Firmware Update Procedure

for the

3rd Generation Rack-Mount RDMS™ Telemetry Receiver

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Specifications subject to change without notice.

All Quasonix products are under U.S. Department of Commerce jurisdiction; not covered by ITAR

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1   Overview

There are three methods for updating firmware on a Quasonix 3rd Generation Rack-Mount RDMS™ Telemetry Receiver: SD Card Update, Network Update, and Local Update via USB.

1.1   RDMS SD Card Update

Be sure the RDMS is turned off.

1. When the unit has completely powered down, remove the cover from the front panel to access the USB/Micro SD ports, as shown in Figure 1.

Figure 1: Front Panel, USB/Micro SD Port Access

2. Insert the programming card, supplied by Quasonix, into the Micro SD slot with the contacts facing up.
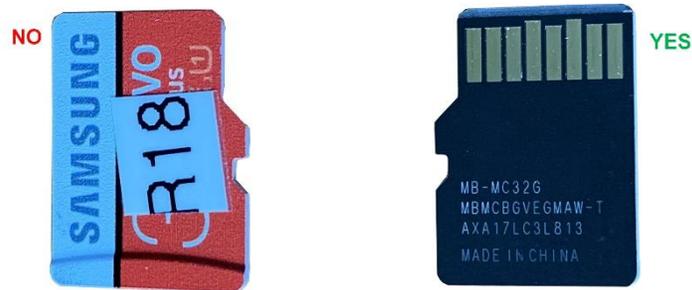

Figure 2: Micro SD Programming Card, Insertion Directions

3. Be sure the card is inserted completely in the Micro SD slot until it locks in, as shown in Figure 3.

    CAUTION: MAKE SURE THE CARD IS IN THE SLOT AND DOES NOT FALL INTO THE EMPTY SPACE!

Figure 3: Micro SD Programming Card Inserted into Slot and Locked In

4. Power up the RDMS.

   For some updates, the screen may remain blank for up to a minute, then begin the reprogramming procedure. For most other update conditions, front panel window four should display the message shown in Figure 4.

Figure 4: Front Panel RDMS3 Firmware Update Display

5. Press 1 on the front panel keypad, or touch the screen on a 3U receiver, to start the programming cycle. Programming will take about 45 minutes. At the end of the programming cycle, you will be prompted to remove the SD card and cycle power on the RDMS.

6. Turn the power off, allowing the RDMS to completely power down.

7. Remove the SD card by pushing it in to unlock the card from the slot.

8. Replace the SD slot access cover.

9. Turn the RDMS back on.

   Upon completion of the update, the RDMS returns to normal operating mode and all parameters are reset to system defaults.

10. Navigate to the System Settings screen, then select System Info, as shown in Figure 5, to verify that the System Version matches the firmware update version.
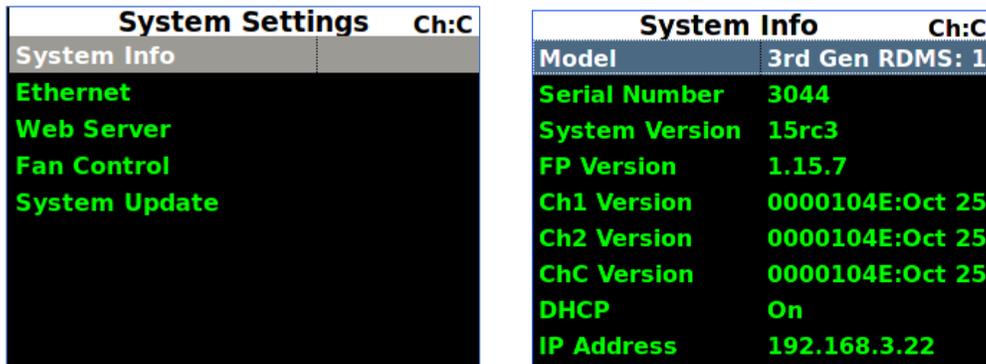
Figure 5: System Settings, System Info

1.2   RDMS Network Update

As of version R15, the RDMS now supports a remote Firmware Update via the browser interface. This feature relies on an encrypted and signed firmware update file provided by Quasonix upon release of all versions after R15.

Note: The R15 update is a 'gatekeeper' release and must be performed prior to updating to R16 or beyond. If required, please contact Quasonix to request an R15 update card.

