



User Guide
Firmware Version 7.0
PN 4004700—ENG Rev. R

© 2022 Ag Leader Technology
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The display is a full-featured, year-round hub for any precision farming operation. A full-color, high-brightness, high-resolution touchscreen display is easy to read and offers powerful, year-round precision farming tools. Built-in manual guidance, full-screen mapping, planter and application control, yield monitoring, real-time data logging and automated steering make up the core functionality of the display.



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.

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
- Max Current Rating: 7.5 amp
- Fuse: Blade Style (ATO/ATC)
- Environmental Protection Rating: IP64
- No Protective Grounding required
- Use 150V minimum insulation rating for external circuits



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. See ["Upgrading Display Firmware" on page 10](#) for more information.

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 user guide to designate where some sort of extra attention has to be paid for the reader. The four symbols have the following meaning.



DANGER!: This symbol means DANGER. Be very alert as safety is involved.



WARNING!: This symbol means WARNING. Be alert as safety can be involved.



ATTENTION!: This symbol means ATTENTION. This guides to better, easier and more safe operation.



NOTE: This symbol means NOTE.

Precautions

Note the following recommended precautions and safe operating practices before using the sprayer.

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

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

- C. **Built in lightbar**—for guidance



Side

- D. **Side mount USB media slots**

(2 slots for 1200, 1 slot for 800)

Used for data transfer in and out of the display.

Used to charge mobile devices up to 1.2 amps.

Rear

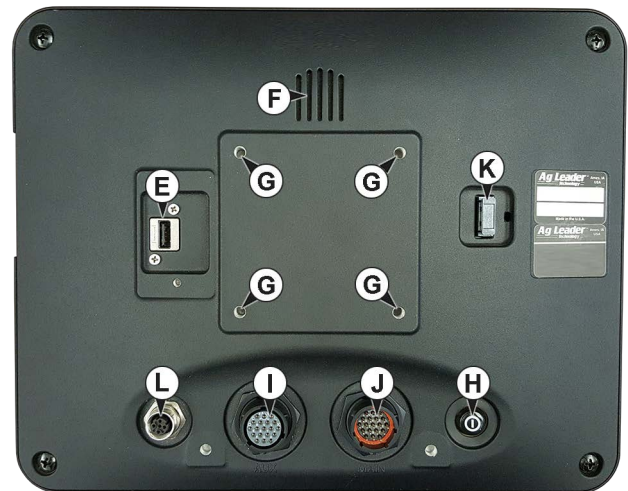
- E. **WiFi**—802.11 communication
- F. **Speaker**—The built-in speaker is used for audible warnings. The volume can be adjusted through the display setup routine.

- G. **Mounting bracket**

- H. **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.



- 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. **HDMI OUT (1200 only)**
- L. **Ethernet Connection**—4-pin connection used for communication with ParaDyme, GeoSteer, SteerCommand®, OnTrac3™, SteerCommand® Z2/SteadySteer™.

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

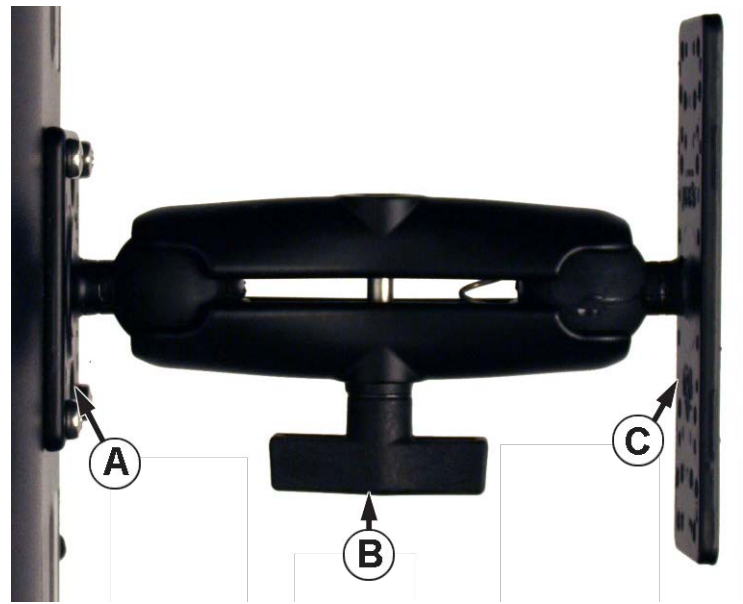
(A) RAM Base

(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.



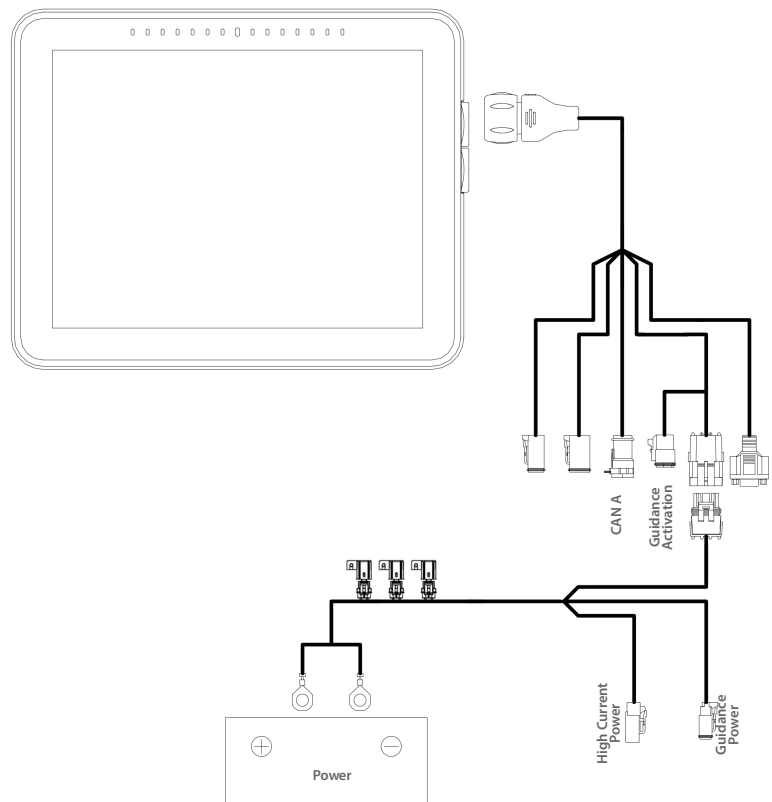
Fuse Installation and Replacement

Fuse Type: Blade Style (ATO/ATC)

Rating:

- Fuse Holder (orange wire) 7.5A, 250 VAC
- Fuse Holder (pink wire) 15A, 250 VAC
- Fuse Holder 30A, 250 VAC

The fuse is to be placed in the fuse holder in-line with the battery power cable and used with display only.



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 through 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.

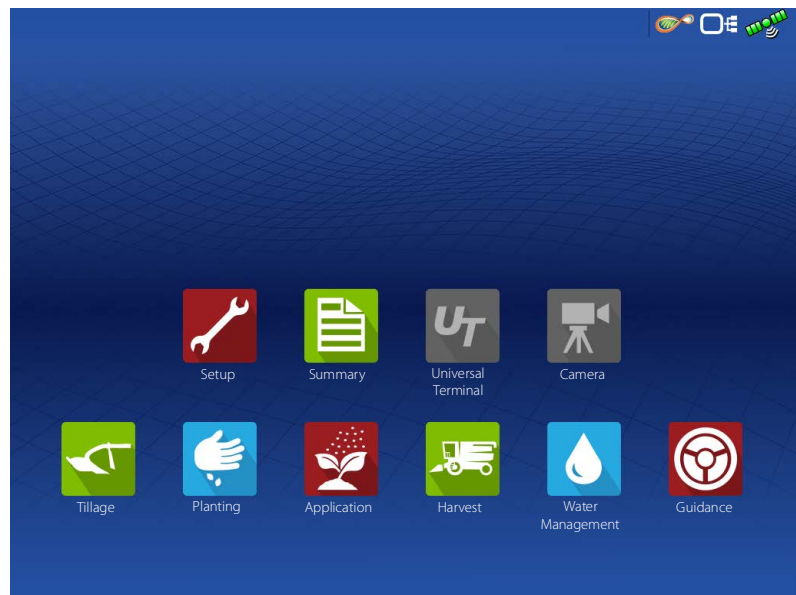
It is acceptable to complete the Initial Setup wizard and then upgrade. Setup information will not change.

- 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



Diagnostic Status Indicator



Satellites Status Indicator




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

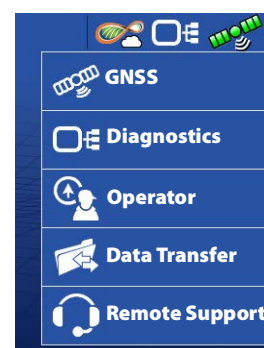
Complete these initial configuration steps for the Run Time Environment to be active:

- Equipment Operating Configuration.
Access Configuration Setup by pressing  or pressing an app specific to a field operation.
- Product setup.
- Start Field Operation.

Status Indicators



Status Indicators are used to show different states of external equipment connected to the display (for example: , , and ) and provides easy access to data transfer and diagnostic features of the display.



AgFiniti Status Indicators



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.

- 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).



Connected to hotspot/network with no internet connection.

- Verify hotspot has active internet connectivity.



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.

Diagnostics

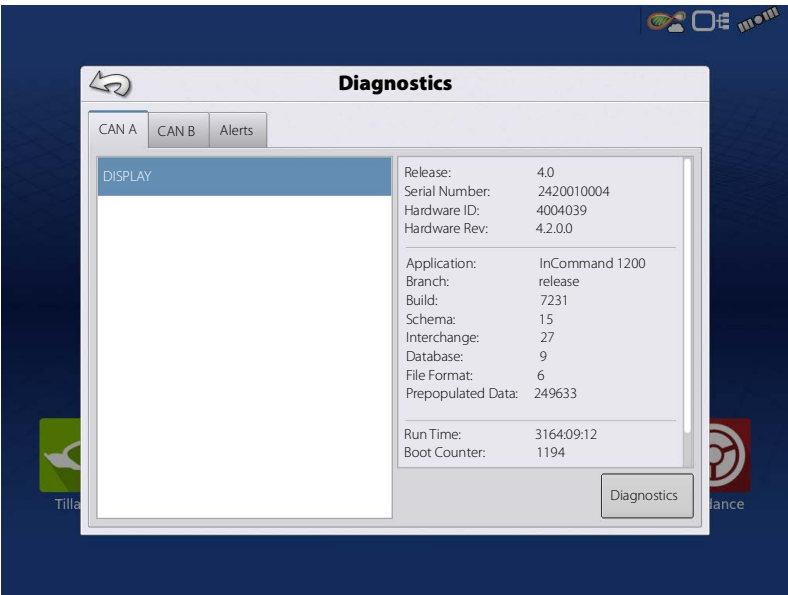


Technical support may request information from these screens for help in diagnosing a problem.

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.

Device Information includes:

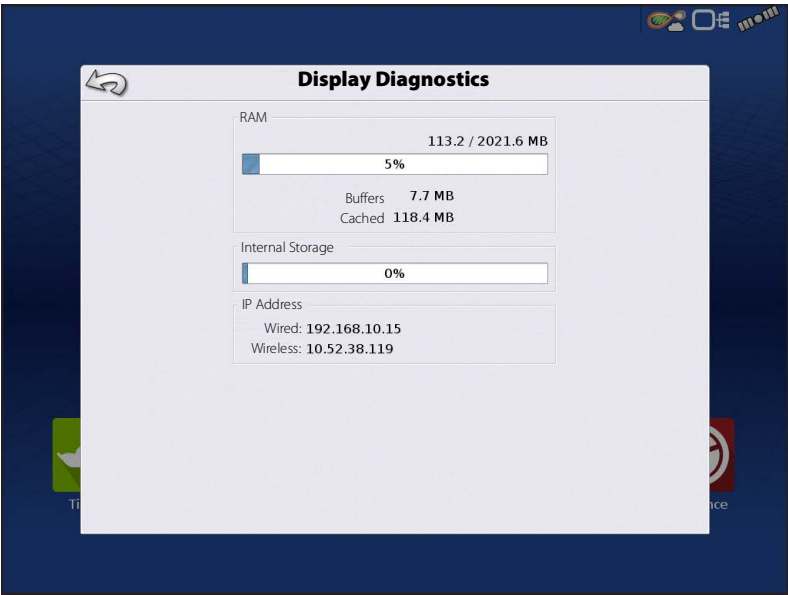
- Firmware Version
- Firmware ID
- Hardware ID
- Serial Number
- Revision
- Run Time shown in hours:minutes:seconds
- Display Boot Counter.



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

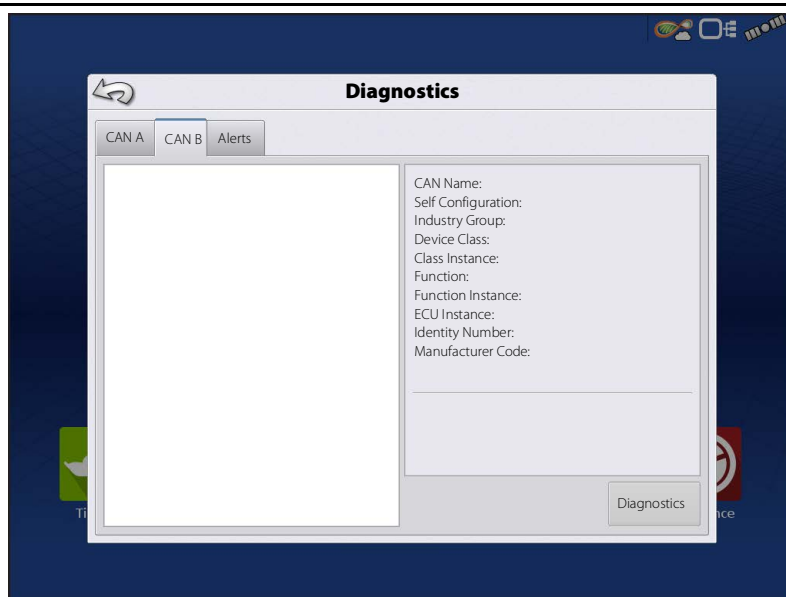
Diagnostics

Press “Diagnostics” button to open the Display Diagnostics screen. This screen includes information about the system memory usage and available memory.



CAN B

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



Alerts

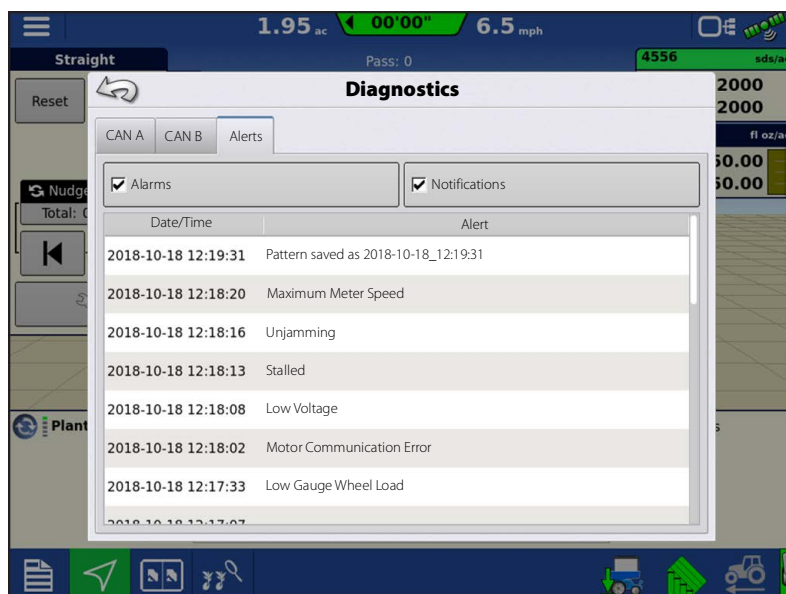
- Keeps history of up to 10,000 alarms/notifications
- When limit is reached oldest ones are eliminated

☒ Alarms

- Anything that appears as a red bar warning across the top of the screen
- Uncheck to hide from history list

☒ Notifications

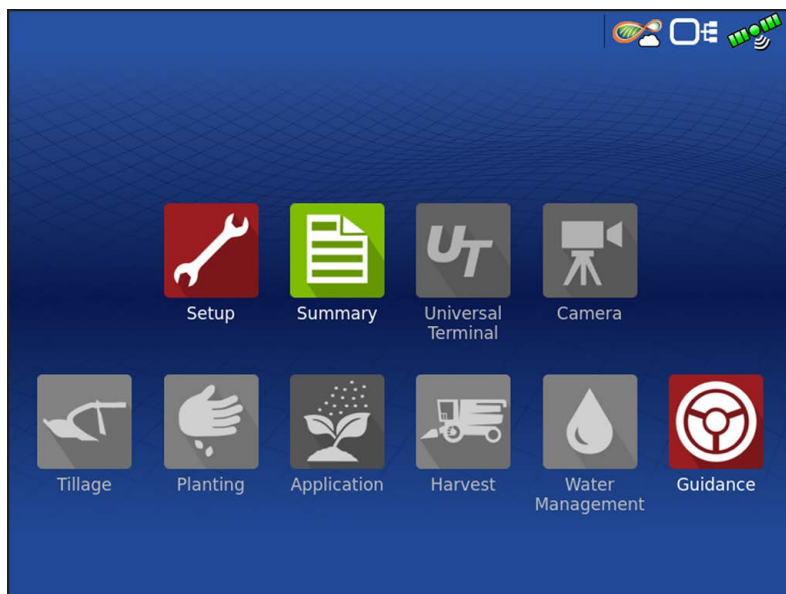
- Anything that appears as a pop-up on the bottom center of mapping screen
- Uncheck to hide from history list



InCommand 800 Guidance Only details

InCommand 800 Guidance Only display comes with all field apps disabled besides tillage, guidance and UT options. Contact Ag Leader dealer to unlock functionality of display.

Home screen of InCommand 800 Guidance Only



Upgrading Display Firmware

The display firmware can be updated by:

- 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:

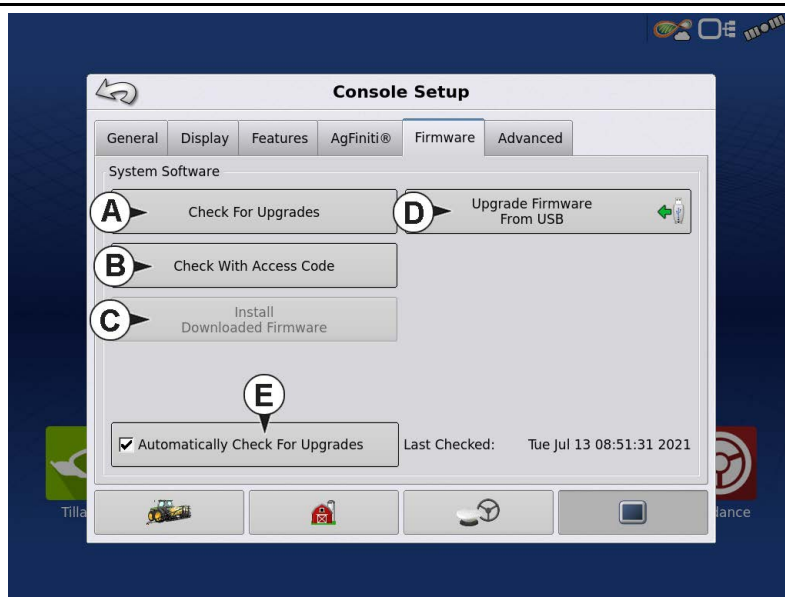
- Internet connection
- Logged into free AgFiniti account
- InCommand fw 6.5 or newer

This feature is automatically turned on once FW v6.5 is installed.


For additional settings, go to

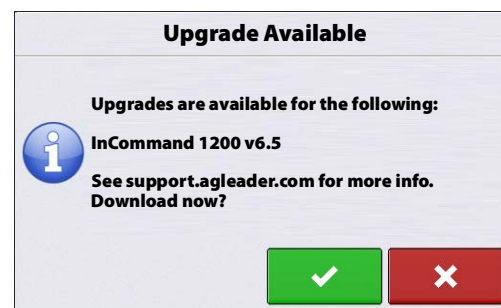



- A. Have system check for new updates
- B. Ag Leader supplied update code can be entered here
- C. If a previous update had been downloaded, use this to update
- D. Update via traditional *.fw3 file
- E. Turn off automatic updates

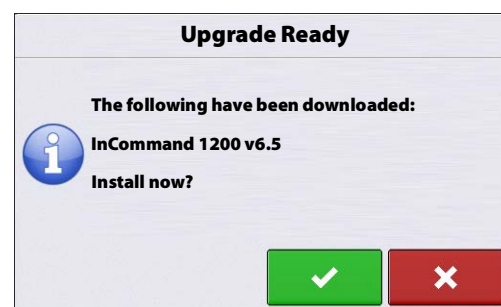


If a new update is detected a message will appear.

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



- Once downloaded, you can choose to start the update by clicking  or wait and use the "Install Downloaded Firmware" button from the picture shown in the image above.
- Once the update is started, the steps are the same as the manual update process.



Manual Updates

Manual firmware updates can be preformed if

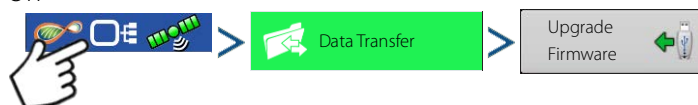
- Connection with AgFiniti is unavailable
- No account is present
- Other similar situations are present

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

Navigate to



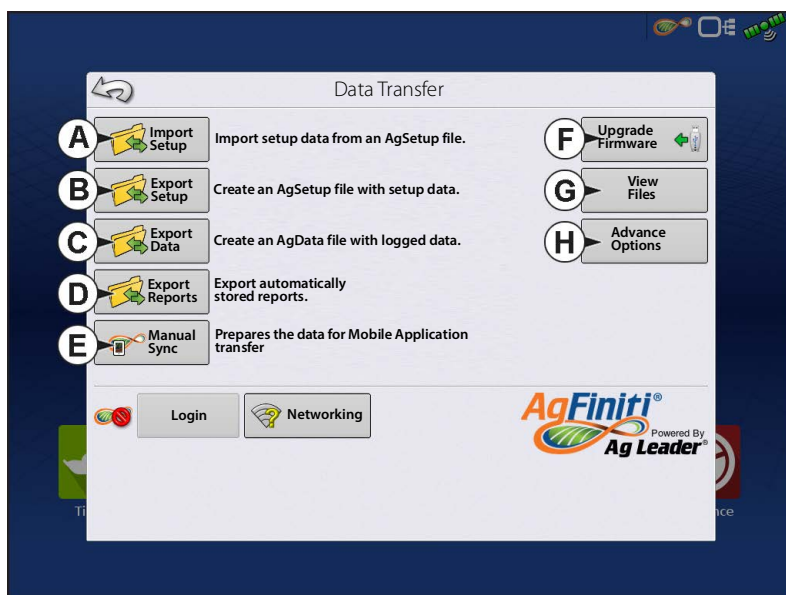
OR



Select the update file on USB.

Press  to continue and the upgrade will begin.

Press  to confirm start of update.





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

A. Configuration button



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

B. Management button



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

C. GPS button

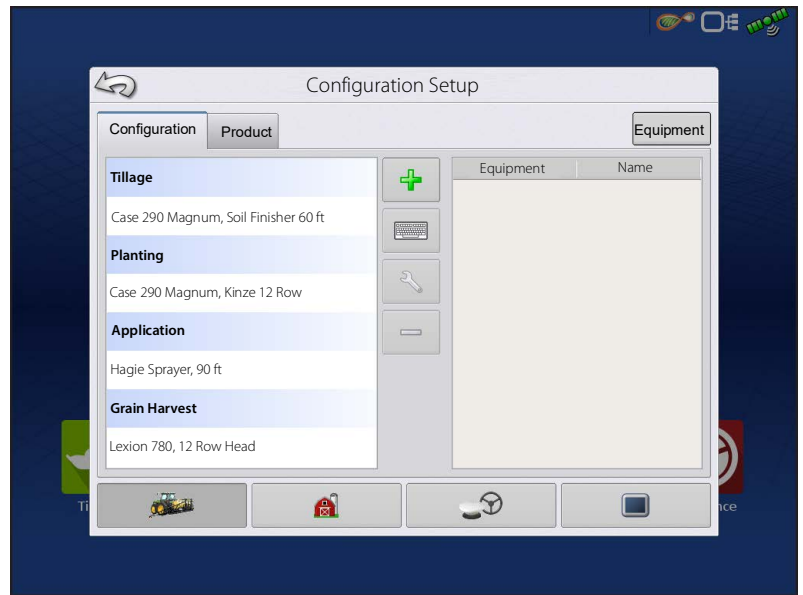


Press to adjust Guidance settings, GPS settings, and lightbar settings.

D. Display button

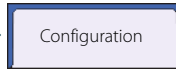


Press to adjust settings for time and date, brightness and volume settings, operating units, language, enable video, view features, and also create and restore backups.



Equipment Setup

Configuration tab



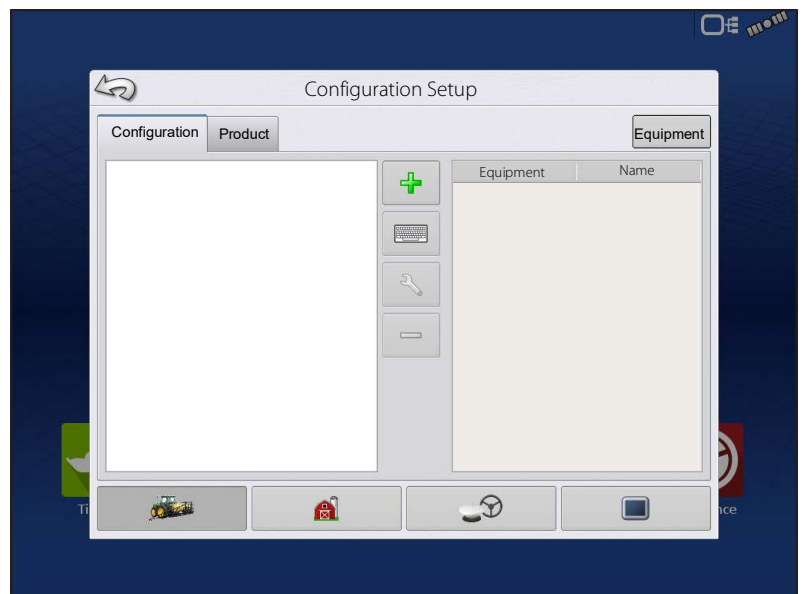
The Configuration tab is used to create, view and change configuration settings.

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.

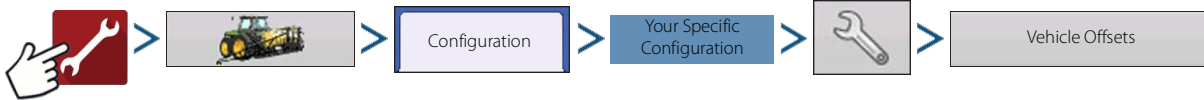




WARNING! When a configuration is removed, all data logged with that configuration will also be removed! However, all log files will remain in memory until exported to the USB drive.

-  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.

Antenna Offsets tab

At the Antenna 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.

Vehicle Offsets: Tractor

Antenna Hitch

Enter Distance from Vehicle Reference to the Antenna

Antenna Location from Rear Axle	0 in	In Front ▼
Antenna Location from Centerline	0 in	Left ▼
Antenna Height from Ground	0 in	

✓ ✕

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  to enter these values in if using the hitch point.



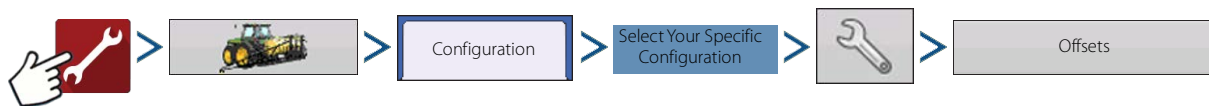
NOTE! Accuracy when measuring for a specific setting is essential to ensure proper machine performance.

Mount Tab Settings

The Mount tab will only be available when using a Self-Propelled sprayer.




Enter in the application location from the rear axle. Press  to enter in the distance and the drop-down box to select if it is in front or behind of the axle.

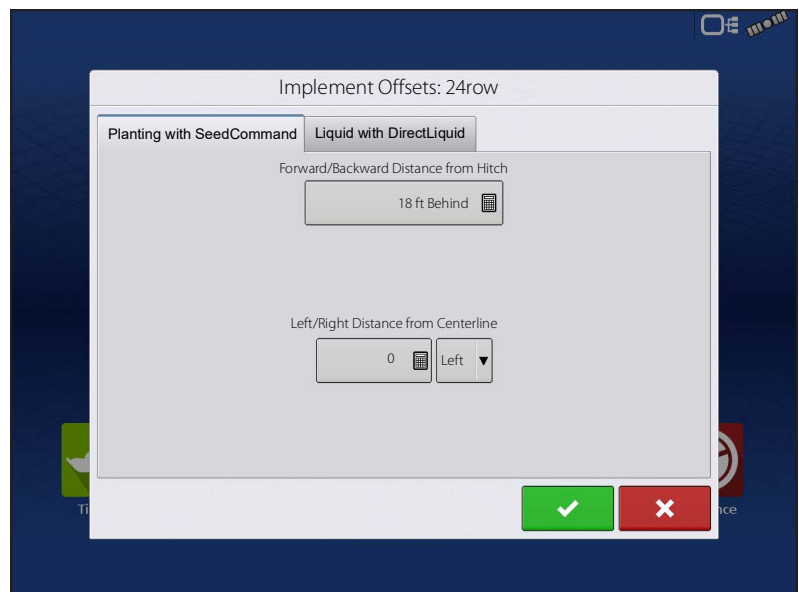
Implement Offsets



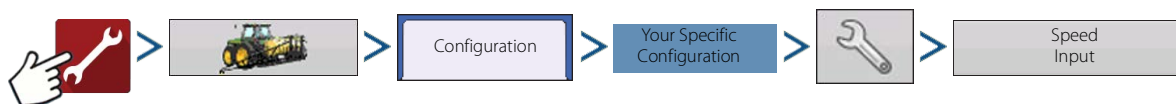
Implement offsets are used to accurately portray how equipment is setup and operating. An implement offset may be needed to account for incorrect guess rows and minimizing skip/overlap.

Section Offsets

- Press the first  to enter the distance that the application point is located from the hitch point.
- Press the second  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



This will show speed in the upper blue bar of the Map screen, when operating.

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.

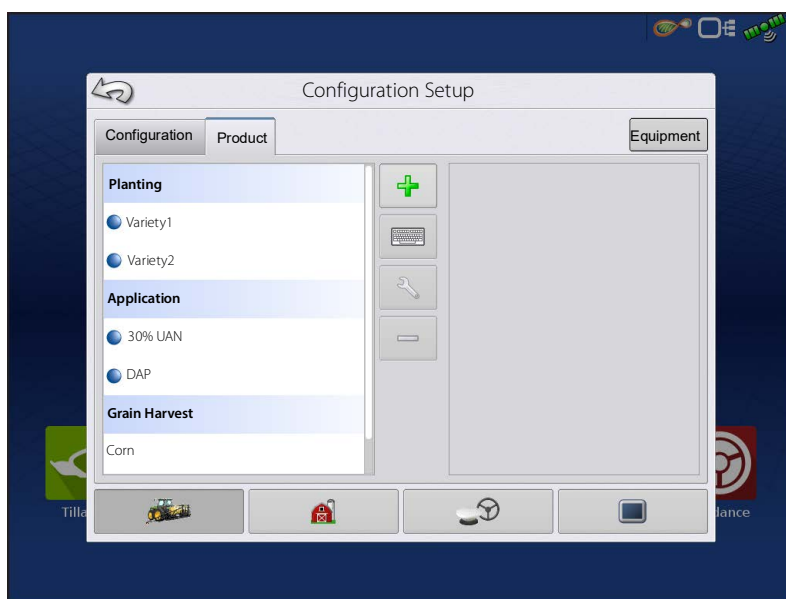
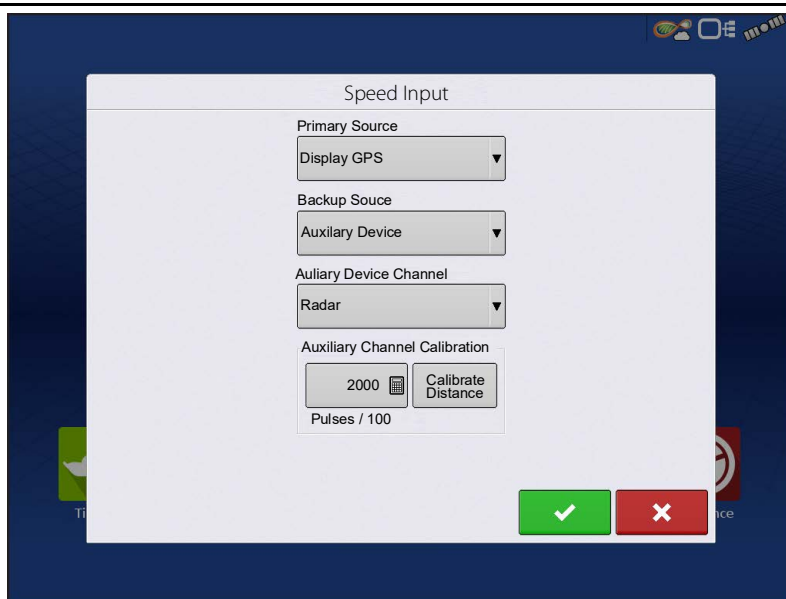
Manual Speed—In the event GPS speed or an auxiliary device is unavailable the display can be set to manual speed.

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.

To edit Field specific information, press  after highlighting the field name.

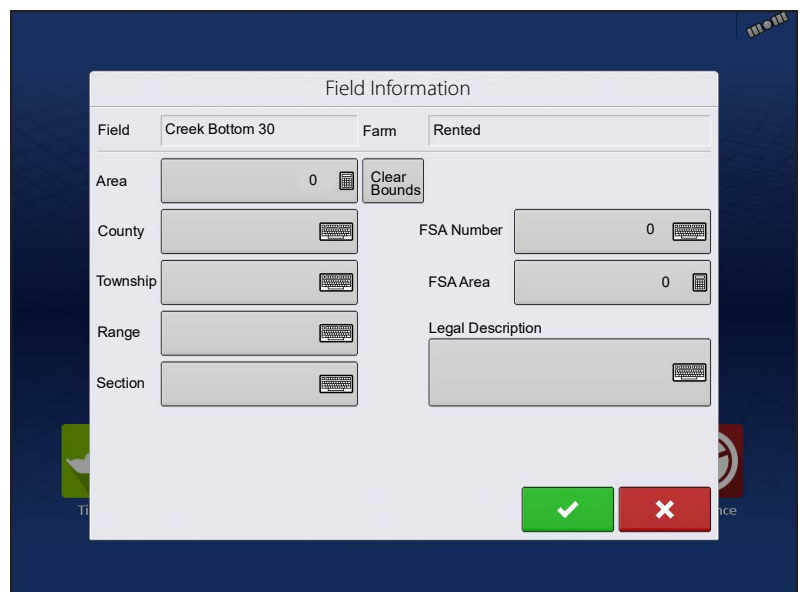
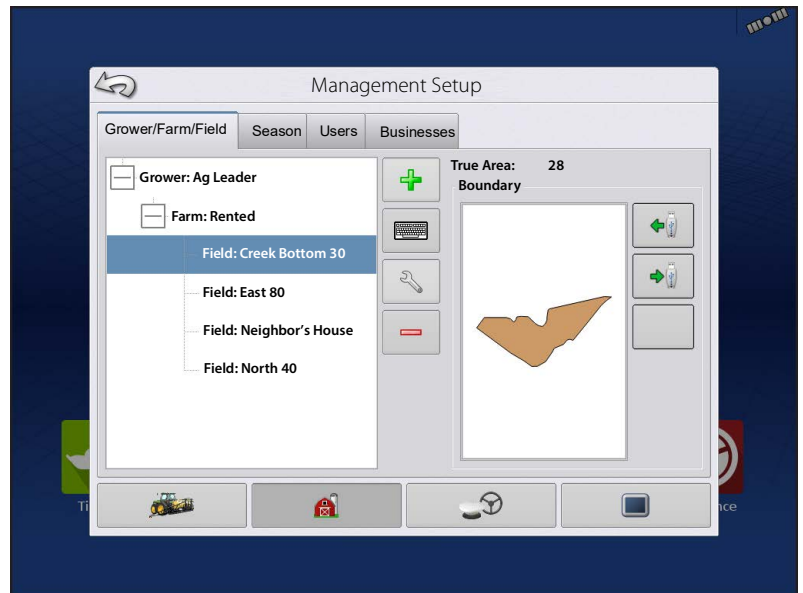
The Field Information screen opens, showing the name of that field in the Title Bar. Field name information that can be added or edited by pressing  including Farm, County, Township, Range, Section Number, Area, FSA Number, FSA Area and Legal Description.

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.



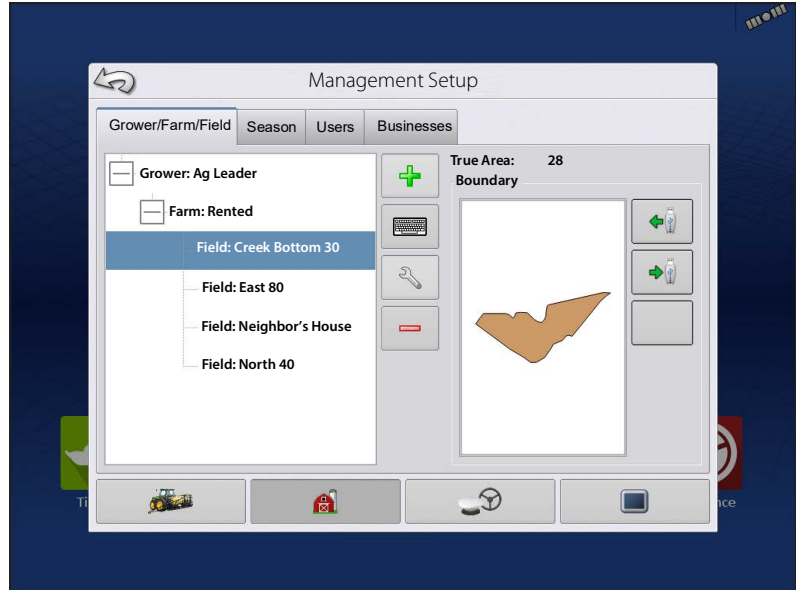
Importing and Exporting Field Boundaries

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.



USB Import button

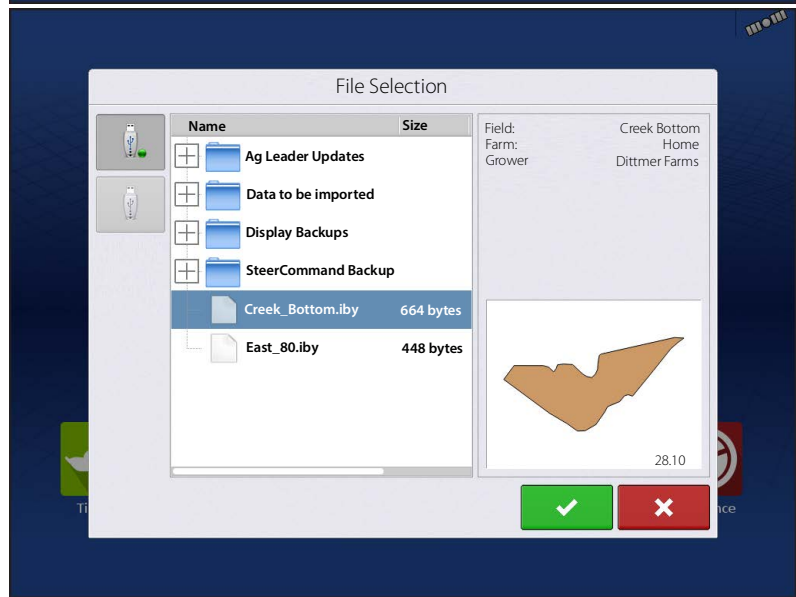
To import a boundary from the USB drive, first go to the Setup Field tab, highlight the correct field in the Farm/Field list and press the USB Import button.




