SSC6100 Gen 5 Features Comparison

Feature	Firmware Version					
	0.68	0.69	0.70	0.73	0.75	0.76
• Added support for use of an Auger Reverse Selector Valve, enables the use of a single proportional valve to operate the auger and switch directions. • Added stuck switch errors for the iGrip pushbuttons. • Added support for the Vaisala MD30 Sensor.						X
• Added the ability to enable data totals for granular, direct, and prewet materials while in Open Loop Mode. • Added support for the large wing. This will indicate its position as well as display a target distance. • Added support for video tutorials (separate upgrade required).					X	X
• Added the ability to switch the CommandAll® Single functions without returning the joystick to the center position. • Corrected the operation of the spinner so that it will only run when its parent function is running. • Added new messages to the error log to indicate when the calibration default settings are restored and when a firmware upgrade was performed on the system.				X	X	X
• Additional changes made to improve the robustness of the cellular communication with the PreCise® MRM myFleet server.			X	X	X	X
• Improvements made to the cell communication process to increase its reliability of maintaining a connection when operating in weak cell signal areas. • Enhanced the device pairing screen operation to prevent the accidental unpairing (forgetting) of a device when attempting to exit the menu. • Changed how manual still image captures operate to resolve an issue where the captured image was not showing the proper orientation. During an image capture the screen will change to "Capturing…" • Changes made to resolve situations where the controller would not fully shutdown when dash key was removed.		X	X	X	X	X
• Fixed an issue that was causing a blue screen to display when the backup camera was activated by an input. • Changes made to the PreCise® MRM bread crumb reporting to make sure the ignition off is transmitted prior to shutting down the system. • Disabled the dual camera image display whenever still image auto capture is enabled.	X	X	X	X	X	X

6100 Change Log for Stable Releases

6100 Spreader Control Software (0.76), Release 2024-09-09

New Features:
- Added support for use of an Auger Reverse Selector Valve, enables the use of a single proportional valve to operate the auger and switch directions.
- Added stuck switch errors for the iGrip pushbuttons
- Added support for the Vaisala MD30 Sensor.

Issues Resolved:
- Resolved an issue where the system would terminate the connection on the cell system if it encountered a response to the wireless network carrier that was other than AT&T or Verizon.
- Fixed issue where the system could be taken out of standby if an ICON, NOTICE, or NONE error box or message box is displayed.
- Fixed issue with a setting related to background camera capture and OTA transfer that would require a restart before the change took effect. A restart is no longer required.
- Fixed crash that would occur when the loaded data item index was greater than the number of data items.

Other Changes:
- Updated the default joystick max duty cycle to 55%.
- Updated the default spreader functions max duty cycle to 50%.

6100 Spreader Control Software (0.75), Release 2024-06-05

New Features:
- Added the ability to enable data totals for granular, direct, and prewet materials while in Open Loop Mode.
- Added support for the large wing. This will indicate its position as well as display a target distance.
- Added support for video tutorials (separate upgrade required).

Issues Resolved:
- Made improvements to resolve occasional gray screen on boot.
- Changes made to J1939 log messaging to prevent system from being bogged down.
- Fixed issue where direct softkey needed to be active for direct unload to work.

Other Changes:
- Added tow plow granular, prewet, and unload totals to the detailed report.
- Added tow plow direct, prewet, and unload totals to the summary report.
- Unused direct module inputs should now show up as Not Used in the diagnostics menu.
- Added "Camera #" to the blue camera screens to make it easier to determine which is active.

6100 Spreader Control Software (0.73), Release 2024-03-22

New Features:
- Added the ability to switch the CommandAll® Single functions without returning the joystick to the center position. This ability is configured through a calibration item located under the joystick setup. Default requires the joystick to be in center.

Issues Resolved:
- Corrected the operation of the spinner so that it will only run when its parent function is running.
- Changes made to prevent the application rates from being affected when the operator interface is reset.

Other Changes:
- Added new messages to the error log to indicate when the calibration default settings are restored and when a firmware upgrade is performed on the system.
- Eliminated a false error message from being logged to the system log when the spreader switch was off.
- Enhanced the firmware version information that is displayed in the diagnostic log.

6100 Spreader Control Software (0.70), Release 2023-03-27

Issues Resolved:
- Additional changes made to improve the robustness of the cellular communication with the PreCise® MRM myFleet server when in weak cell signal areas with poor performing cell data connections.

