

T3RRA



5 | Settings

October 2026

Contents

5.1 | Application Tab

- Units
- Estimated cost
- Map display
- Buttons
- Input options
- Behaviour
- Updates and support

5.2 | Equipment Tab

- Look ahead delay time
 - Blade positioning
 - As-applied tracking

5.3 | COMMAND Tab

5.4 | Limits Tab

- Blade shift increment
- Static blade limit
 - Methods for progressively adding layers of dirt to a fill area

5.5 | GPS Port Settings Tab

- GPS connection settings
- Configuration and diagnostics
- Serial port parameters
- Warning Thresholds
- Input/Output

5.6 | Advanced Settings Tab

- Logging
 - Enable GPS data log
 - Enable diagnostic data
 - Use early access for update
 - Root save folder
- Troubleshooting tools
 - Version Manager
 - Disable serial mouse
- Saving Settings
- Backup and display settings

5.1 | Application Tab

The screenshot shows the 'Settings' window with the 'Application' tab selected. The window has a title bar 'Settings' and a tab bar with 'Application', 'Equipment', 'COMMAND', 'Project', 'Limits', 'GPS', and 'Advanced'. The 'Application' tab contains the following settings:

- Language:** A dropdown menu set to 'English'.
- Units:** A section with three dropdown menus: 'Length' (Centimeters), 'Area' (Hectares), and 'Volume' (CubicMeters). Below these is 'Estimated Cost' set to 'off' with a unit icon.
- Display Options:** A section with several settings:
 - ☒ Surface Grid: A checkbox.
 - Grid size (0 = Auto): A text input with '0' and a unit dropdown set to 'cm'.
 - Cut/Fill Color Style: A color selection dropdown set to 'Default - Magenta/Green'.
 - Surface Color Style(Low,High): A color selection dropdown set to 'Red low, Blue high'.
 - Zero cut/fill range: A text input with '4' and a unit dropdown set to 'cm'.
 - Slope Display: A dropdown menu set to 'Percentage'.
- Buttons:** A section with four checkboxes:
 - ☐ Show Zoom buttons
 - ☐ Show Project Swapper button
 - ☒ Big buttons
 - ☒ Transparent button background
- Footer:** Two buttons: 'Download Updates' and 'Show update log'.

Application tab settings

Units

Language changes the application language.

Length selects the distance measurement unit.

Area selects the area measurement unit.

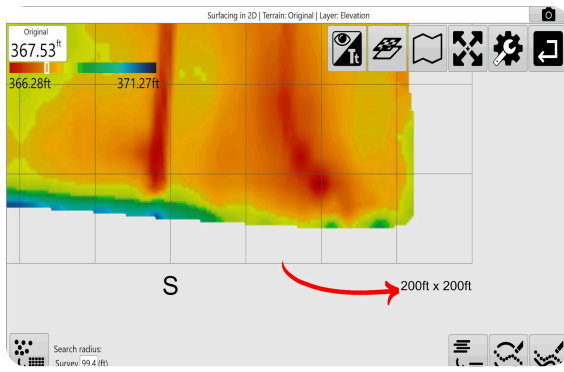
Volume selects the volume measurement unit.

Estimated cost

Estimated Cost sets the estimated cost per volume of dirt moved. To customise the currency format, click the button to the right. Enter custom text before and/or after the amount, such as a currency code or other information. The Custom currency example shows the resulting format.

The cost is per cubic meter or cubic yard and is calculated for cuts only.

Custom currency example: \$1,234.56+tax (Before \$, After +tax; two decimals)



Elevation map: 200ft x 200ft grid dimensions (red arrow)

Map display

Surface Grid controls whether grid lines appear on the map. By default, the grid resizes to best fit the field. The grid dimensions appear in the lower-right corner of the scanned area.

Lock grid size to: sets the grid size manually. Set it to **0** for auto-size.

Cut/Fill Color Style selects Magenta/Green or Red/Green/Blue. In Magenta/Green, magenta represents cuts and green represents fills. In Red/Green/Blue, red represents cuts, green is neutral and blue represents fills.