To perform a network update:

1.   Obtain a firmware update file from Quasonix.

2.   Using a web browser, navigate to the About page of the RDMS Browser Interface, as shown in Figure 6.
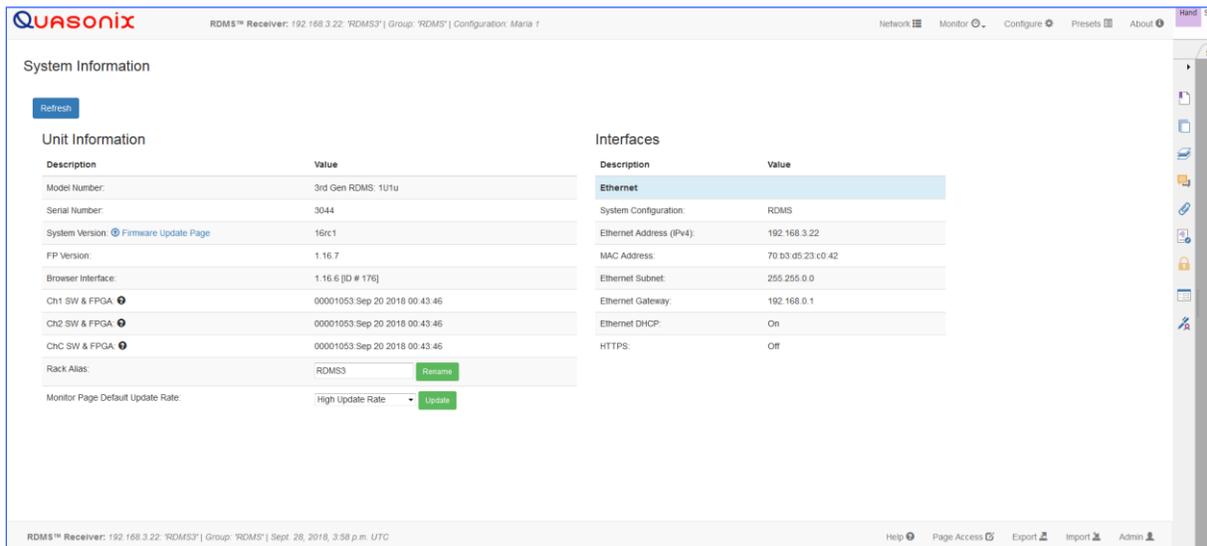

Figure 6: Browser Interface, About

3.   Next to the System Version parameter, click on the Firmware Update Page link, as shown in Figure 7.
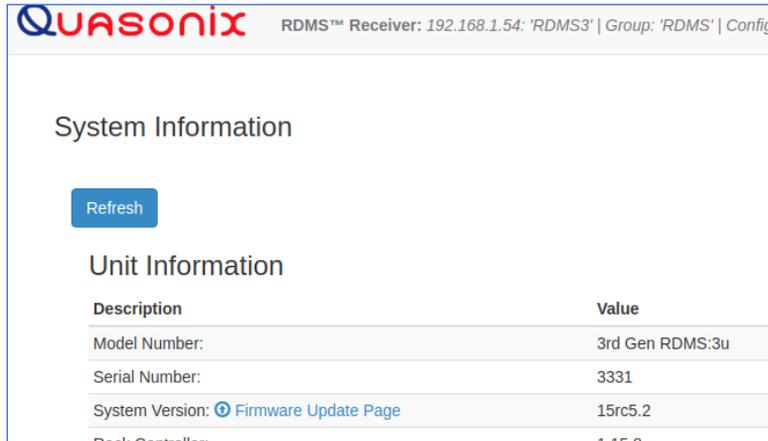
Figure 7: About, System Version, Firmware Update Link