The File Selection screen appears. 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.



USB Export button

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.




Users tab



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

Add a User

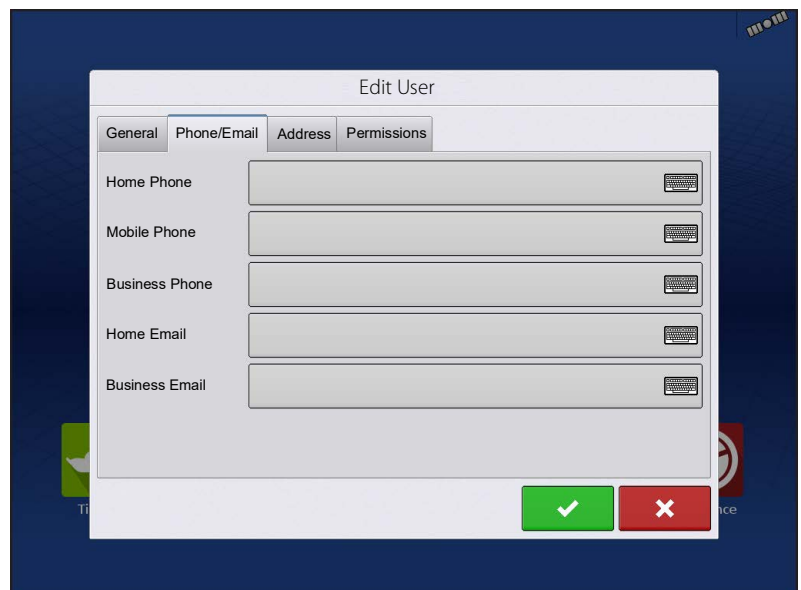
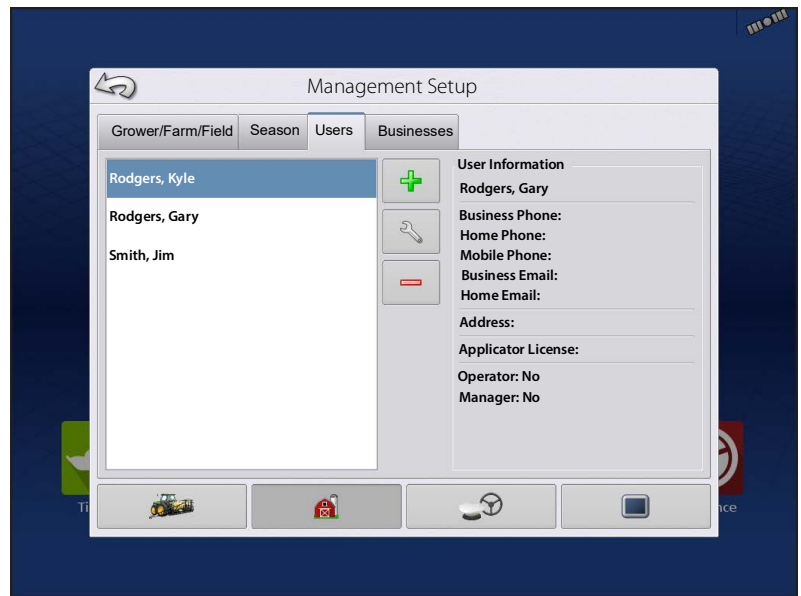


1. Enter first name and/or last name (have to enter a first or last name, recommend entering both).
2. Enter applicator license (optional). Press  to continue.
3. Select Operator or Manager (can select either, none, or both). Press  to continue.
4. Enter and verify password (optional).
 - Locks the displays 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

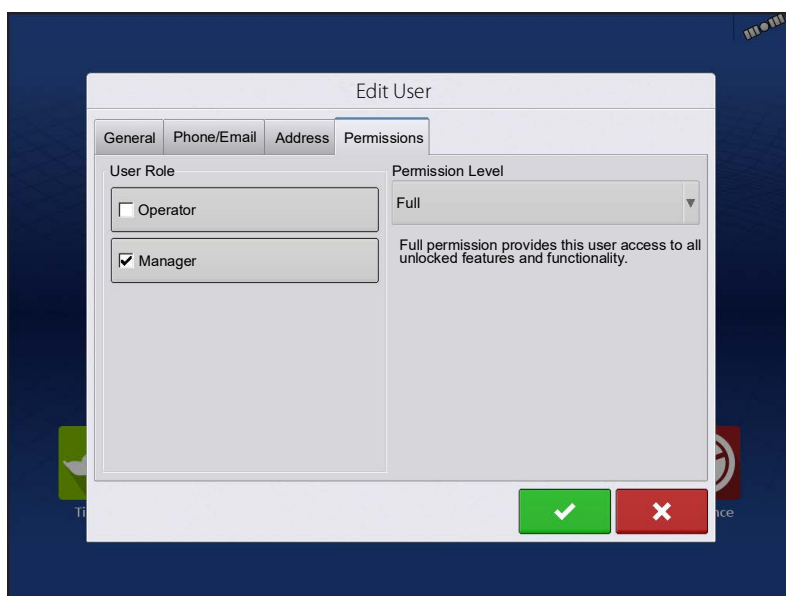
This is an optional function that defines what access the user will have in the display. Users are defined as Operator or Manager (can select either, none, or both).

Operators

- Have full or limited access
- No access to USB or Setup options, unless also set as a Manager
- 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

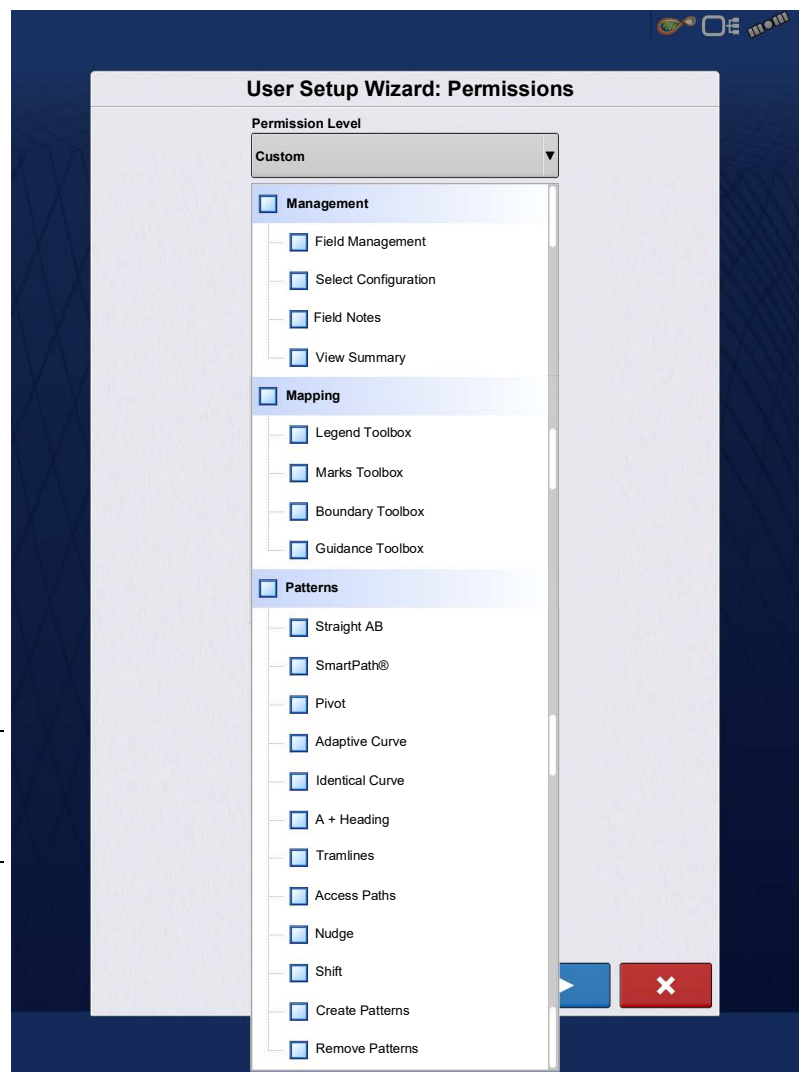
Limits Guidance options to:

- 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

<input checked="" type="checkbox"/> Management <input checked="" type="checkbox"/> Field Management <input checked="" type="checkbox"/> Field Notes	Display uses Traditional mode when Field Management is checked. Events using the Traditional mode are tied to the Grower/Farm/Field structure.
<input type="checkbox"/> Management <input type="checkbox"/> Field Management <input type="checkbox"/> Field Notes	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
- Setup and Data Transfer are locked (as indicated by a padlock icon on those buttons)
- Operator Change - Option to continue or start new operation when operators change

Full Permissions - Home screen

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



Basic Permissions - Map screen

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



Accessing Setup Menus



A. Press Setup (wrench) button.

B. Select Manager from drop-down menu. Press .

C. Enter password. Press .

Now have complete access to the setup menus:

- Configurations Settings
- Grower management
- GPS settings
- Display settings


Do not have to be a Manager to create certain objects

- Grower
- Farm
- Field
- Product (can't change units)

Accessing Data Transfer

Data Transfer



A. Select Manager from drop-down menu. Press .

B. Enter password. Press .

Now have complete access to the USB functions:

- Networking
- AgFiniti Login
- Import/export
- AgSetup files

- Export data
- Check for Upgrades
- Advanced options
- Advanced Options with USB
- Ability to create/restore backups from USB
- Options for exporting log files
- Export by grower
- Export data at shutdown
- Export all log files

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:

- Display serial number
- Release—Firmware version

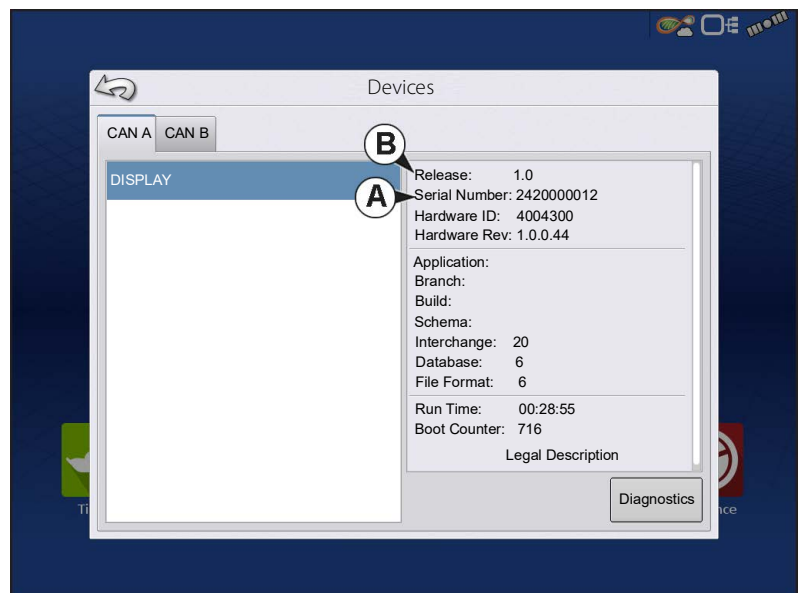
Only needed when a Manager forgets their password and works within the display until firmware is upgraded.

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 tab** — Displays settings related to time, date, display screen settings, operating units, enabling video input, and ISOBUS settings.
- **Display tab** — Setting up and make any needed edits to the owner personal information.
- **Features tab** — Lists unlocks for display.
- **AgFiniti tab** — Access AgFiniti account settings and options. See [“AgFiniti” on page 37](#).
- **Advanced tab** — Includes information related to log files and system backups.

Features tab



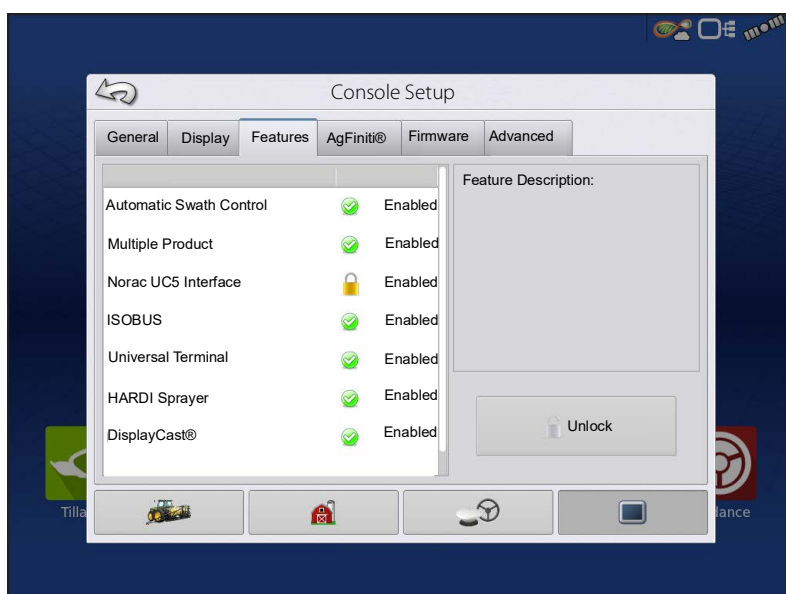
Unlocking Features

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 .ibk3 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

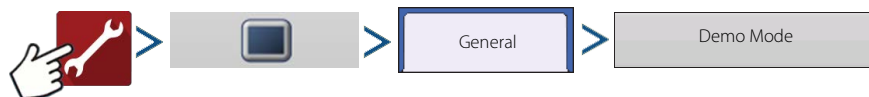


NOTE!: Pressing this button permanently erases all guidance patterns from the display's memory.

General Tab



Demo Mode

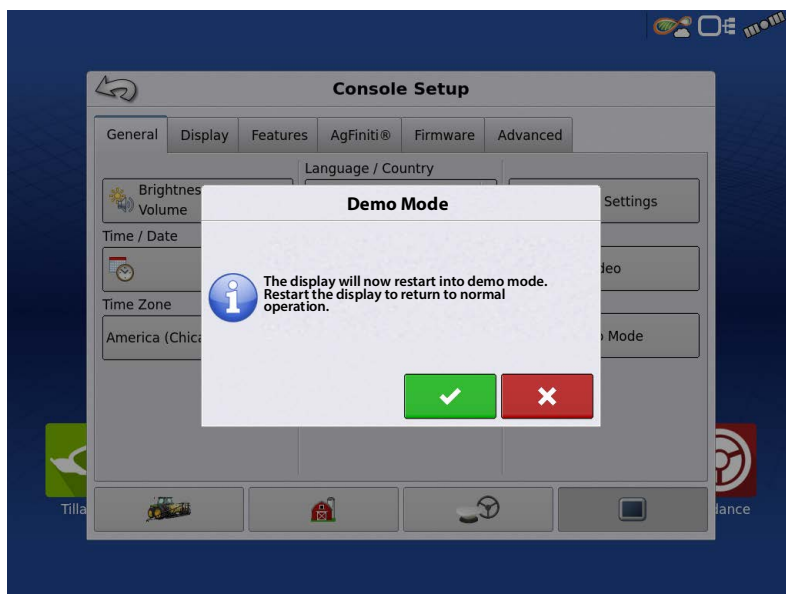


Demo Mode is used for training and demonstration purposes. Demo Mode gives the ability to show the display in a fully functioning environment without the need for a CAN or GPS simulator. Demo mode is a completely separate run environment from the normally operating mode. This keeps all customer data 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

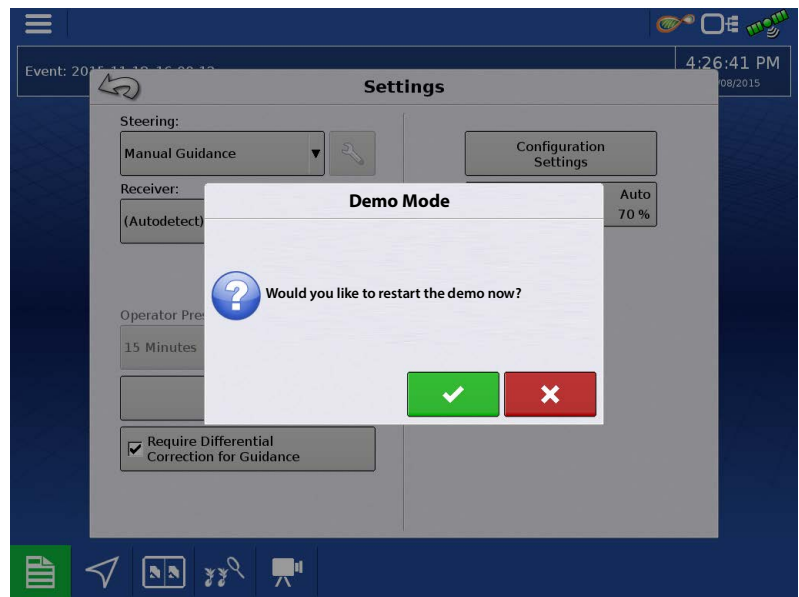
1. Pressing the Demo Mode button will trigger a request to restart the display. Once restarted, the display will automatically begin an event in demo mode.
2. The event that automatically starts will be a 12 row planter running clutch control, Ag Leader seed tube monitoring, and three variety split logging.
3. The event will continually run on the mapping screen. Users can interact with 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 or off by pressing the Master Switch icon in the lower right corner of the screen. With coverage logging off, users 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



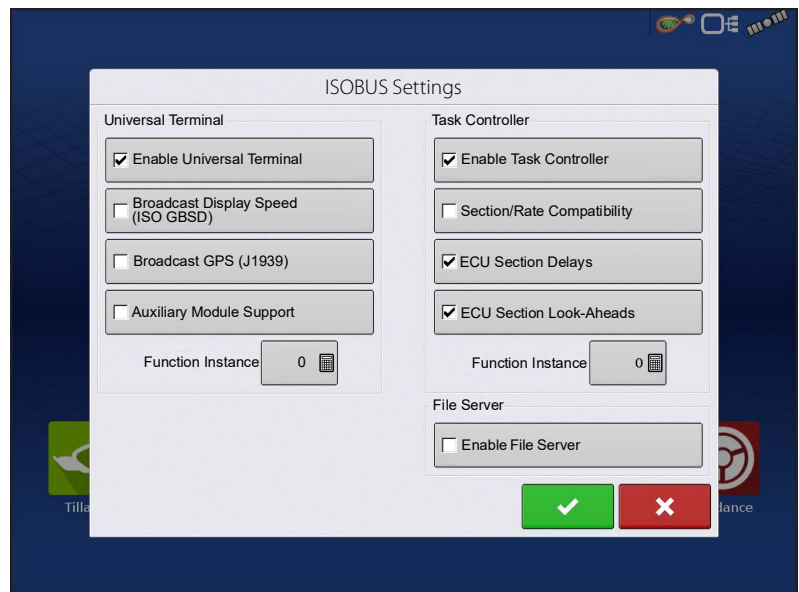
Universal Terminal

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

The InCommand™ displays have the ability to use ISOBUS Task Controller on compatible ECU's. This allows the InCommand display to control rate and sections of an ISOBUS ECU using Ag Leader's proprietary interface. A properly setup display configuration is required for this to work.



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.

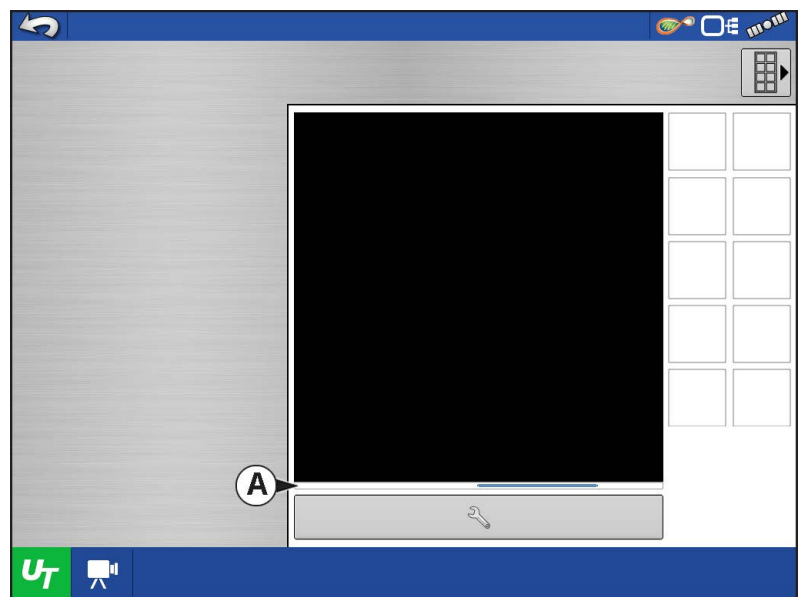
ECU Section Look-Aheads—Determines how look-aheads are used for AutoSwath with ISOBUS ECU.


- 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.



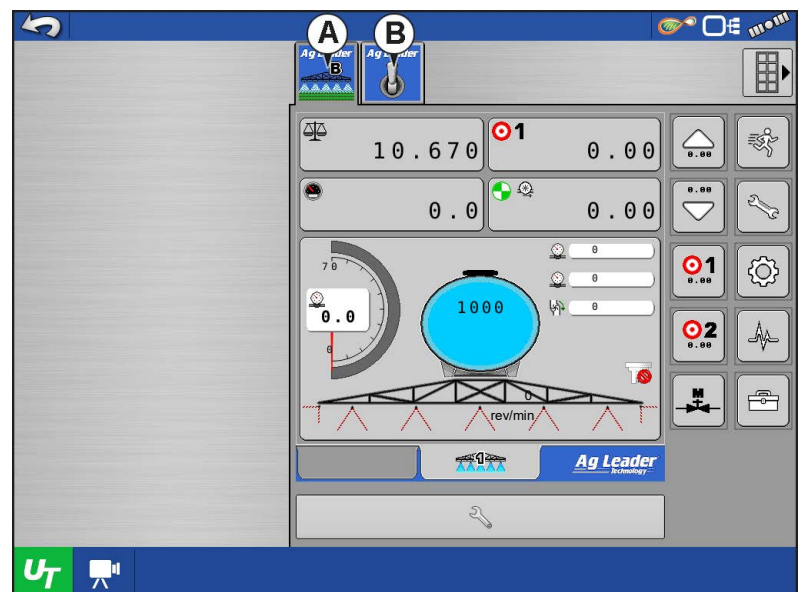
NOTE! Enabling/disabling this setting will effect on-ground section performance.

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 (**A**) or (**B**) individually.



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

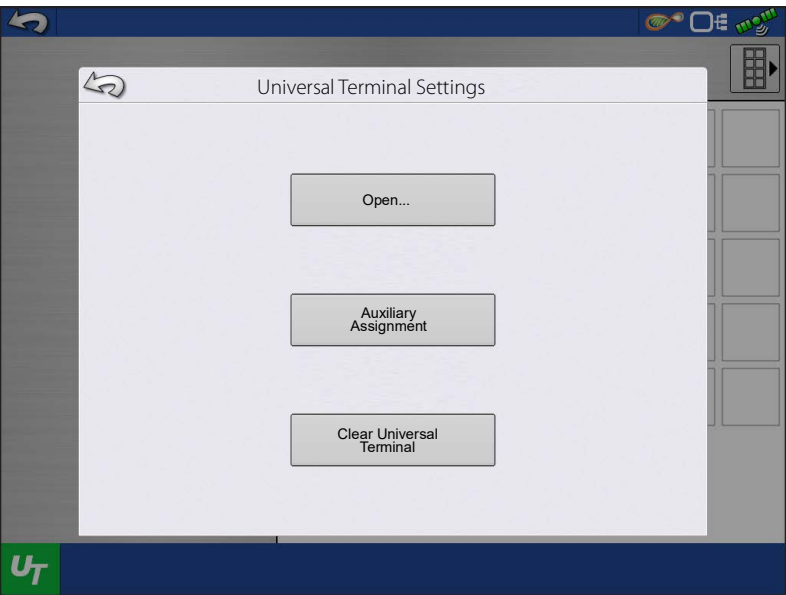


Opens the Universal Terminal Settings screen.

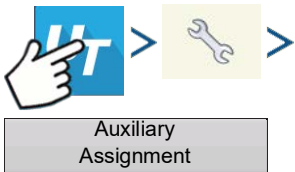
Auxiliary Assignment—assign implement functions to ISO compatible inputs.

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?”

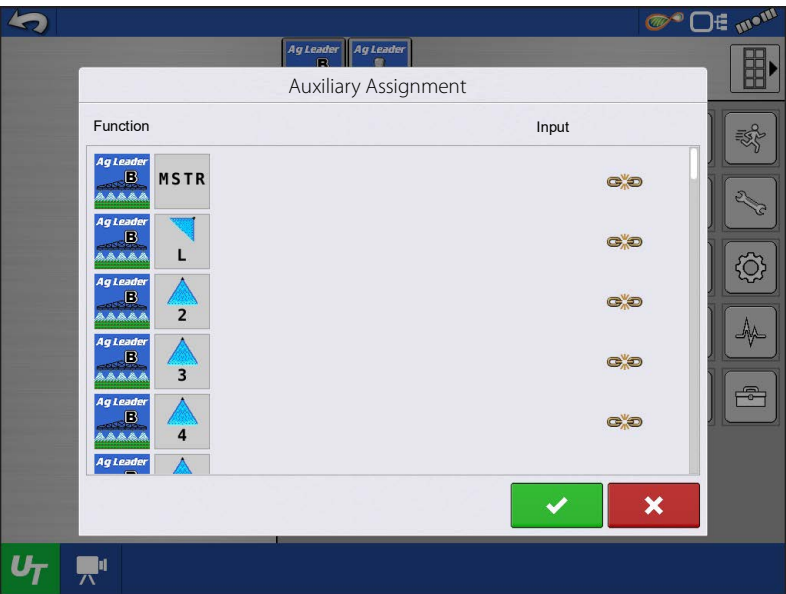


Auxiliary Assignment



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.



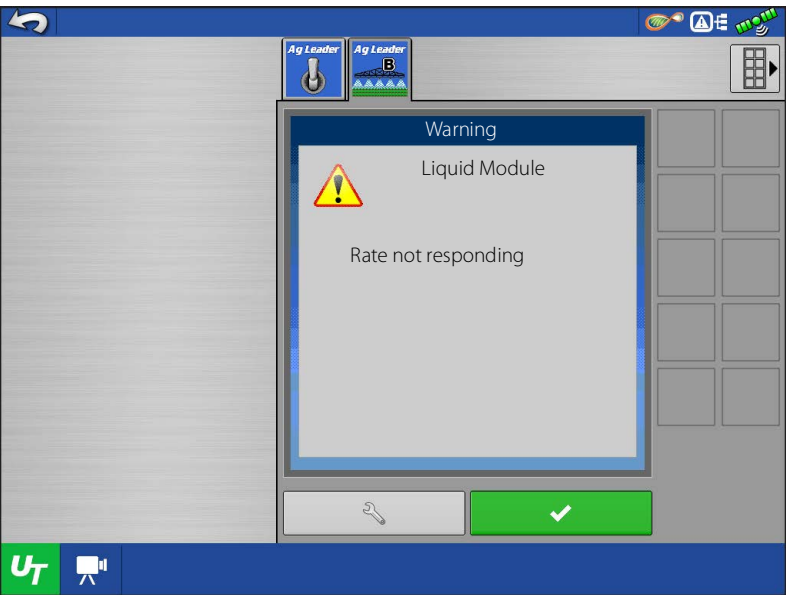
UT Alarms and Trouble Codes

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.

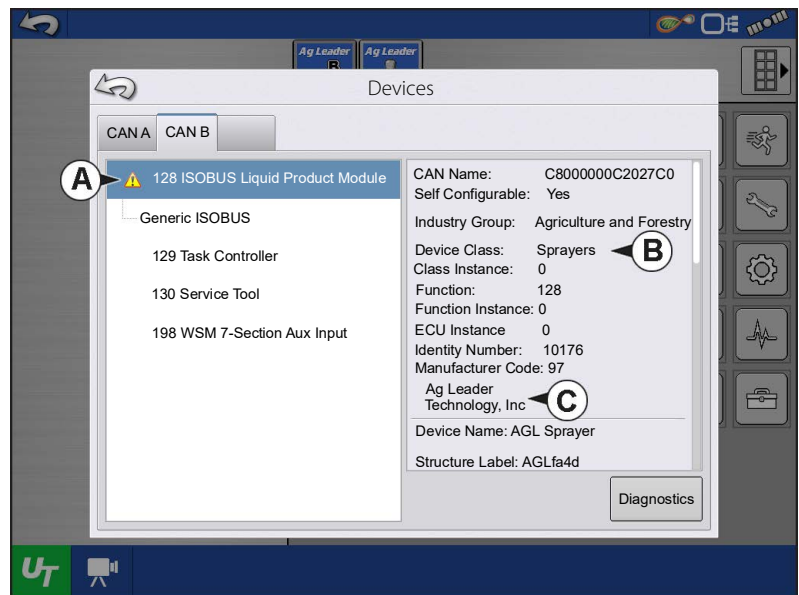
Alarms are acknowledged and cleared by pressing  .

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



The Devices screen displays the following information:

- A. Caution icon indicates module has active trouble codes (DTCs)
- B. Device Class
- C. ECU Serial Number
- D. 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

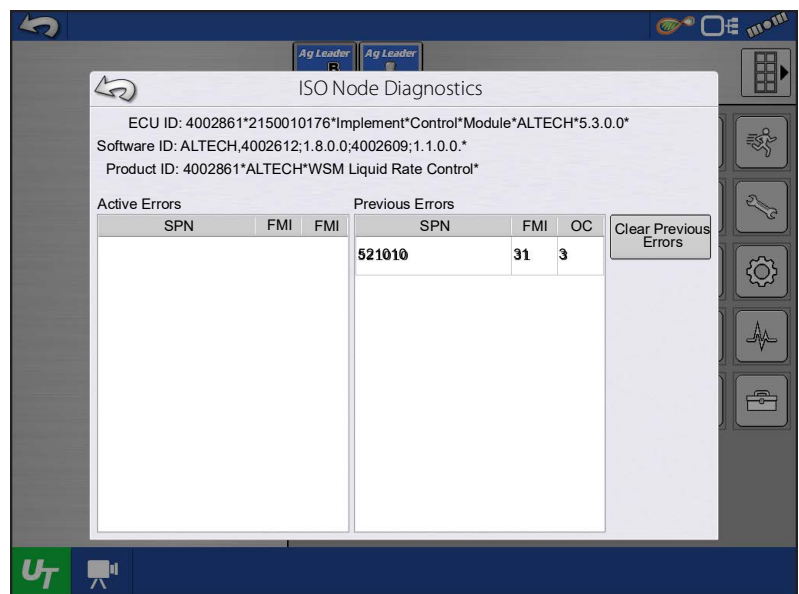
FMI—“Fault Mode Indicator” = Error State.

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.



Video



Video button. Camera is available from the Home or Map screen. Press video button and the Video screen appears.



Mirror Video Input



Brightness Adjust



Contrast Adjust



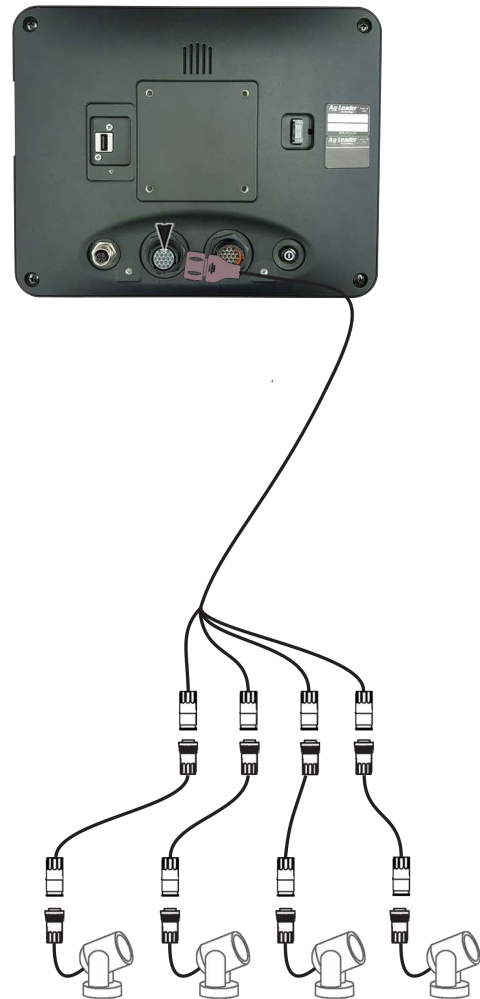
NOTE!: Video is only available when enabled in the Display Setup menu.

- Camera Number Selection

The display can receive input from up to four video cameras. Press the numbered buttons to switch views between video cameras.

NOTE!: Adjust the brightness and contrast of each input individually.

Camera Harness—A camera cable, sold separately, will plug into the aux port on the back of the display.



Data Transfer screen



- A. **Import Setup**
- B. **Export Setup**
- C. **Export Data**
- D. **Export Reports**
- E. **Manual Sync**
- F. **Check For Upgrades**
- G. **Upgrade Firmware**
- H. **View Files**
- I. **Advanced Options**
 - Create Backup
 - Restore Backup
 - Export by Grower
 - Export at Shutdown
 - Export all Logs
 - Export ISO XML



.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



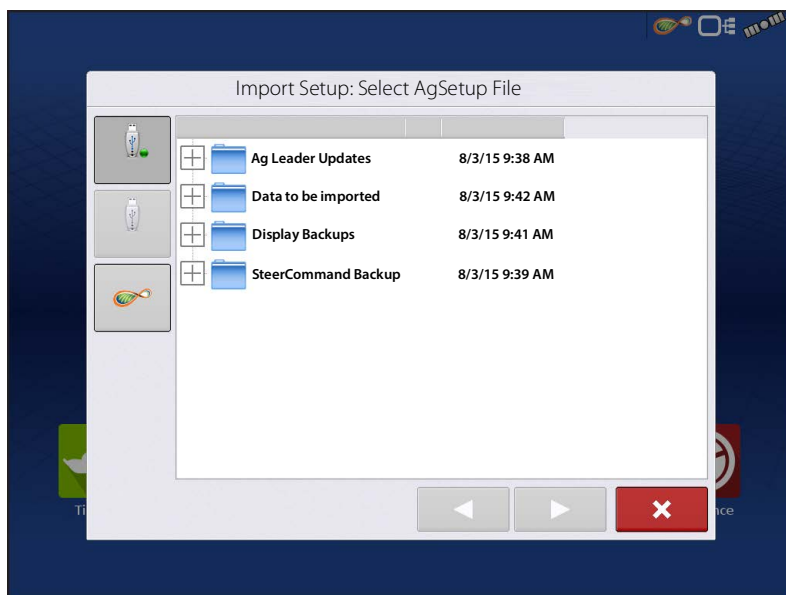
NOTE! Do not use the IBK to “clone” a display. Use AGSETUP or make a new setup.

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 ([“Data Transfer screen” on page 33](#)) 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 Logs” 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 ([“Season tab” on page 18](#)), which includes the logged data, to free up memory on the display.

Export .AGDATA file

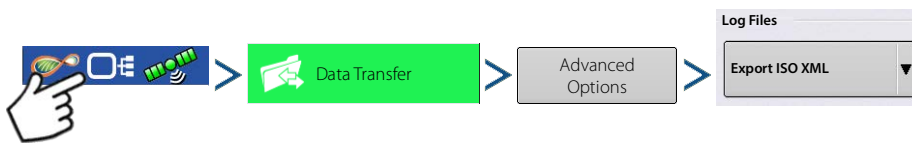
ISO XML export

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

Enable ISO XML Export



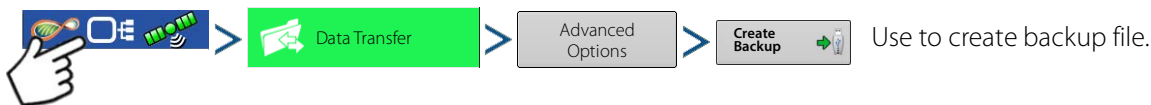
Display Backups

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 800 cannot be installed on an InCommand 1200 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.

ibk3 files

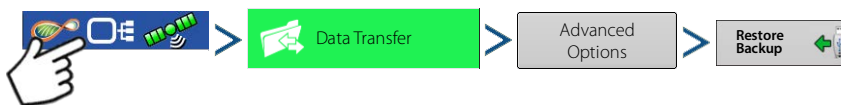
- System backup file. Backup files are written to USB drive.

Create Backup File (USB drive Only)



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

Restore Backup File



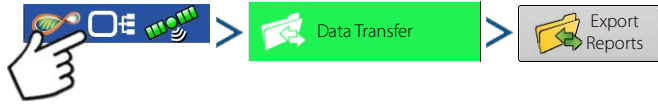
Upgrade Firmware.fw3

- See [“Upgrading Display Firmware” on page 10](#). for details on updating display firmware.



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 iOS¹ app. It provides the ability to take maps and summary information from the cab and SMS™ Desktop Software then access it on an iPad² 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. See "[AgFiniti Mobile](#)" on page 40.

AgFiniti Cloud

AgFiniti provides functionality via its website (www.agfiniti.com) 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™ 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 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). See "[Remote Support](#)" on page 52.
- **3rd party and API Connections** – connect with other 3rd party clouds to sync data to/from AgFiniti Cloud.

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

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

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 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 display, AgFiniti Mobile will automatically download new data while the app is running.

See [“Display Access Point Connection Type” on page 38](#) for step by step instructions to make this connection type.

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 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.

See [“Shared Wi-Fi Network Connection” on page 56](#) for step by step instructions to make this connection type

Cellular iPad as Personal Hotspot


Connection scenarios

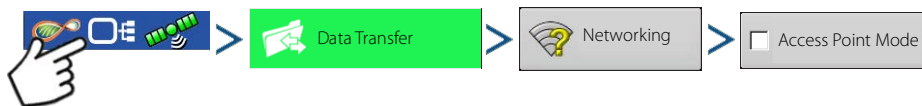
- Only Cellular iPads when InCommand is accessing AgFiniti cloud

Cellular based iPads have the ability to act as a personal hotspot. This allows InCommand 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 Display

1. With the Wi-Fi adaptor installed in the InCommand display, the AgFiniti symbol  will show in the top right corner of the display.

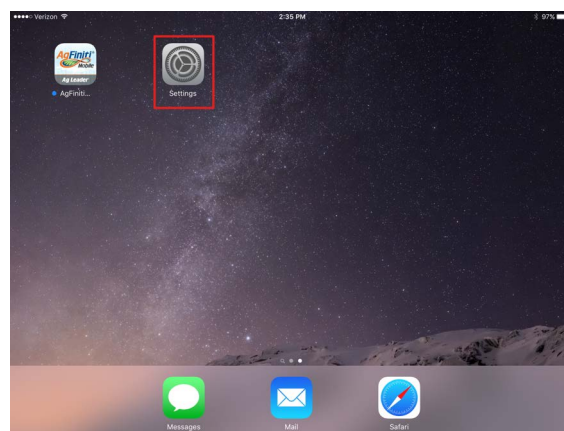


NOTE!: If the login button is active, one of the other connection types may be utilized.

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.

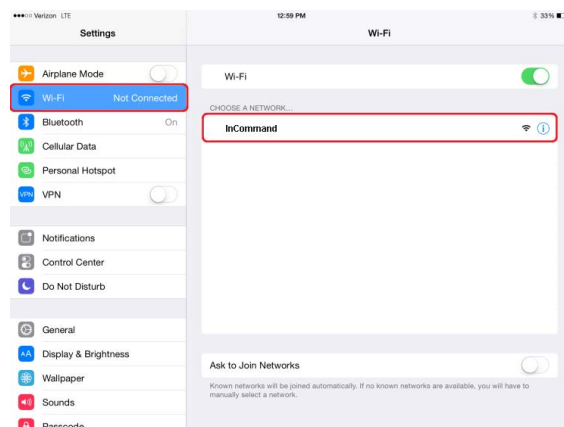
iPad

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



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" wireless network. This will connect the iPad and InCommand display together and ensure proper data transfer.



