

MATRIX® GUIDANCE

RELEASE NOTES

Matrix Pro GS v4.42

April 2020

Associated Documentation:

- Manual 98-05273 R12
- Software Update Instructions 98-01483 R2

New Features:

- Multiple changes to align nozzle specifications with international standard ISO 25358, including but not limited to changing the Coarse droplet size category color from Blue to Green, and the Very Coarse droplet size category color from Green to Blue. Previous alignment of nozzle specifications was with ASABE Standard S572

Fixes:

- Fixes problem where FieldPilot Pro and UniPilot Pro systems that are engaged and Autosteering at noon UTC time may disengage Autosteer

Matrix Pro GS v4.41

October 2019

Associated Documentation:

- Manual 98-05273 R11
- Software Update Instructions 98-01483 R2

Fixes:

- Corrects problem in v4.31 through v4.40 where UniPilot Pro and FieldPilot Pro users experienced accurate on-ground Autosteer vehicle positioning but the on-screen as-applied data showed skip/overlap/skip/overlap....on adjacent passes when run in alternating directions (back and forth).
- Corrects problem where UniPilot Pro and FieldPilot Pro users would enter a target heading in the Azimuth Degree guidance mode, but the machine would Autosteer a path that was several degrees different. If Heading was selected in the Guidance bar, the Heading values displayed were of the driven path and not the Azimuth setting entered.

Matrix Pro GS v4.40

April 2019

Associated Documentation:

- Manual 98-05273 R10
- Software Update Instructions 98-01483 R2

New Features:

- Internal temperature limit at which the system will automatically shut down the console is increased from 75°C to 85°C
- A USB Drive app can be used to limit the maximum brightness that the operator can set the display backlight to
- Addition of TT160-110 nozzle (tip) range and update of nozzle (tip) colors
- Supports latest console production requirements

Fixes:

- Corrects problem where a boundary creation action that was paused before the machine started moving would cause the console to shut down.
- Corrects problem where on-screen keyboard did not support the Ñ character
- Removes 'Tip Selection' from the Config->Implement menu when the implement selected is 'Spreader'.

Note: unlock code required for Spreader ASC

Matrix Pro GS v4.33

August 2018

Associated Documentation:

- Manual 98-05273 R9
- Software Update Instructions 98-01483 R2

New Features:

- Support for SCM Pro v4.0.33995
 - Supports machines with 4 wheel steering (4WS)
 - NOTE: See document 98-01548 for the Release Notes for SCM Pro v4.0.33995*
- Support for 30 boom sections for systems running SDM v21.00 or later or SFM v21.00 or later
- Reversing camera support – if machine has a camera and a Reverse Sense Provider (SCM Pro, SCM, or RSM) the operator can select to have the camera view show whenever the machine is in reverse

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- New GNSS Data Rate setting in Config->GNSS Receiver to set the serial port baud rate and NMEA message frequency for devices that source position data from the GNSS receiver internal to the console.
 - Settings:
 - Fast – (Default) 115,200 baud rate, GGA@ 10 Hz, VTG @ 10 Hz, ZDA @ 1 Hz
 - Slow – 19,200 baud rate, GGA @ 5 Hz, VTG @ 5 Hz, ZDA @ 1 Hz
 - NOTE: GNSS Data Rate must be set to Fast if system includes FieldPilot Pro or UniPilot Pro.
- Night Mode setting added to Console Settings->Display so user can quickly toggle between preferred daytime display settings and a low light level mode better suited to night time operation
- Added new spray nozzle (tip) data
- Added warning if the application rate units from the rate controller do not match the units specified in the VRA map
- Restored option to Refresh GNSS Receiver Position when opening a job – USB Drive app required to turn feature on/off

Fixes:

- Multiple changes to enhance Automatic Section Control (ASC) performance
- Corrects problem where the presence of an Adaptive Curve A-B guidance line in a job may cause the screen to go black and the console to stop responding until repowered
- Significant reduction in the time required to reload a large job that has Adaptive Curve A-B guidance line(s)
- Corrects problem where VRA application rates were previously based on the position of the GNSS antenna and not the position of the boom
- Corrects problem where sometimes a VRA job is not shown on the Home page when the job is the only job on the console
- Icons are aligned better in the Navigation Bar on 570GS consoles
- Corrects problem where the guide path drawn to the display while running the Adaptive Curve A-B guidance mode was not exactly the same path sent to the SCM Pro
- Corrects problem where kml report generation would sometimes fail
- Corrects problem where the 'PRN' value (GGA Station ID value) reported in the GNSS Status window when using TerraStar-C or TerraStar-L was reported as value '0'. Now reported as 'TSTR' or 'TSTL' respectively.
- Corrects problem where PDF reports from consoles set to Metric defaulted to paper size 8.5 x 11.0 inch instead of A4
- Changes to several boundary and area setting labels
- Corrects problem where Straight A-B guidelines were not drawn in reports
- Corrects problem where some job settings are not restored correctly if the job is closed, the language is changed, and the job is opened again.
- Corrects problem where an uncommon sequence of events while transferring a VRA job onto the console while in a location multiple UTM zones away from the job would result in the job showing 'Out of Range' on the Home Page once the user was located close to the job again
- Corrects problem where GNSS Receiver data was not being displayed in Config->GNSS Receiver Configuration->Program
- Prevents console speaker from humming when no tone is being generated
- Corrects problem where creating a Shape File report from a job with no applied data would cause an error
- Corrects problem where Boom Pilot Start Mode could be set to Automatic when no Boom Pilot device was connected to system

Matrix Pro GS v4.32

November 2017

Associated Documentation:

- Manual 98-05273 R8
- Software Update Instructions 98-01483 R1

Fixes:

- Corrects problem where certain page changes after a Refresh GNSS position activation can cause the console to stop responding

Matrix Pro GS v4.31

July 2017

Associated Documentation:

- Manual 98-05273 R7
- Software Update Instructions 98-01483 R1

New Features:

- New Adaptive Curve guidance mode added
- Finnish language added



WARNING! USB DRIVE RESTRICTIONS

TeeJet labeled 16 GB USB Drives that have a blue loop (Figure 1) are suitable for transferring job data and reports on/off TeeJet Matrix Pro GS consoles, but they are **NOT** suitable for loading Matrix Pro GS console software updates.

TeeJet labeled 8 GB USB Drives with a yellow loop (Figure 2) are suitable for job data/reports transfer and for loading Matrix Pro GS console software updates.

Please contact TeeJet Technologies Customer Support with any questions.

Figure 1: TeeJet 16 GB USB Drives



Figure 2: TeeJet 8 GB USB Drives



WARNING!: Do not use a USB storage device with U3 technology (also known as "U3 smart drives") as U3 technology could cause downloading or job storage issues.

- Swedish language addition no longer requires additional Language Update
- User can now reset the ClearPath Filter using GNSS Refresh button in the Navigation and Guidance tab options
- Multiple new mapping functions:
 - Now supports a combined total of 100 External/Internal boundaries
 - New polygon mapping feature – up to 100 polygons
 - Up to 15 Polygon names can be saved and selected from a drop-down list
 - Boundary mapping location on the machine is user selectable
 - Boundary & Polygon mapping functions moved to a new slide-out panel
 - 50 m² minimum polygon size has been removed
 - Added Polygons to Shape, KML and PDF exports
 - Boundary and Polygon mapping can now be paused and resumed
- Automatic Section Control now allows product application when an Internal Boundary exists but an External Boundary has not yet been created
- Added pop-up message when in a job to remind users that some settings cannot be edited while the job is open
- The position data used in Demo GNSS mode has been changed to better illustrate Automatic Section Control

Fixes:

- Corrects problem where Automatic Section Control would momentarily turn the booms off when the GNSS signal changed from Quality Indicator 1 to Quality Indicator 2 when the GNSS settings were a) GPS/DGPS or b) DGPS Required was not checked
- Corrects problem where a Third-Party Rate control job could be started before the rate control device had been discovered
- Corrects problem where Demo GNSS sometimes could not be restarted without repowering the console
- The .prj file contained in Shape File exports is now in a single line and ends with <CR><LF>
- Demo GNSS app updated to provide position data at 10 Hz
- Error pop-up is displayed if VRA job has the wrong units for the rate controller connected
- Jobs with large boundaries load significantly faster
- Corrects potential problem where a user creating a new job in Advanced Mode with other jobs already saved may inadvertently open the last job rather than the intended new job
- Corrects problem where the GNSS requirements could not be set when the receiver type was set to External
- Corrects problem where systems with a FieldPilot Steering Control Module (SCM) or Reverse Sense Module (RSM) may not correctly sense reverse vehicle movement
- Corrects problem where the lateral boom projection was not correct when the machine is equipped with FieldPilot Pro / UniPilot Pro and is traveling in reverse
- Corrects problem where rate data was missing in Shape file exports from some equipment combinations
- Corrects problem where the where-applied swath painting spanned the distance traveled while the GNSS signal did not meet the minimum Quality Indicator requirement set by the user
- Several corrections to Help Text
- Corrects problem where Spreader or Staggered booms operating in ASC Auto mode would momentarily turn on and off again when first backing up over an already applied area
- Corrects problem where a job containing Circle Pivot and/or Straight AB guidelines that is closed and opened again in the same session may not allow FieldPilot Pro / UniPilot Pro to engage on those same guidelines
- Corrects problem where sometimes the hourglass was not being displayed when it should have been, so that users know that the system is still functioning correctly