4. On the Firmware Update screen, review the Procedure and Notes, as shown in Figure 8.

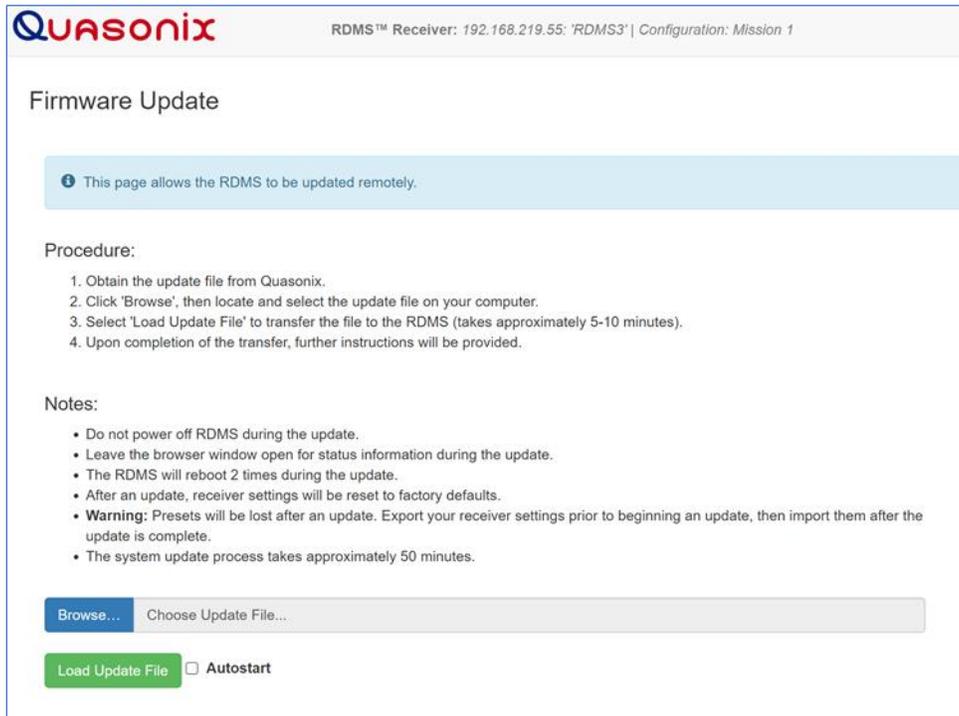5. Click on the Browse button to select the update file provided by Quasonix.

Figure 8: Firmware Update, Procedure and Notes

6. After the selected filename displays, click on the Load Update File button to transfer the file to the RDMS. **Note:** Autostart may be selected before clicking on the Load Update File button to automatically start the update process after the upload is complete. Click on the Autostart check box to select.

   The upload process takes about 5-10 minutes, depending on network speed. Upload status is shown in Figure 9.
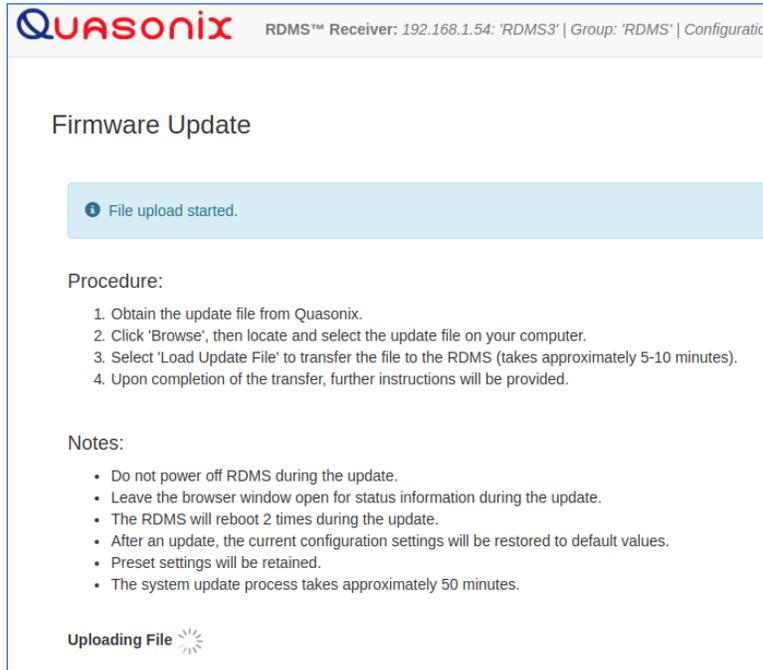

