the note if needed. Only notes added in this way can be edited. Marks and Notes imported from an InCommand® Go display cannot be altered.

The AgFiniti Essentials license will allow notes to sync with AgFiniti Mobile, AgFiniti cloud, other iPads, and SMS. Field Notes created in SMS will sync to AgFiniti Mobile.

Print



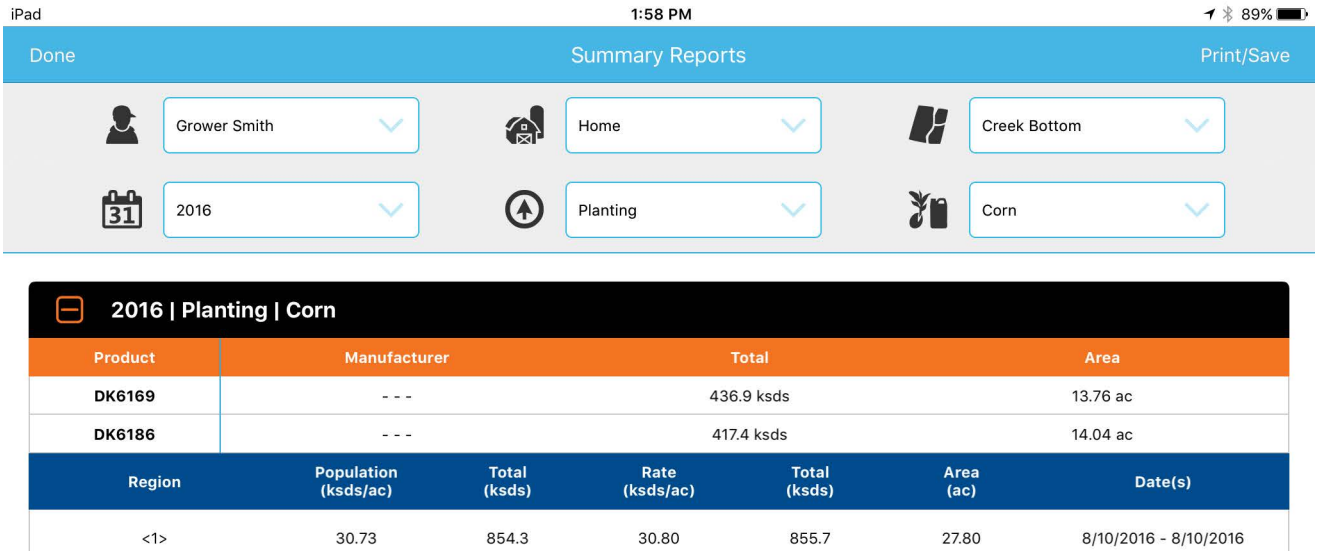
To print any map, tap the Print icon and a preview will appear. If there are any notes/marks associated with this field, they will be automatically displayed on additional pages. if there are images associated with the field notes, they will also be included in the print layout. Both the map and marks can be toggled on/off along the right side. To print, tap Print/Save. Choose your desired print or save option from the list presented.

NOTE!: To filter the notes, they will need to first be filtered by going to the menu.

Summary Reports

AgFiniti Mobile provides a quick and easy process to view one or more field(s) data in tabular form. To view tap the Summary Reports  button in the top bar.

Begin choosing which data to include in the report. The reports can be as specific or broad as desired: view a single field's planting information or look at the grain harvest information for all fields in AgFiniti Mobile. Change the filters at the top and the report will automatically update.

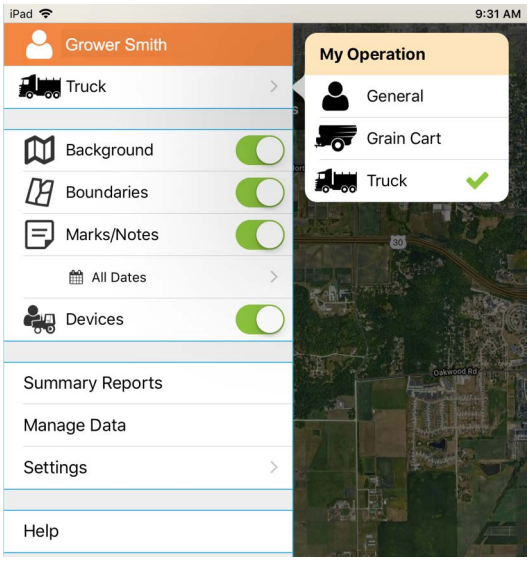


Depending on the chosen data, expand the 'plus' sign and view product specific information. For example, when viewing a report containing planting maps, the expanded area will include information for each unique product or, if utilizing variety tracking, display average yield by variety.

NOTE!: To print the displayed report, tap Print/Save. Choose your desired print or save option from the list presented.

Menu button

My Operation can be set as General, Grain Cart, or Truck.



Backgrounds—Turn satellite imagery on or off

Boundaries on/off—Turn boundary indicators on or off

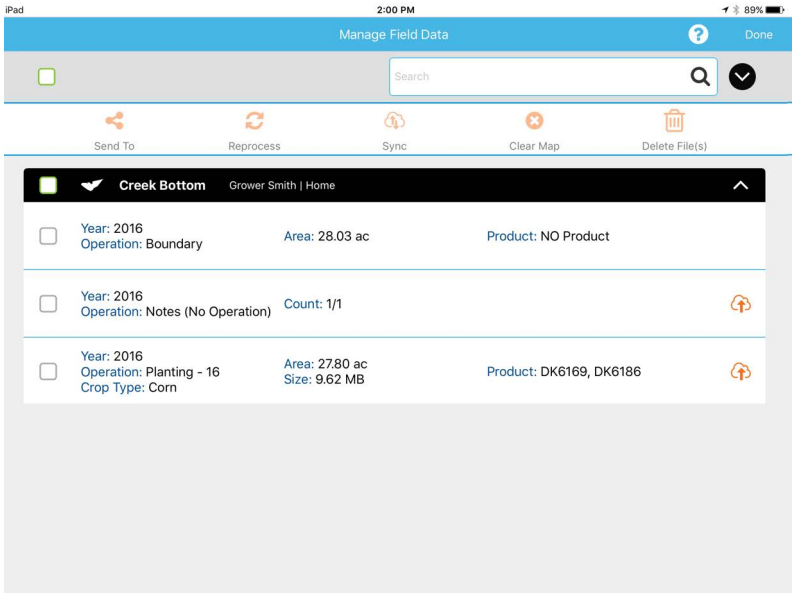
Marks/notes on/off—Turn imported marks and notes on or off

Adjust date filter—Adjust date range of marks/notes that are mapped. This filter is also used for printing.

Devices—Toggle device indicators to show/hide location of displays and mobile devices in your operation.

Settings options—Change units of measure and cloud sync options

Manage Data



Share InCommand® Go data, free up hard drive space, and manually sync items.

Use the tap gesture to make selection.Use the tap gesture to make selection.

Manage Data

To send data via email or third party sharing app, select the appropriate data and tap on the Send To button. Due to size limits, only one fields worth of information can be sent from within the app at a time. Multiple fields can be shared at once using AgFiniti cloud.

View a previously cleared map, choose the desired data and tap Reprocess.

To manually sync data between AgFiniti Mobile and AgFiniti cloud, select the desired data and tap Sync.

The delete button will remove specific maps and data completely from AgFiniti Mobile. Unused GFF will also be removed upon deletion.

The delete button will remove specific maps and data completely from AgFiniti Mobile. To use this option, use the Clear Map button first and remove processed maps.

NOTE!: Data synced from SMS cannot be sent out of AgFiniti Mobile using the Send To tool.

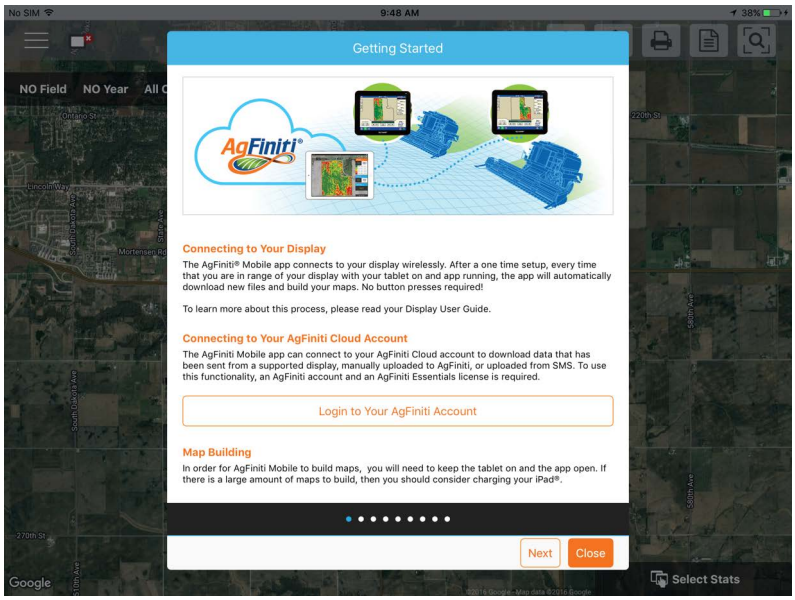
AgFiniti Essentials - Cloud Sync

With an AgFiniti Essentials license, all data and maps are synced so that data is always available using AgFiniti cloud or AgFiniti Mobile. Data can come from:

- Ag Leader InCommand® Go data synced with AgFiniti Mobile
- Ag Leader InCommand® Go or legacy (Ag Leader Integra or Versa) displays using wireless file transfer.
- Any AGDATA file manually loaded into AgFiniti cloud
- SMS - Most SMS data can be exported to AgFiniti (including soil survey data, soil sampling sites, and data from 3rd party displays)

Once data has been synced to AgFiniti Mobile, an active internet connection is no longer needed, and maps can be viewed anywhere. Once the data is present in the app, it can be utilized just like data synced directly from an InCommand® Go display.

Logging into AgFiniti



To login, go to the help icon located on the main AgFiniti Mobile screen and tap "Login to Your AgFiniti Account"

or tap the menu button and "Log In" and use AgFiniti login credentials to sign in.

NOTE!: When logging in, all AgFiniti Mobile data on the device will be synced to the AgFiniti account used to log in. Prior to logging in, delete specific data that should not be connected to that account.

After logging in, additional icons appear next to the display connection icon indicating the status of both connection and syncing

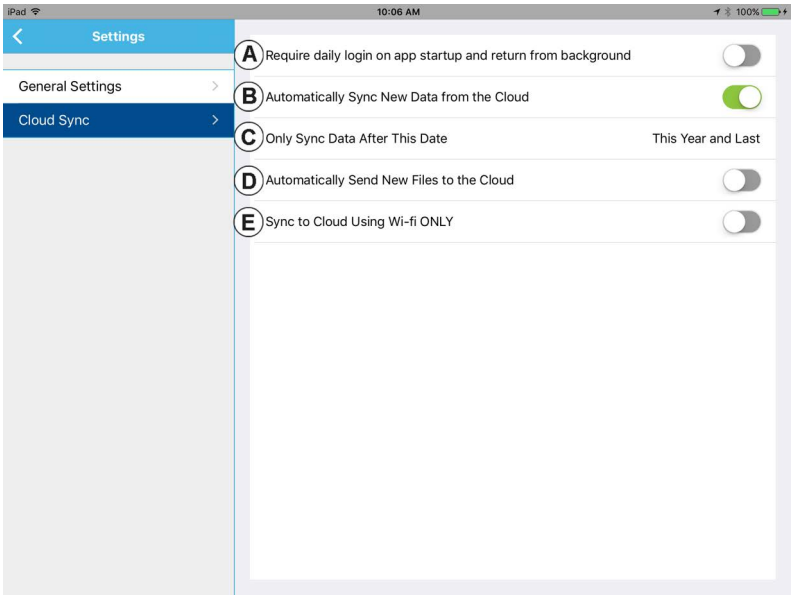
Indicates a connection to AgFiniti cloud has been made. At this time, AgFiniti cloud is checking to see what data is not currently on the iPad and is preparing the necessary files to sync. By default, only the current and previous year will be synced.

Indicates that data is being synced to/from AgFiniti cloud. Once the data is synced to the app, an icon indicating maps are being built (same as data imported from InCommand® Go) appears.

Tap any of these icons for additional details.

Sync Settings

In order to adjust the cloud sync settings, tap on the Menu button - Settings - Cloud Sync



(A) Require daily login on app startup and return from background—If this option is left off, the logged in user will remain logged in until another user logs in. If this option is on, a login is required once daily when the app is started.

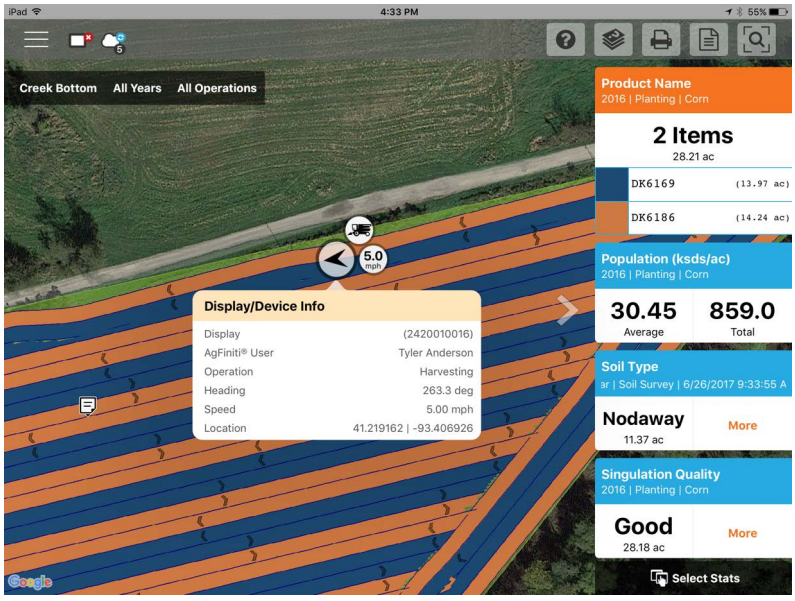
(B) Automatically Sync New Data from the Cloud—Allows for data present in AgFiniti cloud to be automatically downloaded to the app once a connection is made. This provides the ability to see newly recorded data that has been transferred to the AgFiniti cloud by supported displays or SMS.

(C) Only Sync Data After This Date—Choose what year(s) of data to sync with AgFiniti cloud. By default, only the current and previous year of data will be automatically synced down to AgFiniti Mobile. To only see data for a specific field, manually download by going to Manage Data in the menu.

(D) Automatically Send New Files to the Cloud—Allows for the automatic transfer of newly synced InCommand® Go data to be automatically sent to AgFiniti cloud. This will allow for instant access to newly recorded data to everyone on the AgFiniti account, providing quicker access to those that need it.

(E) Sync to Cloud Using Wi-Fi ONLY—By default, AgFiniti Mobile will sync with AgFiniti cloud using a cellular connection if Wi-Fi is not available. If this option is enabled, syncing will only occur over a Wi-Fi connection. Transferring over a cellular network could potentially use a large amount of data. Turning this option on prevents this from occurring.

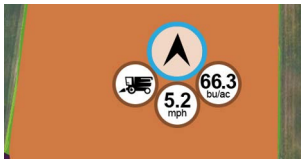
Display and Device Location



An AgFiniti Essentials license allows for display and device location indicators to appear in AgFiniti cloud and AgFiniti Mobile. Any displays or devices (iPads running the app or devices logged into AgFiniti cloud) will be displayed. The indicator will include position, direction of travel, speed, and current operating state. Tap on the position indicator to get additional details for that specific display/device.

You can toggle these on/off from within the app menu.

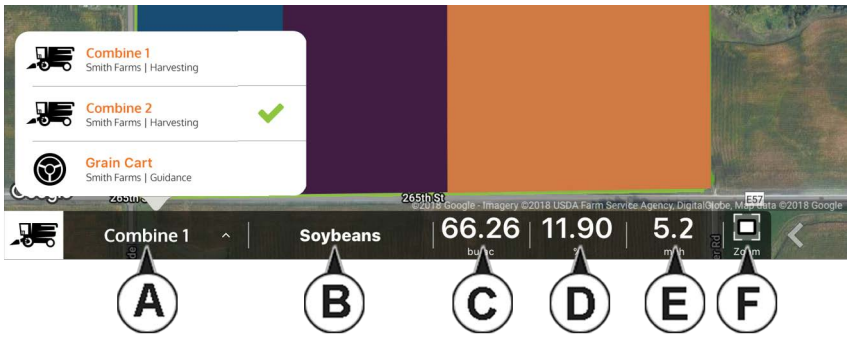
Live Stats - Mobile



Live Stats indicators are present with the device location on the InCommand® Go and AgFiniti Mobile. The indicators will represent the main attribute, speed, and operation for any device logged into AgFiniti.

Live Stats will be shown for these operations: planting/seeding, application, (liquid and dry), Harvest (grain and forage), and site verification (will be missing main attributes indicator).

Live stat data and device location are updated on a 5 second interval.



The Live Stats bar provides more live stat data for each device logged in. It will always be present as long as the device is logged in.

A. Device Selection - Selected device displays its current stats in the bar. Device can be selected from this list, or by pressing on the device location in the app.

a. Device is identified by the display's nickname or ipad name (nickname will only update upon each log in). If no display nickname is entered the displays serial number will be shown.

B. Product

a. For planting, individual varieties will be able to be selected.

C. Main Attribute

a. Rate and Yield

D. Secondary Attribute

a. Population percentage, container level, and moisture

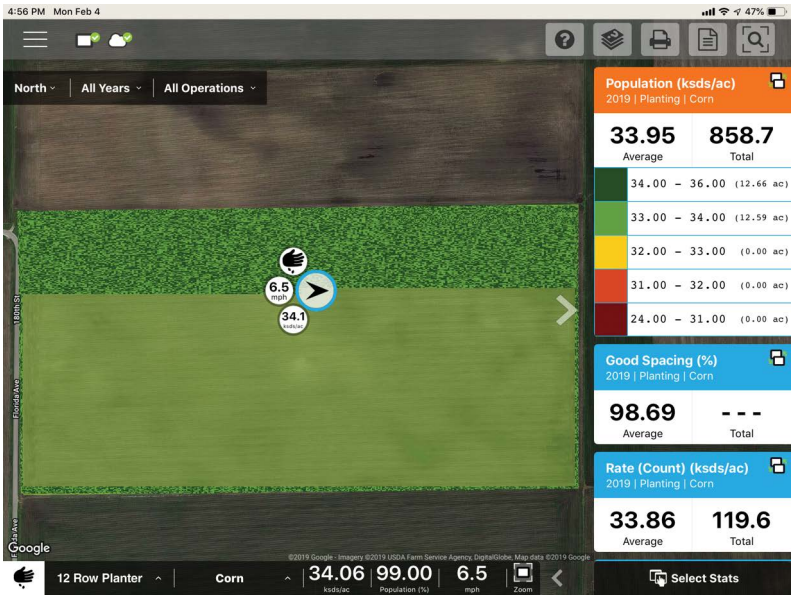
E. Speed

F. Zoom

a. Pressing this allows the user the move the map directly over the top of the device selected in the live stat bar.

Live Maps – Mobile

Live maps allow AgFiniti Mobile users to view their active events maps on the iPad by using DisplayCast.



Live maps available within AgFiniti Mobile will appear with a DisplayCast icon next to the field name in the field filter. Additionally the DisplayCast icon will be present on stat cards showing live information. Live map information is available to view for up to 24hrs after an event is suspended or closed on the display.

Requirements

1. One or more InCommand® Go displays with DisplayCast unlocked
2. InCommand® Go version 4.2+
3. AgFiniti Essentials license
4. iPad with AgFiniti Mobile app

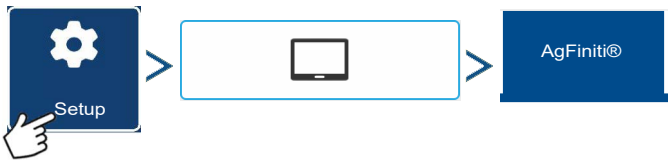
5. All devices logged into the same AgFiniti account.

Operation and Maps Viewable

- Tillage
- Planting
- Liquid Application
- Dry Application
- Harvest
- Site Verification
- Vehicle Maps
- Seeding

NOTE!: Area Remaining available for LiveMaps

AgFiniti Display Settings



Logging into an AgFiniti Account

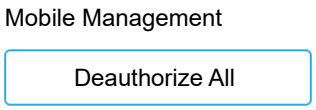
Press the login button and enter in the AgFiniti account user name and password. After entering proper credentials the display will be logged into AgFiniti cloud and the user can access services available on the account. Once logged into an AgFiniti account, the display becomes registered to the users AgFiniti account and will automatically login on display startup if internet access is available.

Logout and De-register Display

Logout—This will log the display out of the current AgFiniti Account. If the user does not want to automatically connect AgFiniti cloud on startup they must logout. Logging out of an AgFiniti account does not deregister the display from an AgFiniti Account.

Deregister Display—When logged into AgFiniti cloud the user can deregister the display from their AgFiniti account. This will unlink any AgFiniti licenses tied specifically to the display.

Mobile Management



The “Deauthorize All” button will deregister any mobile devices that have been authorized to access the display’s logged data.

AgFiniti Cloud

AgFiniti provides functionality via its website:

https://www.agleader.com/farm-management/agfiniti/

and the AgFiniti mobile app. AgFiniti cloud can be accessed using a computer, tablet, or phone with a web browser or with either an Apple or Android device (using the AgFiniti app which is separate from AgFiniti Mobile). The AgFiniti cloud gives you the ability to view your account information, previously exported data from SMS and even more when an AgFiniti Essentials license is added to your account.

AgFiniti provides the following features at no additional cost:

- **File Transfer**—Wireless transfer of data between the InCommand® Go display and Ag Finiti Cloud. Export prescriptions and management information generated in SMS and access them in the cab using AgFiniti Essentials. This requires an active internet connection.

- **Background Imagery** – when signed in, satellite background images will appear on the display screen
- **Remote Support** – provide the ability to share the screen with an AgFiniti Essentials user
- **Automatic Display Update** – when signed in, users will be prompted to update display firmware when a new version is detected

AgFiniti Essentials

AgFiniti Essentials provides a number of features, listed below, that allow additional functionality when using the AgFiniti cloud and Mobile app .AgFiniti Essentials requires the purchase of an annual license.

- **LiveMaps**—Live maps provide AgFiniti Mobile users the ability to view field operation data logged in real-time from anywhere, not just in the cab. All that is required is updated InCommand® Go display and AgFiniti Essentials license.
- **Cloud Processing**—.AGDATA and supported 3rd party data files in the AgFiniti cloud are processed so that maps can be viewed online from any iOS, Android™[3], or Windows®[4] device.
- **Cloud Sync**—AgFiniti cloud and AgFiniti Mobile will sync data once connected. Logged data is accessible via iPad or on the web without having to go to each display. This also allows SMS data such as soil types, soil sampling sites, and third party display information (such as planting or harvesting data from a non-Ag Leader display) to be shown on the iPad as well.
- **DisplayCast®**
- **Remote Support**—AgFiniti Remote Support grants the ability to remotely view a display from the AgFiniti website. This allows dealers, managers, or support to efficiently help the user when troubleshooting a problem or setting up display(s).
- Control functions within Remote Support are limited to certain button presses. Users will not be able to start machine functions or engage steering through Remote Support.
- **3rd party and API Connections** – connect with other 3rd party clouds to sync data to/from AgFiniti Cloud.

3.Android™ is a trademark of Google Inc.
4.Windows® is a registered trademark of Microsoft Corporation

NOTE!: Account viewing the display must have an active Agfiniti Essentials License but the display being viewed does not.

AgFiniti Mobile Connection Types

Display Access Point Mode

This connection type turns the InCommand® Go display into a wireless access point that all compatible iPads can connect to. When using this connection type, every time an iPad is within range of the InCommand® Go display, AgFiniti Mobile will automatically download new data while the app is running.

WI-FI Network

Connection Scenarios

- Transferring information when both devices are connected to the same home/office Wi-Fi network
- A hotspot (such as a jetpack) device is used in the cab to provide internet

When both the InCommand® Go display and iPad are connected to the same wireless network, for example a home Wi-Fi network, they will be able to recognize one another and transfer data in the same fashion as the other connection types. If a Wi-Fi connection already exists in the vehicle cab, this connection can be utilized.

Cellular iPad as Personal Hotspot

Connection scenarios

- Only Cellular iPads when InCommand® Go is accessing AgFiniti cloud

Cellular based iPads have the ability to act as a personal hotspot. This allows InCommand® Go to access AgFiniti and directly transfer information to AgFiniti Mobile, both through the iPad's cellular connection and Wi-Fi hotspot. This connection type would be used when needing to use AgFiniti cloud and AgFiniti Mobile at the same time. For example, downloading an .AGSETUP file (for prescriptions) from AgFiniti cloud for Remote Support.

Display Access Point Connection Type

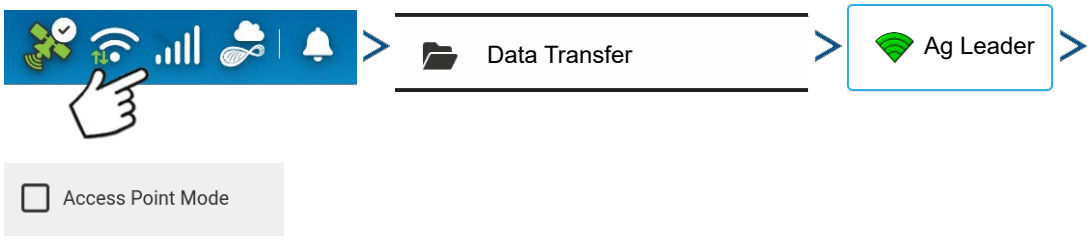
InCommand® Go Display

Overview:

InCommand ® Go displays are equipped with Wi-Fi, allowing the display to broadcast a Wi-Fi network to nearby devices such as an iPad. When a device is connected to an access point network, a prompt will appear on the display asking the user to confirm whether they would like to allow the connection. If approved, the AgFiniti status indicator will change to show that an iPad is succesfully connected.

InCommand® Go Display

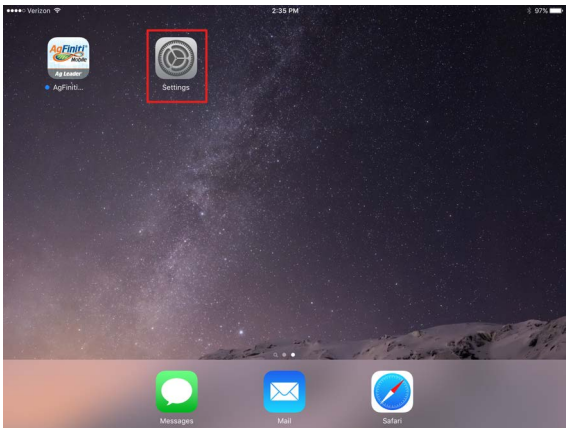
1. With the InCommand Go display connected to Wi-Fi,  will show in the top right corner of the display.



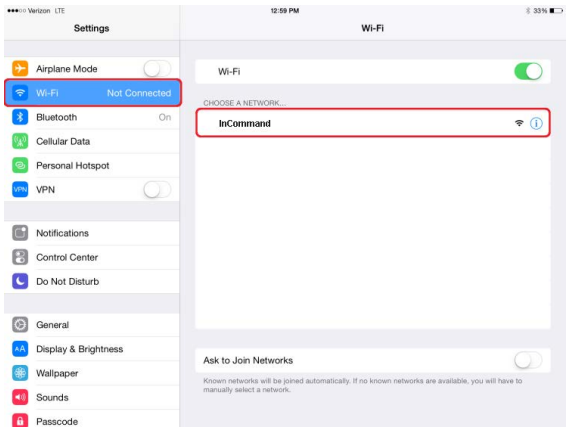
Note!: If the login button is active, one of the other connection types may be utilized.

2. The display will prompt to be restarted. Press  to shut down and restart the display.
3. After the restart, the display will be broadcasting a Wi-Fi signal and can now be selected on the iPad.

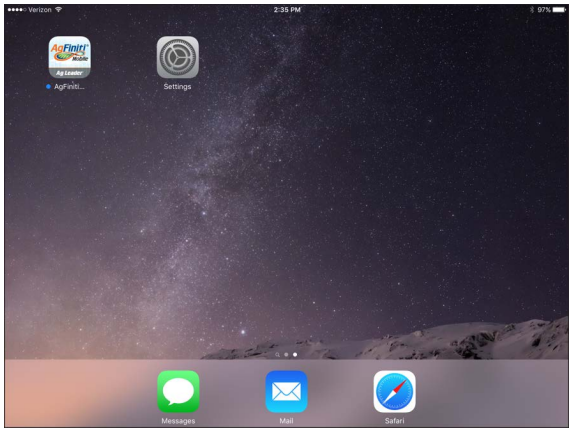
iPad



4. To connect to the InCommand® Go Wi-Fi signal, go to the Settings app on the iPad.



Select the “Wi-Fi” tab from the left side menu, ensure that “Wi-Fi” on the iPad has been enabled, then select the “InCommand® Go” wireless network. This will connect the iPad and InCommand® Go display together and ensure proper data transfer.



5. Once connected, proceed to open the AgFiniti Mobile app.

NOTE!: Download AgFiniti Mobile from the Apple® App store.

Once AgFiniti Mobile is open, it will automatically attempt to connect to the InCommand® Go display.

InCommand® Go Display

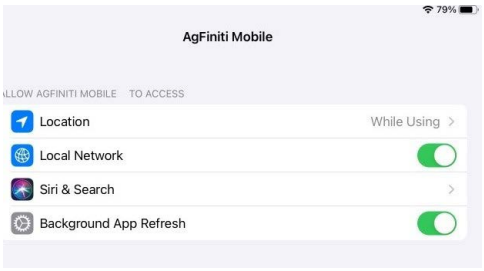
6. You will be prompted on the InCommand® Go display to allow connection.

NOTE!: Please wait up to a minute for this to occur. This will happen once per display.

7. After pressing ✓, the iPad will begin accepting data from the display as it becomes available.

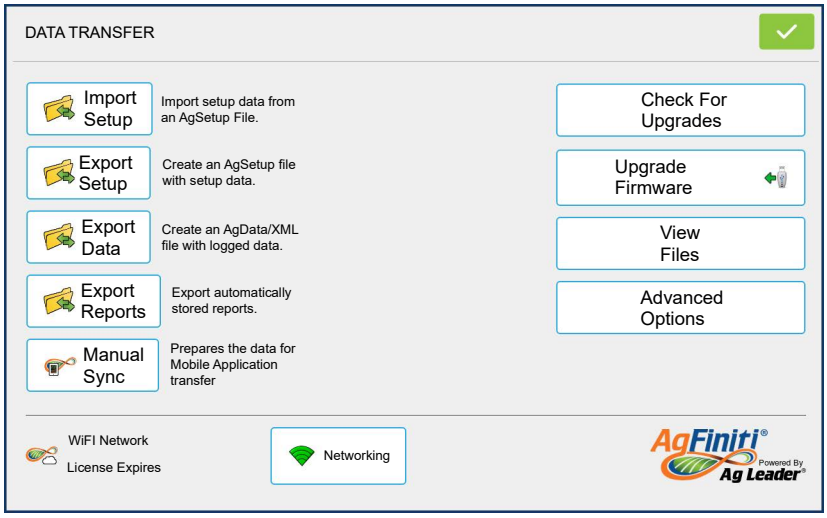
This is indicated by the iPad symbol within the AgFiniti status indicator on the top right corner of the screen.

At this point, the InCommand® Go display and iPad are connected and ready for data transfer. Closed or suspended events present on the InCommand® Go display will now show up in the app.



NOTE!: If user declines connection on the iPad, that setting will be saved and will need to be changed if future syncing is needed. This option can be found in the Settings App – AgFiniti – Local Network set to On

File Transfer



To use file transfer on the InCommand® Go display, the following requirements need met:

1. User account created at:

https://www.agleader.com/farm-management/agfiniti/

2. InCommand® Go display connected to internet source via WI-FI or cellular.
3. Be logged into AgFiniti account on InCommand® Go Display.
4. AgFiniti will become an available option when an import or export function is chosen from the data transfer page.
5. Press the AgFiniti symbol to export to AgFiniti cloud.

Remote Support

To use remote support on the InCommand® Go display, the following requirements need met:

1. User account created at:

   https://www.agleader.com/agfiniti/

2. Annual Essentials License purchased and active on account attempting to remote support a display.
   - The end user DOES NOT need to have an Essentials license.
3. InCommand® Go display connected to internet source via WI-FI or cellular.
4. Be logged into AgFiniti account on InCommand® Go Display.
5. From

https://www.agfiniti.com/Account/Login

a user can remotely view the display.

NOTE!: For information on how to setup sharing relationships to allow pre-authorizated remote support viewing as well as sharing data with trusted advisors, please visit:

support.agleader.com

Remote Support Pre-authorization

Pressing the remote support button will generate a 10 digit code that can be verbally communicated to remote viewer to initiate the viewing session.

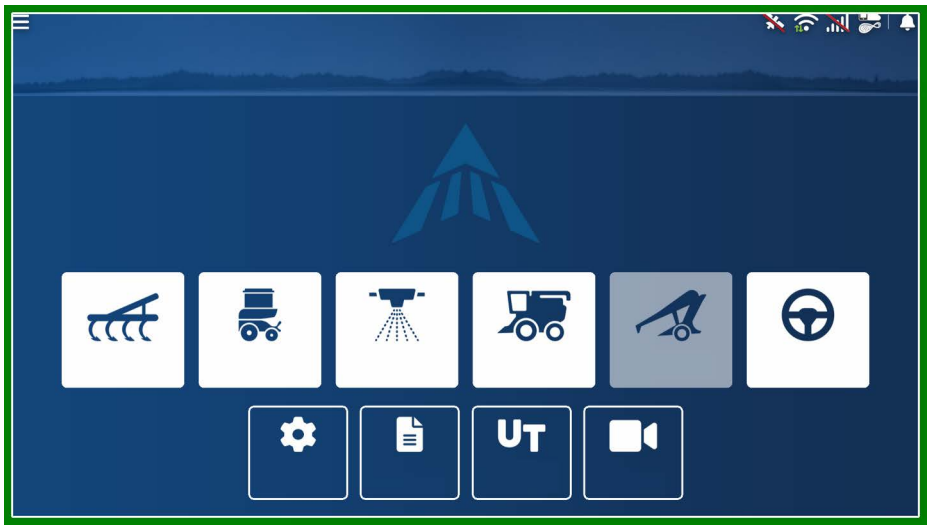
Remote Support Permissions Options

Ask for Permissions—This selection will require the display user to grant remote user permission to view the display.

Always Allow—Allows remote viewer to view display screens without display user having to give permissions.

Allow remote viewer access to view the display.

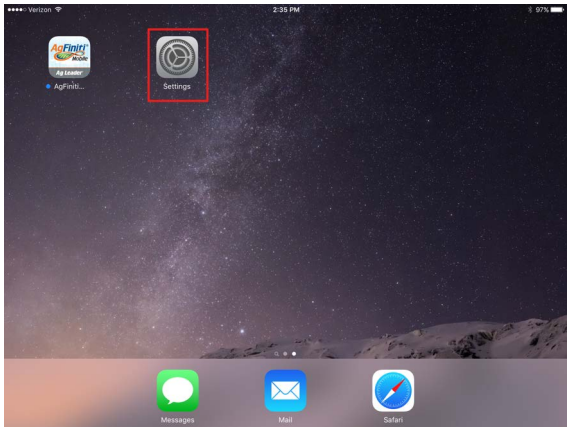
Deny remote viewer access to view the display.



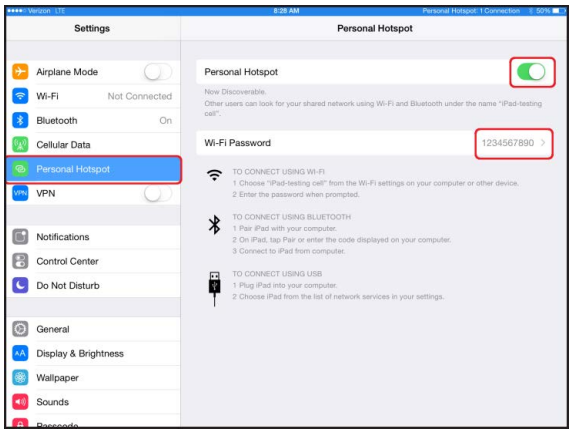
When a remote view session has been initiated a border around the screen will turn from blue to green.

Cellular iPad as Personal Hotspot Connection

iPad



1. To enable Personal Hotspot mode on the iPad, go to the Settings app.

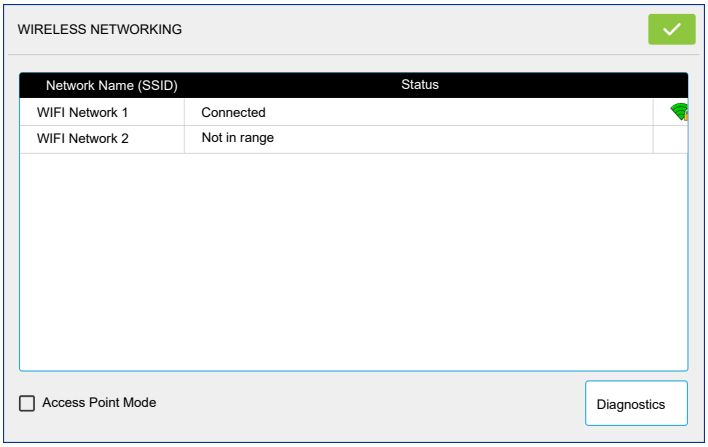


2. Select Personal Hotspot from the left side menu and enable by pressing the on/off switch from the top right side. Once enabled take note of the Wi-Fi password as it will be needed in the next step.

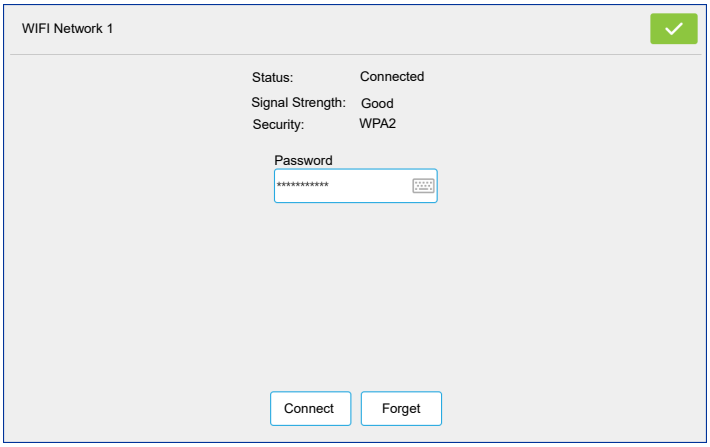
NOTE!: This password can be changed if desired.

InCommand® Go Display

3. InCommand ® Go's Wi-Fi allows the display to connect to nearby wireless networks. When connected to a wireless network, the Wi-Fi symbol in the diagnostics tray will change to show that a connection has been established, indicated by green upload/download traffic symbols.



4. On the Wireless Networking page select the iPad from the list. If the iPad isn't available from the list try turning the personal hotspot mode on the iPad off and then back on.

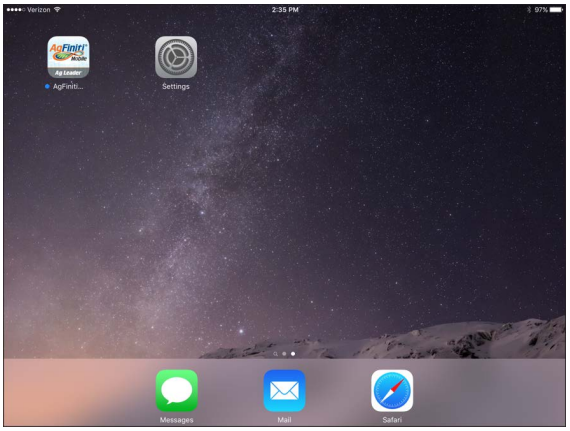


5. Enter the password and press Connect.

6. The display will then be connected to the iPad.

NOTE!: Repeat steps 1-6 each time the iPad is brought into the vehicle.

iPad



7. On the iPad, open the AgFiniti Mobile app. Once the AgFiniti Mobile is open, it will automatically attempt to connect to the InCommand® Go display.

NOTE!: Download AgFiniti Mobile from the Apple App store.

InCommand® Go Display

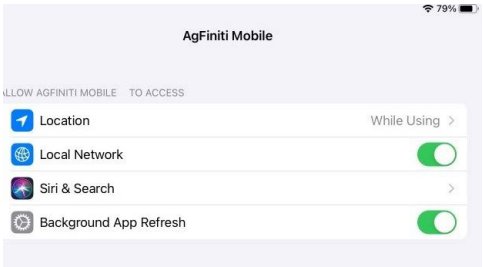
8. Once the InCommand® Go display has been found the display will prompt user to allow connection to happen.

NOTE!: This should only happen once per device.

9. After pressing the mobile device will begin accepting data from the display as it becomes available. The AgFiniti Status Indicator will show a device symbol within it on the top right corner of the screen.

NOTE!: If display is logged in to AgFiniti cloud a cloud symbol will also appear in the AgFiniti Status Indicator.

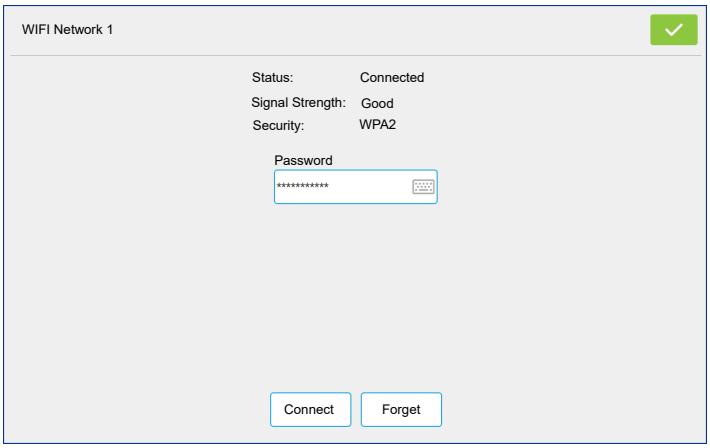
InCommand® Go display and iPad are connected and ready for data transfer. If there are any closed or suspended events present on the InCommand® Go display, they will be transferred.



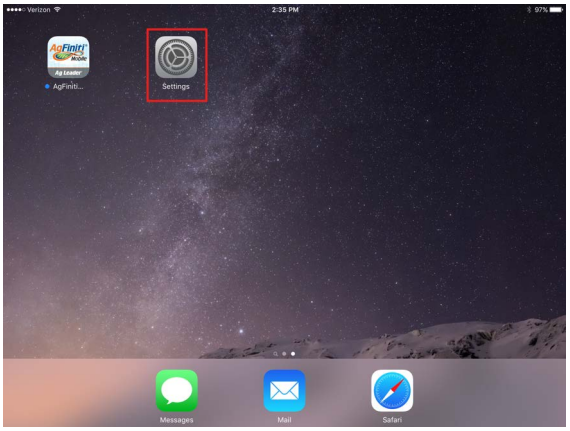
NOTE!: This should only happen once per device. If connection is declined, will need go to Settings App (on iPad) – AgFiniti Mobile – toggle on Local Network.

Shared Wi-Fi Network Connection

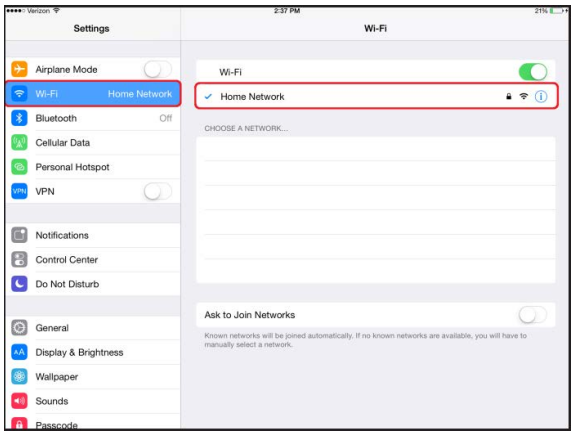
1. InCommand ® Go's Wi-Fi allows the display to connect to nearby wireless networks. When connected to a wireless network, the Wi-Fi symbol in the diagnostics tray will change to show that a connection has been established, indicated by green upload/download traffic symbols.



2. On the Wireless Networking page, press to select the desired network. This will prompt for a password, if needed, to connect to the network.



3. Connect the iPad to the same WiFi network by going to the Settings app.



4. Select the “Wi-Fi” tab from the left side menu followed by highlighting and connecting to the appropriate wireless network.

Both the display and the iPad should now be on the same network.

5. Open AgFiniti Mobile app on the iPad.

NOTE!: Download AgFiniti Mobile from the Apple App store.

Once the AgFiniti Mobile is open, it will automatically attempt to connect to the InCommand® Go display.

InCommand® Go Display

6. Once the InCommand® Go display has been found the display will prompt user to allow connection to happen.

NOTE!: This should only happen once per device.

7. After pressing the mobile device will begin accepting data from the display as it becomes available.

The AgFiniti Status Indicator will show a device symbol within it on the top right corner of the screen.

NOTE!: If display is logged in to AgFiniti cloud a cloud symbol will also appear in the AgFiniti Status Indicator.

At this point the InCommand® Go display and iPad are connected and ready for data transfer. If there are any closed or suspended events present on the InCommand® Go display, they will be transferred to the iPad once the app is opened.

DisplayCast®

DisplayCast is a feature available for unlock on InCommand® Go™ displays. Through AgFiniti® Cloud, users have the ability to seamlessly sync maps, summary values, and other management information between any InCommand® Go displays in the operation. DisplayCast enables better decision making in the cab and increases productivity by giving easy access to all operational data on every InCommand® Go display in the operation.

How it works

As each display using DisplayCast syncs data, AgFiniti Cloud compiles and tracks what data is available from each display and makes sure all displays in the operation are kept up to date.

Use cases

1. I have multiple InCommand® Go displays on the farm and need to make sure all displays have matching fields names, boundaries, and guidance lines.
2. I plant with two InCommand® Go displays and need to get my variety maps combined to a single InCommand® Go display in my combine.
3. I run two or more pieces of similar equipment in the field at the same time.

   Listed below are three example of the many types of equipment that could be performing the same task, at the same time, in a field.

   a. Two or more planters operating at once
   b. Two or more sprayers operating at once
   c. Two or more combines operating at once
4. I run two or more different pieces of equipment in the field at the same time.

   Listed below are four example of the many types of equipment that could be performing different tasks, at the same time, in a field.

   a. Planter and Tillage
   b. Planter and applicator
   c. Combine and grain cart
   d. Combine and tillage
5. Two similar pieces of equipment in different fields at the same time.
6. Two different pieces of equipment in different fields at the same time.

Information that is synced

1. Management information (Growers, Farms, Fields)

2. Configurations
3. Products
4. Guidance Lines
5. Maps for AutoSwath
6. Reference and attribute maps
7. Logged events
8. Summary information

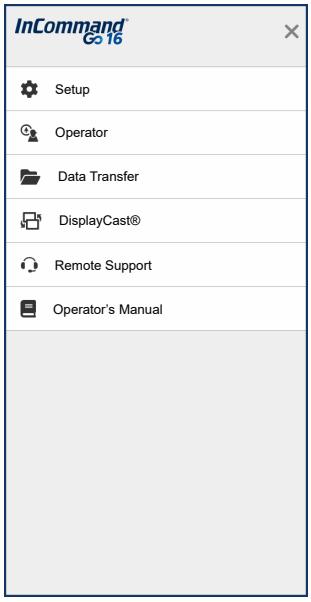
Requirements list

1. AgFiniti Account created at www.agfiniti.com
2. AgFiniti Essentials License
3. DisplayCast feature unlock on all participating displays
4. Active internet connection on the display
    a. 3G or better cellular coverage
5. Be aware of GPS accuracy differences between two machines (for example Autoswath could have increased overlaps or gaps based on GPS differences).
6. Each configuration, vehicle, implement, controller must be unique for the equipment that it is used on.
    a. Having unique naming ensures accurate records and minimizes the chance of the incorrect configuration being used which could lead to Autoswath and controlling errors.

First time setup and sync

With the InCommand® Go display unlocked, an active AgFiniti Essentials license, and internet access on the display; DisplayCast will automatically start to synchronize all information to AgFiniti Cloud. The first time the InCommand® Go Syncs with AgFiniti Cloud it may use a large amount of data. Using an unrestricted data plan may be desired the first time the display synchronizes with AgFiniti Cloud.

Data syncing intervals



1. Coverage and attribute maps in active events sync at approximately 5-10 second intervals.
2. New field names and guidance lines sync within a few minutes after being created.
3. Summary information syncs every 10-20minutes.
4. Manual Sync: The Sync button can be pressed at any time. This will sync all new information to AgFiniti Cloud and update the display with any new information from other displays.
5. AgData files will be exported on event close and at end of day, this data will then process into AgFiniti to be viewed immediately in either AgFiniti cloud or mobile
6. Management Information and Summary information will also be synced and processed for viewing in AgFiniti Map View and Mobile on the 10-20 minute sync interval.