6100 Spreader Control Software (0.69), Release 2022-12-08

Issues Resolved:
- Changed how manual still image captures operate to resolve an issue where the captured image was not showing the proper orientation. During an image capture the screen will change to "Capturing…".
- Changes made to resolve situations where the controller would not fully shutdown when the truck was turned off.

Other Changes:
- Improvements made to the cell communication process to increase its reliability of maintaining a connection when operating in weak cell signal areas.
- Enhanced the device pairing screen operation to prevent the accidental unpairing (forgetting) of a device when attempting to exit the menu.

6100 Spreader Control Software (0.68), Release 2022-10-28

Issues Resolved:
- Fixed an issue that was causing a blue screen to display when the backup camera was activated by an input.
- Changes made to the PreCise® MRM bread crumb reporting to make sure the ignition off is transmitted prior to shutting down the system.

Other Changes:
- Disabled the dual camera image display whenever still image auto capture is enabled.

6100 Spreader Control Software (0.67), Release 2022-10-14

New Features:
- Added new data items that will display the active materials displacement (lbs/gal) amount. This value will match the current total displacement amount and will reset when current totals are reset.

Issues Resolved:
- Changes made to the still image capture feature to prevent systems with the feature enabled from locking up the UI when an issue occurs with the capturing of the image from the camera.

6100 Spreader Control Software (0.66), Release 2022-07-28

Issues Resolved:
- Fixed an issue with the current and season data totals for prewet and direct mileage and displacement.
- Resolved issues with the event logging string not properly displaying the direct material name and totals for prewet and direct liquid.

6100 Spreader Control Software (0.65), Release 2022-04-20

New Features:
- Image features added for automatic and manual image capture BETA testing.

Issues Resolved:
- Blue screen operation modified to improve system delay.
- Modified reset error code logging to reduce unnecessary messages.

6100 Spreader Control Software (0.64), Release 2022-04-11

Issues Resolved:
- Fixed an issue where the Telit modem would cause production test failure.

6100 Spreader Control Software (0.63), Release 2022-03-23

Issues Resolved:
- Fixed an issue having to do with OTA file reception.

Other Changes:
- System Error Log will now include Joystick Reset Codes.
- The operator interface backlight can now be turned completely off.
- Spraybar Manual mode added.

6100 Spreader Control Software (0.62), Release 2022-02-16

New Features:
- ATT Telit modem added to supported cell systems.
- Prewet/direct (shared tank) dual liquid countdown added.

Issues Resolved:
- Blue screen operation modified to stop system spamming.
- Fixed an issue where Direct Liquid mileage was not being tracked.

- Fixed an issue where the even string items were out of order.

Other Changes:
- Modifications made to the Device Pairing menu for ease of use.

6100 Spreader Control Software (0.61), Release 2021-12-09

Issues Resolved:
- Resolved an issue with the cellular data connection failing due to the complications resolving the hostname to connect to the server.
- Corrected an issue where the J1939 baud rate was not properly being initialized on startup.
- Changes made to help reduce card corruption on system shutdown.

6100 Spreader Control Software (0.60), Release 2021-12-06

Issues Resolved:
- Resolved an issue with the cellular data connection failing due to the complications resolving the hostname to connect to the server.
- Corrected an issue where the J1939 baud rate was not properly being initialized on startup.
- Changes made to help reduce card corruption on system shutdown.

6100 Spreader Control Software (0.59), Release 2021-11-04

Issues Resolved:
- The system now clears the duplicate device error when one of the devices stops communicating.
- Resolved an issue where the breadcrumb point that immediately followed a transmission was not being reported.
- Resolved an issue that was causing the user to be prompted to overwrite a calibration file even though it did not initially exist on the USB drive being used.
- Resolved an issue where the liquid countdown tanks could reflect an erroneous value and show the gauge image with a bar that exceeded the height of the gauge outline which occurred when the tank capacity was adjusted below the filled level setting. Tank level is reset to
- Updated the reporting of the temperature sensor information in the event string so that when no communication has been established with the sensor after a startup no values are reported in the event string. This corrects an issue where a value of 0C or 32F was being reported when no communication existed with the sensor.
- Corrected an issue where the temperature related data items may reflect an incorrect reading due to buffering the initial readings.

Other Changes:

- Changed how the available/selected modules appeared in the Device Configuration calibration screens. Paired modules will now reflect a black checkmark and connected and paired modules will reflect a green checkmark.
- Changed the communication with the PreCiseMRM servers for OTA items to use a hostname instead of a static IP.
- Changed the operation of the temperature sensor communication detection so that the blanking of the readings as it waits to establish communication with the sensor so that it will indicate a communication error after a period of time depending on the type of sensor being used as well as settings related to that sensor.

