T3RRA

T3RRA Ditch™ & iGrade™ UCC2

NOTE: Always start the T3RRA program first and access GPS info screen before turning tractor on.

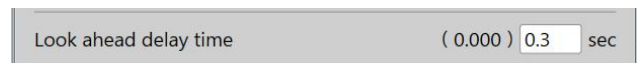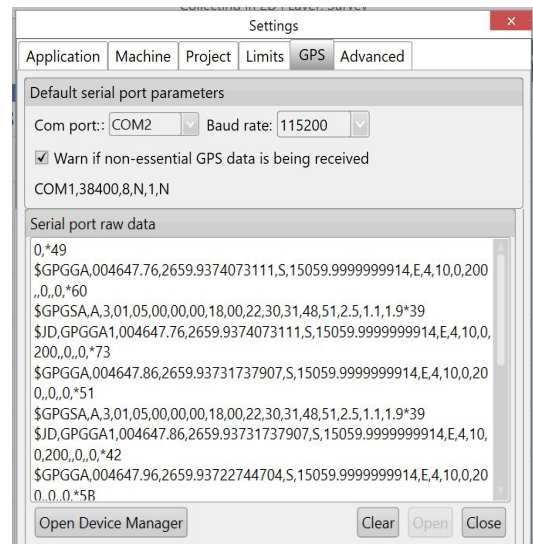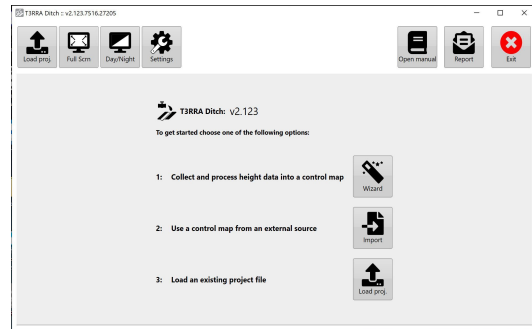Verify the selected SCV (1 and/or 3) is in <u>Auto</u>.

Serial Port Settings tab (iGrade, T3RRA, & Receiver need identical Baud Rate):
Select Settings button and then GPS Port Settings.

- Set 'COM Port' to the **correct** port
- Set 'Baud rate' to 115200
- Open port
- Confirm raw data is streaming in window
- Choose 'Save and Apply'...................

Select Settings button and then Machine Tab to enter a 0.3 second look ahead time...........

Select Import button to load elevation data from other source. For more info go to Project Options section of Manual.........

Select Load Project button to load an existing T3RRA project (.tci) file. For more info go to Project Options section of Manual.........

John Deere™ iGrade™ UCC2
Remote Control Automation
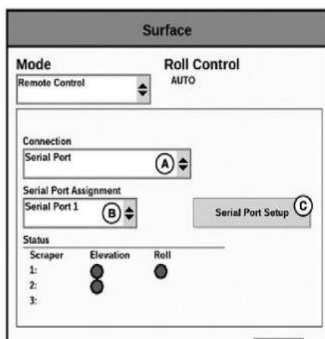
Navigate to Application Controller Pages

NOTE: Turn key OFF and allow the display to completely power down before connecting or disconnecting ISOBUS implements or sensors. After navigating to the Application Controller pages, the GreenStar™ 3 and Generation 4 Displays have the same layouts.

To navigate to the Application Controller pages using a GreenStar™ 3 Display: Select Menu button then Application Controller button

To navigate to the Application Controller pages using a Generation 4 Display: Select Menu button then Application tab. Select the ISOBUS VT application then the ISOBUS VT Menu button. Select the Application Controller button.
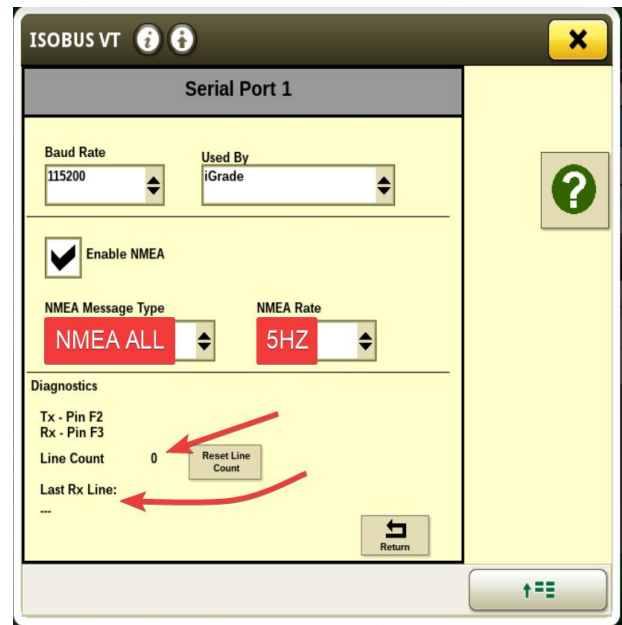
Surface
Select iGrade™ softkey > Setup tab > Surface Edit button.