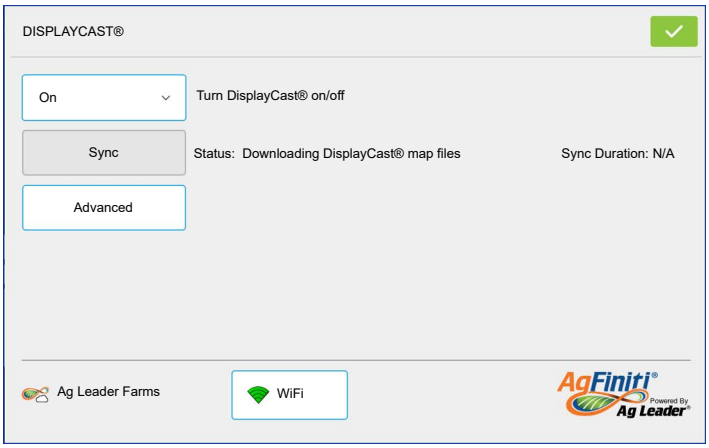
• Management Info—Growers, farms, fields, boundaries, products, equipment.

This is a one way sync. Management/Summary data added to Map View via SMS will not sync back to the displays through DisplayCast.

Getting started

With DisplayCast unlocked on the display a new DisplayCast icon is available under the Status Indicator button. The DisplayCast menu houses the available sync options.

Sync options



Off — DisplayCast will not send or receive data to AgFiniti

On — DisplayCast will automatically sync data with AgFIniti at regular Data Syncing intervals

Manual Only — DisplayCast will only sync when the Sync button is pressed.

Sync — used to manually sync data with AgFiniti. This action can be done at any time without disabling data logging.

Advanced — Removes the current DisplayCast information from AgFiniti. Shows time of display update, AgFiniti update, position update, and a lists of displays logged into AgFiniti.

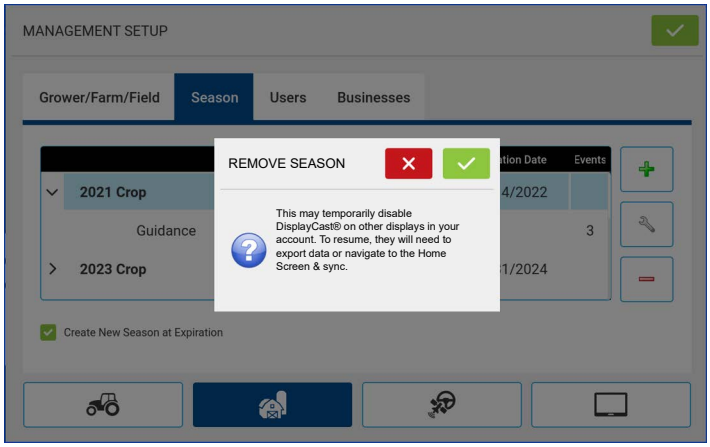
Sync Status States:

- Idle
- Downloading DisplayCast® sync information
- Importing DisplayCast® sync information
- Exporting DisplayCast® sync information
- Uploading DisplayCast® sync information
- Updating DisplayCast® sync state
- Downloading DisplayCast® map files
- Importing map files
- Exporting map files
- Uploading DisplayCast® map files

DisplayCast Error Messages

If the DisplayCast process is affected at any point, specific error messages will occur at on the DisplayCast screen. These messages can be used to decipher what has specifically occurred. For a detailed list or errors, please reference https://portal.agleader.com/community/ for more information.

DisplayCast Season Management

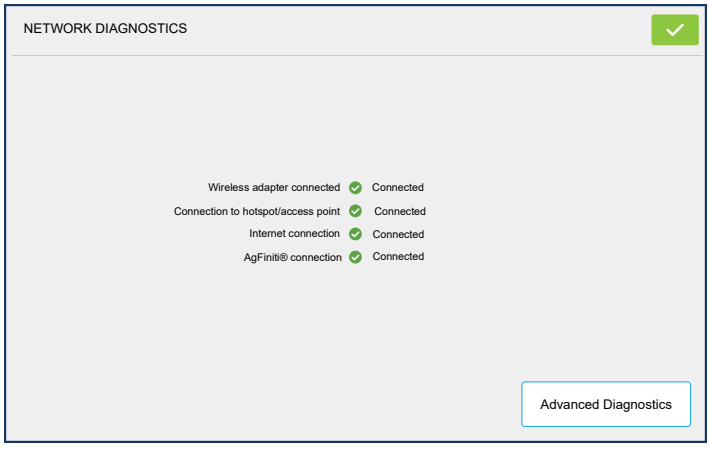


When using DisplayCast and deleting a season, other displays will see notifications that a season has been deleted. If other displays are using the deleted season, they will need to sync and export data before being able to utilize DisplayCast functionality again. This will ensure that all logged data is exported out before the season is deleted.

On other displays running, the message shown will be displayed while the deleted season is removed. In the rare instances where the user is logging data to a deleted season or still has logged data present from a deleted season, simply return to home screen after closing the active event and/or export log files out to complete the deletion process.

If you notice that DisplayCast functionality is still not present, next preform a manual DisplayCast sync and export out log files to resolve the stoppage.

Network Diagnostics

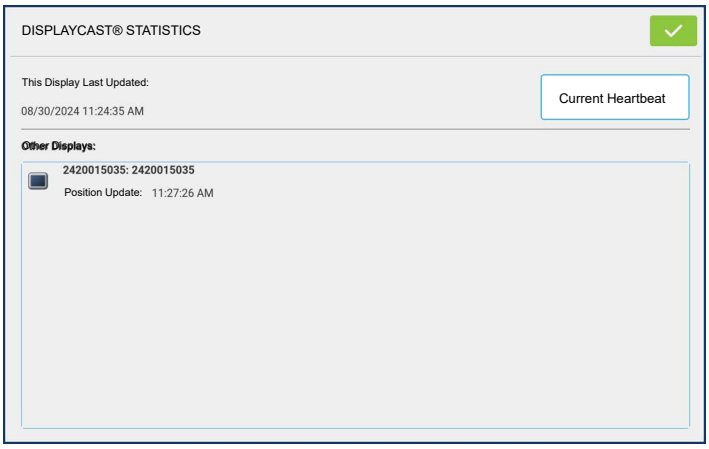


Network Diagnostics shows users network status via color indicators.

- Green-connected (Working Properly)
- Yellow-checking status
- Red-Needs attention

NOTE!: Refer to the text to the right of the diagnostic lights for additional information on status.

DisplayCast Statistics



As each display syncs with AgFiniti Cloud, the statistics page will update to reflect the information below. (This can be used to troubleshoot data sync issues.)

• This Display Last Updated – Timestamp of most recent data sync from AgFiniti Cloud to current display.

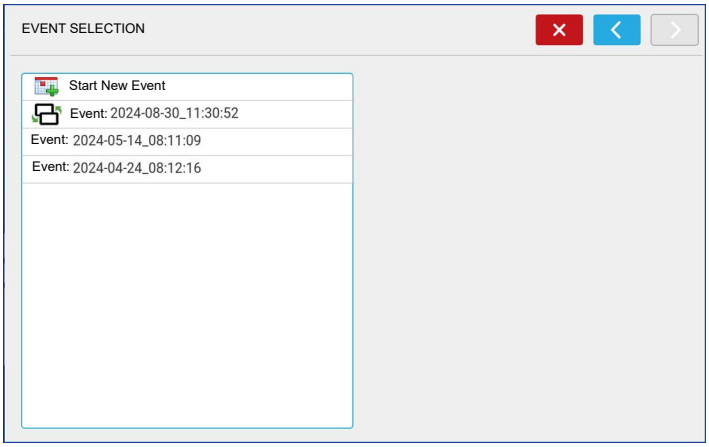
• AgFiniti Last Updated – Timestamp of most recent data sync to AgFiniti Cloud from any display.

• Other Displays – Lists any displays logged into AgFiniti by serial number and active configuration.

• Position Update – Timestamp of last received GPS position for that display.

Multiple Displays in the same Field

InCommand® Go displays running the same operation and sharing maps for Autoswath must be in the same event. If each display starts separate events the maps will not automatically update on screen for Autoswath



1. The first display to the field starts the initial event and loads a configuration to the Mapping screen.

2. An active event will be available to load during the Field Operation Wizard for all other displays in the operation to select.

a. Active events within the same operation are identified with a DisplayCast symbol next to the event name. Additionally the preview window will populate and update with the current coverage for the field.

b. From this point forward, the coverage and attribute maps will automatically fill in with data from all active displays in the event.

On the Mapping screen, each machine logged into AgFiniti will have a vehicle icon indicator.

Gold icon represents current vehicle location

Black icon represents other vehicles in the same field.

Viewing events for Field on Mapping Screen

On the Mapping screen, the Legend menu drop-down gives users the ability to view any past or active events from any InCommand® Go for the current field. Active events from a second display/operation will update in real time.

Select from “Previous” section in the list to view data prior logged for the field.

Example: While spraying, the planting maps are viewable.

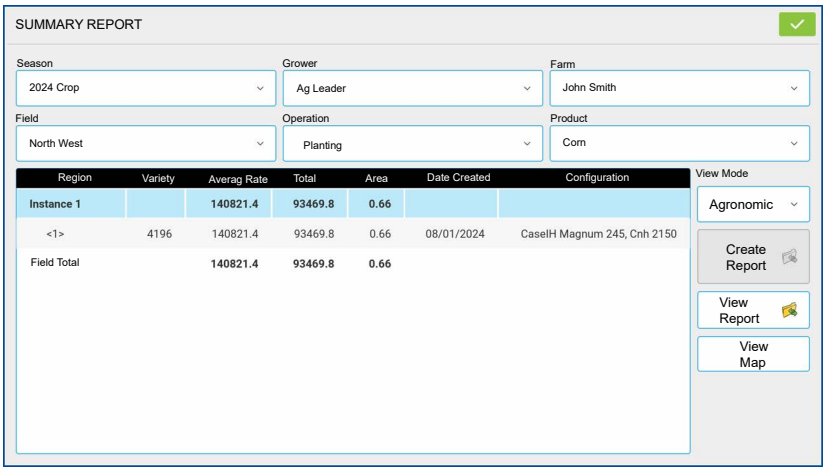
Summary Report to view Events

The Summary Report page has the ability to view both past and active events from any display using DisplayCast. This includes both summary information and maps, and can even be done while actively logging data on the Mapping screen.

Viewing summary information

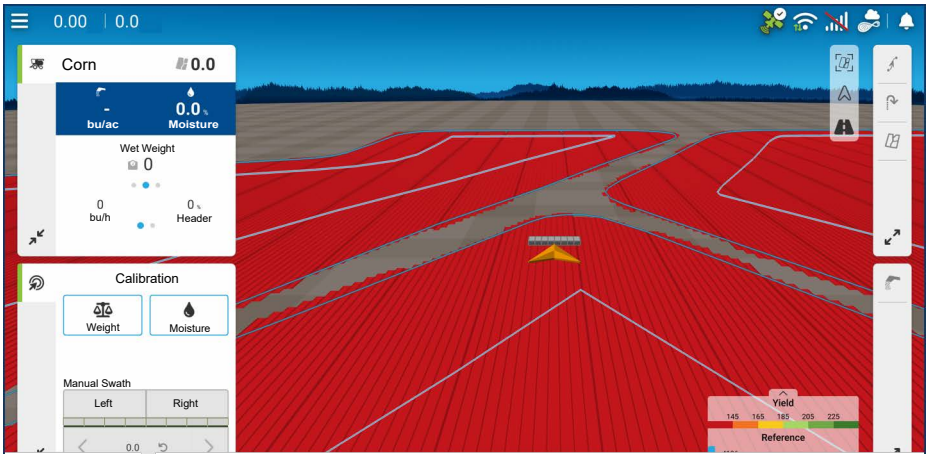
Summary Report

Summary reports can be accessed from the home page of the display by tapping the Summary app icon.



This screen shows field totals and averages. Use the drop-down menus at the top to specify the information needing viewed.

Harvest Variety Tracking with DisplayCast



Since attribute maps are synced between InCommand® Go displays, planting variety maps are available for Automatic Variety Tracking without needing to import from SMS™. To the right is an example of a planting variety map in which two planters planted one field using DisplayCast.

Data Management with DisplayCast

Configurations

It is critical that each piece of equipment operating in the field at the same time has a unique configuration. When multiple InCommand® Go displays operate in the field at the same time, logging is tracked based on the configuration name used on each display.

The Equipment Legend displays which configuration operated in what part of the field.

Logged data (.agdata)

Each display using DisplayCast will need to “Export Data” to AgFiniti Cloud or USB to have a complete data record. DisplayCast does not sync .agdata data between displays.

Changes and updates to management Items

Adding, modifying, and deleting items when using DisplayCast works very similar to only running one display. AgFiniti Cloud will update all synced InCommand® Go displays with the most recent information.

- Example 1: Display 1 deletes an unused field from the field list and syncs with AgFiniti Cloud. The next time Display 2 syncs, the field name will be removed from its field list as well.
- Example 2: Display 1 enters a new field name into the display but spells it incorrectly. The new field name will automatically sync with all other displays. Display 2 fixes the field name’s spelling. Next time the display syncs all other displays will get updated with the correct field name spelling.
- Example 3: Before planting season starts a user enters all the new planting varieties for the year and deletes ones that are no longer going to be used. When the other displays in the operation are turned on at a later date the product lists will get updated with all the new products and the old products will get removed from the displays.

Events

Events are used to track field operations. New events can be created at anytime and therefore a physical field can be broken into many events or recorded under one. An event contains all coverage maps created while that event was active. Events are automatically named by date and time.

The display can be run in two different modes:

- **Traditional mode**—requires user to specify a Grower, Farm, and Field for the Event. The display associates this information with setup files and logged data. When these files are reviewed or utilized in the future, it provides the operator with a greater depth of information.
- **Events Only mode**—minimizes the setup process so that the display is ready to run in the field with the least amount of setup (just a few button presses).

Field Operations

To start a field operation, press one of the field operation apps from the home screen. This display has the ability to use guidance, tillage, and surveying configurations without extra equipment. Additionally. planting and application configurations can be created to track products without modules. The Field Operation wizard will walk through all the steps needed to begin a field operation.

Select Field Operation app and follow the Setup wizard.

Tillage

Planting

Application

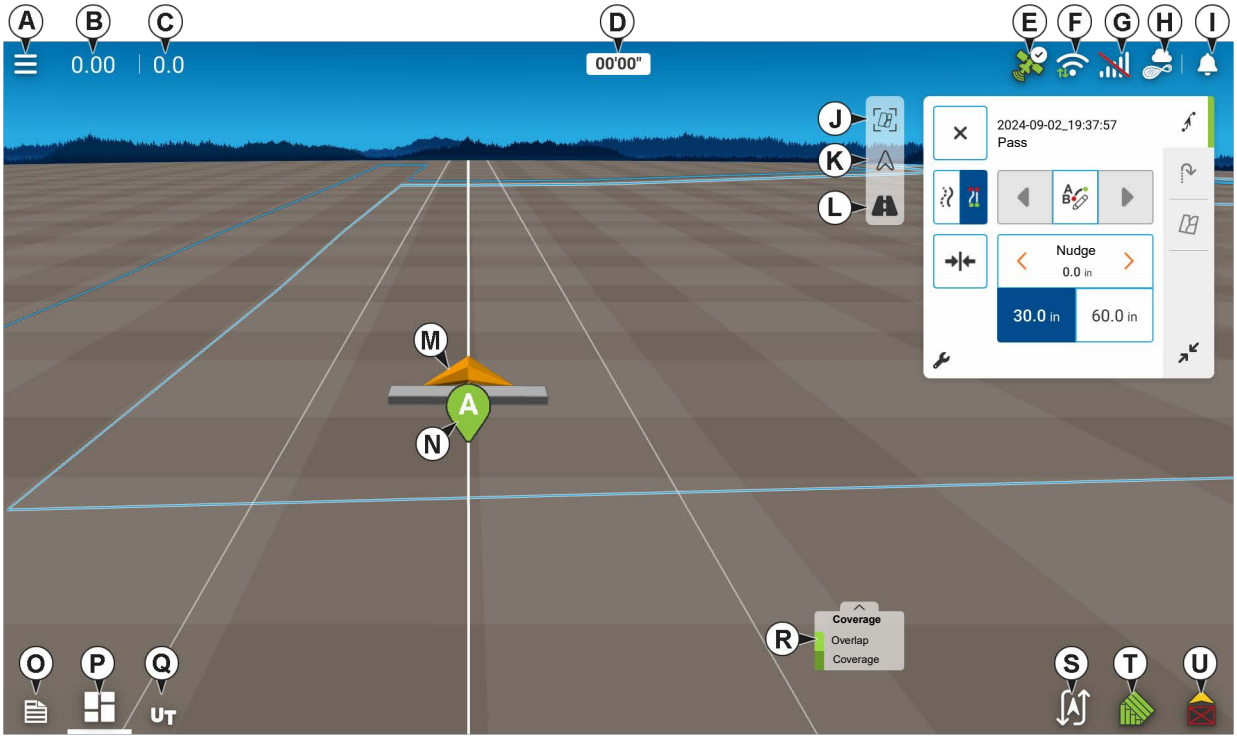
Harvest

Water Management

Guidance

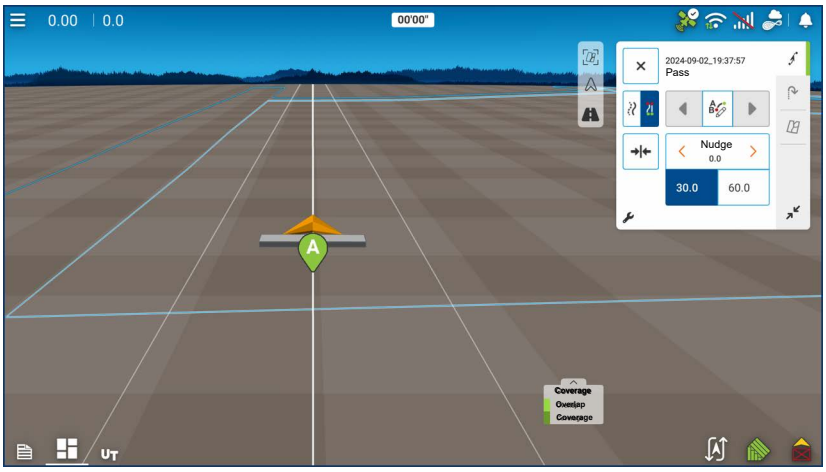
- The following must be created:
- Grower, Farm, and Field if “Enable Management” is checked, otherwise the display will track operations based only on events.
- A Season Setup within Management tab.
- A Product (when creating an Application or Planting Field Operation) at the Setup Product tab.
- An Operating Configuration at the Setup screen’s Configuration tab. This Operating Configuration consists of Equipment, Vehicle, Implement, Controller (optional), Tank (in Application), and Ground Speed Source.

All of these are referenced by the Field Operation wizard during the Field Operation setup process.



A. Menu
B. Area Covered
C. Speed
D. Cross Track Error
E. GPS
F. WIFI
G. Cellular
H. AgFiniti
I. Alerts
J. Zoom to Field
K. Top Down
L. Perspective
M. Vehicle Icon
N. Guidance Path Marker
O. Summary Report
P. Mapping Dashboard
Q. Universal Terminal
R. Legend
S. Heading Change
T. AutoSwath

Heading Detection



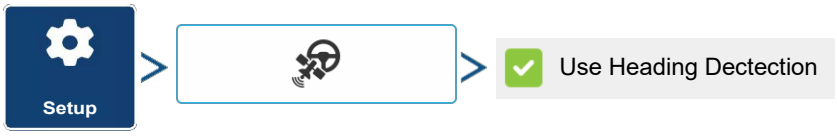
InCommand displays have built in functionality to establish and keep the correct direction of travel when using GPS receivers that do not have a trusted heading source from an internal compass or steering controller. For this functionality to work the user must first establish a forward direction of travel. The direction of travel is set automatically in the background, after acquiring GPS, based on the vehicles first movement after starting an event.

Any time the vehicle or icon is in the reverse direction and data is being logged, an audible alarm will sound until the vehicle/icon is driving in the forward direction again.

Heading Change Button

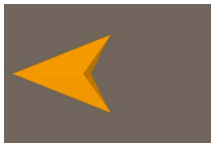
Any instance in which the vehicle icon appears to be upside down or rotated 180 degrees, it can be fixed with the Heading Change button. The Heading Change button can be accessed by tapping anywhere on the center of the mapping screen and pressing the icon on the lower left corner of the screen. Data logging must be turned off for the Heading Change button to work.

Disable/Enable Heading Detection



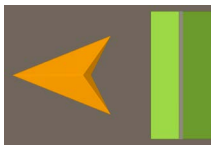
With Heading Detection disabled, the icon will always follow the GPS heading. When using a Harvest configuration, Heading Detection is automatically disabled regardless of the state of the enable/disable button.

Vehicle Icon



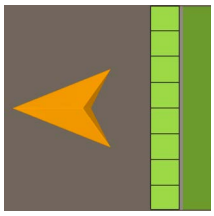
Zoomed Out

This gold colored triangle indicates the display is in zoom to extent mode. When in North Oriented View the vehicle implement does not appear but logged data will still populate on the map.



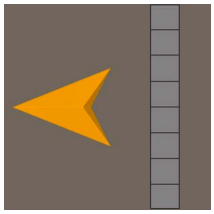
Logging

If the vehicle is logging, the implement icon appears as a green bar behind it.



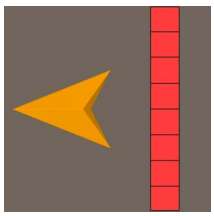
Logging with all Sections ON

If the vehicle is logging data from an implement split into sections, (for instance during a planting or application operation), then these sections appear in the implement icon.



Not Logging

If the vehicle is not logging data, then the implement icon appears as a grey bar.



Master Switch Off

When the master switch is off the vehicle will show a thinner red bar.

Master Switch Status

This button shows if the Master Switch is on or off. It is toggled by a master switch or a switch box.

 Master Switch — Off

 Master Switch — On

 Master Switch — On, Implement Switch — On

 Master Switch — Off, Implement Switch — Off

 Master Switch — On Implement Switch — Off

 Master Switch — Off, Implement Switch — On

(O) AutoSwath button—turns the AutoSwath feature on and off.

 AutoSwath — Disabled

 AutoSwath — Off

 AutoSwath — On

AutoSteer button

The Engage icon status of the AutoSteer system. The appearance of this icon displays the following:

 Steering — Not Ready

 Steering — Engaged

 Steering — Acquiring Line

 Steering — Not Engaged

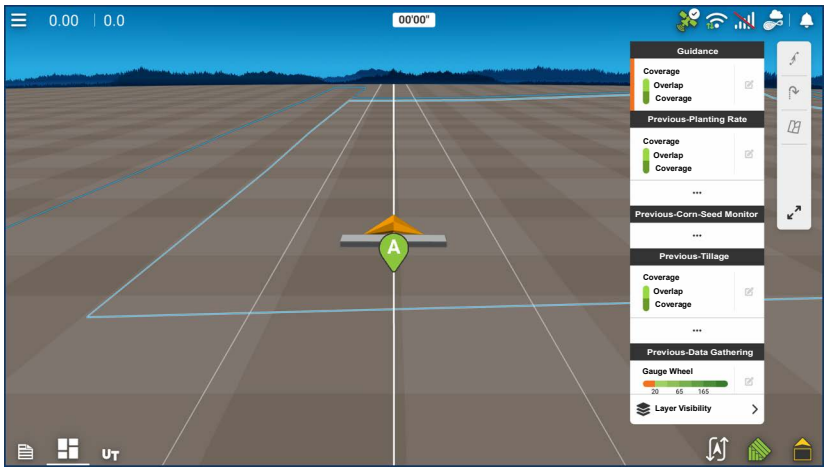
Map Toolbox

Map Legend

The map legend is present near the bottom of the display, tapping on the legend will expand it to show the different available legends. Tap anywhere on the screen to collapse this screen.

Legends are editable by selecting the edit button next to the desired legend to open the legend settings screen.

Legend Settings



The Legend Settings screen allows changes to the default legend. With the legend expanded, tap the edit button next to the desired legend to be edited to open the legend settings page.

NOTE!:

- The Legend Settings screen can also be accessed by pressing the Edit Legend button on the Setup screen's Product tab.
- Legend settings changes that are made at the Legend Settings screen will affect all regions.

The Legend Settings screen includes the following items:

- Attribute

  Appears at the top left of the Legend Settings screen. Attributes shown for Harvest include Yield and Moisture. The Rate attribute is shown for Planting and Application operations. Adjust the color scheme, spacing and ranges as they appear on the map screen, by using the buttons described below.

- Average

  The Average button changes the average rate for the legend. Press  to specify the average of the ranges shown on the map legend.

- Range Spacing

  The Range Spacing button changes the difference between the rates in one color range.

  Press  to edit the legend range spacing value, which is the total number of units represented by a particular color.

- Ranges

  The Ranges  /  change the number of range increments displayed in the legend.

- Color Scheme

  The Color Scheme can be modified by using the drop-down list. Choices include the following:

  - Green-Yellow-Red
  - Single Hue (blues or greens)
  - Rainbow

- Reset to Default Legend

  Resets the legend to the default settings.

- Automatic Legend

  If the Automatic Legend check box is selected, the average automatically sets itself to the field average and updates as the field average changes.

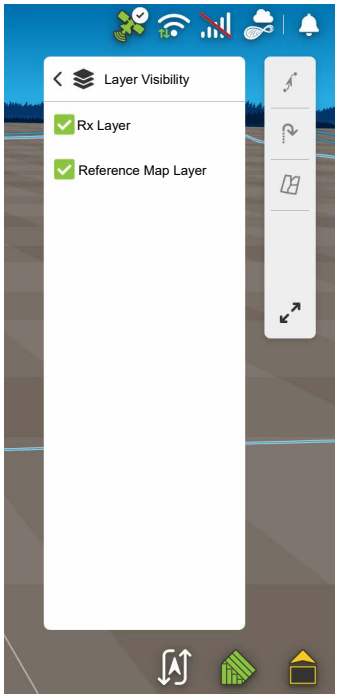
- Reset to Default Legend

  Press the reset legend to the system default.

- Save as Product Legend

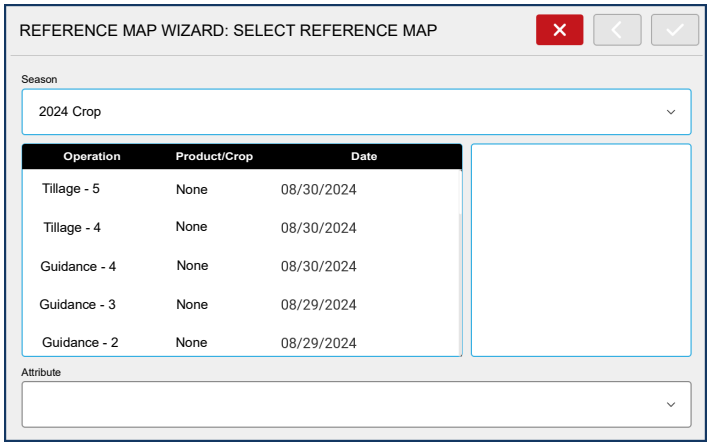
  Select the Save as Product Legend check box to set the current legend as the default legend for all regions of the same product.

Map Options

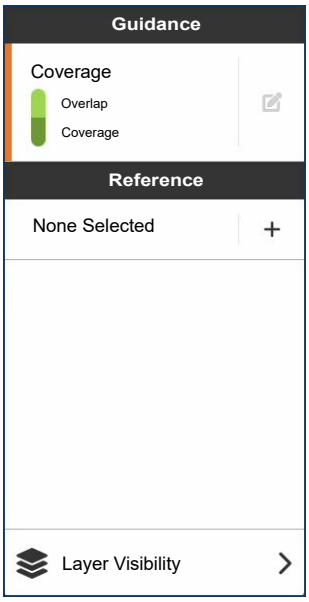


Map options can be accessed by selecting Layer Visibility that is present at the bottom of the expanded legend menu. This settings page allows users to toggle the visibility of different reference and prescription layers.

Load Reference

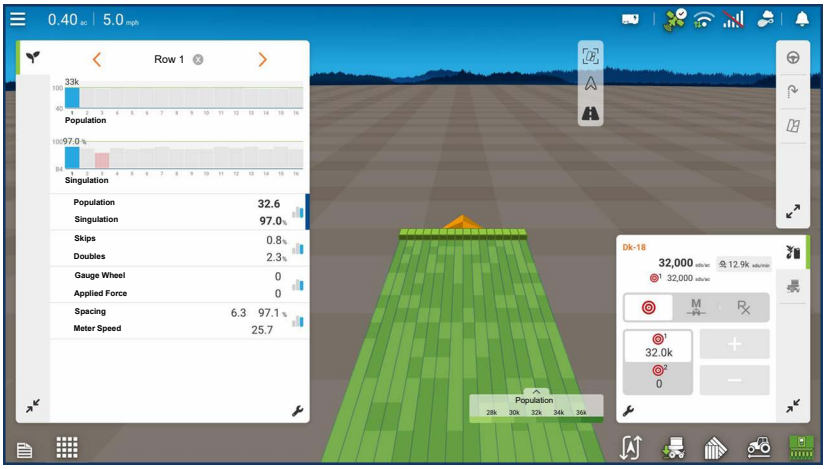


A reference map can be loaded by expanding the legend and swiping to scroll down to the end of available legends, the last option will always be Reference.



The reference section will show "None Selected" if a reference layer is not loaded. Tap on  to open the Load Reference dialogue.

Mapping Tiles



InCommand ® Go displays have the ability to expand or collapse desired mapping tiles to customize the mapping view. The InCommand Go 16 has the ability to display multiple different sources of information without sacrificing mapping area. Advanced Seed Monitoring can be viewed along with guidance and downforce tiles while still being able to see the map to monitor machine performance.

Map Views

A) **Zoom to Field** - Size the mapping screen to show the entire field boundary area.

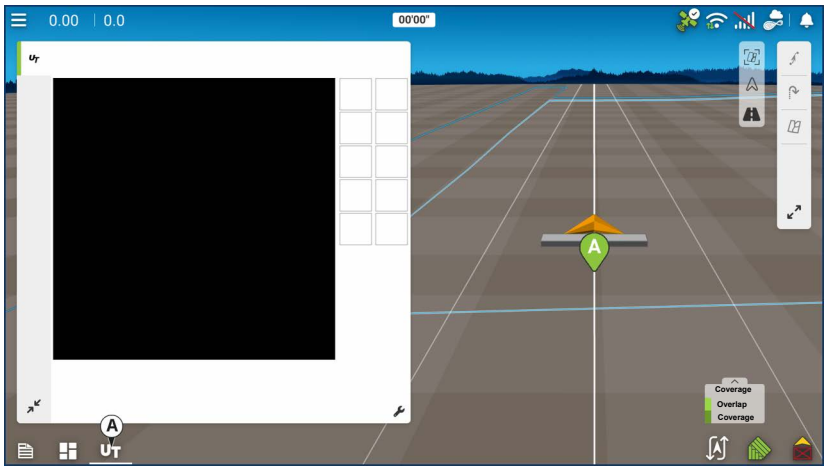
B) **Top Down** - Locate the mapping screen on the vehicle icon in a top-down perspective.

C) **Perspective** - Locate the mapping screen on the vehicle icon in a 3rd person perspective behind and above the vehicle icon.

D) **Orient** - Toggle between north-up mapping orientation.

E) **Locate** - Snap mapping screen to vehicle Icon.

Universal Terminal

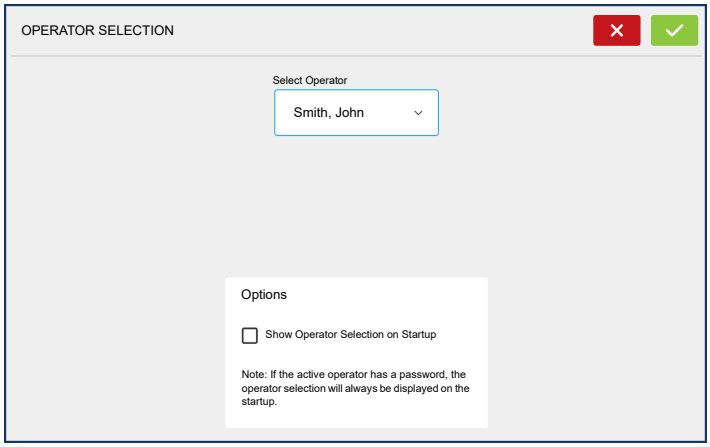


By pressing the UT button (A) from the map screen the display will split the screen between Map screen and Universal Terminal.

Operator Selection

1. Press Select Operator button.

Select a machine operator from the drop-down list. Machine operator information is logged with all field operations. Operator information may be entered in Management Setup.



2. Choose the operator from drop-down menu.

NOTE!: Checkbox will require a password to be entered upon start up of the display.

Press ✓.

3. Enter password. Press ✓.

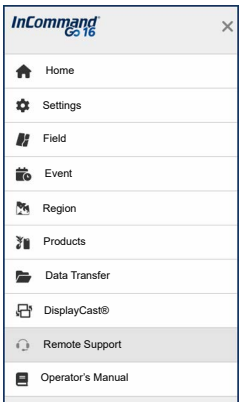
The operator will now be selected and permissions active.

- If operator is changed in mid operation, the user will be prompted to continue or suspend event.
- Operator selection will show each time at startup if the “Show Operator at Startup” button is check-marked.

Operator Log Out

Users that are both a Manager and Operator can logout which locks Setup and USB access and an operator must log in before an operation can be performed.

Menu Buttons



Menu button—Allows quick access to the regularly used management and setup features without suspending an operation or leaving the map screen.

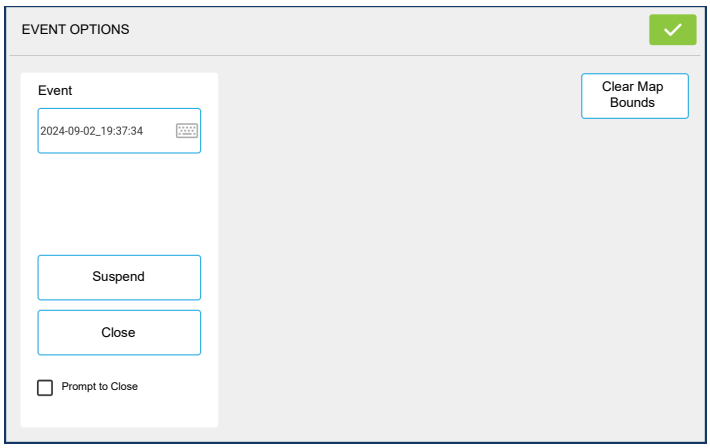
Home	**Home button**—Suspends the current event and returns to the Home screen.

Field button—Used to change fields and events from the map screen. Takes user to the management selection portion of the Field Operation wizard.

Region button—Used to subdivide a field into smaller sections. The region in which data is currently being logged is listed on the Region button. A new region can be created at any time while performing a field operation. To change between or add a new region to a field, press the Region button and follow the on-screen instructions.

Product button—Used to change products or hybrids in the middle of a field operation. Takes user to the product selection portion of the Field Operation wizard.

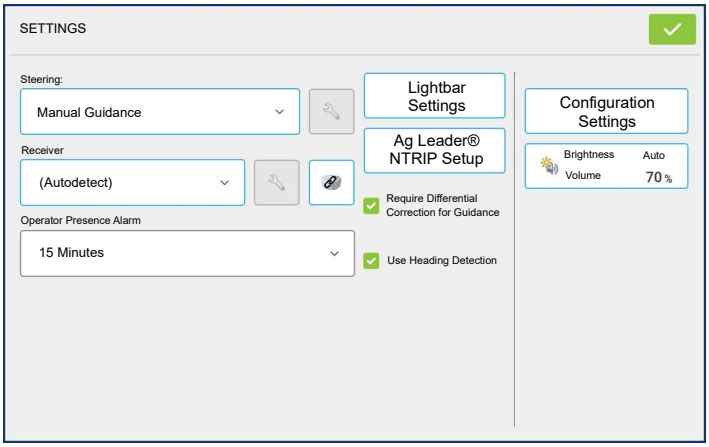
Event



The Event Options screen allows operator to change:

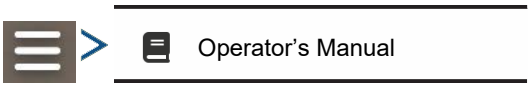
- **Event Name**—Select the event to be edited in the drop-down menu. An active event will be preselected when the Event Options screen is opened.
- **Suspend Event**—Pressing this button suspends the current field operation. The Home screen then appears as before the creation of a field operation.
- **Clear Map Bounds**—Press to clear map bounds for the selected event.
- **Close Event**—Pressing this button ends the current field operation. The Home screen then appears as before the creation of a field operation.

  A closed event cannot be re-opened and will not show up in the Event Selection screen. A user can manually close Events or be prompted to close events.
- **Prompt to Close Events**—Check this to be prompted before an event is accidentally closed.



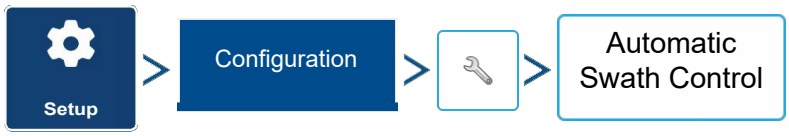
Settings button—provides quick access to:

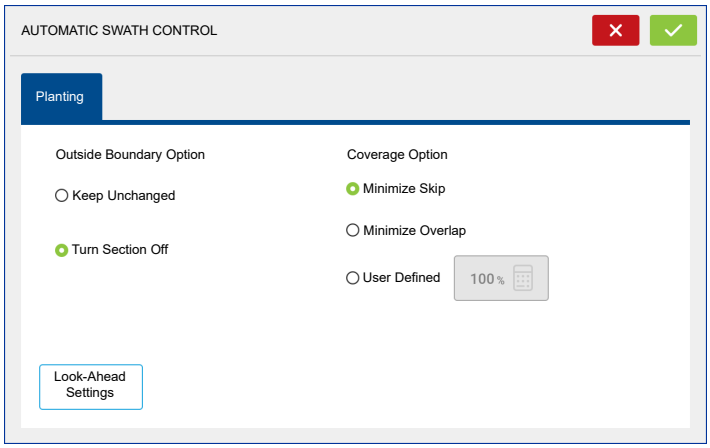
- GPS settings
- Steering settings
- Lightbar settings
- Configuration settings
- Brightness/Volume
- Heading Detection



Scan QR code with a mobile device to access or print the Operator's Manual for setup and troubleshooting needs.

Swath Control





The Automatic Swath Control feature turns sections off and on automatically based upon the following conditions:

• Entering and exiting internal and outer field boundaries.

• Entering and exiting previously-applied areas within a field.

Automatic Swath Control can be toggled on/off by the AutoSwath button on the lower right-hand side of the Map screen.

To adjust AutoSwath settings, go to the Configuration Settings screen, press the Automatic Swath Control button. At the screen that appears, options are:

- **Outside Boundary Option**

  Select one of the two options to determine system behavior when a section exits a field boundary.

- **Coverage Option**

  In the Coverage Option area, choose between three options:

  - **Minimize Skip**

    Turns off the implement section after the entire section is fully inside coverage area.

    This prevents the possibility of skips.

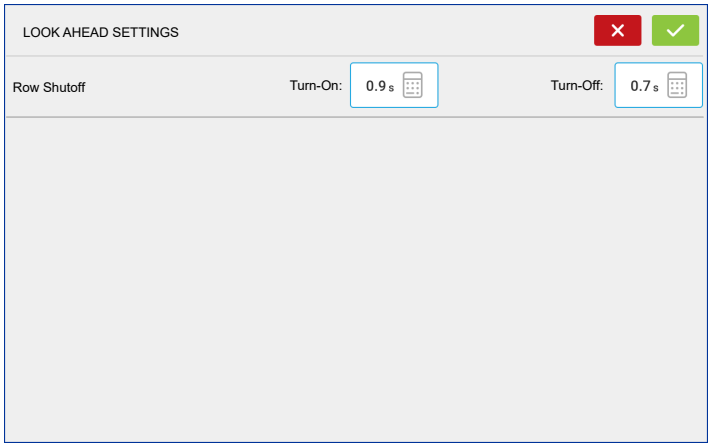
  - **Minimize Overlap**

    Turns off the implement section when that section first enters coverage area.

    This prevents the possibility of overlaps.0.

  - **User Defined**

Choose what percentage of the implement section is within the coverage area before that section turns off. For example, choose 50%, then the section will switch off when half of it is within coverage area.



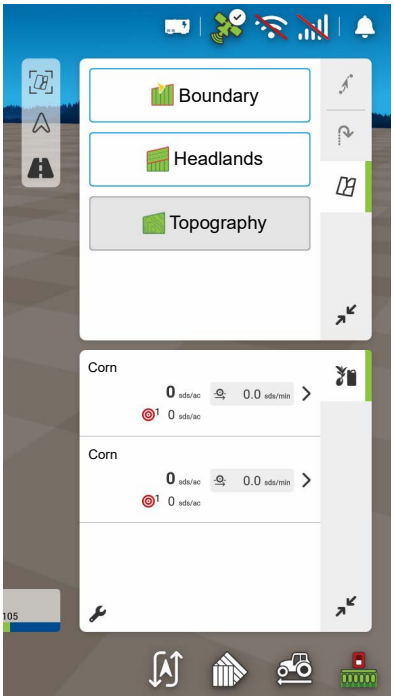
- **Turn-On Look Ahead**

Determines how far ahead the system looks to turn the sections back on. This compensates for delay in the system when the implement sections are turned on.

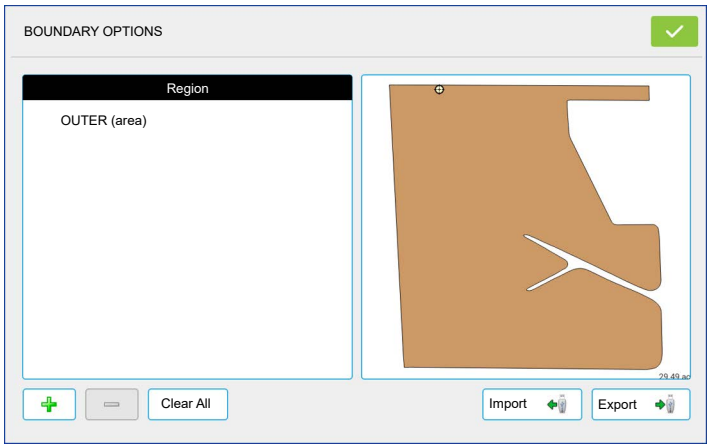
- **Turn-Off Look Ahead**

Determines how far ahead the system looks to turn the sections off. This compensates for delay in the system when the sections are turned off.

Boundary Tab

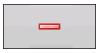


Press the Boundary button on the Field tab to access the Boundary Options screen.



Use the Boundary Options screen to Import Boundaries, Export Boundaries, and Clear All Boundaries.

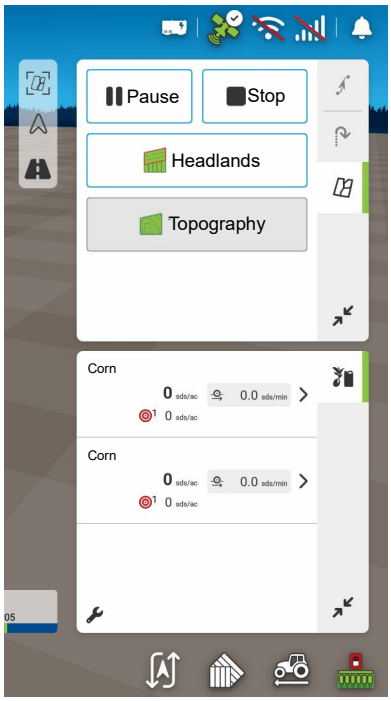
• Pressing  on the Boundary Options screen opens the Boundary Settings screen.

• Highlighting an existing region and pressing  on deletes that region.

• Use Import and Export buttons to move regions to and from USB drive.

• Press Clear All to permanently delete all Boundary information for that field.

WARNING!: Once cleared, this information cannot be retrieved.



1. Choose whether to create either an Outer boundary or Inner boundary by pressing one of the two Boundary Type buttons.

2. To create an Inner Boundary, use the Region Type drop-down menu to choose the type of boundary. Choices include:

• **Roadway**

• **Body of Water**

• **Waterway**

• **Buildings**

• **Undefined**

3. The Boundary Offset feature enables mapping a boundary at a user-defined distance to the left or right of the GPS antenna center line. If desired, specify a Boundary Offset distance by choosing a direction and distance from the GPS antenna center line. There also exists an option to offset the boundary forward or rearward from the measured receiver position.

4. Press  to start the boundary.

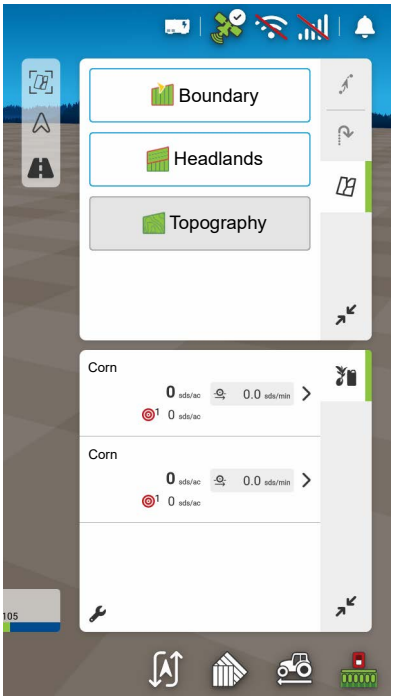
5. During the creation of a boundary, the Pause/Resume button and Stop button appear at the top of the Field tab.

6. Press the Stop button to complete the boundary. At the Boundary screen, choose whether to Save, Resume or Discard the boundary.

Pause Boundary

When creating a boundary, use the Pause Boundary button to create a straight line between two points. To do this, drive the vehicle to a point, press the Pause Boundary button, then drive to the second point. Press the Resume Boundary button to create a straight line between current point and pause location.

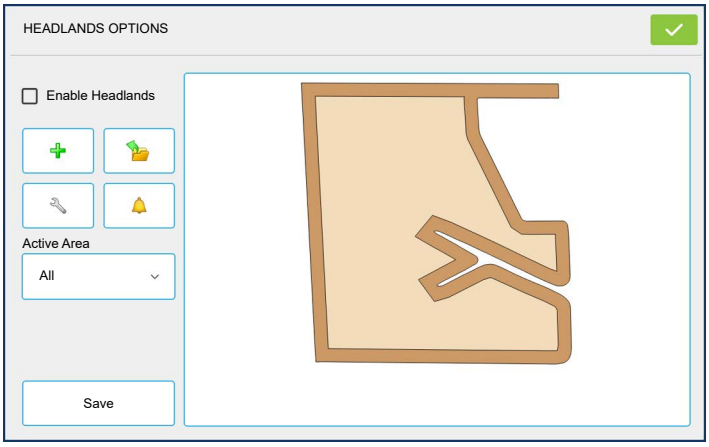
Headlands



Press the Headlands button on the Field tab to access the Headlands Options screen.

ATTENTION!: A Field Boundary is required to create a headland.

ATTENTION!: For headland alarms to work, a guidance line must be loaded.



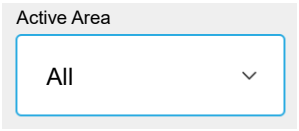
Enable Headlands: Use checkbox to turn Headlands functionality on and off.

Add Headland

Load a Headland

Edit Headland

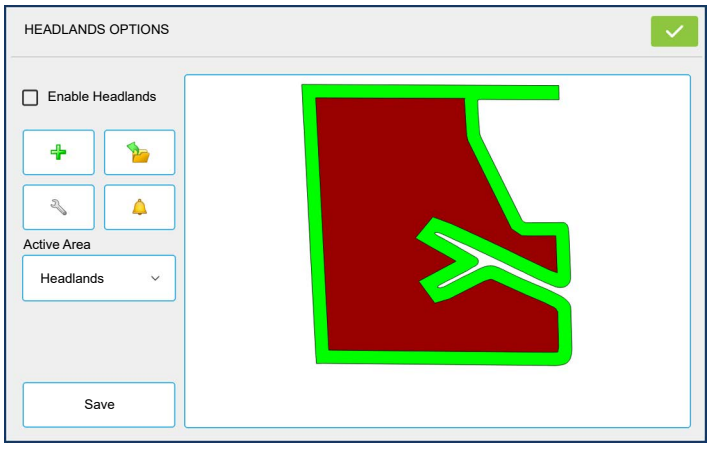
Alarm Settings



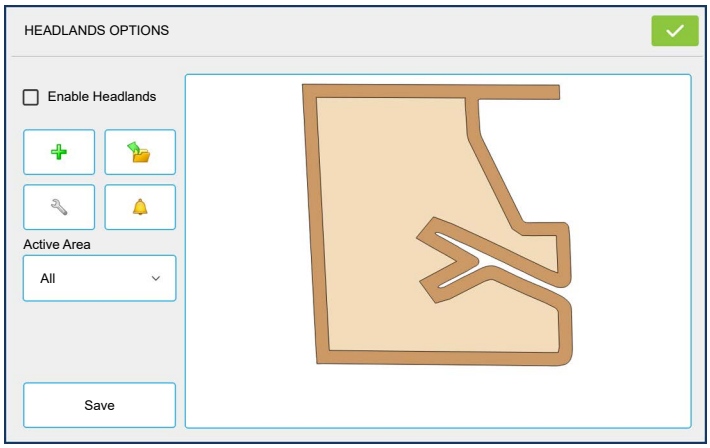
Active Area

Active Area

Work Area



Headlands



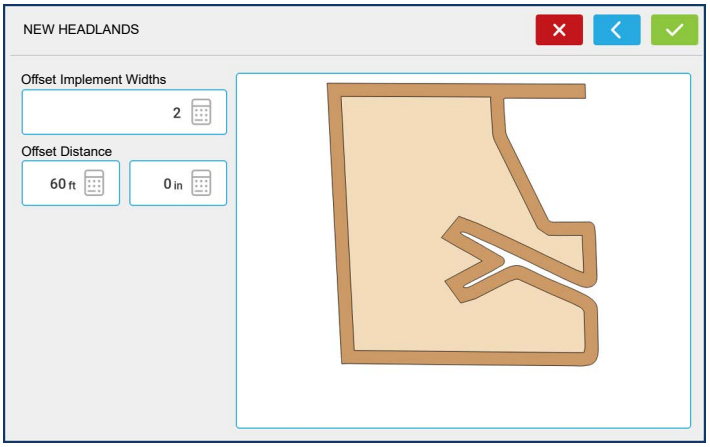
All

Add a Headland

Press  on Headlands Options screen.