Figure 9: Firmware Update, Upload Status

7. After the file has been transferred, review the updated Notes, as shown in Figure 10.

8. Click on the Begin Update button to start the update. **Note:** If Autostart was selected previously, this step is automated. No further input is required unless an error is encountered.
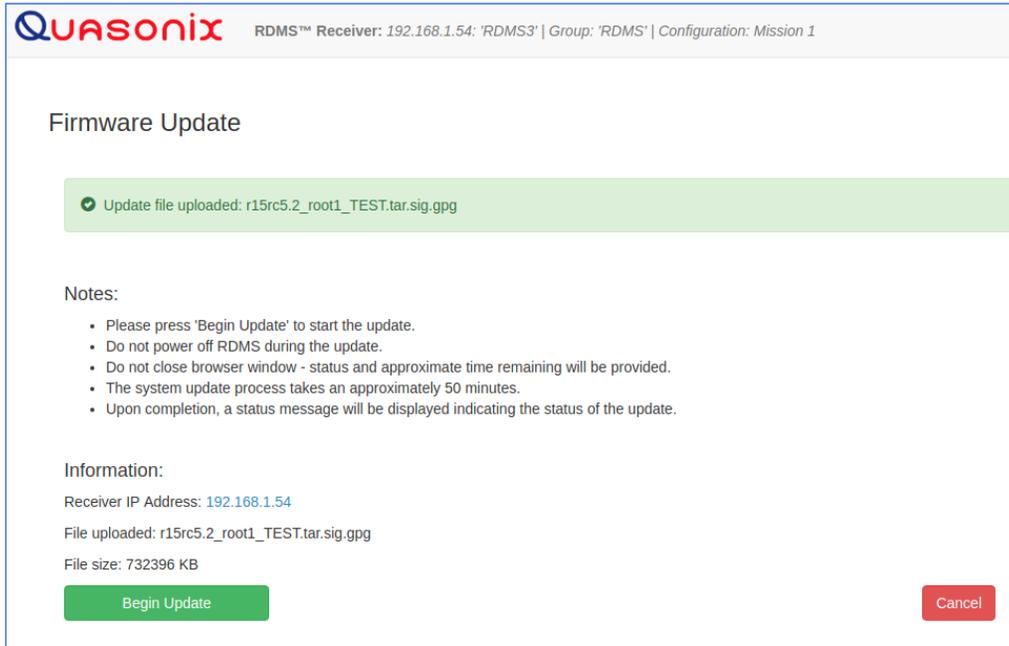
Figure 10: Firmware Update, File Selected—Ready to Update

- Do not power off the RDMS during the update

- Do not close the browser window during the update

- During the update, the status and approximate time remaining will display, as shown in Figure 11.
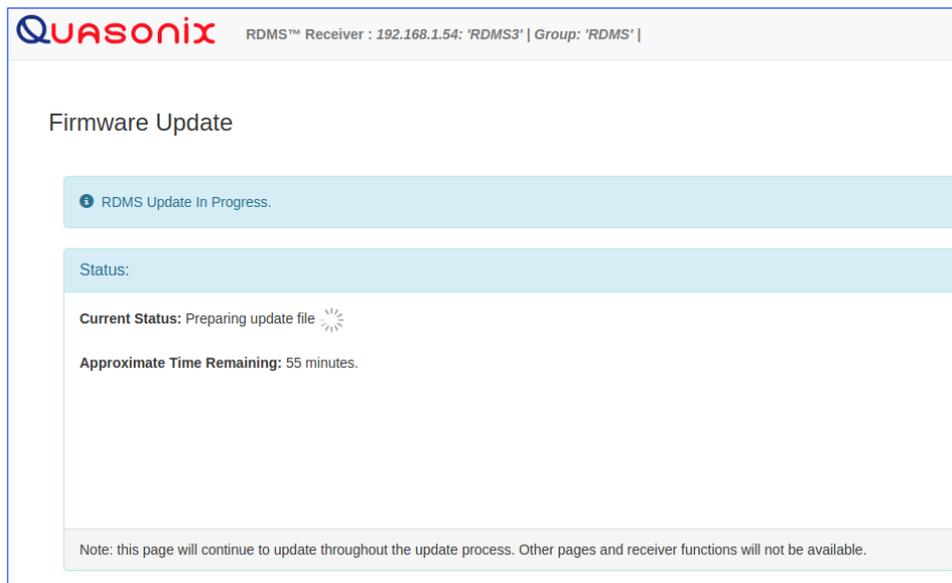

Figure 11: Firmware Update In Progress, Status

- The RDMS front panel indicates that an update is currently being performed, as shown in Figure 12.
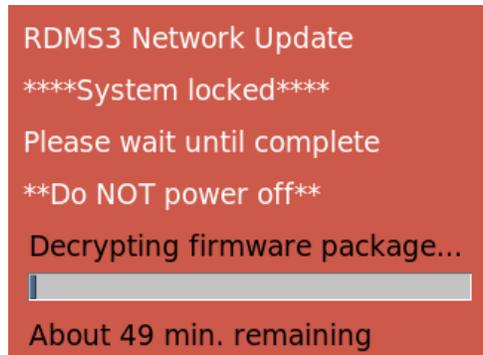

Figure 12: Front Panel Network Update Status Messages

- The RDMS will reboot twice during the update.