Surface Color Style (Low,High) changes the colours representing surface highs and lows. Choose from the drop-down menu; choices are limited to that menu.

Zero Cut/Fill Range sets the vertical range considered “on-grade”, helping identify areas requiring heavy earth moving. It does not change the design height or scraper blade height.

Slope Display shows slope as a *Percentage* or *Ratio*, for example 0.1% or 1/1000.

Buttons

Show zoom buttons enables buttons for zooming in and out instead of two-finger touch zoom.

Check **Big buttons** to enlarge the menu buttons.

Show Project Swapper button controls whether the project swapper button is displayed.

Transparent button background switches button backgrounds between gray and transparent on the design or implementation screens.

Input options

Show screen keyboard opens the keyboard automatically when needed.

Show Calculator displays a calculator when needed while entering values.

Behaviour

With **Hide buttons after delay** checked, buttons fade after 15 seconds on the implementation screen. Touch the screen to retrieve them.

Collection Beep enables audible notifications when elevation points are collected.

Updates and support

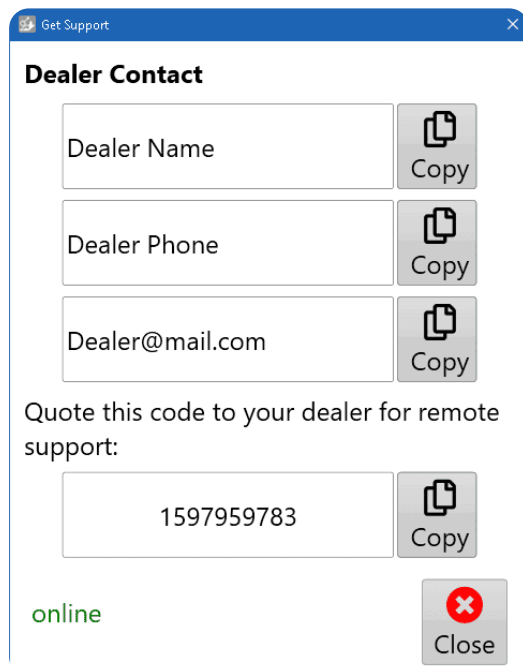
Use **Download Updates** to update to the latest version when connected to the internet.

Show update log lists software update details.

Set Support helps your dealer provide remote support. An Internet connection is required.

Click the **Setup remote support** button.

Get Support before installation: Setup remote support: Not installed



Get Support after installation: remote-support code and online status

After installation, a code appears. Your support person uses this code to connect to your computer and help you. When they connect, AnyDesk opens a confirmation window. Click the green **[Accept]** button to accept their help.

Select **Close** to save settings and exit the settings dialog.

5.2 | Equipment Tab

Settings

Application	Equipment	COMMAND	Project	Limits	GPS	Advanced
-------------	-----------	---------	---------	--------	-----	----------

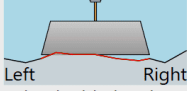
Look ahead delay time: 0.3 sec
(Suggested: 0.2 - 0.6 Default: 0.3) (Detected: 0.000)

Slope and Blade

☐ Show cross slope buttons

Cross slope nudge increment: 0.1 %

Blade positioning: Classic



Classic: Puts the center of the blade on design, cross slope set by the blade edges.

☒ Enable 'As Applied' calculations

Reset 'As Applied'

Equipment Tab Settings

Look ahead delay time

To control blade height, the software receives an elevation from iGrade™, processes it, then returns a control signal to iGrade™. Although this control loop is quick, its delay can cause inaccurate implementation in some situations.

A normal “Look ahead” time is 0.3 to 0.5 seconds. The exact time is machine specific and can be determined by experimentation; see [Bi-Directional error in T3RRA in the troubleshooting section](#). Look ahead time helps account for the control-loop delay.

If look ahead time is not set, the delay can cause a consistent “bi-directional error”: the blade offsets incorrectly, moving up when travelling down a slope and down when travelling up a slope. If the time is too LOW, the implement always grades high down-slope and low up-slope; if it is too HIGH, the opposite occurs. Bi-directional error is most noticeable on steep slopes at higher speeds.