Select Headland Type from drop-down box.

Headland Types



All-Around

• Offset Implement Width

Number of implement widths used to set the headland width.

• Offset Distance

Distance used to set headland width.

Press  to accept.

Top Bottom

• Offset Implement Width

Number of implement widths used to set the headland width.

• Offset Distance

Distance used to set headland width.

• Heading

Used to generate boundary, headlands are created perpendicular to heading

• Scaling

Sets the amount of variation that is allowed (from perpendicular) to include part of field boundary in the headlands.

• Use AB

Select AB line to set heading for determining headlands.

• The ▲ shows the heading used for Headland creation.

Press  to accept.

Driven

1. Select Driven from drop-down menu and press  to continue.
2. Press  on New Headlands screen.
3. Input Headland Offset Distance and Direction (Left or Right). Press  to accept.
4. Drive Boundary:

    pause.

    resume recording after pausing.

    stop recording.
5. Save, Resume, or Discard

- Save

  a. Press Save button.

  b. Default name is time and date. Press  to change name.

  c. Press  to accept or  to discard boundary.
- Resume - resume creating boundary.
- Discard - discards boundary and returns display to map screen.

Load Headlands

Press  button.

Select a headland from list. and press  to load selected headland.

A. Distance to headland alarm

B. Headlands identified by blue line when active

Edit Headlands

Press Edit Headlands button.

Select a headland from list and press  to load selected headland.

This screen will vary depending on type of headland.

Headland Alarm Settings

Press  button.

- Alert Distance

  Distance from approaching headland at which display will warn user of upcoming headland.

- Alert Duration

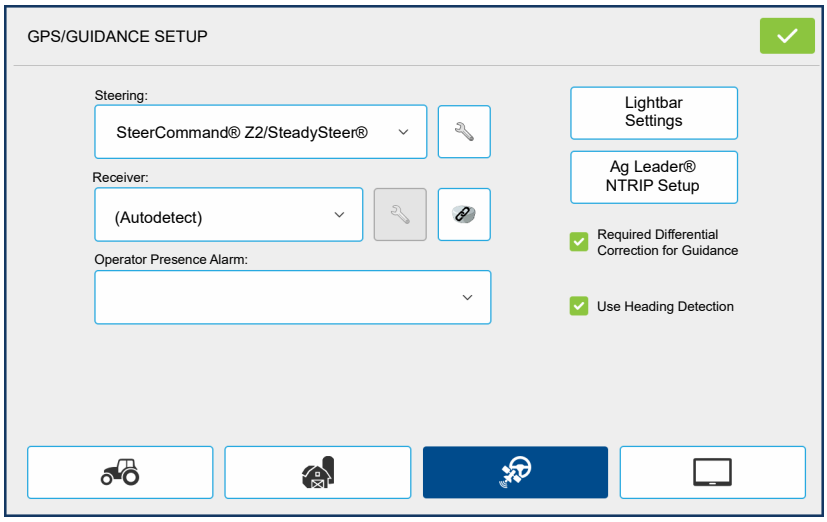
  Time length from approaching headland at which display will warn user of upcoming headland.

- Audible Alarms
  - **Approaching Headland.**
  - **Crossing Headland Boundary.**

GPS Setup

OR

Steering



Manual Guidance—Select this to perform guidance by lightbar while manually steering the vehicle.

SteerCommand®—Integrated steering system that can be used with a wide range of machines.

SteerCommand Z2/SteadySteer—Integrated steering system that can be used with a wide range of machines.

Pressing  next to the Steering options opens the guidance system settings for the selected guidance system.

Pressing  next to the Receiver options opens the selected receiver's specific settings. Populated settings vary from one reliever model to the next.

- **Receiver**—Set type of GPS interface protocol to Autodetect, Serial, or CAN.
-  **Break Detection**—Opens force GPS connection. This allows force connection in the display when a receiver is set to a higher baud rate than supported by the display. After

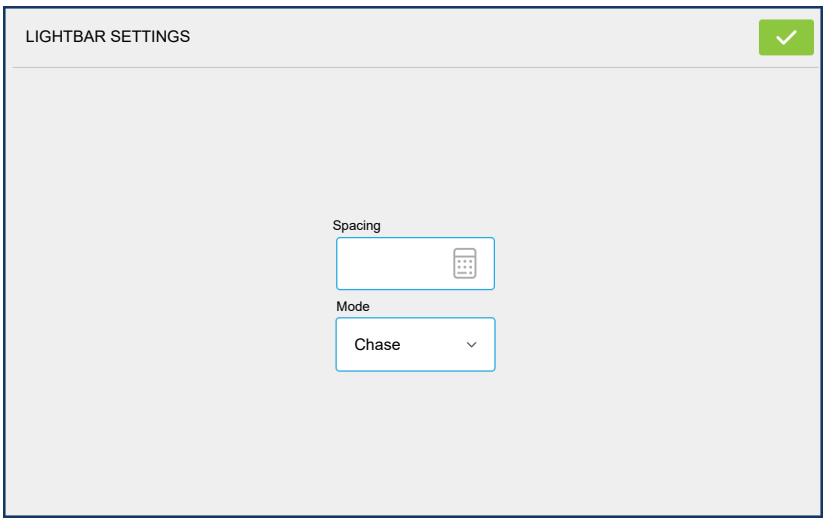
selecting “force connect”, user must select reset to defaults in order to configure and use the receiver.

- **Operator Presence Alarm**—The Operator Presence Alarm disengages guidance control if the operator does not have any interaction with the display for a specified period of time. Use the dropdown menu to specify the period of time before guidance is automatically disengaged.
- **Lightbar Settings**—Set lightbar spacing, mode, and LED brightness.
- **Required Differential Correction for Guidance**—When unchecked allows guidance to operate without differential correction.

NOTE!: In order to use guidance with the display, GPS receiver must be capable of a GPS output rate of 5 Hz or more.

Lightbar Settings

OR



Spacing—Enter the distance represented by each square of the lightbar ½–6 ft (3–182 cm).

Mode

- **Chase**—Center the vehicle by following the indicator lights.
- **Pull**—Center the vehicle by turning in the opposite direction of the indicator lights on the lightbar.

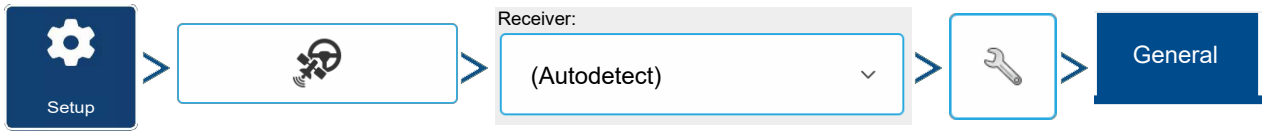
Internal Lightbar—Check Enable to utilize the internal lightbar.

GPS Icon

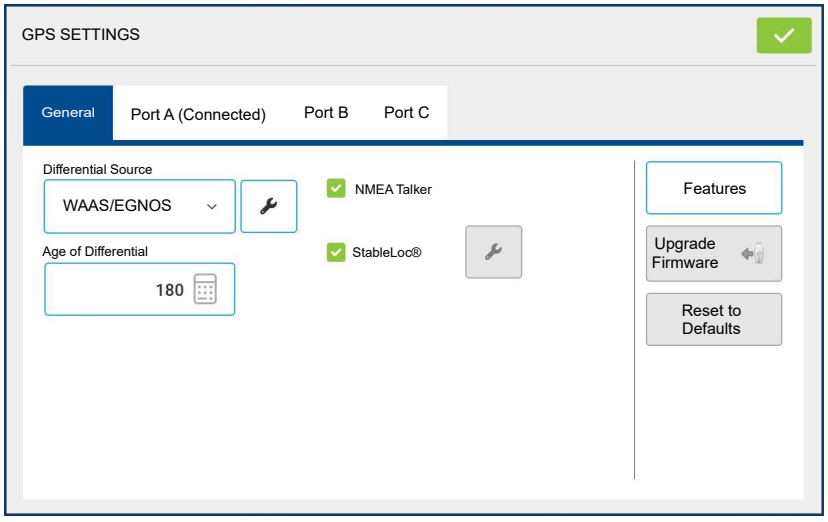
 During field operation, the GPS diagnostic indicator in the upper right corner of the display should appear green, which means display is receiving a differential GPS signal. If this icon appears yellow, the system is receiving GPS but the quality is too low to provide a differential signal; if the satellite icon appears gray, GPS is lost or unavailable. In either case, check GPS diagnostics and settings.

Guidance/Steering, Lightbar Settings, and Required Differential Correction for Guidance.

Serial GPS Settings



NOTE!: Default settings for the 6000/6500/7000/7500 receivers should not need to be adjusted from factory settings.



Differential Source—Select choice of GLIDE, WAAS/EGNOS, TerraStar®, RTK External, RTK. Options available are based on receiver type and unlocks.

Differential Source Wrench Icon

 —Pressing the Differential Source Wrench button opens different settings screens, depending on the differential source selected.

Age of Differential—Displays the elapsed time since reception of last differential correction signal. The Age of Differential button is only functional when GPS is connected.

RTK Relay or SteadySteer—Check button when using a 7500 RTK relay. Receiver will reboot and change settings to look for the relay. Port C will be hidden when this is enabled.

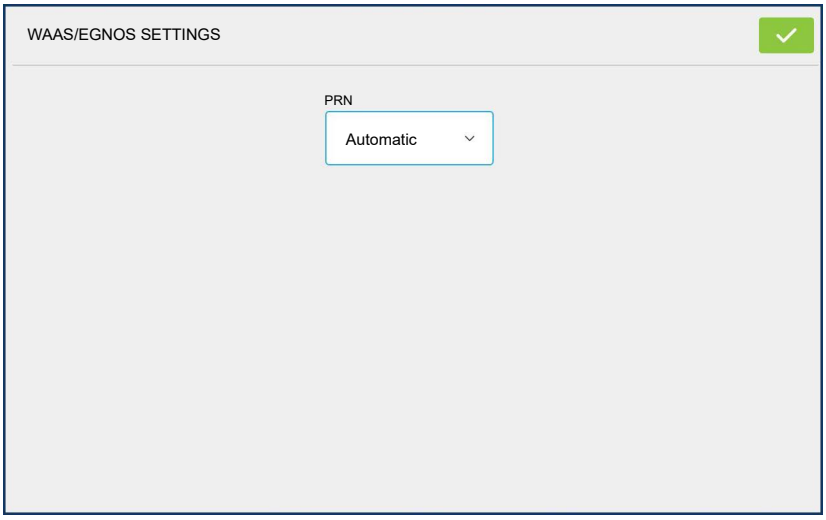
StableLoc® checkbox—StableLoc maintains accurate steering – even when correction signal is temporarily lost – by seamlessly transitioning to the next available signal source. When the signal is restored, the system will then transition back to the higher accuracy source, eliminating position jumps. Press to enable.

NOTE!: StableLoc is enabled by default when WAAS/EGNOS is selected and cannot be disabled by the user. Operating WAAS/EGNOS with StableLoc enabled provides similar or better accuracy than operating with WAAS/EGNOS with StableLoc disabled.

Reset to Defaults—Press the Reset to Defaults button to restore receiver settings to the factory default. This will remove all custom settings.

NMEA Talker—This button disables the GLONASS prefix in the NMEA messages. If using the GPS receiver with legacy displays or a device that does not support GLONASS messages, uncheck the box.

WAAS/EGNOS Settings

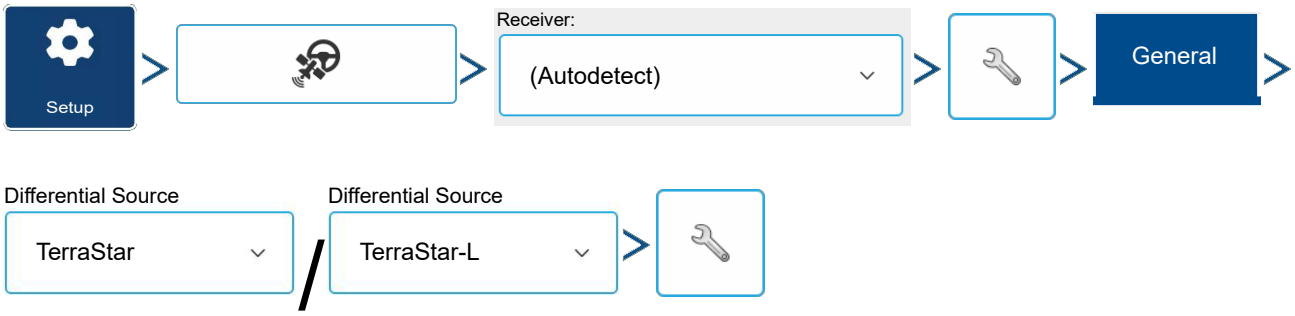


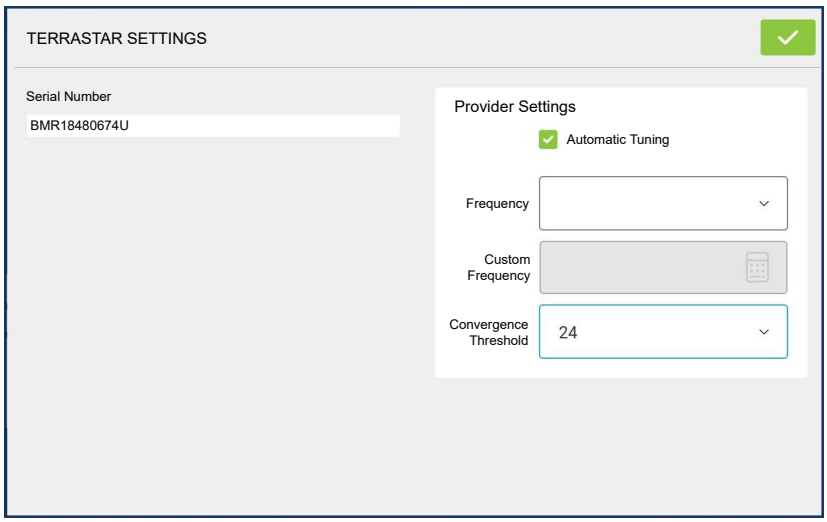
PRN

- Automatic
- WAAS
- EGNOS
- Custom

ATTENTION!: Should be left on Automatic unless otherwise told by support.

TerraStar Settings





Serial Number—This box shows the serial number of the receiver - used to purchase TerraStar subscription.

Automatic Tuning check box—Receiver will automatically select the strongest frequency. Frequency drop-down box will be grayed out when this is selected.

Frequency—In the Frequency drop-down list box, select current geographic region. Only uncheck automatic tuning when directed to by Technical Support (used to adjust tuning).

Custom Frequency—User entered TerraStar frequency. Only enter custom frequency when directed to by Technical Support.

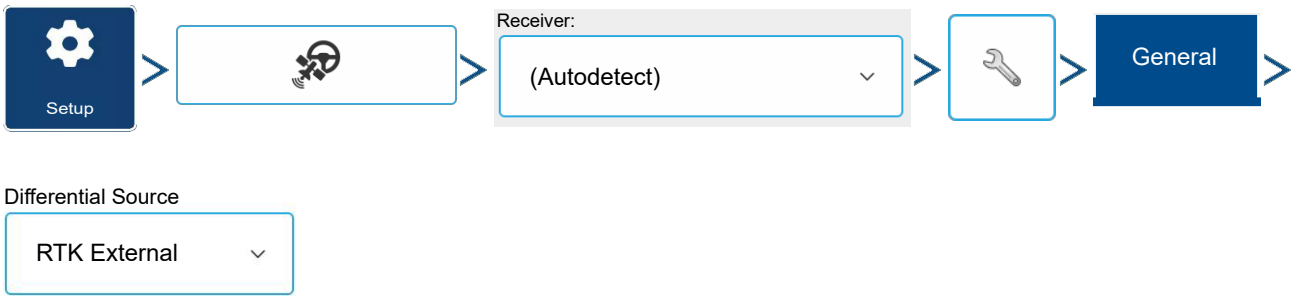
Convergence Threshold—The receiver uses the standard deviation of the solution to determine when the TerraStar position has converged. The receiver will label the TerraStar solution as “converged” when the horizontal standard deviation reaches the Convergence Threshold setting. Relaxing the convergence threshold shortens the time before a TerraStar solution is reported as converged. However, it does not alter the absolute behavior of the solution.

NOTE!: The use of TerraStar® differential requires purchase of a subscription from an Ag Leader dealer. Settings related to using satellite differential correction vary based upon geographic location. Setup details are explained on the following pages. More specific

information can be obtained through an Ag Leader dealer. Know the serial number when contacting Ag Leader to set up the receiver.

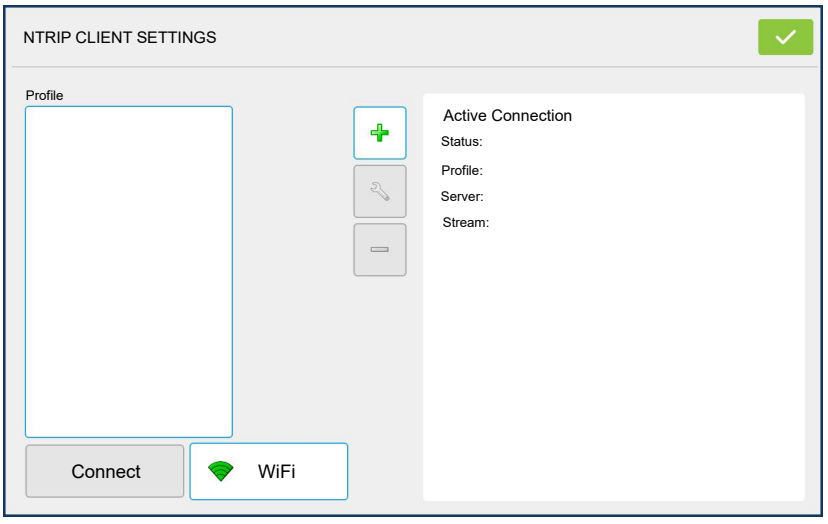
RTK Settings

RTK Settings - NTRIP External



Set GPS 7500 to “RTK External” when using NTRIP RTK on InCommand® Go or when using external radio for RTK correction.

RTK Settings - NTRIP RTK on InCommand® Go



Create profile

Edit profile

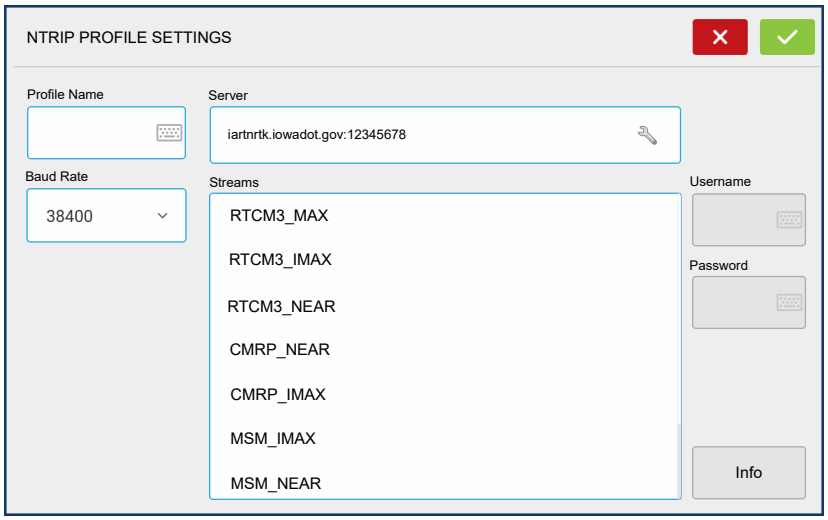
Delete profile

Network Name Access wireless Networking

Connect — Connect to NTRIP Stream

Disconnect — Disconnect from NTRIP Stream

NOTE!: Display must be connected to network/hotspot with active internet connection before a profile can be created.



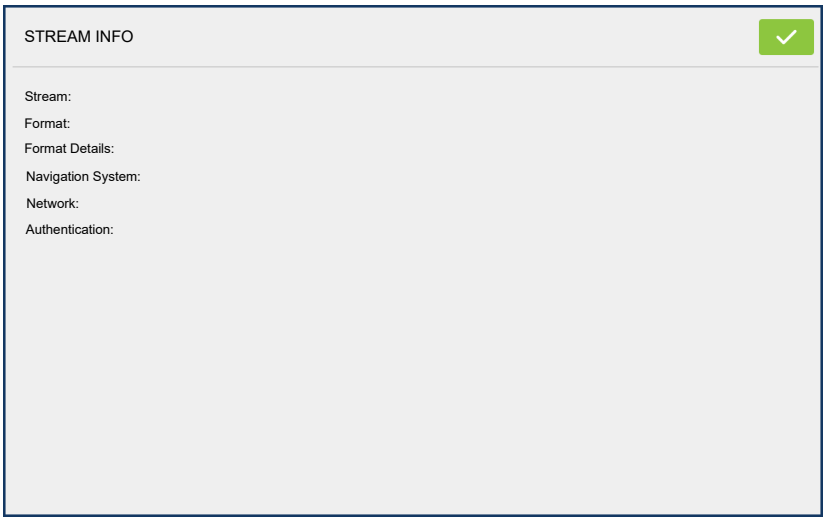
When creating or editing an NTRIP profile, the following information must be entered in the InCommand® Go display:

1. Profile Name
   - User Specified
2. Baud Rate
   - GNSS receiver specific
3. Server
4. Streams
5. Username
6. Password

NOTE!: The information for items 3-6 is obtained from the NTRIP Network Provider.

Once the information has been entered, press ✓ to begin using NTRIP.

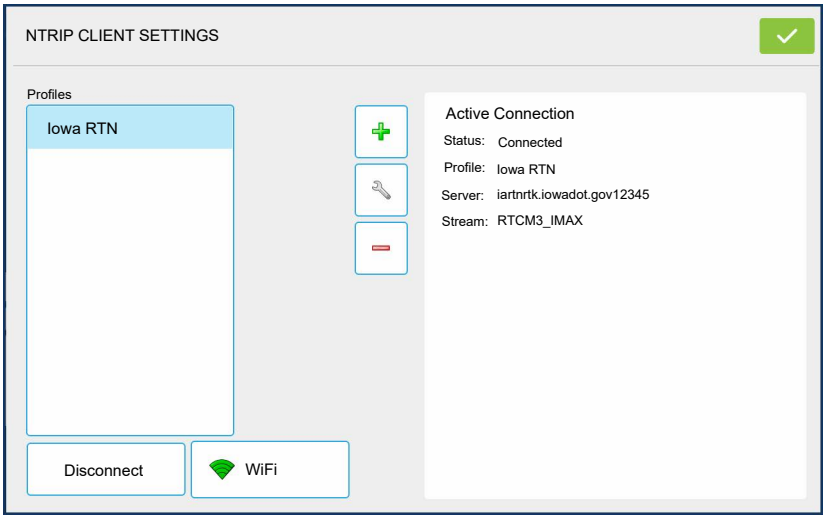
Info



Info button

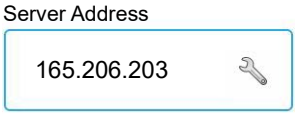
- Stream
- Format
- Format Details
- Navigation System
- Network
- Authentication

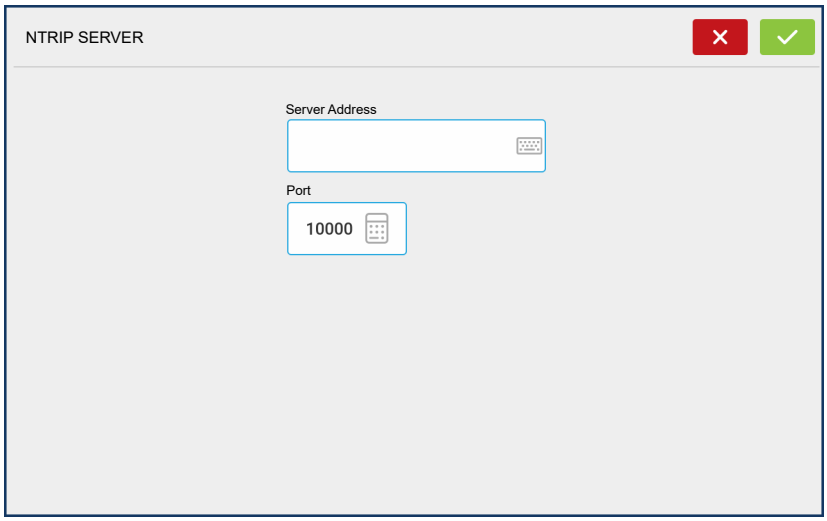
The information shown on this screen is provided by the NTRIP Network.



When successfully connected to NTRIP, network stream status will update under “Active Connection”.

NOTE!: NTRIP Profiles can be used to seamlessly change between NTRIP Streams.



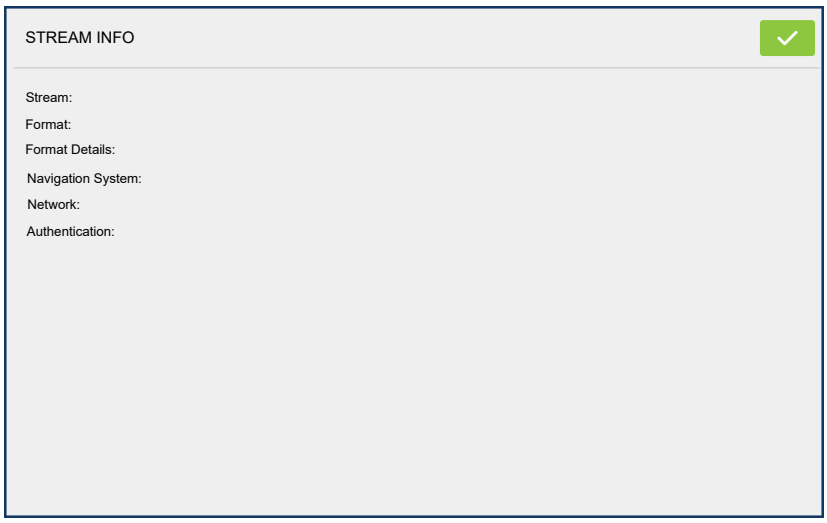


Info

NTRIP Server

- Server Address
- Port

Server Address and Port are provided by the NTRIP Network.

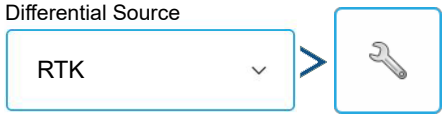


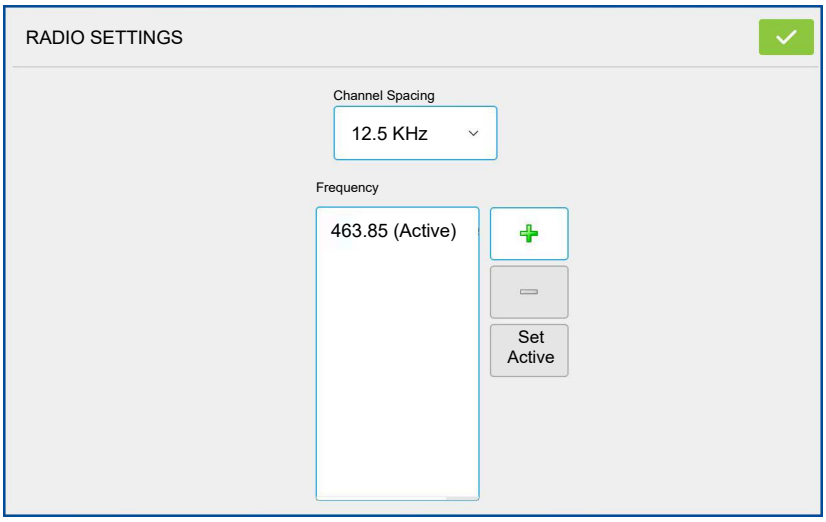
Info button

- Stream
- Format
- Format Details
- Navigation System
- Network
- Authentication

The information shown on this screen is provided by the NTRIP Network.

RTK Settings - 400 MHz





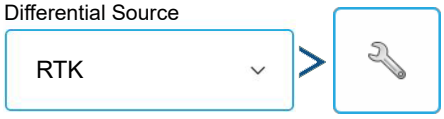
Channel Spacing—Use drop-down menu to select Channel Spacing

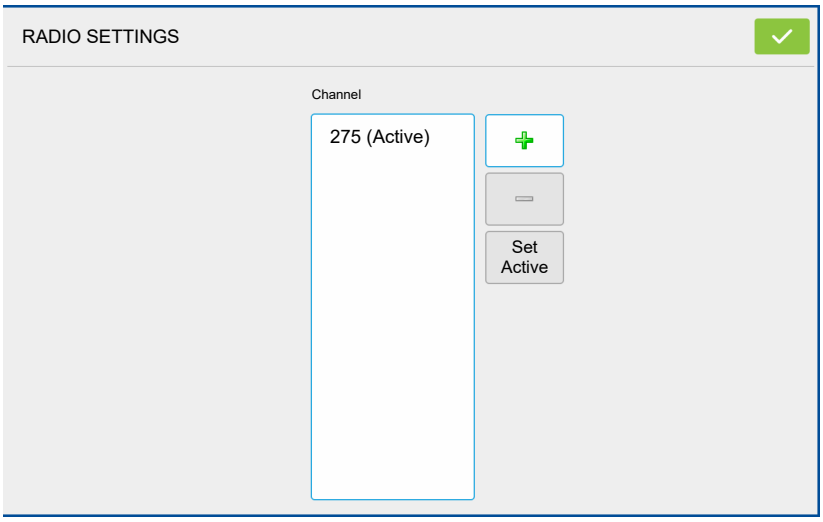
Press button to add a Frequency

Select frequency and press button to delete selected frequency.

Select frequency and press button to make selected frequency active

RTK Settings - 900 MHz





Frequency

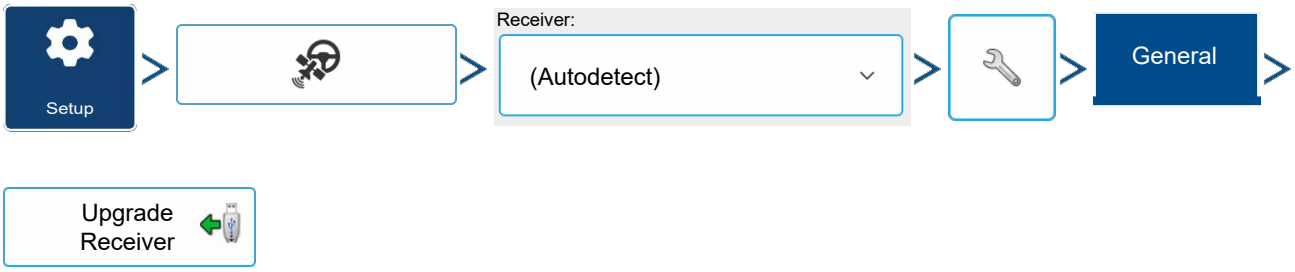
Press button to add a Frequency

Select frequency and press button to delete selected frequency.

Set Active

Select frequency and press button to make selected frequency active

Upgrade Receiver



Select file downloaded from Support.AgLeader.com

Select .fw3 file from USB drive.

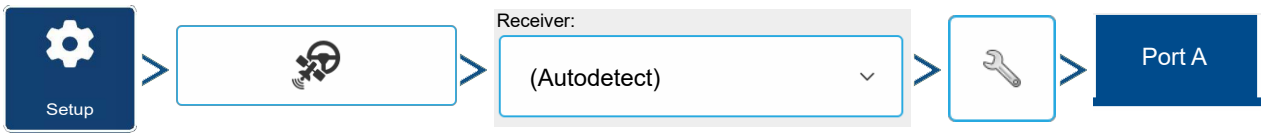
Press ✓ to accept.

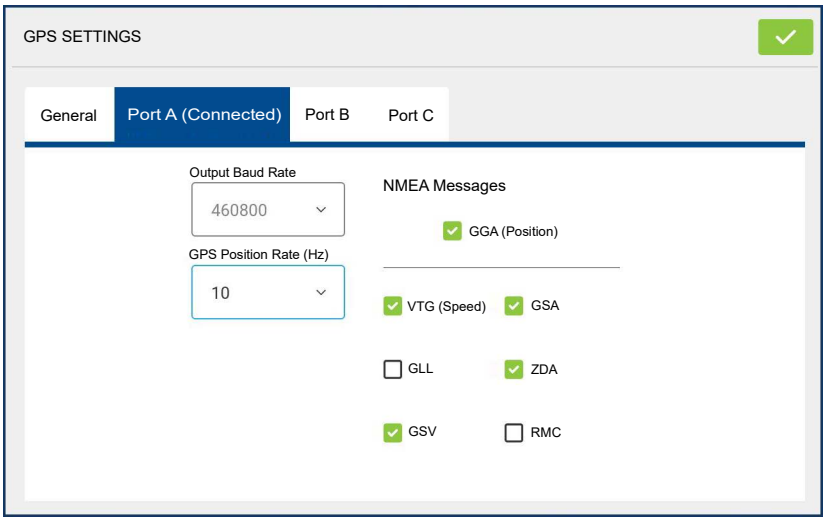
Display will upgrade receiver.

Press ✕ to return to previous screen without updating receiver.

Serial Port Settings

Port A tab





The Serial Port Settings screen is the place where GPS output can be adjusted. The appearance of the Serial Port Settings screen varies depending upon GPS receiver model.

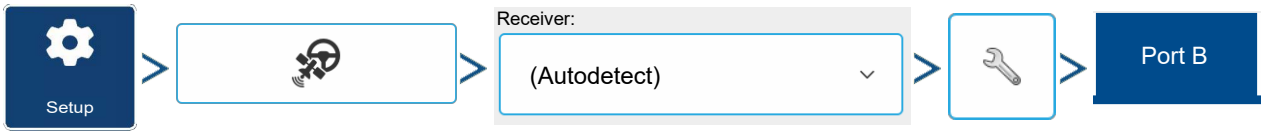
Output Baud Rate—Displays the speed at which the receiver communicates with the display. For optimal performance, the GPS baud rate is set at 115200. Output baud rate set automatically with GPS 6000/6500 receivers.

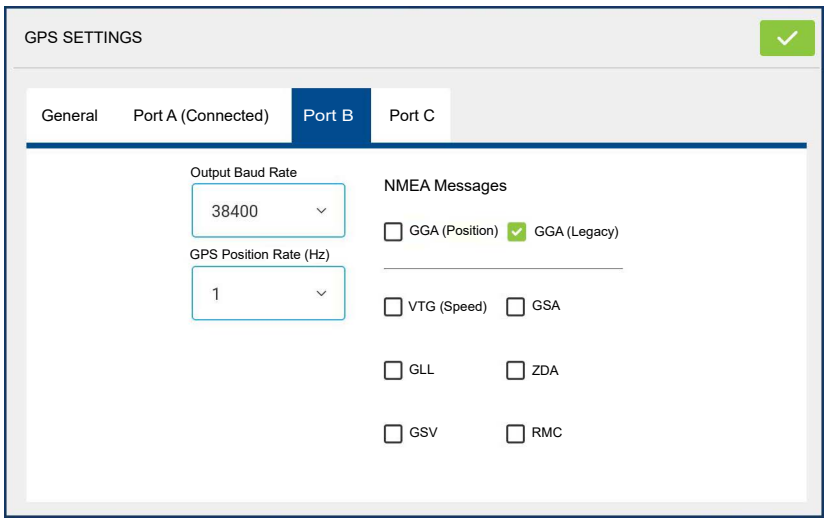
GPS Position Rate (Hz)—Represents the cycles per second (shown in Hz) that the display receives position information from viewable satellites (10 Hz recommended).

NMEA Messages—These checkboxes represent various communication protocols or formats that have been set by the National Marine Electronics Association (NMEA), and used in information “strings” or sentences output by the GPS Receiver. At present, the display only requires two NMEA Message formats: GGA and VTG.

- GGA: position in longitude and latitude.
- VTG: ground speed.
- GSV, GSA: required to view the Satellite Plot, but are not required for GPS information. However, GSA must be enabled to obtain differential when using SteerCommand® Z2.
- GLL, ZDA, RMC, MSS: Leave these other NMEA message formats unchecked, unless connected to a third-party monitor and have been directed to do so.

Port B tab



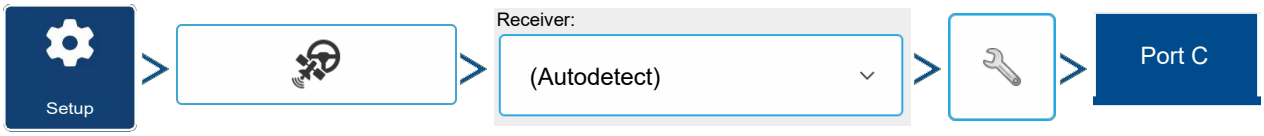


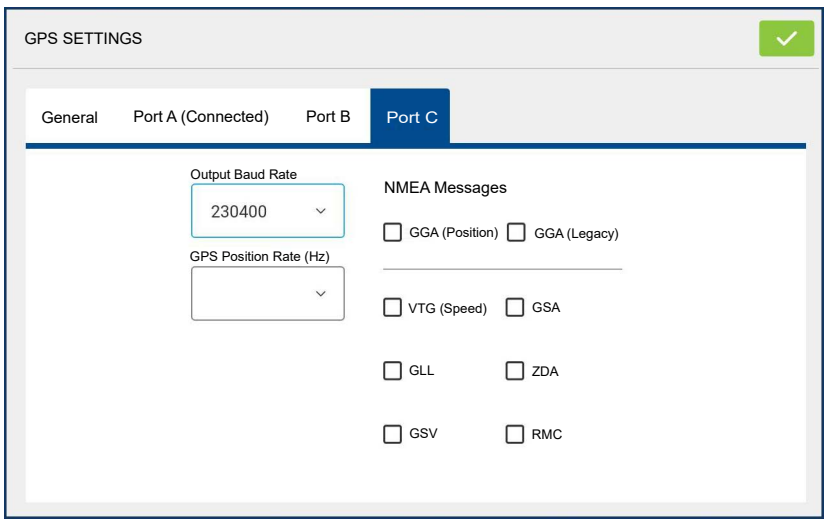
The appearance of the Port B tab is similar to Ports A.

• **GGA(Legacy)** —Shortens the decimal precision of the GGA message for connection to legacy equipment.

• **GGA(Position)** —Gives increased precision to the GGA message. Most new displays require this turned on.

Port C tab





The appearance of the Port C tab is similar to Ports A and B.

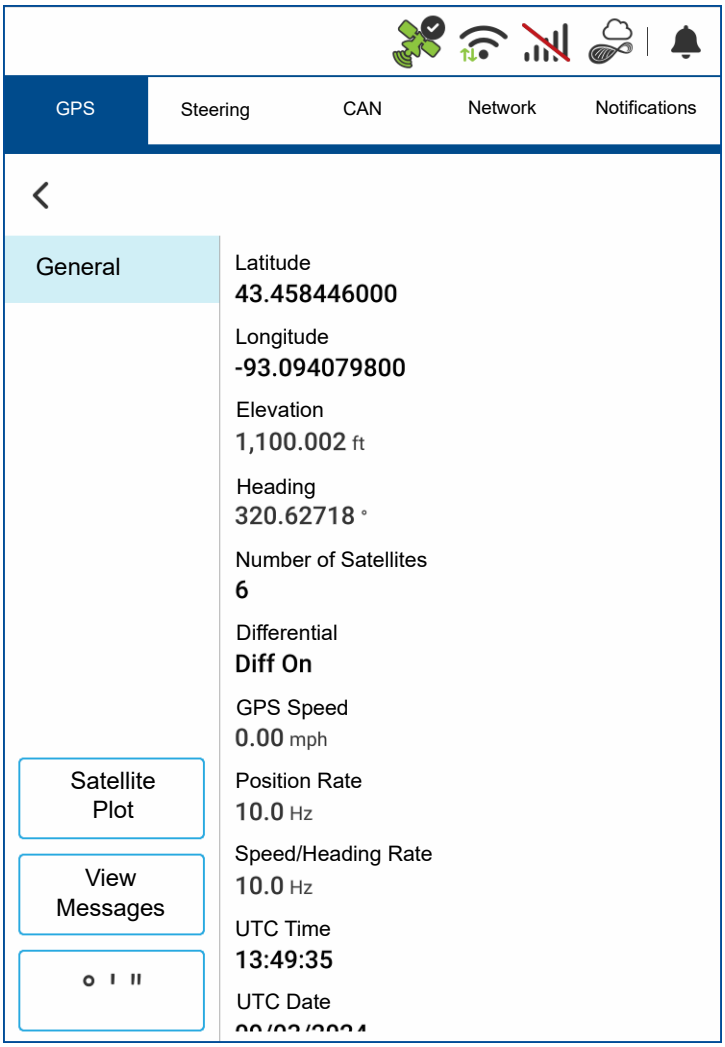
• **GGA(Legacy)** —Shortens the decimal precision of the GGA message for connection to legacy equipment.

• **GGA(Position)** —Gives increased precision to the GGA message. Most new displays require this turned on.

GPS Information

To view GPS diagnostic information, press anywhere on the diagnostic menu  in the top right and select GPS. GPS information will be listed here, as well as buttons to view the satellite plot and incoming NMEA messages.

GPS Information - General



Latitude, Longitude—Displays current position (in longitude and latitude).

Elevation—Shows elevation of receiver.

Heading—Displays degree heading of travel.

Number of Satellites—Number of tracked satellites used in position fix.

Differential

- **No Diff**—Indicates the receiver is not receiving a differential GPS signal.
- **Diff On**—Indicates the receiver is receiving a differential GPS signal.
- **GLIDE**—GPS 6000/GPS 6500 Only.
- **WAAS/EGNOS**
- **TerraStar**—GPS 6500, 7000, and 7500 Only.
- **RTK Fixed**—The receiver is receiving a valid RTK differential source.
- **RTK Float**—The receiver is receiving information from the Base Station, but the signal is not strong enough for an RTK fix.

GPS Speed—Real-time speed of travel.

Position Rate—The frequency that the receiver is sending the display the position in longitude and latitude (GGA). For example, at 10 Hz the display would be receiving a position message 10 times every second.

Speed/Heading Rate—The frequency that the receiver is sending the display ground speed and heading (VTG)

NOTE!: Position Rate and Speed/Heading Rate should both be set at a minimum of 5 Hz for guidance or steering.

Change Longitude/Latitude Format—Pressing this button changes the Longitude/Latitude format. These can either be shown in Degrees, Minutes and Seconds; or Decimal Degrees.

View Messages button—see GPS Messages on page 146.

UTC Time—UTC is an acronym for Coordinated Universal Time, a high-precision atomic time standard that defines local time throughout the world. If receiving information from satellites, the UTC Time should automatically update.

UTC Date—If receiving information from satellites, the UTC date should automatically update.

HDOP—Horizontal Dilution of Precision (HDOP) indicates the quality of the horizontal GPS position. Lower HDOP numbers are optimal, higher numbers are undesirable.

PDOP—Position Dilution of Precision (PDOP) is a unitless measure indicating when the satellite geometry can provide the most accurate results. When satellites are spread around the sky, the PDOP value is low and the computed position is more accurate. When satellites are grouped close together, the PDOP is high and the positions are less accurate. Lower PDOP numbers are optimal, higher numbers are undesirable.

Port—The connection between the display and the GPS as established at a message format and baud rate.

RTK Throughput—Indicates a percentage of information available from the RTK base station. Used for troubleshooting an RTK link between the base and rover.

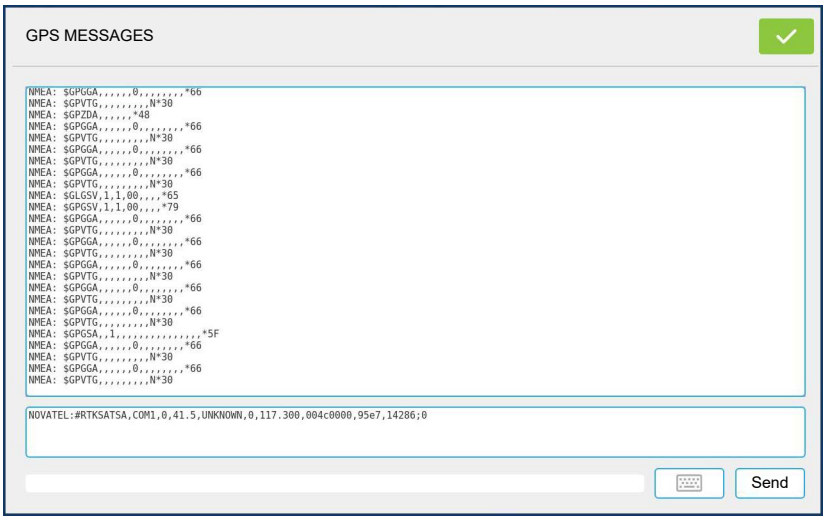
Frequency—The Correction Frequency indicates the GPS satellite frequency used by the receiver.

NOTE!: The Correction Frequency diagnostic does not show for WAAS connections.

Correction Age—The length of time since the GPS receiver has obtained its last update.

NOTE!: The age of the DGPS corrections (as delivered to the GPS receiver) will vary from one second to several seconds, depending on the characteristics of the individual satellite signals.

GPS Messages

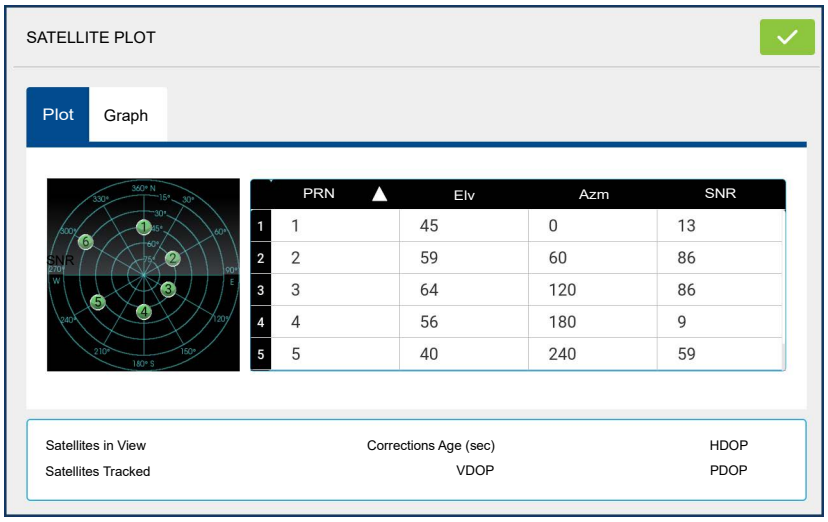


View the NMEA messages coming from the receiver.

Press  and use keyboard screen to write a command to the receiver. Only send commands to the receiver when directed to by technical support.

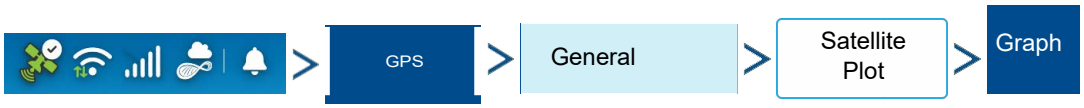
Press Send to send message to the receiver.

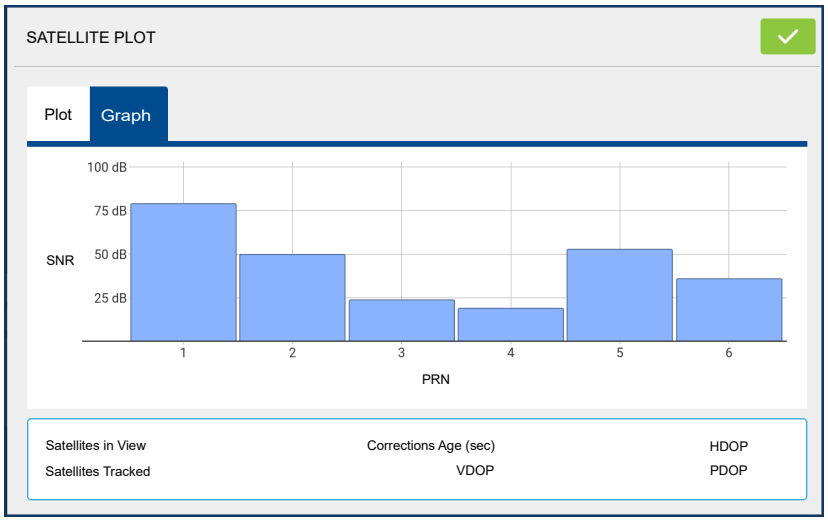
Satellite Plot



The Satellite Plot feature can display both a plot or a graph. The information on these screens is used as an advanced diagnostic tool for GPS satellite availability. In the event of GPS availability issues, technical support may request to view these screens.