6100 Spreader Control Software (0.58), Release 2021-09-28

New Features:
- Added implement device pairing.
- Added the ability to receive calibration files via OTA.
- Changes made to prevent the system from crashing when exporting calibration settings, if the value is outside of the viable range "INVALID VALUE" will appear.
- Removed blast support for dust control, and herbicide application.
- Updated default valve frequency to 200 Hz from 50 Hz to support the VDM Gen 2 system.
- Corrected the default overspeed alarm enable setting to be a valid value (OFF).

Issues Resolved:
- Set rate with spraybar and blast active does not allow set rates to return to proper value
- Prewet output change when in blast operation
- Spinner setting - disabling/graying when inactive
- Simultaneous setup cannot turn direct off if prewet on
- Dual camera toggling fixed

6100 Spreader Control Software (0.56), Release 2021-08-06

New Features:
- Added the Spray Bar spreading feature for rapid switching between prewetted granular and direct application.
- Added a calibration setting to switch between 250k/bit and 500k/bit baud rate for the J1939 CAN connection.

6100 Spreader Control Software (0.55), Release 2021-06-16

New Features:
- Added a Low Battery Voltage Error.

Issues Resolved:
- Resolved an issue where Dust Control and Herbicide would not run blast when the system was not moving.

Other Changes:
- Changed all header bars to all CAPS.

6100 Spreader Control Software (0.54), Release 2021-05-06

New Features:
- Added an adjustable audible alarm to sound when the driver login screen is active.
- Added the ability to change the cross auger direction using a momentary input.

Issues Resolved:
- Resolved an issue that could prevent the system from establishing communication with the wireless ARC sensor on initial start of the system.
- Resolved an issue where the wireless ARC sensor calibration values were not being transmitted to the sensor on system startup.
- Fixed an issue that prevented the PreCise®MRM communication error from being indicated properly when both onboard and external event logging settings were set to PreCiseMRM.
- Corrected an issue that prevented Spreader State Hardware Configuration items from working with logic items and other inputs.

Other Changes:
- Added an additional backlight level of 5% for the operator interface and joystick transmitter boards. Note: The LCD display backlight is still limited at 10%.
- Changed the Speedometer Communication Error to J1939 Communication Error.

6100 Spreader Control Software (0.53), Release 2021-04-06

New Features:
- Added configurable alarms for feedback and range errors.
- Added configurable alarms for low prewet, low direct, low herbicide and low dust control warnings.
- Added configurable alarms to indicate the operation of the granular, prewet, direct, herbicide and dust control unload.
- Added a minimum volume level feature which prevents an operator from setting the volume below a level specified in calibration.
- Added support for using the truck J1939 system as an alternative source for vehicle speed.
- Added support for using the truck J1939 system as an alternative source for determining when the vehicle is in reverse using the transmission gear position.
- Added a new float type of Dual/Adjustable Power float.
- Added support for operating the spinner system when using the direct output and no granular output.
- Added status messages when transferring the diagnostic log to a USB key or OTA.

Issues Resolved:
- Removed the solid buzzer beep when performing a restart as part of a firmware upgrade.
- Changed the operation of the temperature sensor reading on startup to require that communication has been established with the temperature sensor before indicating a communication error. The sensor information will display (---) on startup.
- Fixed the issue where event logging would not function correctly when the Event Logging (Serial) and Event Logging (OTA) options were both set to PreCise® MRM.
- Fixed an issue preventing the tow plow outputs from working when used with the output chaining which is defined in the hardware config file.
- Fixed an issue preventing the tow plow granular and tow plow prewet outputs from becoming active when activating the blast feature while the spreader control is in standby.
- Fixed an issue preventing the direct manual rate from being displayed and adjusted when direct was placed in manual mode.
- Resolved an issue that would cause the system to become unresponsive when unexpected data was received on the radio used with the wireless ARC sensor.

Other Changes:
- Additional enhancements made for the operation and recovery of cellular communication when operating in weak cell signal areas.
- Enhancements made for the OTA transfer of error logs.
- Updated the alarm level defaults.
- Increased the prewet application max set rate to 99.9 gal/ton (425 L/ton).
- Updated various onscreen keyboard button sizes for consistency.

6100 Spreader Control Software (0.52), Release 2021-02-16

Issues Resolved:
- Resolved an issue where the screen would momentarily black out when changing header bar messages.

