

# Grace Design m908 Firmware Release Notes

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## **m908 RCU:**

**Version:** 0.90  
**Date:** 10/01/2019

### **New Features / Changes:**

1. Initial Release
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### **Known Issues:**

1. See Errata
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**Version:** 0.9.2  
**Date:** 10/22/2019

### **New Features / Changes:**

1. New user messaging queue that will stack multiple messages and display them sequentially to the user with message display order being last to first. Previously if multiple messages were triggered, only the last message was displayed.
  2. Workflow operations (edit, save, load, copy, new, import, export, delete) would sometimes result in communication timeout errors and multiple messages being displayed. These transitions have been streamlined.
  3. Fixed external PSU status in the factory setup menu
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### **Known Issues:**

1. See Errata
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**Version:** 0.9.3  
**Date:** 11/5/2019

### **New Features / Changes:**

1. Fixed issue with the export workflow overwrite prompt not always displaying
  2. Fixed issues with handling of corrupted workflow files on USB drive
  3. Fixed issues with system messages being cleared by USB drive removal
  4. Improved ACU communication timeout error handling
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### **Known Issues:**

1. See Errata
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**Version:** 0.9.4  
**Date:** 11/13/2019

**New Features / Changes:**

1. Enabled RCU speaker icon signal level meter functionality
  2. Added PLL lock indication
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**Known Issues:**

1. See Errata
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**Version:** 0.9.5  
**Date:** 11/26/2019

**New Features / Changes:**

1. Added direct access input offset adjust mode
  2. Updated talkback LED to light immediately and flash rapidly when talkback has been activated by the ABC switches, External Talkback switch or a GPIO pin.
  3. Fixed input / cue routing conflict messaging
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**Known Issues:**

1. See Errata
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**Version:** 1.0.0  
**Date:** 12/11/2019

**New Features / Changes:**

1. Enabled meter output routing
  2. Disabled speaker icon signal level icons during meter routing.
  3. Disabled RCU version display on splash screen to avoid user confusion. RCU version still found in system setup menu.
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**Known Issues:**

1. See Errata
- 

**Version:** 1.0.1  
**Date:** 1/27/2020

**New Features / Changes:**

1. Changes made to improve synchronization between remote and main unit.
2. Allows variable peak hold for onscreen meters.
3. Allows 25 Hz bass management crossover frequency.

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**Known Issues:**

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**Version:** 1.0.2  
**Date:** 5/29/2020

**New Features / Changes:**

1. Added variable number of bands to Room EQ
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**Known Issues:**

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**Version:** 1.0.5  
**Date:** 9/30/2020

**New Features / Changes:**

1. Added User Button function: Bass Management Bypass
  2. Added User Button function: Cue Input Mute
  3. GPI triggered functions are indicated on the RCU with a short blink
  4. Added Talkback Out “External Fixed” mode
  1. Talkback Activation mode is now selectable between “Auto”, “Momentary” and “Latching”
  2. Duplicate Power Supply error messages do not stack
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**Known Issues:**

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**Version:** 1.0.6  
**Date:** 7/14/2021

**New Features / Changes:**

1. Add LFE Slope Select menu item
  2. Add Unbalanced Input Mode select
  3. Add Icons to home screen indicating roomeq and bassman status
  4. Add ravenna text for connectors and clock sources
  5. Add 4 new sub modes
  6. Add support for future features
  7. Talkback Switch activation mode text changed from “RCU Activation Mode” to “Activation Mode”
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**Known Issues:**

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**Version:** 2.1.0  
**Date:** 12/22/2022

**New Features / Changes:**

1. Update for 2.1.0 Release
  2. Added messaging for firmware update initiated by web interface.
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**Known Issues:**

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**Version:** 2.1.1  
**Date:** 12/22/2022

**New Features / Changes:**

1. Fixed bug preventing correct display of headphone status window when workflow is loaded from web ui.
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**Known Issues:**