Satellite Plot - Graph

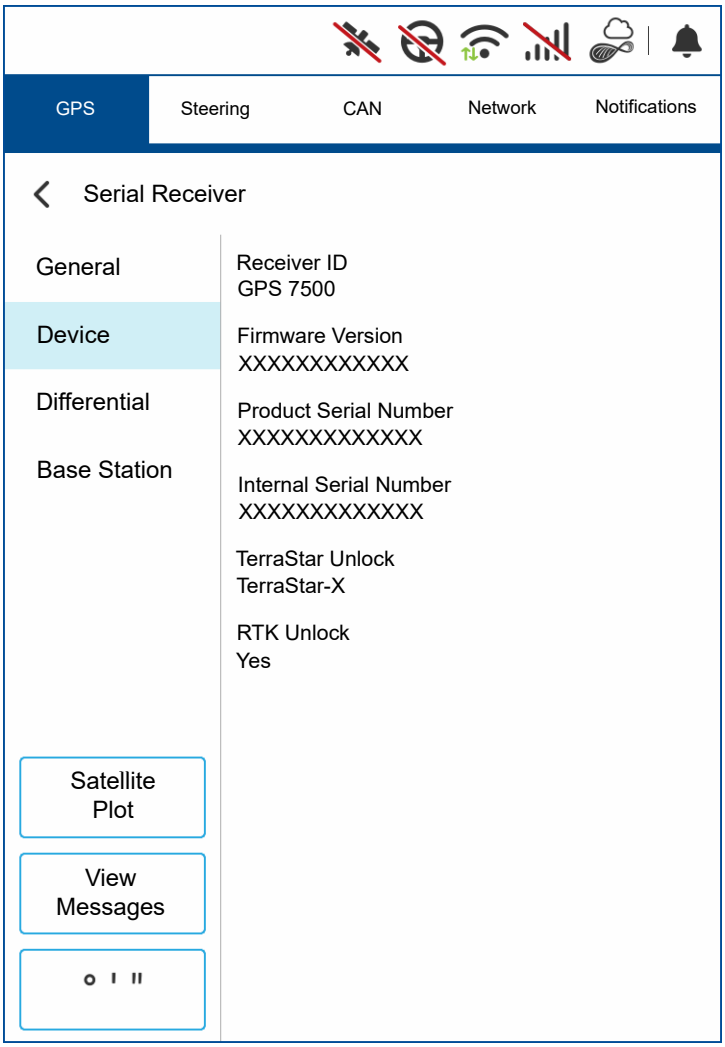




Satellite Plot requires GSV and GSA NMEA messages to be turned on from the GPS receiver.

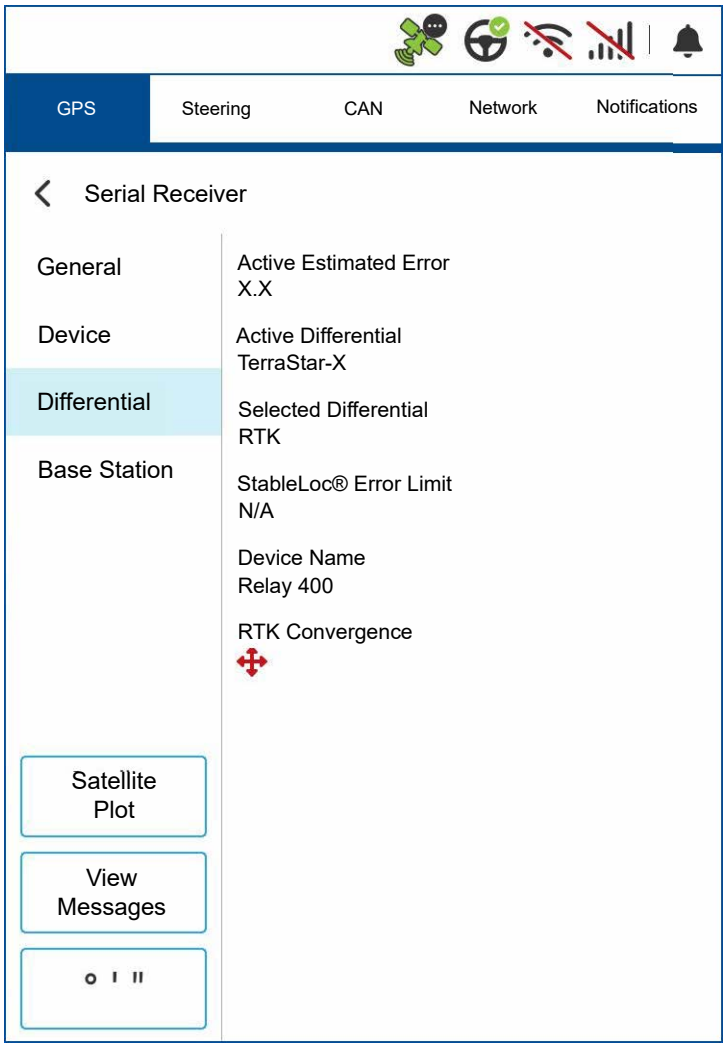
Graphically shows satellite PRN's and SNR.

GPS Information - Receiver Tab



- Receiver ID
- Firmware Version
- Product Serial Number (enclosure)
- Internal Serial Number
- TerraStar Unlocked
- RTK Unlocked

GPS Information - Differential Tab



Active Estimated Error—Estimated error of the active differential source.

Active Differential—Indicates the active differential source and will vary depending on the current state of StableLoc.

Selected Differential—Indicates the selected differential source (the source selected in the GPS setup).

StableLoc Error Limit—Indicates the error limit selected in the GPS setup.

Device Name—Indicates the connected Relay Module.

Software Version—Software version of the radio/modem within the Relay Module.

Manufacturer—Manufacturer of the Relay Module.

Serial Number—Serial number of the Relay Module.

NTRIP Connect/Disconnect—Connect or Disconnect from NTRIP Source.

RTK Convergence—Three states to indicate the current convergence level.

TerraStar Convergence Limit—Maximum allowable error for TerraStar accuracy. When estimated error is larger than convergence limit, system will not allow Autoswath and steering.

Subscription Valid—Notes if receiver as a currently active TerraStar Subscription

Valid Unit—End date for current subscription

Subscription Type—Shows active subscription type. “Term” subscriptions are a subscription type with an end date.

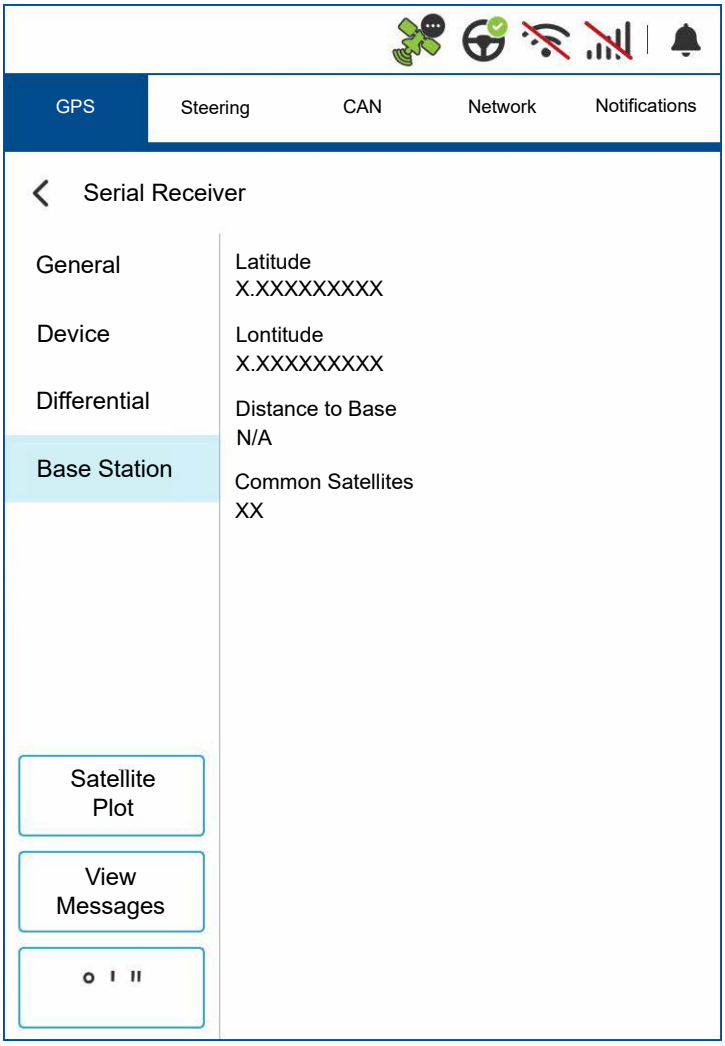
Position Status—Shows current state of TerraStar signal.

Red Arrows, pointing out—The device is not currently converging on RTK. This may indicate a RTK link problem.

Green Arrows, pointing in—The device is currently converging, but not ready for RTK fix.

Green Bull's-eye—The device is converged on RTK.

Base Station



Displays base station specific information

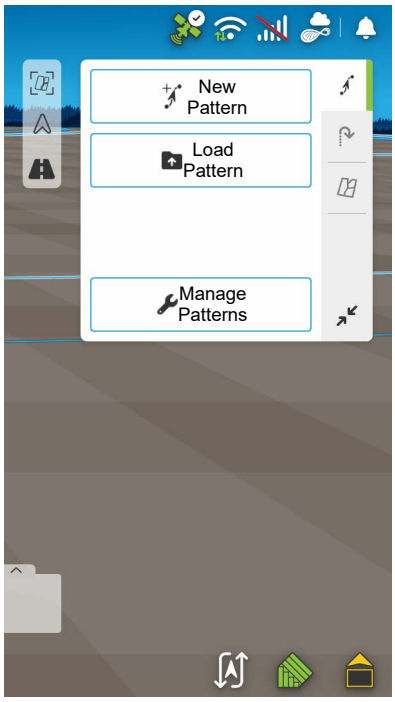
Latitude—Latitude of Base Position.

Longitude—Longitude of Base Position.

Distance to Base—Distance to Base Station.

Common Satellites—Shows the number of Satellites the receiver has in common with the base station.

Guidance Tab on Mapping screen



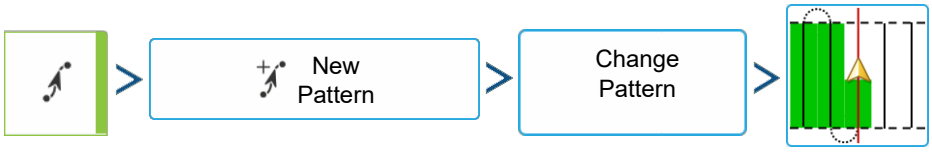
Use the Guidance tile on the Mapping screen to create a new pattern, load an existing pattern, or adjust Guidance Options and Guidance Settings. This tile changes its appearance after pattern is created or loaded.

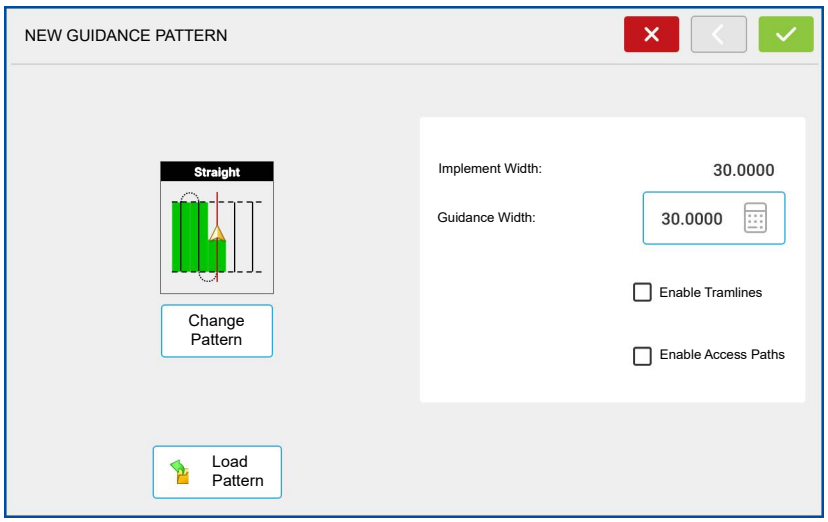
Before creating any patterns, the map screen's Guidance tile appears as shown.

NOTE!: Guidance pattern will default to the one last used. Guidance patterns can be set to widths up to 2000 ft.

Straight

Select Pattern





System defaults to last pattern used. Press Change Pattern to select a different pattern.

- Implement Width (from Implement Setup)
- Guidance Width input box
- Enable Tramline check box. See Tramlines on page 171.

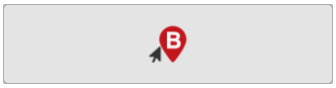
• Enable Access Paths check box. See Access Path on page 173.

Press  to return to the Mapping screen.

Create AB line using 2 points

 Press to mark A point.

 appears on the map screen where the A point was placed

 Button is greyed out until a minimum of 100 ft is driven

 Press to pause path during path creation

 Press to resume path during path creation

 Press to cancel path during path creation

 Press to mark B point. The AB line appears on the map screen

 appears on the map screen where the B point was placed

The AB line appears on the map screen

Create AB line using Current Location and Heading

uses current location and heading, line extends 1 mile before and after the A point (recommend vehicle having forward motion to get a good heading).

Create AB line using Current Location and Inputting Heading

uses current location and input heading, line extends 1 mile before and after the A point.

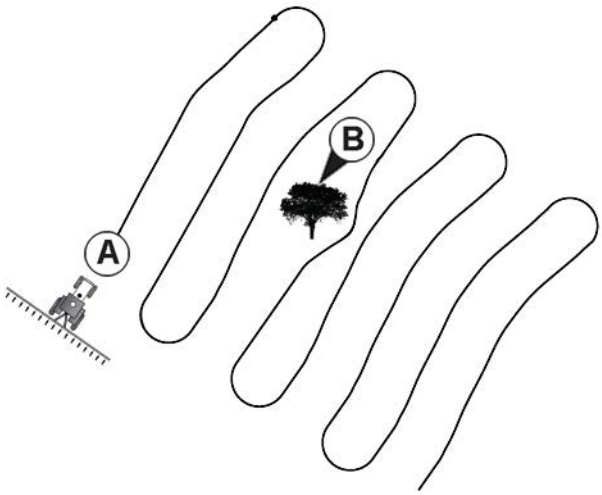
Patterns are automatically saved when the guidance pattern is created.

NOTE!: On straight AB lines, if current swath is longer than the previous one, the display automatically extends the guidance path for the following swaths.

Returns to SmartPath

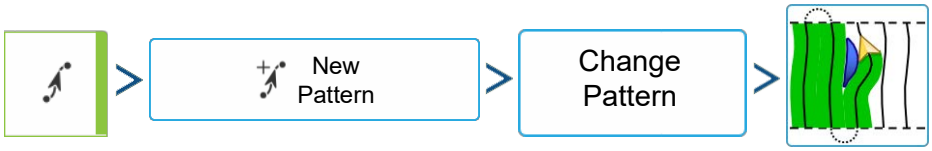
Returns path setting to SmartPath.

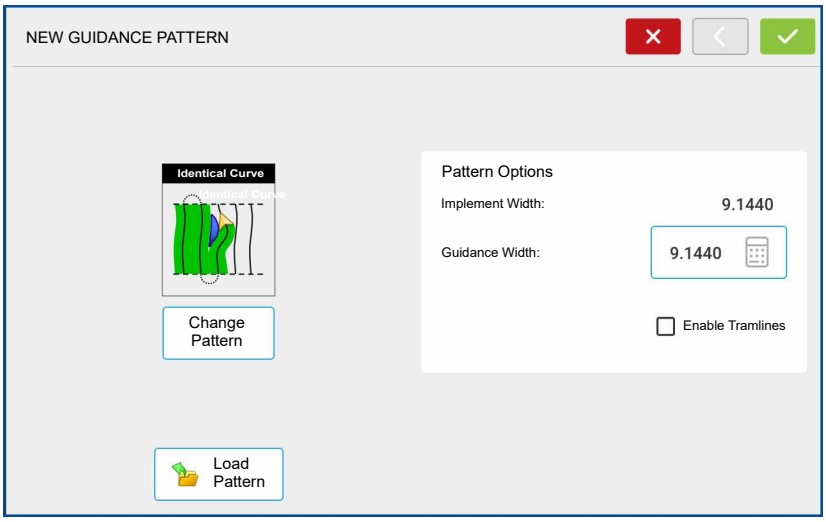
Identical Curve



Use the Identical Curve pattern to follow gentle contours in the field. This pattern provides guidance based on the original curve driven.

Select Pattern





System defaults to last pattern used. Press Change Pattern to select a different pattern.

- Implement Width (from Implement Setup)
- Guidance Width input box
- Enable Tramlines check box. See Tramlines on page 171.

Press ✓ to return to the Mapping screen.

Create AB line using 2 points

Press to mark A point.

A appears on the map screen where the A point was placed

Button is greyed out until a minimum of 100 ft is driven

Press to pause path during path creation

Press to resume path during path creation

Press to cancel path during path creation

Press to mark B point. The AB line appears on the map screen

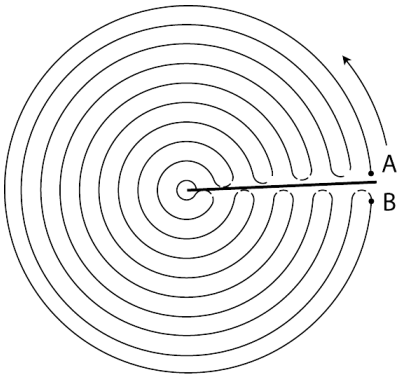
B appears on the map screen where the B point was placed

The AB line appears on the map screen

Returns to SmartPath

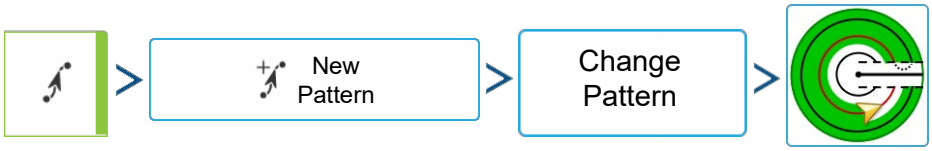
Returns path setting to SmartPath.

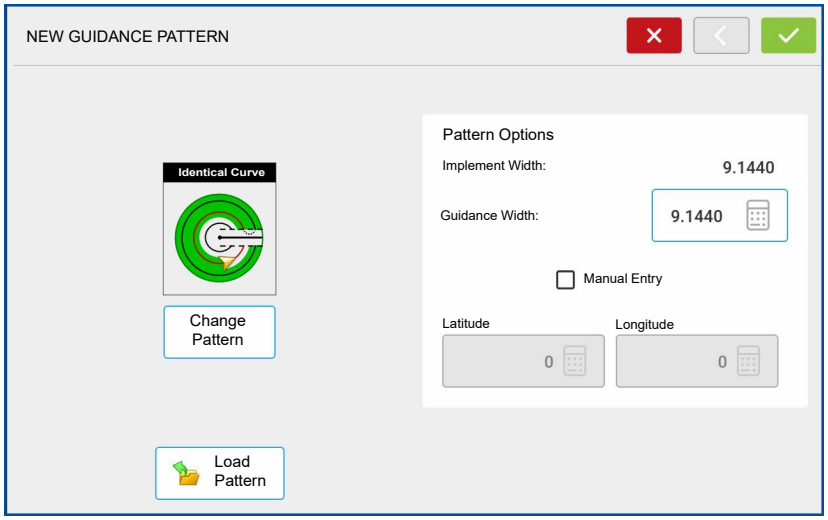
Pivot



Use the Center-pivot pattern for a field that is irrigated using a center-pivot. With this pattern, drive concentric circles around the center-pivot. The display will calculate the center point based on path driven. Otherwise, enter latitude and longitude of the center point, if known.

Select Pattern





System defaults pattern type to last used. Press Change Pattern to select a different pattern.

- Implement Width (from Implement Setup)
- Guidance Width input box
- Manual Entry checkbox and Latitude and Longitude input boxes

Press ✓. Display returns to the Mapping screen.

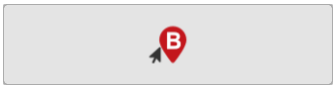
Create AB line using driven path

Position one wheel of the vehicle in a pivot wheel rut, with the rear of the vehicle to the pivot arm.

Press to mark A point.

appears on the map screen where the A point was placed

Drive desired path around the field. Keep the vehicle wheel in the rut.



Button is greyed out until a minimum of 160 ft has been driven.

Press to pause path during path creation

Press to resume path during path creation

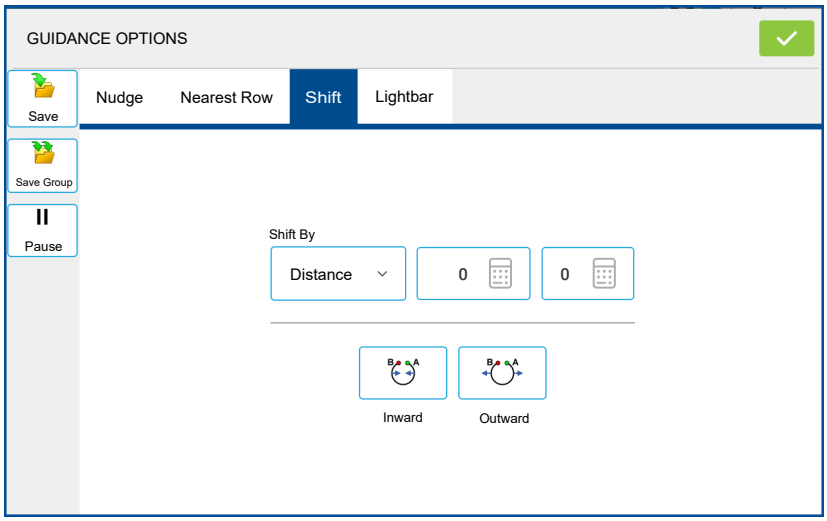
Press to cancel path during path creation

When almost back to the pivot arm or the edge of the field, press to mark B point

appears on the map screen where the B point was placed

The AB line appears on the map screen.

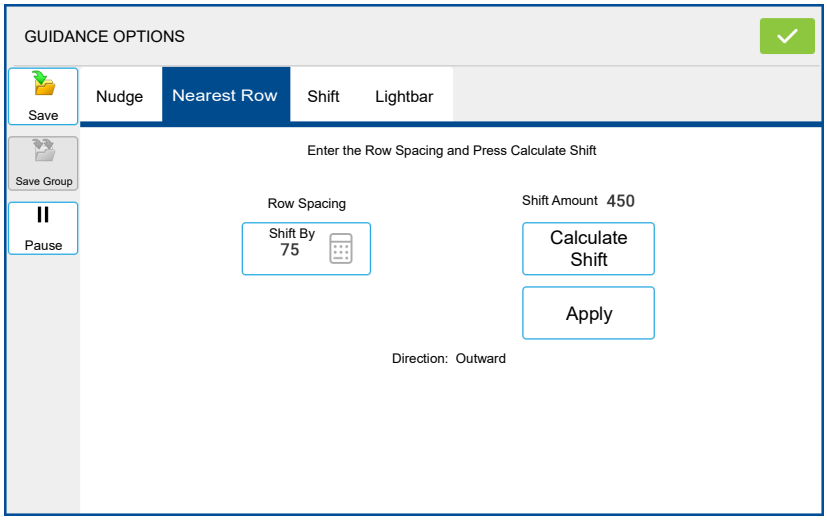
Pivot Shift



Shift by Distance—Shift the pivot pattern, inward or outward, by a desired distance.

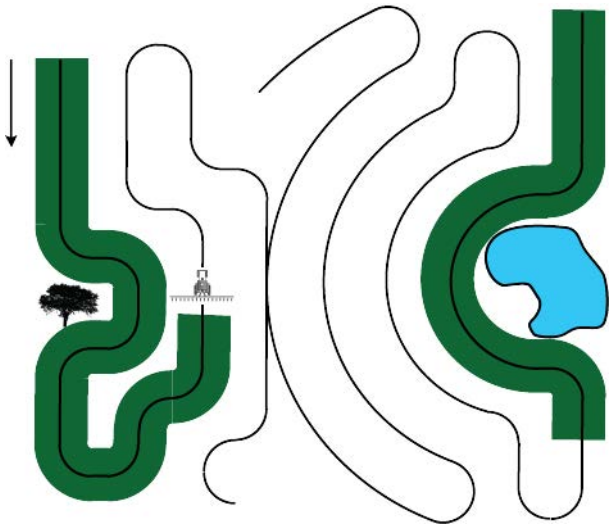
Shift by Row—Shift the pivot pattern, inward or outward, by a desired number of rows.

Nearest Row



Nearest Row—Shift pivot pattern to the nearest row based on current location. User must enter row spacing.

SmartPath®

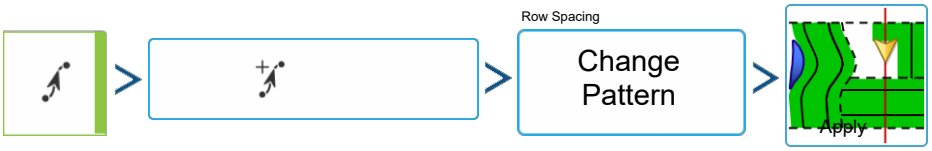


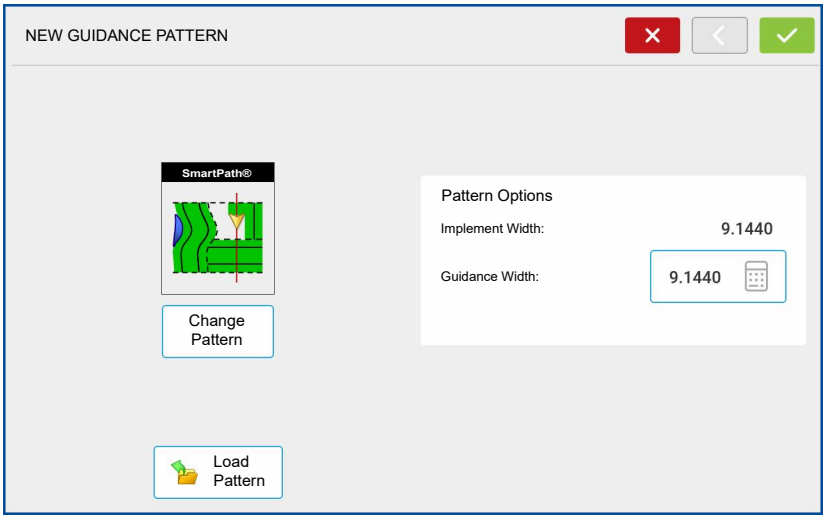
The SmartPath™ pattern is designed to give guidance from any previously-driven pass. This is used in irregular-shaped and terraced fields where all passes cannot run parallel to each other.

SmartPath allows moving to a different area of the field, and resuming a previous guidance pattern later.

SmartPath can be used to create straight AB patterns and curved patterns within the SmartPath pattern. Cycle between Straight AB and SmartPath at any time within SmartPath guidance pattern.

Select SmartPath





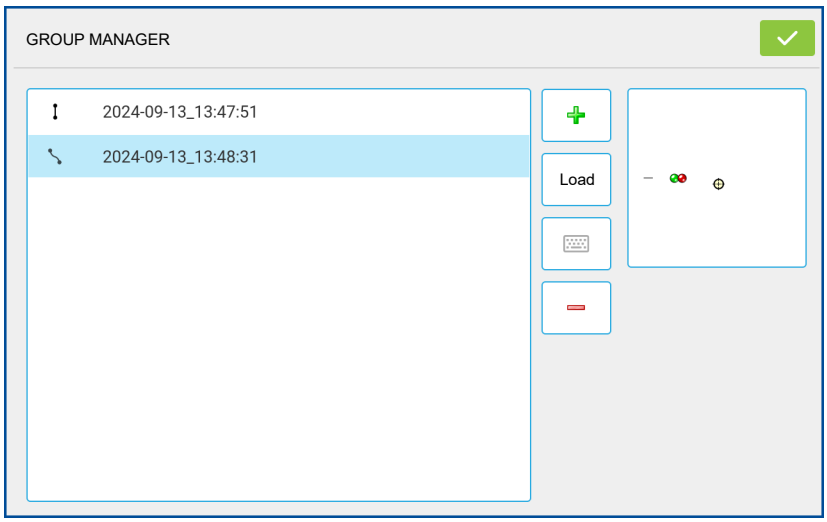
System defaults pattern type to last used. Press Change Pattern to select a different pattern.

• Implement Width (from Implement Setup)

• Guidance Width input box

Press ✓. Display returns to the Mapping screen.

Inputting Paths into SmartPath



Group Manager

The Group Manager screen allow user to create, edit, remove, and load paths into SmartPath.

Create up to 10 different AB lines within SmartPath.

Press  to close the screen.

Cycle between Loaded Paths

 Press forward or back to cycle through the paths loaded into SmartPath.

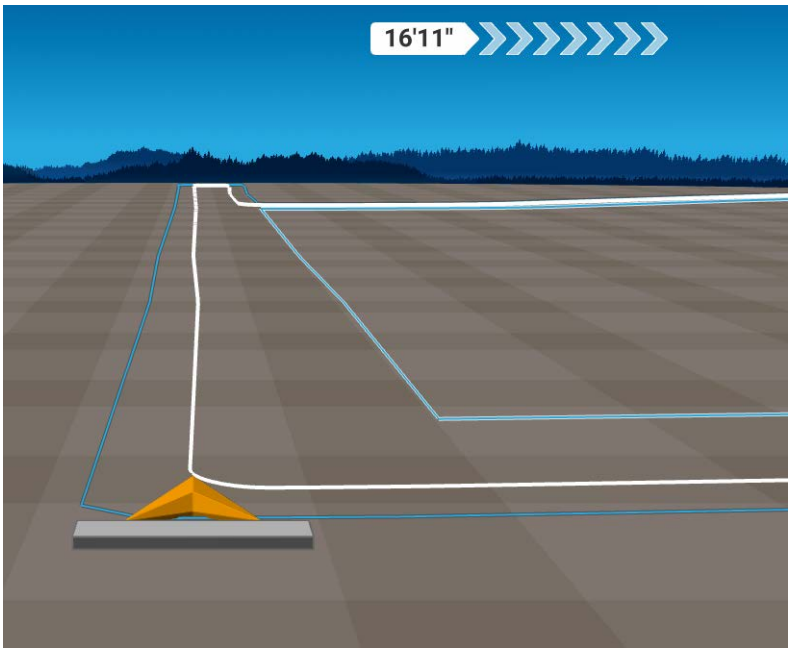
Driving onto the Projected Path, system guidance uses this as the Followed Path.

Once the AB line is created, switch between the AB line and SmartPath patterns by pressing the AB/SmartPath toggle.  / 

The Mapping screen changes its appearance to Perspective View, and SmartPath settings are shown in the Mapping toolbox. Drive along path to create.

NOTE!: The display will not create A point with SmartPath, unless mapping a Straight AB line within it.

After turning around on first pass, the system guidance will follow a line parallel to the previously-driven pass.



As you continue using SmartPath, the map screen will display three lines:

• **Base Path** — is the initial SmartPath created on the first pass.

• **Followed Path** — is the path that the vehicle is currently using.

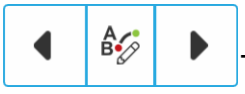
• **Projected Path** — appears as a blue-colored line on the opposite side of the Base Path and is an alternate path parallel to the Base Path. The system guidance created this path while the base path was created. This is the path that vehicle would have taken if it turned in the opposite direction.

NOTE!:

- The Projected Path and Base Path both remain in display memory, until the Reset button is pressed without saving the SmartPath pattern.
- Pressing the Save button saves all the SmartPath passes within the display's memory for future use.

Select a Previous SmartPath Pass

If SmartPath is specified as desired pattern, but an active guidance pattern is not being followed, the Guidance System automatically begins searching for SmartPath patterns to use.

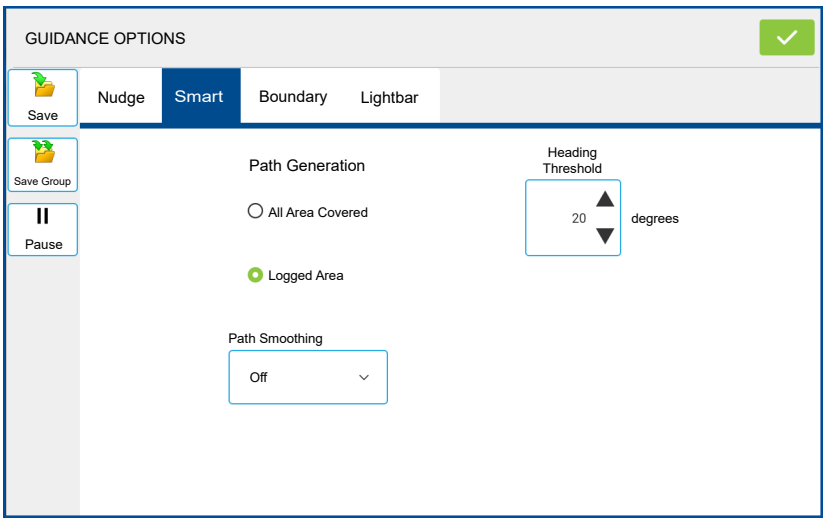

To use a previously-create SmartPath pattern, press either forward or back to select next or previous pattern.

NOTE!:

- When the guidance system looks for other available SmartPath patterns, it first displays the nearest-available pass.

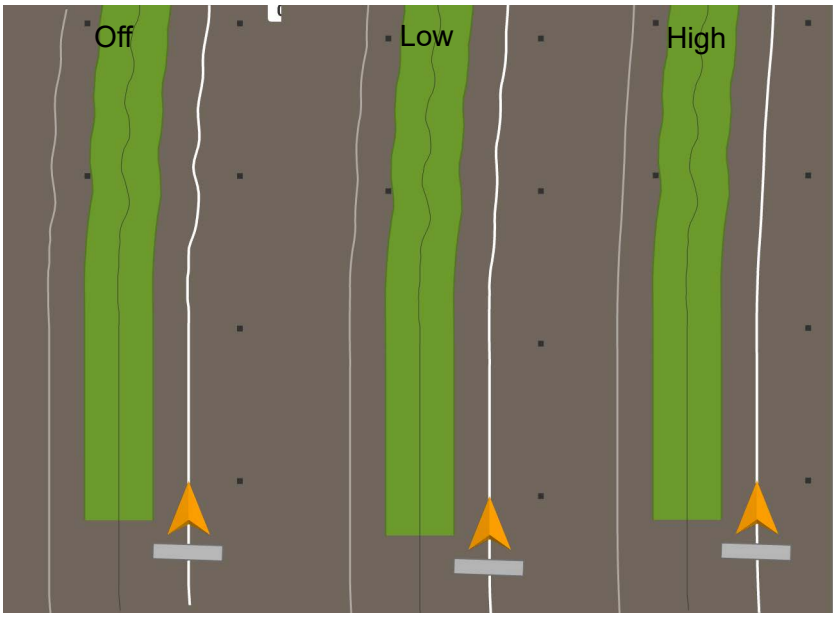
• Adjust the available area in which the Guidance System searches for previously-created SmartPath passes. To do this, adjust the Heading Threshold settings on the Smart tab of the Guidance Options screen.

SmartPath Guidance Options



• The Heading Threshold setting is the available area that the Guidance System uses to search for previously-created SmartPath passes. The default setting is 20 degrees.

Path Smoothing

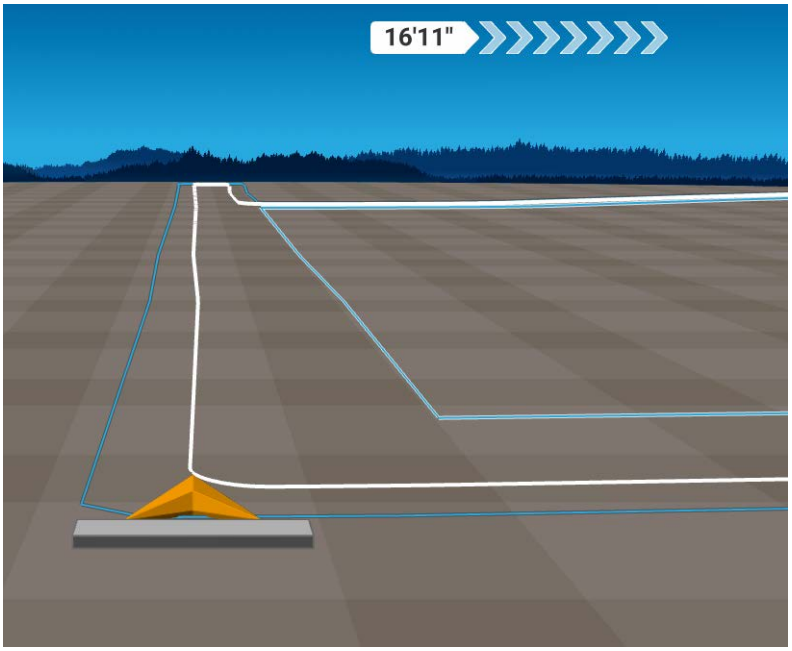


Path Smoothing can be used on SmartPath and FollowPath patterns to smooth out jaggedness when the line is generated.

There are 4 options in the drop down. These cannot be changed while steering is engaged.

- **Off**
- **Low** - Setting will smooth the guidance line to reduce little variations in heading changes.
- **Medium** - Setting will smooth the guidance line to reduce any moderate variations in heading changes.
- **High** - Setting will smooth the guidance line to reduce any larger variations in heading changes.

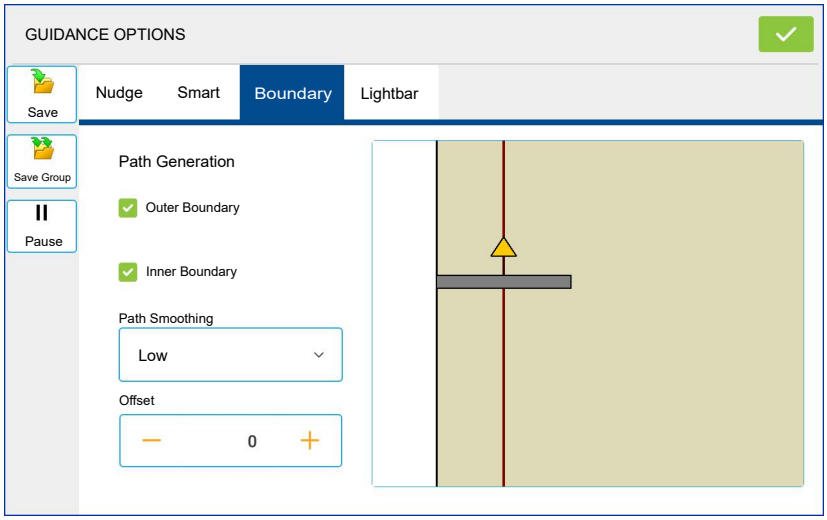
Boundary Guidance



Automatically generates a guidance line based on a set boundary for a field. Once a boundary is set for a field, create a new SmartPath guidance pattern and the guidance line will automatically be generated around the boundary.

NOTE!: The Boundary Guidance feature will only generate one pass around the boundary. After the first pass, a typical SmartPath pattern will be used.

Boundary Guidance Options



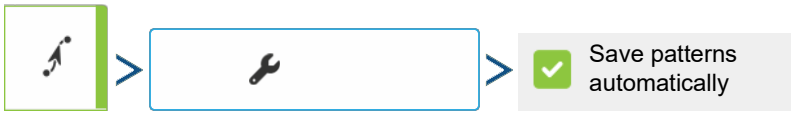
Outer Boundary – select this to enable boundary guidance generation on an outer field boundary.

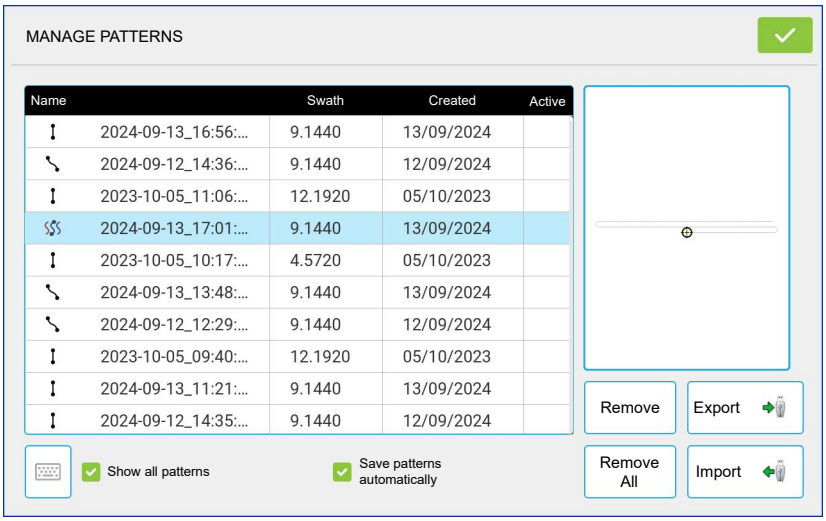
Inner Boundary – select this to enable boundary guidance generation on an inner field boundary.

Path Smoothing – See Path Smoothing onpage 161.

Offset – Offset of the line that is generated. Has a range of +/- 120 inches.

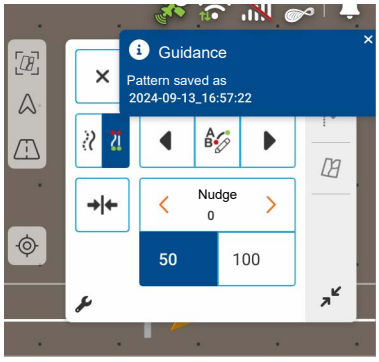
AutoSave





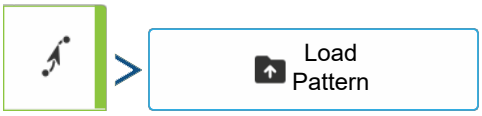
Guidance patterns can be automatically saved after completion.

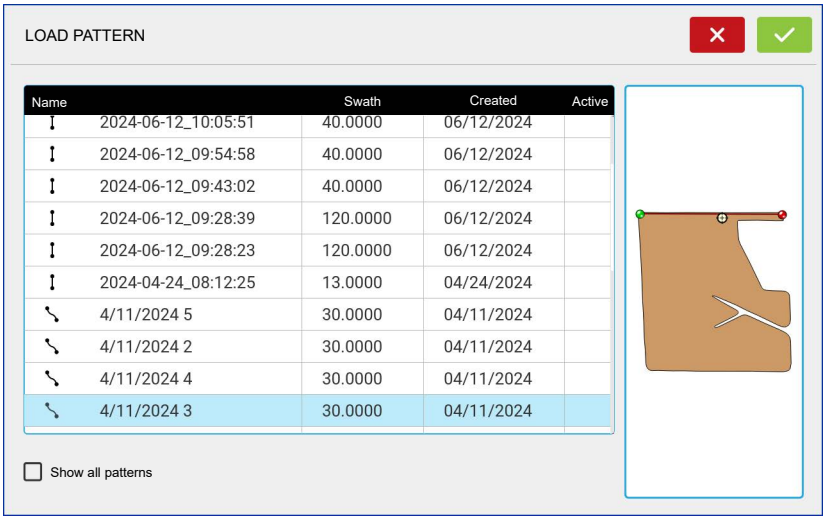
- Feature is on by default.
- Patterns can be renamed  , removed, imported and exported.



- A toast will notify user that pattern was saved with default name of date and time.

Loading a Guidance Pattern





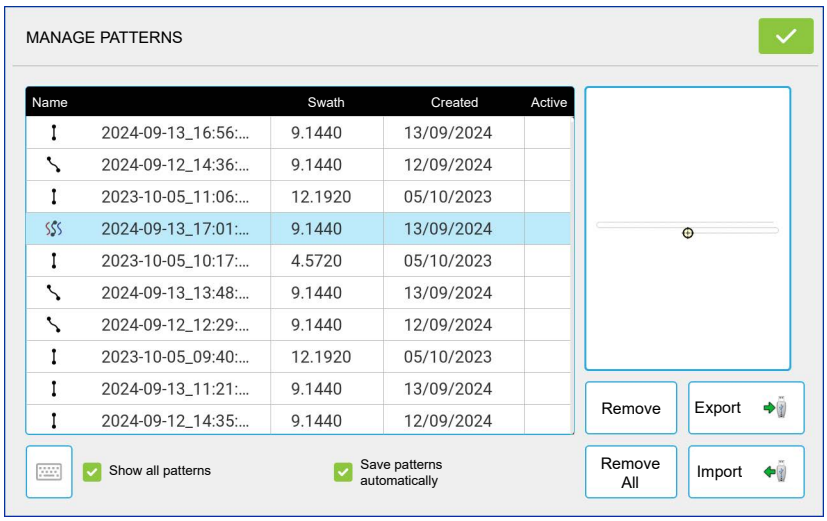
List of guidance patterns for the active field will populate after selecting load pattern.

Check  to show all patterns in the display.

Highlight pattern and press  to load pattern to Mapping screen.

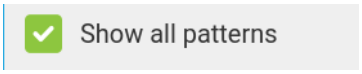
For Loading a Guidance Pattern while using DisplayCast®.

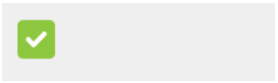
Manage Patterns



Edit

Press  to enter a pattern name.

Check  to show all patterns.

Check  to save patterns automatically.

Remove/Remove All

Remove — Delete one pattern file

Remove All — Delete all of them for the current field

Export

Export — Display indicates when file has been successfully copied.

Import

Import — Display indicates when file has been successfully copied.

Spatial Sort

Spatial Sort allows the user to select any guidance pattern in the display, sorted by distance from the GPS location.

Pattern at the top of the list will be the closest to current GPS location.

Reset Pattern

When using an already-saved pattern, to switch over to a different pattern in the same field, use the Reset Pattern feature by following the steps below.

1. Press Reset

   Press the Reset button on the Guidance screen.

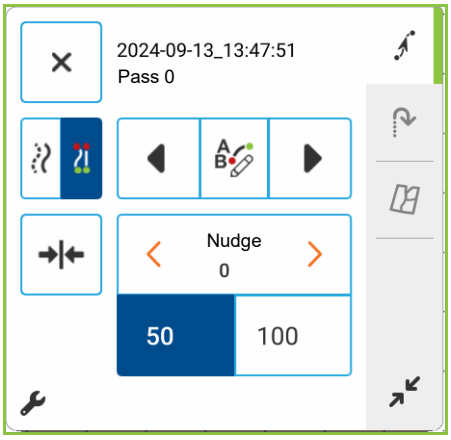
2. Confirm Reset

   The Guidance screen appears, asking to reset the current guidance pattern. Press  to continue.

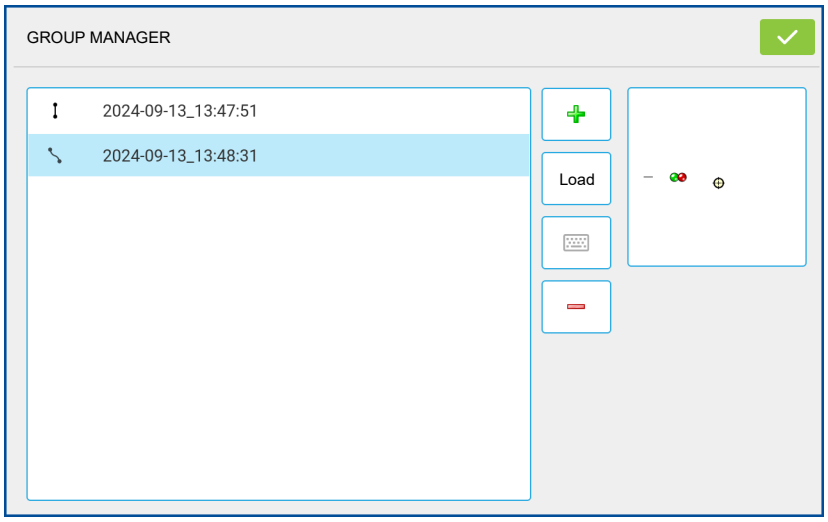
3. Create new pattern (optional)

   The pattern is now reset. Create a new pattern, desired.

Pattern Groups



Pattern Groups allow the user to group up to 20 patterns per field, using the Group Manager.



The Group Manager allows the user to add a new pattern or load an existing pattern to a Group. Once a Group is created, it can be saved and reloaded

Press  to close the screen.

.

Cycle between Loaded Paths

 The Pattern Cycle button allows the user to easily cycle between patterns with a single button press. Patterns will cycle in the order they were created or added, starting back at the beginning of the list, once the last patterns is reached.