- After the first reboot, the front panel displays are automatically updated first. This update may cause the screens to be blank for several minutes while they are updated.

9. Upon completion, a message displays indicating the RDMS Update has completed, as shown in Figure 13.
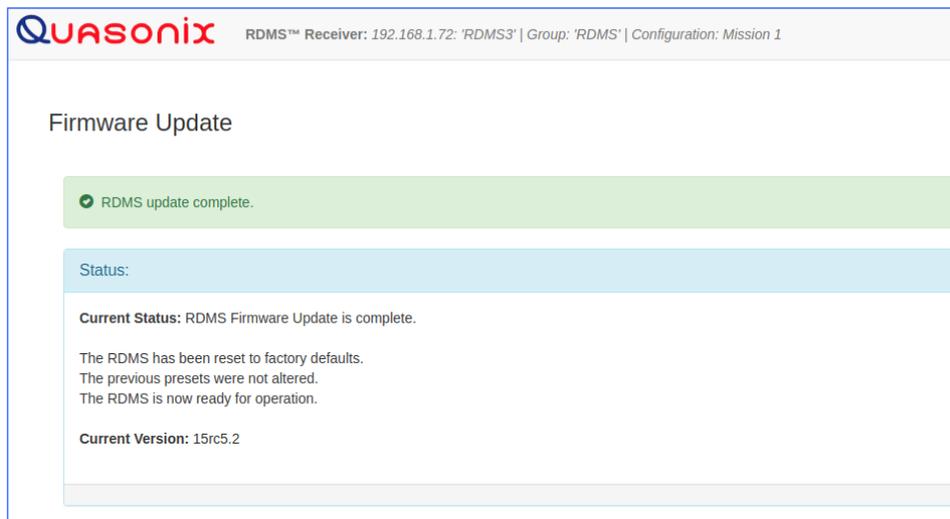

Figure 13: Firmware Update Complete

Following the update, the RDMS returns to normal operating mode and all parameters are reset to system defaults.

10. Navigate to the System Settings screen on the front panel, then select System Info, as shown in Figure 14, to verify that the System Version matches the firmware update version.

Figure 14: System Settings, System Info

If the update fails for any reason, an information screen displays, as shown in Figure 15. Follow the instructions on the screen to retry the update or return to normal RDMS operation. An error code is provided and should be noted for use in correspondence with Quasonix.
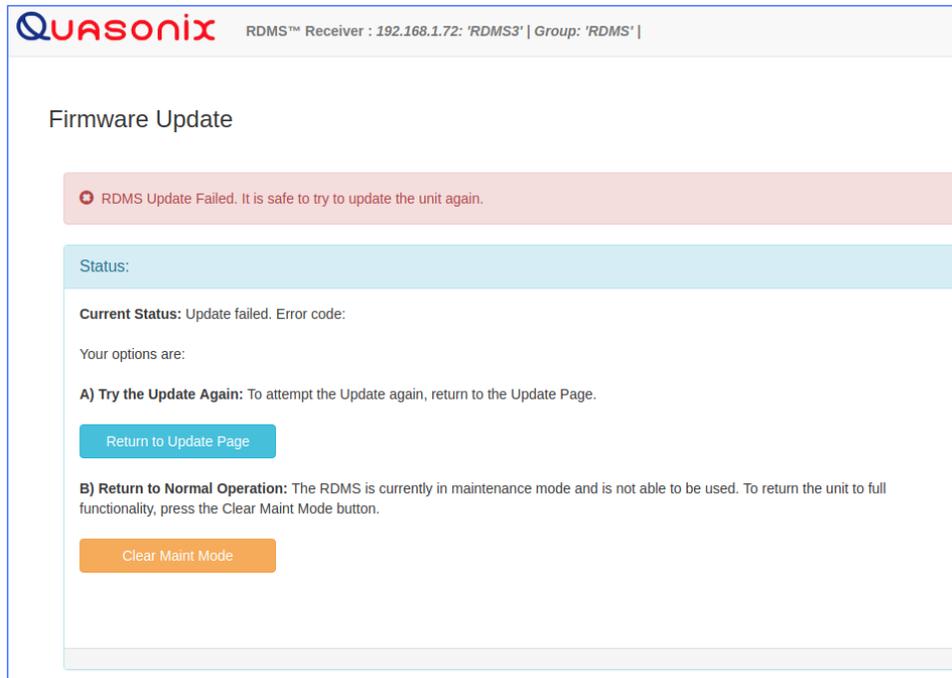

