

REVISIONS						
REV.	ECO	DESCRIPTION	VERSION	APPROVAL	DATE	
D	30565	REVISED PER ECO	1.2.0.9	JRW	12/11/17	
E	30632	REVISED PER ECO	1.2.1.2	JRW	12/22/17	
G	32030	REVISED PER ECO	1.4.1.5	E HERNES	11/12/18	
H	32905	REVISED PER ECO	1.5.0.76	E HERNES	02/28/19	

RELEASE NOTES:

<b>VERSION:</b>	<b>1.5.0.76</b>	FILE NAME: P439V1_5_0_76_22C1BC58.hex
		SIZE: 5,628,460 BYTES

Version 1.5.0.76 (01-24-2019)

- Added support for Granular Dry Manure/Litter application mode with dynamic calibration and cleanout features (RCM Level 3 only).
- Added soft ramp down of duty cycle for Spinner/Fan products with PWM control valve utilizing PWM Startup feature.
- Improvements to Precision Farming wizard including the implement and section width configuration.
- Improvements to no rate detected alarm.
- Planter Section Control mode now has option for Power to Apply section control logic.
- Spinner/Fan products now have control valve option of None.
- Updates to hardware pinouts for Granular Meter per Section and Planter Seed Rate Control application modes to fully support electric drives.
- Added support for Sensor Gateway Module ECU.
- Added support for 0-138 inches of water pressure transducer.
- Added metric pressure units of centimeters of water.
- Various improvements to tank level sensor accuracy.
- Added support for OEM tank level float sensors.
- Added support for Standby Pressure for servo control valves.
- Added support for planter row spacing in tenths of centimeters and inches.
- Added language support for German, Danish, Czech, Italian and Ukrainian.
- Added support for up to 16 section/auxiliary drivers for spreaders.

<b>NOTES:</b>			TITLE:		
			<b>SOFTWARE SPECIFICATION, PROGRAM, RAVEN RATE CONTROL MODULE</b>		
			<div> <div>RAVEN</div> <div>RAVEN INDUSTRIES, INC. SIOUX FALLS, SD 57104</div> </div>		
			SIZE	DRAWING NUMBER	REV
			A	077-0171-439	H
<div> <div>DRAWN</div> <div>APPROVED</div> </div>			NAME	DATE	
			RRS	12/05/16	
			JRW	12/05/16	
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			<b>14979</b>	N/A	1 OF 5

RELEASE NOTES:

VERSION:	1.4.1.5	FILE NAME: P439V1_4_1_5_2A9247ED.hex
		SIZE: 4,911,531 BYTES

Version 1.4.1.5 (11-6-2018)

[ftp://embedded.ravenind.com/images/ecu/077-0171-439/archive/P439V1\\_4\\_1\\_5\\_2A9247ED.hex](ftp://embedded.ravenind.com/images/ecu/077-0171-439/archive/P439V1_4_1_5_2A9247ED.hex)

1. Fixed aux driver button color might not reflect hardware state when a driver was skipped in the list during setup
2. Fixed aux driver latching option might not hide when that driver was set to None in the wizard
3. Fixed aux driver objects might not get deleted on profile change or edit
4. Decreased the liklihood of accidentally generating too many aux driver objects

Version 1.4.1.4 (11-5-2018 not released)

1. Fixed aux driver names could appear as "Custom Name X" after a power cycle

Version 1.4.1.3 (11-5-2018 not released)

1. Fixed NH3 with granular product on PR2 crashes in scale config wizard
2. Fixed profile could get cleared on software update under certain conditions

Version 1.4.1.2 (10-23-2018 not released)

1. Precision Farming: Disabled C offset for self propelled spreader
2. Precision Farming: Fixed graphic for self propelled spreader
3. Allow access to speed source selection at all times

Version 1.4.1.1 (10-05-2018 not released)

1. Do not required master switch cycle if all actuators are type NONE.
2. Ignore shutdown alarms if all actuators are type NONE.
3. Allow access to profile changes regardless of master switch if all actuators are type NONE.

Version 1.4.0.19 (not relased)

1. Added Precision Farming wizard.
2. Added application modes Seed Rate Control (with clutches) and Seed Rate Control (no clutches) available for planter machine type.
3. Added support for tank pressure sensor.
4. Added PWM Smart Control.