Once the AB line is created, switch between the AB line and SmartPath patterns by pressing the AB/SmartPath toggle.  / 

When loading a Pattern Group, the Group Pattern Setting dialog appears and allows the user to select the Guidance Width and any shift that needs to be applied to each Pattern within the Pattern Group. User will also have the option to load Curve Patterns as Adaptive or Identical.

Straight AB, Identical Curve, Adaptive Curve and Pivot Patterns can be grouped. SmartPath cannot be grouped.

Guidance Options

Save

This allows the pattern to be saved to the display's internal memory.

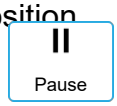
Press  and enter a unique pattern name.

When finished, press  .

Pause

The Pause button allows the display to stop logging points along an AB Line. Once this button is pressed, a Resume button will take place of the pause button until pressed to continue logging.

NOTE!: When using the display to follow a set AB Line and wish to temporarily deviate from this line, use the Pause button to pause the display's guidance logging activity. This feature could be used, for example, by a vehicle operator who must refill a sprayer. When paused, the display will continue to give the distance back to the original pause point position.

- Press  on the Guidance screen. When pressed, the paused location appears on the Mapping screen as a yellow ball.

NOTE!: Pause can be used even without a “B point” set. When pressed the lightbar message reads “Need B’”. When pause is pressed after setting an AB line, the lightbar will indicate the distance away from the paused location.

- To resume pattern, press  to resume creating the AB Line.

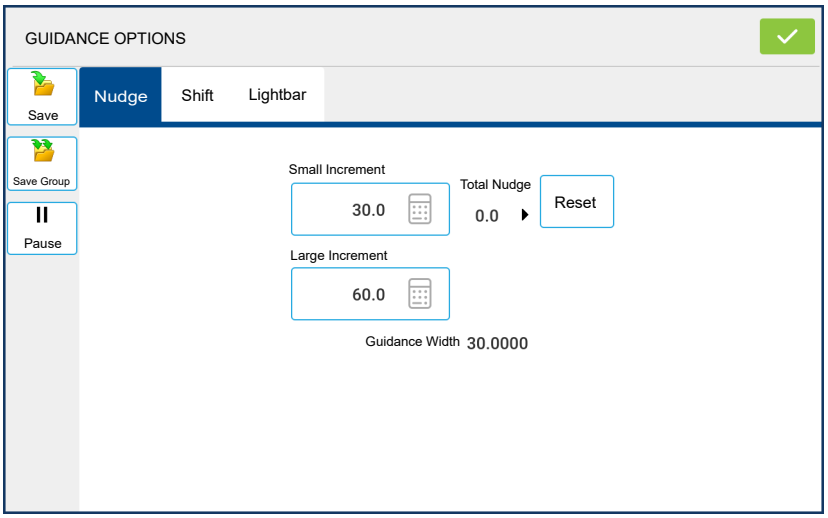
NOTE!: Press the Resume button before returning to the original AB Line, to have display select closest AB Line to vehicle.

Remark A

Choose straight pattern, the Remark A button appears on the main Guidance window. The Remark A button "re-marks" the A point by moving it to the current position of the vehicle while

maintaining the same heading. A brief message appears in the on-screen lightbar, stating "Point A Remarked."

Nudge

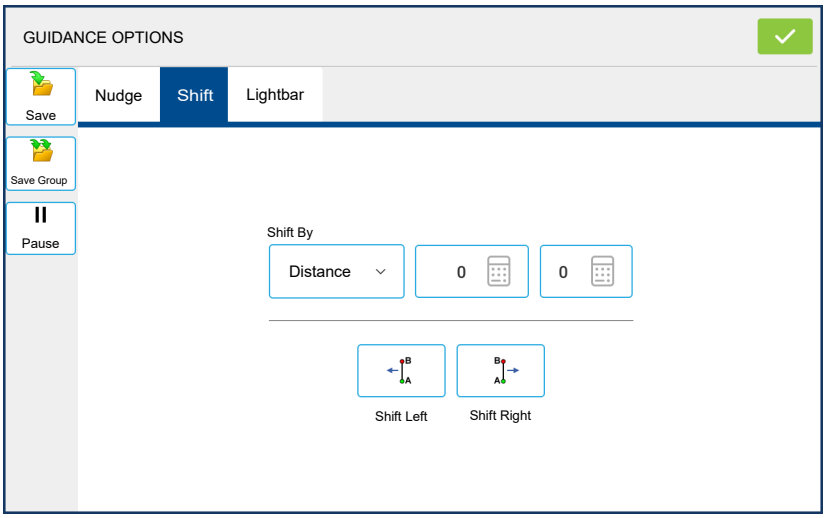


•Press  to enter a distance for increment that the swaths will move with each successive press of the left or right arrows buttons on the Guidance tab.

To clear out the adjustment and go to the original position, press Clear Nudge.

Screen shows Small and Large increment settings for Straight path. Other Patterns will only show the small increment setting.

Shift



Shift moves all of the swaths by a specified distance to the left or right, (including the AB line). The swaths can be shifted by a distance or number of rows.

- **Shift by Distance**

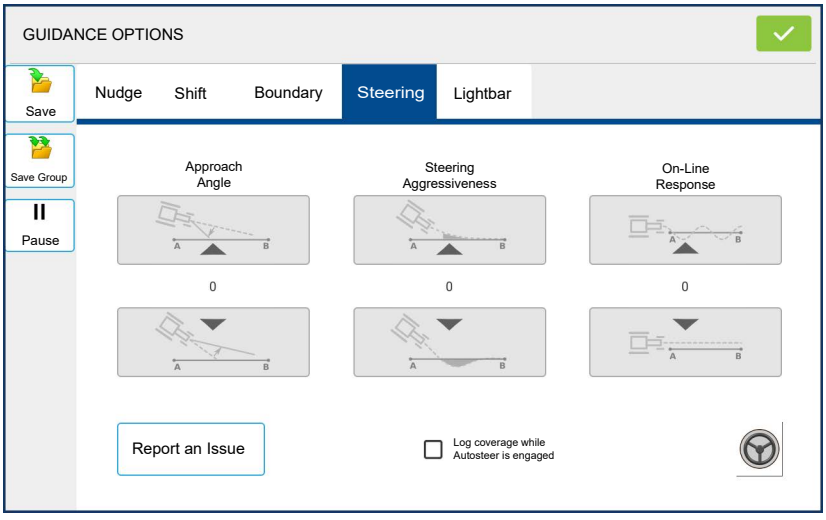
Use  to enter the distance that the pattern needs shifted. Use the bottom drop-down menu to enter the direction, (either left or right). Press Apply button to accept change.

- **Shift by Rows**

Use  to enter the number of rows the pattern needs shifted. Use the second  to select the row spacing. Use the drop-down menu to enter the direction to shift the pattern. Press Apply button to accept the change.

NOTE!: The Shift setting is not available with the SmartPath patterns.

Steering



Steering allows users to make autosteer turning adjustments on the go.

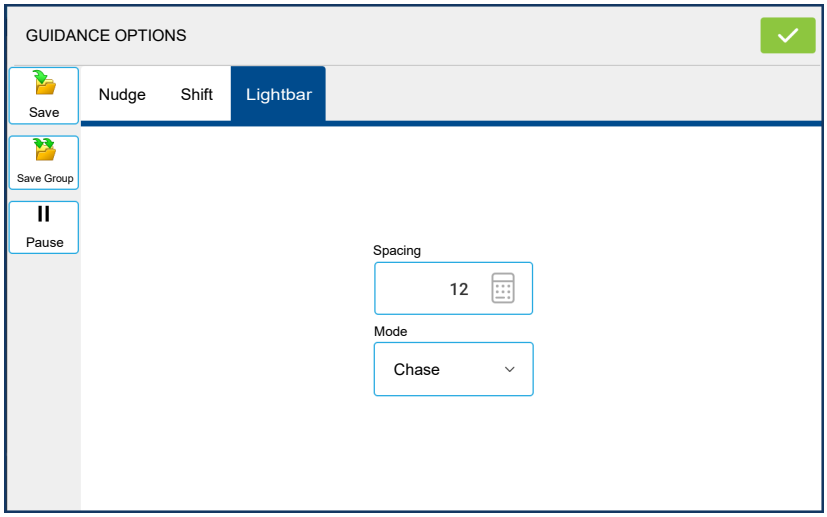
These options will only be available if an SCM is connected.

- **Line Acquisition**—Determines how aggressively the system steers onto the desired steering path. The

ideal setting allows the system to take the shortest route without excessively sharp or sudden movements of the vehicle.

- **Steering Response**—Controls the oscillations of the vehicle when it is on the desired path.
- **Reverse Response**—Controls the oscillations of the vehicle when it is on the desired path in reverse.
- **Log coverage while AutoSteer is engaged**— checkbox (check for yes, un-check for no). Coverage while engaged is available when an AutoSteering system is connected. User can still manually control coverage logging with the on-screen coverage button. AutoSwath is unaffected by this selection.

Lightbar



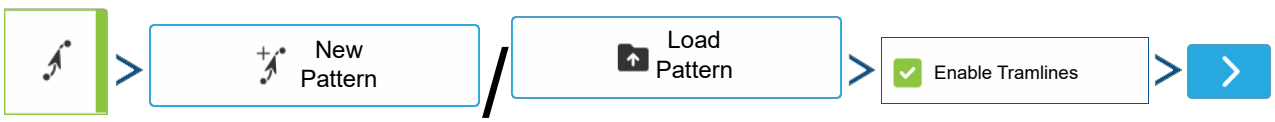
- **Spacing**—Enter the distance represented by each square of the lightbar, ½–6 ft (3–182 cm).

Mode

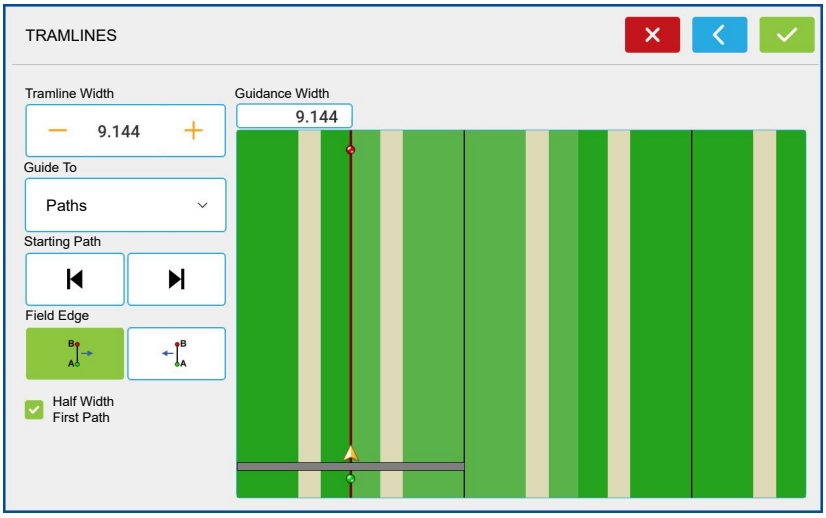
- **Chase**—Center the vehicle by following the indicator lights.
- **Pull**—Center the vehicle by turning in the opposite direction of the indicator lights on the lightbar.

Tramlines

Tramlines selection can be enabled from the New Pattern or Load Pattern menu. When enabled, the Tramlines setup page will appear during the setup process.



Preview will update as settings are changed for the desired guidance line.

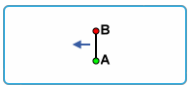


Tramline Width – Desired width of second operation (spraying)

Guidance Width – Defined value from the New Guidance Pattern or Load Pattern of first operation (planting)

Guide To – Select how to guide to the first operation (Paths) or second operation (Tramlines)

Starting Path – Arrows allow movement of initial guidance line location in relation to tramline location

Field Edge – Direction field will be worked (left or right) from the starting path

Half Width First Pass – Check the box if the first operation (planting) width does not provide the second operation (spraying) tramline in correct location

Once setup, Tramlines can be adjusted anytime from the Guidance Menu.

Tramline Adjustment

Adjust Tramlines - move the placement of the tramlines by one pass left  or right  .

An audible warning is sounded to alert the operator a Tramline is reached when the vehicle is ½ a swath width away.

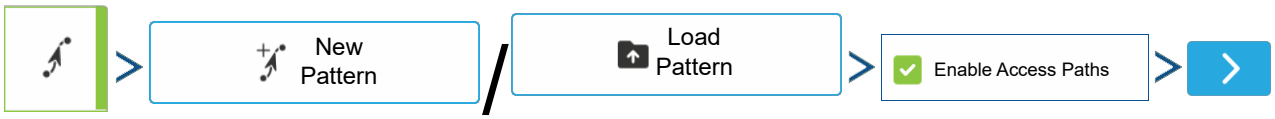
Tramlines are also numbered under the Pass Number. This number will flash multiple times when the Tramline is reached for a visual warning.

Access Path

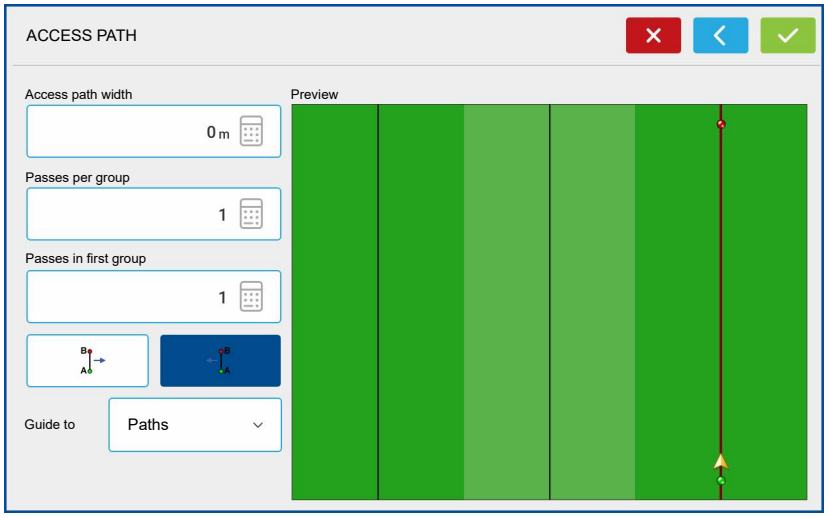
Access Paths allow more precise control of field layout. This is accomplished by allowing the user to bypass a road, ditch, or other obstacle in the field. When used in the case of irrigation ditches or roads that are evenly spaced and a known distance apart users can enter that distance when setting up Access Paths. Guidance lines will skip the Access Path and resume on the other side of it. Below is an example of enabling and using Access Paths.

Access Path Settings

Access Path selection can be enabled from the New Pattern or Load Pattern menu. When enabled, the Access Path setup page will appear during the setup process.



Preview will update as settings are changed for the desired guidance line.



Access Path Width — Width of Access Path (Irrigation ditch, road)

Passes Per Group — Number of passes in between each Access Path

Passes In First Group — The first group of passes may not be equal to the other groups. This setting allows the user to set the number of passes before the first access path.

– Direction field will be worked (left or right) from the starting path

Guide To – Allows guidance line to be placed in the desired location

- Paths

- Access Paths
- Both

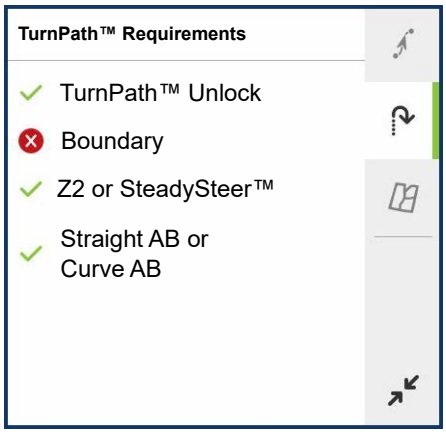
Press  when finished inputting settings

Once setup, Access Paths can be adjusted anytime from the Guidance Menu.

TurnPath™

An automatically generated guidance path that takes you from your current guidance pass to your target pass.

TurnPath Requirements

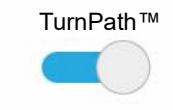


- TurnPath Unlock
- Field boundary
- SteerCommand Z2/SteadySteer
- Straight AB or Curve AB guidance line

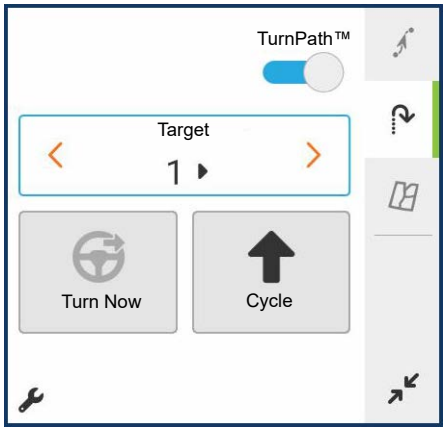
The requirements will only show when one or more of the requirements are not met.

When one or more of the requirements are not met, TurnPath will automatically be switched off. It will need to be enabled again when requirements are met.

TurnPath Single Turn Mode Toolbox



TurnPath on/off button



Sequence mode is disabled, and single turn mode will be used.

Turn Direction – 

Triangular indicator to show the turn direction of the next TurnPath.

Target Pass - 

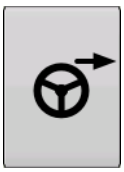
Number shown to indicate the difference between the current pass number and the target pass number.

Adjust Target Pass location - Moving the target pass, relative to current driving direction.

TurnPath Cancel – If pressed, TurnPath is canceled, and no TurnPath will be generated. The TurnPath will turn gray. When the turn is gray, it can be made active by hitting the next turn button.

TurnPath Alarm Active – notifying that user is within the TurnPath Countdown Distance. The button can be pressed to cancel the TurnPath.

TurnPath Next Turn – If pressed, TurnPath will move to the next available turn shown in gray.



Turn Now – When pressed, TurnPath will immediately turn toward the target pass. Only available while using single turn mode.

TurnPath options – Opens the TurnPath options

TurnPath Preview

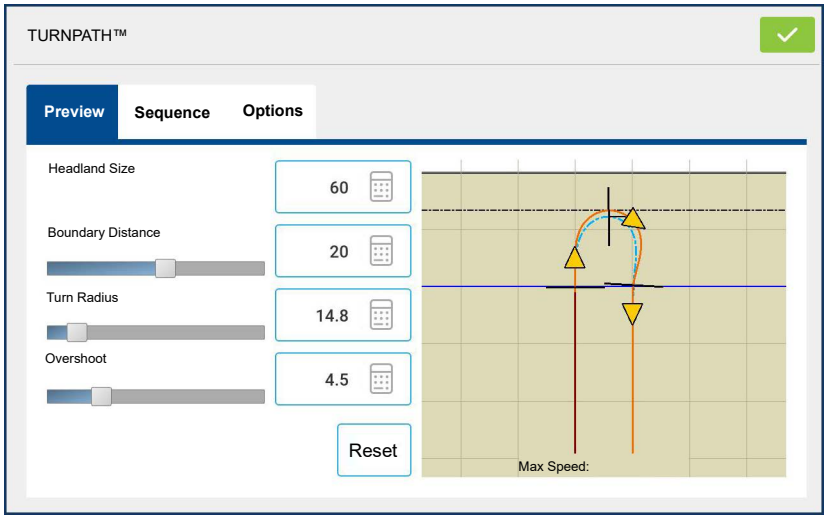
The TurnPath Preview tab shows a preview of the turn and allows adjustment to the parameters that define the shape and location of the turn.

Both the sliders and the number entries can be used to adjust. The value of the sliders show the live changes on the turn shape and location. The number entries are recommended to fine tune to a specific value. Pressing reset will take all sliders back to the default setting.

The preview enables evaluation of the TurnPath's shape and location, and how the TurnPath fits in the intended headland size. The vehicles with implements indicate the estimated trajectory of the implement through the turn, also shown with the dotted blue line. The three representations are shown at both the headland crossings and the halfway point of the turn.

The Max Speed shown in the preview resembles the expected maximum speed that can be used on the TurnPath. However, there are many factors playing into how well the vehicle can track the TurnPath.

TurnPath Radius



• The potential minimum turn radius in a TurnPath

A smaller value will lead to a sharper turn, and a larger value to a wider turn. When wanting to drive at higher speeds a larger turn radius value will be needed.

Overshoot

• How far you will overshoot the target pass on exit of the turn

With pull type implements that trail on the inside of the turn, adding an overshoot will allow the implement to line up perfectly straight on the target pass. The more an implement trails on the inside, the bigger overshoot value needed.

Boundary Distance

• The minimum distance from the TurnPath to the field boundary

When using a negative value, the TurnPath will cross the field boundary.

NOTE!: In situations where the vehicle is not able to perfectly follow the TurnPath the vehicle can get closer to the field boundary than defined by the boundary distance.

NOTE!: The solid black line in the TurnPath preview represents the field boundary.

NOTE!: The dotted black line in the TurnPath preview represents the minimum distance the TurnPath will stay from the field boundary, the Boundary Distance.

Headland Size

• A reference for evaluating how the previewed

TurnPath will fit in the intended headland size. The headland size value entered will not affect the shape or location of the TurnPath.

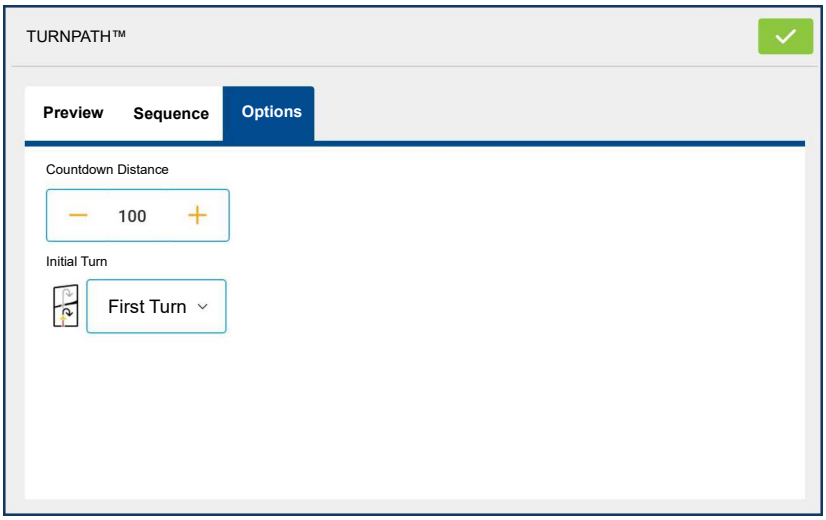
NOTE!: The solid blue line represents the headland size in the TurnPath preview.

Reset

- Will reset the defaults for Turn Radius, Overshoot, and Boundary Distance

The Headland Size will not be reset.

TurnPath Options



Auto Flip Direction

- Will automatically flip the direction of the turn based on the driving direction.

Unchecking this option will maintain the current turn direction, the user will adjust turn direction, and target pass manually.

Countdown Distance

- The distance from the turn at which the user will be alarmed on the upcoming TurnPath.
  - — There is an audible alarm at this time.
  - — The TurnPath toolbox will automatically slide open.
  - — The cancel button will be showing a GIF to draw attention to the cancel option.

Initial Turn Option

- Option used when the guidance line has multiple encounters with the external boundary.

— **First Turn** – TurnPath will complete the turn at the first encounter with a boundary.

— **Last Turn** – TurnPath will complete the turn at the last encounter with a boundary.

NOTE!: No TurnPath will be generated on internal boundary.

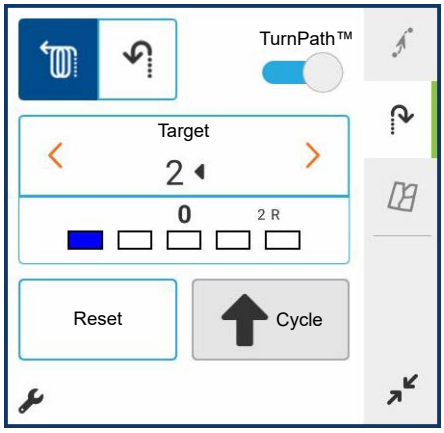
Sequence Mode

Sequence Mode defines a plan to work the field using a fixed order of guidance passes, a Sequence. The Sequence characteristic, the fixed, planned, order of passes, is defined by the Sequence settings, and the base pass on which the sequence is created.

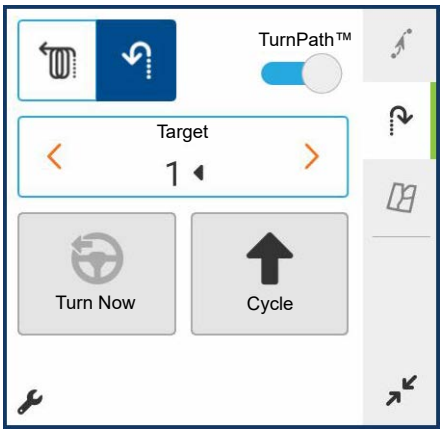
In Sequence Mode the active guidance pass is defined by the Sequence progress, this applies when engaged, and when disengaged. In Sequence Mode the active guidance pass will not automatically update when travelling through the field. This behavior is fundamentally different to the behavior when not using TurnPath or when using Single Turn Mode, where the active guidance pass is defined by the vehicle location.

Sequence Mode is designed to follow a fixed, planned, order of guidance passes. The Sequence progresses to the next guidance pass in the order of guidance passes when a TurnPath is started. Alternatively, the Sequence rolodex next button can be used to progress to the next guidance pass, or the rolodex previous button can be used to return to previous guidance pass.

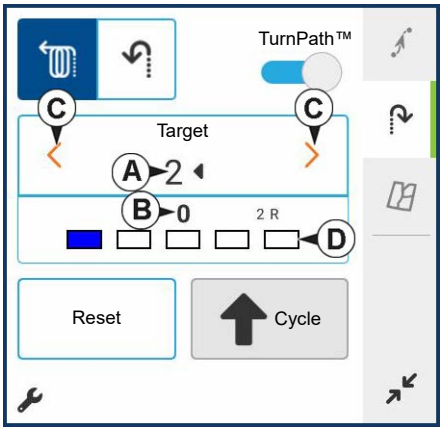
Sequence Mode Toolbox & Rolodex



Sequence mode is active.

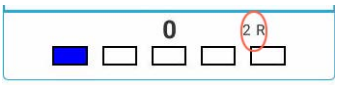


Sequence mode is enabled, but single turn mode is active.

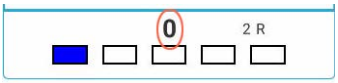


A. Target Pass direction 

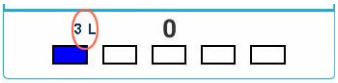
and Target Pass number 

B. Previous pass in sequence (left) 

,

current Pass in sequence (center) 

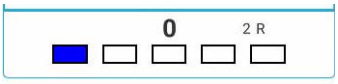
,

next pass in sequence (right) 

.

C. Rolodex button 

, move to next or previous pass in sequence

D. LED 

indicates current state in sequence group. Total number of LEDs resembles amount of passes in the current sequence group.

Blue LED indicates Sequence Base Pass. The Base Pass is the first guidance line of the first sequence group.

TurnPath Cancel – If pressed, TurnPath is canceled, and no TurnPath will be generated.

TurnPath Alarm Active – notifying that user is within the TurnPath Countdown Distance.

TurnPath Next Turn – If pressed, TurnPath will move to the next available turn

This resets Sequence Base Pass to the current vehicle location.

TurnPath options

Sequences

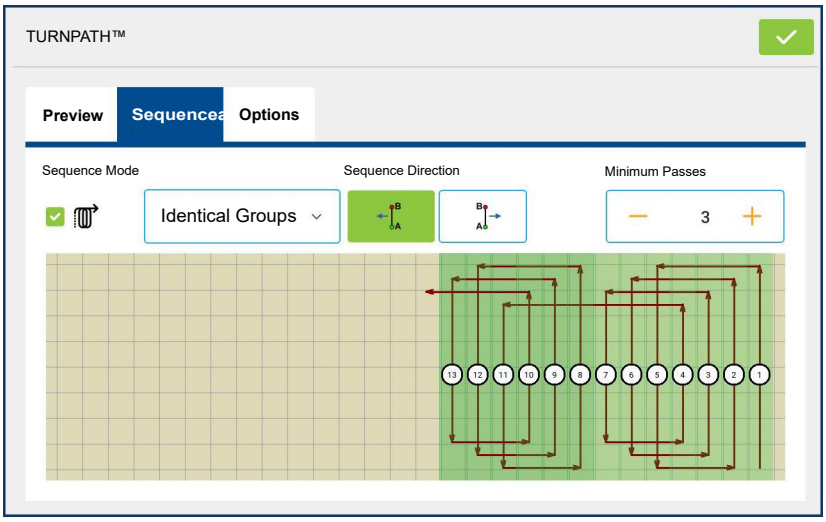
Sequence mode is enabled.

Four options that Sequences can be used:

- Identical Groups
- Alternate Groups
- Skip Pass
- Harvest

Identical Groups

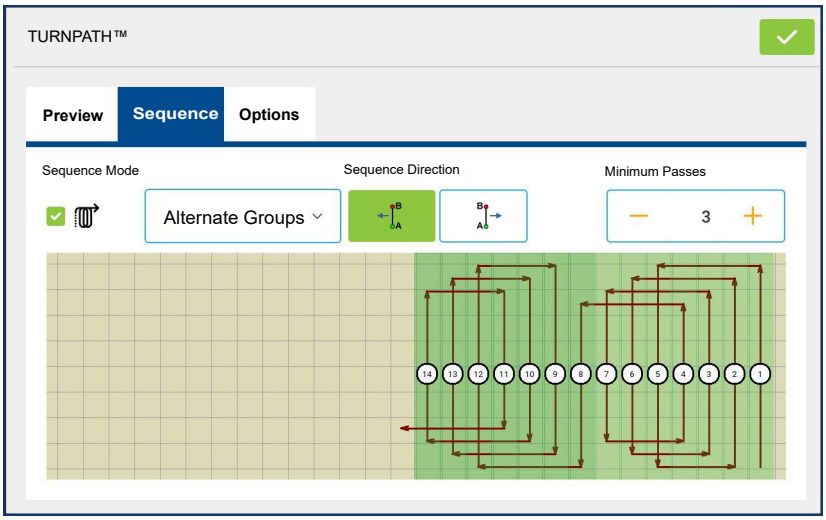
When following the sequence, all groups in the sequence will be identical.



- **Sequence Direction** – Direction relative to the A-B direction for populating sequence groups.
- **Minimum Passes** – Minimum target pass setting for the sequence group.

Alternate Groups

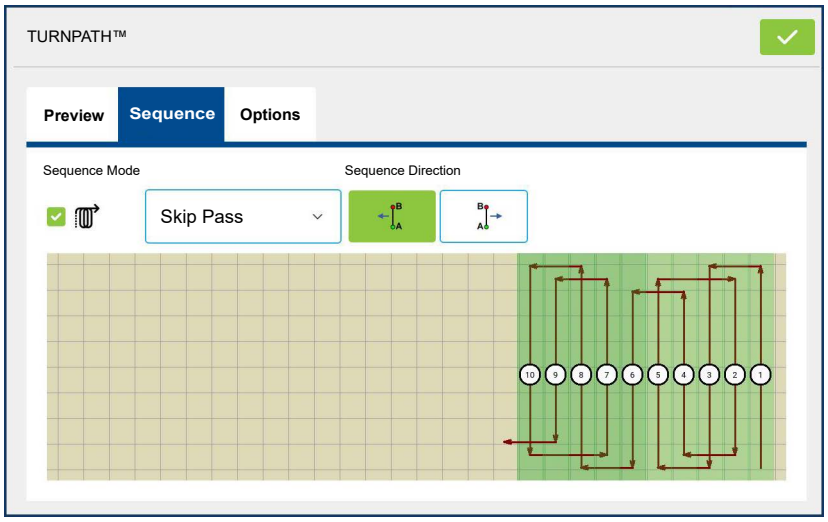
When following the sequence, when moving to a next group, the turning direction will alternate.



- **Sequence Direction** – Direction relative to the A-B direction for populating sequence groups.
- **Minimum Passes** – Minimum target pass setting for the sequence group.

Skip Pass

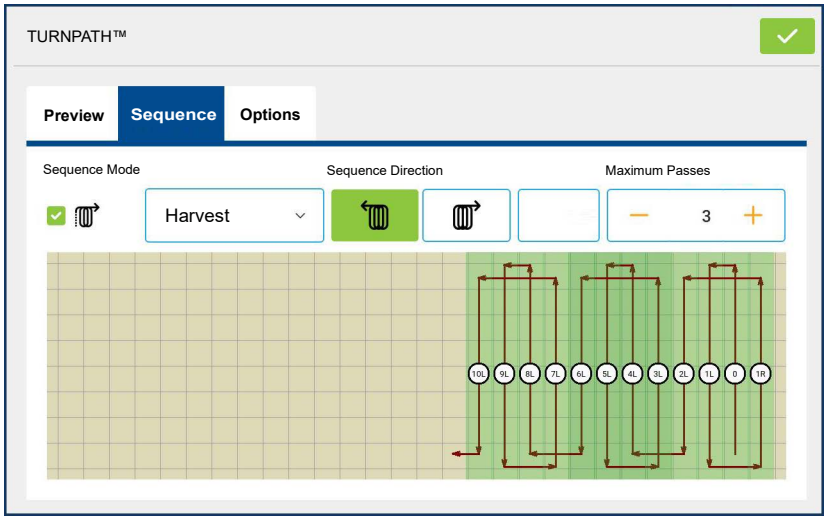
An efficient preset order to move through the field with switching between a target pass of 2 and 3. Used when the turn to the next pass is too sharp, and a single pass needs skipped.



• **Sequence Direction** – Direction relative to the A-B direction for populating sequence groups.

Harvest

Sequence designed for harvest operations, to unload on one side of the vehicle, over already harvested ground. Select to go inward or outward throughout the field.

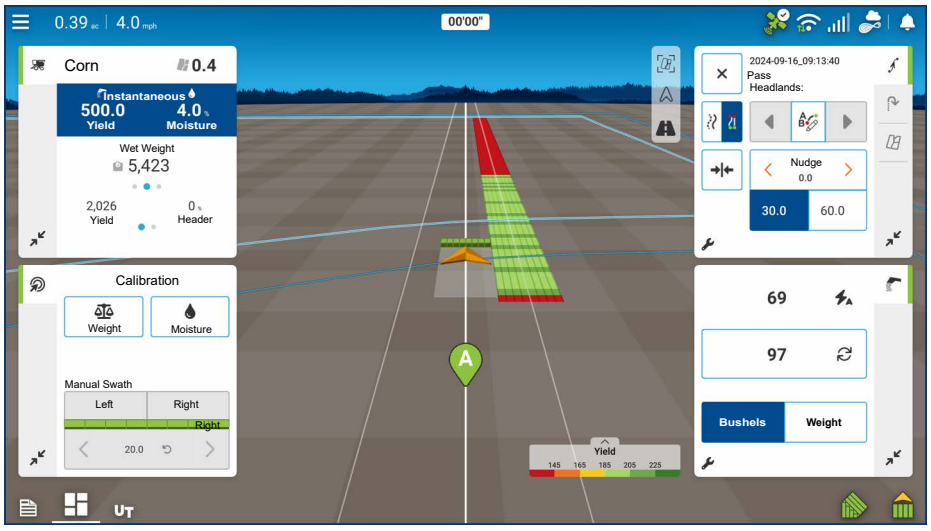


• **Sequence Direction** – Direction relative to the A-B direction for populating sequence groups.

• **Maximum Passes** – Maximum target pass setting for the sequence group.

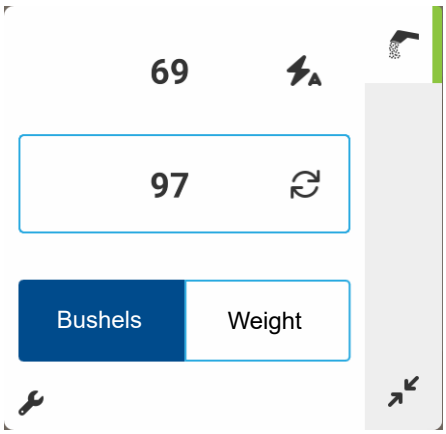
Live Grain Tank Reset Sensor

This feature automates the resetting +of the Grain Tank Counter and provides on-screen real-time details of bushel counter on all connected devices.



Feature requires kit PN 4006109, containing module and sensor, be installed on combines.

Grain Tank Counter



Once installed, the live grain tank counter replaces top resettable counter on combine run screen.

Counter is automatically reset when sensor is uncovered and, when covered, jumps to calibrated value and starts counting up.

- Uses a calibrated value to estimate number of bushels in bottom of bin before sensor is covered.
- Calibration occurs on first load of event change or reboot.

DisplayCast

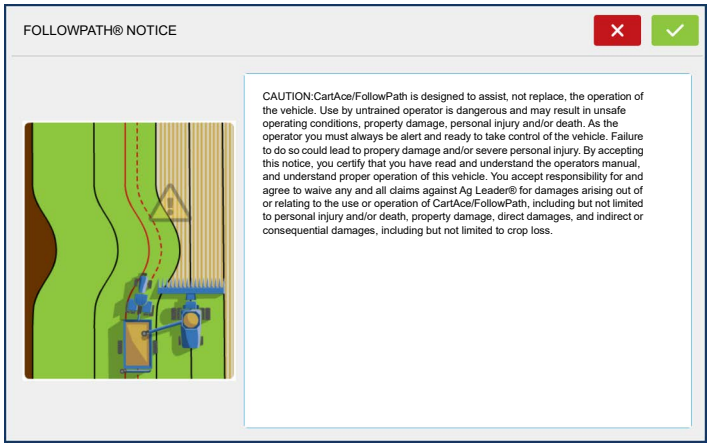
Value is sent out via DisplayCast to connected grain cart configurations as well as AgFiniti Mobile.

If more than one combine is connected, each will show in the list.

Process is all automated, no user input is required.

Counters, in both combine and grain cart, can be changed from bu to lbs if needed (only option when standard units are in use).

CartACE™



CartACE™ allows path coordination and information sharing between vehicles. Components of CartACE include FollowPath guidance and the Live Grain Tank Counter.

To utilize CartACE you will need:

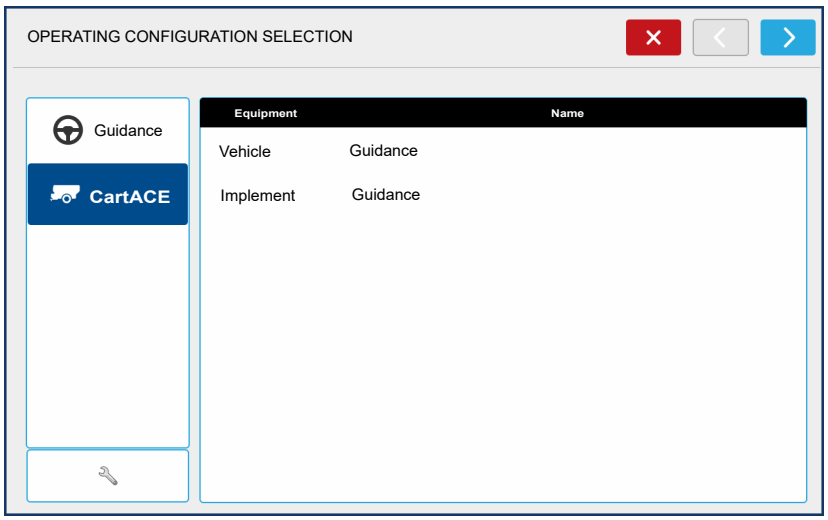
- InCommand or InCommand® Go display
- DisplayCast unlock on all displays
- AgFiniti Essentials
- Matching DGPS sources

  Examples:

  - All receivers use WAAS
  - All receivers use RTK on the same base station

CartACE - FollowPath™

Provides automatically created guidance path based on shared combine coverage. Guidance line is automatically created based on combine swath and requires no input from grain cart operator.



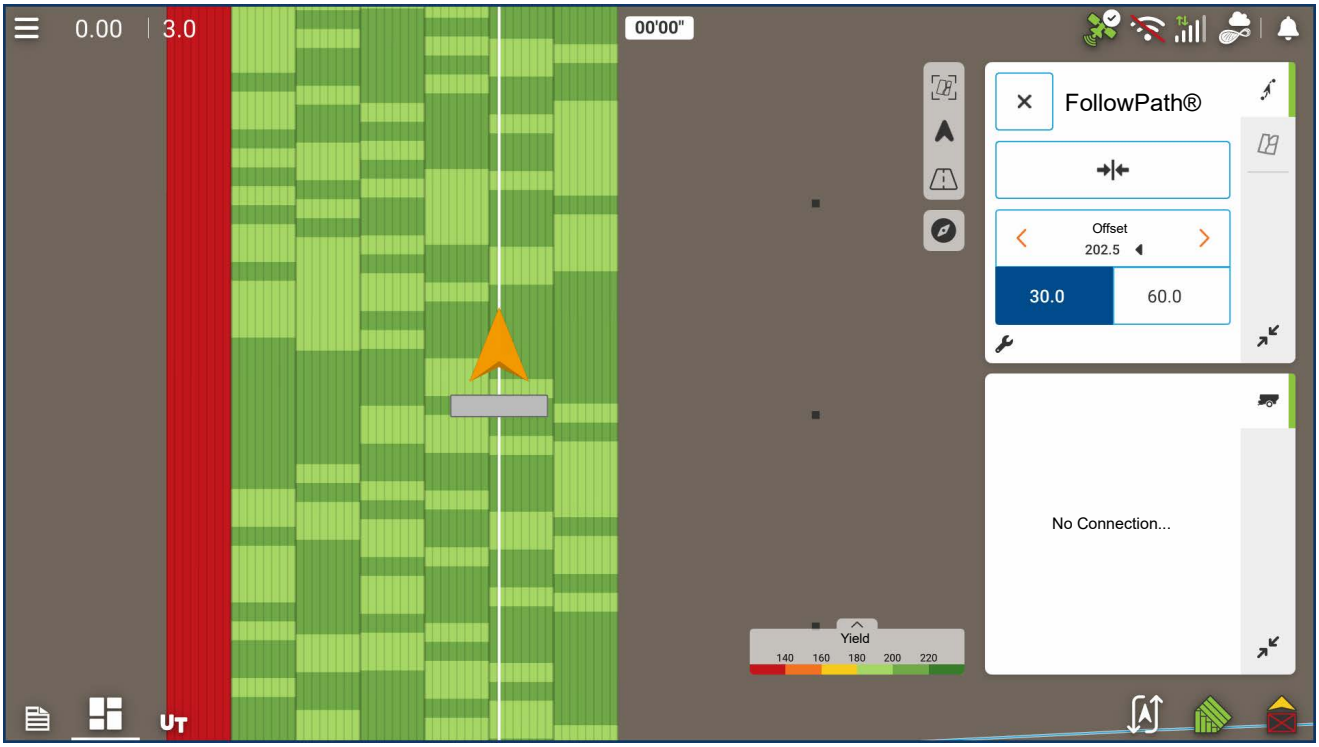
1. Select Guidance on home screen

   Select CartACE option
2. Load Season/Grower/Farm/Field
3. New Guidance Pattern
4. FollowPath® notice
5. After loading to run screen, user will be prompted to select applicable harvest event used to create Follow Path.

a. It is very important to select the correct event as this is what FollowPath will use to create guidance lines. Selecting the incorrect event could lead to improper guidance and the potential for collision.

b. If other events need to be selected, hit New Pattern.

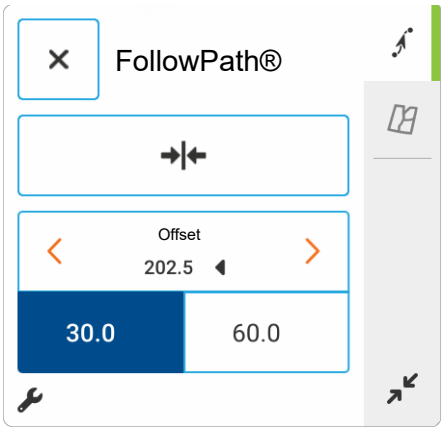
CartACE In-Field



6. Drive under auger

Hit  to set correct offset

a. Repeat for other combines as needed



b. The offset number shown on screen is the distance from the right side of the current pass

• Only needs to be set once per combine configuration.

Information is stored and will be used going forward.

• If multiple combines are in use, to switch from offsets, simply drive close to the desired combine and the stored offset will be used automatically.

At this point you can now engage on the generated line. As you move through the field, new guidance lines will be generated automatically based on the combine pass the grain cart is on.

Re-center/Nudge

If small adjustments need to be made, use the nudge left/right, you can toggle between a large and small offset.

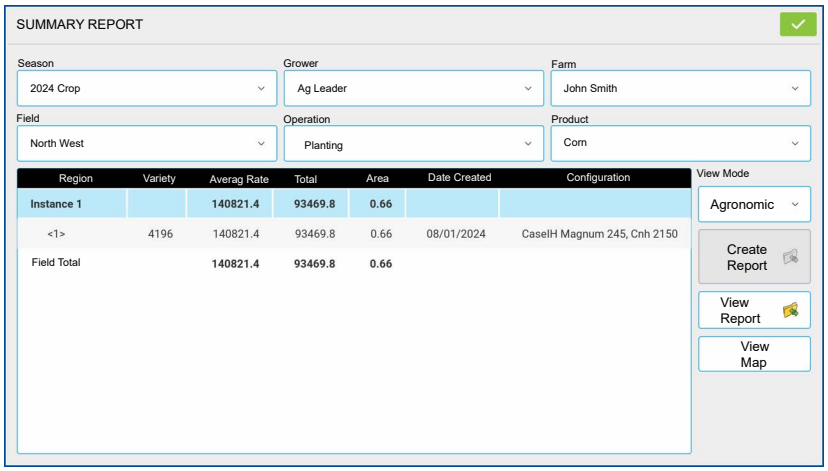
If offset needs to be adjusted, navigate to the desired position and hit re-center button.

Small and large nudge increments can be adjusted in the Guidance Options. Can also view or reset offset back to center of line within Guidance Options.

If multiple combines are in the field, the FollowPath will allow you to save unique offsets and it will automatically swap based on proximity to different combines. You will need to move far enough away from the current one to swap to a different combine.

Summary Report

Summary reports can be accessed from the home page of the display by tapping the Summary app icon.



This screen shows field totals and averages. Use the drop-down menus at the top to specify the information needing viewed.

Specific information is shown in the list below for each:

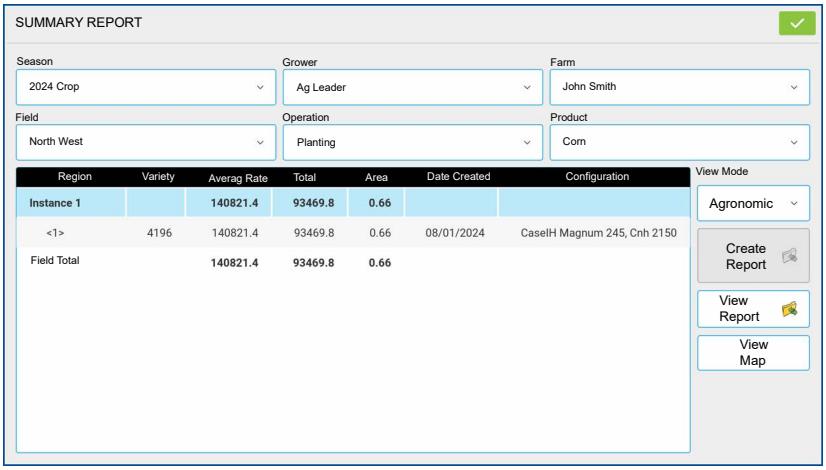
- Season
- Grower
- Farm
- Field
- Operation
- Product

The list displays information for each Region and Instance.

There are four viewing modes:

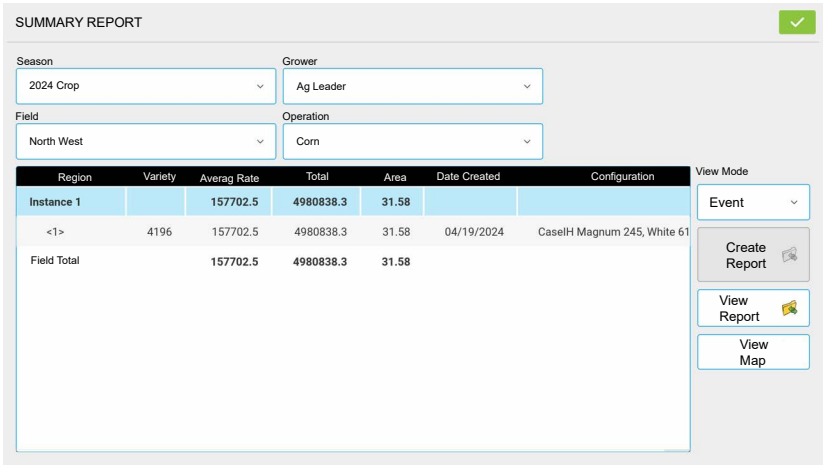
- Agronomic
- Event
- Operator
- Configuration

Agronomic View



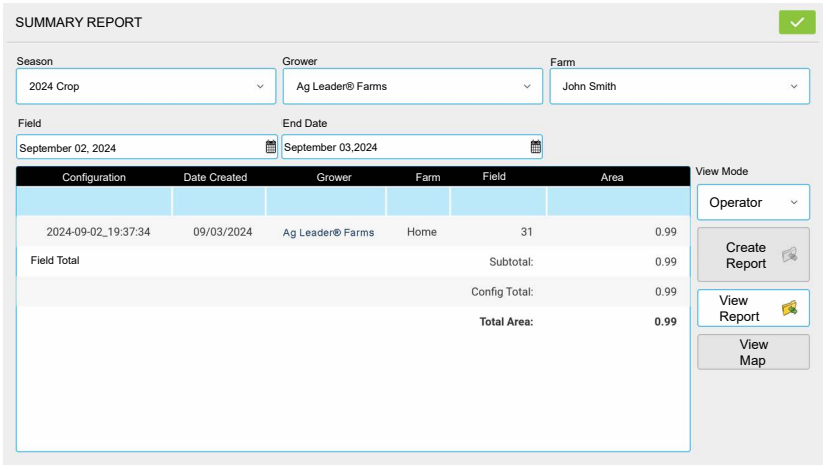
The Agronomic View shows data of a specific field.