Serial Ports

Select Controller Setup softkey > Profile tab > Serial Ports Edit button > Serial Port 1 or 2 Edit button.
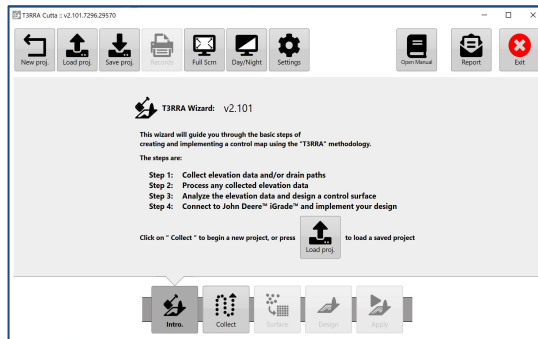
Enter:
Baud Rate: **115200**
NMEA – **ALL**
NMEA Rate – 5 Hz (If an error Displays on T3RRA please uncheck the warn if nonessential GPS data is being received in the GPS Tab of any settings page.)

Choose Mode:
Remote Control

Note: Serial Port settings need to match in **iGrade, T3RRA, & Receiver**

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Ditch Quick Reference Guide

T3RRA

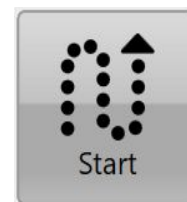## 1. Select the Wizard Button to begin surveying

2. Surveying

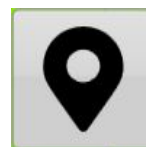a. Choose Collect elevation data - Select the Start button.................

NOTE: Survey screen may default to Field Survey mode. Change to Drain or Boundary Survey mode by clicking on "Change data collection mode" icon.........

b. Drop a marker for reference on elevation wheel track..............
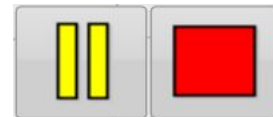
NOTE: Best practice - Use Absolute base permanently fixed in its calculated position to avoid any GPS location displacement.

2. Surveying

c. Select the start button,
and start collecting your elevation data...........

d. Select the pause button to pause data
collection or the stop button to
stop your data collection..................

e. If desired, stop, name drain, and resume to collect more drain elevation
data. You can survey multiple drains in one project.

f. If needed, edit data points.............

g. Select the Return button...............

h. Select the export button to save your
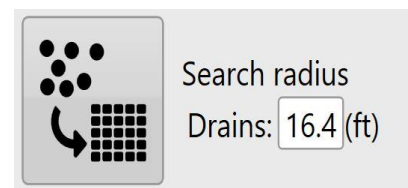collected elevation data to save before designing........

3. Surfacing

Upon exiting the Collect Step, T3RRA will automatically
calculate the best search radius and create a Surface
from the collected data. It is not necessary to use the
Surface step in the wizard unless you wish to view the
surface and/or possibly change the Search Radius............

Search radius
Drains: 16.4 (ft)

T3RRA

4. Design

a. Select the Design button for Drains, Auto-Drains, Pattern Drains, or Levees...............

Design

Create design

| Drain Design | Auto Drains | Pattern Drains | Levees |

Enter all parameters to create design (refer to T3RRA Manual for detailed design information). NOTE: If you have a drain/field combination to design, always design the field first and the drain second.

b. to change layer viewing, choose model/layer button........

c. Select the cut/fill layer button to view cut/fill map........

Cut/fill

d. Select the Return button....

e. Select Yes to keep the design surface........

Keep this surface?

Yes   No

f. Select the Save project button to save the T3RRA project.......

Save proj.

g. Select the Export button to save drains as guidance curves. Output multi-segment adaptive curves.........
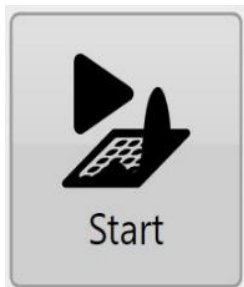
Drains exist   Export
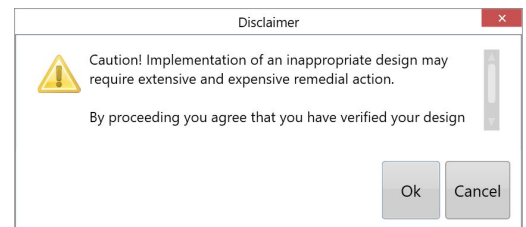
T3RRA

5. Implementing

a. Select the Apply button and follow on screen steps.......

b. Select the Start button to control John Deere iGrade™...........

c. Read Disclaimer and select OK to implement your design.....