- Fixed the issue where the scale selection was not working properly in granular autocal.

Other Changes:
- Additional enhancements made for the operation and recovery of cellular communication when operating in weak cell signal areas.
- Improved the GPS initialization sequence.
- Added debugging items related to the operation of the GPS system.

6100 Spreader Control Software (0.51), Release 2021-01-29

Issues Resolved:
- Changed the operation of the CommandAll® Single Joystick interlock, when set to momentary it will cancel the output the moment the button is released without returning to center.

6100 Spreader Control Software (0.50), Release 2021-01-25

New Features:
- Added an adjustable alarm for when blast application is active.
- Added min/max settings for each application type when the output is used for multiple application types (ie. Auger and Direct).
- Added lane control when performing min/max calibration for dust control and herbicide application.
- Added a new left screen to display the ARC temperature readings similar in appearance to the stand alone ARC Sensor display.
- Added the selection for which spinner output should operate when in calibration, material displacement and unload mode.

Issues Resolved:
- Corrected an issue where the engine hours reported on the PreCise® MRM website were double the actual engine hours for that period due to a reporting issue from the system.
- Fixed an issue that was causing the system to cancel attempted firmware upgrades.

Other Changes:
- Additional enhancements made for the operation and recovery of cellular communication when operating in weak cell signal areas

6100 Spreader Control Software (0.48), Release 2020-12-07

New Features:
- Added support for an info button in calibration to display the help/info text associated with the calibration menu item. This text matches the text listed in the calibration manual for that item.
- Added support for the adjustable temperature compensation average size.
- Added the liquid material countdown feature. This feature allows for a gauge screen and data item that can be used to show the amount of liquid remaining in the prewet or direct liquid tanks during operation. The feature allows for a low liquid notification to the operator when the liquid level decreases to a specified percentage in the tank.

Issues Resolved:
- Resolved the issue that was preventing the system from operating a float when multiple modules of the same type existed in the hardware configuration.
- Resolved an issue that was preventing the Event Logging Interval Trigger menus from being available in calibration.

- Improved the recovery of cellular communication and transmission of the current vehicle location in poor cellular connection locations.
- Improved the shutdown process to recognize and handle poor cellular connections allowing for proper shutdown of related devices.

Other Changes:
- Added the ability to tell when the system is unable to detect a sim card by indicating "NO SIM" in place of the ICC ID.
- Improved the cellular diagnostic logging and preservation.

6100 Spreader Control Software (0.46), Release 2020-10-13

Issues Resolved:
- Resolved where the device was improperly reporting a communication error when it was not on the active implement (introduced in version 0.44)

6100 Spreader Control Software (0.44), Release 2020-09-18

Issues Resolved:
- Updated the diagnostic menu to properly reflect the state of the ON-OFF style switches.
- Fixed an issue where the system would report an iGrip Communication error on startup even though the iGrip Joystick was properly connected.
- Fixed an issue that was causing the current and season data report generation to hang or generate a blank report.
- Changes made to resolve the random large float delay time experienced when adding a new float via a Hardware Config file update.
- Changes made to resolve an issue that was preventing the CommandAll® Single Joystick from operating outputs when the interlock option was removed via a Hardware Config file update.
- Fixed an issue that was requiring the blast button to be pressed multiple times in order to cancel the timed or distanced blast operation.

Other Changes:
- Added support for the chaining of the tow plow feedback and output connections.

6100 Spreader Control Software (0.43), Release 2020-08-27

Issues Resolved:
- Resolved an issue where the system was not properly detecting the presence of the modules on startup.
- Fixed an issue where the calibration settings related to the Hub Inputs did not transfer properly during import/export of the calibration settings.

Other Changes:
- Added a "Clear OTA Upgrade" option to suppress notices of available upgrades that would not be used.
- Changed the tow plow spinner rate adjustment buttons so that they only appear when the separate spinner spread widths are enabled in calibration.

6100 Spreader Control Software (0.42), Release 2020-08-13

New Features:
- Added support for the dust control application. This mode allows for the use of multiple lanes (widths) controlled by ball valves, low dust control liquid warning, data logging and standard control system features.
- Added support for the herbicide application. This mode allows for the use of multiple lanes (widths) controlled by ball valves, low herbicide liquid warning, data logging and standard control system features.
- Added support for spinner feedback and spinner feedback chaining.