Event View



The Event View shows data of a specific event.

Operator View

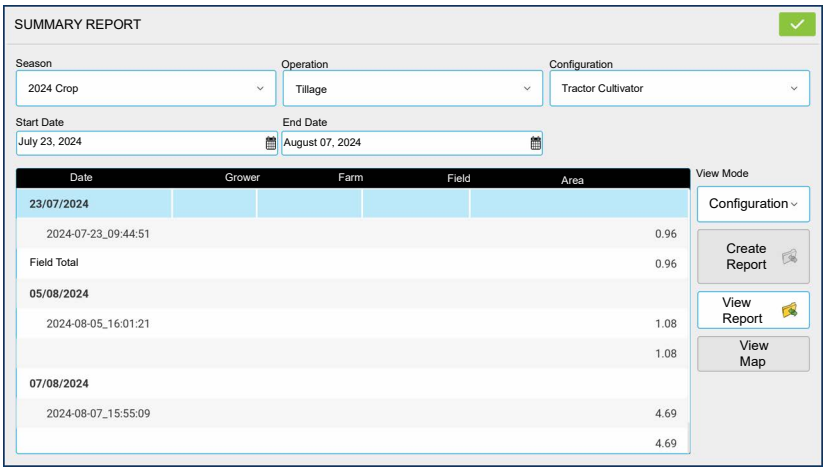


- Shows data of a specific Operator

Filters data by each configuration used by the selected operator.

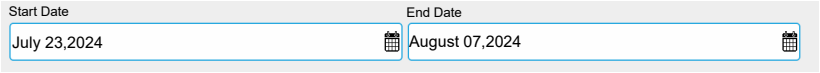
- Area Only
- Daily Subtotals
- Configuration Total
- Operator Total

Configuration View



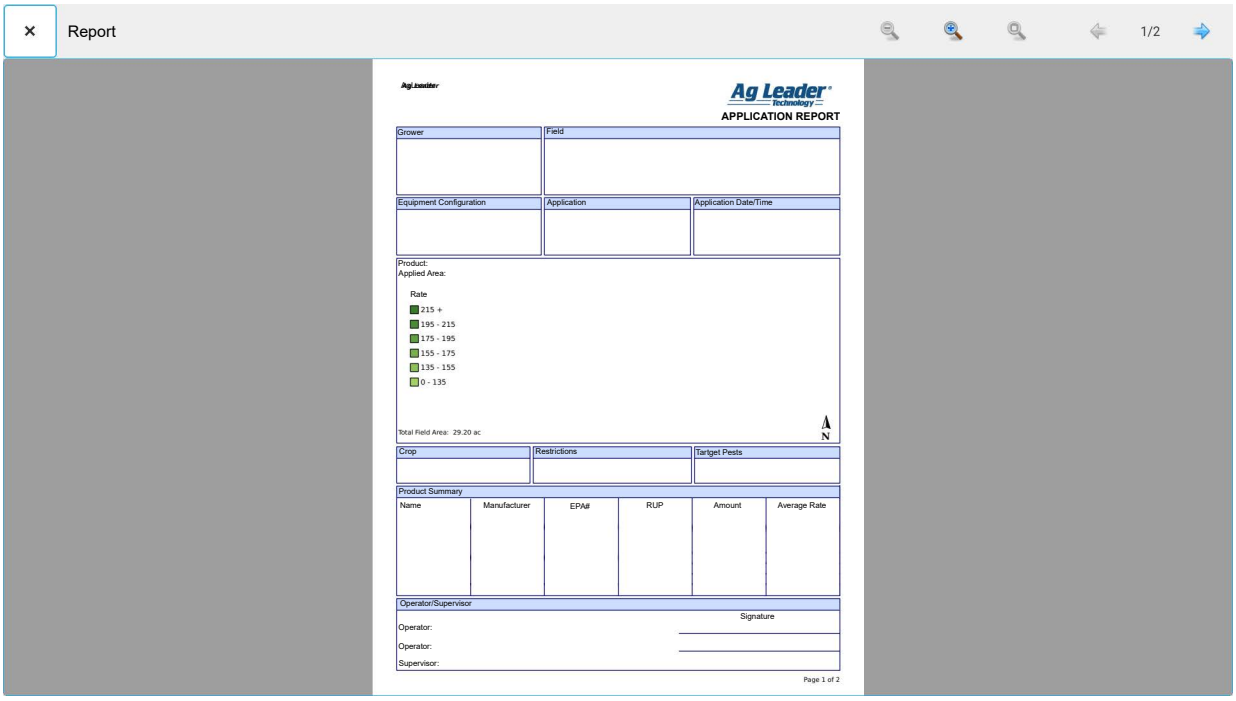
- Shows data of a specific configuration
- Area Only
- Daily Breakdown
- Daily Subtotals
- Configuration Total

Date Range



- View data in a certain date range.
- Only used in Operator or Configuration view.
- Defaults to first and last day of logged data in the season.
    - Can only select days within that date range.
- Create Report button will create all Smart Reports within the defined date ranges.

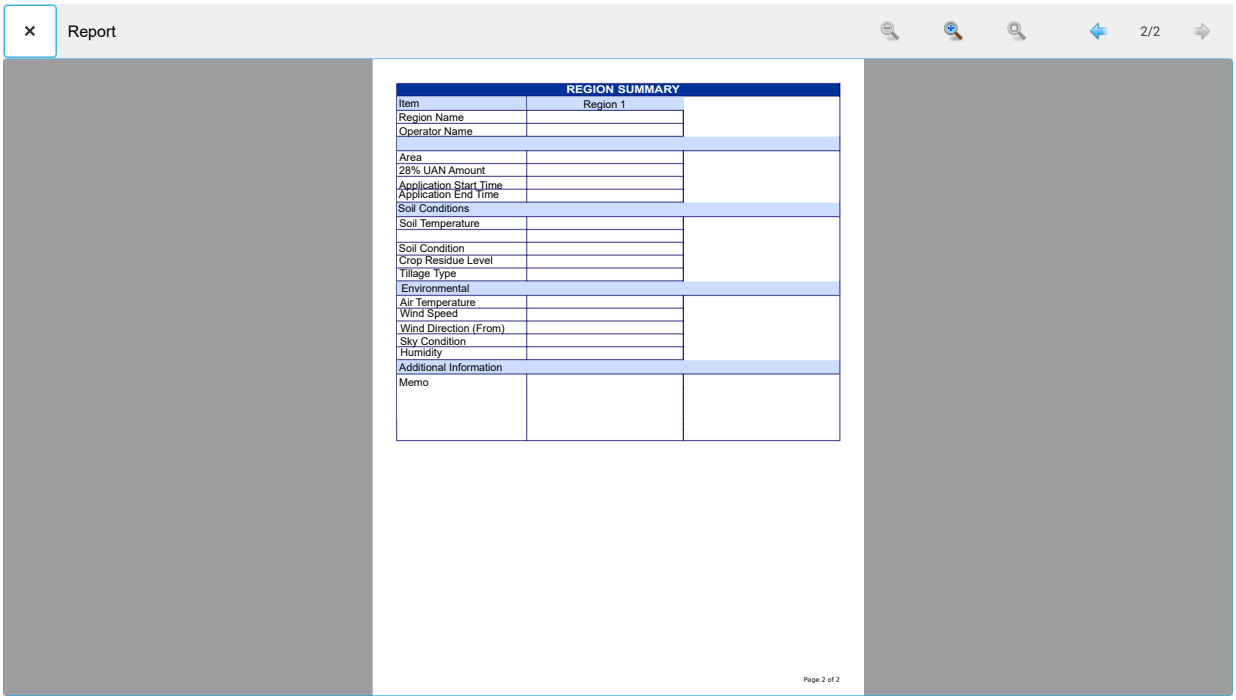
Control Channel Report Content



The content of all product application reports is divided into two distinct groups.

The first page(s) of the report represent field and product control channel specific information.

In cases of multiple product application, multiple pages will be generated, one for each channel of product control.



Control Channel Content includes the following:

- Service Provider Information
- Grower Information
- Field Information
- Farm Name and Description
- Equipment Configuration Information
- Application Information
- Date/Time Information
- Crop Information
- Rotation Restrictions and REI
- Multiple Target Pests
- Applied Product Information
- Operator and Supervisor Information

View Reports

To view Smart Reports that have been saved on USB drive, go to the Summary screen and press the View Reports button. At the File Selection screen, scroll down the list and select the PDF file of Smart Report.

Press  and the Smart Report will appear in the PDF viewer.

Important Information

Technical Support

Contact your Ag Leader Dealer or Ag Leader Technology for technical support.

Telephone: (515) 735-7000

Email: support@agleader.com

Legal Disclaimer

Read and follow ALL instructions in this manual carefully before installing or operating system.

Take careful note of Safety Information section of this manual and additional safety messages provided throughout this and any other supplemental manuals provided.

Manufacturer disclaims any liability for damage or injury that results from failure to follow instructions, cautions, and warnings set forth herein.

1. There is NO obstacle avoidance system included with manufacturer's product. A person must always be present in operator's seat when system is in use to avoid obstacles such as people, animals, trees, ditches, buildings, etc. and to control vehicle to avoid them if necessary.
2. System does NOT control speed of vehicle. Operator must always adjust speed of vehicle manually so that it is operated at a safe speed that will not cause vehicle to roll over or go out of control.
3. System will take over control of vehicle's steering system when system is activated during testing, calibration, tuning, and automatic steering operations. Vehicle's steering axles, tracks, articulation point, or wheels may move unpredictably when activated. Prior to starting vehicle and/or activating system, verify that all people and obstacles are clear of vehicle to prevent death, injury, or damage to property.
4. Use of system is NOT permitted while vehicle is on public roads or in public areas. Verify that system is powered OFF before driving on roads or in public areas.

Safety Information

Warning Alerts

System installer and manufacturer disclaim any responsibility for damage or physical harm caused by failure to adhere to following safety requirements:

- As operator of vehicle, you are responsible for its safe operation.
- System is not designed to replace vehicle's operator.

NOTE!: After installation of system, verify that all screws, bolts, nuts, and cable connections are tight. Verify that all cables and hoses have been secured to prevent them from being damaged. If any hydraulic lines or fittings were loosened during installation, verify that they have been reattached and tightened to prevent oil leaks

WARNING!: To understand potential hazards associated with operation of a autosteer equipped vehicle, read provided documentation prior to installing or operating system on a vehicle.

WARNING!: To prevent accidental death or injury from being run over by vehicle, never leave vehicle's operator seat with system engaged.

WARNING!: To prevent accidental death or injury from being run over by vehicle verify that area around vehicle is clear of people and obstacles before startup, calibration, tuning, or use of system.

WARNING!: To prevent accidental engagement of system and loss of vehicle control, shut down system while driving on roads. Never drive on roads or in public areas with system powered up.

WARNING!: Verify that you are in a stable position on vehicle's platform or stairs when installing or removing antenna assembly on top of cab so you do not fall. If vehicle does not provide a safe platform, use a ladder to safely access vehicle's roof.

WARNING!: To avoid electrical shock hazards, remove antennas from vehicle before driving under low structures or low electrical power lines.

WARNING!: High-Pressure Fluid Hazard - If installation requires working on hydraulic system on vehicle, read and understand hydraulic sections of vehicle manufacturer's operators manual before starting installation. Wear hand and eye protection while performing hydraulic system maintenance. Relieve hydraulic system pressure before servicing hydraulic system.

WARNING!: If vehicle has a Wheel Angle Sensor as part of installation, always shut off vehicle when working around Wheel Angle Sensor while installing, checking, and adjusting Wheel Angle Sensor and rod lengths. Steering mechanism could move suddenly and cause severe injury or death.

System kits include a Steer Control Module (SCM), SCM Power I/O Cable, and User's Manual

System

System is a high precision vehicle interface controller that provides additional functions and features to the display. System is also capable of taking guidance information from the display and the interfacing with a vehicle to tell vehicle where to steer and provide AutoSteer functionality to the display.

This Operator's Manual provides information on how to setup, configure, and manage various settings on the system itself. Refer to this manual for instructions that pertain to system. For information about setting up fields, farms, guidance patterns, and other display related functions, please refer to the Display User Guide for more information.

System can be installed on most agricultural vehicle makes and models. This manual provides basic information on how components are organized and installed. Refer to Installation Manual that comes with vehicle installation kit for more details on complete installation of the system. This manual provides information about navigating through and using screens on the system.

The system is designed to work with multiple display options. Refer to Display User Guide or AutoSteer dealer for specific instructions on how to connect system components to display. Also refer to Display User Guide for information on how to navigate through and operate various screens used on the display.

Installation

This section provides an overview of what is required to complete a system installation. To aid in clarifying complete installation, this section also includes parts and kits that are not included with this vehicle installation kit. A system installation can be broken down into five sub-categories that need to be ordered to complete installation. Four sub-categories are mandatory and one is a list of accessories that add additional features and capabilities.

1. Display Kit
2. Steering Control Module Kit
3. Vehicle Installation Kit
4. Accessory Kit

Display Kit

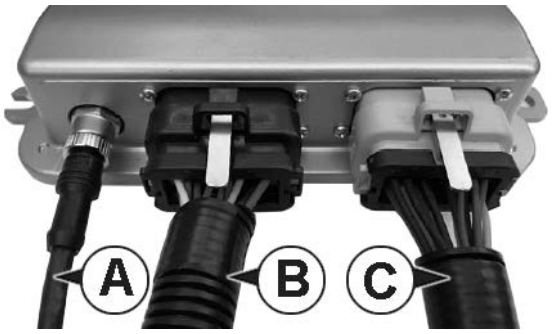
System is compatible with multiple display options. Displays are ordered as a separate component and include their own installation and operator’s instructions. Display Operator’s Manual will show how display and display harnesses are installed on a vehicle and how they are connected to system harnesses.

ETHERNET TO DISPLAY—M12 connector that is plugged into Ethernet port on display to provide communications between display and Control Unit.

POWER ACTIVATION—Connected to SCM harness that provides power for the system to power up. When this signal is turned off, system will power down.

UNSWITCHED POWER—Power source that provides 12 volts of unswitched DC power to system. Power source should not be connected to a power supply that is connected to vehicle’s ignition. More information can be found in the Display Operator's Manual.

Steering Control Module Kit



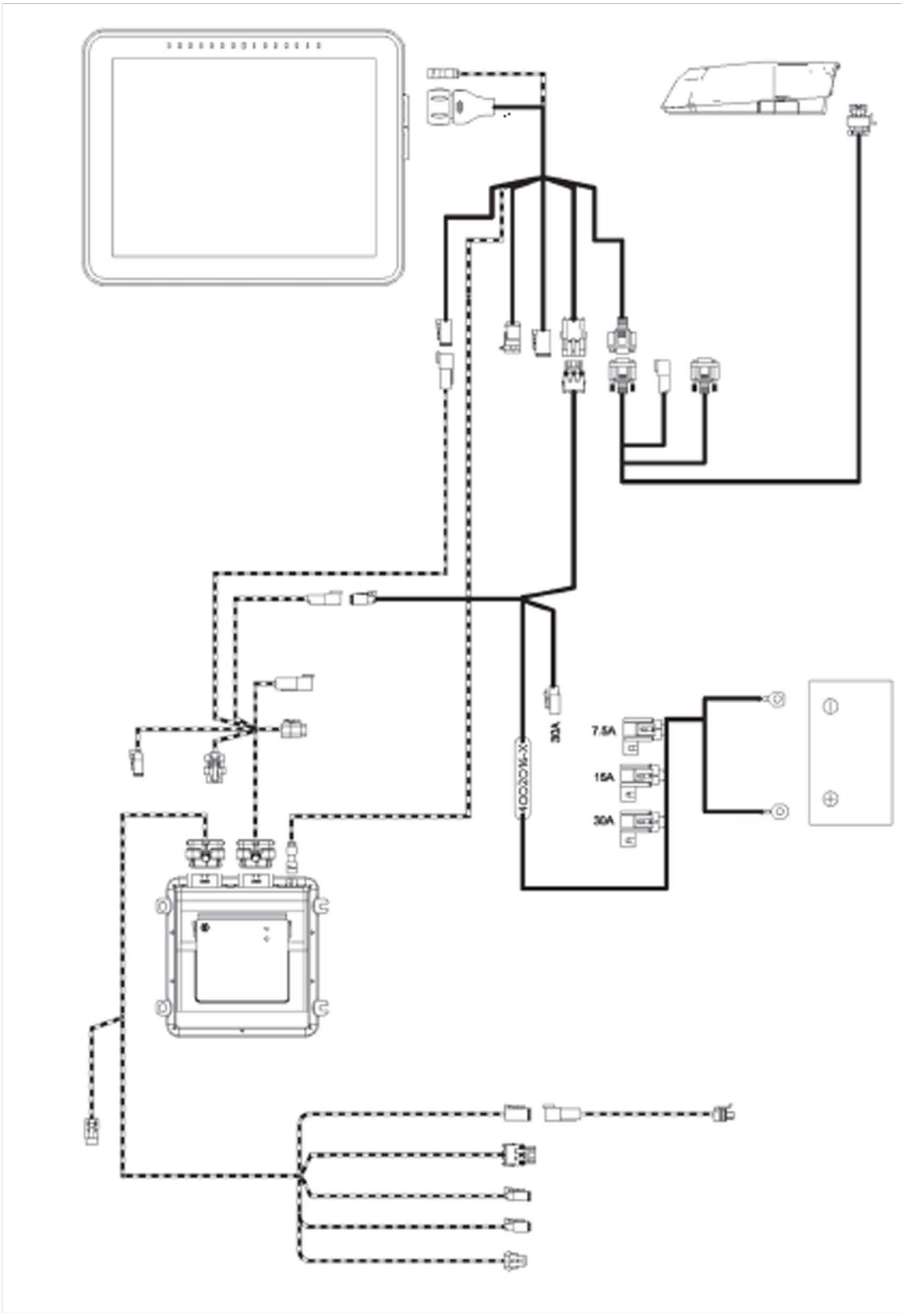
The SCM communicates with the display via Ethernet cable. This cable is connected directly from the SCM to the display.

A. Ethernet connection

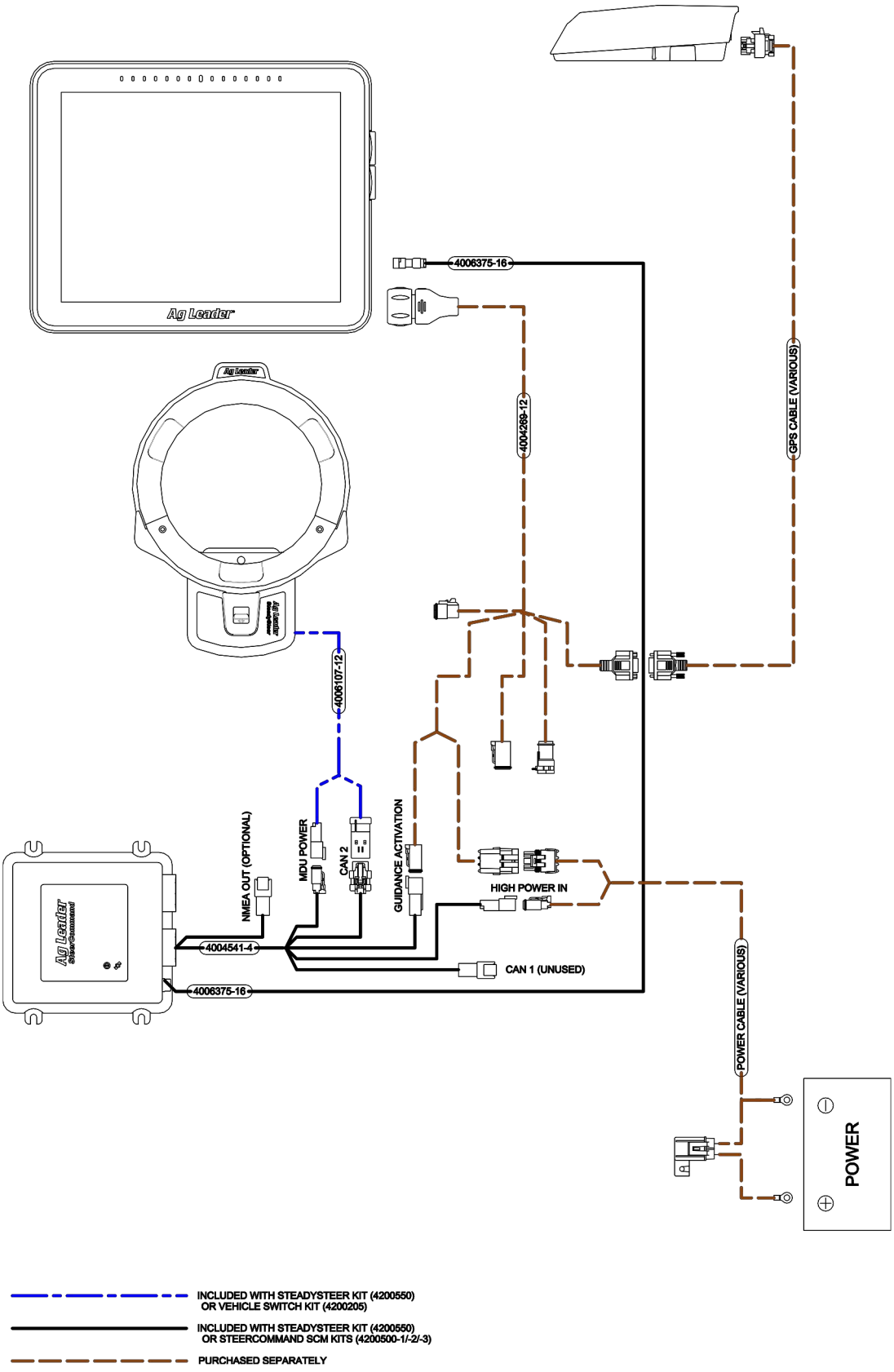
B. SCM Power I/O connection

C. Vehicle Interface Cable (optional based on install)

SteerCommand Z2 - Cabling Diagram



SteadySteer - Cabling Diagram



NOTE!: System kits include a Steering Control Module (SCM), Main Harness, and User's Manual.

NOTE!: Refer to your dealer for exact part numbers.

Vehicle Installation Kit

System is designed to be compatible with many makes and models of vehicles available in today's agricultural market. The system is brand neutral and can be installed on any manufacturer's vehicle including AGCO, Ag Chem, Case, Challenger, Fendt, John Deere, New Holland, Massey Ferguson, and many others. The system is also capable of being installed on a variety of platforms including articulated tractors, combines, MFWD and standard front axle tractors, floaters, sprayers, swathers, track tractors, and others. The same user interface can be used on all vehicles, regardless of make or model, making it easy for drivers to become familiar with controls even if the system is installed on multiple vehicle types. To make installations simple and reliable, many vehicle-specific installation kits have been designed to fit on each individual make and model. These kits are available for vehicles that come from factory with a factory installed steering system (ex. Steer Ready, CAN Bus, or ISO Ready) as well as options for those vehicles that need a complete steering kit installed. Even if there is not a vehicle-specific kit available for vehicle, properly trained installers can use a generic installation kit to connect system to vehicle. Specific instructions for vehicle installation kits are provided with installation kits. Refer to those instructions when installing vehicle kit.

NOTE!: List of supported vehicle-specific kits is always being expanded. Contact your Ag Leader dealer for latest list of vehicle-specific installation kits to see if vehicle being installed on has a released kit.

Accessory Kit

Refer to installation manual for any Accessories available for Steering Controller

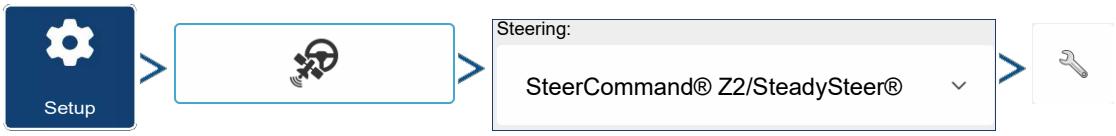
Transferring System from Vehicle to Vehicle

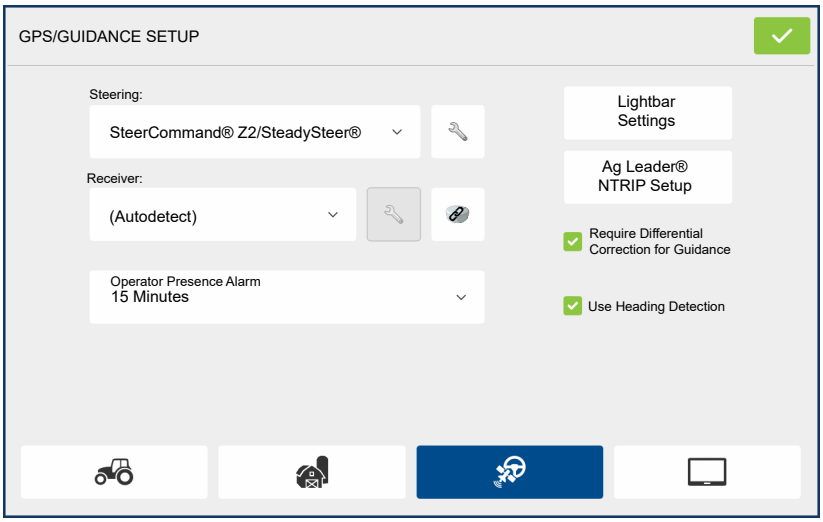
System is designed to be easily transferred from vehicle to vehicle. Specific vehicle kits are available that can be installed on each vehicle so that only display, GNSS Smart Antenna, and Control Unit needs to be transferred from vehicle to vehicle. Each vehicle that system is to be

transferred to should have display harness, power harnesses, and vehicle harnesses already pre-installed. Contact your Ag Leader dealer for information about obtaining and installing additional vehicle specific kits. Use the vehicle kit instructions to transfer system from one vehicle to another.

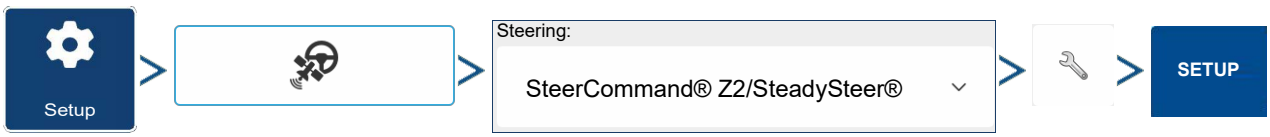
NOTE!: Refer to manual for customer supplied GPS receiver and antenna for instruction on moving them.

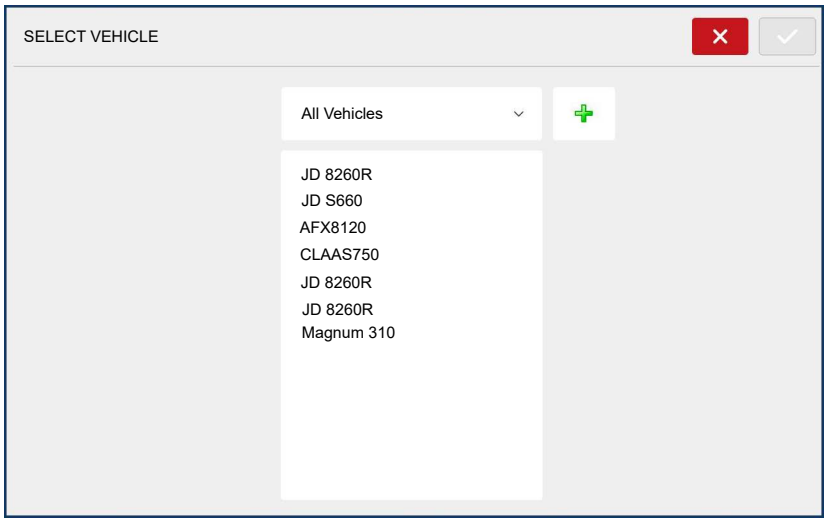
Accessing the Autosteer Setup Screen





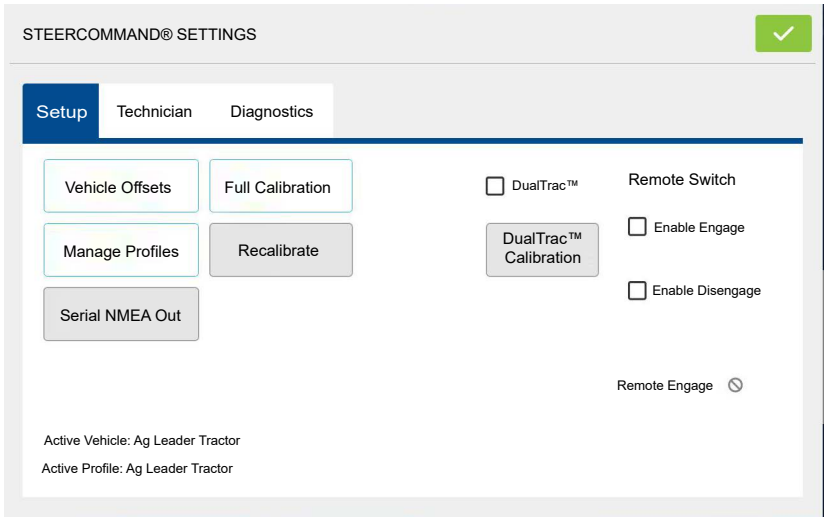
SteerCommand Z2 Setup Tab





Select a vehicle configuration from the list. If the desired vehicle configuration is not on the list, select  and follow the steps in the vehicle wizard to create a configuration for your vehicle.

Press  to enter vehicle configuration.



Vehicle Offsets – Edit vehicle offsets (antenna, hitch, and wheelbase). Also allows sending SCM location.

Manage Profiles – View and manage steering profiles on the SCM.

See Manage Profiles on page 206.

Serial NMEA Out —Export desired baud rate and NMEA messages from SCM.

See Serial NMEA Out on page 208.

Full Calibration – Begin complete calibration process.

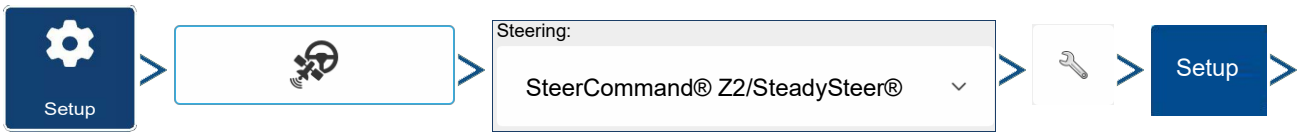
See SteadySteer Calibration on page 220 or Z2 Auto Steer Full Calibration on page 208.

Remote Switch – Enable remote engage/disengage using an external switch, such as a foot pedal or machine AutoSteer engage momentary switch. Must be enabled when using CAN/ISO profiles.

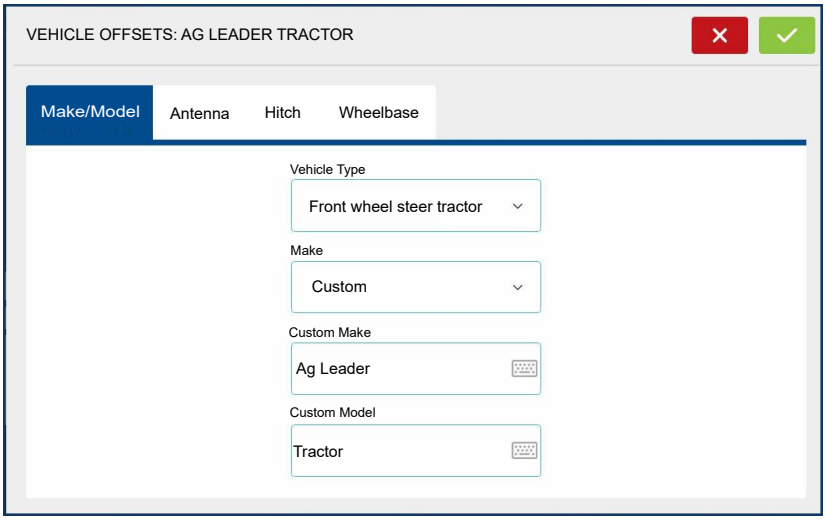
DualTrac™ checkbox – Enable or disable DualTrac™

DualTrac™Calibration – Select if only needing to calibrate DualTrac

Vehicle Offsets

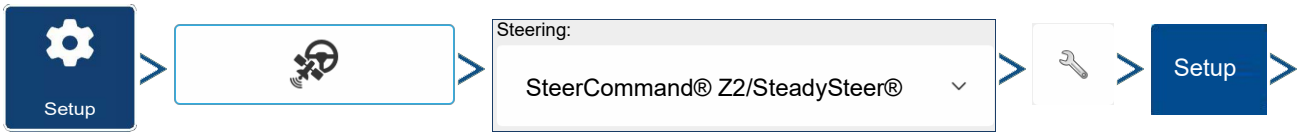


Vehicle Offsets



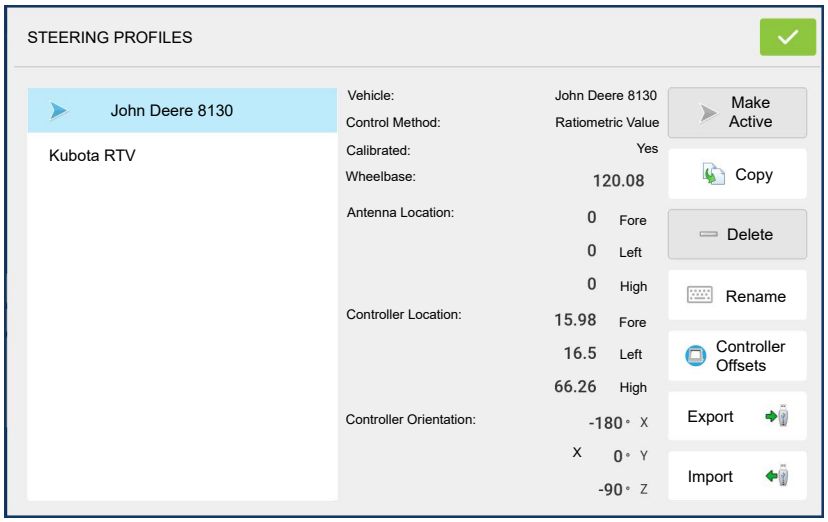
Location used to adjust antenna, hitch, and wheelbase offsets based on the steering profile being used. Changing these values will also change in the configuration.

Manage Profiles



Manage Profiles

- View, edit, delete, and copy steering profiles saved to the SCM.



Steering Profiles – All steering profiles on the SCM populate within the left scroll list. To view vehicle profile information (not steering profile information), highlight the desired profile blue. Active profile is shown with a blue arrow.

Make Active – Select which profile to make active and use. Active profile is indicated via the blue arrow. It sets the currently selected profile to active and applies it to the vehicle currently selected on the run screen.

Copy – Make copy of an active or non-active profile. This copies all settings of the existing profile.

- If different operators prefer different tuning settings, they can copy profiles, adjust each to their liking, then switch between, based on who is operating the machine.
- Multiple vehicles being created for the same physical vehicle such as self-propelled sprayers with different boom widths.
- Once copied, profiles are completely separate. The calibrations copy over on creation, but will have to be done for each profile separately after that.

Delete – Delete a SCM steering profile. Cannot be recovered once deleted.

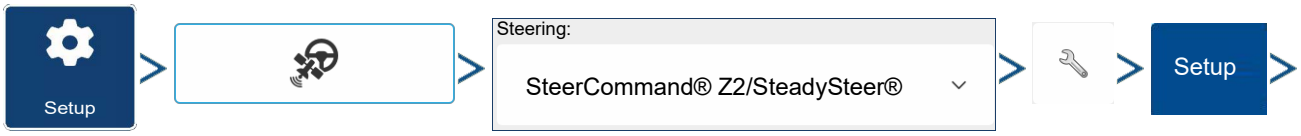
Rename – Rename a profile to distinguish from others.

Controller Offsets – Allows user to edit the SCM install measurements from centerline of the machine.

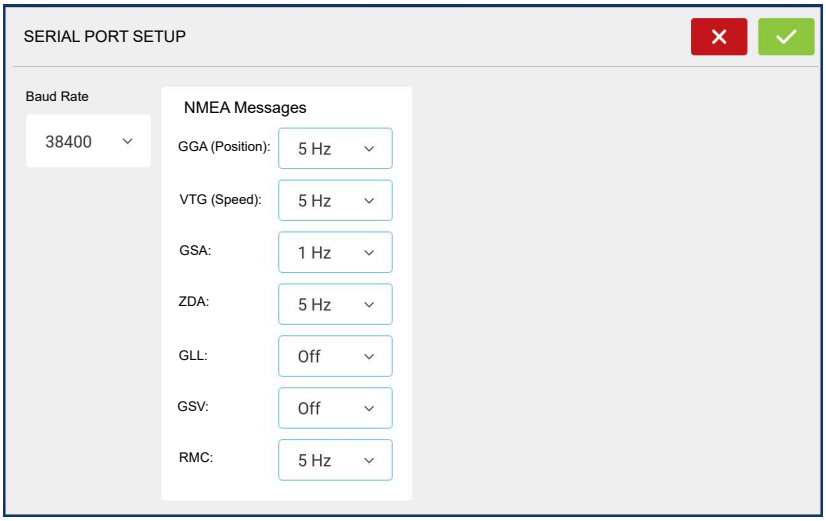
Export – Export the a selected steering profile (.agsteer).

Import – Import an .agsteer file for a steering profile.

Serial NMEA Out



Serial NMEA Out



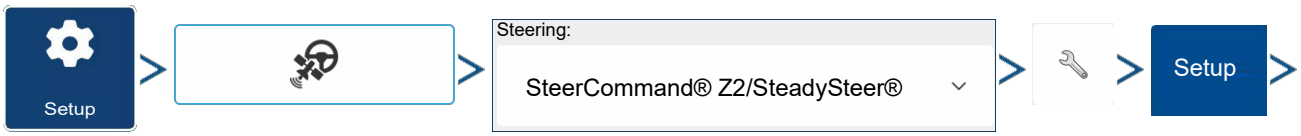
Serial port setup allows user to export desired baud rate and NMEA messages from SCM.

NMEA messages are

- Terrain corrected (for the “ground” directly under the antenna)
- Saved independently per profile
- New profile default setting is all NEMA messages off

- NMEA out settings are saved per steering profile. Once the vehicle is calibrated, NMEA out can be used.

Z2 Auto Steer Full Calibration



Full Calibration

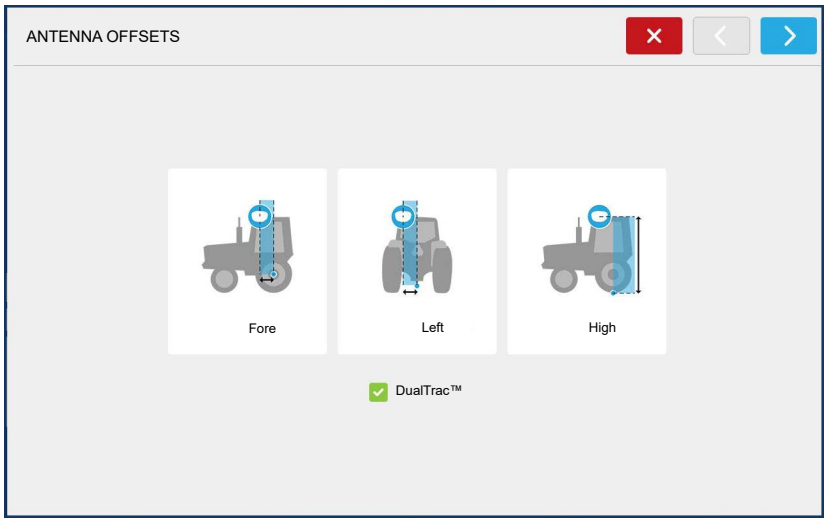
Select Control Method

• **SteadySteer** — go to SteadySteer Setup Tab on page 216 for SteadySteer setup and calibration.

• **Integrated**

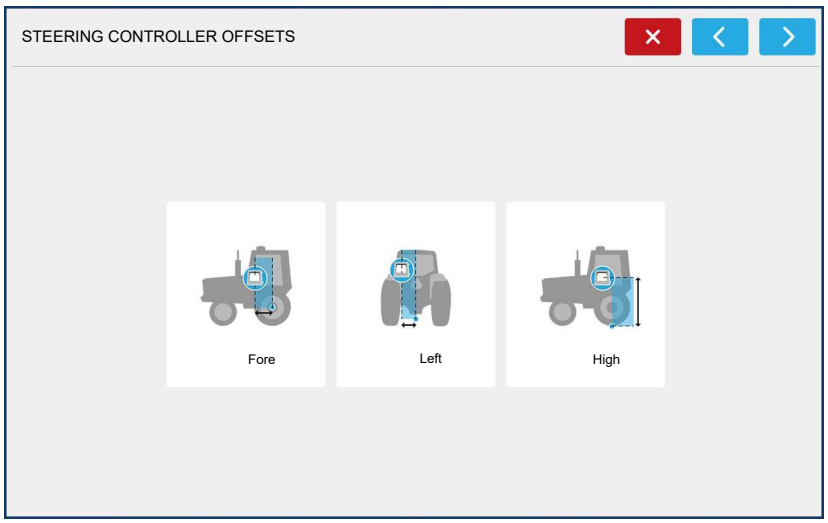
- ISO
- Hydraulic - PWM
- Hydraulic - Ratiometric
- Vehicle Specific Control methods

Antenna Offsets



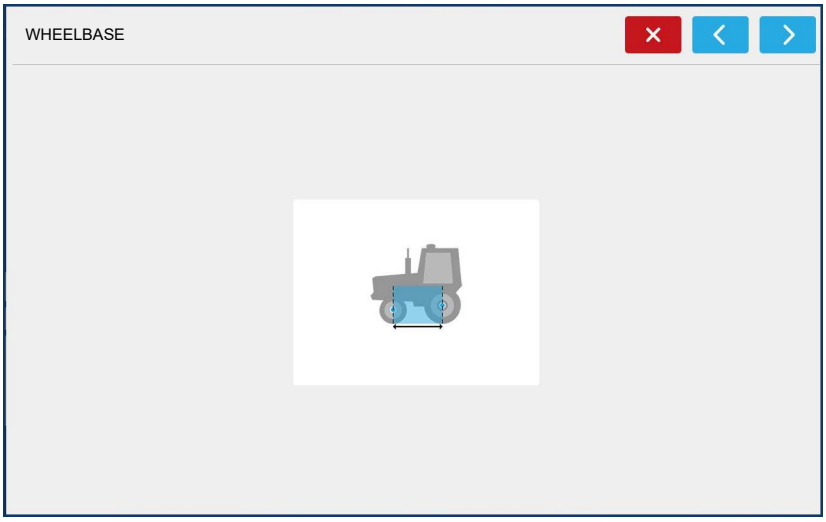
Verify ANTENNA OFFSETS and DualTrac enabled/disabled.

Steering Controller Offsets



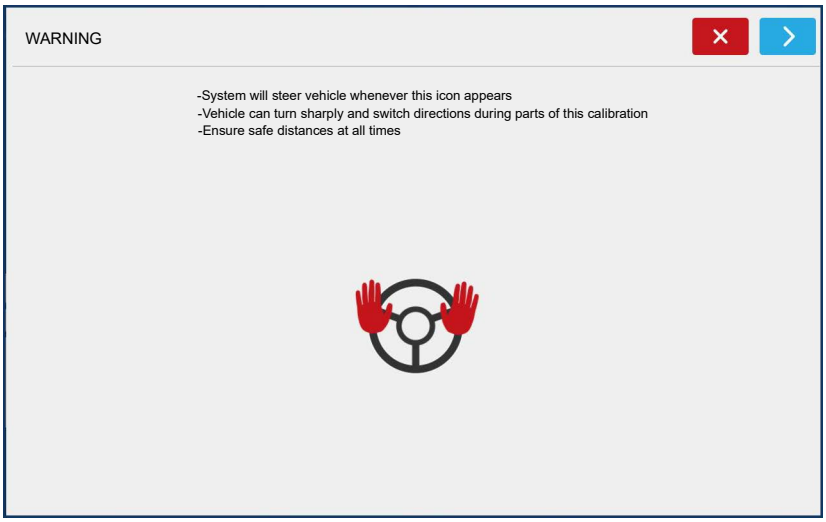
Verify STEERING CONTROLLER OFFSETs.

Wheelbase



Verify WHEELBASE OFFSETS.

Warning message appears

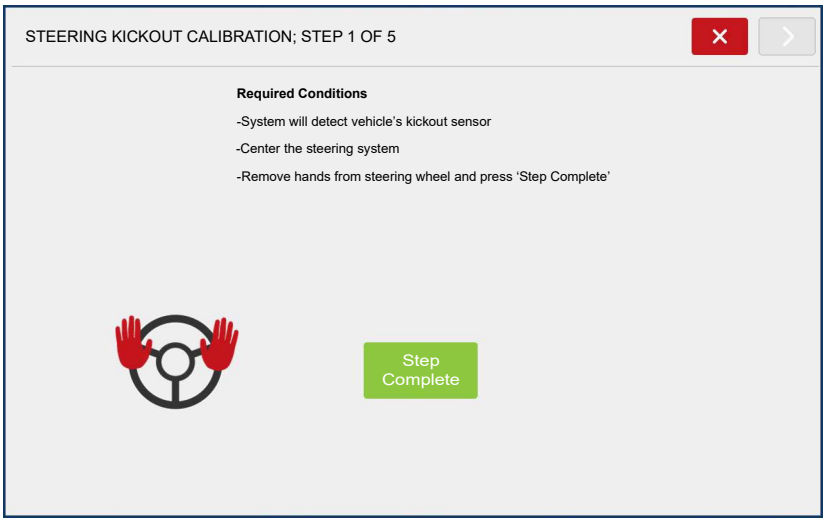


Notifies you of what will happen during calibration process.

This icon indicates to have the hands off the steering wheel as the steering system will automatically steer during the calibration step.

Press > to continue.

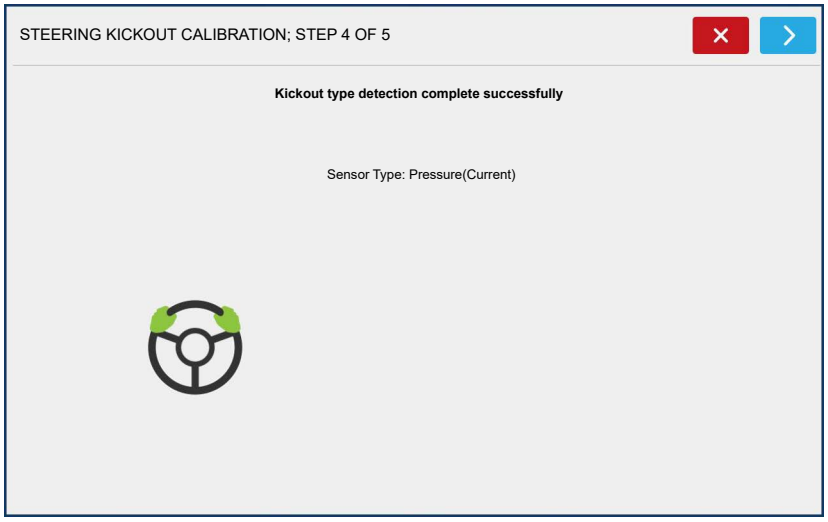
Steering Kickout Calibration



1. System is reading the kickout counts while there is no movement of the steering wheel.

The system **WILL NOT** turn the steering wheel, but rather it is obtaining a baseline of the steering wheel when it is not in motion.