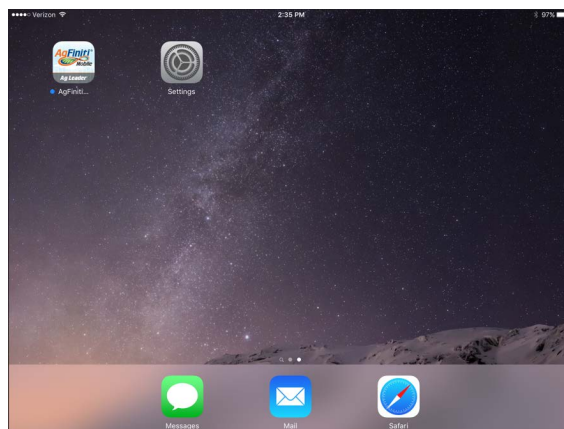
iPad

- 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 display.




InCommand Display

- You will be prompted on the InCommand display to allow connection.



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

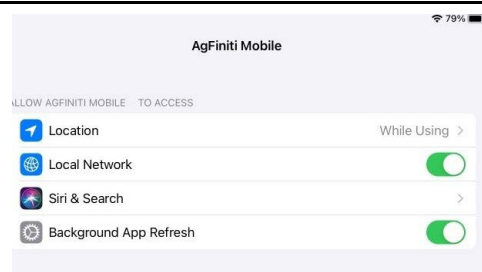
- After pressing , the iPad will begin accepting data from the display as it becomes available. This is indicated by the iPad symbol within the AgFiniti status indicator on the top right corner of the screen.



At this point, the InCommand display and iPad are connected and ready for data transfer. Closed or suspended events present on the InCommand 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



AgFiniti Mobile



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.

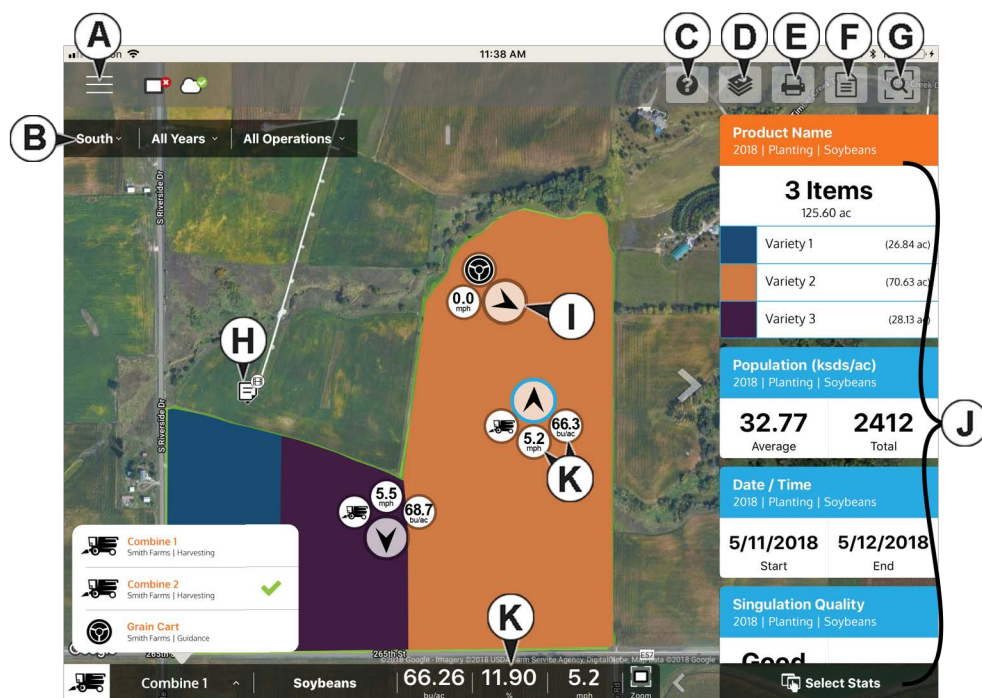


NOTE!: AgFiniti Mobile will download data while running in the background but will need to be open in order to process information.

Tap any of these icons for additional sync details.

Once data is present, the layout shown is available:

- A. Menu ([page 46](#))
- B. Filters ([page 41](#))
- C. Help
- D. Area Query ([page 44](#))
- E. Print ([page 45](#))
- F. Summary Reports ([page 46](#))
- G. Zoom Options ([page 44](#))
- H. Notes ([page 45](#))
- I. Display/Device Location ([page 49](#))
- J. Stat Cards ([page 42](#))
- K. Live Stats and Live Stat Bar ([page 50](#))



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.



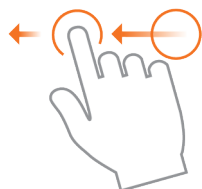
Pinch In and Out— Using two fingers, touch the screen and pinch in and out to adjust the zoom level of the map. If zoomed out enough field coins will begin to appear which can be selected to see data for other fields. If zooming in far enough, row by row level data will be shown on applicable fields.



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.

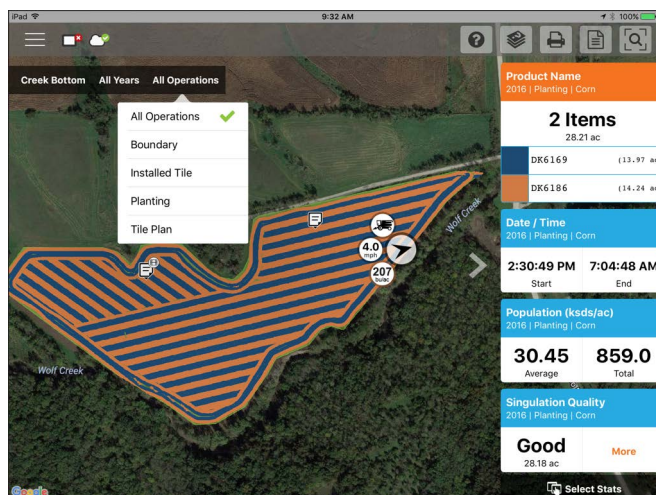
To choose different options, tap on one of the three filters and choose from the various options present. Use the search box to filter your fields/years/operations. This allows you to search for items like “soybeans” and just fields with soybean products will be shown. Choose All for both the season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

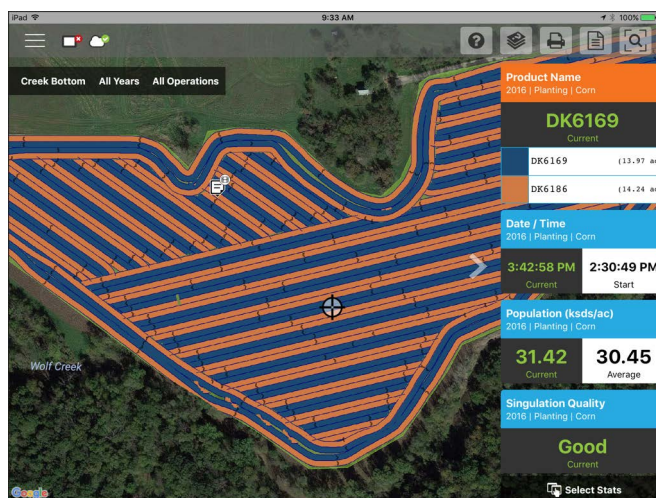


Stat Cards

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.



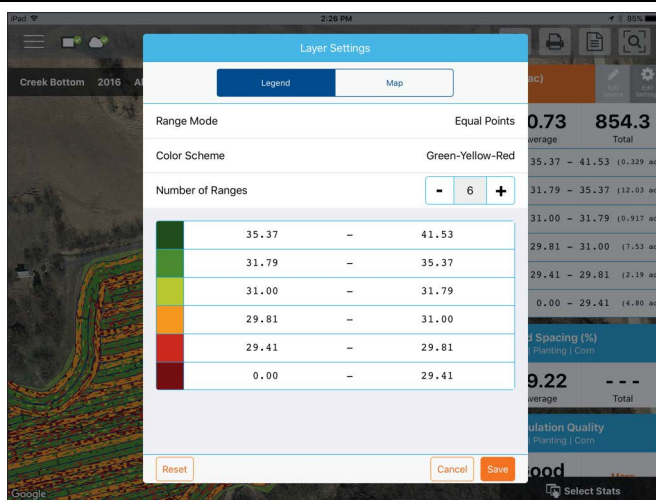
Collapse the Stat Cards by tapping on arrow present next to the Stat Cards and expand it out by tapping on the same arrow again.

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.

Edit Settings to change the map and legend settings. Mode, number of ranges and the color scheme can all be adjusted here. Adjust various map settings such as the transparency, map type and drawing settings by tapping on the Map button at the top.



Back on the map screen, tap on the Select Stats option



to choose which Stat Cards are displayed.

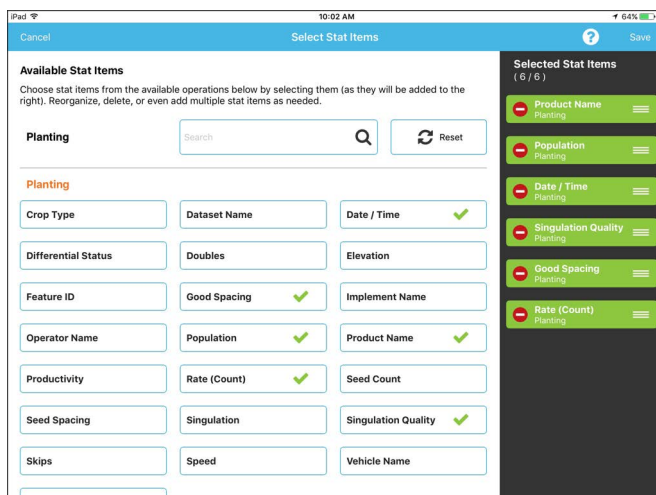
Tap on a Stat Card to add to the list on the right. To remove a Stat Card, tap on the red circle.



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.

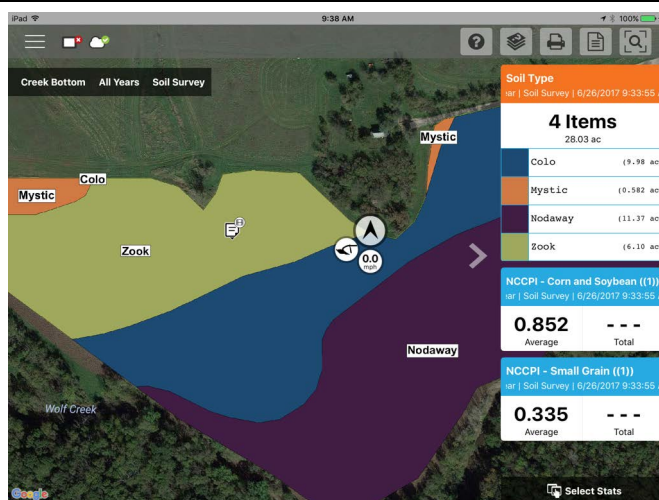
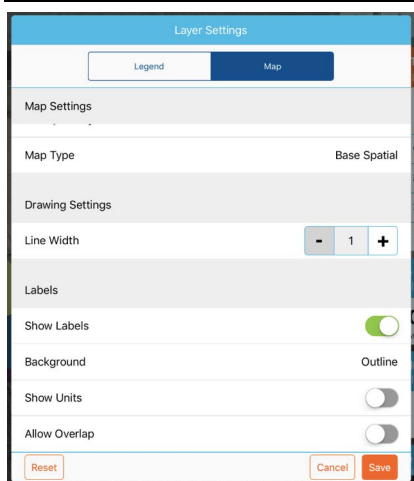


Use the tap gesture to make selections.





Labels

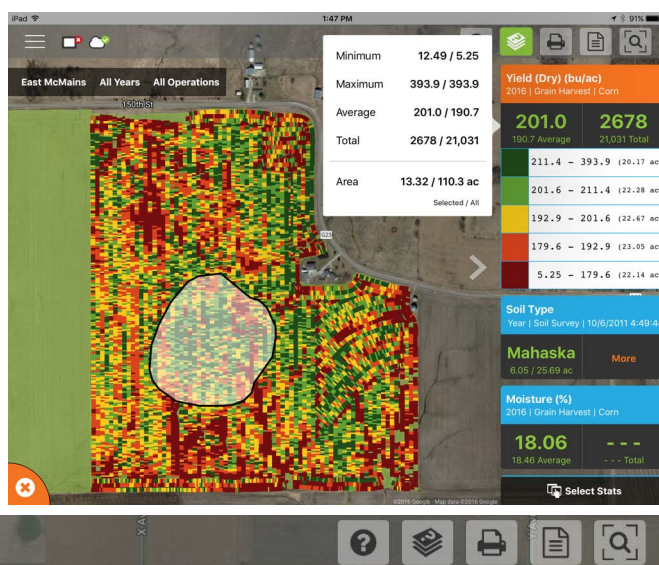
Labels can be turned on for sparsely populated base maps (soil sampling) and contoured maps (yield maps) and make it easier to view information for the mapped field. To turn on labels, swipe left on the desired stat card and tap Edit Settings. Then tap the Map option, toggle labels on and make any needed changes to their appearance.



i 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. 



i 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™ display cannot be altered.

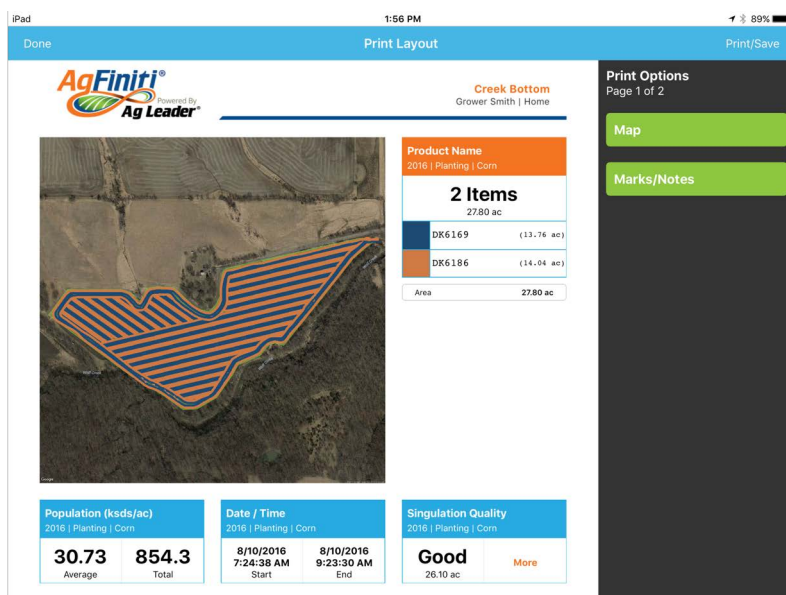
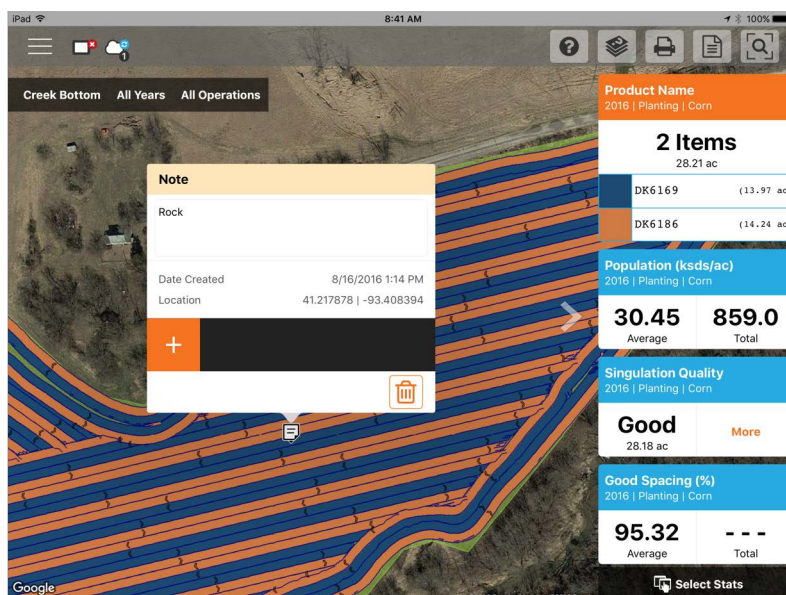
The AgFiniti Essentials license will allow notes to sync with AgFiniti Mobile, AgFiniti cloud, other iPads, and SMS. Field Notes created in SMS will sync to AgFiniti Mobile.

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.


DoneSummary ReportsPrint/Save


Grower Smith

Home

Creek Bottom

2016

Planting


Corn

2016 | Planting | Corn

Product	Manufacturer	Total	Area
DK6169	- - -	436.9 ksds	13.76 ac
DK6186	- - -	417.4 ksds	14.04 ac

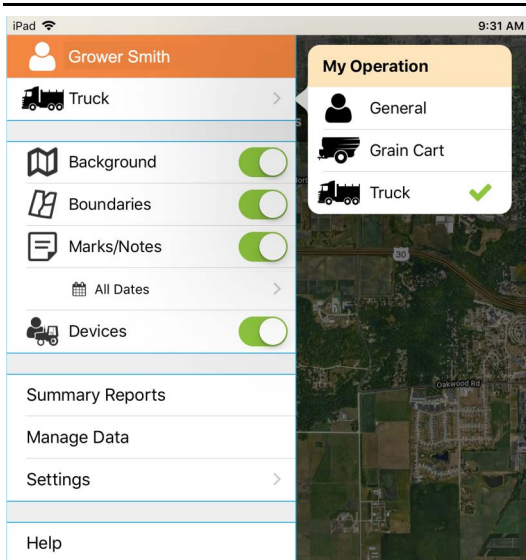
Region	Population (ksds/ac)	Total (ksds)	Rate (ksds/ac)	Total (ksds)	Area (ac)	Date(s)
<1>	30.73	854.3	30.80	855.7	27.80	8/10/2016 - 8/10/2016

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.

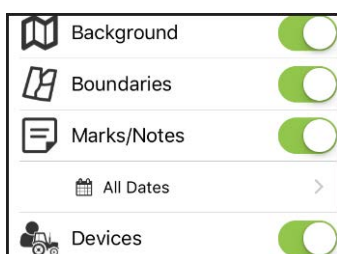
 NOTE!: To print the displayed report, tap Print/Save. Choose your desired print or save option from the list presented.

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.

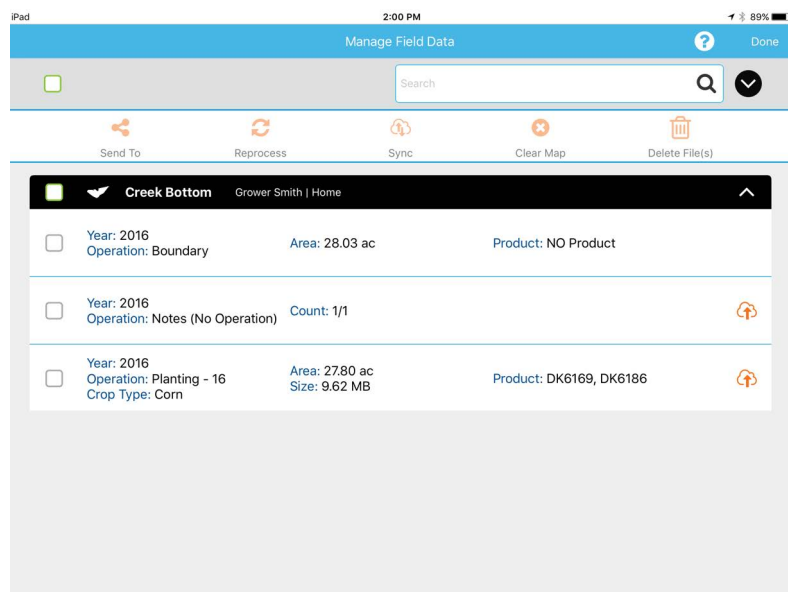
Devices—Toggle device indicators to show/hide location of displays and mobile devices in your operation.

Settings options—Change units of measure and cloud sync options

Manage Data—Share InCommand data, free up hard drive space, and manually sync items.



Use the tap gesture to make selection.





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. To make this happen automatically, see ["AgFiniti Essentials - Cloud Sync" on page 48.](#)



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 data synced with AgFiniti Mobile
- Ag Leader InCommand 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 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"

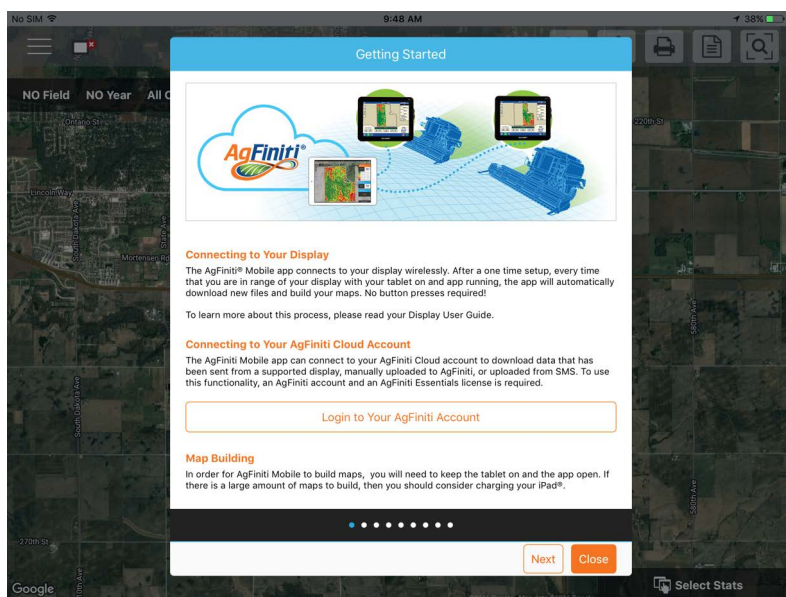


or tap the menu button and "Log In" and use AgFiniti login credentials to sign in.



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) 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

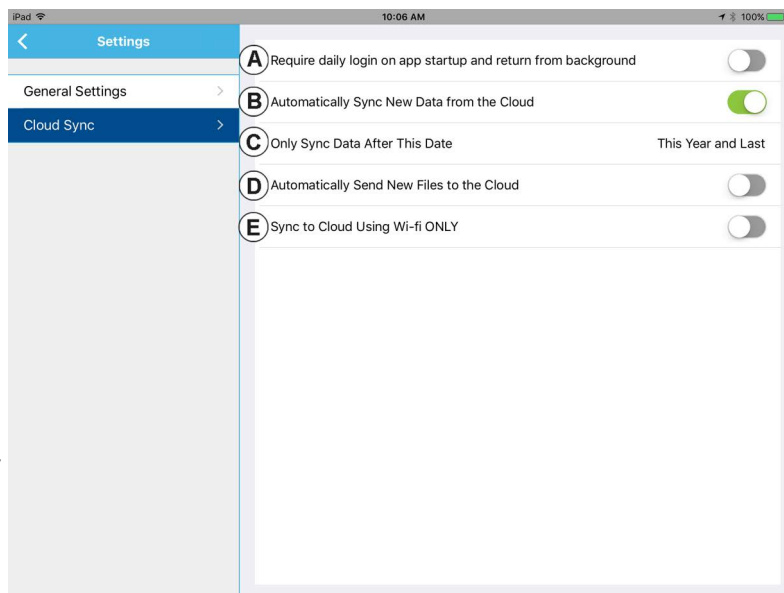
(A) Require daily login on app startup and return from background—If this option is left off, the logged in user will remain logged in until another user logs in. If this option is on, a login is required once daily when the app is started.

(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.

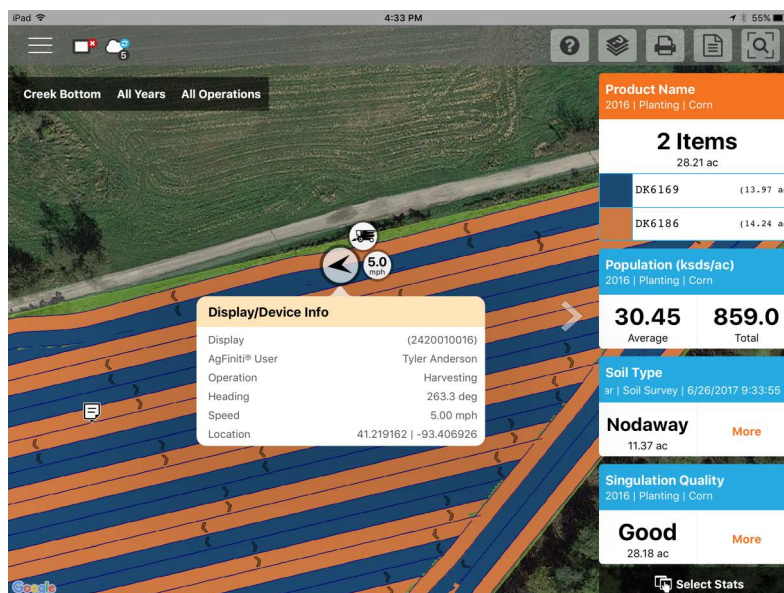
(D) Automatically Send New Files to the Cloud—Allows for the automatic transfer of newly synced InCommand data to be automatically sent to AgFiniti cloud. This will allow for instant access to newly recorded data to everyone on the AgFiniti account, providing quicker access to those that need it.

(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.



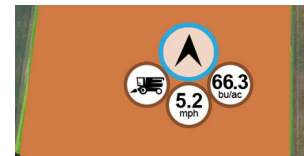
Live Stats - Mobile

Live Stats indicators are present with the device location on the InCommand 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

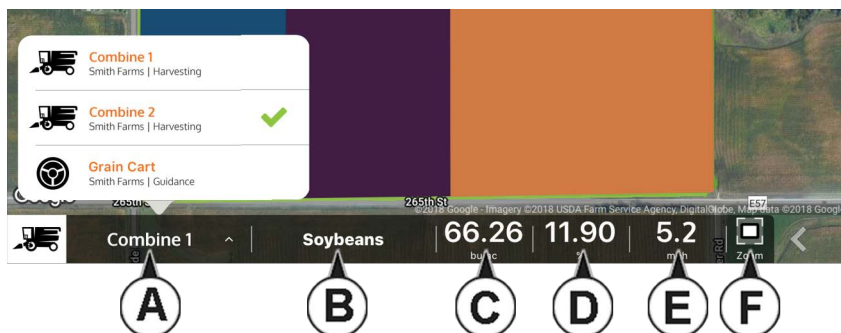
- D. Secondary Attribute

a. Population percentage, container level, and moisture

- E. Speed

- F. Zoom

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



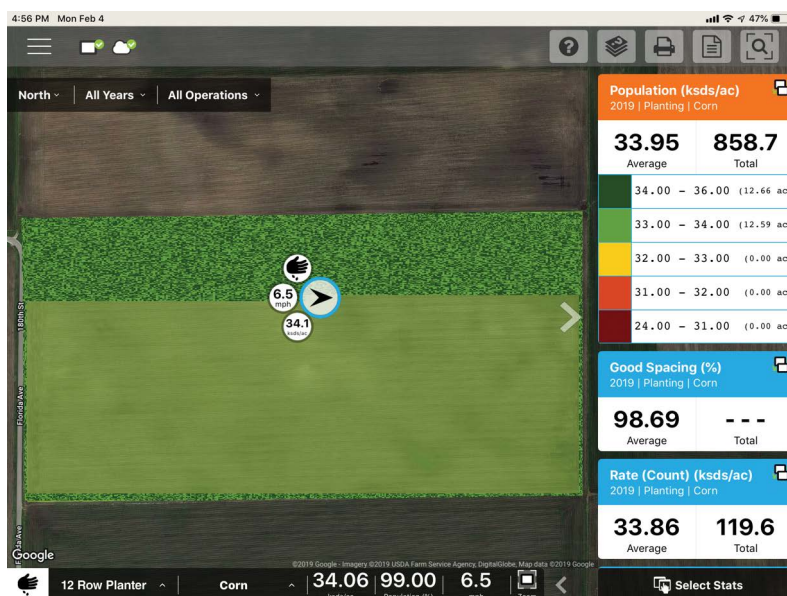
Live Maps – Mobile

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 displays with DisplayCast unlocked
2. InCommand 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

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

NOTE!: Area Remaining available for LiveMaps

AgFiniti Display Settings



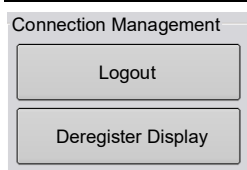
Logging into an AgFiniti Account



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

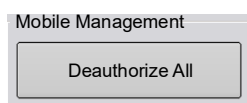




Logout—This will log the display out of the current AgFiniti Account. If the user does not want to automatically connect AgFiniti cloud on startup they must logout. Logging out of an AgFiniti account does not deregister the display from an AgFiniti Account.

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

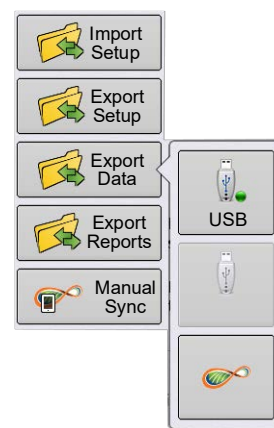


The "Deauthorize All" button will deregister any mobile devices that have been authorized to access the display's logged data.

File Transfer

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

1. User account created at www.agfiniti.com.
2. InCommand display connected to internet source via WI-FI adaptor.
3. Be logged into AgFiniti account on InCommand 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 display, the following requirements need met:

1. User account created at www.agfiniti.com.
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 display connected to internet source via WI-FI adaptor.
4. Be logged into AgFiniti account on InCommand Display.
5. From www.agfiniti.com a user can remotely view the display.

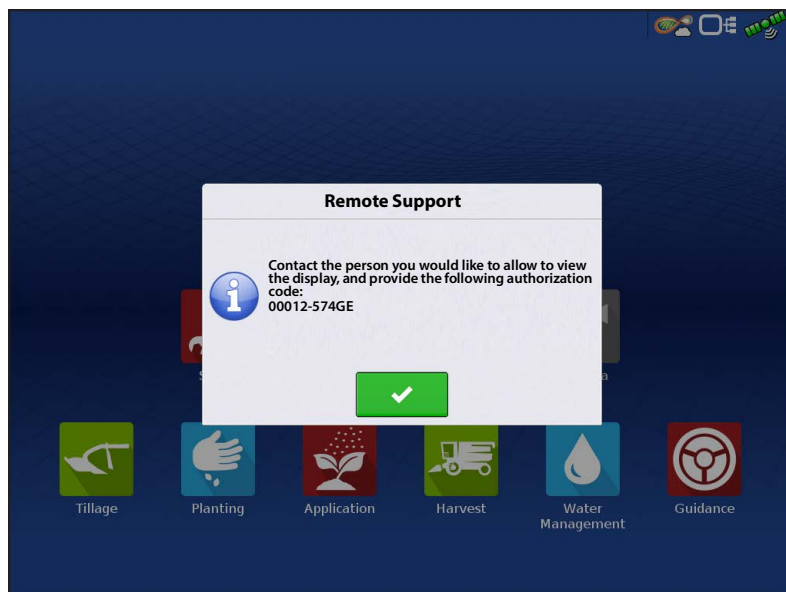


NOTE!: For information on how to setup sharing relationships to allow pre-authorized remote support viewing as well as sharing data with trusted advisors, please visit support.agleader.com

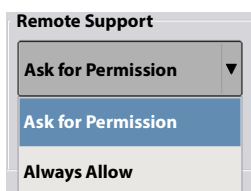
Remote Support Pre-authorization



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

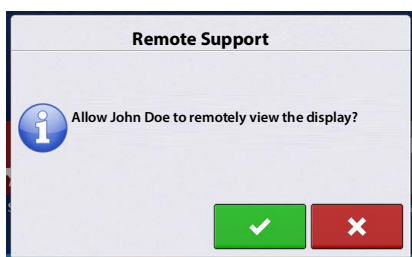


Remote Support Permissions Options



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.

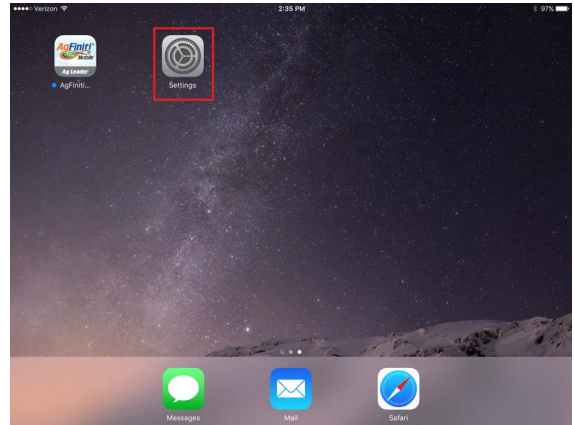
When a remote view session has been initiated the status bar at the top of the screen will turn from blue to green.



Cellular iPad as Personal Hotspot Connection

iPad

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

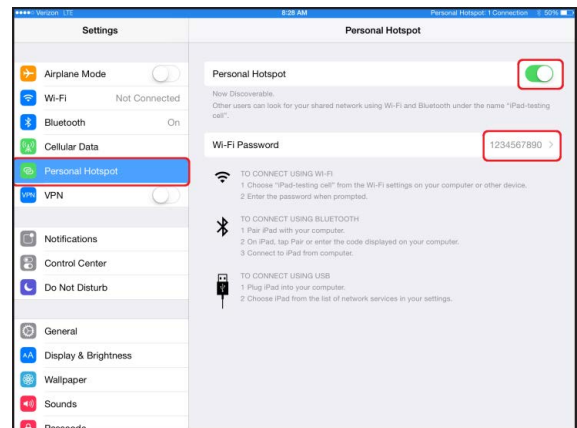



iPad

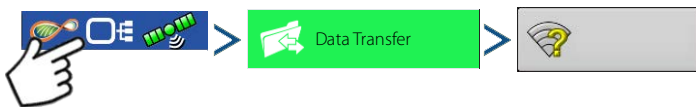
2. Select Personal Hotspot from the left side menu and enable by pressing the on/off switch from the top right side. Once enabled take note of the Wi-Fi password as it will be needed in the next step.



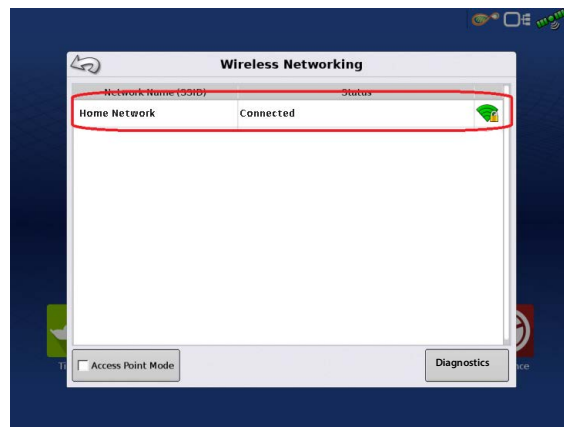
NOTE!: This password can be changed if desired.




- With the Wi-Fi adaptor installed in the InCommand display, the AgFiniti symbol  will show in the top right corner of the display.

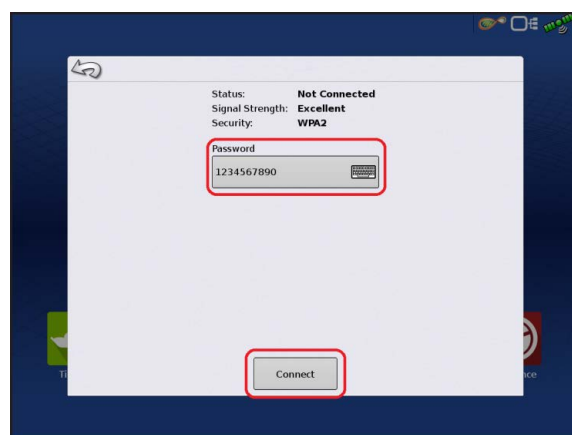


- On the Wireless Networking page select the iPad from the list. If the iPad isn't available from the list try turning the personal hotspot mode on the iPad off and then back on.



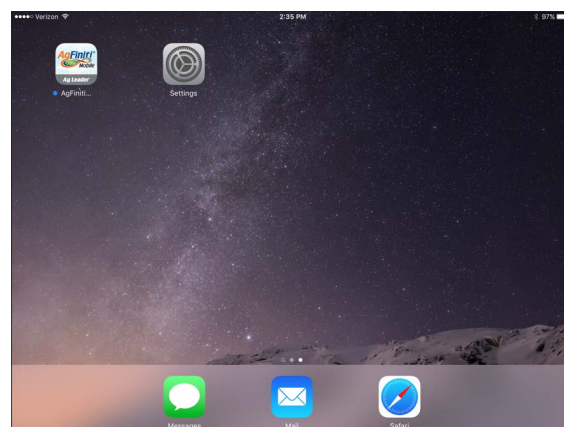
- Enter the password and press Connect.
- The display will then be connected to the iPad.

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



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


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



- Once the InCommand display has been found the display will prompt user to allow connection to happen.



NOTE!: This should only happen once per device.

- 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.

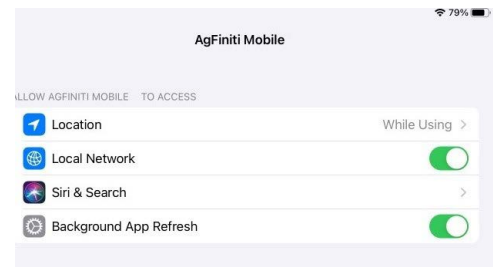


NOTE!: If display is logged in to AgFiniti cloud a cloud symbol will also appear in the AgFiniti Status Indicator.


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

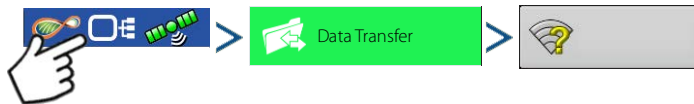


NOTE!: This should only happen once per device. If connection is declined, will need go to Settings App (on iPad) – AgFiniti Mobile – toggle on Local Network.

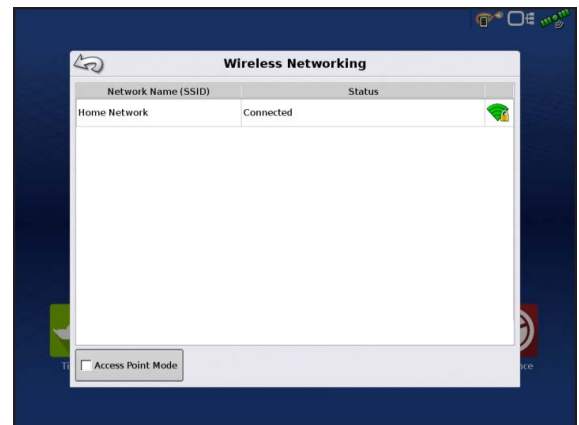


Shared Wi-Fi Network Connection

- With the Wi-Fi adaptor installed in the InCommand display, the AgFiniti symbol  will show in the top right corner of the display.

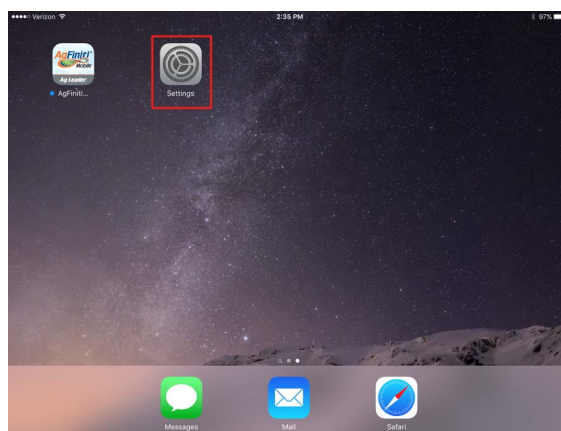


- On the Wireless Networking page, press to select the desired network. This will prompt for a password, if needed, to connect to the network.



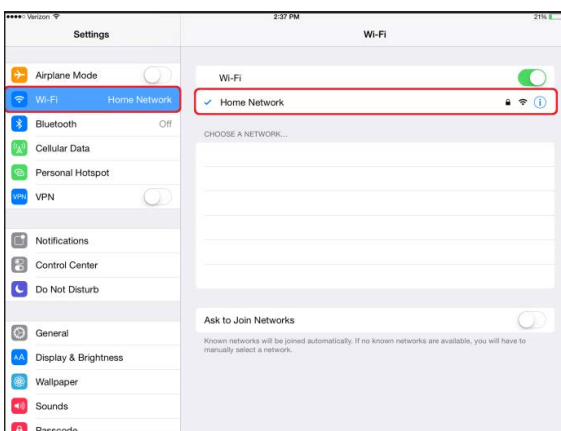
iPad

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



iPad

4. Select the "Wi-Fi" tab from the left side menu followed by highlighting and connecting to the appropriate wireless network.
5. Both the display and the iPad should now be on the same network.