Language Update v10.02

March 2017

- Update to support Production requirements

Matrix Pro GS v4.21 Language Update v10.01

November 2016

New:

- Added Swedish

Matrix Pro GS v4.21

August 2016

WARNING: This software update is not compatible with StarGuide or Matrix Pro GS consoles providing automatic section control with current versions of Kverneland Flow Mate Control, Flow Master and Focus II rate controllers.

Associated Documentation:

- Manual 98-05273 R6
- Software Update Instructions 98-01483 R1

New Features:

- Curved AB guidance mode added for FieldPilot Pro and UniPilot Pro systems
- Support for optional External Lightbar
- Enhanced Reverse Sense performance when operating FieldPilot Pro and UniPilot Pro.
- SCM Pro can be enabled from the GUI – no need for USB Drive app

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- Estonian language addition no longer requires additional Language Update

Fixes:

- Corrects problem where the CAN speed message used by some connected devices stopped being broadcast at zero speed.
- Multiple changes to FieldPilot Pro and UniPilot Pro pages, Help Text, and pop-up dialogs
- Corrects problem where the Target rate displayed after power-up was the last rate from the VRA job in the previous session
- Corrects problem where some systems would fail to consistently recognize SCM Pro at console boot
- Corrects problem where time was not saved to the Real time clock
- Corrects problem where the Circle-Pivot guidance mode guideline in pdf reports was sometimes rendered poorly
- Manual PRN selection has been removed from the GUI when the receiver port is set to External
- Corrects problem where some NovAtel external receivers would be errantly reconfigured during console boot
- Cosmetic enhancements to multiple pages

NOTE: Several of the changes in v4.21 require that Fieldware Link users update to Fieldware Link v5.02.

Matrix Pro GS v4.20 Language Update v10.00

June 2016

New:

- Added Estonian

Matrix Pro GS v4.20 Language Update

May 2016

Fix:

- Updated all languages with AutoSteer translations
- Corrections to several help text and pop-up dialogs for FieldPilot Pro & UniPilot Pro

Matrix Pro GS v4.20

March 2016

WARNING: Prior to v4.20, consoles with an internal GNSS receiver operate the console com port at 19200 baud rate. v4.20 and later operates the console (with internal receiver) com port at 115200 baud rate. If you are connecting a device to the console com port to receive NMEA data from the internal GNSS receiver, and that device cannot be configured to operate at 115200 baud rate, you should not update to v4.20 or later.

WARNING: This software update is not compatible with StarGuide or Matrix Pro GS consoles providing automatic section control with current versions of Kverneland Flow Mate Control, Flow Master and Focus II rate controllers.

Associated Documentation:

- Manual 98-05273 R6
- Software Update Instructions 98-01483 R1

New Features:

- First Release for FieldPilot Pro & UniPilot Pro Autosteering systems
- Supported Steering modes for FieldPilot Pro & UniPilot Pro
 - Straight-line AB
 - Circle Pivot

NOTE: Last Pass and Curved AB modes are not supported for FieldPilot Pro and UniPilot Pro in v4.20
- Autosteer Demo mode built into application
- FieldPilot Pro & UniPilot Pro pages only supported in English language. Language updates coming soon for the other languages already supported by Matrix GS and Aeros. Note: non-AutoSteer pages supported in the same languages as v4.12
- Internal GNSS Receiver now operates at 115200 baud, 8-N-1.
 - GGA @ 10 Hz, VTG @ 10 Hz, ZDA @ 1 Hz

Fixes:

- Changes to GNSS subsystem result in faster boot times for many configurations, and GNSS position continuity while opening and closing jobs
- Increased the speed at which FieldPilot setup values increase/decrease on the console
- Job must be closed before any Job Data can be transferred to/from console
- Corrected problem where vehicle profiles that did not include a BoomPilot device that were created in earlier versions would not load in later software versions. Note: loading profile the first time in v4.20 will generate a warning. Saving the profile again will prevent further warnings.
- Corrected problem where sometimes external GNSS receivers were being reconfigured during console boot.
- VTG enabled, and SBAS disabled for default Chinese configuration

Matrix Pro GS v4.12

November 2015

New Features:

- Boot time reduced by enhancements to GNSS receiver operation

Fixes:

- Corrections for Japanese language selection and operation
- Corrected language in Job Summary screen when set to Czech language

Matrix Pro GS v4.11

April 2015

Associated Documentation:

- Manual 98-05273 R5
- Software Update Instructions 98-01483 R1

New Features:

- GLONASS included as standard feature in all Matrix Pro GS units shipping after approximately May 1, 2015
- Language addition: Bulgarian, Czech, Chinese, Danish, Dutch, English [INTL], English [US], French, German, Hungarian, Italian, Japanese, Lithuanian, Polish, Portuguese [BZ], Romanian, Russian, Spanish [CA/SA], Spanish [EU]
- Additional GNSS Receiver mode that allows user to select GPS+GLONASS+SBAS
- Date/Time in job names changed to ISO date/time format
- Automatic Section Control Overlap % now defaults to 100%
- Default Job mode changed from Advanced to Simple
- Option to reset the ClearPath GNSS filter when opening job – USB Drive required to turn feature on/off
- GNSS Receiver model code identified in GNSS Stats

Fixes:

- Non-critical ISOXML import errors no longer generate GUI pop-ups
- Laterally offset boom configurations correctly map boom location when running VRA and/or IC18/IC34 rate control
- In VRA applications, when available from the rate controller or the preplanned, job, the following data is now included in the pdf report:
 - Applied Area
 - Applied Volume
- Corrected problem where updating from v2.50 toggled Auto Steer On and the Auto Steer was not supported in the original machine profile.

Matrix Pro GS v4.10

September 2014

New Feature:

- TeeJet compatible ISOXML prescription maps can be imported for variable rate applications

Matrix Pro GS v4.00

June 2014

New Features:

- Third-Party Rate control (VRA) added for the following rate controller protocols:
 - LH5000 (e.g. TeeJet 500, Radion 8140)
 - TeeJet 844
 - MidTech98 (e.g. TeeJet 854, does not include TASC series)
 - TeeJet Teton
- BoomPilot in Reverse - Supports optional Reverse Sense module that allows BoomPilot to operate while the machine is traveling in reverse
- Jobs can be started with Automatic Section Control in Automatic mode
- Language Update version distinction in About screen
- Remaining disk space noted on About screen
- Upload software to SDM on CAN
- Additional options added to Units Converter
- Selectable Job Information on guidance screens additions of Target Rate and Actual Rate
- Selectable on screen map displays including Where-applied coverage, prescription map zones, Target Rate, and Actual Rate
- Languages available: English-US and English-International
- Updated PDF, SHP, and KML reports to include new map options
- Support for new tips including new images and updated, coordinated colors
- Show guideline name after activating next guideline
- X-Track error value can be customized, and can display greater resolution

Fixes:

- Approach to guideline when first engaging FieldPilot on each pass improved
- Ground speed now displayed when in Reverse

Matrix Pro GS v3.05 Language Update

September 2014

New Feature:

- Added Lithuanian language

Fix:

- Updated all other languages

Matrix Pro GS v3.05

April 2014

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Fix:

- Update to support Production requirements

Matrix Pro GS v3.04

October 2013

Fix:

- Unlock code issues

Matrix Pro GS v3.03

September 2013

Fix:

- USB Drive application support updated to enhance Technical Support & Production requirements:

Matrix Pro GS v3.02

September 2013

New Features:

- Three implement types:
 - In Straight mode – the boom sections have no length and are on a line a fixed distance from antenna
 - In Spreader mode – a virtual line is created in line with the delivery disks from which the application section or sections can vary in length and can be at different distances from the line (available only through an unlock code)
 - In Staggered mode – a virtual line is created in line with Section 1 from which the application section or sections have no length and can be at different distances from antenna
- Machine settings profiles – used to transfer machine settings profiles (delete, import, export) and manage machine settings profiles (create a new profile, copy a profile, delete a profile, save the current profile to the selected profile or load the selected profile)
- Implement Offset – used to enter the distance and direction from the GPS antenna to the center of the implement on machines where the implement is not centered relative to the GPS antenna location
- GPS configuration option: PRN – allows optional manual selection of the SBAS PRN used for GNSS differential correction data
- Droplet Size Monitor – When a Pressure Sensor Interface Kit is present, Matrix GS provides real time sensing and displaying of droplet size
- Enhanced application control
 - On-screen ABSC switch – No more need for Work On/Off Switch on single boom machines
 - Applied Area Alarm – used to establish an alert to signal when exiting or entering an applied area without BoomPilot on the system
- Enhanced screen features
 - Increased viewing space in Vehicle View Guidance and Field View Guidance
 - Three new screen color schemes
 - Simplified access to setup options with scrolling screens
 - Camera Image Capture in RealView Guidance
 - Press and drag panning now in Field View Guidance
 - Guidance options on transparent background
- Increased information availability on guidance screens
 - Coverage area displayed on Home pages and Status Bar pop-outs
 - Tilt Correction Status now on Status Bar
- Video configuration options available with direct-connect camera
 - Image from single camera on 840 can now be flipped without adding VSM
- Added Bulgarian language
- FieldPilot remains engaged when GNSS Quality Indicator changes from 4-to-5 and 5-to-4

Fixes:

- Chinese and Japanese languages supported in reports
- Enhanced ABSC Performance
- Enhanced application control gives more accurate boundary mapping
- More elegant handling of data from non-adjacent UTM zones

MATRIX PRO



Matrix Pro v2.50

March 2013

New Feature:

- Same functionality as v2.04 but on new GS hardware.

Matrix Pro v2.05

January 2015

Fix:

- Changed icons with text (ex: Mark A, Camera A) to icons that do not include font usage.

Matrix Pro v2.04

June 2012

New Features:

- Job data including boundaries, guidelines and application can be duplicated into a new job directly in the Matrix Pro console – no need to use Fieldware® Link.
- Added auto steering support for Steering Angle Sensor (SAS) – requires SCM v10.03
- Added console languages Japanese, Finnish, Romanian, Estonian, Serbian and International English
- Added method to ensure tilt data is stable before locking in Field Level calibration values from TGM and SCM – requires SCM v10.03
- Added UniPilot® to AutoSteer setup – requires SCM v10.03

Fixes:

- Client\Farm\Field\Job data fields now populated in pdf job report
- Irregular exit procedure from job no longer creates invisible applied area between consecutive jobs
- Tilt Gyro Module no longer identified as TCM in 'About' page
- Numerous changes to languages

Matrix Pro v2.03

November 2011

New Feature:

- Enhanced guideline acquisition of FieldPilot® systems after making headland turns

Fixes:

- Help text for ABSC on and off delays corrected
- FieldPilot valve test sequence terminated when user exits Max Duty Cycle settings page
- AutoSteer valve test timer increased from 10 to 15 seconds

Matrix Pro v2.02

September 2011

New Feature:

- Add new Style Sheet (color scheme) similar to v1.04

Fixes:

- Stopped application from reconfiguring some external GPS receivers when Receiver Type was set to 'External'
- Problem with pdf reports & kml files when set to Russian language and Metric units corrected
- Missing Russian translations in some screens corrected

Matrix Pro v2.01

May 2011

Fix:

- Change to recognize new GPS receiver version strings

Matrix Pro v2.00

April 2011

New Features:

- New User Interface
- Support GLONASS option GPS receiver
- Application Reports
- Companion PC application – FieldWare® Link
- Guidance:
 - A+ Azimuth Guidance mode
 - NextRow Guidance mode
 - Created independent widths for guidance and product application
 - Multiple Guideline Support
 - Folded Boom mode for headland spraying
 - Vehicle Trajectory Indicator
- Field Finder
- Internal boundaries for ABSC
- Auto Steering:
 - Requires SCM v10.00
 - Added valve diagnostic page
 - 3-state Steering Status display
- Improved Video Configuration page
- Calculator tool
- Units converter tool
- Chinese language support

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Matrix v1.05

January 2011

New Feature:

- Added capability to display OEM Splash Screens prior to launch of application

Matrix v1.04

May 2010

New Feature:

- Global release of Matrix application for 570G & 840G



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