Issues Resolved:
- Resolved an issue with the PreCise® MRM meter data not being reported correctly.
- Resolved an issue where the active float outputs did not cancel when the system experienced a communication error with a valve module.
- Improvements made to allow for the resuming of data transfers due to cellular interruptions, allowing for the continuous monitoring of a units location.

Other Changes:
- Added support for the retrieval of the cellular modems IMEI information and display to the operator.
- Improvements made to the display rates associated with the material application to better reflect the physical changes in the application rates.

6100 Spreader Control Software (0.41), Release 2020-07-16

Issues Resolved:
- Resolved an issue upon startup that was causing the system to become stuck in the Estop Testing screen and would not allow the system to be shutdown using the dashkey connection.

6100 Spreader Control Software (0.40), Release 2020-06-26

Issues Resolved:
- Resolved an issue upon startup when the system did not have GPS reception and did not have a valid cell connection which resulted in a Fatal System Error message.

6100 Spreader Control Software (0.39), Release 2020-06-17

New Features:
- Added a diagnostic menu to indicate the GPS satellite information.
- Added the ability to use joystick features of floats, recalls, function limits and enables with switch controlled valve functions.
- Added support for transferring the diagnostic error log OTA (Over the Air) using the cellular connection.
- Added the ability to receive firmware files OTA.

Issues Resolved:
- Fixed an issue where the backlighting on the operator interface would not turn on at startup until adjusted.

Other Changes:
- Additional enhancements to the diagnostic menus.

- Added a pop-up box to indicate the system is restarting when initiated from a calibration menu option or firmware upgrade.
- Changes made to improve the speed associated with the acquisition of a GPS signal.

6100 Spreader Control Software (0.38), Release 2020-04-17

New Features:
- Added diagnostic menus to observe the state of the inputs and outputs and limited device information for each module.
- Added support for the 5 Second Spinner Run On mode.
- Added the ability to user the spreader switch state inside the Hardware Configuration options.
- Added new error message for indicating a short circuit detection on the camera power, Camera Short Fault.

Issues Resolved:
- Fixed an issue where the display would lag when no cameras were connected and the user would activate a camera view. Fixed an issue where the backlight on the joysticks and operator interface was not active under certain startup conditions until the level was adjusted by the operator.

Other Changes:
- Added camera still images for use when demonstrating cameras when the spreader is connected to a computer with the VNC option enabled.

6100 Spreader Control Software (0.37), Release 2020-02-07

New Features:
- Added a new float type called "Pressure" which allows the header bar description to indicate pressure instead of float when active.
- Added tow plow granular, tow plow prewet and tow plow direct unload modes
- Added adjustments in calibration for the Wireless Arc Sensor settings (Report time, Wake time and Accelerometer Threshold). Also added the displaying of the current and peak accelerometer readings for X, Y and Z and false starts. Added the ability to reset the peak acceleration and false start values.
- Added the ability to change the state of the spinner reverse feature using an external input configured in hardware config in addition to the soft switch.
- Added the generation of a calibration settings text file that is exported with the calibration settings.

Issues Resolved:
- Fixed an issue where totals could not be cleared multiple times without a power cycle between clear attempts.
- Fixed the missing "CAMERA" text activation indicator on the navigation stick display area when manual camera activation is enabled.
- Fixed an issue where the tow plow materials were not changed when a new material was selected.
- Reduced noise seen on camera displays when not operating at 100% backlight.

Other Changes:
- Changed the cell signal strength indicator to a percentage value with 0% indicating no signal.

6100 Spreader Control Software (0.36), Release 2019-12-26

New Features:
- Added Spreader Disable feature which prevents the system from being removed from standby when active. The input used to activate the mode is configured in the hardware config file.

- Added support for a 0-20mA sensors.
- Added spinner reverse feature. A softkey can toggle the direction of a spinner without needing to change directions of the spreader.

Issues Resolved:
- Changes made to eliminate Wireless ARC sensor communication errors.
- Resolved issue of the screen occasionally going blank for 1-2 seconds when exiting calibration.

6100 Spreader Control Software (0.33), Release 2019-11-01

New Features:
- Added ability to enable outputs when in cross left or cross right mode.
- Added manual Driver ID entry screen.
- Added ability to run PreCise® MRM and a 3rd party AVL device simultaneously.
- Added ability to connect the system up to a projector.

Issues Resolved:
- Resolved issue of float delays and auto recall times randomly being set to high numbers after loading hardware config settings.

Other Changes:
- Changed Aux Power mode to operate without the need for a granular implement being active.