Blade positioning

Blade positioning specifies which part of the soil profile under the blade has priority in determining blade position. This option is available only after you enter ‘Implement width’ and enable ‘Output cross slope commands’.

Blade positioning options

Classic uses the design elevation as the target under the blade centre. Cross-slope is determined by design elevations under the left and right blade points. This makes it easy to over-dig down the midline of ditches or clip the top off a bank when straddling its ridge.

Average follows the overall trend of the design surface under the blade. It works well for reproducing a full-field design, but is less suited to abruptly changing slopes.

Average, on top determines slope in the same way as Average, but positions the blade above that trend to always avoid overcutting.

Snap fit attempts to find the best blade position without overcutting. As you traverse a break line, the blade snaps from one position to another. This is intended to cut and fill most efficiently, minimising passes and rework risk, and is tailored for abruptly changing slopes.

Single point provides Control-by-point: choose a blade position represented by the red arrow. That point follows the design elevation and cross slope even if the blade cuts below the design elsewhere. This is envisioned to work well for features such as V-ditches.

As-applied tracking

Enable As-applied calculations shows a graphic representation of the surface's current state as work progresses. See [Understanding how "As-applied" works](#).

NOTE: 'Implement width' is required to enable the As-applied feature.

5.3 | COMMAND Tab

5.4 | Limits Tab

Blade shift increment

Blade Shift Increment sets the height adjustment applied by the up/down elevation adjustment buttons in the implementation wizard step.

Settings

ApplicationEquipmentCOMMANDProjectLimitsGPSSAdvanced

Blade Shift Increment: 0.005 m
(How far to shift the blade per button click)

Static Blade Limit

Will statically limit the cut or fill to be a set distance away from the design. Use this if you want work layer by layer. You set the limits on the implementation screen (not here).

Total cut/fill limit type: None Ignore cuts

Dynamic Blade Limit

This ensures that you do not cut or fill more than the set amount using the 'as-applied surface'. If you set a cut limit, each individual pass will not try to cut to the full design depth, but rather will only take the amount set by the limit.

☐ Enable cut limit

Max Cut: -0.030 m

☐ Enable fill limit

Max Fill: 0.000 m

Enable 'As Applied' on the Machine tab to use dynamic blade limits.

Limits tab with Blade Shift Increment, Static Blade Limit and Dynamic Blade Limit controls; As Applied is required

NOTE — The recommended blade shift increment is 0.03 - 0.06 feet (0.4 - 0.8 inches, or 0.01m - 0.02m).

Static blade limit

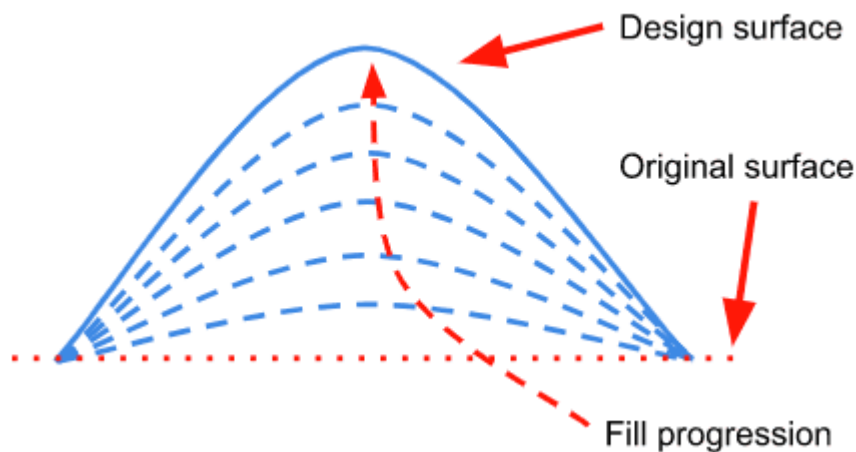
Static Blade Limit temporarily changes target design heights by a specified amount. At 50%, target cut and fill heights become 50% of the design values. It can also overfill a design by a percentage to allow for soil to sink over time: at 110%, a 100mm fill becomes 110mm to allow for future compaction.