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**m908 ACU:**

**Version:**0.9.0  
**Date:** 10/01/2019

**New Features / Changes:**

1. Initial Release
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**Known Issues:**

1. See Errata
- 

**Version:**0.9.1  
**Date:** 10/09/2019

**New Features / Changes:**

1. Fixed bug preventing selection of ADC as input connector for units with single ADCs
  2. New User Templates added to workflow creation
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**Known Issues:**

1. See Errata

**Compatibility:**

1. RCU Version 0.90
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**Version:**0.9.2  
**Date:** 10/22/2019

**New Features / Changes:**

1. Digilink clocksource enabled
2. DSP Stability and crash recovery improved
3. System mutes on workflow change

4. System Clock behavior improved
  5. Input switching behavior improved
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**Known Issues:**

1. See Errata

**Compatibility:**

1. RCU Version 0.9.2
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**Version:**0.9.3  
**Date:** 11/05/2019

**New Features / Changes:**

1. Enabled low latency control room and headphone monitor path
  2. Enabled low latency cue system
  3. Enabled external talkback switch control
  4. Enabled ABC User button talkback functionality
  5. Fixed DAC stability at 192kHz
  6. Fixed noise on ADC input after power-up
  7. Fixed communication error when selecting higher number inputs
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**Known Issues:**

1. See Errata

**Compatibility:**

1. RCU Version 0.9.2 – 0.9.3
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**Version:**0.9.4  
**Date:** 11/13/2019

**New Features / Changes:**

1. Enabled RCU speaker icon signal level meter functionality
  2. Added PLL lock indication
  3. Fixed stability of even channels running at 96kHz samplerate
  4. Improved jitter tolerance at all samplerates
  5. Enabled wordclock termination
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**Known Issues:**

1. See Errata

**Compatibility:**

1. RCU Version 0.9.4
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**Version:**0.9.5  
**Date:** 12/04/2019

**New Features / Changes:**

1. Added GPIO functionality
2. When headphones are active in the workflow, illegal output routing to CUE/CR EXT 7/8 is prevented by removing these options from output routing setup. Any existing routes to these channels are disabled.
3. Illegal input routing of ADC1:1/2, bal and unbal as cue inputs are prevented by removing these options from cue input

routing setup. Any existing cue input routes from these channels are disabled.

4. Added input summing error messaging for input sync delay mismatch, samplerate mismatch and clocksource mismatch.
5. Added input summing error messaging for ADC1:1/2, bal and unbal hardware conflict
6. Added cue input muting. When cue inputs do not match system samplerate, all cue inputs are muted. Talkback and MON>CUE functionality is still available during cue input muting.
7. Enabled input routing of single source channel to multiple DSP channels

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**Known Issues:**

1. See Errata

**Compatibility:**

1. RCU Version 0.9.4

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**Version:** 1.0.0  
**Date:** 12/11/2019

**New Features / Changes:**

1. Enable meter output functionality
2. Added system recovery from corrupted workflow file
3. Fixed headphone output initialization after workflow load and input sync delay changes

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**Known Issues:**

1. See Errata

**Compatibility:**

1. RCU Version 1.0.0
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**Version:** 1.0.1  
**Date:** 1/27/2020

**New Features / Changes:**

1. Level Indicator Peak Hold times are user editable
  2. The system now disallows all illegal routing
  3. Bass Management crossover frequency extends down to 25Hz
  4. Fixed bug that deletes Dante Cue routes on power-up.
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. SETUP Mode**

1. If setup mode is exited with changes discarded (press and hold the setup button), routing changes may not be reverted until the inputs / outputs are re-selected.

**3. Demphasis**

1. Demphasis is not yet implemented

**4. Input Switching with Variable Sync Delay**

1. When switching between inputs with sync delays greater than 400ms, the system may unmute prior to flushing all of the audio data from the previous input buffer. This can result in a short segment of the erroneous playback prior to returning to normal operation.