Disclaimer

Caution! Implementation of an inappropriate design may require extensive and expensive remedial action.

By proceeding you agree that you have verified your design

Ok   Cancel

d. Drive to a zero cut/fill area close to the drain line and place the implement cutting edge on the ground (resave the project before shutting down to avoid the need for resetting zero).........

Cut/fill:
+0.00^{ft}

After placing implement's cutting edge on the ground, verify the selected SCV (1 and/or 3) is in <u>Auto</u>. Note: Manually adjusting blade height with SCV disables Automatic Control. Returning SCV to detent automates control.

T3RRA

5. Implementing

e. Select the Set Zero button to zero the T3RRA then choose "Zero against the surface" then OK.........

Zero against the surface	The simplest zeroing method. Use by putting your blade on the surface where you have not cut or fill, and then click OK
Zero using a marker	
Enter a known location	
Enter a known offset	Live calculated vertical offset:0 ft (Will be applied when you hit OK)
Nudge Zero Height	

Ok   Cancel

f. Select the Start button, to start sending commands to iGrade.......

g. Verify Elevation Error remains 0.00. If not, then press the Set Zero Error Button on the iGrade*...

Elevation
Select iGrade™ softkey > Setup tab > Elevation Edit button.

Elevation

Elevation Offset
0.00 (E) (ft)

(C) Increase
(D) Decrease

📦1
Elevation Error
0.00 (ft)
→0 (A)
Error

Select to set offset to current position of scraper.

Adjustment Step Size
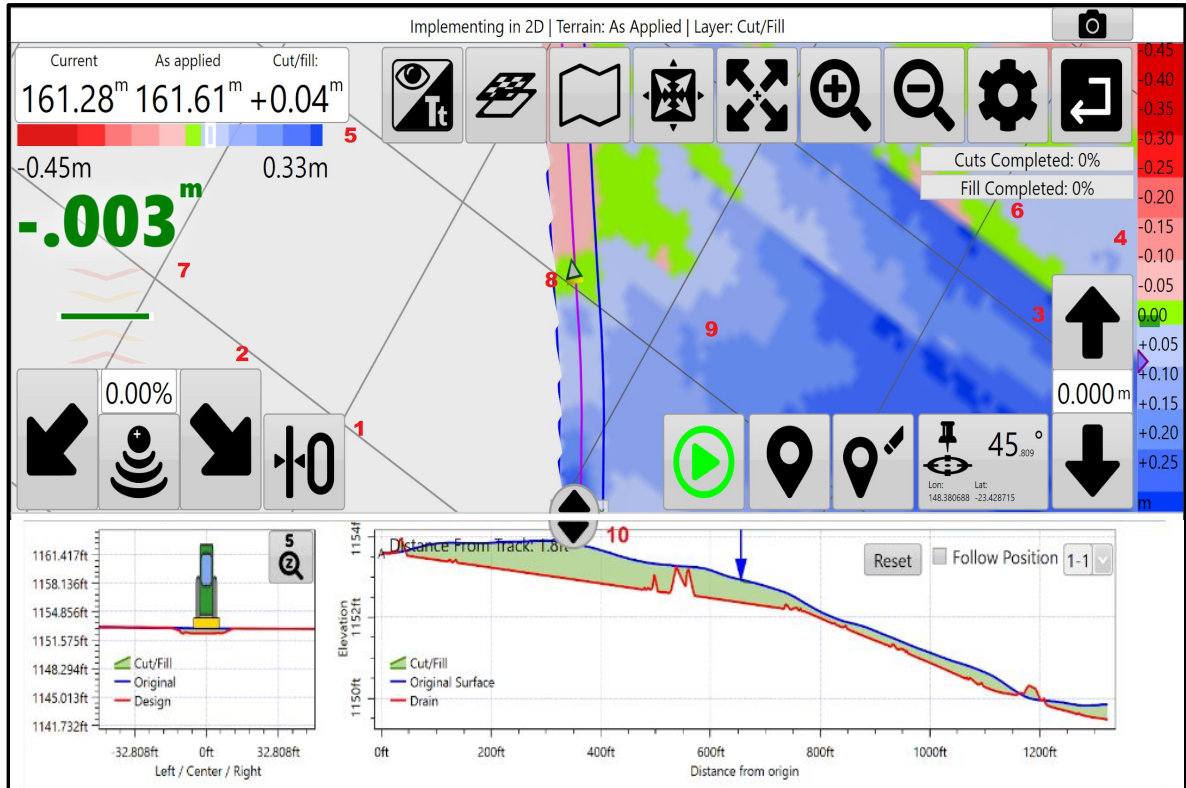0.08 (B) (ft)