Build banks, roads or mounds in gradual steps to allow even compaction of dirt.

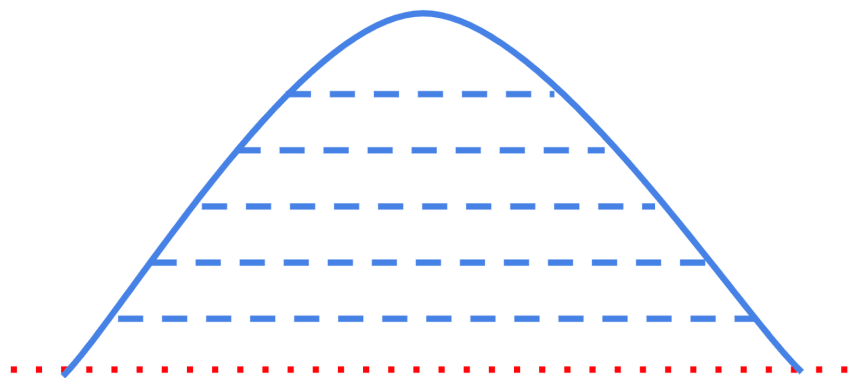
Ignore cuts is useful when gradually building a mound. Use the vertical nudge to lower the design surface below the current surface, then slowly nudge it upwards so filling begins at the apex and proceeds outwards. In this case, avoid cutting where the nudged mound design is below the original surface. **NOTE:** Ignore cuts can be activated even when Static Blade Limit is set to “None”.

Set the static blade limit amount on the implementation screen.

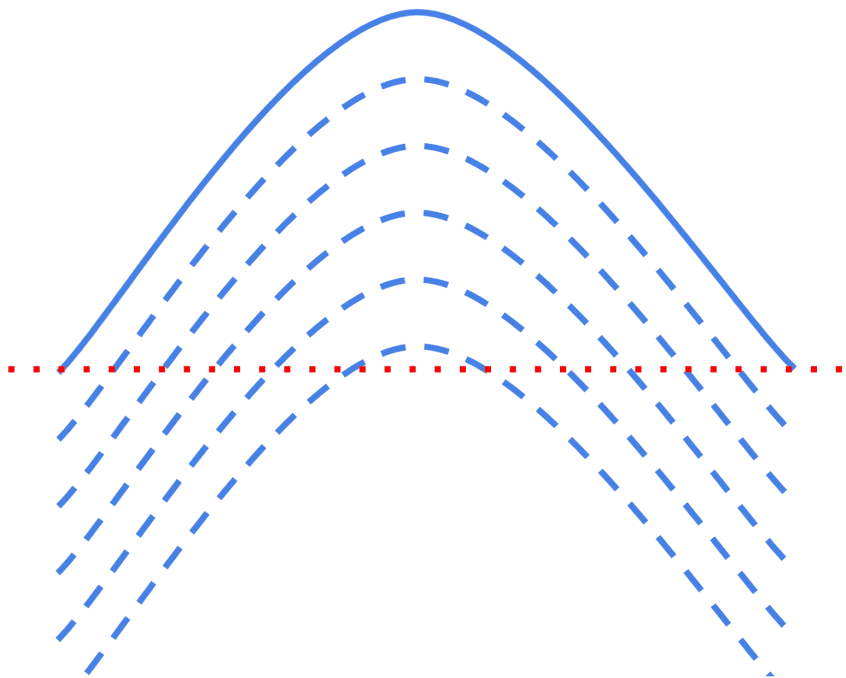
Methods for progressively adding layers of dirt to a fill area



Static Blade Limit by Percent — Static Blade Limit by Percent: dashed curved layers progressing from the original surface towards the mound design



Static Blade Limit By Absolute Value — Static Blade Limit by Absolute Value: horizontal dashed fill layers beneath a curved mound design



Combination of vertical blade offset + Ignore cuts — Vertical blade offset with Ignore cuts: dashed mound profiles rising from below the original surface