**Compatibility:**

1. RCU Version 1.0.1
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**Version:** 1.0.2  
**Date:** 2/20/2020

**New Features / Changes:**

1. Fixed bug causing cue routes to be lost on power cycle
  2. Fixed bug preventing clock lock with Avid HDIO/192IO when receiving AES signal without audio.
  3. Fixed bug causing USB clock override to be reset to ADAT2 if clock override was last edited parameter upon exiting setup.
  4. Fixed phase shift on meter outputs.
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**Known Issues:**

**1. Talkback**

1. Talkback XLR output does not stay fixed on when talkback output mode is set to <ext mic fixed>.

**2. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**3. SETUP Mode**

1. If setup mode is exited with changes discarded (press and hold the setup button), routing changes may not be reverted until the inputs / outputs are re-selected.

**4. Demphasis**

1. Demphasis is not yet implemented

**5. Input Switching with Variable Sync Delay**

1. When switching between inputs with delays different by more than 100ms, an extended mute followed by a pop may occur.

**Compatibility:**

1. RCU Version 1.0.1
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**Version:** 1.0.3  
**Date:** 5/29/2020

#### **New Features / Changes:**

1. Fixed phase shift on meter outputs.
  2. Revised filter architecture for improved low frequency noise performance. Filters are now implemented as fixed-point 64-bit filters. See User Manual Revision J Section 6.3.10 for details regarding system gain structure changes.
  3. Solo/Mute behavior is improved when no channels are assigned to the button.
  4. Power Supply errors are now reported to the user.
  5. GPIO behavior on workflow load is improved.
  6. Fixed issue with routing on setup exit without save (previous issue 2.1)
  7. Fixed issue with extended mute and pop when switching between inputs with significant differences in input delay. (previous issue 4.1)
  8. If using a workflow without subs/LFE, the LFE control parameters are no longer present in the setup menu.
  9. Room EQ now allows for variable numbers of bands per channel, up to 85 total bands.
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#### **Known Issues:**

##### **1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

##### **2. Demphasis**

1. Demphasis is not yet implemented

##### **3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

#### **Compatibility:**

1. RCU Version 1.0.2
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**Version:** 1.0.4  
**Date:** 6/9/2020

**New Features / Changes:**

1. Fixed bug related to ADAT SMUX functionality.
  2. Fixed bug causing workflow USB import to overwrite current workflow.
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. Demphasis**

1. Demphasis is not yet implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**Compatibility:**

1. RCU Version 1.0.2
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**Version:** 1.0.5  
**Date:** 9/30/2020

### **New Features / Changes:**

1. Added User Button function: Bass Management Bypass
  2. Added User Button function: Cue Input Mute
  3. GPI triggered functions are indicated on the RCU with a short blink
  4. GPI functions logical OR with Rcu enabled functions
  5. Added Talkback Out "External Fixed" mode
  6. Talkback Activation mode is now selectable between "Auto", "Momentary" and "Latching"
  7. Added Error Diagnostic features
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### **Known Issues:**

#### **1. Talkback**

1. Talkback XLR output does not stay fixed on when talkback output mode is set to <ext mic fixed>.

#### **2. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

#### **3. Demphasis**

1. Demphasis is not yet implemented

#### **4. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

#### **5. GPIO**

1. When GPI is set to "Active High" and no GPI is physically connected, the pull-up resistor on the GPI will cause the GPI to be activated. Scrolling through the GPI functions will then cause each function to get activated, with no apparent way to deactivate the function. The solution is to set the GPI logic to "Active Low" and scroll through all available GPI functions to clear them.

### **Compatibility:**

1. RCU Version 1.0.5
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**Version:** 1.0.6  
**Date:** 10/22/2020

**New Features / Changes:**

1. Fixed bug with Talkback Output: External Fixed mode being deactivated when talkback is deactivated.
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. Demphasis**

1. Demphasis is not yet implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**4. GPIO**

1. When GPI is set to "Active High" and no GPI is physically connected, the pull-up resistor on the GPI will cause the GPI to be activated. Scrolling through the GPI functions will then cause each function to get activated, with no apparent way to deactivate the function. The solution is to set the GPI logic to "Active Low" and scroll through all available GPI functions to clear them. This was introduced in 1.0.5.