2. The next step, not shown, system asks the operator to move the wheel.

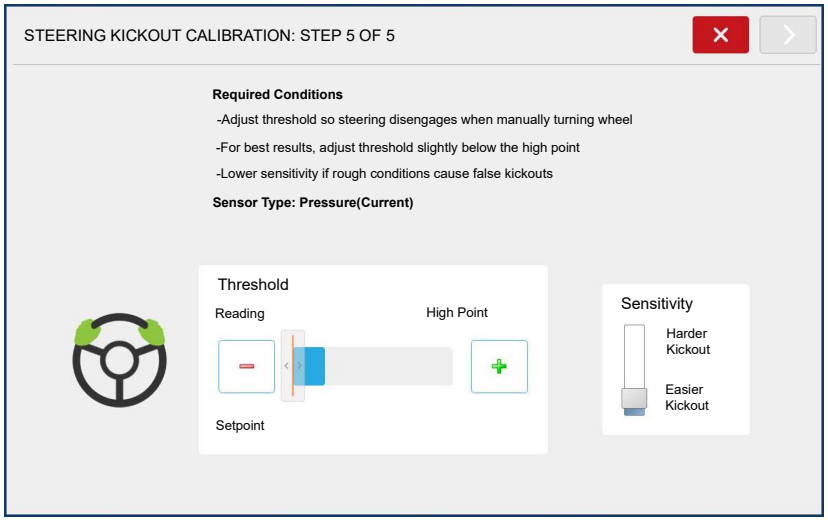


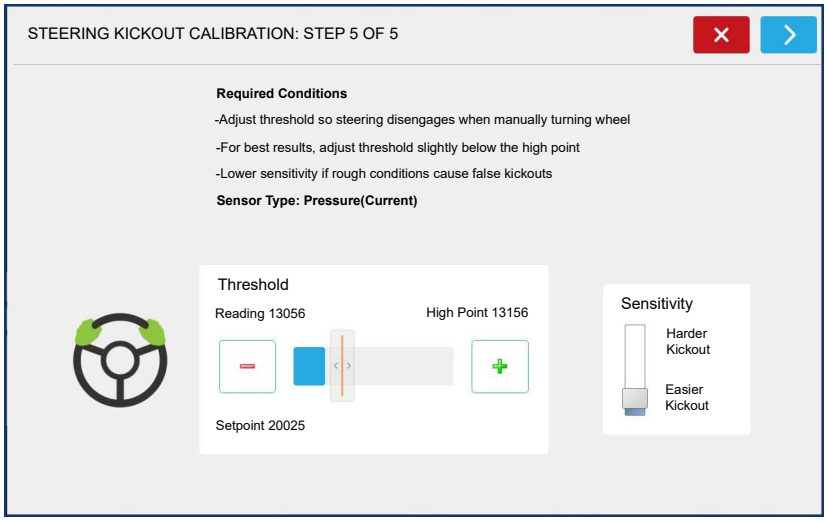
3. Kickout sensor detection complete.

Indicates to operator to manually drive the vehicle for calibration step.

Press  to continue.

Adjusting Kickout - Setting the Threshold





Adjust the slider to set the kick out.

Turn the steering wheel, there will be a sound when the system kicks out.

Manually turn the steering wheel and set slightly below the high point.

When the acceptable threshold is set, press the next arrow.

NOTE!: Can be adjusted later.

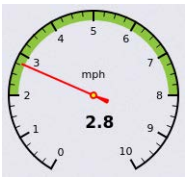
Press > to continue.

Kickout sensitivity is calibrated.

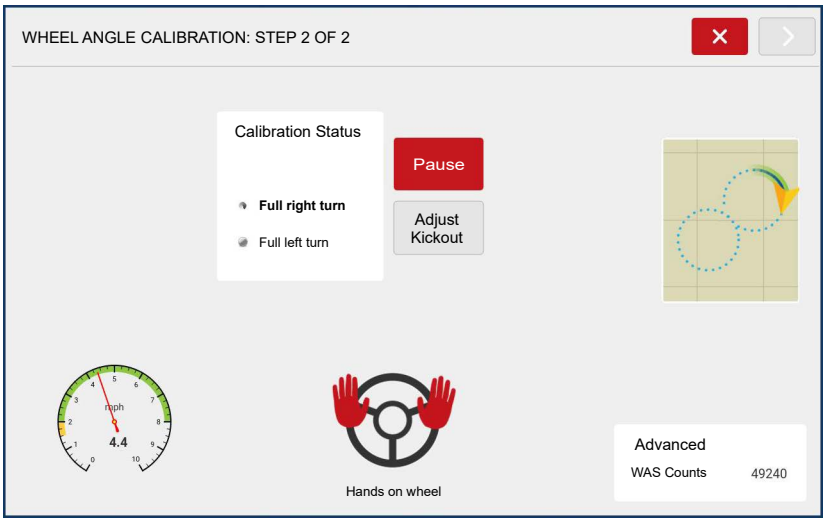
Wheel Angle Calibration

Not required on Track Vehicles

1. Manually drive in straight line within the speed threshold.

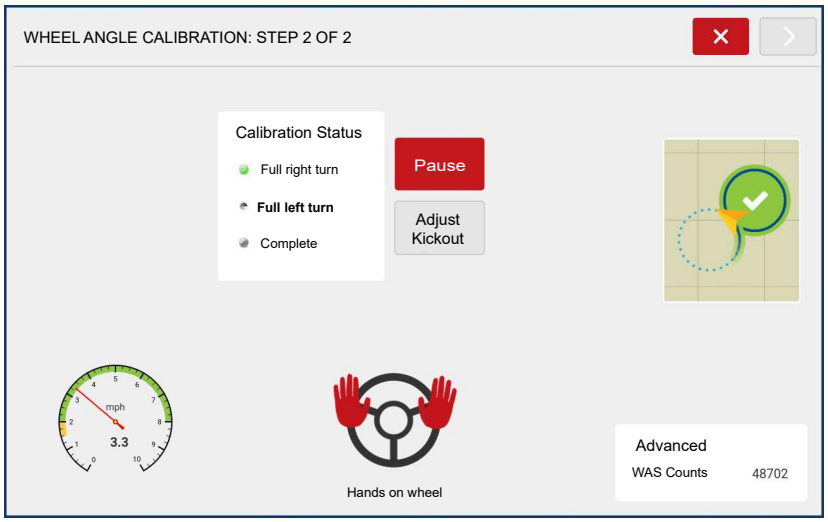


The speed range in green must be maintained for SCM calibration. Going above or below will cause calibration to stop/pause. Operator will need to resume after machine is back within the speed range, to continue calibration.

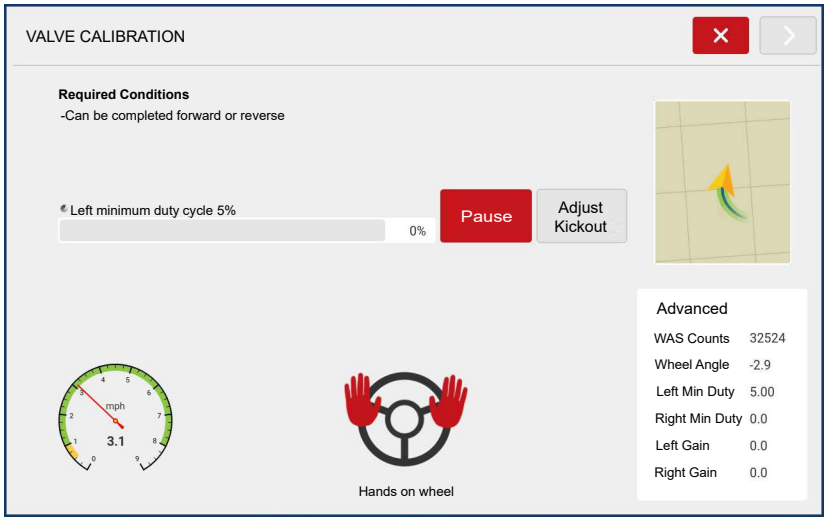


Auto calibration will take control of steering.

• System will turn full right and full left to determine the minimum turn radius.



Valve Calibration

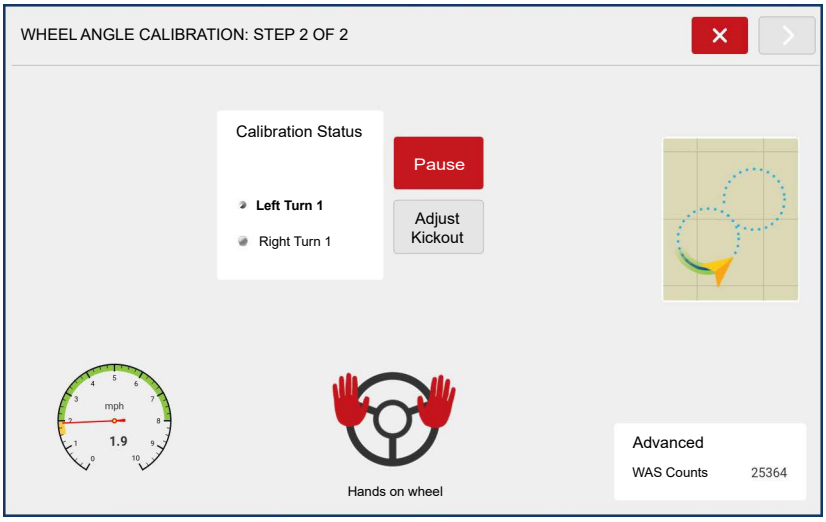


Not performed on ISO machines

• Auto calibration will take control of machine steering. This step can be performed while driving forward or while in reverse. Switching between the two will require resuming the calibration.

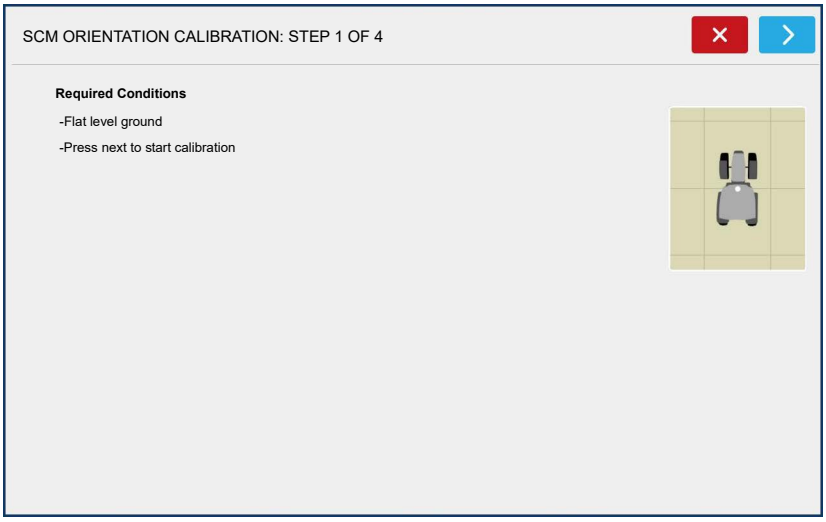
• System controls the valve through a series of actions to learn valve characteristics and behaviors for best steering performance.

Wheel Angle Calibration Verification



• This calibration ensures that linkage geometry and orientation do not effect steering performance.

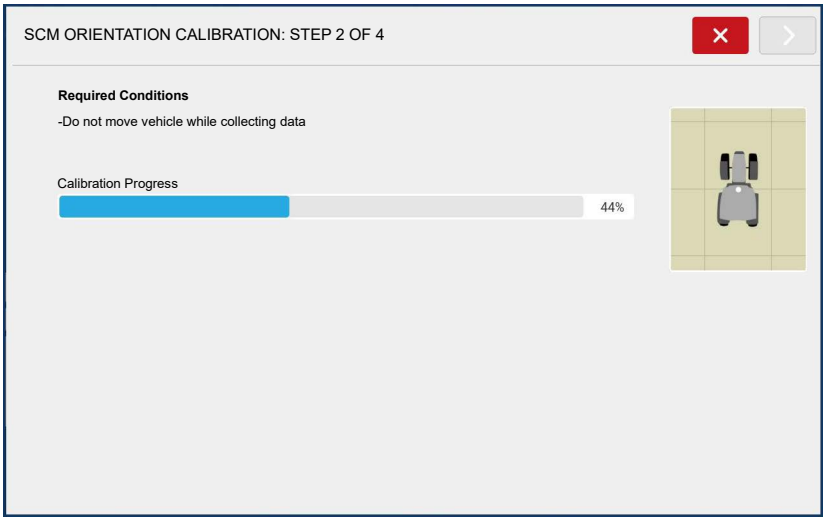
SCM Orientation



• Determines the SCM angles compared to the machine. Careful positioning of the vehicle is important for system to determine calibration values for optimal roll corrected steering performance.

1. Park vehicle on flat ground.

Press > to continue.

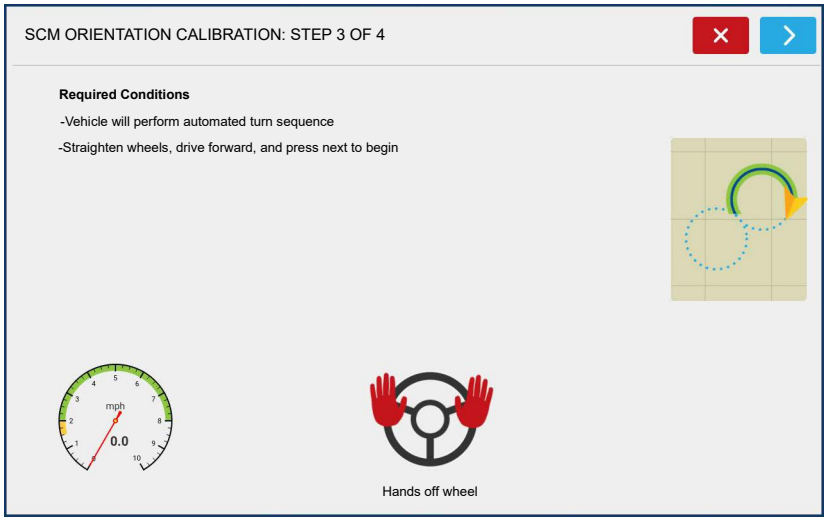


Turn vehicle around so it is parked in the same spot but facing opposite direction

• Position front wheels where back wheels were

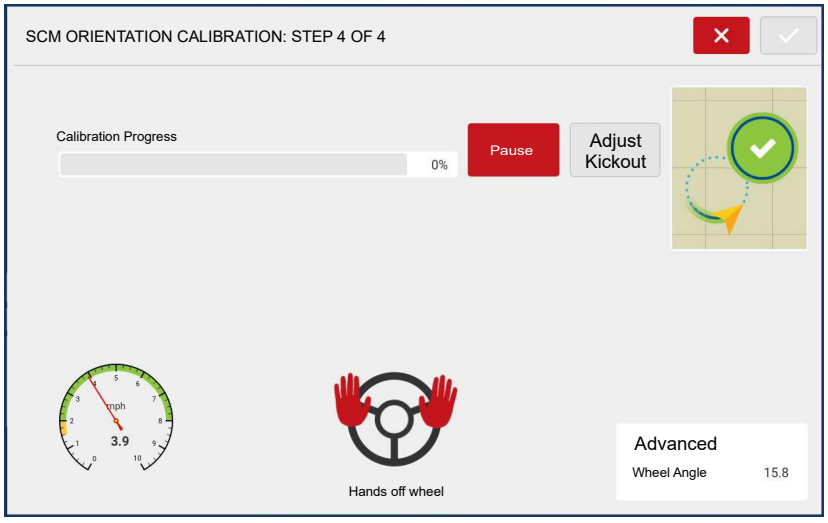
• Right side of vehicle should be positioned where left side of vehicle was

Correct positioning of vehicle is important so system can determine correct calibration values.



2. SCM will take control of the machine steering and perform automated turn sequence to determine angle in which SCM was installed.

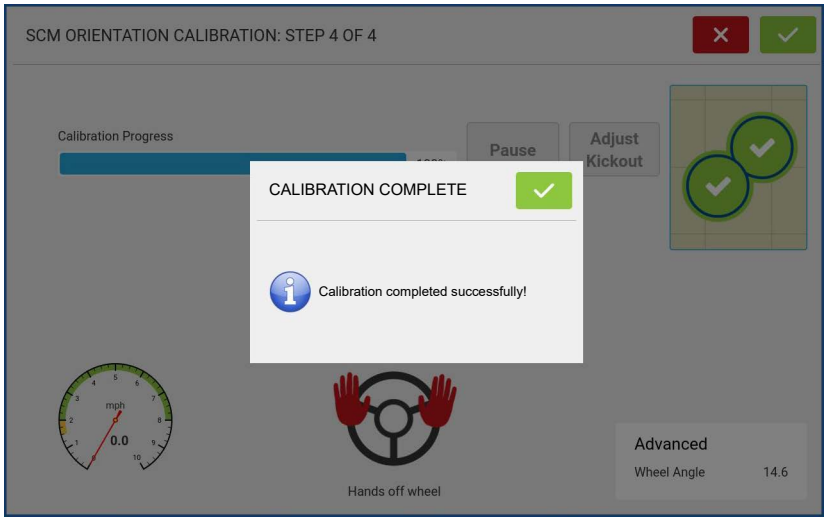
Press  to continue.



Second circle can be performed using the same area as the first circle

In this step, the system steers the vehicle in two complete circles, one clockwise and one counter-clockwise. To reduce the space required, pause after the clockwise circle is complete, reposition vehicle then resume to allow the counterclockwise circle to be completed in same spot.

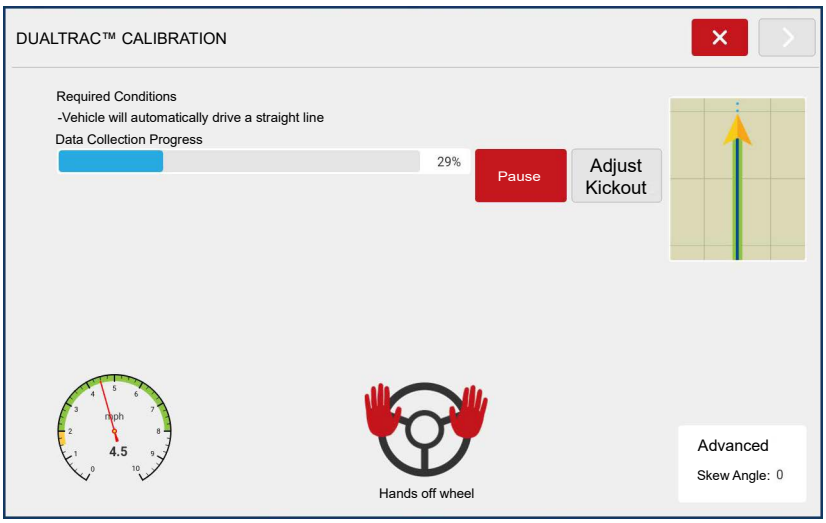
Calibration Complete



- If steering performance is not desirable, adjust tuning parameters in Tuning on page 233.
- If steering performance is still not desirable after tuning adjustments, redo full calibration.

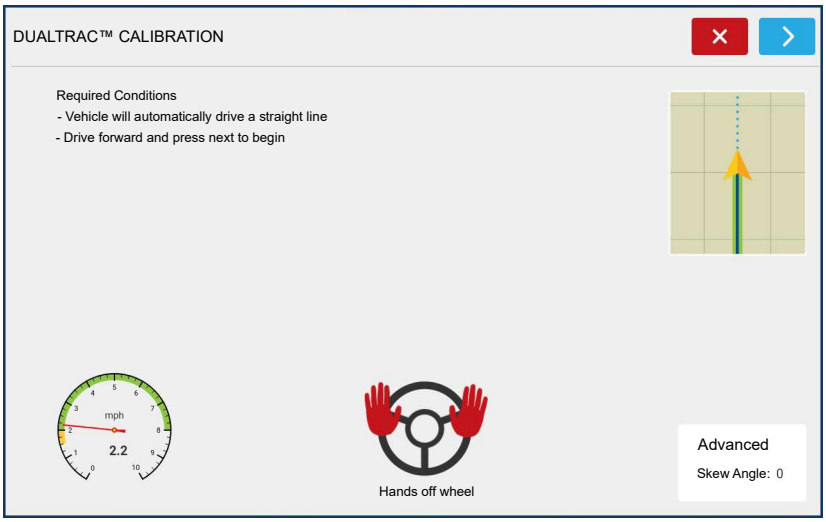
Press  to complete calibration.

DualTrac Calibration



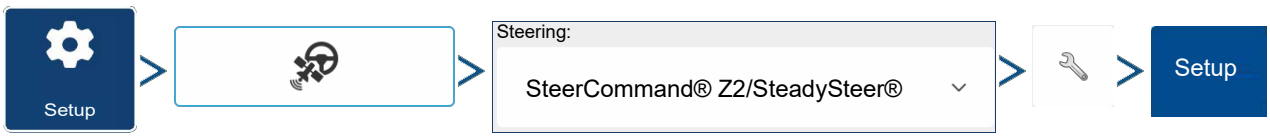
DualTrac can be calibrated during the Full Calibration or after a calibration has been completed.

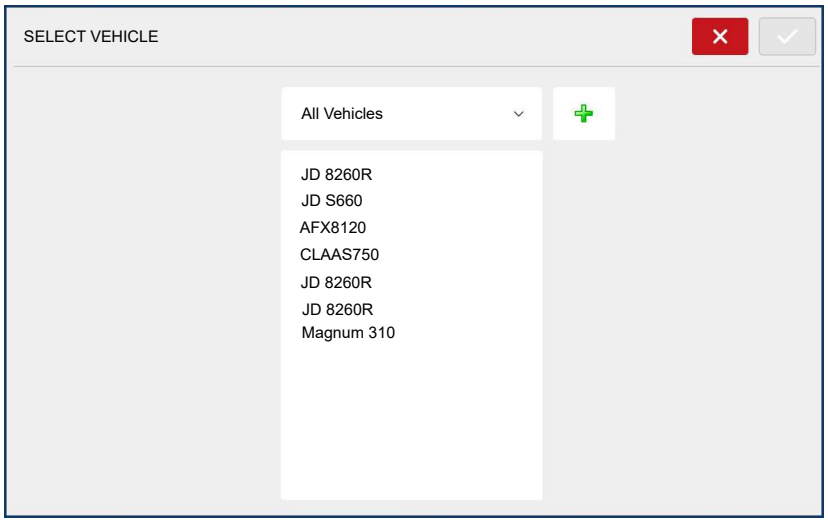
This calibration measures the angle between the DualTrac antennas and the vehicle.



Press > to continue.

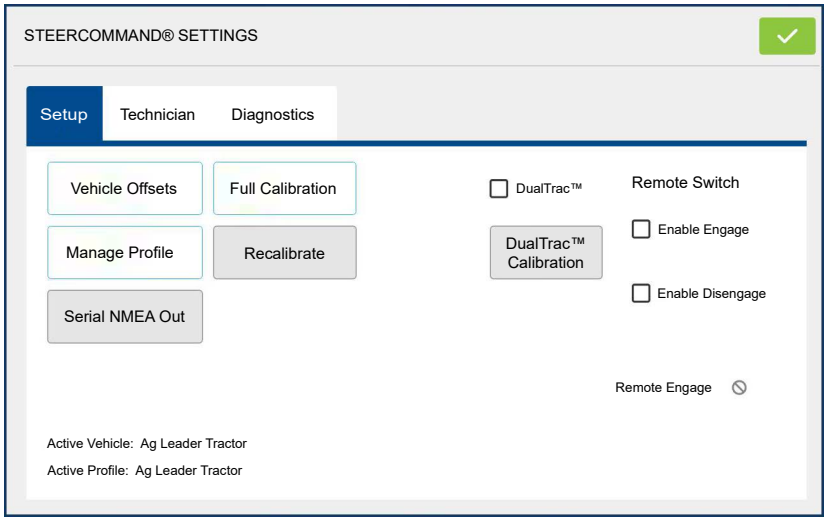
SteadySteer Setup Tab





Select a vehicle configuration from the list. If the desired vehicle configuration is not on the list, select  and follow the steps in the vehicle wizard to create a configuration for your vehicle.

Press  to enter vehicle configuration.



Setup tab when the control method is set to SteadySteer.

Vehicle Offsets – Edit vehicle offsets and SCM location (antenna, hitch, and wheelbase). Also allows sending SCM location.

Manage Profiles – View and manage steering profiles on the SCM. See Manage Profiles on page 206.

Serial NMEA Out —Export desired baud rate and NMEA messages from SCM. Serial NMEA Out on page 208.

Full Calibration – Begin complete calibration process. See SteadySteer Calibration on page 220 or Z2 Auto Steer Full Calibration on page 208.

Steering Kickout – Ability to adjust kickout sensitivity.

SteadySteer Curvature – Ability to calibrate the only the curvature.

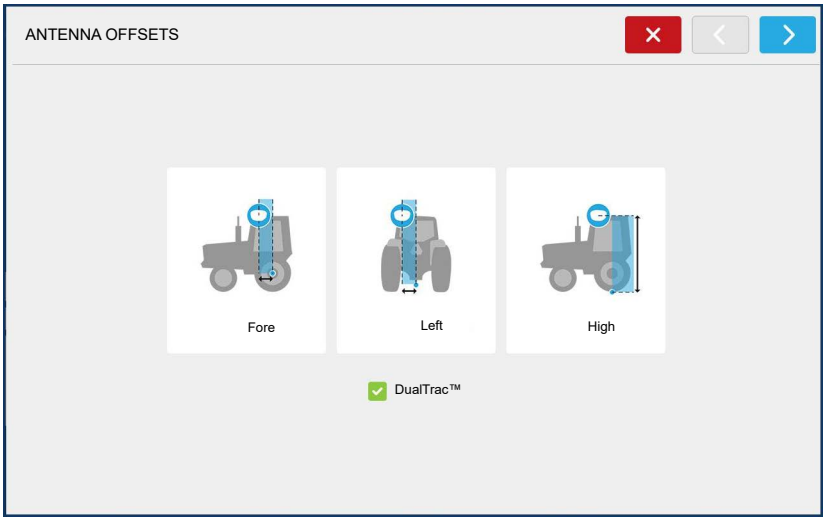
SCM Orientation – Ability to calibrate orientation.

Remote Switch – Enable remote engage/disengage using an external switch, such as a foot pedal or machine AutoSteer engage momentary switch. Must be enabled when using CAN/ISO profiles.

DualTrac™ checkbox – Enable or disable DualTrac™

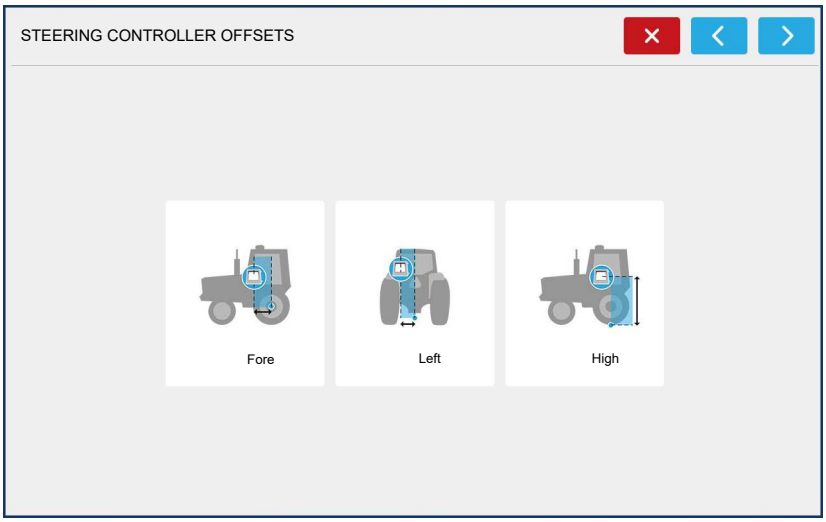
DualTrac™Calibration – Select if only needing to calibrate DualTrac

Antenna Offsets



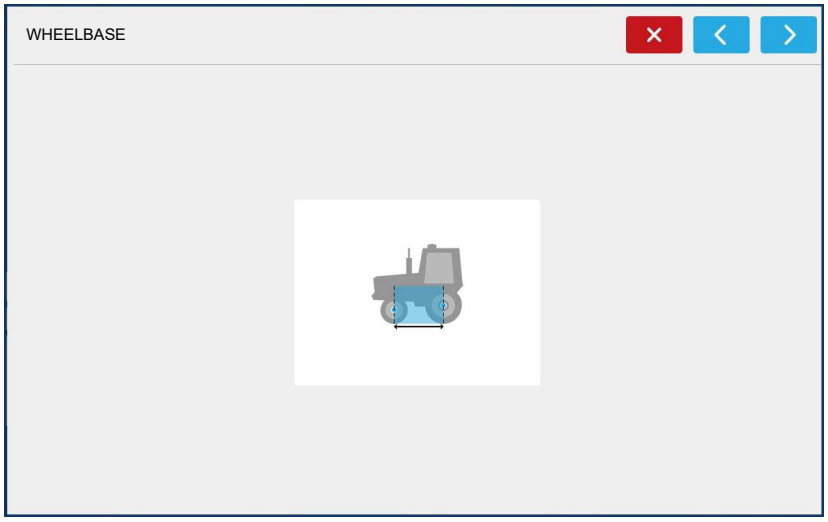
Verify ANTENNA OFFSETS and DualTrac enabled/disabled.

Steering Controller Offsets



Verify STEERING CONTROLLER OFFSETS OFFSETS.

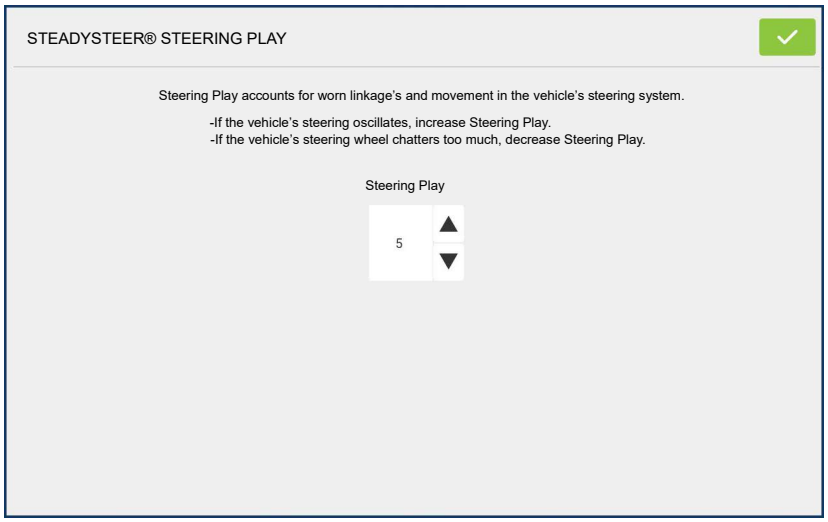
Wheelbase



Verify WHEELBASE OFFSETS.

SteadySteer Calibration

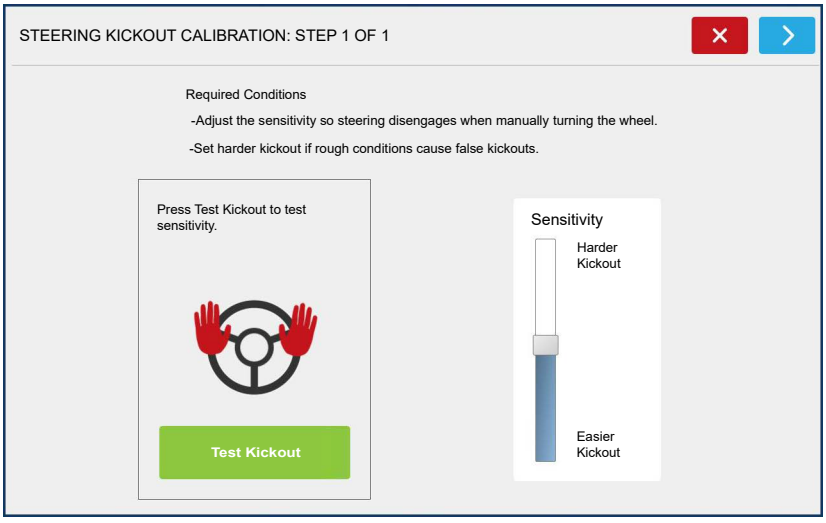
SteadySteer Steering Play



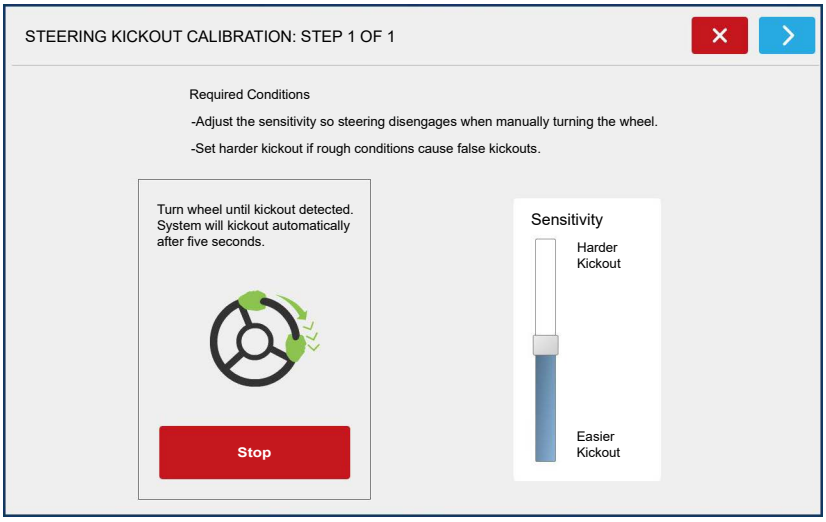
Setting used for steering wheel movement before the wheels turn. Default value set at 5.

SteadySteer Calibration

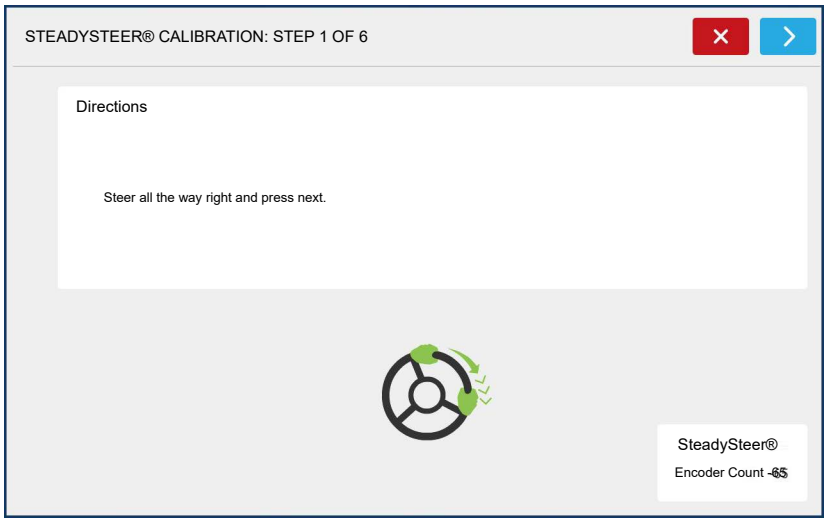
Select the Control Method of SteadySteer when using the MDU.



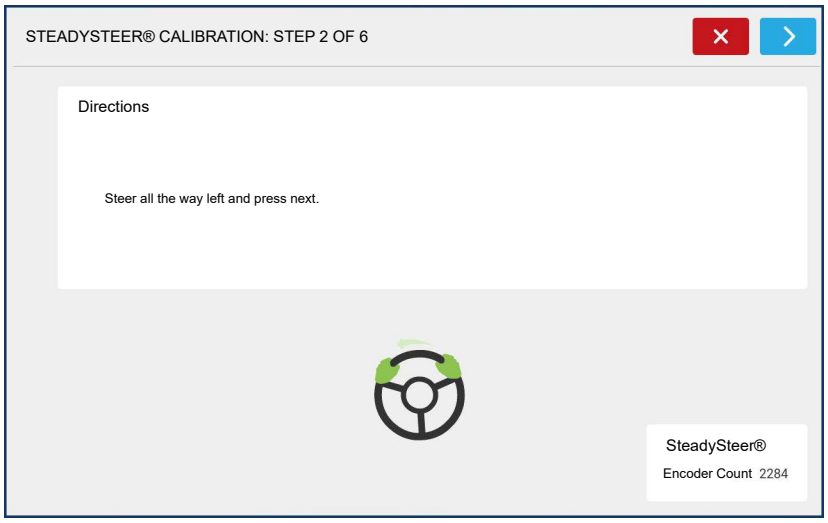
Set the desired kickout sensitivity. When set to a harder kickout, the steering wheel will be harder to turn resulting in more aggressive feedback for kickout. Lowering the kickout will make the steering wheel easier to turn for kickout.



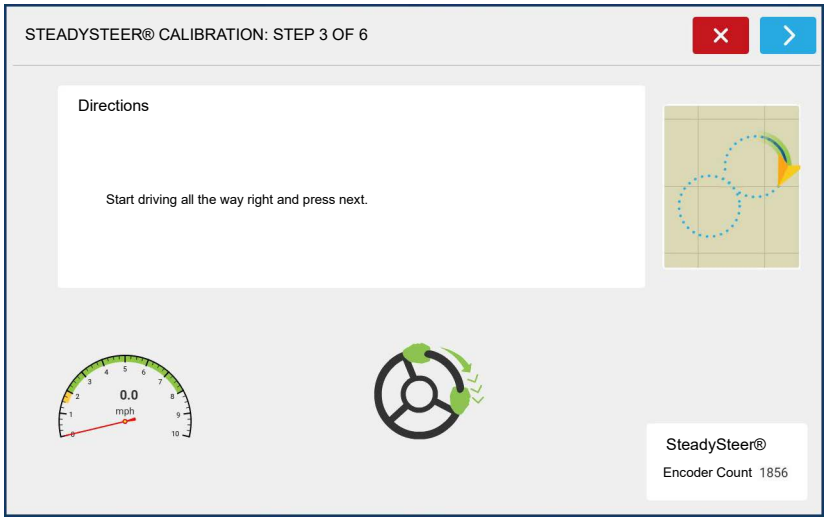
After pressing Test Kickout, the kickout sensitivity can be set.



During the calibration, the SteadySteer counts will be shown in the lower right.

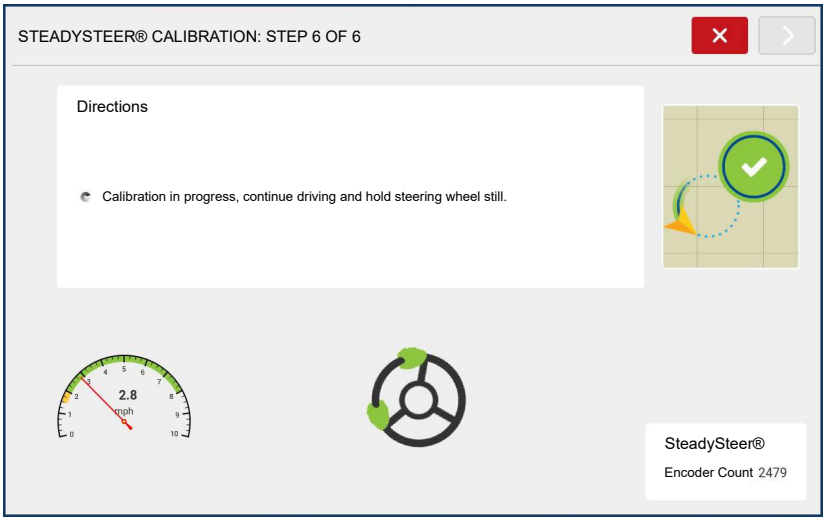


The counts will be seen when moving the steering wheel to the left and to the right.



To find the orientation, manually drive in a circle.

Manually drive left in a circle.

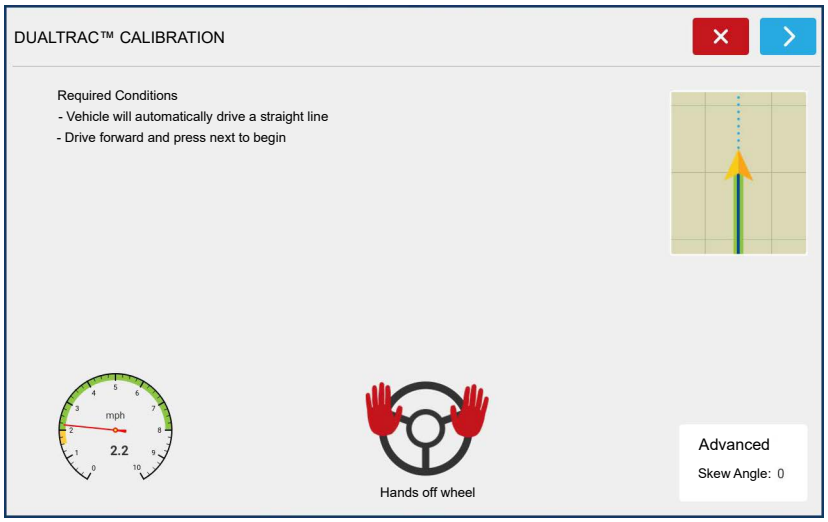


Calibration will show **“continue driving”** until calibration is complete.

DualTrac Calibration

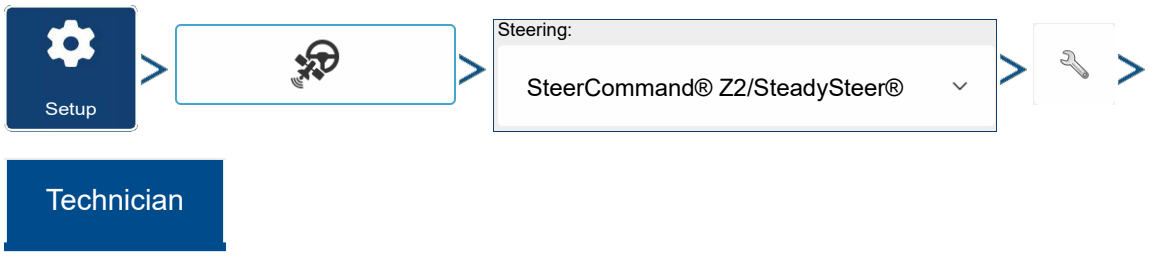
DualTrac can be calibrated during the Full Calibration or after a calibration has been completed.

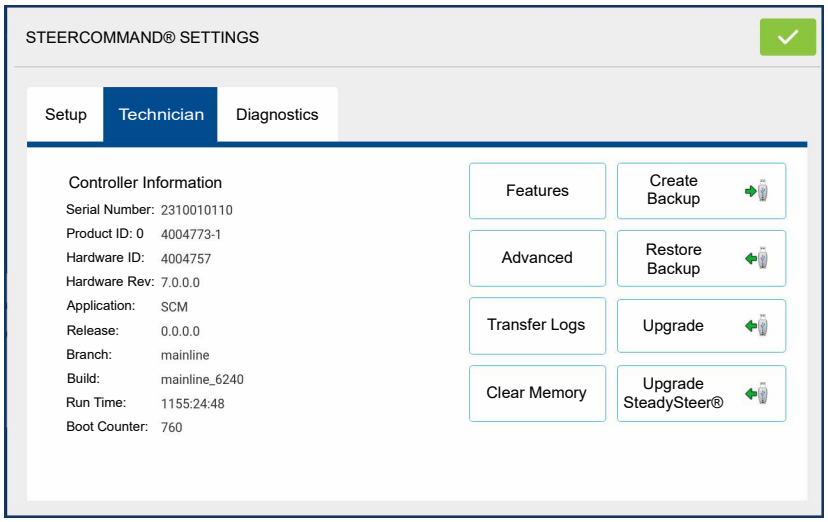
This calibration measures the angle between the DualTrac antennas and the vehicle.



Press > to continue.

Technician Tab





The Technician tab allows access to

Feature codes —See Features on page 224.

Advanced —(password protected)

Transfer logs —See Transfer Logs on page 225.

Create Backup — Export a backup of the SCM to the USB attached to the display. (ibk4 file)

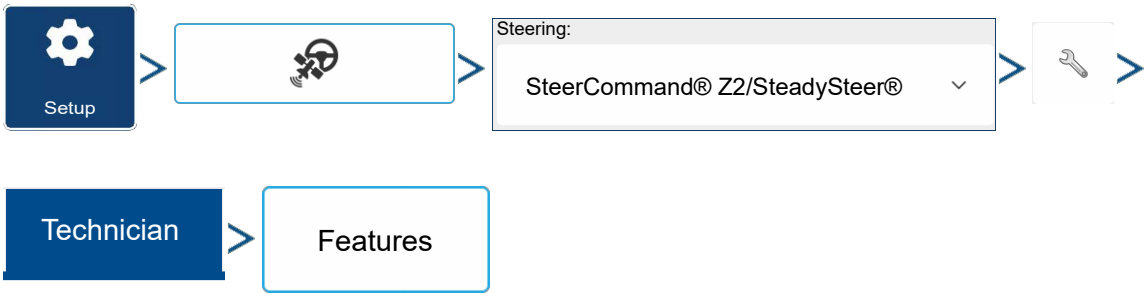
Restore Backup — Import a backup of the SCM from the USB attached to the display. (ibk4 file)

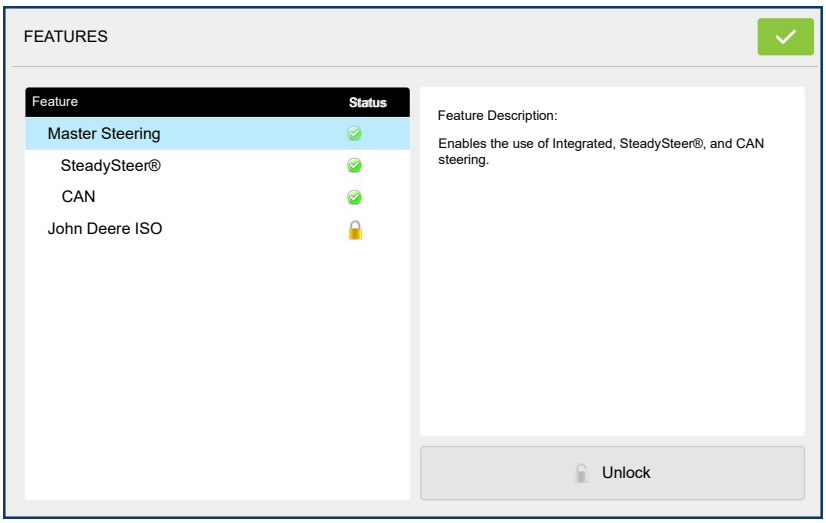
Upgrade — Upgrade the SCM using fw3 file. See Upgrading SCM Firmware on page 226.

Upgrade SteadySteer™ — Upgrading SteadySteer™ Firmware on page 227.

Clear Memory — Clear all profiles and settings on the SCM.

Features





Unlocks are listed on the Features page.

Master Steering – Allows for all steering types: Hydraulic, CAN and SteadySteer.

SteadySteer – Allow for the use of the MDU.

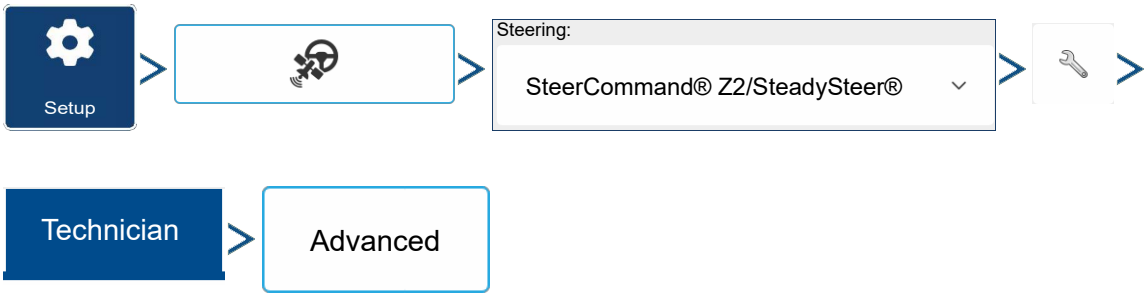
CAN – Allows for the SCM to control a CAN steer machine.

John Deere ISO – Required for John Deere ISO steering.

Feature unlocks can be purchased for any SCM through your Ag Leader Dealer. Serial number and registration number are required for each unlock on the SCM.

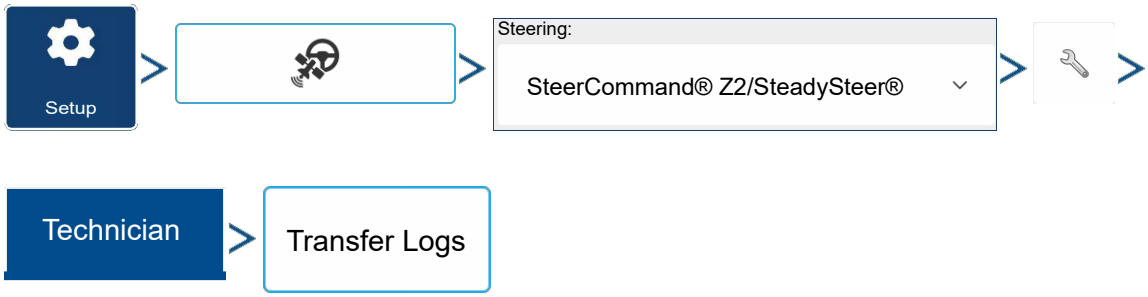
To unlock, highlight the desired feature and press the Unlock button.

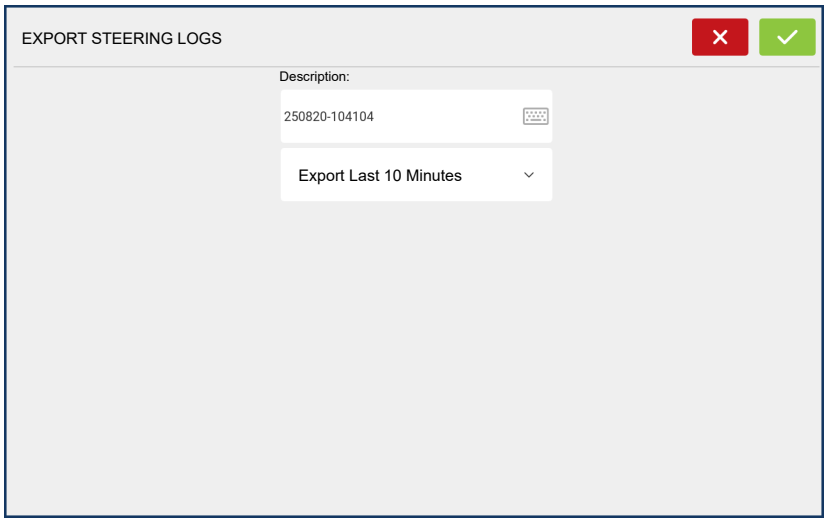
Advanced



Password protected advanced settings screen used by Technicians for analyses and to adjust settings.