5.5 | GPS Port Settings Tab

GPS connection settings

Settings

ApplicationEquipmentCOMMANDProjectLimitsGPSAdvanced

Serial port parameters

GPSCOM1Baud:38400

Scan for GPS

Unknown data: 0

Processing Time 0.003s

☐ Use Tractor GPS for surveys (iGrade UCC2+RTK only)

Warning/Error Configuration

Idle Timeout5seconds

RTK Timeout30seconds

Max VDOP2

Min Satellite Count7

CurrentRaw GPS DataOutput DataRecent GPS errors

\$GPRMC,223755,A,3715.266,N,08933.578,W,0,0,221026,3.1,W*7C

\$GPVTG,0,T,54.7,M,0,N,0,K*66

\$GPZDA,223755,22,10,2026,08,37*47

\$JD,GPGBA1,223755.31,3715.26616005,N,08933.57750068,W,4,10,0,0.34,M,0,M,0,000*67

\$JD,GPGSA1,A,3,01,05,00,00,00,18,00,22,30,31,48,51,2.5,1.1,1.5*26

\$JD,GPRMC1,223755,A,3715.266,N,08933.578,W,0,0,221026,3.1,W*6F

\$JD,GPVTG1,0,T,54.7,M,0,N,0,K*75

\$JD,GPZDA1,223755,22,10,2026,08,37*54

Clear

Open Device Manager

ConnectDisconnect

GPS settings with Raw GPS Data displayed

T3RRA

October 2026

Page 10

GPS displays the COM port used to communicate with the GPS. Select the correct port from the drop down menu.

Baud (Rate) sets the communication speed between the software and GPS. It should match the GPS baud rate.

Scan for GPS checks available COM ports and usual baud rates for valid GPS data.

 **NOTE:** T3RRA software and iGrade™ must have identical Com port and Baud Rate settings in order to communicate.

Configuration and diagnostics

Warning/Error Configuration settings changed on this page remain in effect after the system is turned off.

Current displays the most recent GPS information received in a table.

Raw GPS data displays the most recent GPS data received. It is primarily used for diagnostics when support is required.

Output Data displays the most recent outgoing communications. It is primarily used for diagnostics when support is required.

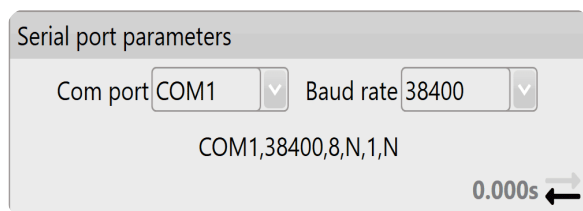
Recent GPS errors lists the most recent GPS errors so that intermittent errors can be reviewed.

Open Device Manager is used to investigate COM port issues when required.

Connect and Disconnect manually start or stop communication with the app controller.

Serial port parameters

Com port: The adapter assigns the Com port #. The drop-down box lists all available com ports. Select the serial port physically connected by cable to the iGrade™ Application Controller. Windows Device Manager provides diagnostics for the current serial ports; you can open it using the button at the bottom left of **Settings > GPS**.



Serial port parameters

Com port Baud rate

COM1,38400,8,N,1,N

0.000s 

Baud rate: This is the speed of communication with iGrade™. It must match the iGrade™ settings, or T3RRA software cannot communicate with iGrade™. For iGrade v1, the recommended baud rate is 38400. For iGrade™ v2, the recommended baud rate is 115200, with **NMEA Message Type** set to “All”.

Warning Thresholds

Idle timeout: An error warning appears if no GPS messages are received within this time period.

Warning/Error Configuration

Idle Timeout secondsRTK Timeout secondsMax VDOP Min Satellite Count

RTK Timeout: This monitors the time since the last good RTK correction packet. It should not normally be set above 10-20sec.

Max VDOP: Vertical Dilution of Precision measures altitude accuracy. Keep this value as low as possible for the most accurate implementation, but setting it lower than 2 may interrupt use of T3RRA software.