**Compatibility:**

1. RCU Version 1.0.5
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**Version:** 1.0.7  
**Date:** 3/30/2021

**New Features / Changes:**

1. Add support for Ravenna module.
  2. Fixed bug causing crash after >16 days of uptime
  3. Fixed GPI “active high” known issue.
  4. Disabled assigning a single GPI function to multiple GPI inputs. Users can wire push-buttons in parallel to achieve this behavior.
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. Demphasis**

1. Demphasis is not yet implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**4. Input Offset Adjustment**

1. When in summing mode, adjusting the input offset adjustment may change the offset of all selected inputs.

**Compatibility:**

1. RCU Version 1.0.5
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**Version:** 1.0.8  
**Date:** 8/4/2021

**New Features / Changes:**

1. Allow summing of ADC1 channels 3-8 with Analog balanced/unbalanced inputs
  2. Added new sub modes
  3. Added Variable LFE LPF Slope
  4. Added Ravenna as a connector option
  5. Fixed bug causing LFE Gain to be applied twice to second and third subwoofers
  6. Add support for phono module
  7. Support independent input offset adjust while in summing mode
  8. Fix bug with Negative CR Offset changing HPS level
  9. Add support for new ADC cards
  10. Various stability and efficiency improvements
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. Demphasis**

1. Demphasis is not yet implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.
4. Unbalanced Line Input mode select has polarity reversed.

**Compatibility:**

1. RCU Version 1.0.6
-

**Version:** 1.0.9  
**Date:** 11/17/2021

**New Features / Changes:**

1. Fixed polarity of phono activation
  2. Fixed re-introduction of DSP crash
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. Demphasis**

1. Demphasis is not yet implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**Compatibility:**

1. RCU Version 1.0.6
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**Version:** 1.1.0  
**Date:** 06/29/2022

**New Features / Changes:**

1. AES TX Enable fix for new production hardware
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. Demphasis**

1. Demphasis is not yet implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**Compatibility:**

1. RCU Version 1.0.6
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**Version:** 2.1.0  
**Date:** 12/22/2022

#### **New Features / Changes:**

1. Adds Web Control Interface
    1. Remote System Management
    2. Workflow Import/Export through browser
    3. Firmware Upgrade through browser
    4. Copy/Paste
    5. EQ Import/Export
  2. Allows 12 bands of EQ on 24 channels, totaling 288 bands.
  3. Fixes meter level discrepancy when signal processing is active
  4. Fixed an issue with DIM when headphones are sourced from the CUE
  5. Fixed a bug preventing mute release in certain exclusive output configurations
  6. Fixed an issue causing Dante Meter Routes to be lost on power cycle
  7. ACU now monitors fan RPM
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#### **Known Issues:**

##### **1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

##### **2. Demphasis**

1. Demphasis is not implemented

##### **3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

#### **Compatibility:**

1. RCU Version 2.1.0
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**Version:** 2.1.1  
**Date:** 1/27/2023

**New Features / Changes:**

1. Fixes bug related to Ravenna Module thermal control.
  2. Fixes bug causing Left/Right mode of Mon-to-Cue to not pass audio.
  3. Improves upgrade reliability.
  4. RCU communication reliability is improved.
  5. Fixes a bug causing issues with workflow import thru Web UI.
  6. Improved speaker icon meter communication.
  7. Web UI latency request now works more reliably.
  8. Web UI control is disabled when RCU control is not available.
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. Demphasis**

1. Demphasis is not implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**Compatibility:**

1. RCU Version 2.1.1
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**Version:** 2.1.2  
**Date:** 1/27/2023

**New Features / Changes:**

1. RCU upgrade reliability improved
  2. Web UI now has control lockout available in settings
  3. Web UI now allows naming the m908 for easy differentiation when managing multiple units
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. Demphasis**

1. Demphasis is not implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**Compatibility:**

1. RCU Version 2.1.1
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**Version:** 2.1.3  
**Date:** 2/13/2023

**New Features / Changes:**

1. Fixes bug related to DDR termination.
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.
2. If power is lost within several minutes of saving a workflow, the workflow may be corrupted and deleted.