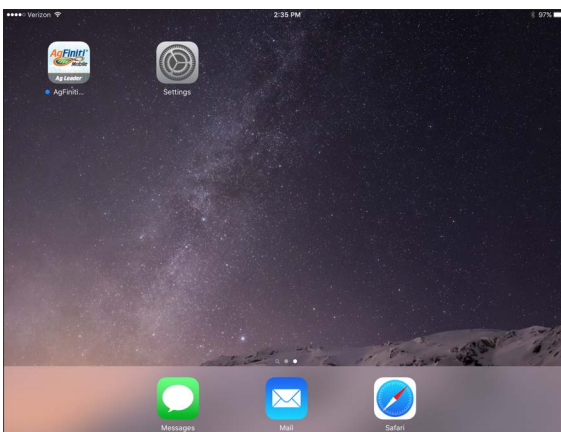
iPad

6. Open AgFiniti Mobile app on the iPad.



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

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




InCommand Display

8. Once the InCommand 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.

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

DisplayCast®

DisplayCast is a feature available for unlock on InCommand™ displays. Through AgFiniti® Cloud, users have the ability to seamlessly sync maps, summary values, and other management information between any InCommand 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 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 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 displays and need to get my variety maps combined to a single InCommand 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

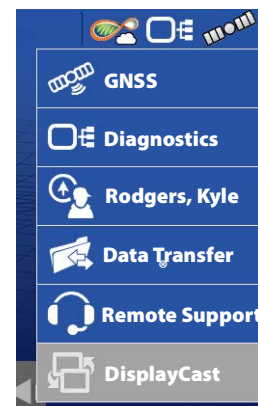
-
3. DisplayCast feature unlock on all participating displays
 4. Active internet connection on the display
 - A. 3G or better cellular coverage
 - B. NOTE!: Ag Leader recommends using a dedicated modem such as the Ag Leader BR1 Mini for internet access when using DisplayCast.
 5. Be aware of GPS accuracy 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 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 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. 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

Off

On

Manual Only

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

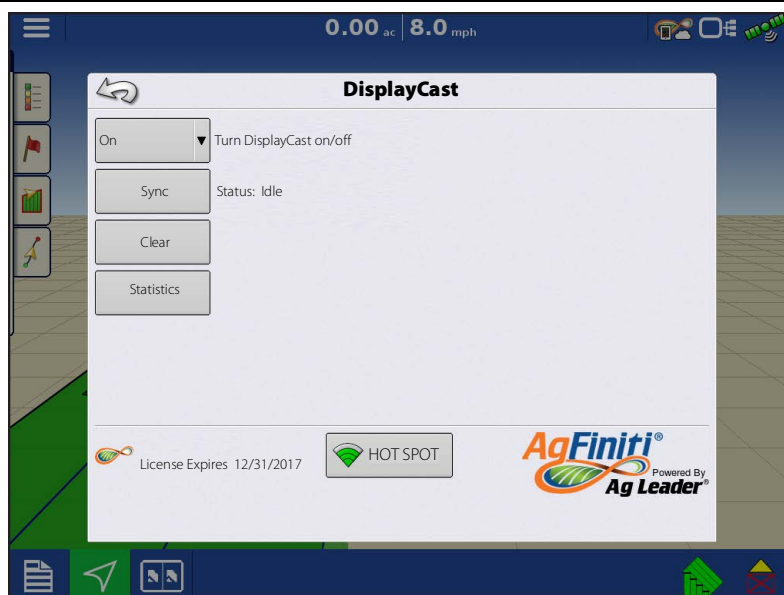
Sync is used to manually sync data with AgFiniti. This action can be done at any time without disabling data logging.

Clear

Removes the current DisplayCast information from AgFiniti.

Statistics

Shows time of display update, AgFiniti update, position update, and a lists of displays logged into AgFiniti.



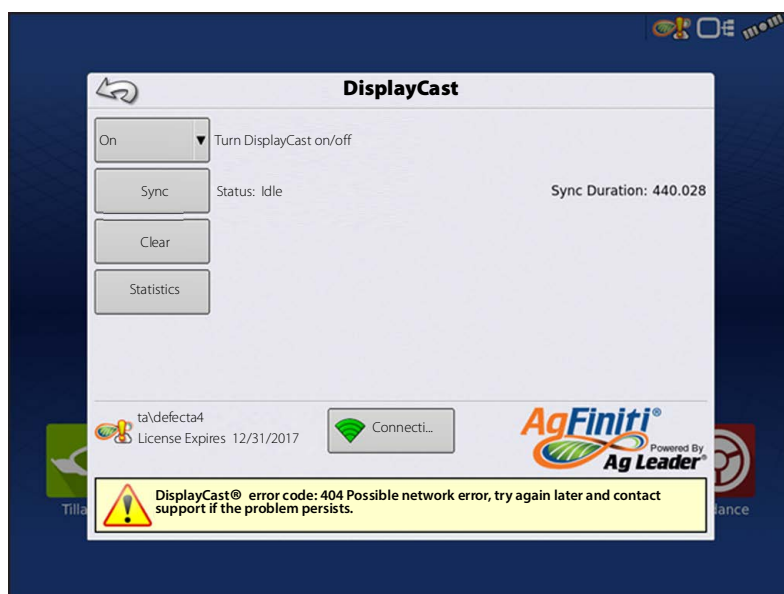
Sync Status States:

- 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

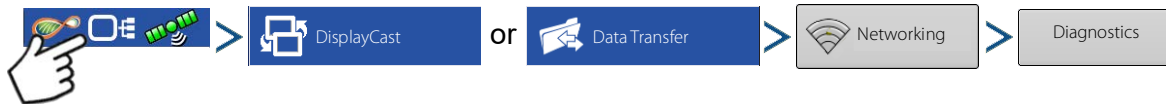
DisplayCast Error Messages

If the DisplayCast process is affected at any point, specific error messages will occur at the bottom of the DisplayCast screen. These messages can be used to decipher what has specifically occurred. For a detailed list of errors, please reference

<https://portal.agleader.com/community/> for more information.



Network Diagnostics



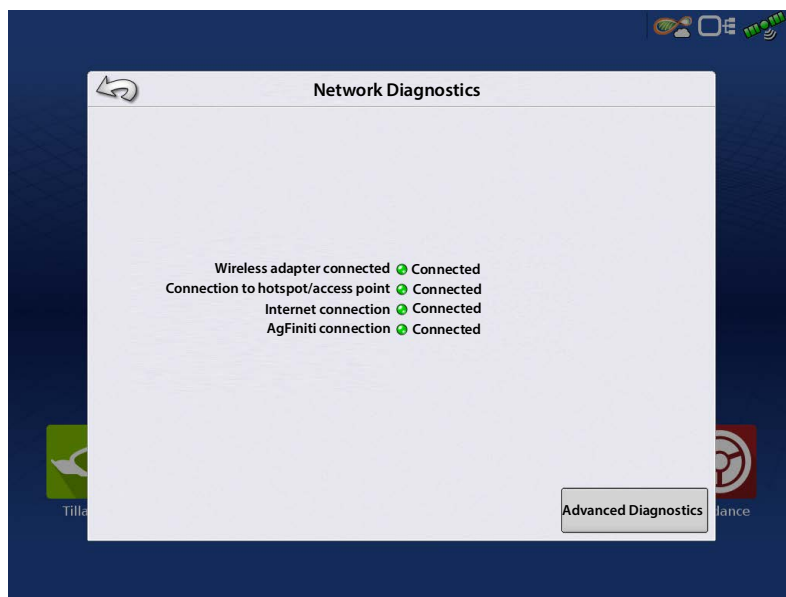
Network Diagnostics shows users network status via color indicators below.

Light status

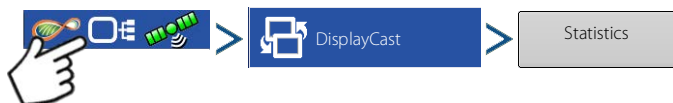
- Green-connected (Working Properly)
- Yellow-checking status
- Red-Needs attention



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

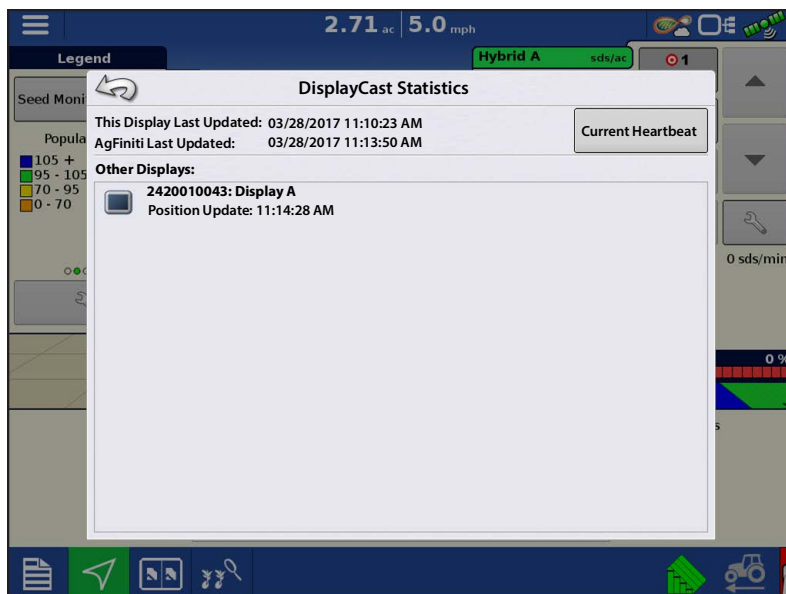


DisplayCast Statistics



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.)

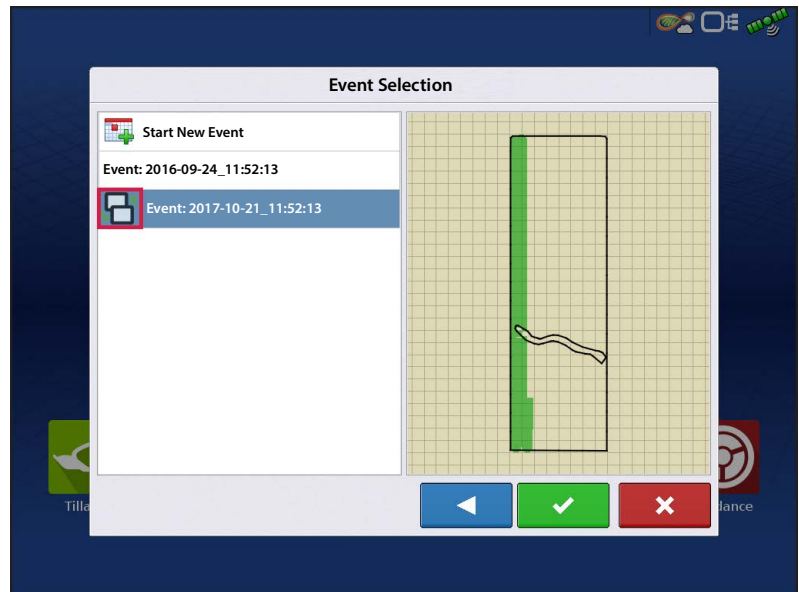
- This Display Last Updated – Timestamp of most recent data sync from AgFiniti Cloud to current display.
- AgFiniti Last Updated – Timestamp of most recent data sync to AgFiniti Cloud from any display.
- Other Displays – Lists any displays logged into AgFiniti by serial number and active configuration.
- Position Update – Timestamp of last received GPS position for that display.
- Current Heartbeat – Live stat information sent to the AgFiniti cloud.



Starting an event for multiple displays in the same field and operation

InCommand 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.



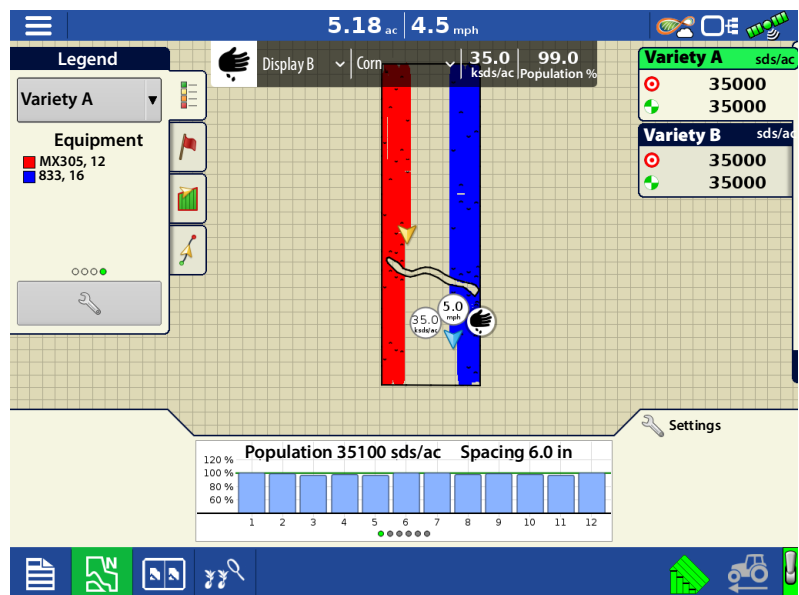
On the Mapping screen, each machine logged into AgFiniti will have a vehicle icon indicator.



Gold icon represents current vehicle location



Blue icon represents other vehicles in the same field.



Live Stats—DisplayCast

Live stat indicators are present with the device location on the InCommand and AgFiniti Mobile. The indicators will represent the main attribute, speed, and operation for any device logged into AgFiniti. The InCommand requires the DisplayCast unlock to display Live stats.

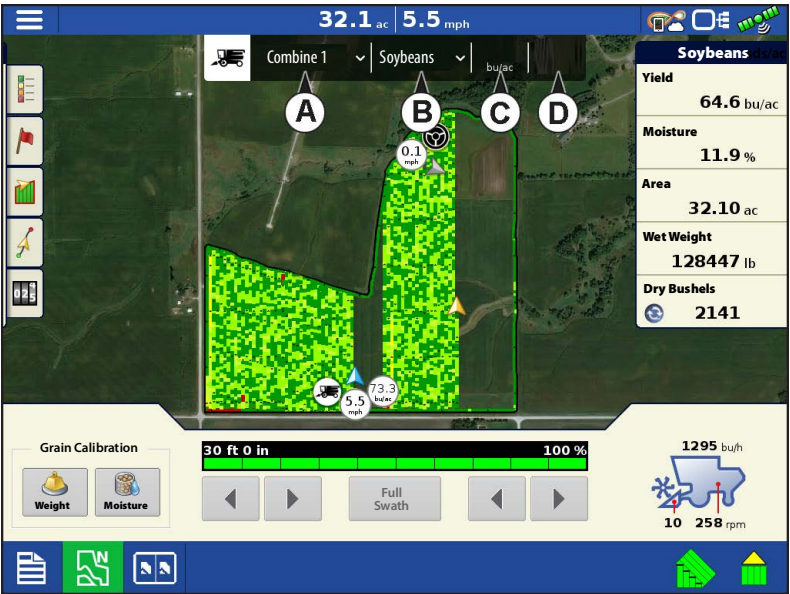
Live stats will be shown for

- planting/seeding
- applications (liquid and dry)
- harvest (grain and forage)
- site verification (will be missing main attribute and indicator).

Live stat data and device location are updated every 5 seconds.

The Live stat bar provides data for each device logged in.

- A. Device Selection—displays its current stats of this device in bar. Device can be selected from this drop-down menu or by pressing on the display location on the screen.
 - a. Device is identified by the display's nickname or iPad name (nickname updates at login). If no nickname is entered, the display 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



Loading a Guidance Pattern while using DisplayCast




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

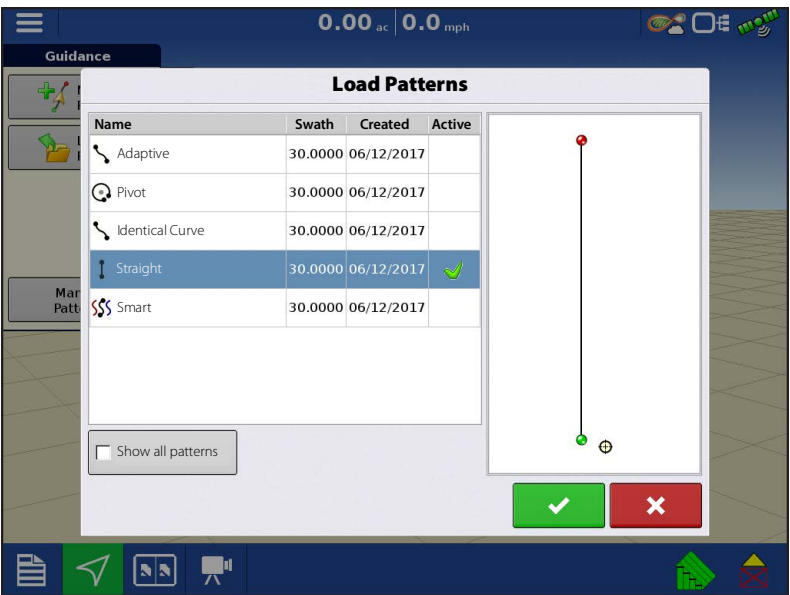



Green Check in the Active column indicates which guidance pattern is currently in use in the same field.



Check the box to show all patterns in the display.

Highlight desired pattern and select  to load pattern to mapping screen.



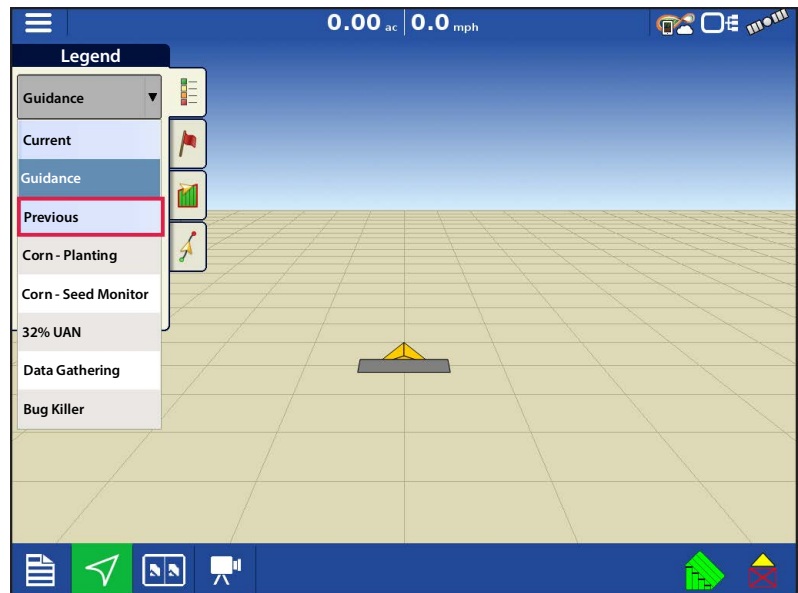
Select  to return to guidance mapping screen without loading a guidance pattern. For managing guidance patterns, see [“Manage Patterns” on page 122](#).

Viewing active and past events for the field currently loaded on the 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 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.



Using Summary Report page to view any active or past events

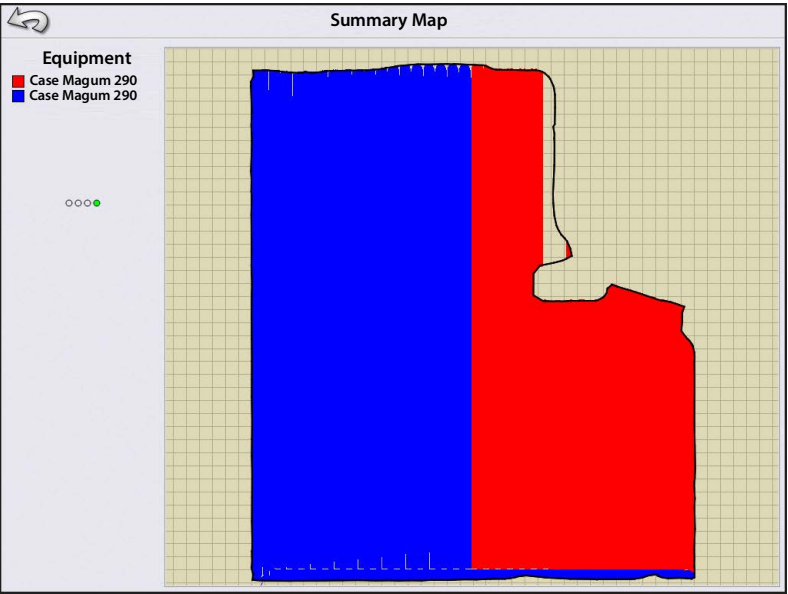
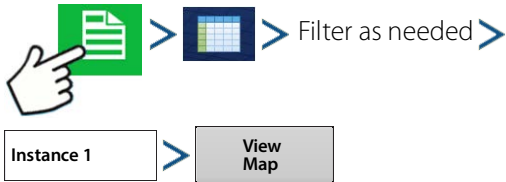
The Summary Report page has the ability to view both past and active events from any display using DisplayCast. This includes both summary information and maps, and can even be done while actively logging data on the Mapping screen.

Viewing summary information



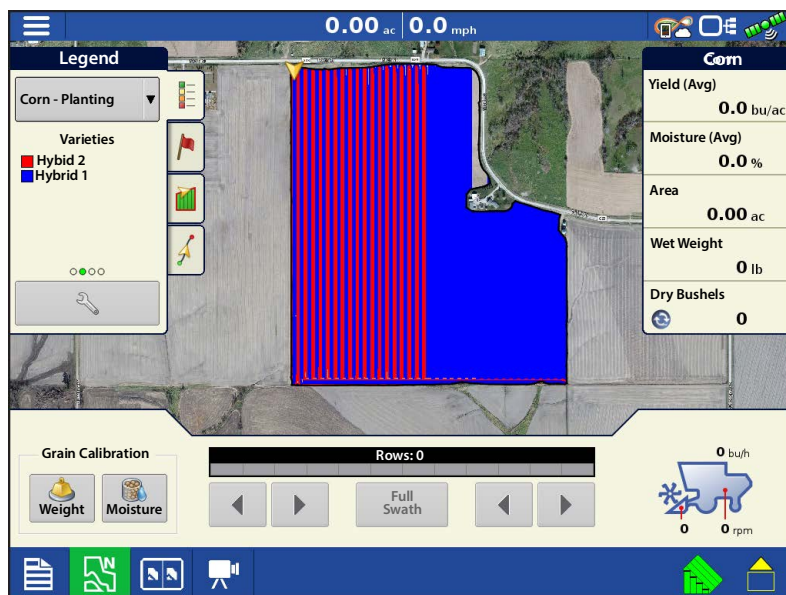
Summary Report						
Season	Grower		Farm			
2017 Crop	Demo		Home			
Field	Operation		Product			
Other Land	Planting		Corn			
Region	Variety	Avg Rate (seed/ac)	Total (seeds)	Area (ac)	Date Created	View Mode
Instance 1		32599.9	3630599.3	111.37		Agronomic
< 1 >	Seed 1	32658.7	1099685.5	33.67	03/30/2017 Split Pla	Create Report
< 1 >	Seed 2	32507.3	1076775.7	33.12	03/30/2017 Split Pla	View Report
< 1 >	Seed 3	32624.3	1454138.1	44.57	03/30/2017 Split Pla	View Map
Field Total (All)		32599.9	3630599.3	111.37		

Viewing maps on summary screen



Harvest Variety Tracking with DisplayCast

Since attribute maps are synced between InCommand 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.

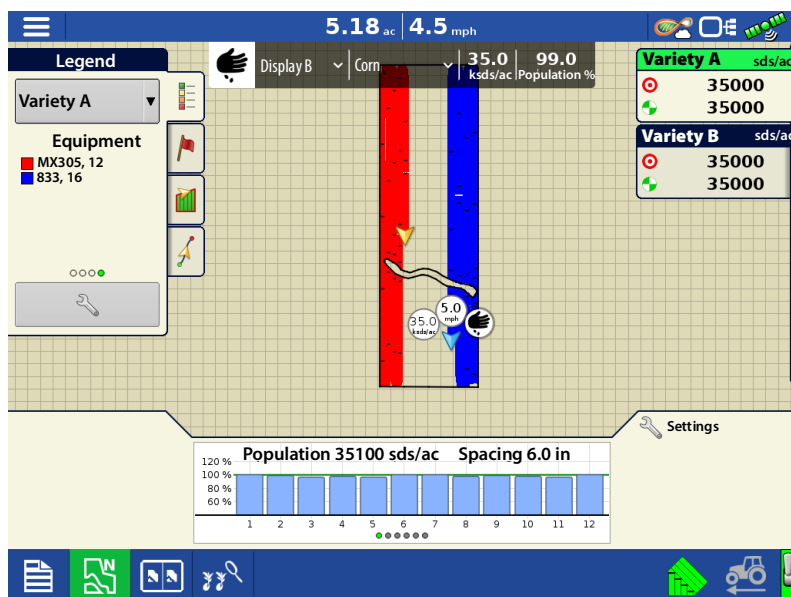


Data management with DisplayCast

Configurations

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

The Equipment Legend (shown to the right) 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 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.



Planting



Application



Harvest



Water Management



Guidance



Tillage

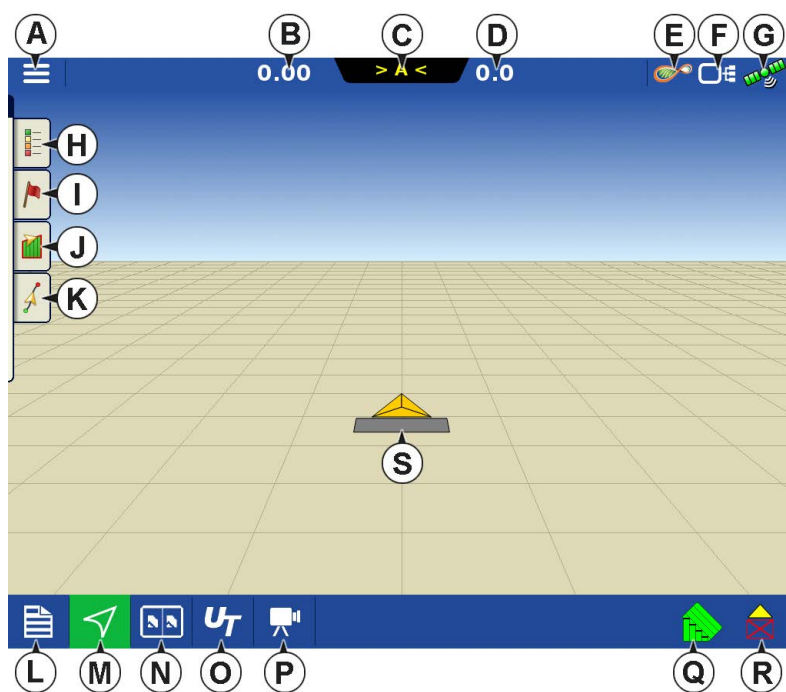
The following must be created:

- 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.

Map screen

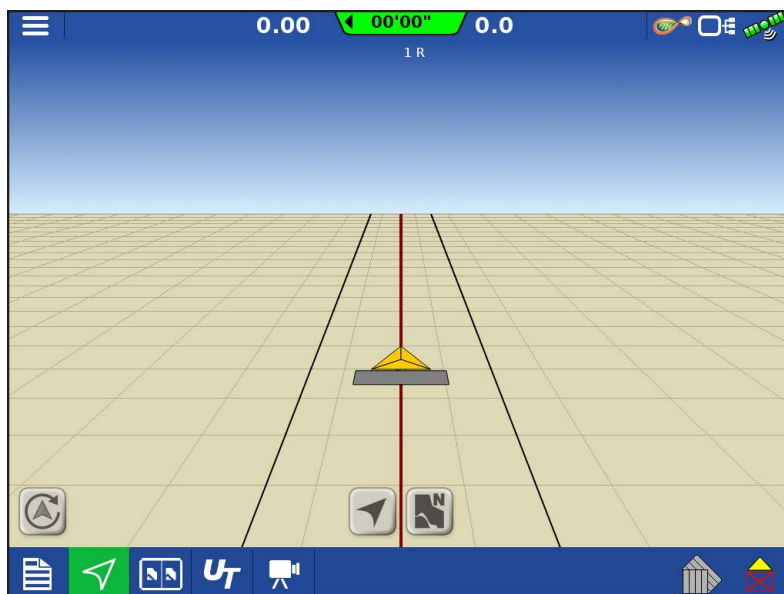
- A. Menu
- B. Area Covered
- C. Path Indicator
- D. Speed
- E. AgFiniti® Status
- F. Diagnostics
- G. GPS Signal Indicator
- H. Legends
- I. Markers
- J. Field Operations
- K. Guidance
- L. Event Summary
- M. Map Views
- N. Split-Screen (InCommand™ 1200 Only)
- O. Universal Terminal
- P. Video button
- Q. AutoSwath
- R. Logging
- S. Vehicle Icon



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

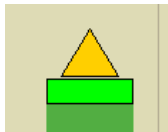


With Heading Detection disabled, the icon will always follow the GPS heading. When using a Harvest configuration, Heading Detection is automatically disabled regardless of the state of the enable/disable button.

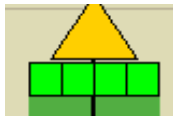
Vehicle Icon



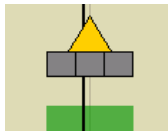
Vehicle Icon—When Zoomed Out—This gold colored triangle indicates the display is in zoom to extent mode. When in North Oriented View the vehicle implement does not appear but logged data will still populate on the map.



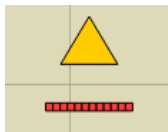
Vehicle Icon—logging—If the vehicle is logging, the implement icon appears as a green bar behind it.



Vehicle Icon—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.



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



Vehicle Icon—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 Status - ON (GREEN)



Master Switch Status - OFF (RED)

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



AutoSwath - ON



AutoSwath - OFF

(P) Logging button



Logging - ON



Logging - OFF

AutoSteer button

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



AutoSteer is ON and ready to use.



AutoSteer is OFF but ready to engage.



AutoSteer is OFF and unable to engage.

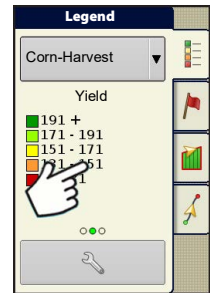
Map Legend tab

Press the Map Legend button at the top of the Mapping toolbox, and the Legend appears, either for rate, coverage, seed monitoring, previous operations, or other.

Map Toolbox

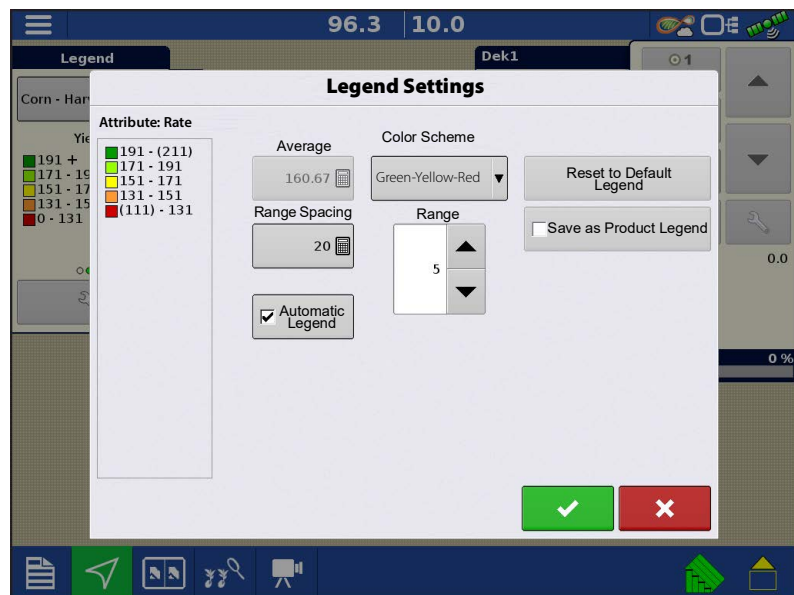
Legend Settings

The Legend Settings screen allows changes the default legend. On the map legend tab, press anywhere on the legend and the legend settings screen appears.



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

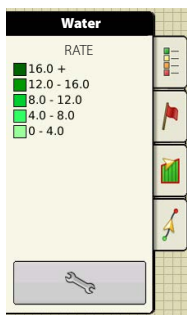
Resets the legend to the default settings.
- Automatic Legend


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.

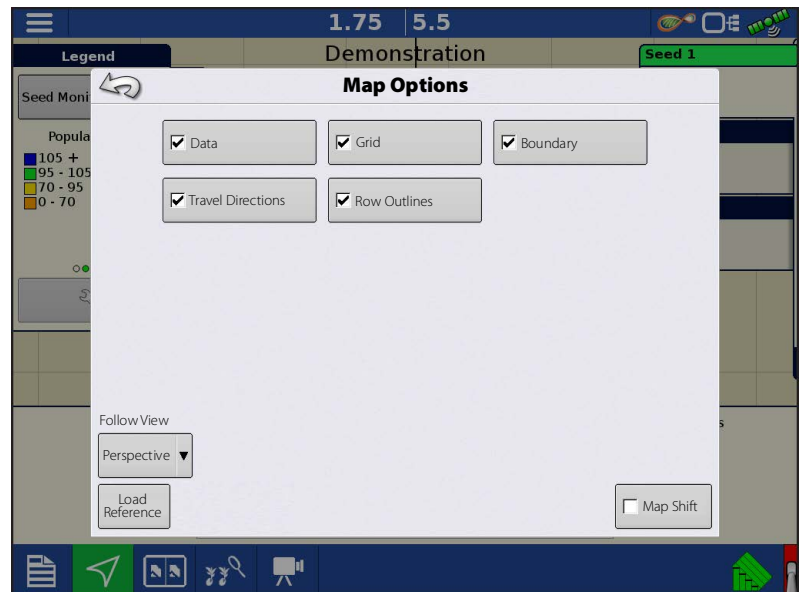
Map Options



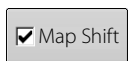
Toggle mappable items, load references, or follow selection. Press the Legend Setup  and the Map Options screen appears.

• Load Reference

Loads a list of maps of previous operations performed in that field. For each operation, view As-Applied or Coverage attributes; and Varieties if performing a Planting operation.



Map Shift




Map Shift is used to shift the onscreen map and account for time base inaccuracies with lower accuracy GPS receivers. This is done by doing a quick survey and creating a reference point. Any time the user would like to adjust the map to fix GPS drift inaccuracies they will go back to the reference point and perform a survey to shift to the current position.

Map Shift General Guideline

For Map Shift to be successful it is suggested that a reference point be set before beginning a field operation. That way any time the vehicle leaves the field or is shut down for an extended period of time the reference point can be used upon returning to the field operation.

Enable Map Shift



With the map shift option checked, the map shift icon  will become available when in full screen view on the mapping screen.

Shifting the Map

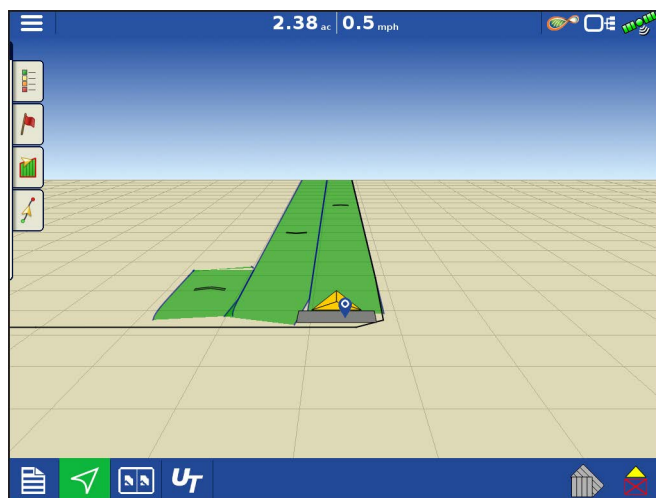
1. Press the map shift icon to access Map Shift Options.
2. Determine a good location to create a reference point. For Map shift to work properly it is vital that the GPS receiver be able to get back to the exact same point each time a shift is required.
3. Once a spot is located press "Set" on the Map Shift options page to begin the 10 second survey.
4. Once the survey is complete the reference point will be set. On the Mapping Screen the reference point is shown by the blue pin drop.



Reference Point Set

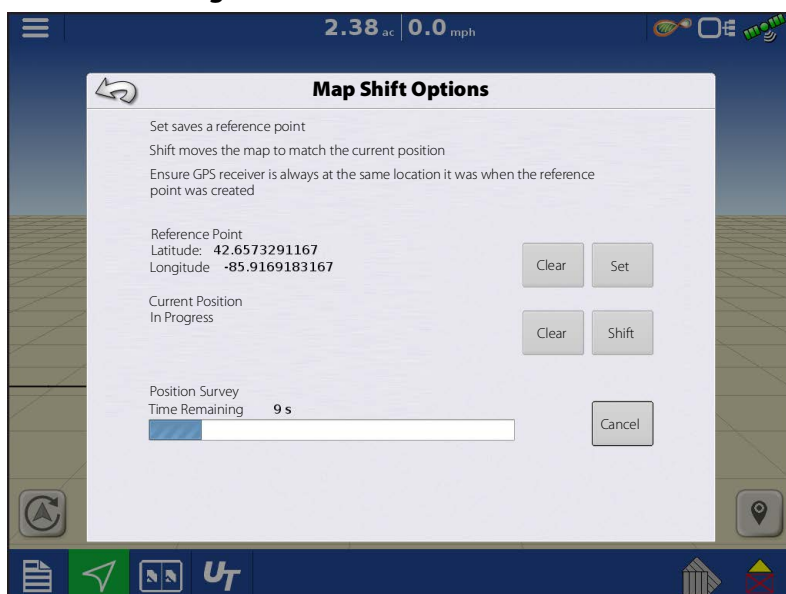


Map Shift Needed



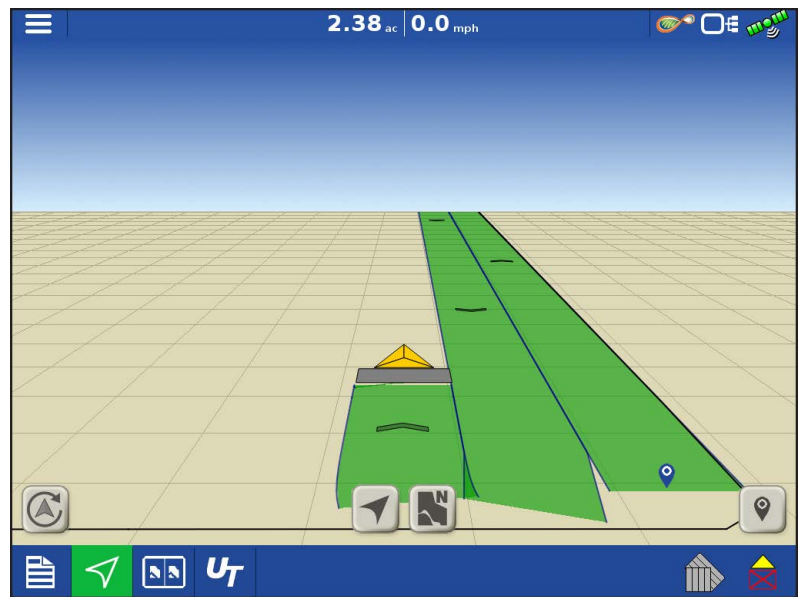
Going Back to Reference Point

5. When a map shift is required go back to the set reference point and make sure the GPS antenna is back in the original location.
6. Access the Map Shift Options menu and press the "Shift" button.



Shifting Map

7. "Shift" will start a 10 second survey and update the map with the new current position.
8. Any time a reference point or shift needs cleared it can be accomplished via Map Shift Options.