Return

PC27120—UN—10MAY19

A—Set Zero Error Button
B—Adjustment Step Size Input Box
C—Increase Button
D—Decrease Button
E—Elevation Offset Input Box

3. Select the Set Zero Error button (A).

h. Drive forward and place the SCV1 used in Detent position, not float, for automatic control.

5. Implementing

Real time update of earthworks progress. Cut/Fill map progressively changes to reflect completed work. Elevation surface changes from original to design as work progresses. % job completion displayed.

Screen features of interest include:

1. Setting Zero button.
2. Cross-slope nudge control buttons.
3. Vertical blade shift control buttons.
4. Cut/Fill legend.
5. Cut/Fill Information & horizontal colour bar.
6. Progress Indicator.
7. On-Grade Indicator.
8. Blade and Tractor Indicators.
9. Map display.
10. Drain profile and cross section.

Right side shows live legend for cuts & fills.

On-Grade Indicator: Left side shows chevrons of current blade height relative to target design height. They show how far the blade needs to move and in what direction for the blade to be "on grade".
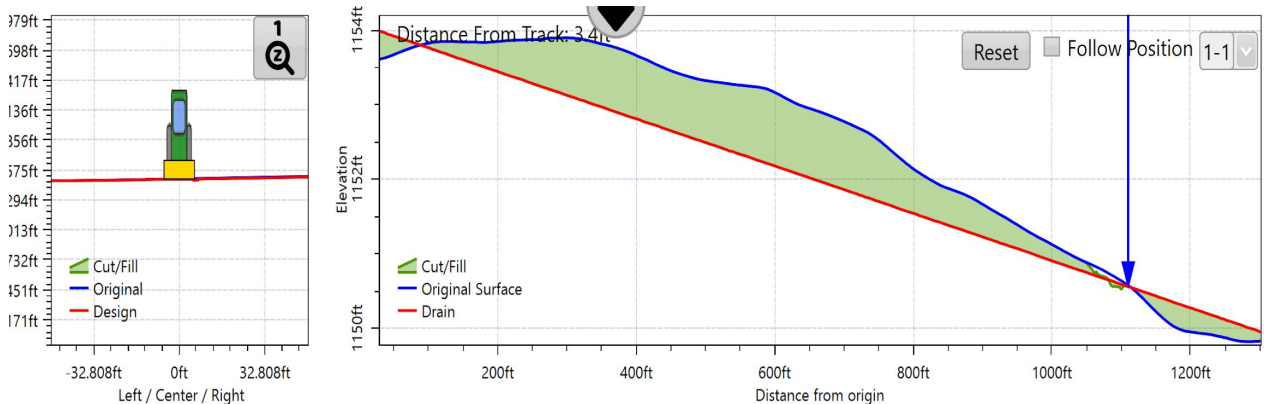
Window on bottom left shows your current position relative to drain center line – whether you are on the shoulder or in the bottom.

Window on bottom right shows design & original heights for drains full length with arrow pointing to current location and blade height. Pick the drain to view from drop down.

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5. Implementing

A small circular drag handle can be found at the bottom of the screen. Double tapping, or dragging this handle will display this screen. It shows both a cross section of the drain (window on the left) as well as a profile of the drain (window on the right).
The window on the left displays your current position relative to the drain centerline. It will indicate whether you are currently on the shoulder or in the bottom of the drain.

The right section of the screen shows design heights and original heights for the drain's full length. The blue arrow points to your current location and indicates the height of the blade. The red line in the diagram is the designed drain, the blue line shows the pre-implementation level of the ground and the green shading is area that will either be cut or filled. With this diagram you will be able to see cut depths along the length of the drain and estimate the number of passes required.

In the top right corner of this window there are 3 tools:
- **Reset**- Like the map above the graph you are able to zoom in to specific sections. 'Reset' allows you to reset the view of the graph.
- **Follow Position**-Zooms into the blue arrow and follows it along the graph as it implements the drain design.
- **Drain selector**-Used to select the drain to be displayed. The closest drain is not automatically selected, this need to be selected manually.