Transfer Logs





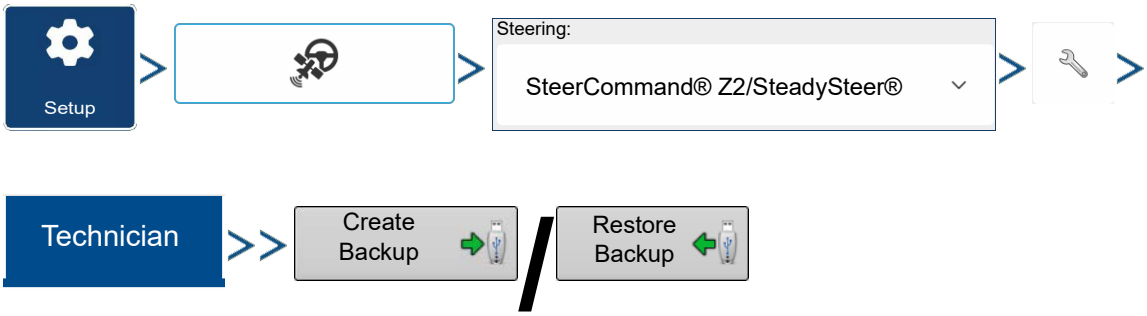
Allows user to export steering logs that can be sent to support. The drop down selection can be used to export logs during a length of time (this is clock-based time not runtime).

Below are a list of the options

- Export Last 10 Minutes
- Export Last 30 Minutes
- Export Last Hour
- Export Last 12 Hours
- Export Last 24 Hours
- Export All
- Export Date Range

Once exported, file will be saved to a folder on the USB with the SCM serial number.

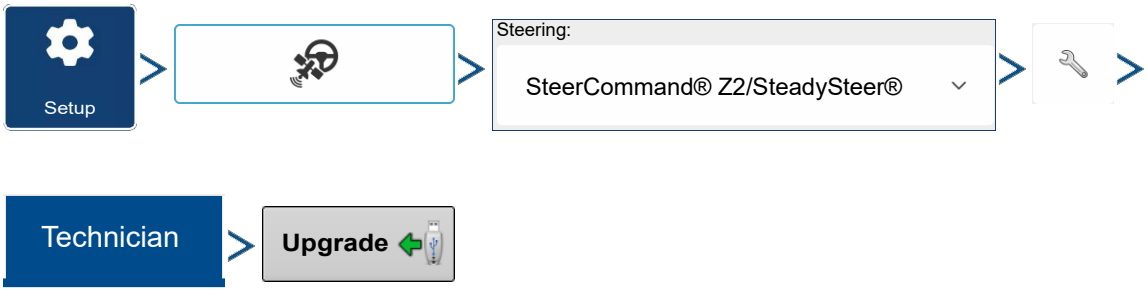
Create/Restore Backup

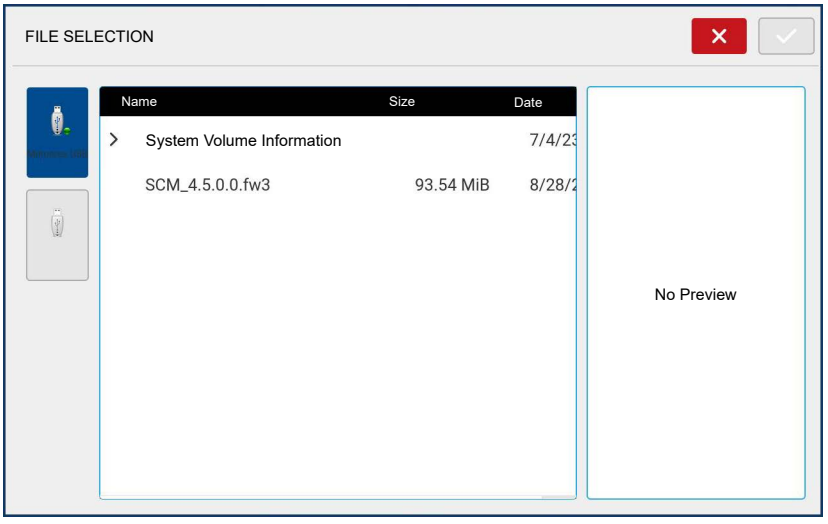


Create Backup — Export a backup of the SCM to the USB attached to the display. (ibk4 file)

Restore Backup — Import a backup of the SCM from the USB attached to the display. (ibk4 file)

Upgrading SCM Firmware





The SCM has firmware that updates separately than the display firmware. In the Technician tab for the steering menu, there is an Upgrade button. After pressing the button, you will be prompted to select the latest firmware.

File selection

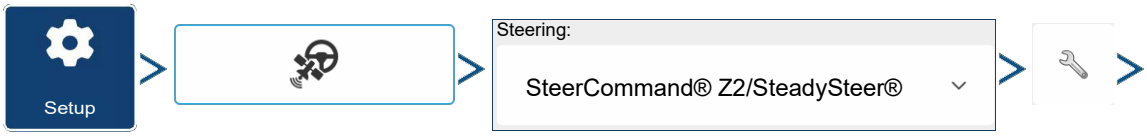
• Choose file by selecting the folder or plus icon, then highlight the file name blue

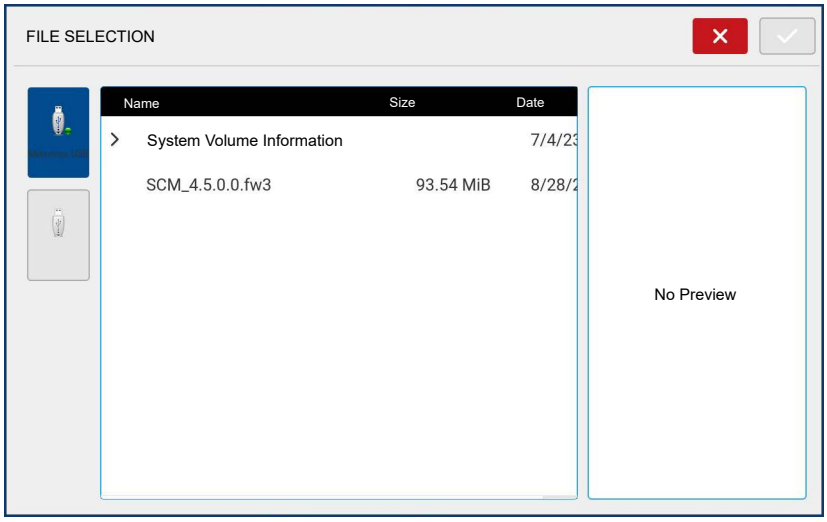
- Firmware file format must be .fw3

- Begin upgrade

- Cancel upgrade

Upgrading SteadySteer™ Firmware





SteadySteer has firmware that updates separately than the display firmware. In the Technician tab for the steering menu, there is an Upgrade SteadySteer button. After pressing the button, you will be prompted to select the latest firmware.

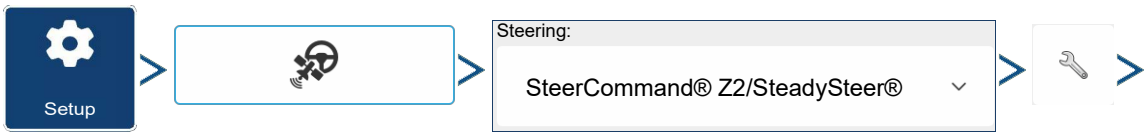
File selection

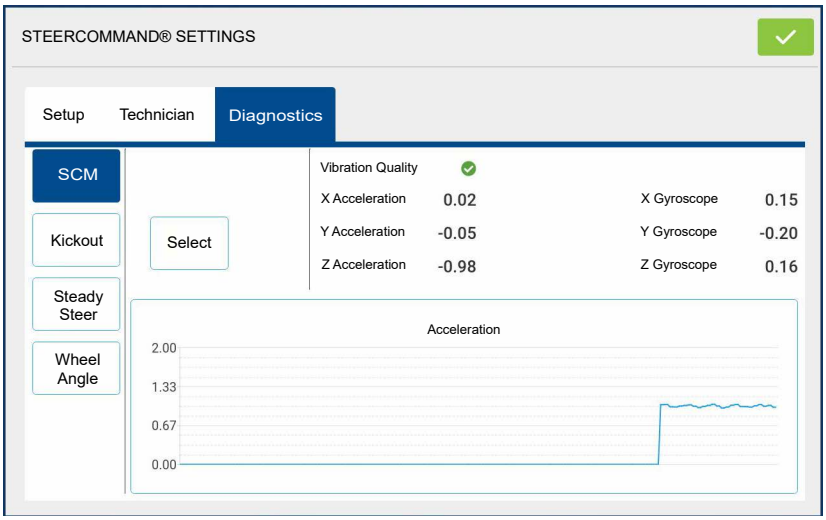
- Choose file by selecting the folder or plus icon, then highlight file name blue
  - Firmware file format must be .fw3

- Begin upgrade

- Cancel upgrade

SCM Diagnostics





Shows current vibrations the SCM is experiencing and indicates if they may have an impact on steering performance.

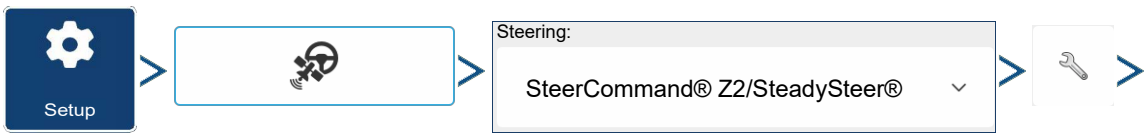
Run with machine performing as close to standard operation as possible,

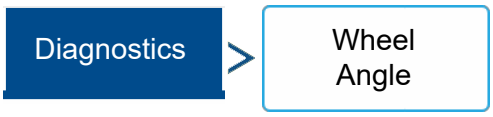
For example, a combine would have the separator engaged and would move through different engine RPM ranges.

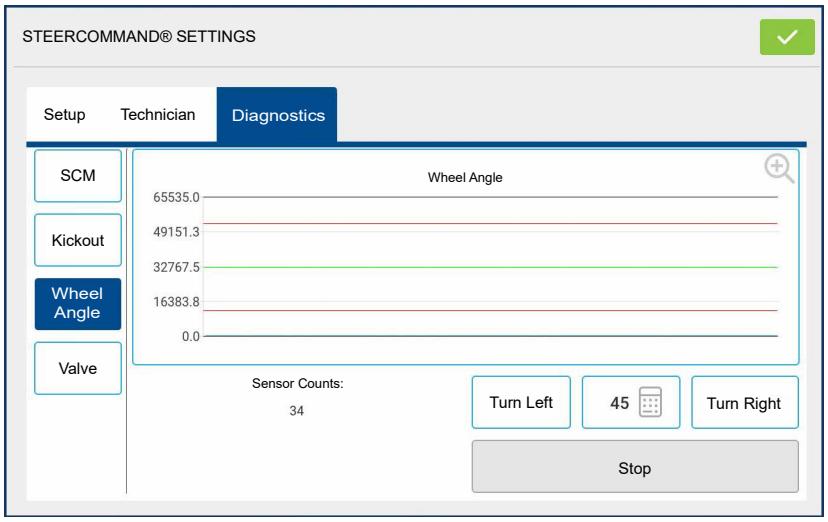
Indicator, at the top of the screen, shows level of performance

- Green – Vibration is acceptable and has no affect on steering performance.
- Yellow – Vibration is seen but steering performance is not affected.
- Red – Vibration could be too strong/aggressive. Look into improving SCM mounting location.

Wheel Angle - Diagnostics







Wheel angle sensor graph is used to visually see sensor counts while steering wheel is turned. The current sensor counts are also shown at the bottom of the window.

• Red lines on the graph indicate maximum and minimum wheel angle sensor counts after the full calibration.

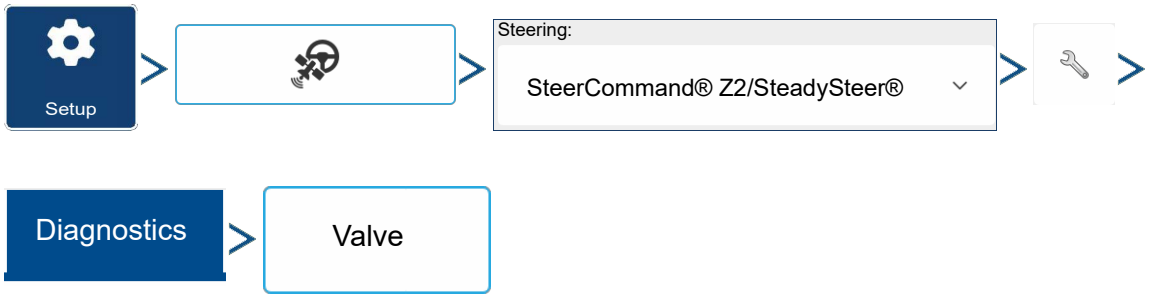
• Green line indicates wheel angle sensor count when wheels are centered.

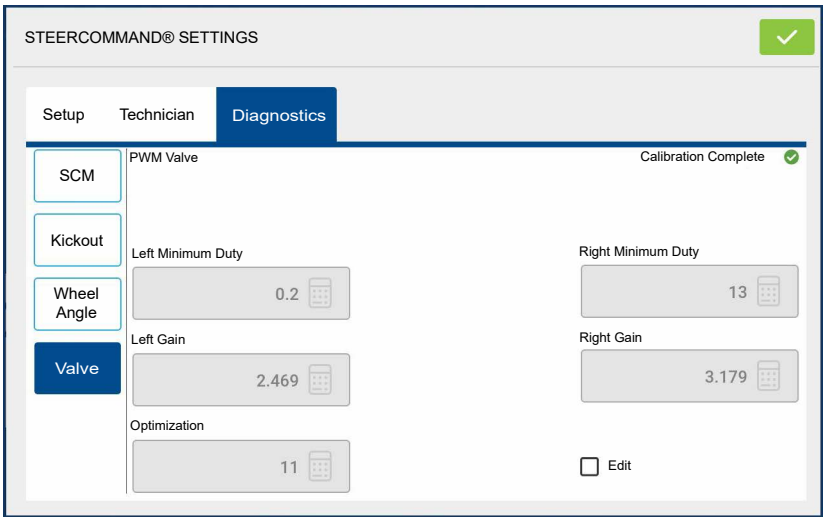
This is helpful in diagnosing a poor Wheel Angle Sensor (WAS)

• if there is a dead spot where you turn wheel right but WAS goes left for a small amount of time

Turn Left and Turn Right can be used to tell the SCM to manually command the wheels in a certain direction. Buttons can only be used after the control method and kickout calibration is completed. Use Stop button to stop turn.

Valve Diagnostics





Valve diagnostics are used when the control method is directly controlling a hydraulic valve. The edit button is defaulted to being unchecked.

Left Min Duty – Value from current profile loaded.

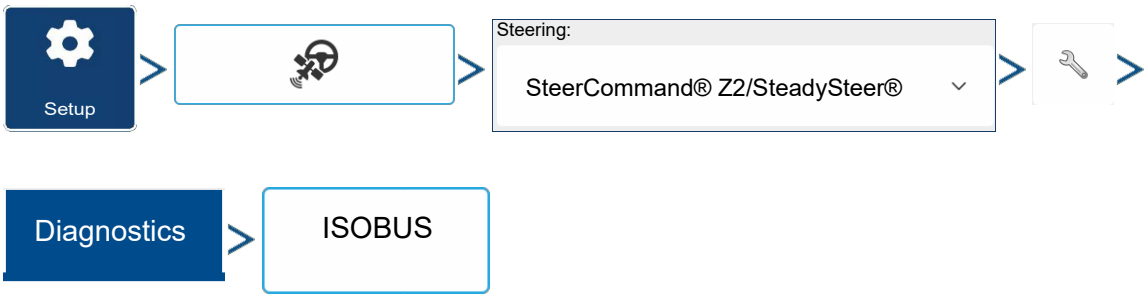
Right Min Duty – Value from current profile loaded.

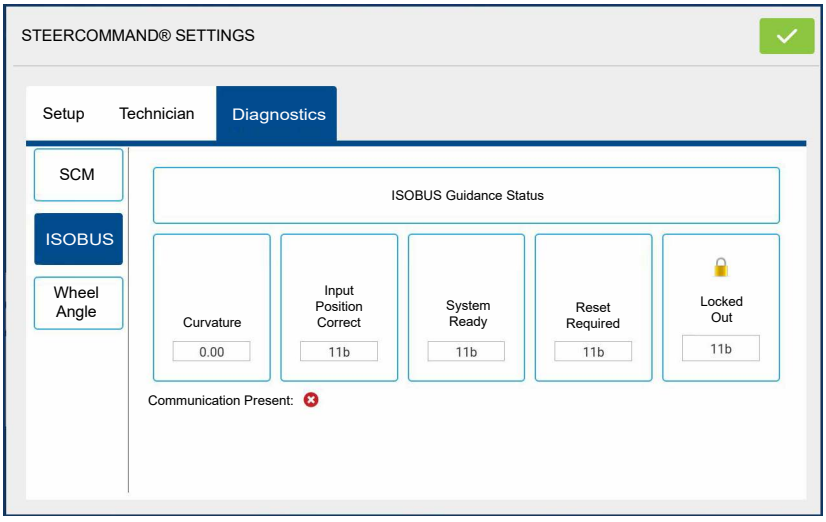
Left Gain – Aggressiveness of valve to the left.

Right Gain – Aggressiveness of valve to the right.

Optimization – Overall aggressiveness of the valve.

ISOBUS Diagnostics





The following are diagnostics only available with ISO/CAN profiles being used.

Curvature – Curvature sent to SCM from vehicle.

Input Position Correct	
Correct position	**01b**
Not correct position	**00b**
Error indication	**10b**
Not available	**11b**
Unknown	**00b**

System Ready	
System ready	01b
System not ready	00b
Error indication	10b
Not available	11b
Unknown	00b

Reset Required	
Reset not required	00b
Reset required	01b
Error indication	10b
Not available	11b
Unknown	00b

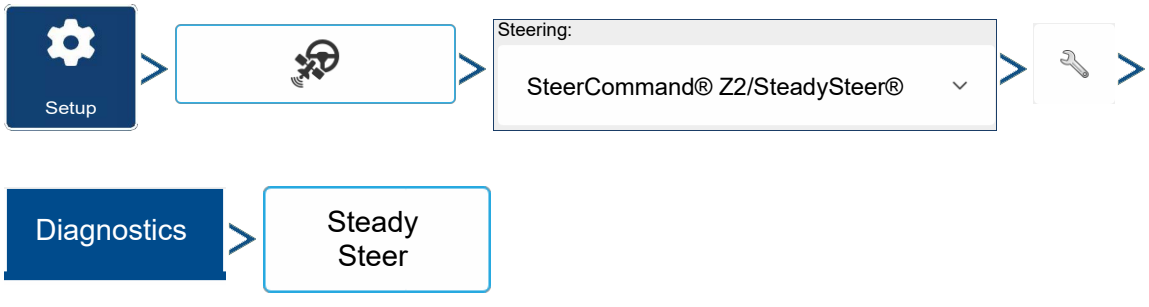
Locked Out	
Not active	00b
Active	01b
Error indication	10b
Not available	11b
Unknown	00b

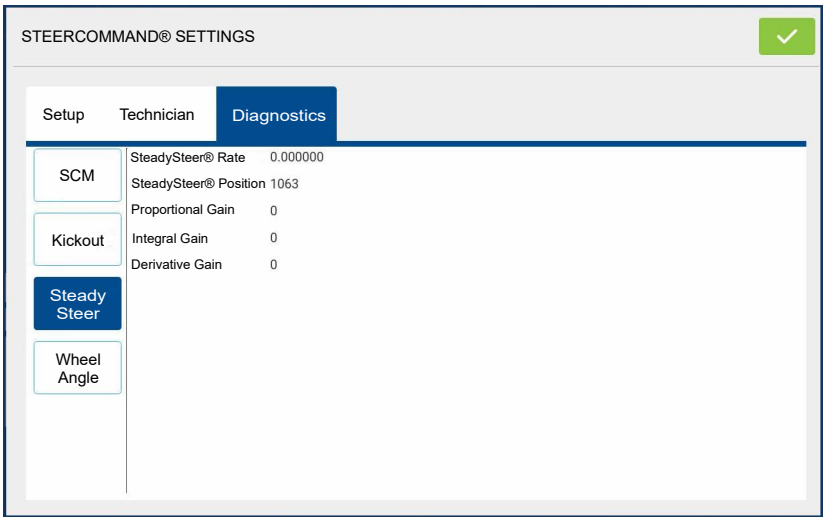
Communication Present

Green – Communication active with ISO/CAN vehicle.

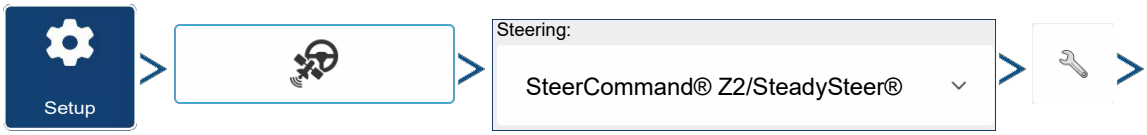
Red – No ISO communication with vehicle.

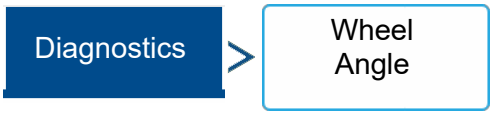
SteadySteer Diagnostics

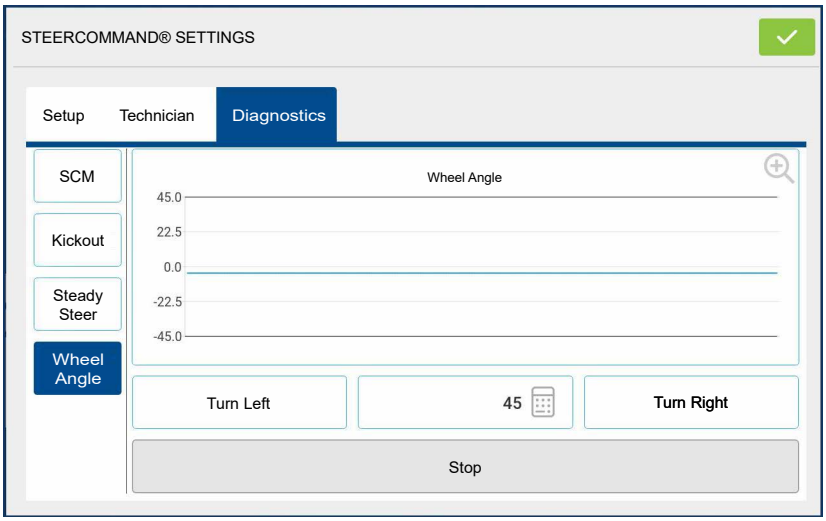




In the Diagnostics of the steering menu, SteadySteer will be shown. Shows the performance of the MDU.





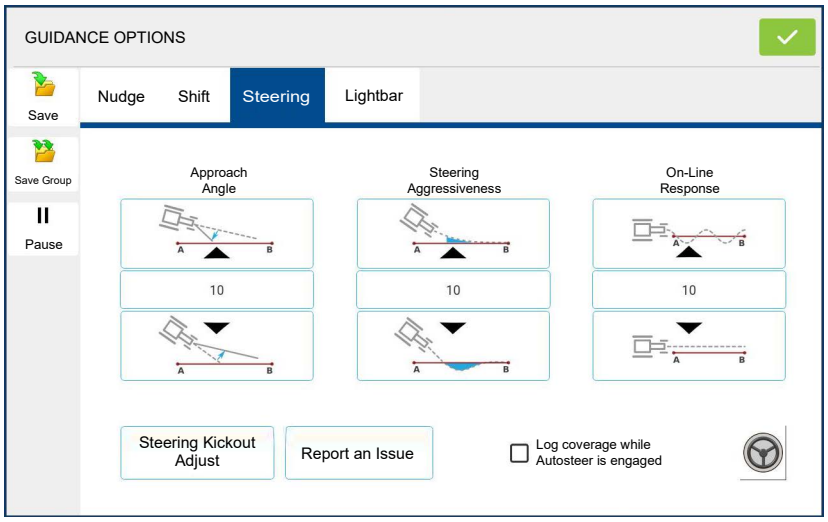


The Wheel Angle button will show the MDU counts when turning right and left.

Guidance Options

Guidance options page allows user to tune vehicle, adjust kickout, report an issue, and turn on/off log coverage when engaged.

Tuning



Approach Angle

Changes the approach angle to the line.

A more aggressive approach angle will bring the vehicle to the line more quickly and may cause a larger overshoot.

Differences in speed will change the angle. For example: An engagement at 5 mph will have a sharper approach angle than at 10 mph engagement.

- Higher speed will not have a sharp approach angle.
- This setting focuses primarily on “Line Acquisition.”

Steering Aggressiveness

This is a transitional stage where the system goes from steering the vehicle to the line, to steering the vehicle on the line. This setting determines how quickly the system transitions from getting to the line to following the line. The setting changes overshoot aggressiveness and overshoot distance. It determines how quickly the vehicle turns back to the line from the approach angle.

- High value will cause oscillations.
- Lower the value will make the steering less responsive.

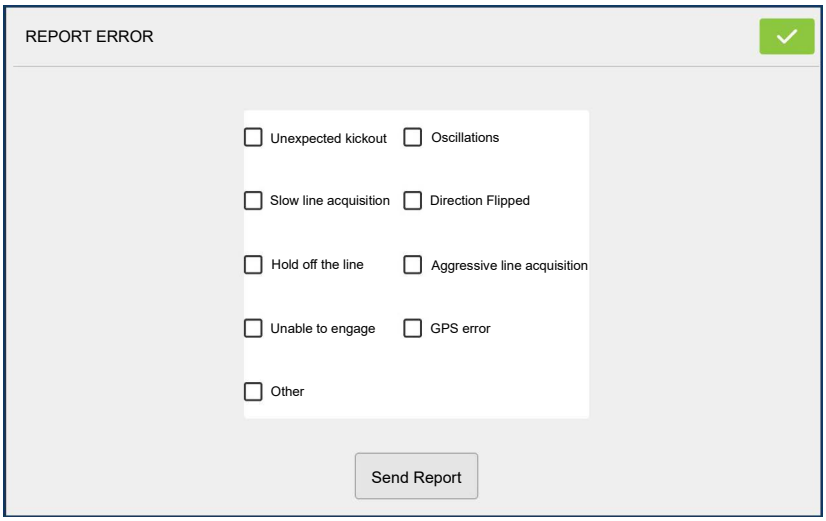
- This setting may be more of a factor when steering at high speeds, on side hills, and on self propelled applicators.

On Line Response

Changes how aggressively the control system responds to the vehicles distance from the path. Higher value may result in weaving/oscillations that get larger over time. Lower value may result in vehicles behavior consistent to one side of the guidance line.

- Increase value if vehicle is “lazy” getting to the line (hangs off one side of the line).
- Decrease value to smooth out oscillations.
- This setting works in conjunction with Steering Aggressiveness.

Report an Issue



User can export out a log of information on an issue they experienced. A USB drive must be inserted in the display. This will flag and export out a 10 minute log (same thing that happens when you export out the 10 minute log in SCM setup.) This log can then be sent into support to be evaluated.

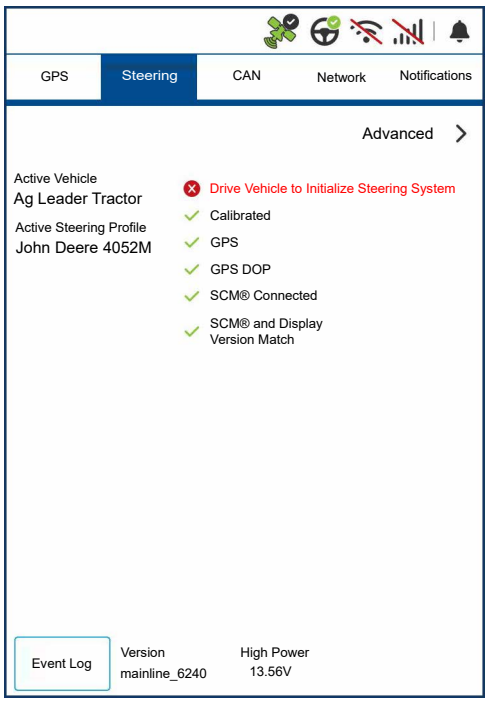
Steering Kickout Adjust

- Allows user to adjust the kickout of the vehicle after it has been calibrated.

Log Coverage While Autosteer is engaged

- Allows user to easily log coverage on the map when autosteer is engaged.

Steering Information



SCM Build – Shows what firmware version the SCM is currently on.

GPS Status – Will be green when there is differential.

GPS DOP Status – Will be green when DOP levels are below 3.0.

CAN Communication Status – Will be green when communicating with a CAN steer machine.

SteadySteer Communication Status – Will be green when communicating with the MDU.

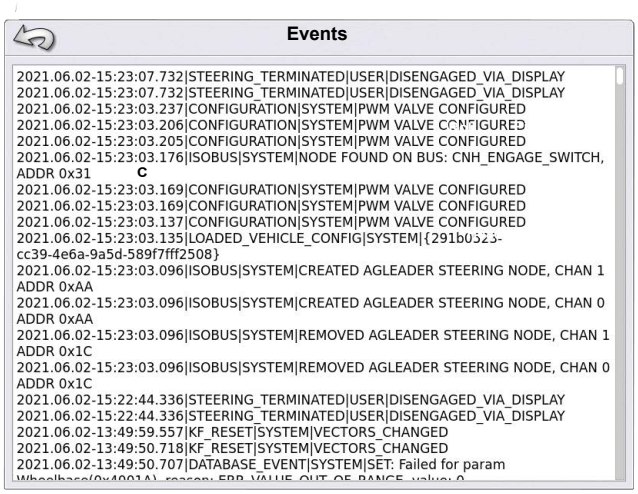
Calibration Status – Will be green if the active profile is calibrated.

SCM Initialized – SCM will initialize when the vehicle speed is greater than 1 mph for 3 seconds.

SCM High Power – Shows the voltage to the SCM of the high current power line.

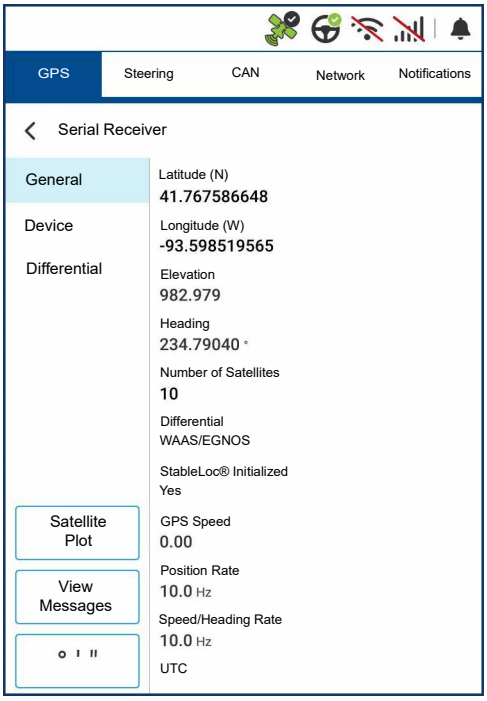
Active Steering Profile – Shows what profile is currently being used.

Event Log



User will be able to see specifics with how the system is operating. If an error is seen or an issue occurs, by going to the Events Log more specifics can be seen to diagnose the issue.

GPS Information - General tab



Latitude –

Longitude –

Elevation –

Heading –

Number of Satellites –

Differential –

StableLoc® Initialized –

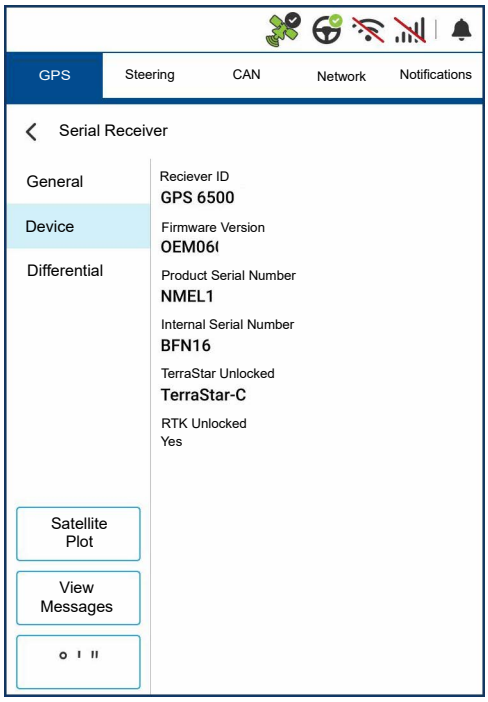
GPS Speed –

Position Rate –

Speed/Heading Rate –

UTC –

GPS Information - Device tab



Receiver Identification –

Firmware Version –

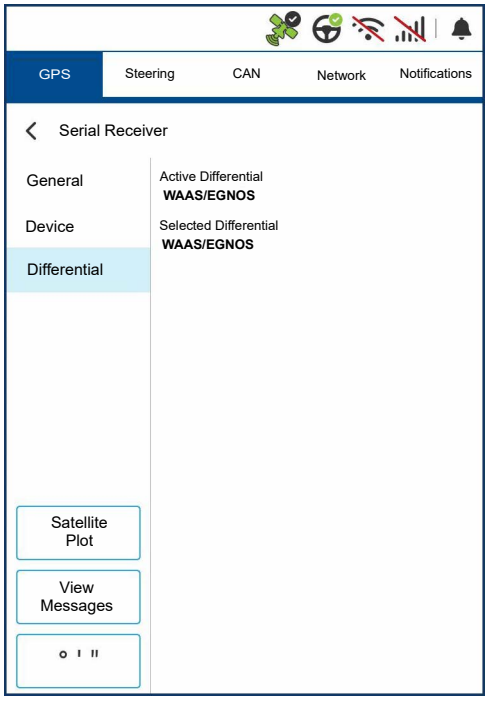
Product Serial Number –

Internal Serial Number –

TerraStar Unlocked –

RTK Unlocked –

GPS Information - Differential tab



Active Differential –

Selected Differential –

SCM LED Diagnostics

SCM has been designed with two LEDs that can be used to help determine status of system as well as provide some basic troubleshooting information. On front panel of SCM, LEDs will be off, Green, or Amber.

Power Light

Red	Blinking 1-3 times slowly	Communication is started
	Solid or blinking constantly	SCM has hardware issue
		Trying to upgrade firmware
Amber	Solid for a few seconds	Bootup in process
	Solid for more than a few seconds	Firmware Issue
Green	Blinking	SCM is communicating

Communication Light

Off	No Ethernet connected
Blinking	Sending or receiving messages
Fast Blinking	Communication occurring between display and SCM
Slow Blinking	Software issue on SCM or display

Warnings/Errors		
Alarm	**Trigger Condition**	**Clear Condition**
New Kickout Sensor Detected. Re-Calibrate Kickout Sensor	**The operator attempted to engaged steering with the Kickout Watchdog type being different than the SteerCommand Z2/SteadySteer type**	**Turn wheel to see if kick-out watchdog had detected wrong app or had detected KO sensor wrong originally. Shorted wires can also make an incorrect detection happen on the kick-out watchdog**
Turn steering wheel to initialize steering system	**The operator attempted to engage steering without first turning the steering wheel for**	**Turn the steering wheel, attempt to engage again**
Operator turned wheel	**Condition was met to disengage steering.**	**If it was an undesired kickout then adjust user kickout settings This toast will only occur disengaging through steering wheel. It will not occur by disengaging with foot switch or through display.**

Calibration Related Dialogue

Steering kickout not calibrated	**The operator attempted to engage on a line without steering kickout calibrated**	**Perform steering kickout calibration**
Wheel-angle sensor not calibrated	**The operator attempted to engage on a line without wheel angle sensor being calibrated**	**Perform wheel angle sensor calibration**
Steering valve not calibrated	**The operator attempted to engage on a line without valve calibrated**	**Perform valve calibration**
IMU orientation not calibrated	**The operator attempted to engage on a line without IMU calibrated**	**Perform an IMU calibration**
GPS Related Dialogue		
Lost GPS position	**While engaged on a line GPS was lost (grey satellite)**	**Establish connection with receiver again**

Engage/Disengage Related Dialogue

Vehicle above the maximum speed to remain engaged	**While being engaged, the vehicle speed went above speed limit.**	**Steering will be automatically disengaged Troubleshooting: The user will be able to engage after reducing speed below speed limit.**
Vehicle above the maximum speed to engage	**The operator attempted to engage steering above speed limit.**	**Steering will not be able to engage Troubleshooting: The user will be able to engage after reducing speed below speed limit.**
Auto steering is prohibited at this time	**The operator attempted to engage while in a situation where engaging was not supported.**	**Attempt to engage from the run screen. This is known to happen when attempting to engage during a suspended event.**

Faulty Wiring Related Dialogue

Valve control fault, check activation switch and valve cable for short or open circuit.	**The operator attempted to engage or during an engagement had a power short to ground. Another condition can also be triggered by steering lockout switch.**	**Address power/ground issue on valve cables or verify steering lockout switch is not on.**

InCommand Z2 Warnings

Pop up/warning dialogue		
Alarm	**Trigger Condition**	**Clear Condition**

Calibration Related Dialogue

Pop up/warning dialogue

Alarm	Trigger Condition	Clear Condition
Steering kickout not calibrated	The operator attempted to engage on a line without steering kickout calibrated	Perform steering kickout calibration
Wheel-angle sensor not calibrated	The operator attempted to engage on a line without wheel angle sensor being calibrated	Perform wheel angle sensor calibration
Steering valve not calibrated	The operator attempted to engage on a line without valve calibrate	Perform valve calibration
IMU orientation not calibrated	The operator attempted to engage on a line without IMU calibrated	Perform an IMU calibration

GPS Related Dialogue

DualTrac lost communication with the second receiver	While being engaged on a line, the controller did not see a heading 2A message for four seconds consecutively OR the user attempted to engage without a heading 2A message	Uncheck "Require DualTrac" if you do not have DualTrac OR address your rover not sending the heading 2A message
Lost GPS position	While engaged on a line GPS was lost (grey satellite)	Establish connection with receiver again

Engage/Disengage Related Dialogue

Vehicle above the maximum speed to remain engaged	While being engaged, the vehicle speed went above 28 mph	-Steering will be automatically disengaged -The user will be able to engage immediately after dropping below 20 mph
Vehicle above the maximum speed to engage	The operator attempted to engage steering above 20 mph	-Steering will not be able to engage -The user will be able to engage immediately after dropping below 20 mph
Auto steering is prohibited at this time.	The operator attempted to engage while in a situation where engaging was not supported.	Attempt to engage from the run screen. This is known to happen when attempting to engage during a suspended event.

Faulty Wiring Related Dialogue

Valve control fault, check activation switch and valve cable for short or open circuit.	The operator attempted to engage or during an engagement had a power short to ground. Another condition can also be triggered by steering lockout switch.	Address power/ground issue on valve cables or verify steering lockout switch is not on.

Toasts

Alarm	Trigger Condition	Clear Condition

GPS related toasts

Invalid GPS Data	While being engaged, the raw GPS position was greater than 1.5 meters difference from the roll corrected position	Steering will be automatically disengaged -A known cause of this in the past has been from larger GPS delays sent from display to controller
		The position/heading direction will need to re-initialize, this will take movement for 3 seconds before being able to engage again -A known cause of this in the past has been from quick brake turns or tracked vehicle turning sharp/quick

Toasts		
Alarm	**Trigger Condition**	**Clear Condition**
GPS step change	**While being engaged, the raw GPS position was greater than .9 meters but less than 1.5 meters difference from the roll corrected position**	**Steering will be automatically disengaged -A known cause of this in the past has been from larger GPS delays sent from display to controller**
		The user will be able to engage immediately after -A known cause of this in the past has been from quick brake turns or tracked vehicle turning sharp/quick
GPS position is degraded	**-The operator was engaged with steering and GPS went to a yellow satellite**	**After achieving GPS differential the operator will be able to engage again**
	-Steering will automatically disengage	**- DOP levels breaching a level of 3 may also cause this and has been problematic in the past**
Engage requires better GPS signal quality	**The operator attempted to engage with a yellow satellite**	**After achieving GPS differential the operator will be able to engage**
Engage/Disengage related toasts		
The maximum engage angle has been exceeded	**The operator attempted to engage on a line greater than 87 degrees from vehicle, will not be able to engage**	**Turn vehicle closer to line under 87 degrees**
Please drive the vehicle for the navigation system to initialize	**Attempting to engage steering prior to the Kalman filter/heading direction being initialized**	**You must drive the vehicle continuously for 3 seconds above 1 mph with green satellite prior to engaging steering.**
Operator turned wheel	**Condition was met to disengage steering**	**If it was an unexpected kickout than adjust user kickout settings -This toast will only occur disengaging through steering wheel. It will not occur by disengaging with foot switch or through display.**
Slope to extreme to steer	**The operator attempted to engage steering or was using steering at an angle above 30 degrees**	**-Steering will not be able to engage/remain engaged**
		-The user will be able to engage immediately after dropping below a 30 degree slope
Vehicle not moving	**While being engaged, the vehicle was stopped for thirty seconds.**	**Operator will be able to engage immediately after**
Please enter steering setup to perform a vehicle calibration before adjusting kickout	**The user attempted to enter steering kickout adjustment from the run screen without a calibrated kickout sensor**	**Perform vehicle calibrations**

SteadySteer Warnings

Pop up/warning dialogue		
Alarm	**Trigger Condition**	**Clear Condition**
Calibration Related Dialogue		
Steering kickout not calibrated	**The operator attempted to engage on a line without steering kickout being calibrated**	**Perform steering kickout**
MDU not calibrated	**The operator attempted to engage on a line without MDU curvature calibrated**	**Perform MDU curvature calibration**
IMU orientation not calibrated	**The operator attempted to engage on a line without IMU calibrated**	**Perform an IMU calibration**

Pop up/warning dialogue		
Alarm	**Trigger Condition**	**Clear Condition**
MDU CURVATURE CALIBRATION: No communication with the MDU. Check MDU power and cables.	**Attempted to perform MDU curvature calibration with MDU power/CAN off. Upon accepting the warning you will automatically exit the calibration.**	**Establish power/CAN with MDU and re-calibrate.**
MDU CURVATURE CALIBRATION: Wheel turned after MDU calibration started.Make sure wheel is turned all the way to the right. Then hold wheel still and continue	**The user turned the steering wheel more than 50 MDU encoder counts during the right calibration. User will be able to resume calibration.**	**Hold the steering wheel in place during calibration.**
MDU CURVATURE CALIBRATION: Detected wheel turning. Wheel needs to be turned all the way and held still during calibration. MDU right and left calibration will have to be restarted	**The user turned the steering wheel more than 50 MDU encoder counts during left calibration. The whole curvature calibration will re-start from the beginning.**	
IMU CALIBRATION PAUSED: The steering angle is out of range	**Lost MDU power/CAN in the middle of IMU calibration. Calibration will automatically be paused.**	**Establish power/Can with MDU and you can resume IMU calibration in the same spot.**
IMU CALIBRATION PAUSED: The vehicle is below the minimum speed	**During steps 3 and 4 of IMU calibration, the user was engaged with steering and the vehicle speed dropped below 2 mph. Calibration will automatically be paused and able to resume in same location**	**Drive the vehicle consistently above 2 mph and press resume**

GPS Related Dialogue

DualTrac lost communication with the second receiver	**While being engaged on a line, the controller did not see a heading 2A message for four seconds consecutively OR the user attempted to engage without a heading 2A message**	**Uncheck "Require DualTrac" if you do not have DualTrac OR address your rover not sending the heading 2A message**
Lost GPS position	**While engaged on a line GPS was lost (grey satellite)**	**Establish connection with receiver again**

Engage/Disengage Related Dialogue

Vehicle above the maximum speed to remain engaged	**While being engaged, the vehicle speed went above 28 mph**	**-Steering will be automatically disengaged**
		-The user will be able to engage immediately after dropping below 20 mph

Pop up/warning dialogue		
Alarm	**Trigger Condition**	**Clear Condition**
Vehicle above the maximum speed to engage	**The operator attempted to engage steering above 20 mph**	**-Steering will not be able to engage**
		-The user will be able to engage immediately after dropping below 20 mph
Auto steering is prohibited at this time	**The operator attempted to engage while in a situation where engaging was not supported.**	**Attempt to engage from the run screen.** -This is known to happen when attempting to engage during a suspended event.

Faulty Wiring Related Dialogue

Current control failure. Service required.	**The operator attempted to engage or during an engagement had a power short to ground.**	

Toasts

Alarm	Trigger Condition	Clear Condition
GPS related toasts		
Invalid GPS Data	**While being engaged, the raw GPS position was greater than 1.5 meters difference from the roll corrected position**	**Steering will be automatically disengaged** **-A known cause of this in the past has been from larger GPS delays sent from display to controller**
		The position/heading direction will need to re-initialize, this will take movement for 3 seconds before being able to engage again **-A known cause of this in the past has been from quick brake turns or tracked vehicle turning sharp/quick**
GPS step change	**While being engaged, the raw GPS position was greater than .9 meters but less than 1.5 meters difference from the roll corrected position**	**Steering will be automatically disengaged** **-A known cause of this in the past has been from larger GPS delays sent from display to controller**
		The user will be able to engage immediately after **-A known cause of this in the past has been from quick brake turns or tracked vehicle turning sharp/quick**
GPS position is degraded	**-The operator was engaged with steering and GPS went to a yellow satellite**	**After achieving GPS differential the operator will be able to engage again** -DOP levels breaching a level of 3 may also cause this and has been problematic in the past
	-Steering will automatically disengage	
Engage requires better GPS signal quality	**The operator attempted to engage with a yellow satellite**	**After achieving GPS differential the operator will be able to engage**
Engage/Disengage related toasts		
MDU Reset Detected	**Going from a state of no MDU communication to communicating (Power off to power on)**	
The maximum engage angle has been exceeded	**The operator attempted to engage on a line greater than 87 degrees from vehicle, will not be able to engage**	**Turn vehicle closer to line under 87 degrees**
Please drive the vehicle for the navigation system to initialize	**Attempting to engage steering prior to the Kalman filter/heading direction being initialized**	**You must drive the vehicle continuously for 3 seconds above 1 mph with green satellite prior to engaging steering.**
Please drive the vehicle to initialize the steering position	**Attempting to engage steering without the MDU encoder position being initialized**	**With MDU powered on, drive the vehicle continuously for 2 seconds above 1mph to initialize steering position**
Operator turned wheel	**Condition was met to disengage steering**	**If it was an unexpected kickout than adjust user kickout settings** -This toast will only occur disengaging through steering wheel. It will not occur by disengaging with foot switch or through display.
Slope to extreme to steer	**The operator attempted to engage steering or was using steering at an angle above 30 degrees**	**-Steering will not be able to engage/remain engaged**
		-The user will be able to engage immediately after dropping below a 30 degree slope
Vehicle not moving	**While being engaged, the vehicle was stopped for thirty seconds.**	**Operator will be able to engage immediately after**

Alarm	**Trigger Condition**	**Clear Condition**
Please enter steering setup to perform a vehicle calibration before adjusting kickout	**The user attempted to enter steering kickout adjustment from the run screen without a calibrated kickout sensor**	**Perform vehicle calibrations**

EU Declaration of Conformity

- Ag Leader Technology affirms under its sole responsibility that the product(s) identified herein fulfill the essential requirements of all relevant directives and regulations of the Official Journal of the European Union.
- This declaration relates exclusively to the product in the state which it was placed on the market and excludes components which are added and/or carried out subsequently by the final user.

Relevant Union Harmonization Legislation	**Short Name**	**Document Number**
Electromagnetic Compatibility Directive	EMC	2014/30/EU
Restriction of the use of certain Hazardous Substances	RoHS	2011/65/EU
Registration, Evaluation, Authorization and Restriction of Chemicals	REACH	1907/2006/EC

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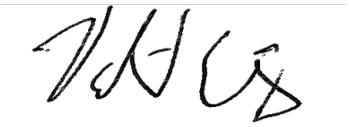
Product Name(s)	**T/V ***	**Model Numbers ****	**Rev**
SteerCommand Z2	**Type**	**4004773-1**	**B, C**
SteerCommand Z2	**Variant**	**4004773-X**	**B, C**
SteadySteer	**Type**	**4005857**	**D**

* The type is a worst-case representation of all variants.

** For Model Numbers containing X, X is a required number, 1 or greater, that indicates labeling options, a location code,

or custom settings that in no way affect fulfillment of the essential requirements of the legislation.

Kit(s):	4200500-1, 4200500-2, 4200500-3, 4200550, 4200550-X
Equipment Description: optional	SteerCommand Z2 agricultural steering control modules with
	Steady Steer agricultural mechanical drive unit
Standards Used:	BS/ISO 14982:2009, DIN EN 16590:2014 Parts 1-4
Other Tests:	ISO 7637-2:2011, ISO 11452-2:2004, ISO 11452-4:2011
	ISO 10605:2008
Place of Issue:	Ames, IA, USA
Date of Issue:	11/02/2020



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