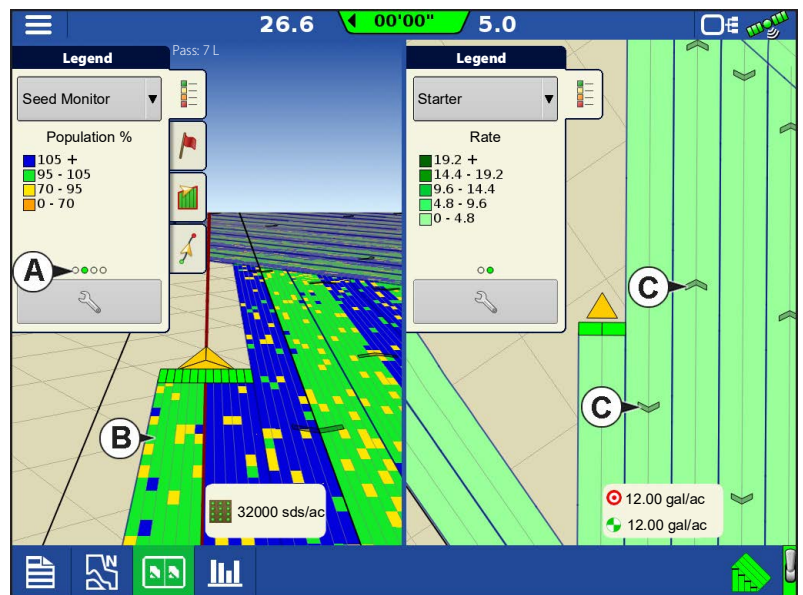


After Map Shift

Mapping Features

In a planting operation the InCommand 1200 display is capable of mapping information based on individual rows.

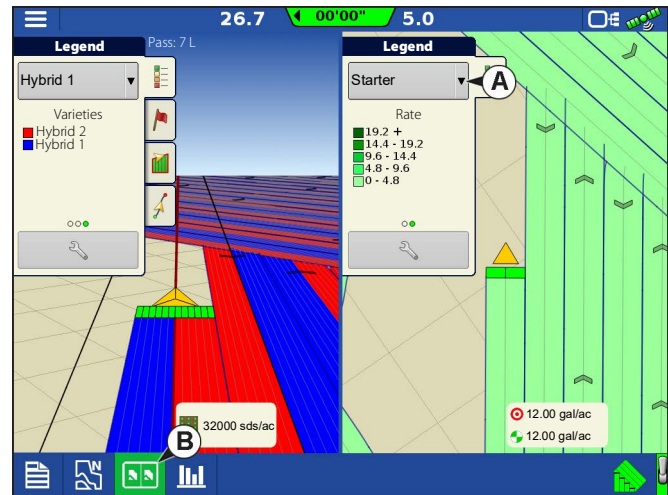
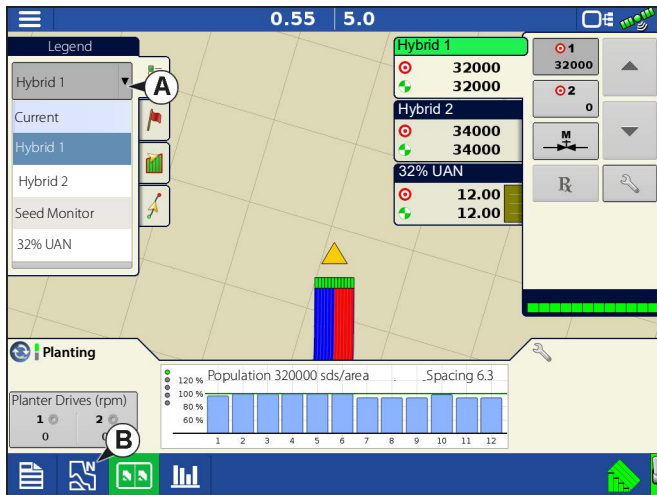
- A. Dots in the legend indicate other attributes are available to map. Swipe to show different attributes.
- B. Screen shows row by row mapping. Display shows and logs row by row planting attributes in any view when paired with Ag Leader Seed Monitor Module.
- C. Travel direction indicators automatically populate at intervals when operating. This feature can be toggled on/off in Map Options.



Map Views and Split Screen

The InCommand 1200 has the capability of showing multiple views at the same time from the Mapping screen. This has multiple uses like showing guidance in Follow view and North Oriented view at the same time, splitting the screen between guidance and Universal Terminal, or watching two products at the same time like planting and liquid application.

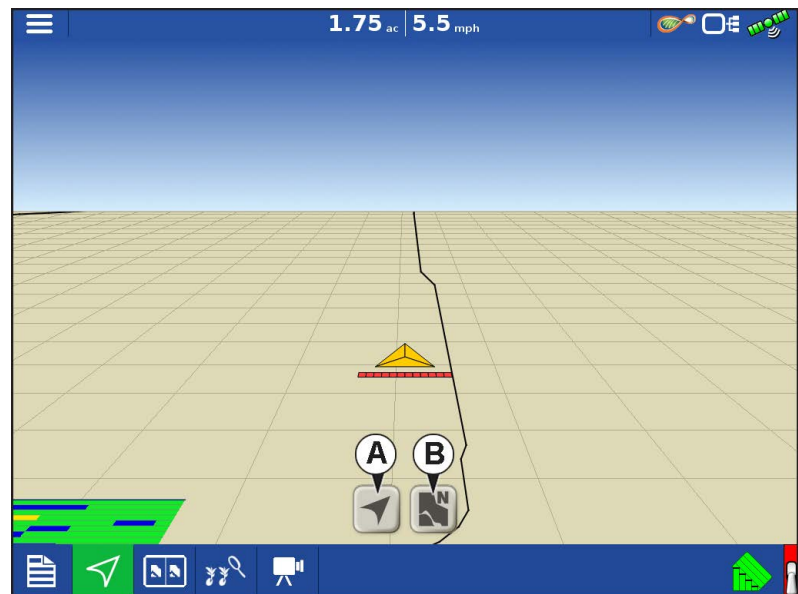
- Maps can be selected individually from the legend drop-down **(A)**.
- Map view can be changed by tapping on the mapping icon **(B)** in the task bar.



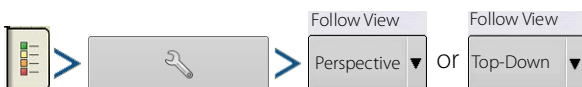
Map Views



Follow View(A)—Sets the map to follow the vehicle icon. The default Follow View can be set to either Perspective view or Top-Down view



Setting the Follow View mode



North Oriented View(B)—Zooms the map out to the full extends of the field boundary or mapped area and orients the map north regardless of the vehicles direction of travel.

Zoom Devices View



When this icon is pressed, all devices logged into AgFiniti (that have a GPS location and AgFiniti Essentials) will be shown on the display.



Button is only available when DisplayCast is unlocked.

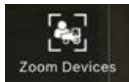
If a user wants to see the location of other devices, they can press this icon and the map will zoom out to include the icons of other devices on that account, as well as their own icon.

Only devices within 60 miles of the display's 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.

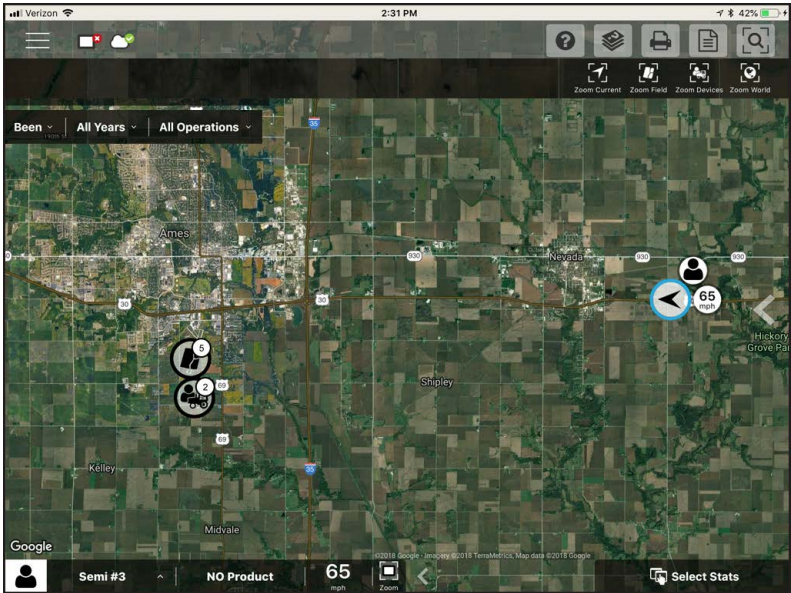
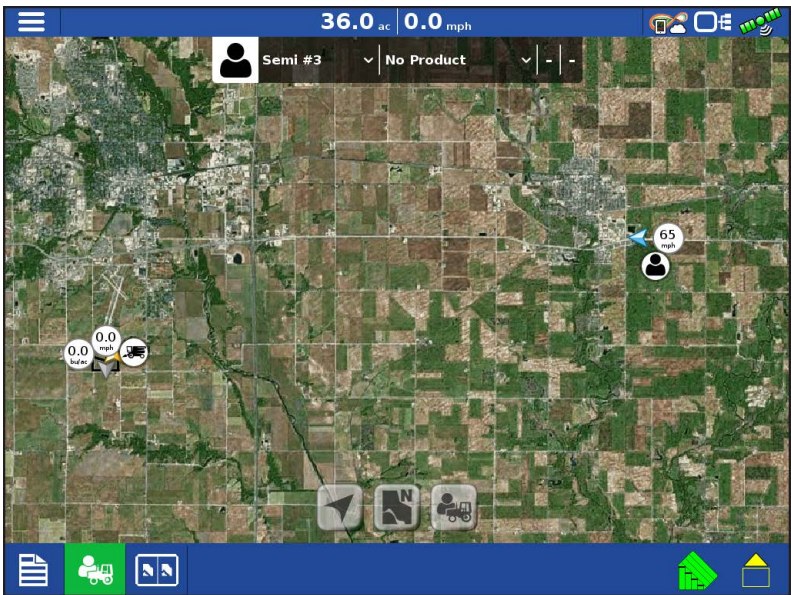


No logged data will be displayed in this view.

Zoom Devices in AgFiniti Mobile



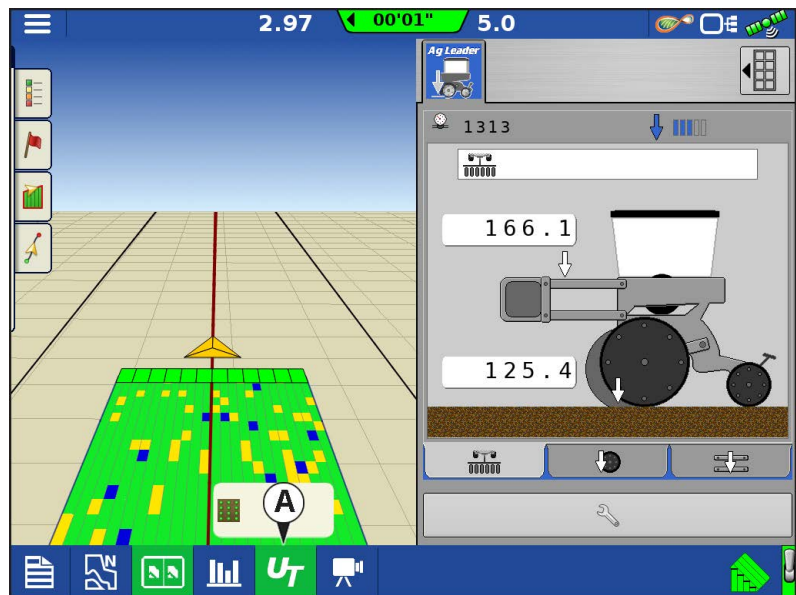
When this icon is pressed, all devices logged into AgFiniti (that have a GPS location and AgFiniti Essentials) will be shown on the display.



Universal Terminal Split Screen



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



Split Screen Advanced Seed Monitoring



When using a Seed Monitoring Module, pressing the advanced seed monitoring button (A) will split the screen between the active map and the advanced seed monitoring page.



Split Screen Video



(A) With Cameras attached, pressing the video button with split the screen between the active map and the video page.



(B) Mirror Video Input



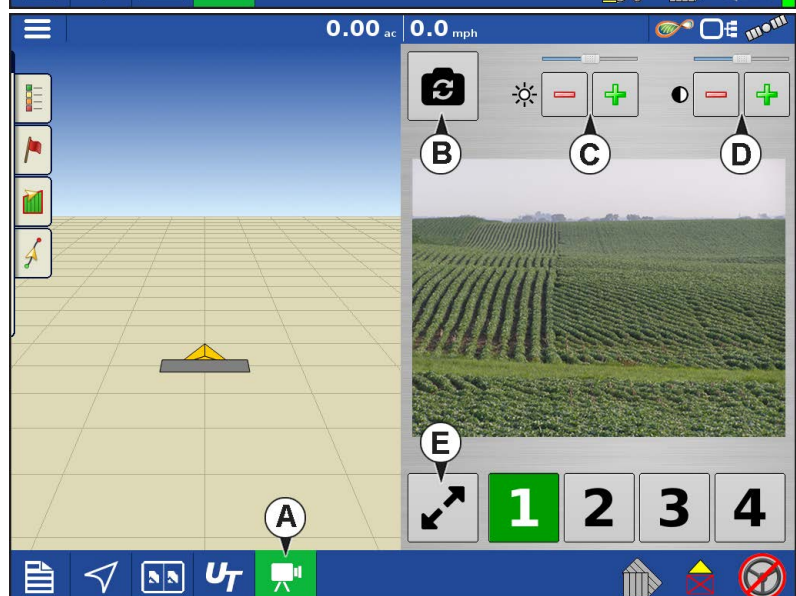
(C) Brightness Adjust



(D) Contrast Adjust



(E) Full Screen/Split Screen selection



Markers Tab


Markers are a collection of point objects that are available on the Map Markers tab of the Mapping toolbox. Map markers allow mapping points on the go in order to identify specific features within a field. Press an individual marker to indicate a Map Marker on the Map screen.

If all of the Markers created are not immediately visible in this screen, press the cycle button that will appear next to the marker setup button at the bottom of the marker toolbox.








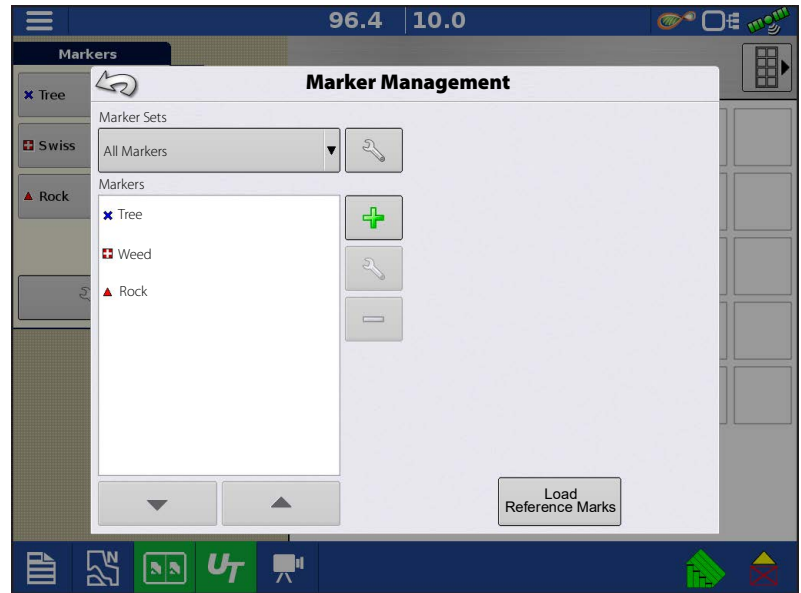
Edit Markers

Marker Sets:

Pressing  allows operator to create, name, and delete marker sets.

Markers:

- Press  to add a marker.
- Press  to edit a marker.
- Press  to remove a marker.
- With numerous map icons, cycle through them by pressing  / .
- When creating or editing a marker, check the Georeferenced note button to add a Field Note that is referenced to the current GPS position when that marker is used.



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.



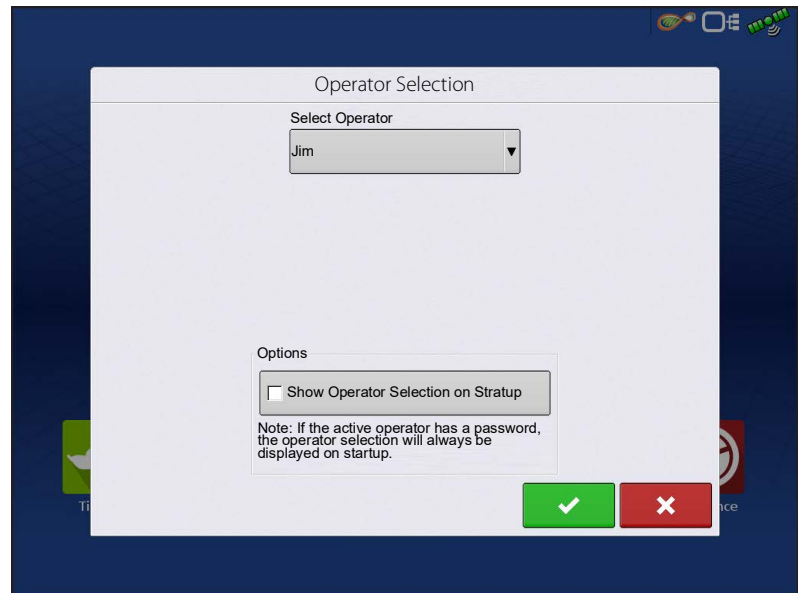
NOTE!: Checkbox will require a password to be entered upon start up of the display.

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 the regularly used management and setup features without suspending an operation or leaving the map screen.



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.



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.



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.



Event

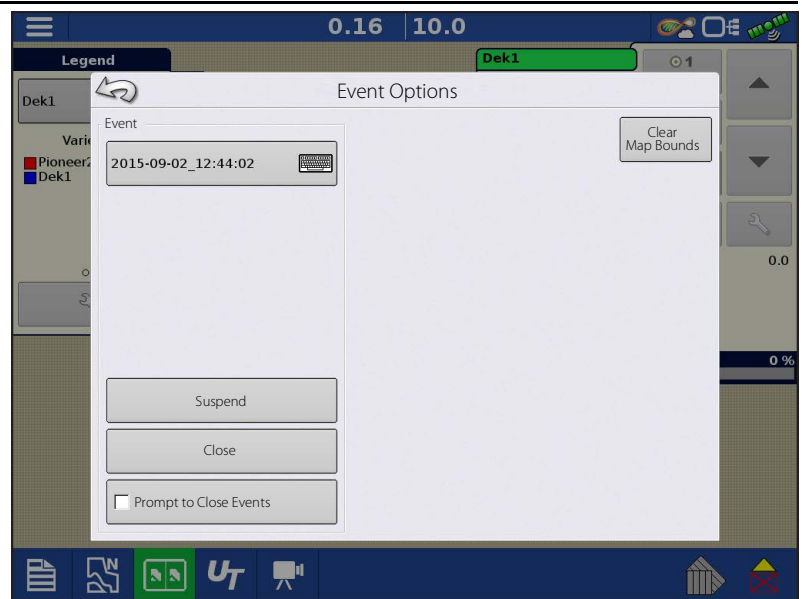


The Event Options screen allows operator to change:

- **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.

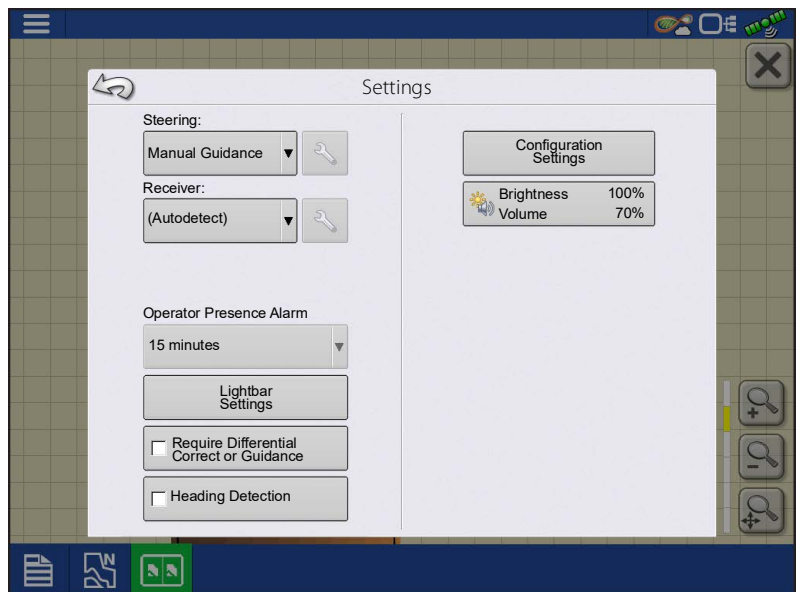
A closed event cannot be re-opened and will not show up in the Event Selection screen. A user can manually close Events or be prompted to close events.

- **Prompt to Close Events**—Check this to be prompted before an event is accidentally closed.

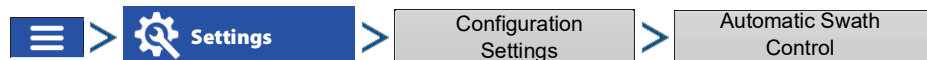


Settings button—provides quick access to:

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



Automatic 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 behaviour when a section exits a field boundary.

- **Coverage Option**

In the Coverage Option area, choose between three options:

- **Minimize Skip**

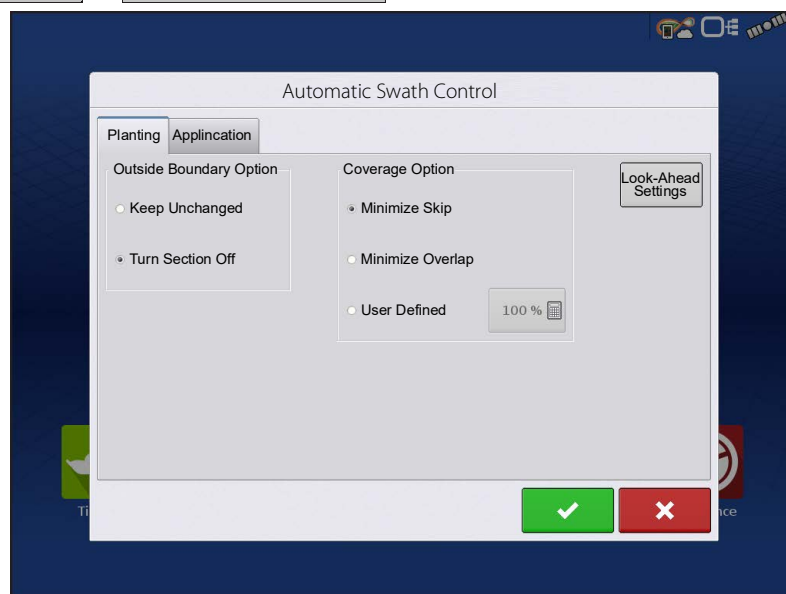
Turns off the implement section after the entire section is fully inside coverage area.
This prevents the possibility of skips.

- **Minimize Overlap**

Turns off the implement section when that section first enters coverage area.
This prevents the possibility of overlaps.

- **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.

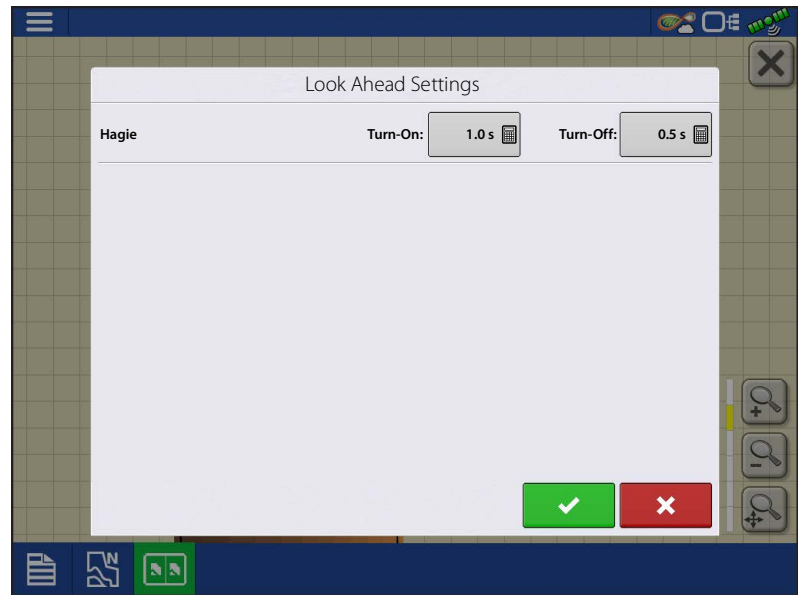


- **Turn-On Look Ahead**

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.





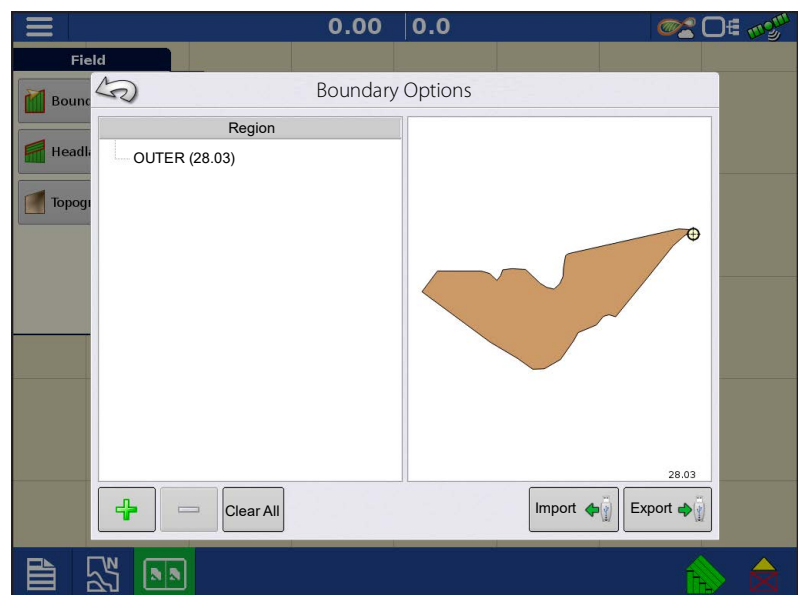
Boundary Tab

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.

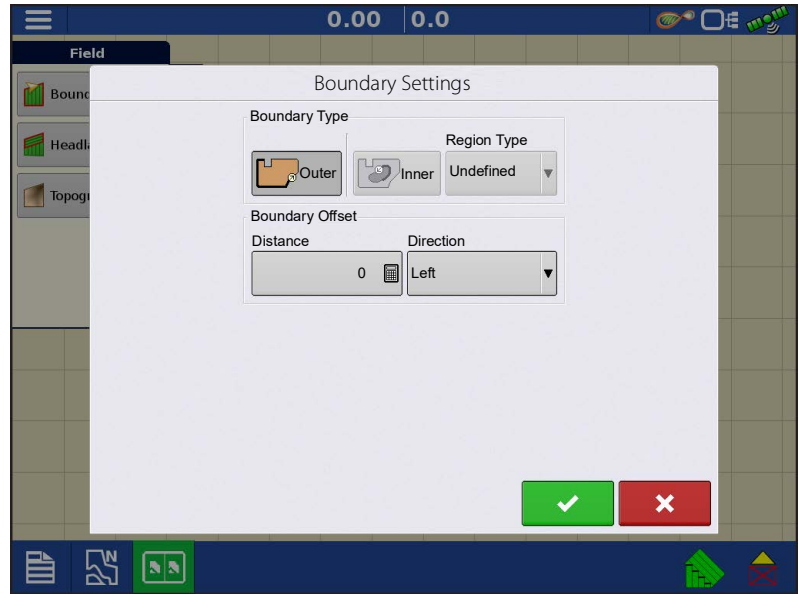
Create Boundary

Boundary Settings

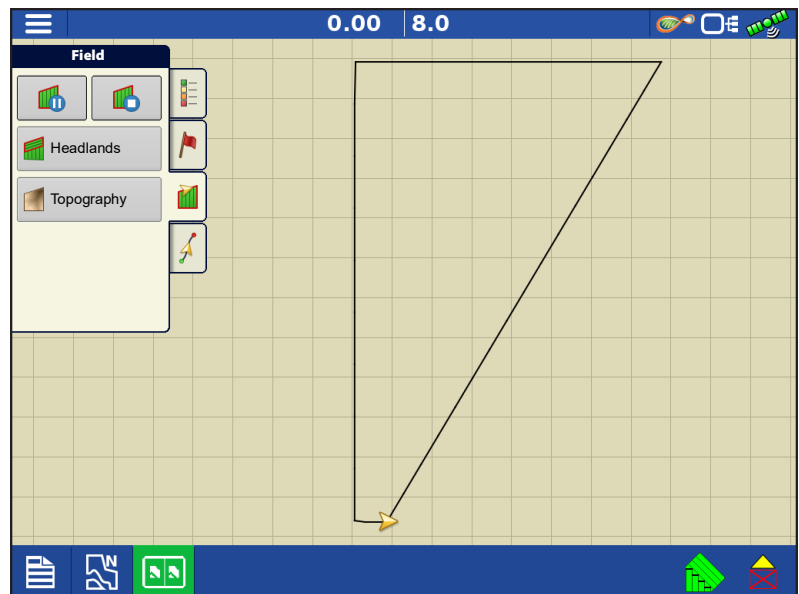
Pressing the Start button opens the Boundary Settings screen.


Underneath the Boundary Type, choose either an Outer Boundary or an Inner Boundary.

- Outer boundaries delineate the borders of an entire field.
- Inner boundaries mark specific features within that field, such as waterways or buildings.



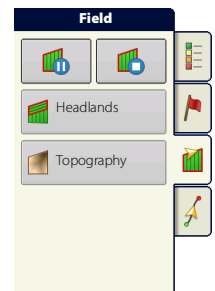
1. Choose whether to create either an Outer boundary or Inner boundary by pressing one of the two Boundary Type buttons.
2. To create an Inner Boundary, use the Region Type drop-down menu to choose the type of boundary. Choices include:
 - Roadway
 - Body of Water
 - Waterway
 - Buildings
 - Undefined
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 Boundary Offset distance by choosing a direction and distance from the GPS antenna center line.



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

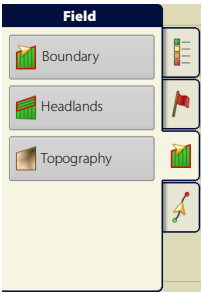
When creating a boundary, use the Pause Boundary button to create a straight line between two points. To do this, drive the vehicle to a point, press the Pause Boundary button, then drive to the second point. Press the Resume Boundary button to create a straight line between current point and pause location.



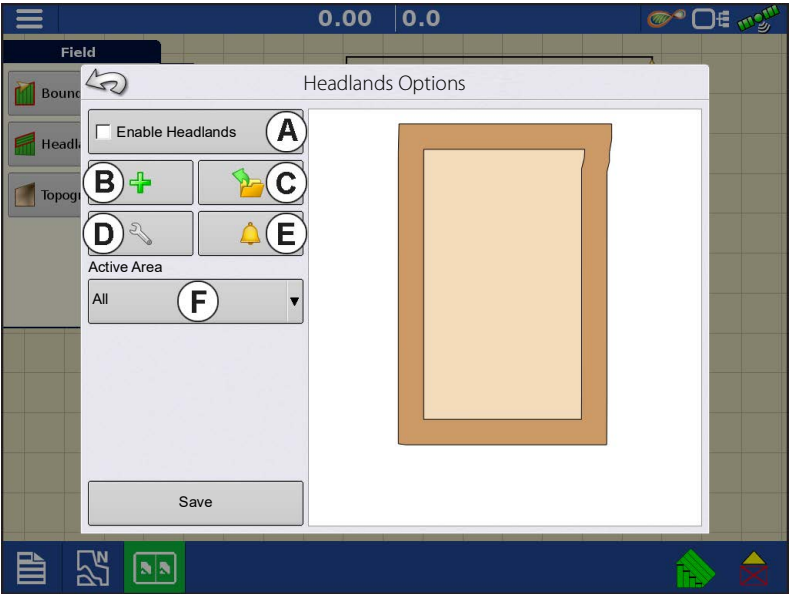
Headlands

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.



- A. Enable Headlands: Use checkbox to turn Headlands functionality on and off.
- B. Add Headland
- C. Load a Headland
- D. Edit Headland
- E. Alarm Settings



F. Active Area



Product will be applied to main section of field.
AutoSwath will turn off product on headlands.

Work Area



Product will be applied to headlands of field.
AutoSwath will turn off product on main section of field.

Headlands



AutoSwath will not be affected by headlands.

All

B. Add a Headland

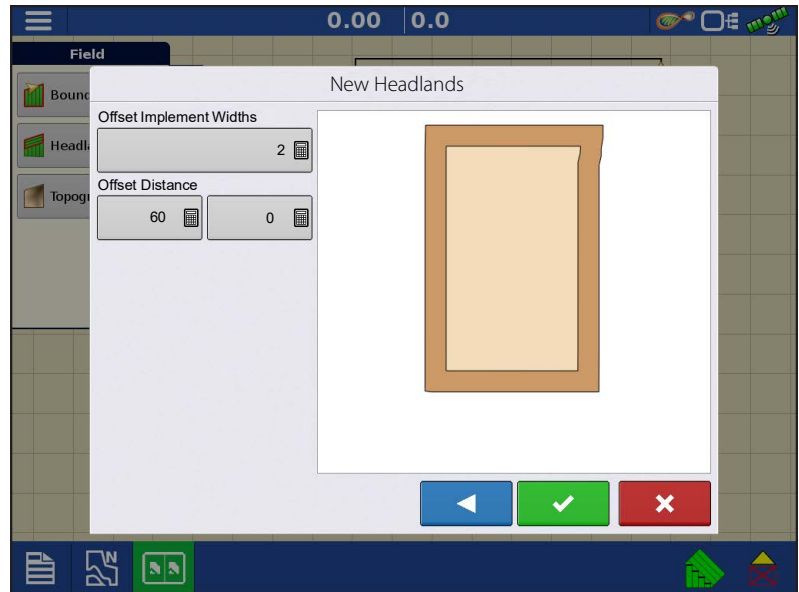
Press on Headlands Options screen.
Select Headland Type from drop-down box.

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.

C. 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

D. 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.

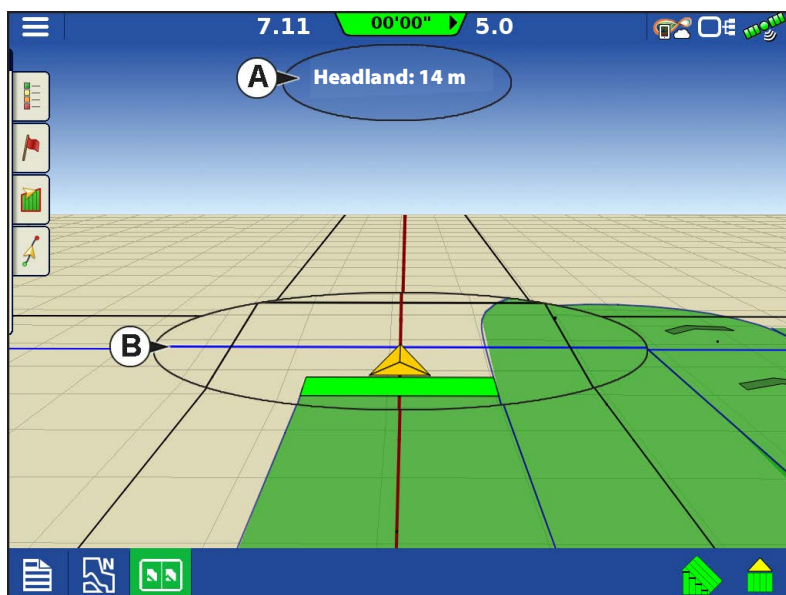
E. Headland Alarm Settings

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.



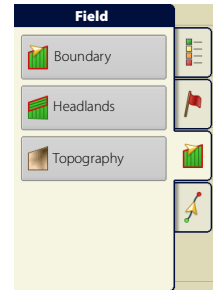
Topography

Press “Topography” button to enter the Topography screen which allows user to setup Topography functionality.

Record points that can be used to make a reference layer that is relative to the elevation throughout the field. This can provide valuable information in regards to the highs and lows of a field when it might not be visually apparent. Surveying and Tiling operations will probably benefit the most with respect of where to place the mains and laterals in a field.



ATTENTION!: Requires RTK GPS signal to collect the accurate elevation data.



Import data from mapping software such as SMS™ Advanced via .agsetup files.

Topography Screen

Multiple topographical elevation surveys are allowed for the same field. This can be useful for different applications, for example:

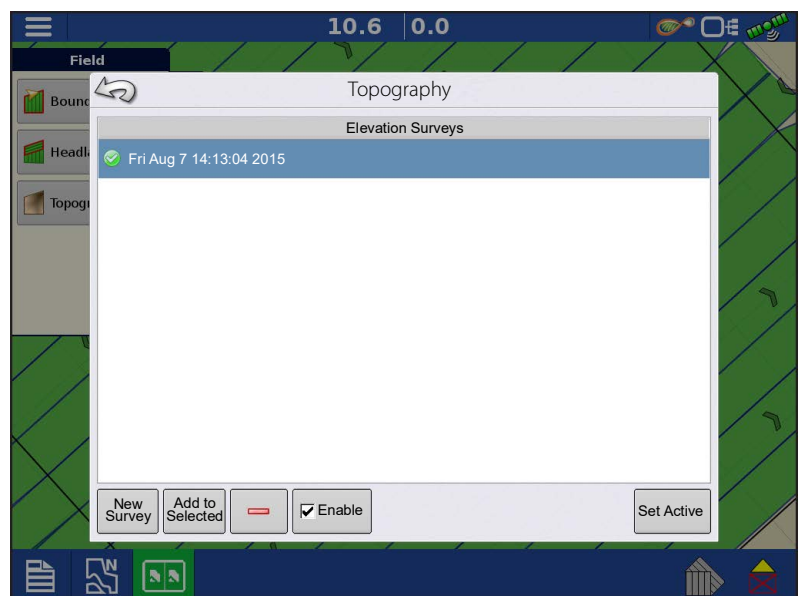
- One topographical survey that is for the entire field. This will give a greater perspective of the whole field.
- An additional topographical survey, driven at very dedicated portion of the field. This would allow a greater elevation detail in certain areas if needed.

By default the naming that is generated in the display will be Date/Time based. Export surface elevation data from software packages like SMS Advanced into the display, and those will be tagged with the field name and the date exported (both examples are in the screen shot).

Add points to existing topographical surveys and save them.

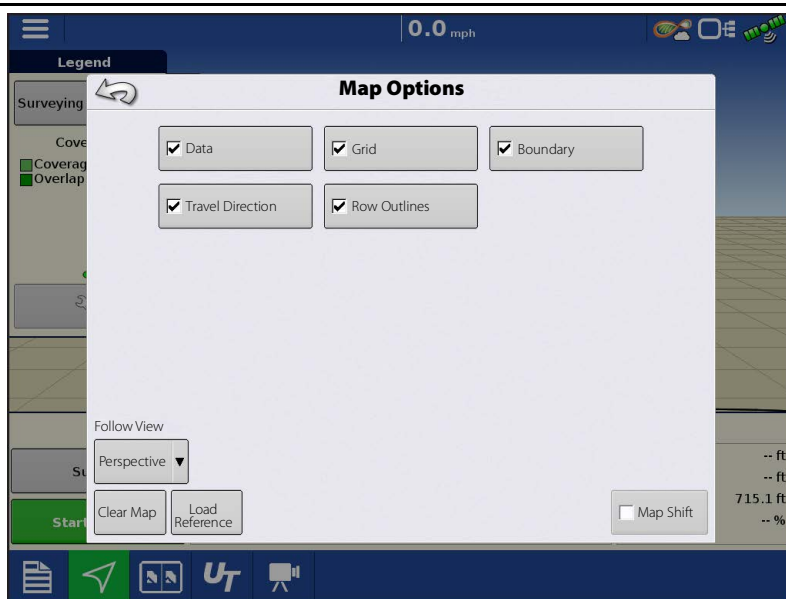
Only one topographical survey can be active at a time. When exported as an .agsetup or .agdata file, this will be the survey that is exported. Non-active surveys will stay in the display. At any time, remove a topographical survey, and collect a new one.