SIZE	DRAWING NUMBER		REV
A	077-0171-439		H
CODE		SCALE	SHEET
14979		N/A	2 OF 5

RELEASE NOTES:

VERSION:	1.4.1.5	FILE NAME: P439V1_4_1_5_2A9247ED.hex
		SIZE: 4,911,531 BYTES

- 5. Added support for assigning unused section outputs as 12 volt auxiliary drivers.
- 6. Enhancements to control algorithm.
- 7. Added support for PWM Close Control Valve for NH3 application mode.
- 8. Added support for displaying blocked section states when paired with RBM.
- 9. Added support for selecting an ISO speed source t+A11through a diagnostic service menu and also using speed provided by RS1 ECU if available.
- 10. Added language support for Bulgarian and Hungarian.
- 11. Added turn compensation for product modes that have multiple control valves/rate meters.
- 12. Added support for a mid-bin level sensor.
- 13. Added new layout option for main run screen with 5 widget selections.
- 14. Added support for V4 pressure widget.
- 15. Added support for Raven wireless remote.
- 16. Added Level 3 activation to provide support for configurations with more than 16 sections/clutches, Granular Meter per Section application mode, Planter Seed Rate Control (with clutches) application mode and Planter Seed Rate Control (no clutches) application mode.
- 1. Added Planter machine type with support for Planter Clutch Control up to 32 sections.
- 2. Added support for Granular Meter per Section application mode for Air Cart and Generic machine types.
- 3. Added support for wireless compatibility with Raven Diagnostic app.
- 4. Added support for Generic Scale only mode.
- 5. Added support for Liquid Slurry and Liquid Slurry Dragline application modes for Liquid Fertilizer Tool machine type.
- 6. Added support for Tiered Boom Low Side Drive application mode with the ability to configure three stack tiered boom systems.
- 7. Tiered Boom Direct Drive application mode now supports up to 15 sections.
- 8. Left fence row output can now be mapped to Section 1 output.
- 9. Added support for communicating with two ISOBUS Auxiliary Displays.

SIZE	DRAWING NUMBER		REV
A	077-0171-439		H
CODE		SCALE	SHEET
14979		N/A	3 OF 5

RELEASE NOTES:

VERSION:	1.2.1.2	FILE NAME:	P439V1_2_1_2_12DB06C8.hex
		SIZE:	3,643,331 BYTES

Version 1.2.1.2 (SVN Build 77336)

1. Fixed issue of Gate Height setting incorrectly adjusting Spreader Constant.

SIZE	DRAWING NUMBER		REV
A	077-0171-439		H
CODE		SCALE	SHEET
14979		N/A	4 OF 5

RELEASE NOTES:

VERSION:	1.2.0.9	FILE NAME:	P439V1_2_0_9_EF00C329.hex
		SIZE:	3,643,331 BYTES

Version 1.2.0.9 (SVN Build 77000)

1. Added support for ISOBUS Auxiliary display for catch test and scale functions.
2. Added AccuFlow Dual Valve control option for NH3 HP+ systems.
3. Added support for run blockage monitoring integration.
4. Added resume last test speed button.
5. Disable unexpected rate alarm for granular modes when pulses per revolution are over 180.
6. Allow for up to 6 control channels when paired with CNH Pro700/IntelliView displays.
7. Changed default PWM frequency for air carts and generic to 65Hz.
8. Updated default Display Setup selections and now allow unused product tabs on main run screen to be configurable as Display Setup selections.
9. Added spreader constant decimal place to accommodate high-rate spreaders with very low spreader constants.
10. Added support for gate height entry for spreader machine types.
11. Added 2 RPM control products for spreader machine types.
12. Spinner control products for a spreader machine type will now stop controlling to the target rate when all sections are turned off and will hold the current duty cycle.
13. Fixed issue of Task Controller Commanded Prescription state being set to Auto when the Task Controller commands it to manual.
14. Updated as applied test with scales to record lowest scale weight only when the implement has been idle for 10 seconds or more. Also disable as applied stop buttons when above minimum application speed.
15. Updated Dual Encoder Error alarm so it will not trigger during a PWM calibration test.
16. Enhancements to CAN initialization at startup.

SIZE	DRAWING NUMBER		REV
A	077-0171-439		H
CODE		SCALE	SHEET
14979		N/A	5 OF 5