**2. Demphasis**

1. Demphasis is not implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**4. Room EQ Import**

1. The web UI will allow the user to attempt to import more than 12 bands of EQ. This will cause the system to crash and restart. Customers should not attempt to import more than 12 bands.

**Compatibility:**

1. RCU Version 2.1.1
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**Version:** 2.1.4  
**Date:** 3/8/2023

**New Features / Changes:**

1. Greatly improves file save reliability, reducing chances of accidental workflow corruption significantly.
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.
2. Web UI workflow export does not work.

**2. Demphasis**

1. Demphasis is not implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**4. Room EQ Import**

1. The web UI will allow the user to attempt to import more than 12 bands of EQ. This will cause the system to crash and restart. Customers should not attempt to import more than 12 bands.

5.

**Compatibility:**

1. RCU Version 2.1.1
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**Version:** 2.1.5  
**Date:** 3/13/2023

**New Features / Changes:**

1. Fixed a bug preventing workflow export
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.

**2. Demphasis**

1. Demphasis is not implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**4. Room EQ Import**

1. The web UI will allow the user to attempt to import more than 12 bands of EQ. This will cause the system to crash and restart. Customers should not attempt to import more than 12 bands.

**Compatibility:**

1. RCU Version 2.1.1
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**Version:** 2.1.6  
**Date:** 3/21/2023

**New Features / Changes:**

1. Fixed a bug related to Lfe routing in the web interface.
  2. Improved network setup user experience.
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**Known Issues:**

**1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.
2. When removing the “leftmost” subwoofer from a workflow, the Lfe routing may need to be reassigned.

**2. Demphasis**

1. Demphasis is not implemented

**3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

**4. Room EQ Import**

1. The web UI will allow the user to attempt to import more than 12 bands of EQ. This will cause the system to crash and restart. Customers should not attempt to import more than 12 bands.

**5. LFE**

1. If the leftmost subwoofer does not have an output connector set, the subwoofers to the right will not receive LFE signal.

**Compatibility:**

1. RCU Version 2.1.1
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**Version:** 2.1.7  
**Date:** 4/27/2023

#### **New Features / Changes:**

1. Added USB up-channels. System now allows 8 USB outputs.
  2. Added single band copy/paste to Room EQ list view.
  3. Added network gateway setting from web UI.
  4. Fixed a memory leak.
  5. Fixed Static IP Netmask Display
  6. Fixed Web UI Exclusive Output Behavior
  7. Enabled Ravenna as a routable connector on Web UI
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#### **Known Issues:**

##### **1. Workflow**

1. When channels are added or removed from a workflow the mute/solo assignments for any higher order channels may be incorrectly assigned and need re-assignment.
2. When removing the “leftmost” subwoofer from a workflow, the Lfe routing may need to be reassigned.
3. Importing a workflow that has had its name changed by the OS when exporting, i.e. “7.1.4 (1).gdw”, will cause undefined behavior. It is recommended to not export a workflow to a folder that already contains a workflow of the same name.

##### **2. Demphasis**

1. Demphasis is not implemented

##### **3. Mon > Cue**

1. When monitoring inputs on mon > cue and switching between inputs with different sync delays, a short stutter can be heard on the cue output.

##### **4. Room EQ Import**

1. The web UI will allow the user to attempt to import more than 12 bands of EQ. This will cause the system to crash and restart. Customers should not attempt to import more than 12 bands.

##### **5. LFE**

1. If the leftmost subwoofer does not have an output connector set, the subwoofers to the right will not receive LFE signal.

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**Compatibility:**

1. RCU Version 2.1.1
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