- **New Survey button**
Press to create a new topographical survey
- **Add to Selected button**
Press to add to an topographical survey
- **Minus (-) button**
Press to delete a topographical survey
- **Enable checkbox**
Press to turn topographical reference layer on/off (Enable checkbox functions the same as Topography checkbox in Map Options screen - shown below.)
- **Set Active**
Select the desired topographical survey from list and use button to set as active.



The topography layer can be turned on/off as a reference layer during any operation using:

- Enable checkbox on Topography screen (shown above).
- Using the Topography checkbox on the Map Options screen.



RTK GPS reception will allow collection of an elevation survey. This will allow collection of the Latitude/Longitude and elevation values as field is traversed.

A point will be dropped every 10 ft regardless of speed, or direction. If collecting during operations like planting or application using autoswath, it will also log points outside the boundary of the field (i.e. through a grassed waterway) to get the most information throughout the field.

During collection of an elevation survey, points will be logged to the file every 10 ft. An on-screen visual will appear in the form of a single black dot (**A**) every 100 ft.



ATTENTION!: It is critical that the GPS Antenna to ground measurement is correct, any error in this measurement, will add to the error in the data logged.

The following are suggestions to get the best possible elevation survey for a given field. Following these recommendations for best results.

- Keep swaths in the field to 62 ft or less, the closer the better.
- Driving a dedicated route at the lowest or highest points in a field (i.e. lengthwise of a grassed waterway, or at the top of a ridge) then traversing the field in regular swaths will provide the best detail of the field.
- If surveying with the tile plow antenna, ensure that the plow is in the fully raised position.
- Driving too fast with mounted plows, can cause bouncing and affect quality.
- Surveying with harvesting equipment can provide streaked maps as the hopper filling and unloading can affect the height of the vehicle, and therefore antenna.

After the survey points have been collected, they will be converted into a surface layer. Define the color scheme Red, White, Blue, or Brown-Tan.

Select the number of legend ranges for field that will show the areas desired. This theme will be used for each field until changed.

Hues will represent:

Red, White, Blue Scheme

Darker blue = Lower elevation.

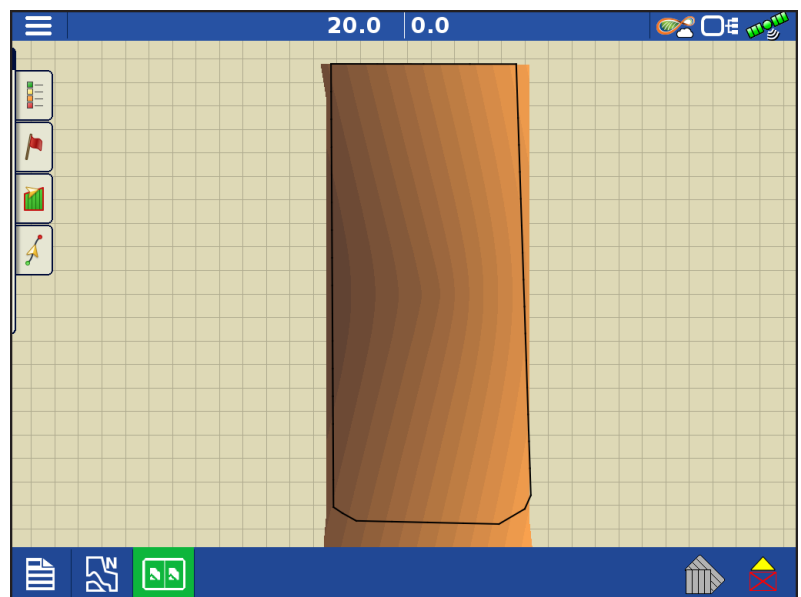
Darker red = Higher elevations.

White will be a transition color between.

Brown-Tan Scheme




Dark brown = Lower elevations.

Tan = Higher elevations.



If at any point during collection GPS correction status changes out of RTK fixed, logging will be suspended.

If RTK signal is re-acquire, logging will automatically resume.

 (pause) or  (stop) collection of the elevation survey at any time, and then  (resume) as needed.

If logging while leaving the field, a message will prompt that data collection is still active, and an option will be given to continue logging, or end operation.



In Odd-shaped fields, the surface rendering of the elevation will connect areas even if that area hasn't been driven through.

Satellite Imagery

Satellite Imagery is a free online Service that any user with an AgFiniti® account (no license required) and internet access on an InCommand™ v1.5+ display can utilize. Each time a field is loaded to the Mapping Screen the satellite image for the field and surrounding area is downloaded and displayed. Approximately 4.5 MB of data is used each time the Mapping screen is loaded.

Satellite Imagery Requirements

1. AgFiniti account created at www.agfiniti.com
 - A. AgFiniti accounts are free to create and no license is required.
 - B. Logging into AgFiniti.
2. Active internet connection on the InCommand Display
3. Field Boundaries—not required for firmware version 4.0 and newer.

Enabling Satellite Imagery



Satellite Imagery is enabled by default. To enable/disable this feature check/uncheck "Satellite Imagery" in the AgFiniti Console Setup menu.

Satellite Imagery on the Mapping Screen

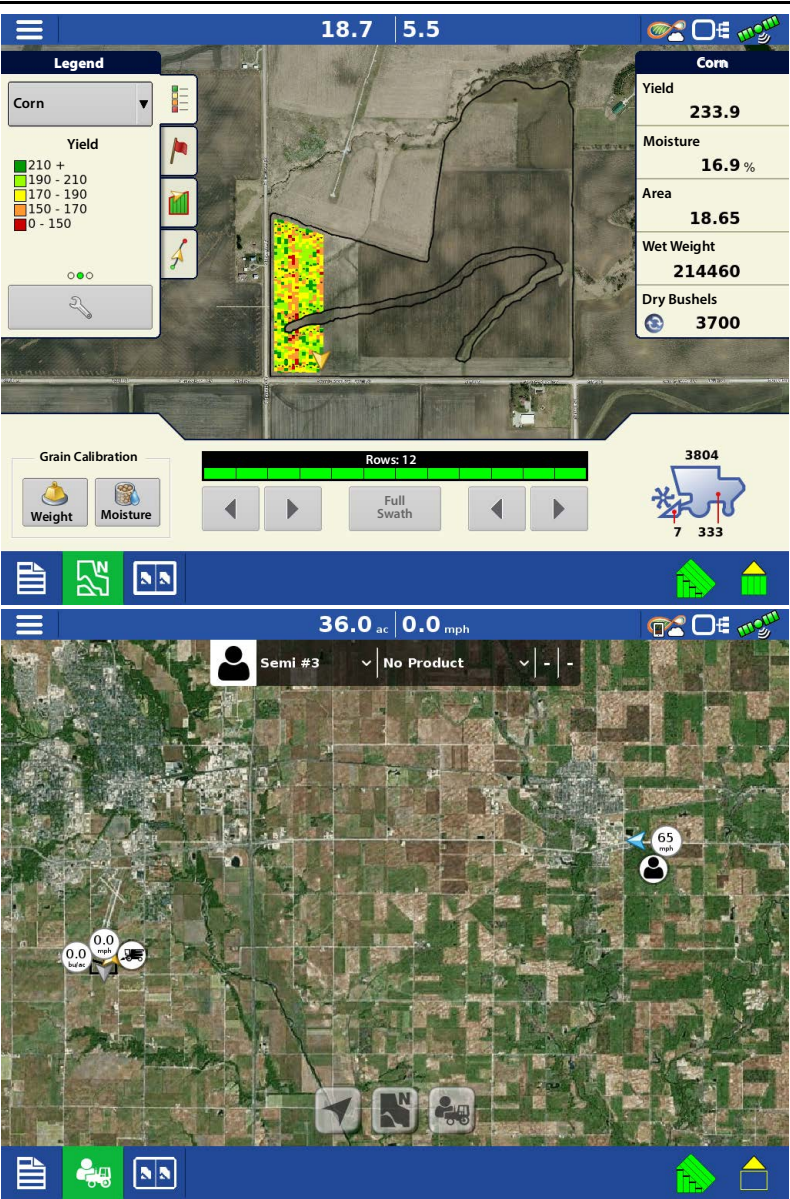
When the above requirements are met, log into AgFiniti on the display. The satellite background image is downloaded automatically each time a field is loaded to the Mapping Screen. If needed, the satellite image may also be hidden via the Map Options Menu. See “Map Options” on page 73.



North Oriented view
(shown to right)



In the Zoom Devices view (shown to right) an operator can zoom out to a large area, as compared to the North Oriented view (shown above). Operator can also pan the map over large distances in Zoom Devices view. Data usage can vary in this view depending on how often the operator is using it.



GPS Setup



Steering

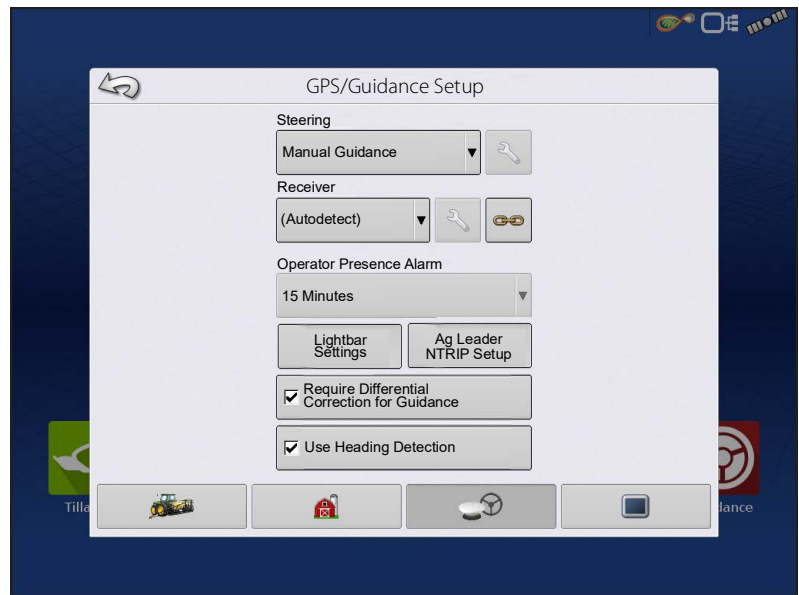
Manual Guidance—Select this to perform guidance by lightbar while manually steering the vehicle.


ParaDyme/GeoSteer—Integrated steering system that can be used with a wide range of machines.


OnTrac3™—Assisted steering that is mounted on a machine's steering wheel.

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 receiver 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).

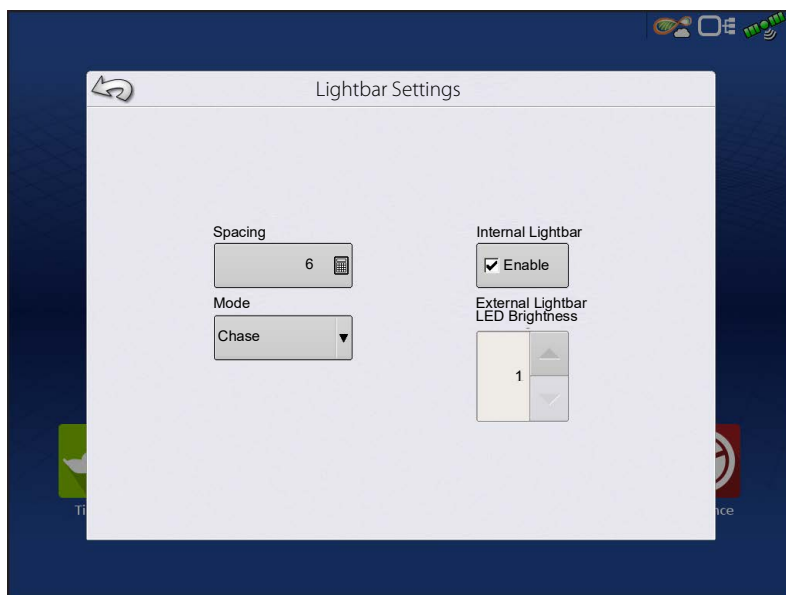
Mode

- **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.

External Lightbar LED Brightness

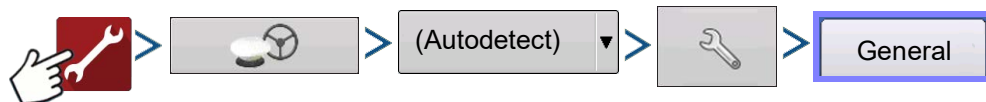
—If applicable, press  /  to enter in a number specifying the brightness of the LED lights on the optional L160 external lightbar. The number 1 is the dimmest setting and 10 is the brightest. Default setting is 5.



GPS Button

 During field operation, the GPS (Status Indicator) button in the upper right-hand side of the Status Bar should appear green, which means display is receiving a differential GPS signal. If this icon appears yellow, system is receiving GPS but are not receiving a differential signal; and if it appears gray, GPS is lost. In either case, check GPS settings. Guidance/Steering, Lightbar Settings, and Required Differential Correction for Guidance.

Serial GPS Settings



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

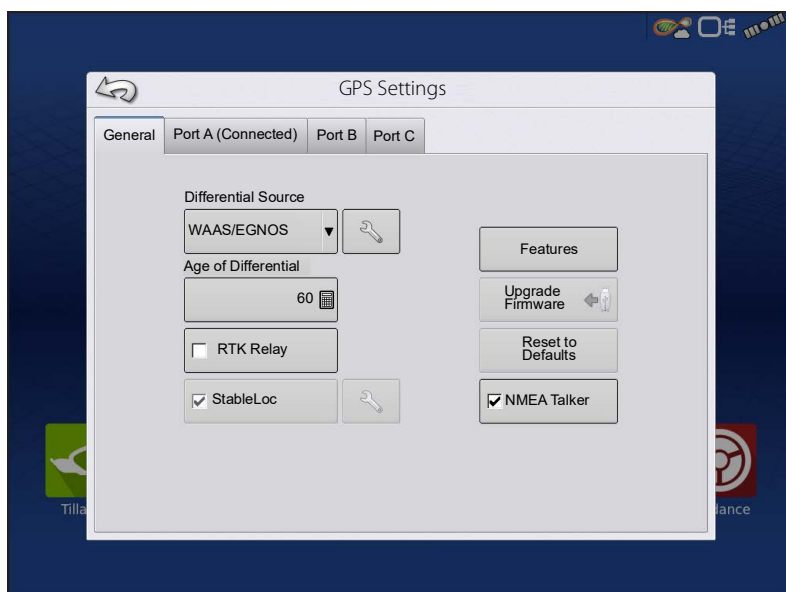
Differential Source—Select choice of GLIDE, WAAS/EGNOS, TerraStar®, RTK External, RTK. Options available are based on receiver type and unlocks.

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—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.

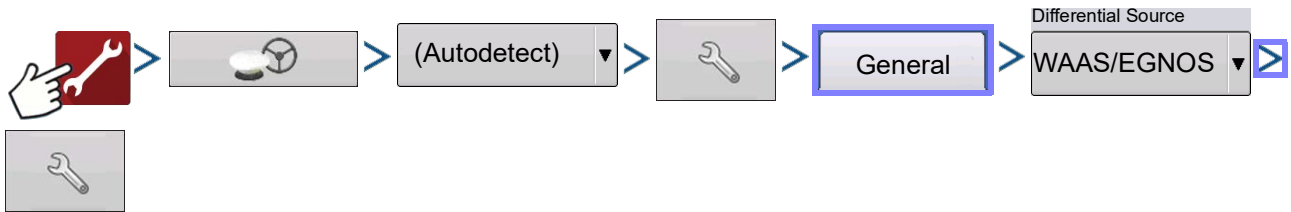


NOTE!: StableLoc is enabled by default when WAAS/EGNOS is selected and cannot be disabled by the user. Operating WAAS/EGNOS with StableLoc enabled provides similar or better accuracy than operating with WAAS/EGNOS with StableLoc disabled.

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

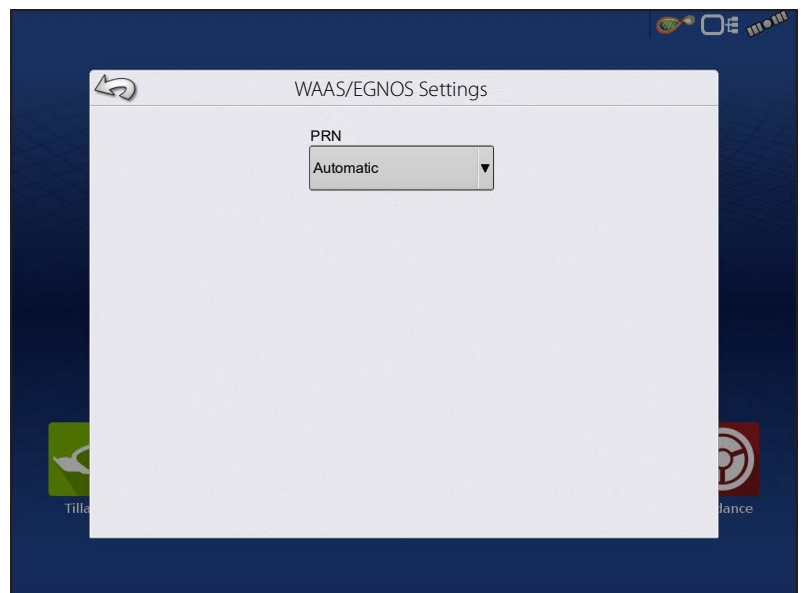


PRN

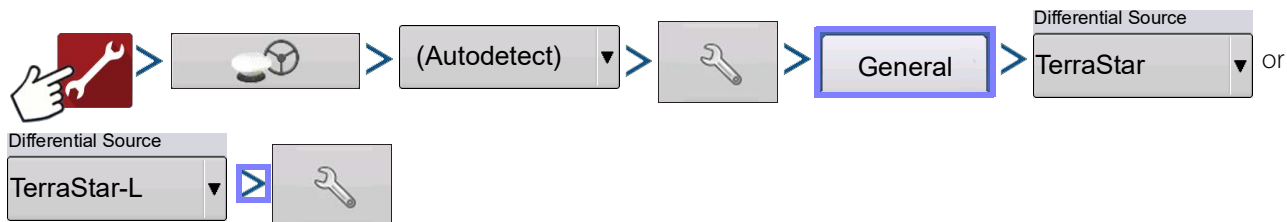
- Automatic
- WAAS
- EGNOS
- Custom



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



TerraStar Settings



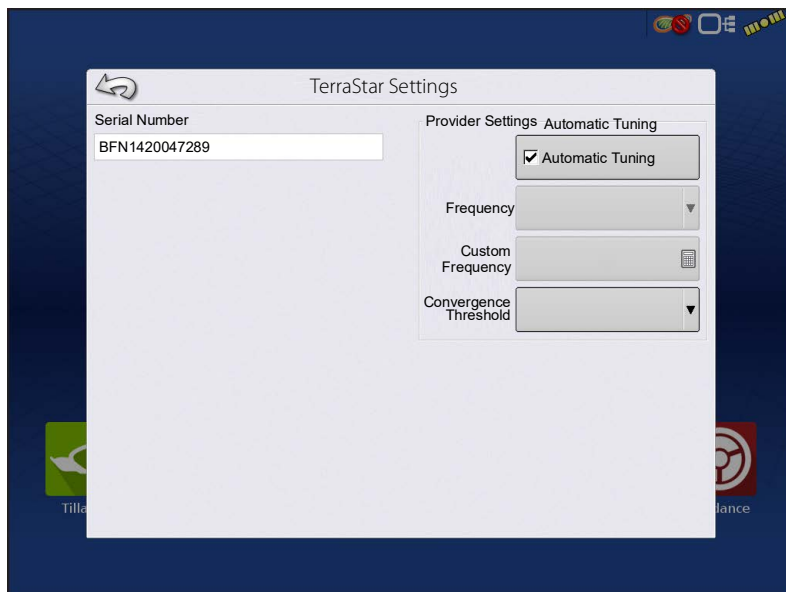
Serial Number—This box shows the serial number of the receiver - used to purchase TerraStar subscription.

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).

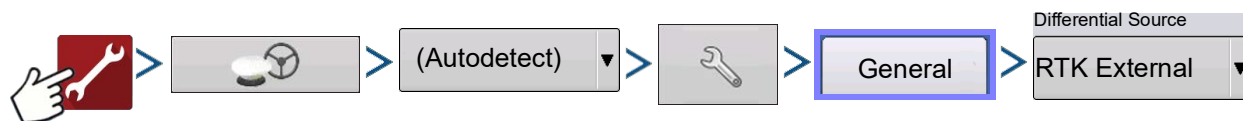
Custom Frequency—User entered TerraStar frequency. Only enter custom frequency when directed to by Technical Support.

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 - NTRIP External



Set GPS 6500/7500 to “RTK External” when using NTRIP RTK on InCommand or when using external radio for RTK correction.

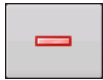
RTK Settings - NTRIP RTK on InCommand



Create profile



Edit profile



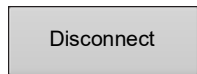
Delete profile



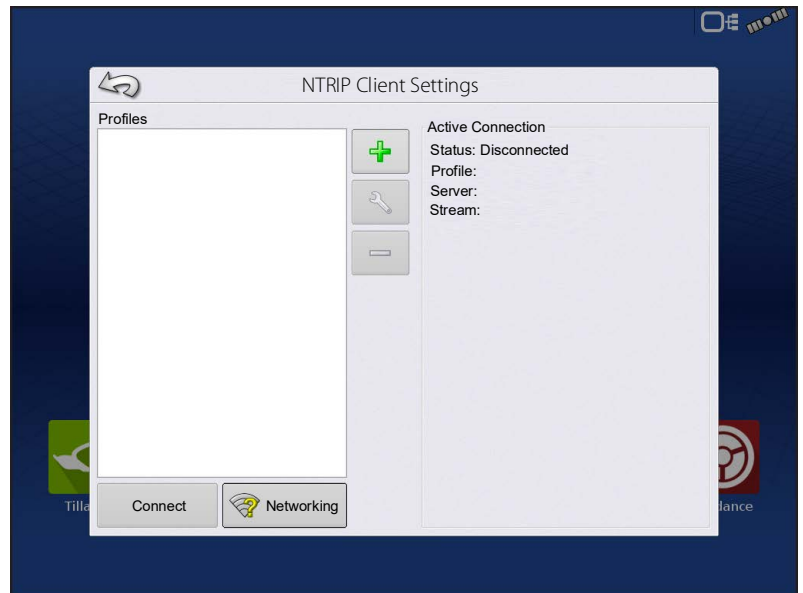
Access wireless Networking



Connect to NTRIP Stream



Disconnect from NTRIP Stream



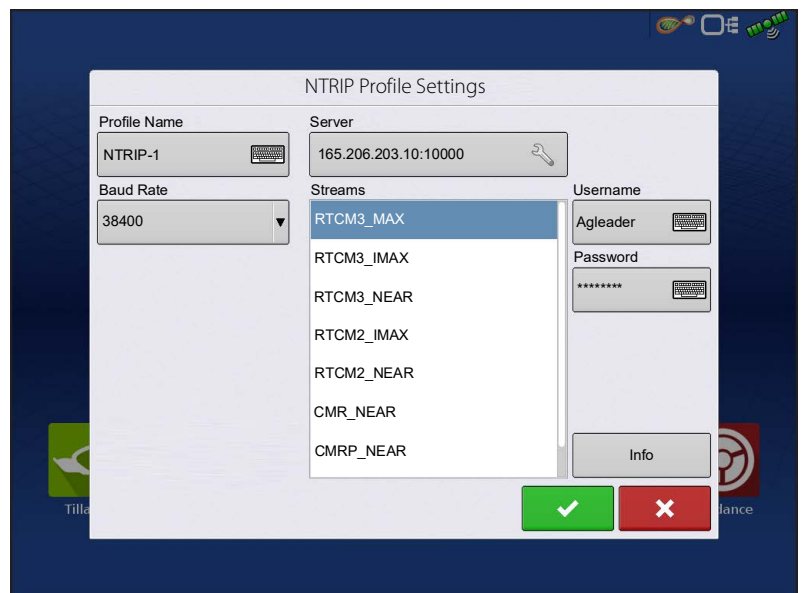
NOTE: Display must be connected to network/hotspot with active internet connection before a profile can be created.

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

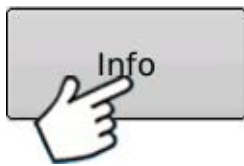
1. Profile Name
 - User Specified
2. Baud Rate
 - GNSS receiver specific
3. Server
4. Streams
5. Username
6. Password



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 button

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

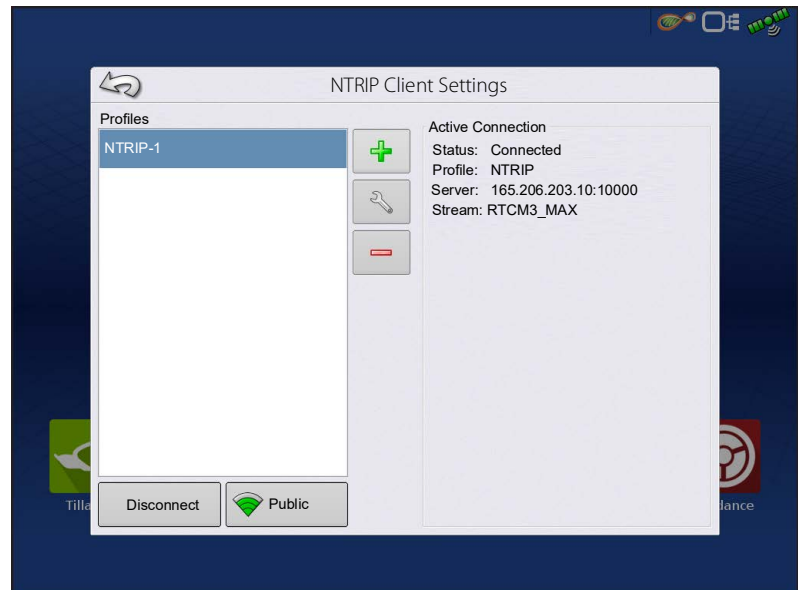
The information shown on this screen is provided by the NTRIP Network.



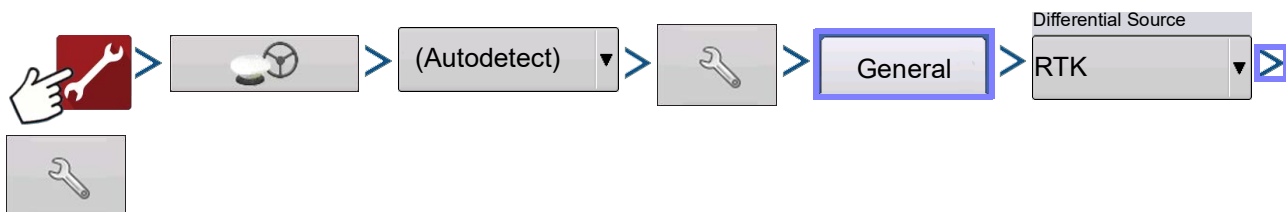
When successfully connected to NTRIP, network stream status will update under “Active Connection”.



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



RTK Settings - NTRIP Relay (GPS 6500 Only)

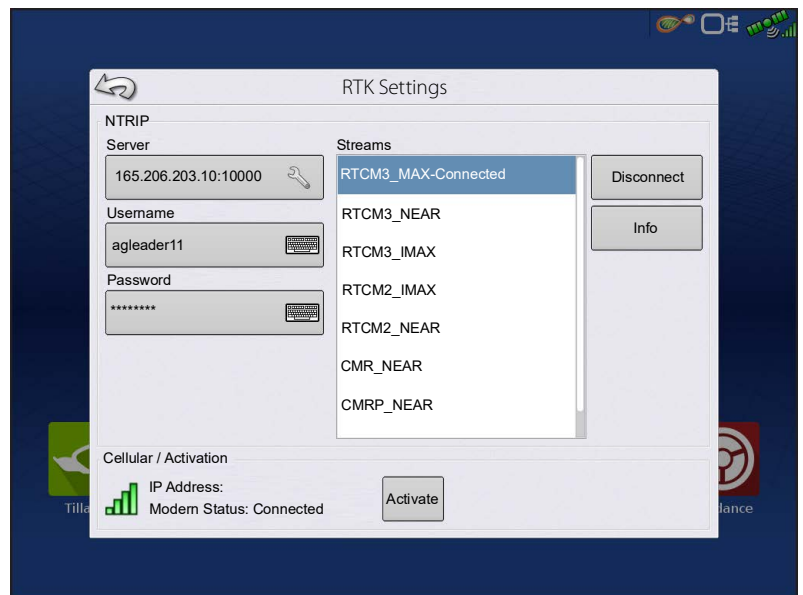


NTRIP

- Server
- Username
- Password
- Streams
- Disconnect/Connect - to the NTRIP Network
- Info - see "Info button" on page 65

Cellular

- IP Address - indicates a connection to the Internet
- Modem Status



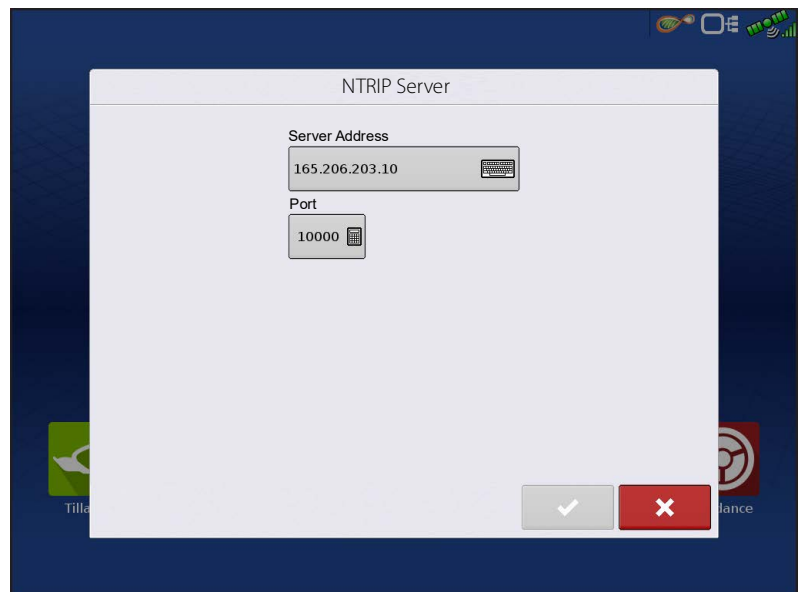
Server Address



NTRIP Server

- Server Address
- Port

Server Address and Port are provided by the NTRIP Network.

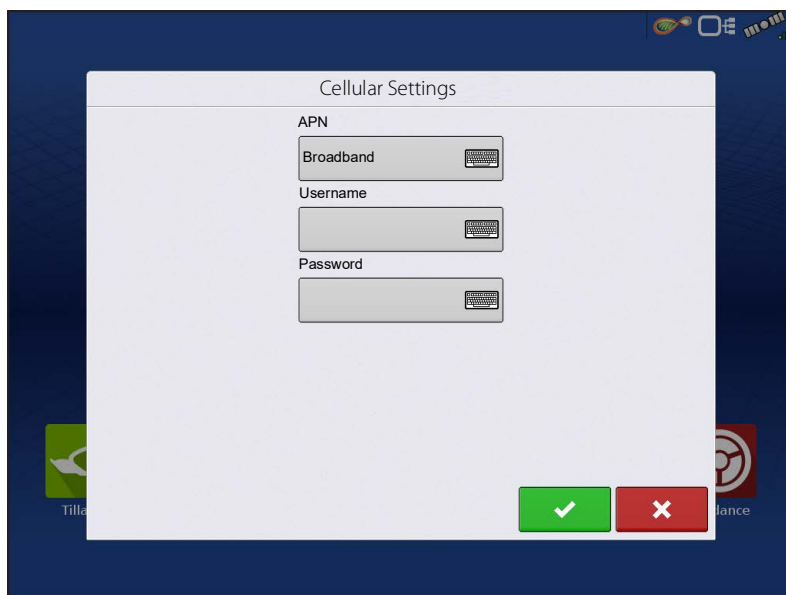




Cellular Settings

- APN
- Username
- Password

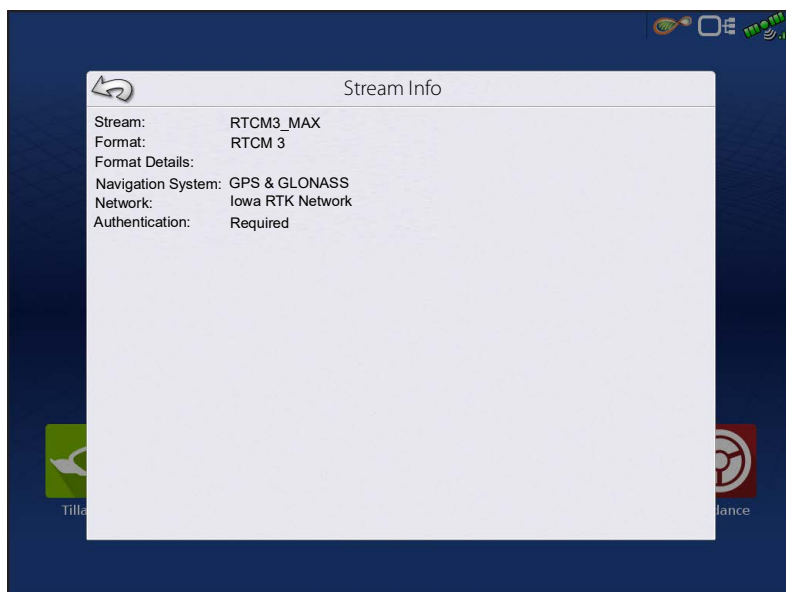
APN, Username and Password are Network provided settings. Contact the Cellular provider for this information.



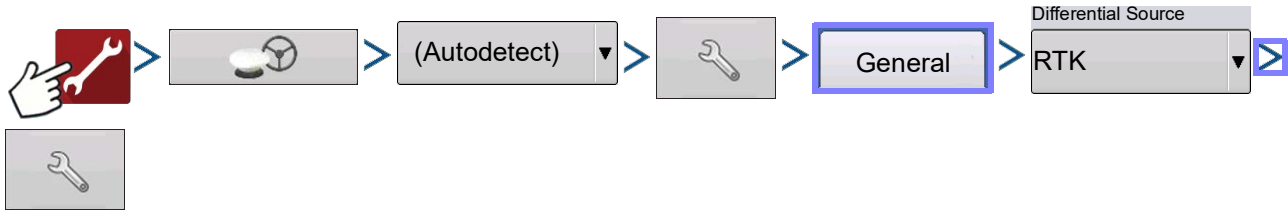
Info button

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

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



RTK Settings - 400 MHz

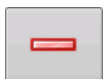


Channel Spacing—Use drop-down menu to select Channel Spacing

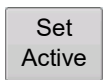
Frequency



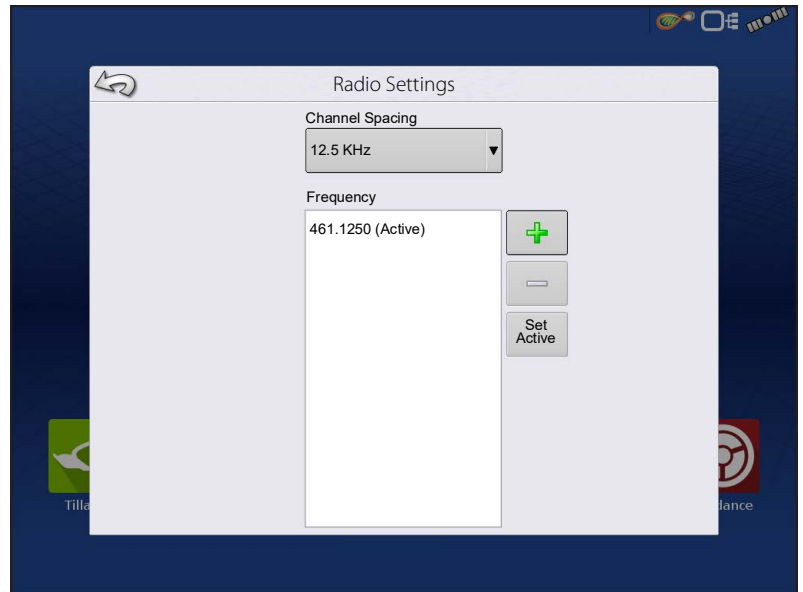
Press button to add a Frequency



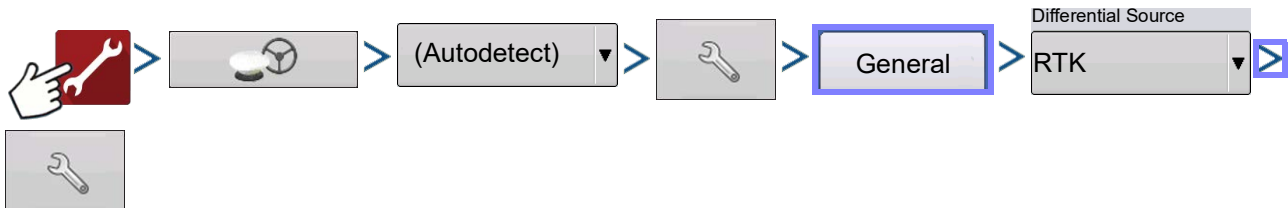
Select frequency and press button to delete selected frequency.



Select frequency and press button to make selected frequency active



RTK Settings - 900 MHz



Frequency



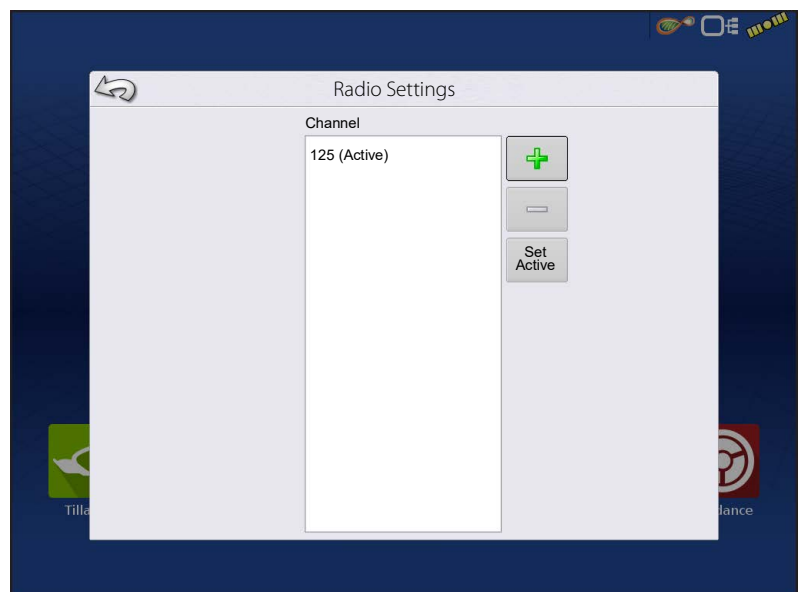
Press button to add a Channel



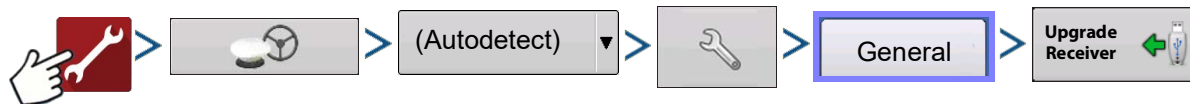
Select channel and press button to delete selected channel



Select channel and press button to make selected channel active



Upgrade Receiver




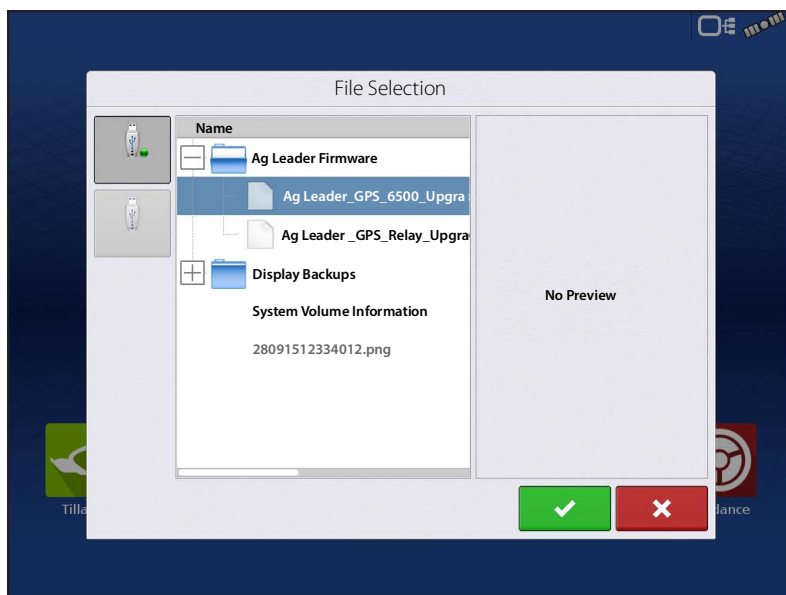
Select file downloaded from Ag Leader website

Select .fw3 file from USB drive.