Min Satellite Count: Sets how few satellites the GPS needs to see before a warning appears.

Input/Output

Current

Raw GPS Data

Output Data

Recent GPS errors

Name	Latitude	Longitude	Altitude	Sats	Fix	GPS Time	Last RTK	VDOP	Speed	Heading
Tractor	37.26854	-89.55962	1.02 ^m	10	RTK	1:53:39 AM	0 sec	1.5	0.00	1.60
Implement 1	37.26854	-89.55963	1.35 ^m	10	RTK	1:53:39 AM	0 sec	1.5	0.00	0.00

Field	Meaning
Current & Raw GPS Data:	Current shows the receiver's current position data. Raw GPS Data shows all incoming messages.
Output Data:	Outgoing command messages
Recent GPS errors	Current GPS state and any errors
Lat & Lon:	Your current location coordinates (latitude and longitude).
Altitude:	Your current height above sea level, displayed in the chosen measurement format.
Num Sats:	The number of satellites currently tracked by your GPS. It is linked to Min Satellite Count in Warning thresholds: an error appears if the count drops below that setting.
Fix:	The type of position solution calculated.

Field	Meaning
Time:	The current GPS time.
Last Correction:	The time since the last differential correction message from the base station. Keep it as low as possible for the most accurate readings. It is linked to RTK Timeout in Warning thresholds: an error appears if it exceeds that limit.
VDOP:	Vertical Dilution of Precision. An error appears if this number exceeds Max VDOP in warning thresholds.
Speed:	Your current travel speed
Heading:	Current heading out of 360 degrees

5.6 | Advanced Settings Tab

Settings

Application
Equipment
COMMAND
Project
Limits
GPS
Advanced

☒ Enable GPS data log
☒ Enable diagnostic data
☒ Use early access for update

Root save folder: C:\ProgramData\T3RRA\Saves

Open Task Manager
Show wifi networks
Explore error logs area
Version Manager
Disable serial mouse
Save Settings
Load Settings
Reset to default

If you are getting 'COM in use' errors it can be because the GPS COM port was incorrectly registered as an old serial mouse

Update options
Automatic backup frequency: High
Terrain model quality (does not impact control quality): High
Map update rate (does not impact control quality): Medium

RTK is required

Advanced tab in Settings

Logging

Enable GPS data log

Keeping this enabled is highly recommended. The GPS data log accompanies error reports to help find a solution.

Enable diagnostic data

Keeping this enabled is highly recommended: the collected data helps support assist you when issues occur.

Use early access for update

Enables software updates to early access (preview) versions of the software. Opt in to receive new features, enhancements and fixes before they are included in a stable release.

Root save folder

Specifies the default location where T3RRA saves project files and associated data. Users can manually enter a folder path or select the folder icon to browse for a different location. The reset icon restores the default save location (`C:\ProgramData\T3RRA\Saves`).

Troubleshooting tools

Open Task Manager opens the computer's task manager tool, which displays all systems currently running on the computer.

Show Wi-Fi networks opens the computer's Wi-Fi network panel. The tablet needs to be connected to Wi-Fi to enable the use of the remote support tools.

Explore error logs area opens the Windows folder on the tablet containing all error log files. If an issue occurs, send support the latest file to help identify and correct the cause quickly.

Version Manager

Use Version Manager to downgrade the software version if you experience a particularly bad error. Adding a support request when you use this is highly recommended.

Disable serial mouse

Disabling the serial mouse can correct a cursor that jumps around the screen or "COM in use" errors.

Reset to Default resets all settings to default.

Saving Settings

Save settings will save the current software configuration and preferences for future use.

Load settings will load previously saved settings.

Reset to default will restore all software settings to their original default values.

Backup and display settings

Automatic backup frequency is a drop-down menu for changing how often T3RRA Software backs up your work. Options are Never, Low, Medium and High.

Terrain model Quality defaults to High. Its effect is most visible on surfaces in 3D: lowering it may smooth out displayed details. The details and depressions remain, but are not represented in the 3D display.

Map update rate changes how often the map updates during Surveying and Implementation.