Press  to accept.

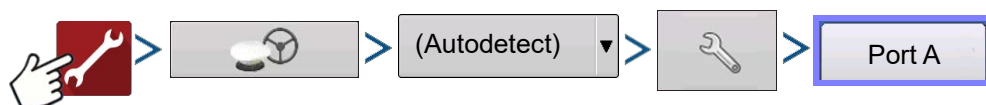
Display will upgrade receiver.

Press  to return to previous screen without updating receiver.



Serial Port Settings

Port A tab



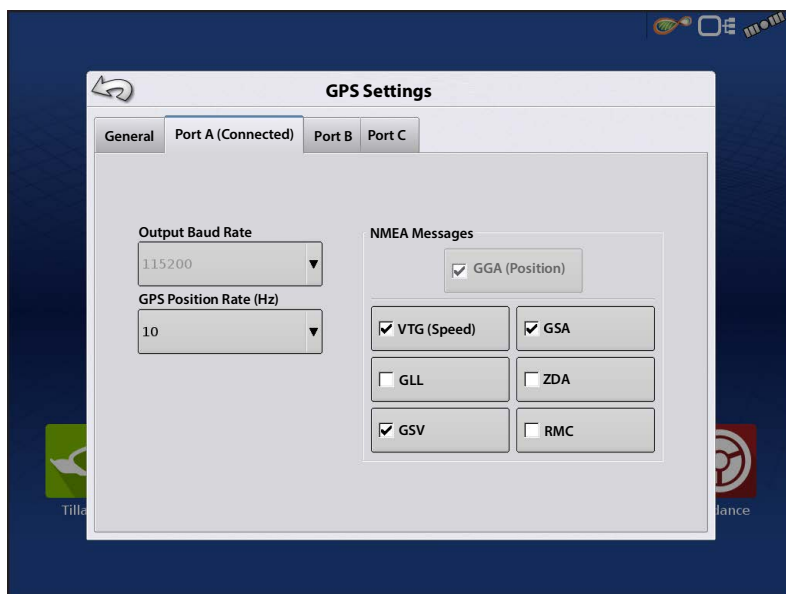
The Serial Port Settings screen is the place where GPS output can be adjusted. The appearance of the Serial Port Settings screen varies depending upon GPS receiver model.

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).

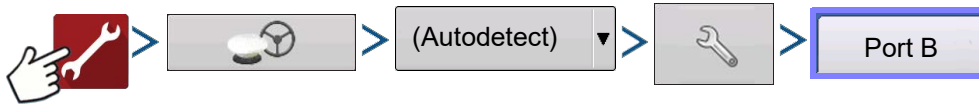
NMEA Messages—These checkboxes represent various communication protocols or formats that have been set by the National Marine Electronics Association (NMEA), and used in information “strings” or sentences output by the GPS Receiver. At present, the display only requires two NMEA Message formats: GGA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

- GGA: position in longitude and latitude.
- VTG: ground speed.



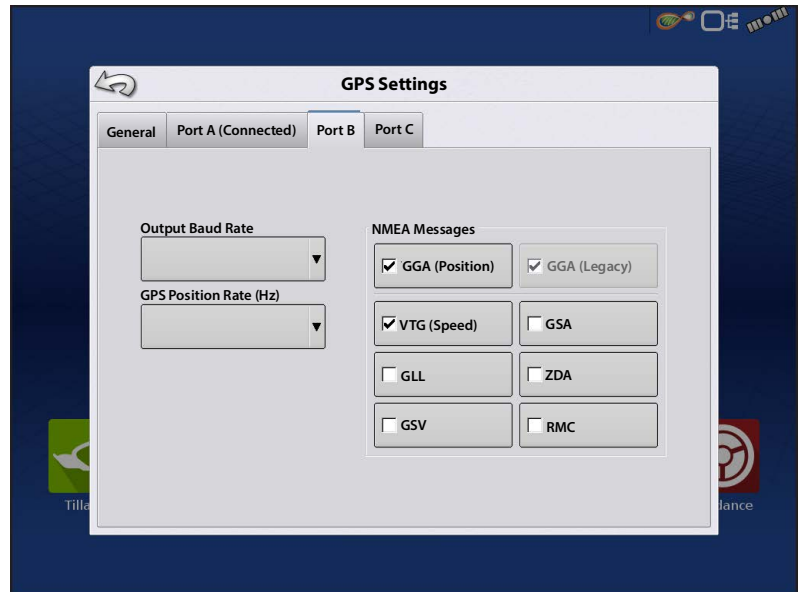
- GSV, GSA: required to view the Satellite Plot, but are not required for GPS information.
- GLL, ZDA, RMC, MSS: Leave these other NMEA message formats unchecked, unless connected to a third-party monitor and have been directed to do so.

Port B tab

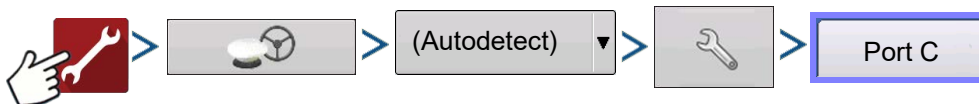


The appearance of the Port B tab is similar to Ports A.

- **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.

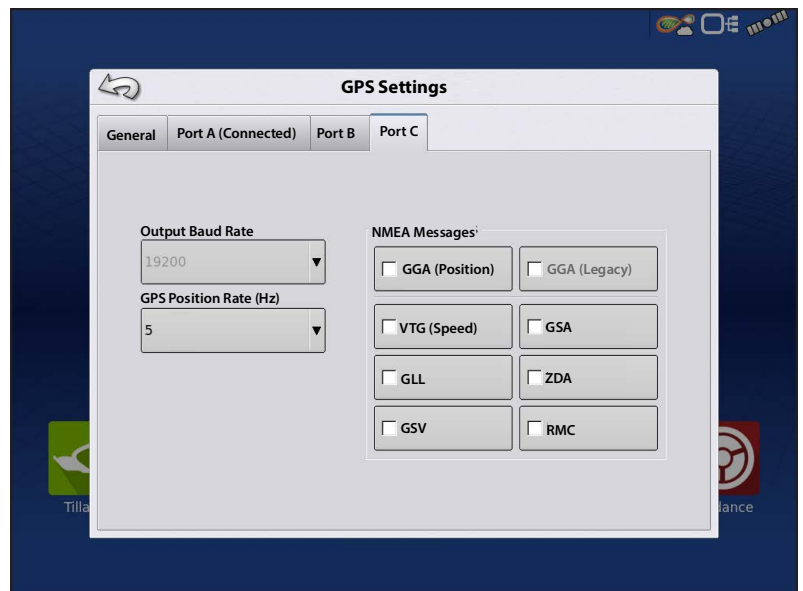


Port C tab



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.

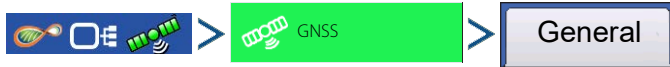


GPS Information

To access diagnostic information about the GPS signal, press the GPS (Status Indicator) button that appears in the in the upper right hand side of the Status Bar. GPS Information then appears on General, Receiver, and Differential tabs. Information on these GPS Information screens is described on the following pages.

GPS Status Indicator with bars - bars indicate cellular signal strength.

GPS Information - General Tab



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

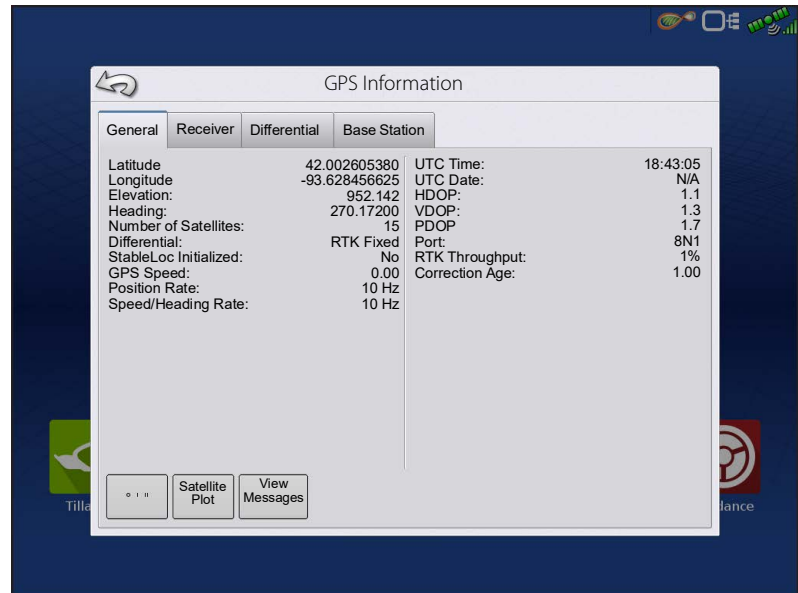
Elevation—Shows elevation of receiver.

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 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.

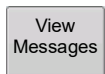
Speed/Heading Rate—The frequency that the receiver is sending the display ground speed and heading (VTG)



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 105](#).

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.

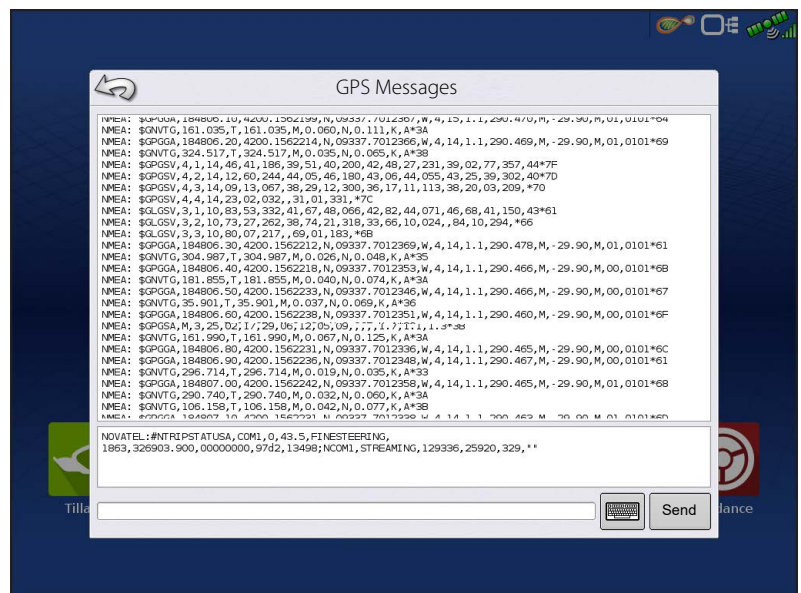
GPS Messages



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 to send message to the receiver.



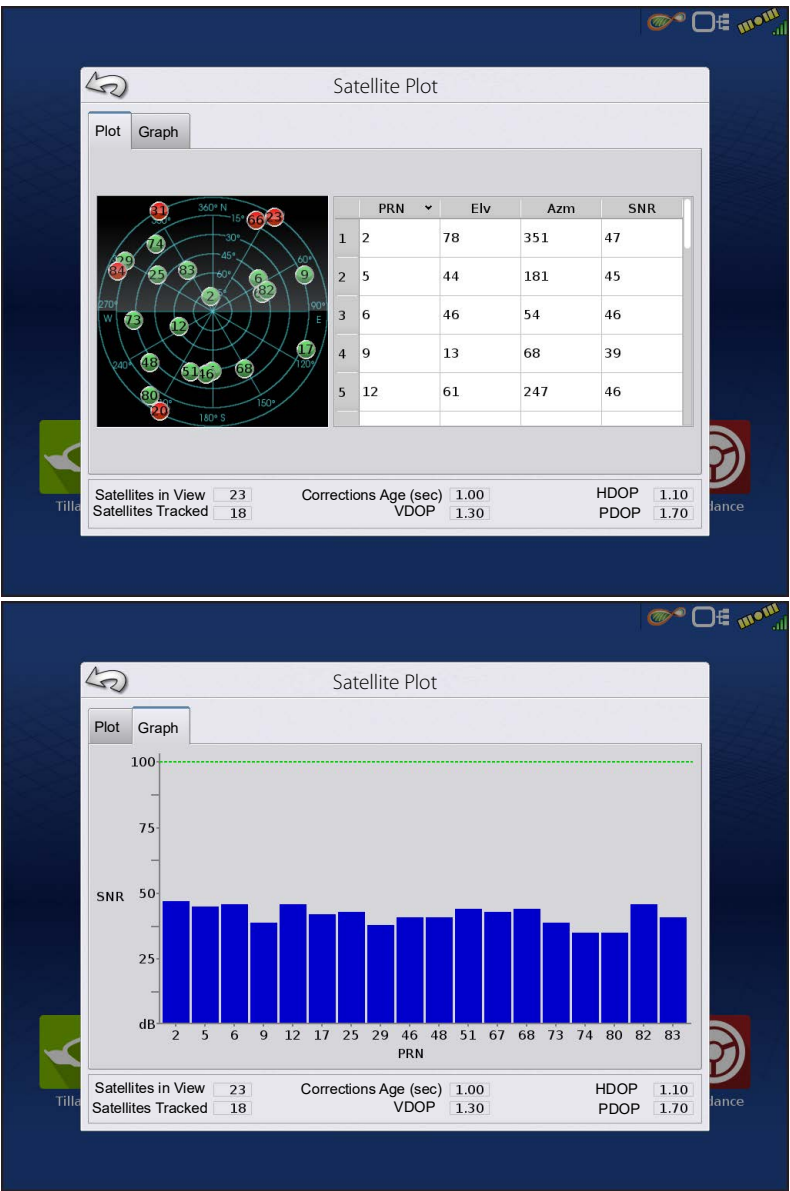
Satellite Plot



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 satellite availability issues, technical support may request to view these screens.

Satellite Plot - Graph

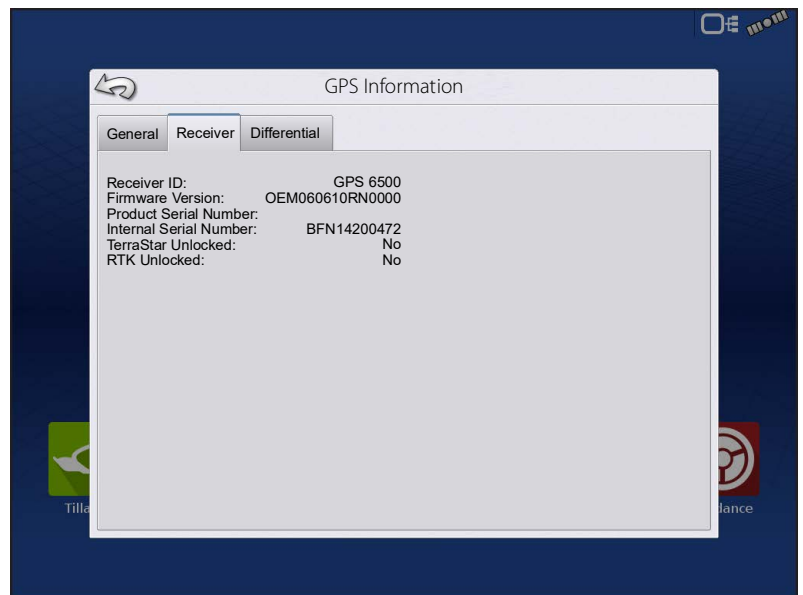
Satellite Plot requires GSV and GSA NMEA messages to be turned on from the GPS receiver. Graphically shows satellite PRN's and SNR.



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.

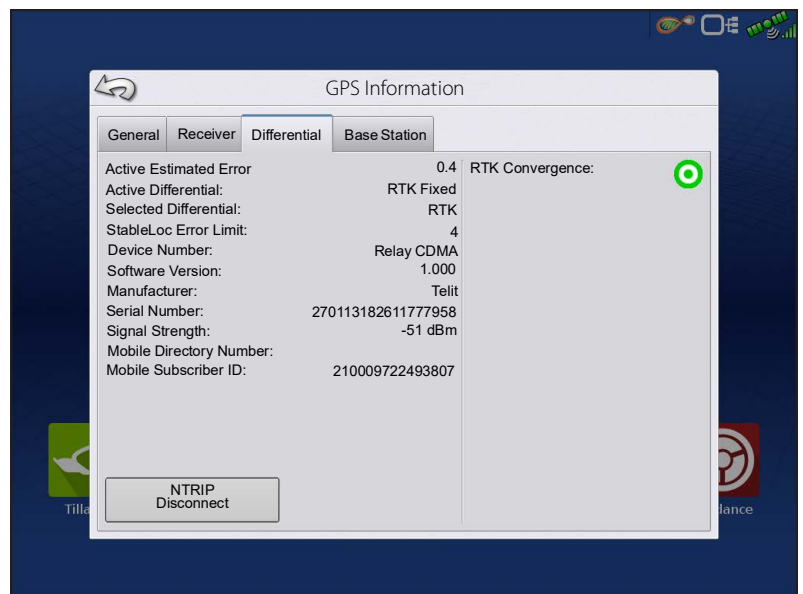
Manufacturer—Manufacturer of the Relay Module.

Serial Number—Serial number of the Relay Module.

Signal Strength—Shows cellular signal strength.

Mobile Directory Number—Relay CDMA/GSM Only, used for troubleshooting

Mobile Subscriber ID—Relay CDMA/GSM Only, used for troubleshooting



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



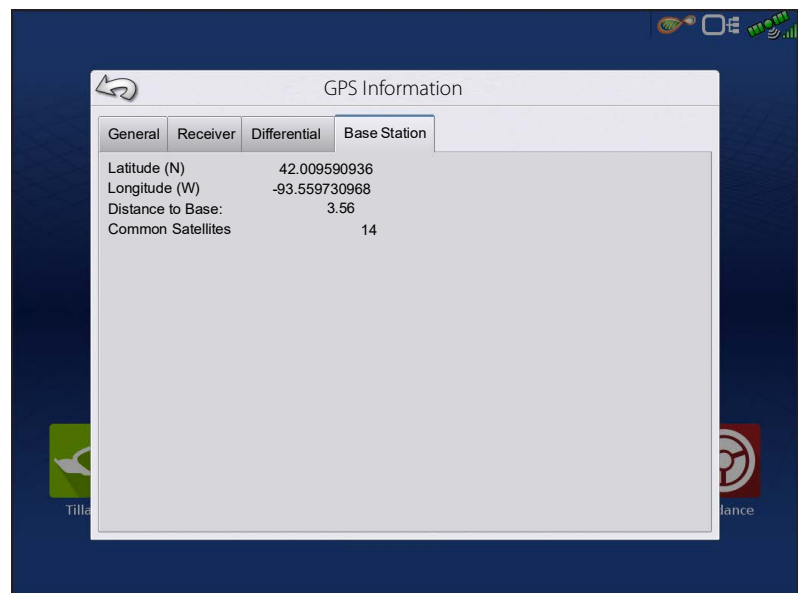
Displays base station specific information

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.



RTK/NTRIP Information (ParaDyme/GeoSteer Only)

The following information appears on the second GPS Information screen for RTK or NTRIP.

Convergence (%)—Successful communication between Base Station and ParaDyme Roof Module.

Radio Throughput—Displays percentage of data received from Base Station.

Distance to Base—Shows distance to Base Station in miles (kilometers).

Base Channel—Displays Channel ID of Base Station.

NTRIP—(NTRIP users only) Shows either Connected or Disconnected.

GPS Information - NTRIP



NTRIP Connect—Connects the display to the NTRIP correction source.

NTRIP Stream—Network mount point.

NTRIP Status—Displays NTRIP connection; either Connected or Disconnected.

Cellular Status—Displays status of ParaDyme cellular modem; either Connected or Disconnected.

Cellular Signal Strength (%)—Displays a number between 0 and 100%.

WiFi Status—Displays status of WiFi router; either Connected or Disconnected.

WiFi Signal Strength—Displays a number between 0 and 100%.



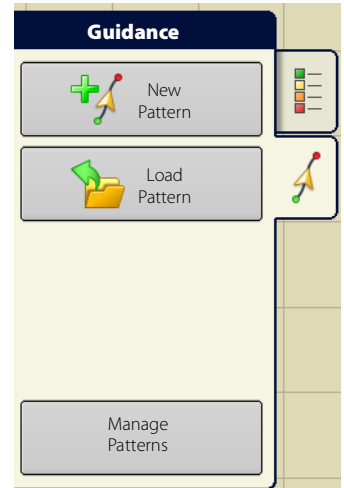
Guidance Tab on Mapping screen

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

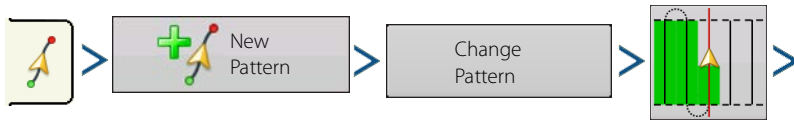
Before creating any patterns, the map screen's Guidance tab appears as shown.



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



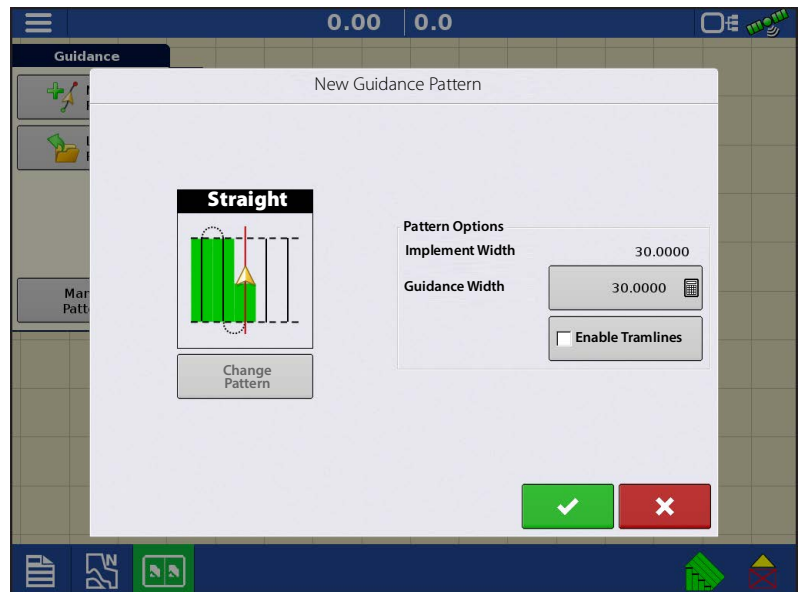
New Pattern—Straight Select Pattern



Press . Display returns to the Mapping screen.

System defaults pattern type to last used. Press the pattern icon to select a different pattern.

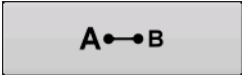
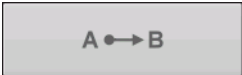
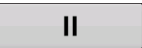


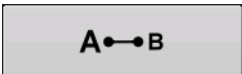
- Implement Width (from Implement Setup)
- Guidance Width input box
- Enable Tramlines checkbox. See ["Tramlines" on page 128](#).



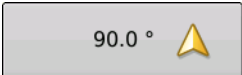
- Change pattern



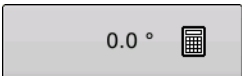
Create AB line using 2 points

-  Press to mark A point. A green ball appears on the map screen where point was placed.
-  Button is greyed out until a minimum of 100 ft is driven.
 - Pause - Press  to pause path during path creation
 - Resume - Press  to resume path during path creation
 - Cancel - Press  to cancel path during path creation
-  Press to mark B point. The AB line appears on the map screen and point B is marked with a red ball.

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

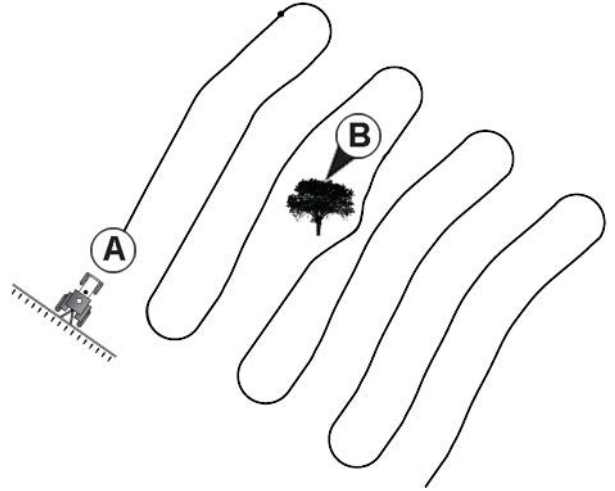
Patterns are automatically saved when the guidance pattern is created.



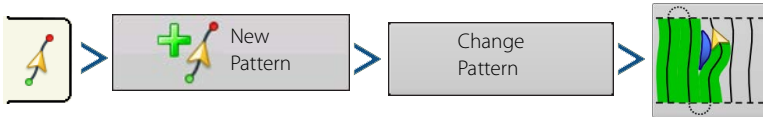
NOTE!: On straight AB lines, if current swath is longer than the previous one, the display automatically extends the guidance path for the following swaths.

New Pattern—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

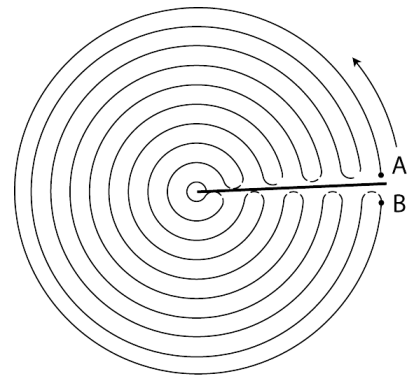


System defaults pattern type to last used. Press the pattern icon to select a different pattern.

Press . Display returns to the Mapping screen.

New Pattern—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 the pattern icon 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.

Pivot Shift

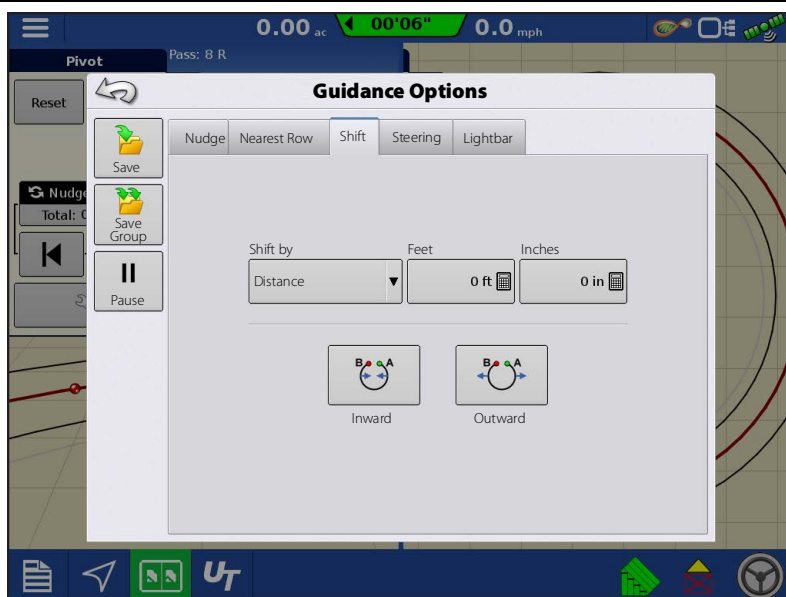


Shift by Distance—Shift the pivot pattern, inward or outward, by a desired distance.

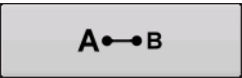
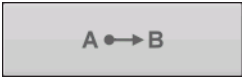
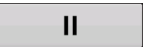


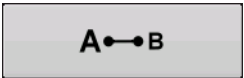
Shift by Row—Shift the pivot pattern, inward or outward, by a desired number of rows.



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



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. A green ball appears on the map screen where point was placed.
- Drive desired path around the field. Keep the vehicle wheel in the rut.
-  is greyed out until a minimum of 160 ft has been driven.
 - Pause - Press  to pause path during path creation
 - Resume - Press  to resume path during path creation
 - Cancel - 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, the AB line appears on the Mapping screen and B point is marked with a red ball.

1. Set the Field Edge. Do this when the Pivot Field Edge window appears on display.

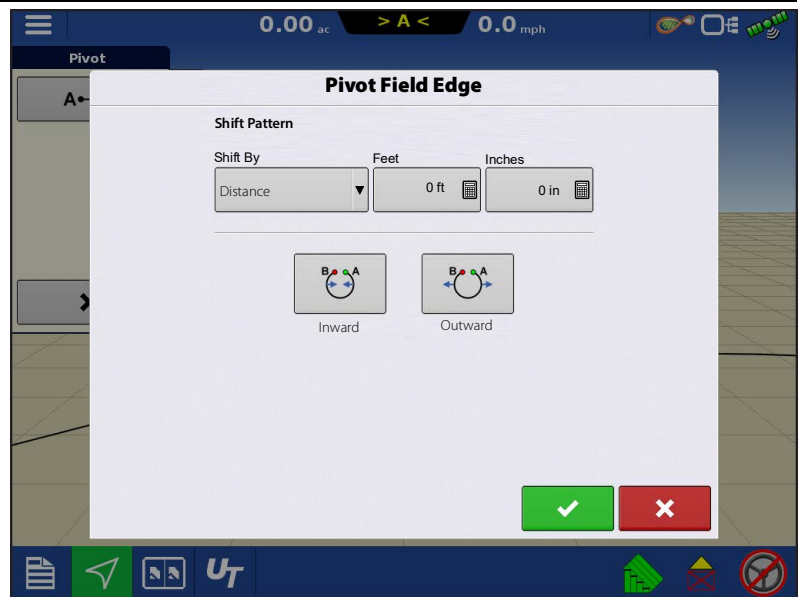
From here, choose one of three options:



Shift By Distance—This sets the field edge as the distance and direction in relation to the AB Line created. In the Pivot Field Edge Distance portion of the window, enter the distance in feet and inches.

Shift By Rows—This sets the field edge as the number of crop rows multiplied by the number of spacing. In the Pivot Field Edge Distance portion of the window, enter the Number of Rows and Row Spacing.

Cancel

The vehicle uses the driven pass as the AB Line.



2. If Shift by Rows was chosen in the previous step, use  to enter the Number of Rows and Row Spacing. Choose the direction relative to the AB Line (either Outward or Inward), and press  to continue.
3. Steer the vehicle so that green lights are centered in the lightbar as path is driven.



NOTE!: To work from the center of the field outwards, the initial pivot must have:

- A radius of at least two swath widths.
- An arc length of at least two swath widths.

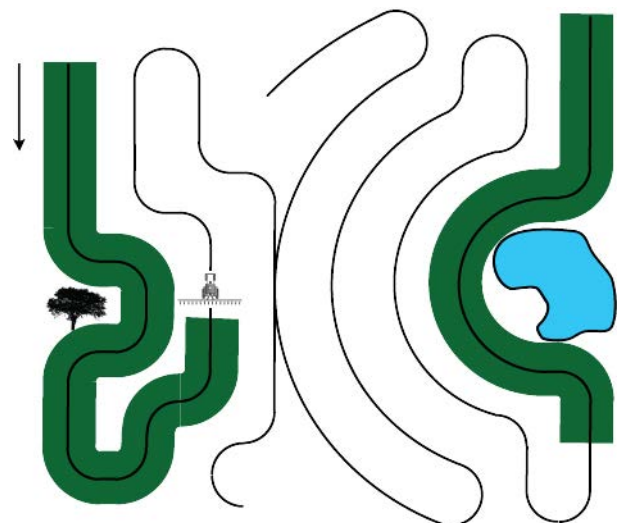
New Pattern—SmartPath®

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.

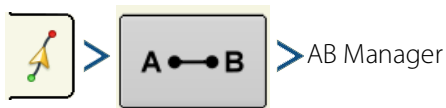
Select SmartPath



System defaults pattern type to last used. Press the pattern icon to select a different pattern.


Press . Automatically return to the Mapping screen.

Inputting Paths into SmartPath



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

Create up to 10 different AB lines within SmartPath.

-  Press the Back button 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.

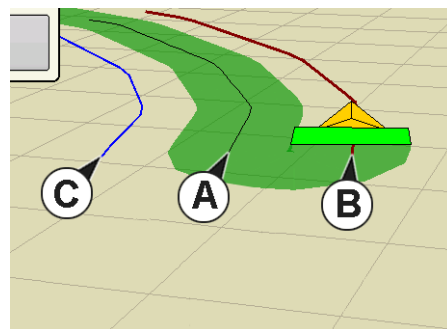


NOTE! The display will not create A point with SmartPath, unless mapping a Straight AB line within it.

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

Continue using SmartPath, the map screen will display three lines:

- (A) The Base Path
Appears as a black line, is the initial SmartPath created on the first pass.
- (B) The Followed Path
Appears as a maroon-colored line, is the path that vehicle is currently using.
- (C) The 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 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.

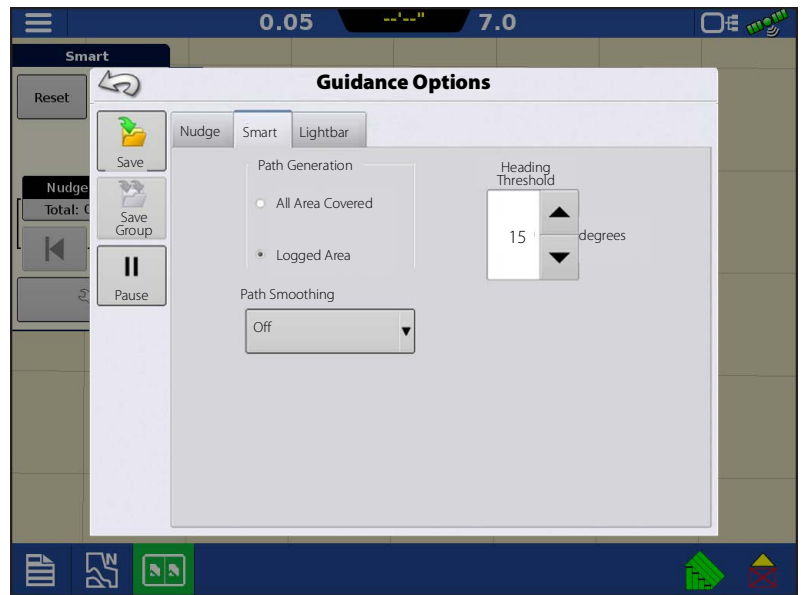
SmartPath Guidance Options



SmartPath only creates a SmartPath pass when data is logging in the field. However, this option can be switched to create SmartPath passes continually during all field operations.

To adjust this setting, press the Guidance Options button on the Guidance tab. The Guidance Options screen appears. Press the Smart tab Wrench.

- The default setting is Logged Area. This setting only creates passes while logging field data.
- Selecting All Area Covered to create SmartPath passes even when not logging field data.
- 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.



SmoothPath Guidance Options

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.



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 display
 - 1200 and 800
- DisplayCast unlock on all displays
- AgFiniti Essentials
- Matching DGPS sources

For example all receivers need to use WAAS or all need to use RTK on same base.

CartACE - FollowPath™

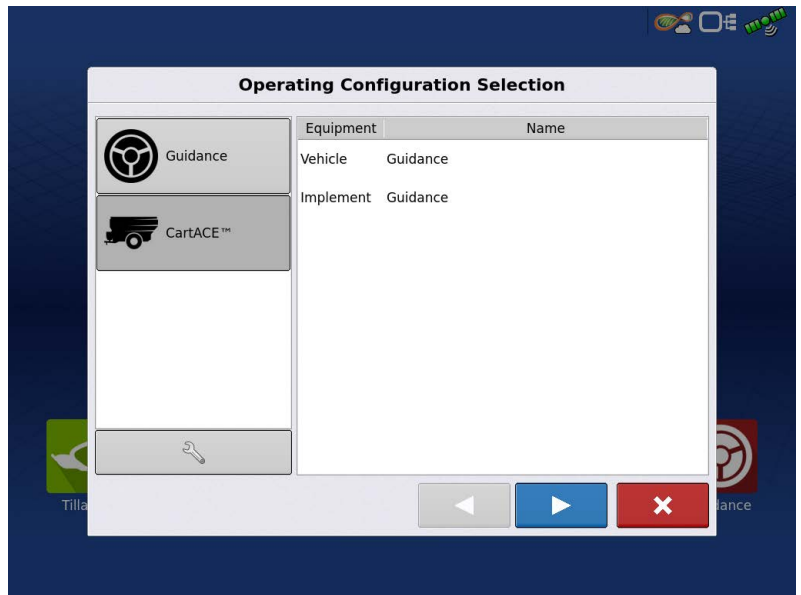
Provides automatically created guidance path based on shared combine coverage. Guidance line is automatically created based on combine swath and requires no input from grain cart operator.

1. Select Guidance on home screen

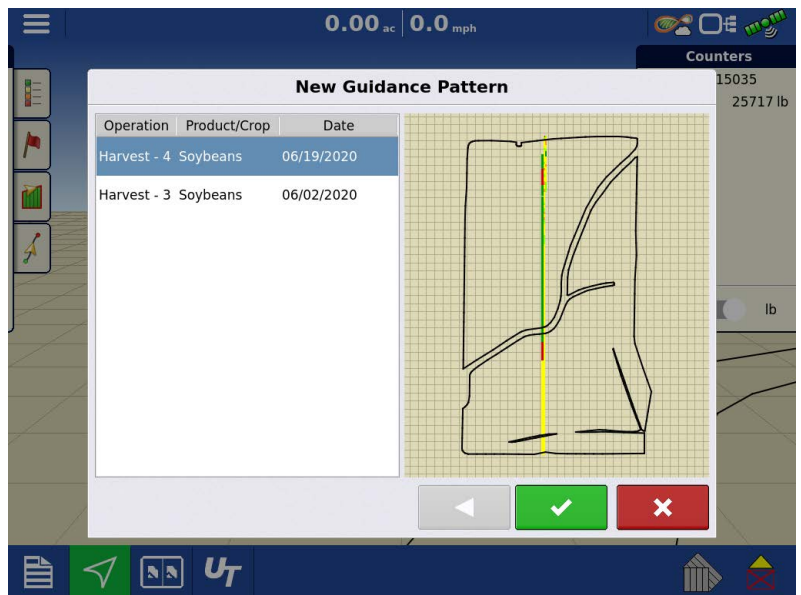
Select CartACE option

2. Load Grower/Farm/Field
3. 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.



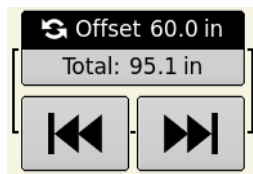
4. Drive under auger

Hit re-center button



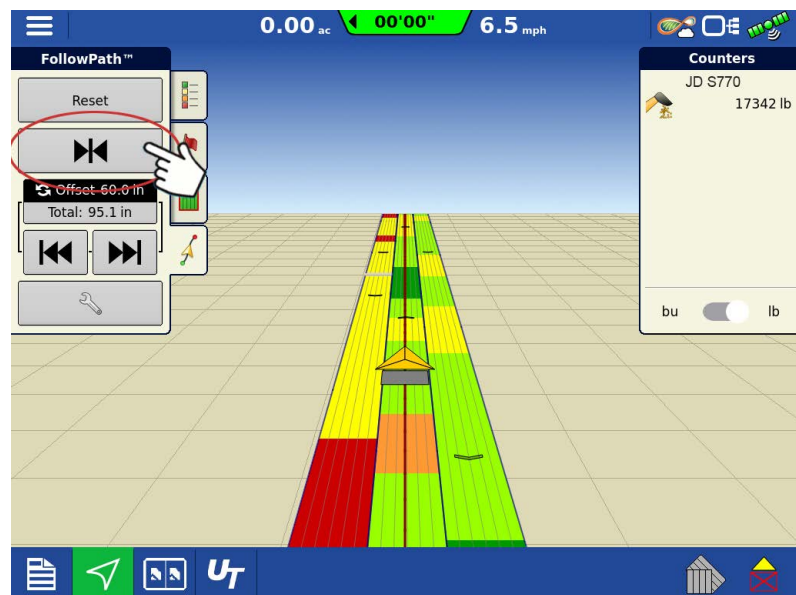
to set correct offset

- 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.

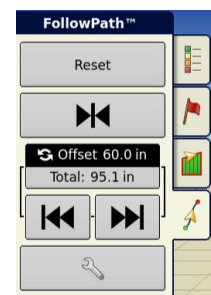


At this point you can now engage on the generated line. As you move through the field, new guidance lines will be generated automatically based on the combine pass the grain cart is on.

Re-center/Nudge

If small adjustments need to be made, use the nudge left/right, you can toggle between a large and small offset by tapping the circular arrows button.

If offset needs to be adjusted, navigate to the desired position and hit re-center button.

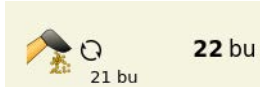


Small and large nudge increments can be adjusted in the Guidance Options. Can also view or reset offset back to center of line within Guidance Options.

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.



Live Grain Tank Reset Sensor



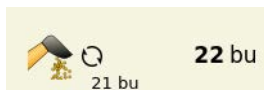
This feature automates the resetting of the Grain Tank Counter and provides on-screen real-time details of bushel counter on all connected devices.

Feature requires kit PN 4006109, containing module and sensor, be installed on combines.

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.
- Calibration can be reset by tapping on



and new value will be generated on next uncover/cover cycle of the sensor.

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).



AutoSave

Guidance patterns can be automatically saved after completion.

- Feature is on by default.
- A toast will notify user that pattern was saved with default name of date and time.
- Patterns can be renamed or deleted.
- Features can be disabled from following location:




Loading a Guidance Pattern



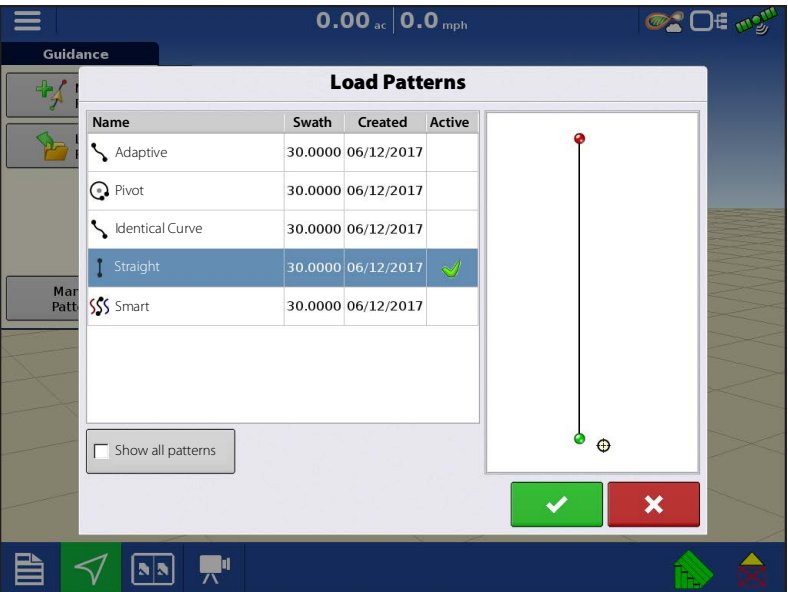
List of guidance patterns for the active field will populate after selecting load pattern.

☒ Show all patterns

Check the box 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

Spatial Sort

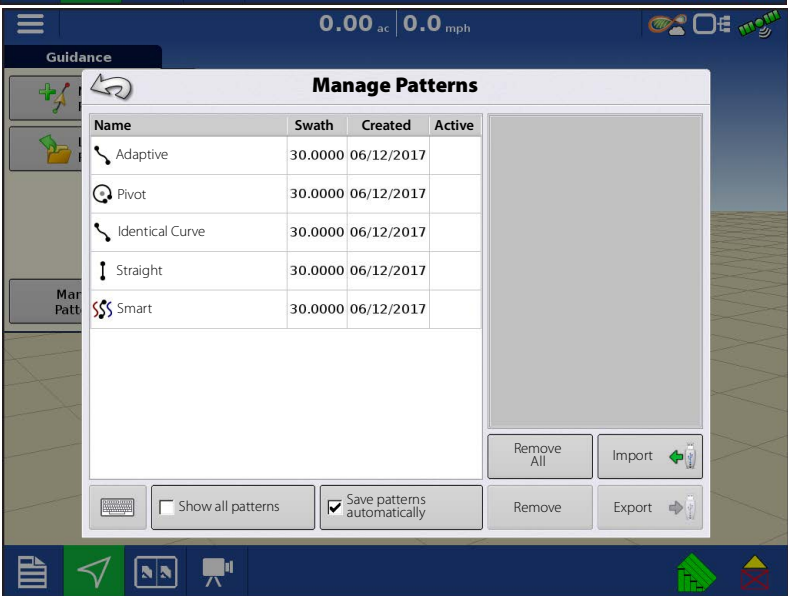


Spatial Sort allows the user to select any guidance pattern in the display, sorted by distance from the GPS location.

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

☒ Show all patterns

Check the box to show all patterns.

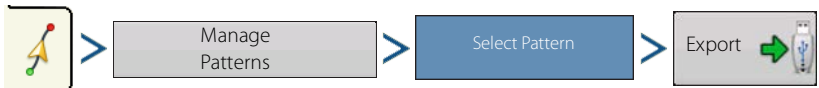


Import Pattern




Display indicates when file has been successfully copied.

Export Pattern



Display indicates when file has been successfully copied.

Edit Pattern

To rename a pattern, press Manage Patterns button on Guidance tab of Mapping toolbox. Press  to enter a pattern name. New pattern name appears in pattern list of Manage Patterns screen.

Remove Pattern/Remove All Patterns

To remove a pattern from the display memory, first press the Manage Patterns button on the Guidance tab of the Mapping toolbox. At the Manage Patterns screen, press either:

- Remove button to delete one pattern file; or
- Remove All button to delete all of them for the current field.

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

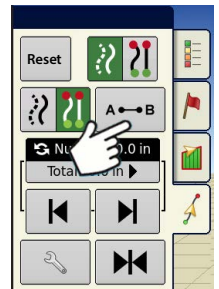
The Guidance screen appears, asking to reset the current guidance pattern. Press  to continue.

3. Create new pattern (optional)

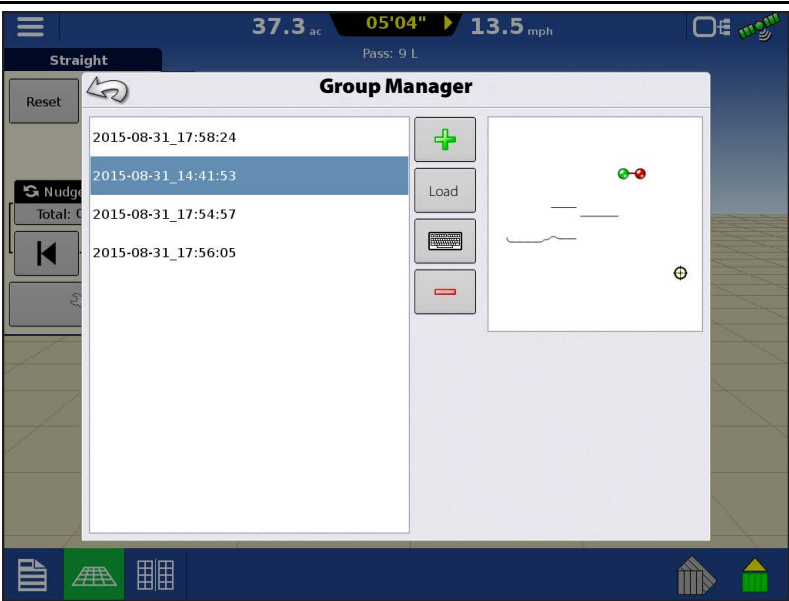
The pattern is now reset. Create a new pattern, if desired.

Pattern Groups

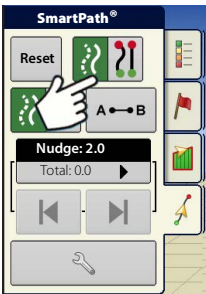
Pattern Groups allow the user to group up to 20 patterns per field, using the Group Manager.



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.

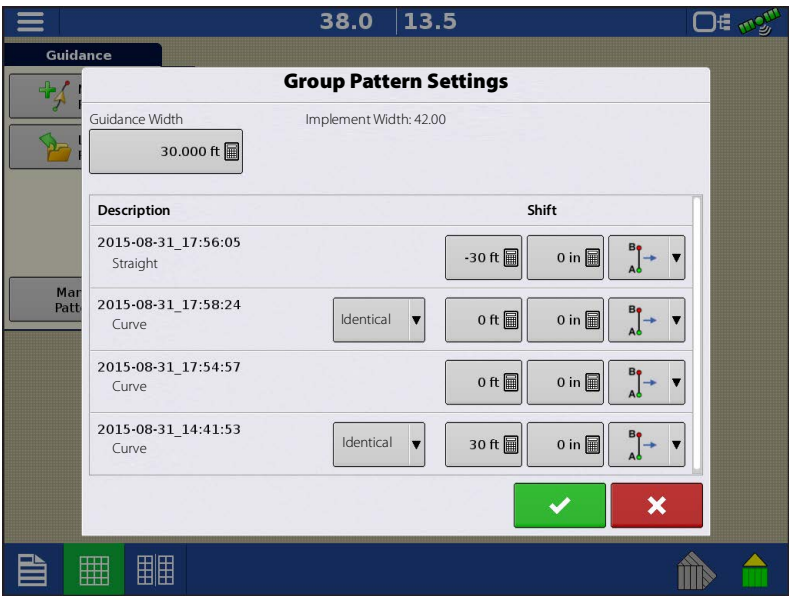


The Pattern Cycle button allows the user to easily cycle between patterns with a single button press. Patterns will cycle in the order they were created or added, starting back at the beginning of the list, once the last patterns is reached.



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 .

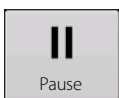
Pause



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.

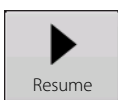


NOTE!: When using the display to follow a set AB Line and wish to temporarily deviate from this line, use the Pause button to pause the display's guidance logging activity. This feature could be used, for example, by a vehicle operator who must refill a sprayer. When paused, the display will continue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



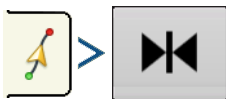
NOTE!: Pause can be used even without a "B point" set. When pressed the lightbar message reads "Need B". When pause is pressed after setting an AB line, the lightbar will indicate the distance away from the paused location.

- 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



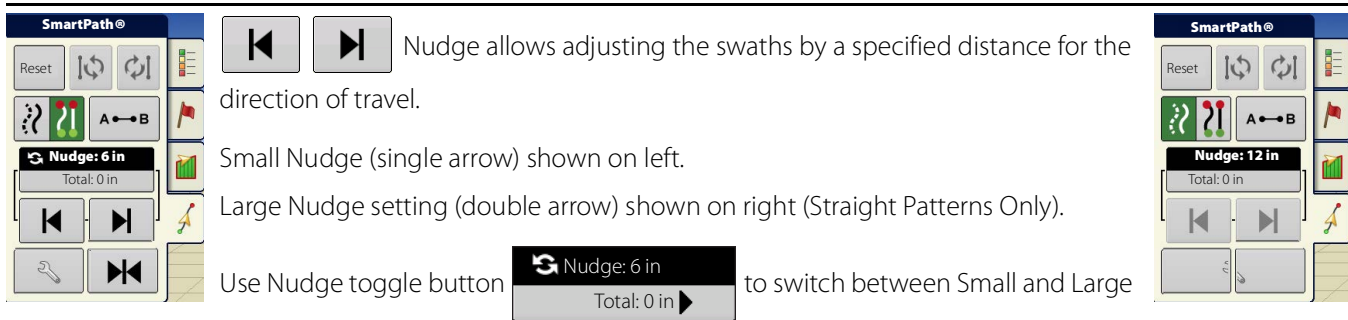
Choose straight pattern, the Remark A button appears on the main Guidance window. The Remark A button "re-marks" the A point by moving it to the current position of the vehicle while maintaining the same heading. A brief message appears in the on-screen lightbar, stating "Point A Remarked."

Nudge



NOTE!: Only Straight patterns offer two Nudge settings. All other patterns have a single nudge setting.





Nudge setting.

Use Mapping toolbox toggle button to switch the menu between Tramline and Nudge on the Mapping toolbox, if Tramlines are enabled.

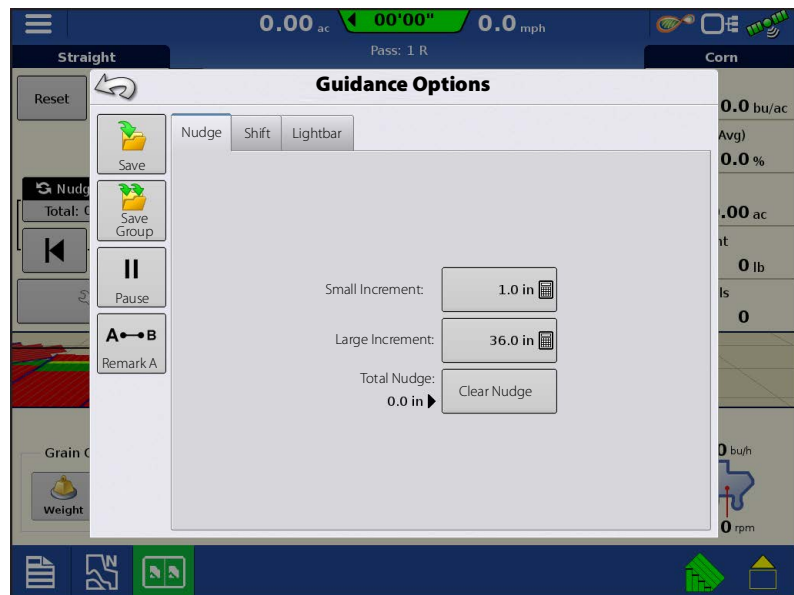


Press button then the Nudge tab to make adjustments to Nudge settings.

- 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.



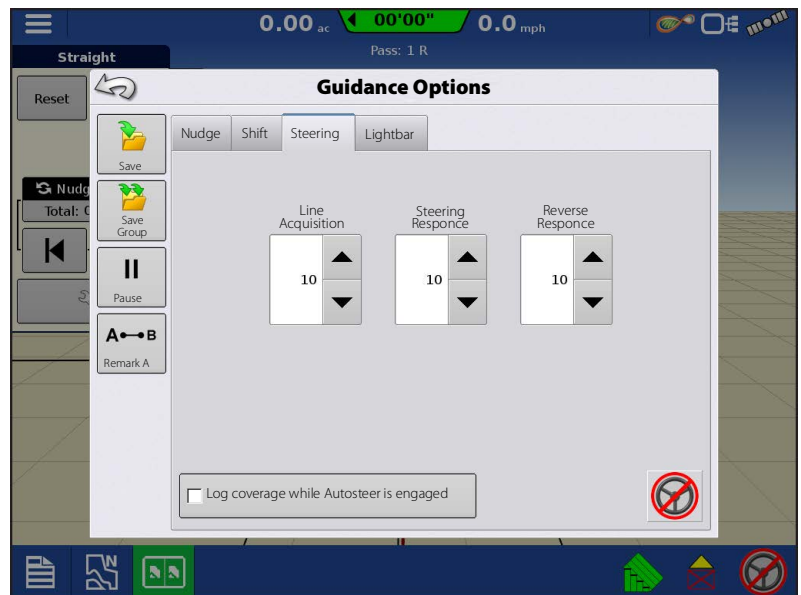
 NOTE!: The Shift setting is not available with the SmartPath patterns.

Steering



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

- **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 (SteerCommand, GeoSteer, ParaDyme) is connected. User can still manually control coverage logging with the on-screen coverage button. AutoSwath is unaffected by this selection.



Lightbar





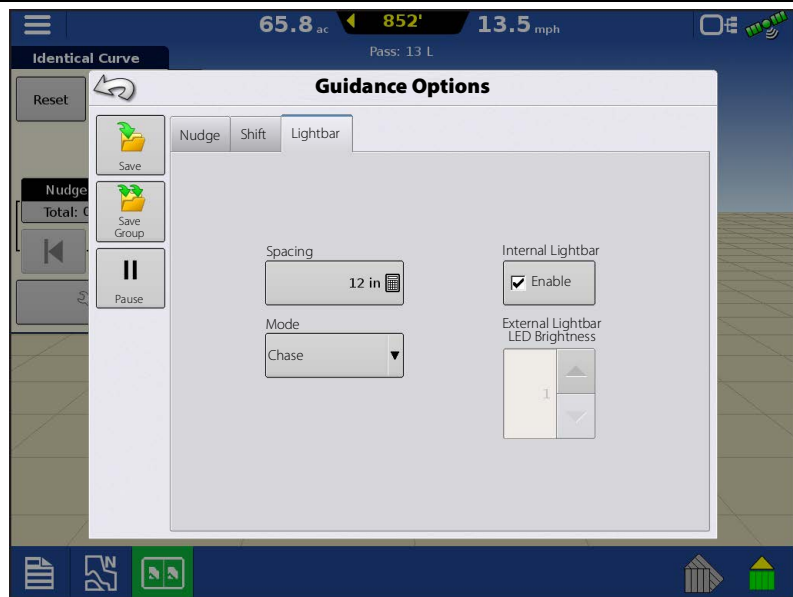
- **LED Spacing**—Enter the distance represented by each square of the lightbar, ½–6 ft (3–182 cm).

- 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.

- External Lightbar LED Brightness

If applicable, press  /  to enter in a number specifying the brightness of the LED lights on the optional L160 external lightbar. The number 1 is the dimmest and 10 is the brightest. Default is 5.



Tramlines



Tramline selection can be enabled from the New Pattern or Load Pattern menu. When enabled the Tramline setup page will appear during the load pattern process. Tramlines can be adjusted anytime from the Guidance Options Menu.

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

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

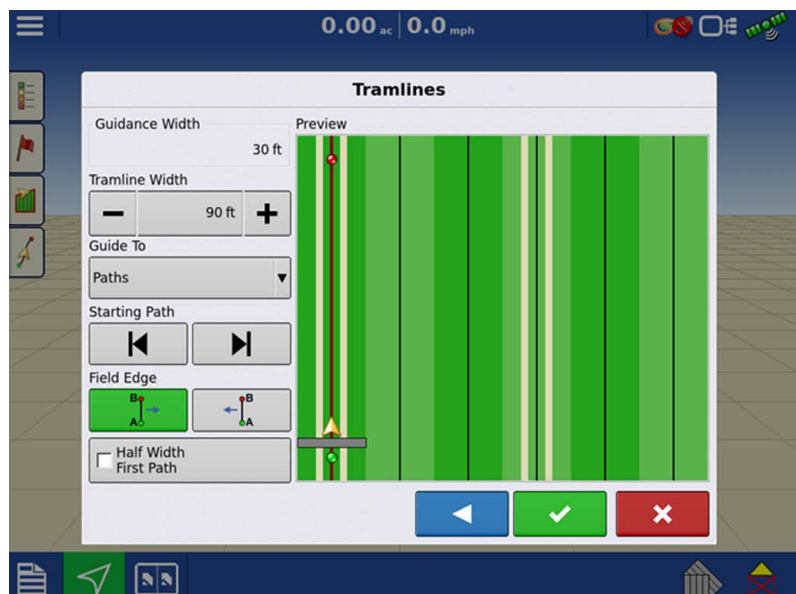
Tramline Width – Desired width of second operation (spraying)

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

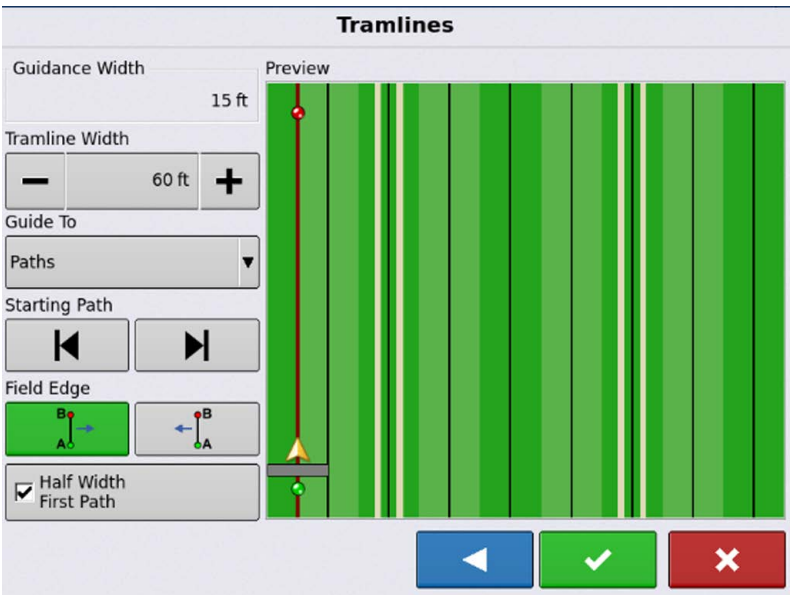
Starting Path – Arrows allow movement of initial guidance line location in relation to tramline location

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

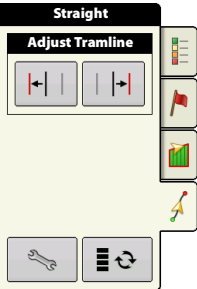
Half Width First Pass – Check the box if the first operation (planting) width does not provide the second operation (spraying) tramline in correct location




Picture showing half width first pass



Tramline Adjust



Adjust Tramline - move the placement of the tramline by one pass left  or right .


 Use the toggle button to switch menu between Tramline and Nudge on the Mapping toolbox.

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

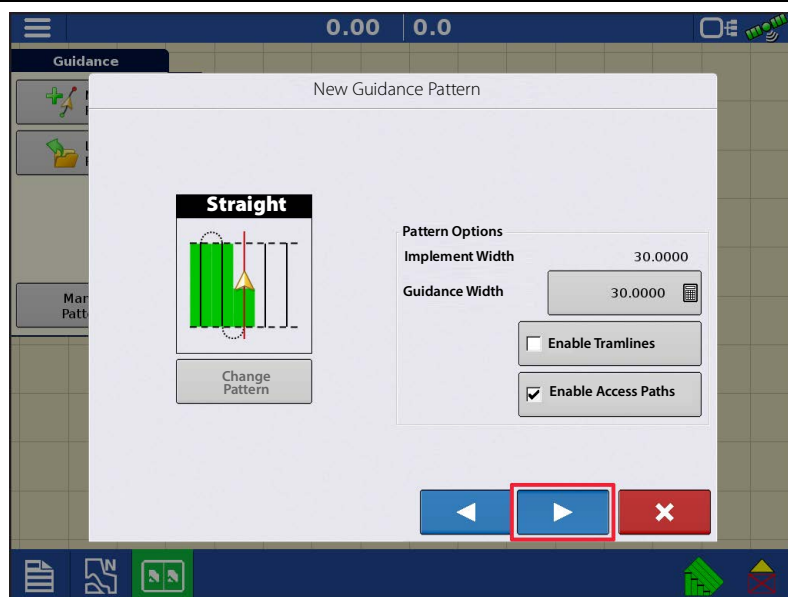
Access Paths allow more precise control of field layout. This is accomplished by allowing the user to bypass a road, ditch, or other obstacle in the field. When used in the case of irrigation ditches or roads that are evenly spaced and a known distance apart users can enter that distance when setting 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.

 NOTE!: This feature is only available on InCommand version 4.0 and newer.

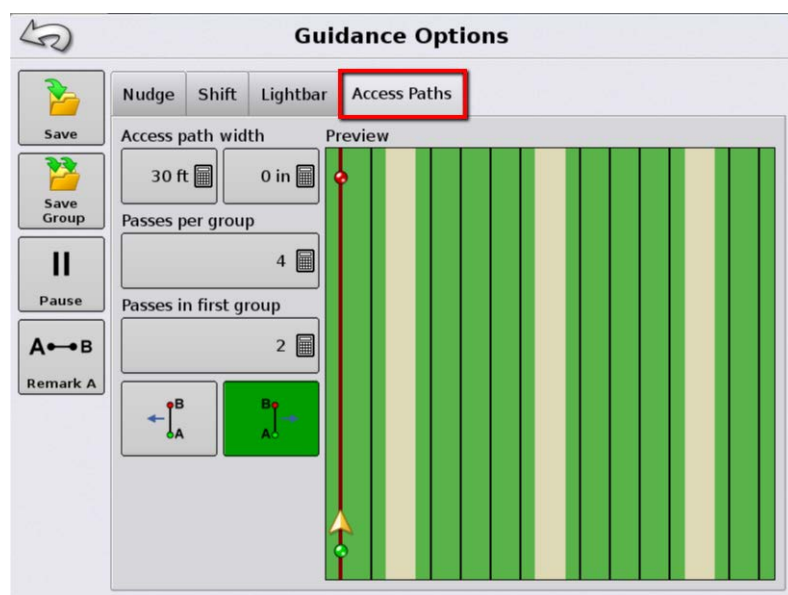
- 1. From the Run Screen select New Pattern:



2. Check Enable Access Paths:
3. Click the right arrow to setup Access Paths.



4. From the Guidance Options window select the Access Paths tab.



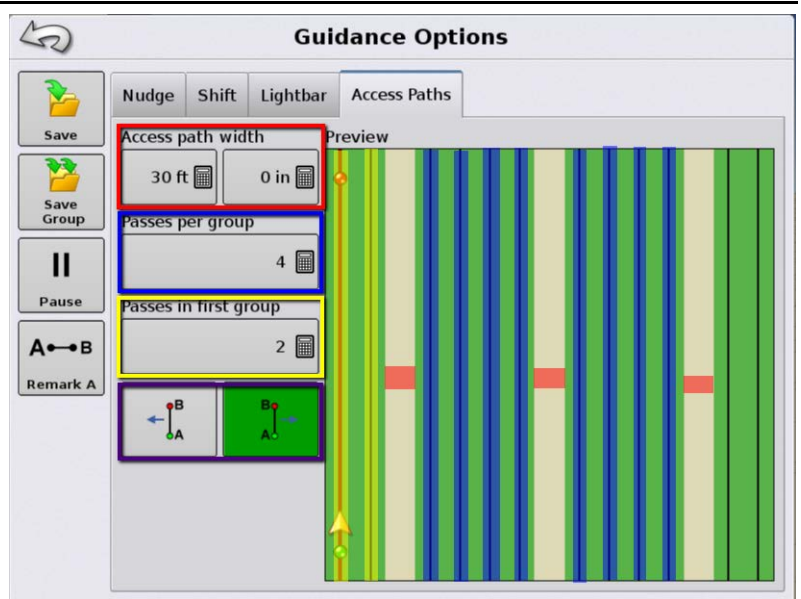
Settings on the left side of the window and how they relate to the Preview Window.

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

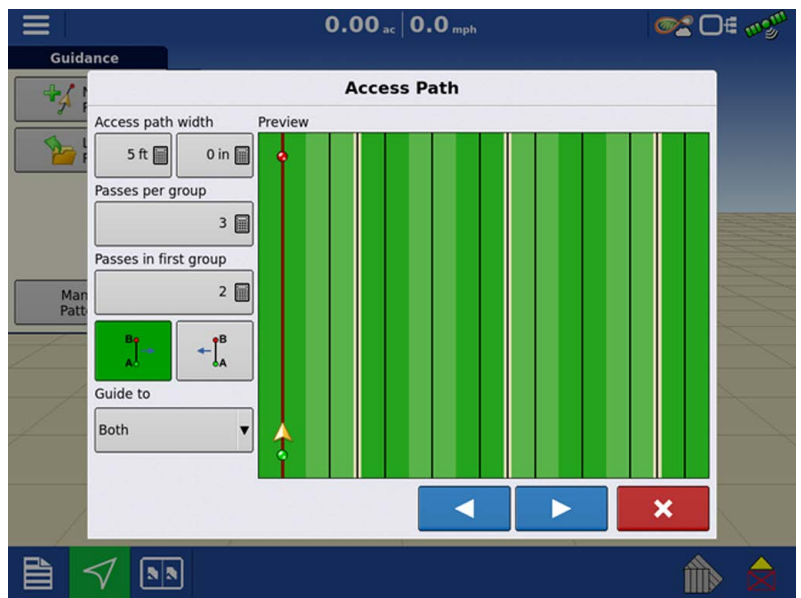
Passes Per Group — Number of passes in between each Access Path

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.

Move Start — Shifts start to the left or right of the original AB line.



Guide To – Allows guidance line to be placed in the desired location (Paths, Access Paths, or Both)





Summary Report

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

The Agronomic View shows data of a specific field.

Summary Report

Season

2014 Crop

Grower

Ag Leader

Farm

Farm 1

Field

North

Operation

Liquid

Product

Water

Region	Avg Rate	Total	Area	Date Created	View Mode
Instance 1	11.8	18.9	1.60		Agronomic
<1>	11.8	18.9	1.60	07/22/2015	<div>Create Report</div> <div>View Report</div> <div>View Map</div>
Field Total (All)	11.8	18.9	1.60		

Summary Report

Season

2014 Crop

Grower

Ag Leader

Farm

Farm 1

Field

North

Operation

Liquid

Product

Water

Region	Avg Rate	Total	Area	Date Created	View Mode
Instance 1	11.8	18.9	1.60		Agronomic
<1>	11.8	18.9	1.60	07/22/2015	<div>Create Report</div> <div>View Report</div> <div>View Map</div>
Field Total (All)	11.8	18.9	1.60		

The Event View shows data of a specific Event.

Season

2014 Crop

Operation

Liquid

Event

2015-07-22_10:41:32

Product

Water

Region	Avg Rate	Total	Area	Date Created
Instance 1	11.8	110.3	9.37	
<1>	11.8	110.3	9.37	07/22/2015
Field Total (All)	11.8	110.3	9.37	

View Mode

Event

Create Report

View Report

View Map

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

Season

Operator

Operation

Start Date

July 22, 2015

End Date

July 22, 2015

Region	Avg Rate	Total	Area	Date Created
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View Mode

Operator

Create Report

View Report

View Map

Configuration View

- Shows data of a specific configuration
- Area Only
- Daily Breakdown
- Daily Subtotals
- Configuration Total

The screenshot shows the 'Summary Report' configuration window. At the top, there are three dropdown menus: 'Season' (set to '2014 Crop'), 'Operation' (set to 'Liquid'), and 'Configuration' (set to 'Tractor, Spray'). Below these are 'Start Date' (July 22, 2015) and 'End Date' (July 22, 2015) fields with calendar icons. The main table has columns: 'Date Created', 'Grower', 'Farm', 'Field', and 'Area'. The first row shows '07/22/2015' for 'Date Created'. The second row shows '2015-07-22_10:41:32 Ag Leader Farm 1' for 'Date Created', 'North' for 'Field', and '9.37' for 'Area'. The third row is a 'Subtotal' row with '9.37' for 'Area'. The fourth row is a 'Total Area' row with '9.37' for 'Area'. On the right side, there is a 'View Mode' dropdown set to 'Configuration', and three buttons: 'Create Report', 'View Report', and 'View Map'.

Date Range

The screenshot shows the 'Date Range' selection interface. It has two fields: 'Start Date' (June 10, 2014) and 'End Date' (June 12, 2014), each with a calendar icon.

- 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.

Event Summary



The event summary page allows the user to access productivity information specific to the current event as well as summary information, field notes, and Smart Reports.

The Event Summary page is available during any field operation.

- Productivity Information
- Summary Reports
- Field Notes
- Display Totals
- Field Totals

The screenshot shows the 'Event Summary' page. At the top, there is a status bar with '1.60' and '0.0'. Below it, the 'Event' information is displayed: '2015-07-22_10:41:32', 'Grower: [redacted]', 'Farm: [redacted]', and 'Field: NW 40'. On the right, the time is '12:12:52'. The 'Products' section shows 'Productivity' selected. The 'Display Totals' section shows 'Productivity: 23.5 ac/hr' and 'Operating Time: 0:39:45'. The 'Field Totals' section shows 'Area Complete: 22.6 ac/hr (64.6%)' and 'Area Remaining: 12.4 ac (35.4%)'. The bottom of the page has a navigation bar with icons for 'Products', 'Field Notes', 'Display Totals', and 'Field Totals'.

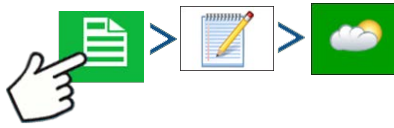
Field Notes

The Field Notes button is where the following agronomic information is entered:

- Crop information
- Application timing

- Weather information
- Soil condition

Conditions



Weather

Sky Condition
Wind Direction
Wind Speed
Air Temperature
Humidity

Soil Conditions

Tillage Type
Crop Residue Level
Soil Condition
Soil Moisture
Soil Temperature

Crop Timing

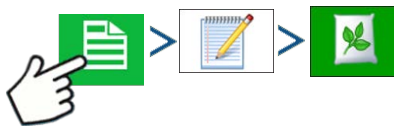
Operation Timing
Target Crop Type
Growth Stage

Equipment



Equipment attributes specific to operation being performed


Product



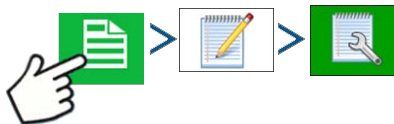
Product attributes specific to operation being performed

Memo



Press  to input, edit, or delete Field Notes.

Settings



Change settings that affect the creation of application reports.

- Auto Generate Application Report
Check this option to have the display automatically generate an application report each time a new event is started.

- Copy Notes from Previous Region

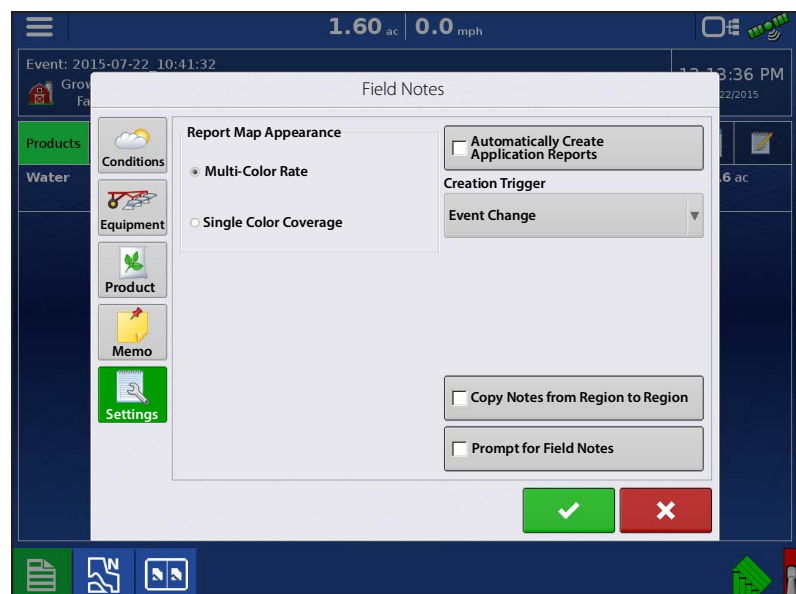
Check this option to copy all values already specified in Report Details for the previous region over to a new region.

- Prompt for Field Notes

Check this option to have the display automatically launch the region summary data collection dialogue box each time a new region is created during application rate control.

- Report Map Appearance

- Multi-Color Rate



Select this option to have application reports display the application maps using rate legend as displayed on the Mapping screen.

- Single Color Coverage

Select this option to have the application reports display single color product coverage maps.

Smart Reports™ (InCommand™ 1200 Only)

Smart Report™ creates documentation of all in-field product application events. This documentation is saved in a Portable Display Format (PDF) to USB or AgFiniti®. This PDF either can be viewed on the display screen, or printed later. Smart Reports provide information relating to location, product information, applied totals, field areas, as-applied maps and field boundaries.



NOTE!: Enter any necessary information in field notes before creating a Smart Report.

Create Reports



To begin creating a Smart Report™, first highlight an item in the list on the Summary Report

screen, then press the Create Report button.

1. The Create Report screen appears, which lists at top:


- Grower
- Field
- Product

Two drop-down menus list:

- Operating Configuration
- Product Group

Use the drop-down menus to change these, if desired. Press  when finished.

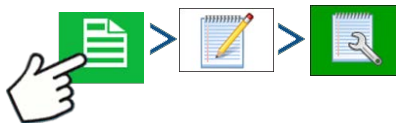
2. A scroll bar displays progress made when the display compiles the Smart Report.
3. At the conclusion of the Smart Report creation process, a screen states "Report Creation Complete."

Press  or press the View Report button to view the report. A built-in PDF viewer displays Smart Report. An example is shown at "Control Channel Report Content" on page 139.



NOTE!: Subsequent pages in the Smart Report are visible by pressing the blue right and left arrows at top right. Also, zoom in and out of the Smart Report by pinching to zoom on the pdf.

Smart Report Auto-Generation



This screen allows the user to change the settings that affect the creation of application reports.

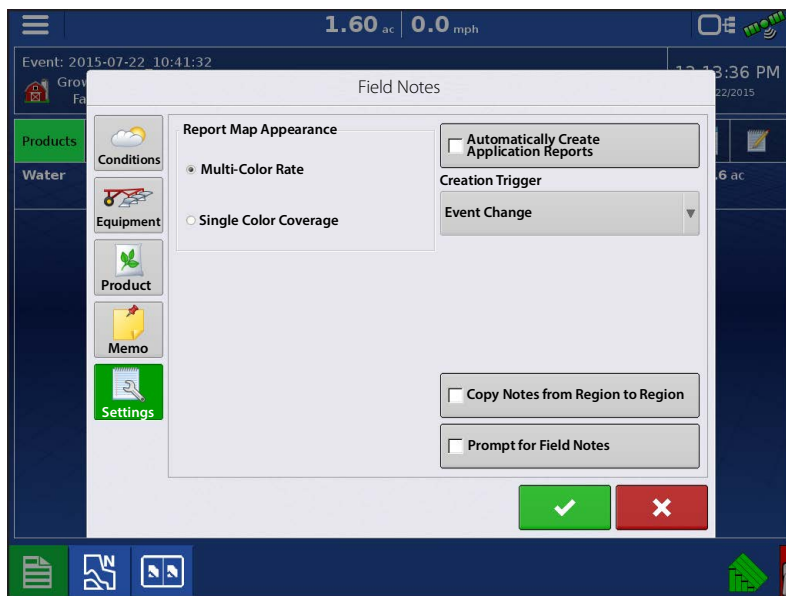
- Automatically Create Application Report checkbox

Check this option to have the display automatically generate an application report each perform the action in the Creation Trigger drop-down menu.

- Creation Trigger drop-down menu

User can select to generate reports upon Event Change or Event Closed.

If changing products through the field, it is recommended to set the Prompts to Close Event checkbox in Event Options.



Export Reports

Reports are stored locally within the display and must be manually exported to a connected USB or AgFiniti. This can be done by pressing "Export Reports" on the Data Transfer page. See ["Export Reports" on page 36](#).

In cases of multiple product application, multiple pages will be generated, one for each channel of product control.

North_Tractor.Sprayer_121513_2015_07_22.pdf

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


REGION SUMMARY		
Item	Region 1	Region 2
Region Name	<1>	
Operator Name		
Application Details		
Area	80.80 ha	
Map Amount	1356.72 L	
Pell Lime Amount	902.33 L	
Application Start Time	12/17/2009 3:20 PM	
Application End Time	12/19/2009 10:20 AM	
Soil Conditions		
Soil Temperature	15 ° C	
Soil Moisture Level	Wet	
Soil Condition	Medium	
Crop Residue Level	High	
Tillage Type	Strip Till	
Environmental		
Air Temperature	15 ° C	
Wind Speed	10 km/h	
Wind Direction (From)	NE	
Sky Condition	Partly Cloudy	
Humidity	11 %	
Additional Information		
Memo		

2_JD 8440_CM 7000_111731_2013_07_09.pdf

Page 2 of 2

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.

View Map



To view a Summary Map of a particular Field Total, Region or Instance shown in the Summary Report. A Summary Map appears. This map shows the rate applied for Application operations and varieties for Planting operations.