Figure 15: Firmware Update Failed Information Screen

1.3   RDMS Local Update via USB

The RDMS supports a firmware update using local USB media. This feature relies on an encrypted and signed firmware update file provided by Quasonix upon release of all versions after R15.

Note: The R15 update is a 'gatekeeper' release and must be performed prior to updating to R16 or beyond. If required, please contact Quasonix to request an R15 update card.

To perform a local update:

1. Obtain a firmware update file from Quasonix.

2. Transfer the update file to the root directory of a USB thumb drive, then plug the drive into the RDMS via the back USB port, or via the front port with an adapter (refer to section 1.1 for access instructions).

    *   The USB drive must be 32 GB, or smaller, and must be formatted as FAT32 (Windows) or Ext4 (Linux).

    *   The update file must NOT be renamed, and must be the only update file on the USB drive.

3. Access the System Update screen, as shown in Figure 16. Press the Enter key.

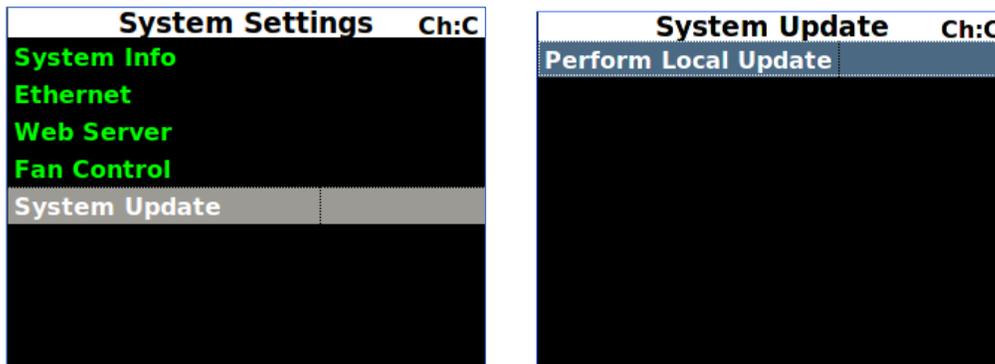4. Select Perform Local Update, then press the Enter key.

Figure 16: System Update, Perform Local Update Selection

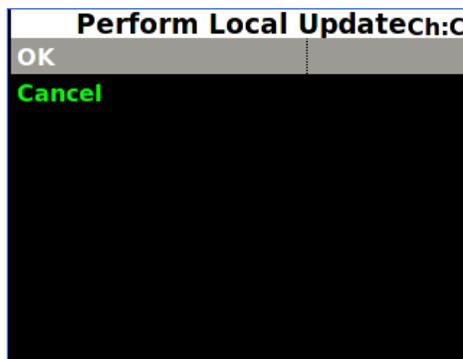After pressing Enter, the front panel displays the Perform Local Update screen, as shown in Figure 18.

Figure 17: Perform Local Update Screen

5. Select OK, then press Enter to start the update.

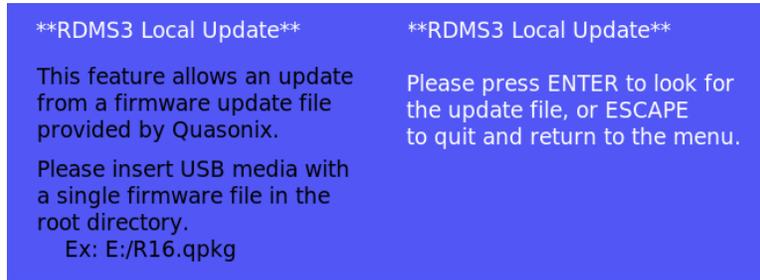The front panel displays the RDMS3 Local Update screen, as shown in Figure 18.

Figure 18: RDMS3 Local Update Screen

6. Press Enter to search the USB drive for the update file.

7. If a proper update file is found, the name of the file displays on the front panel along with additional instructions, as shown in Figure 19.
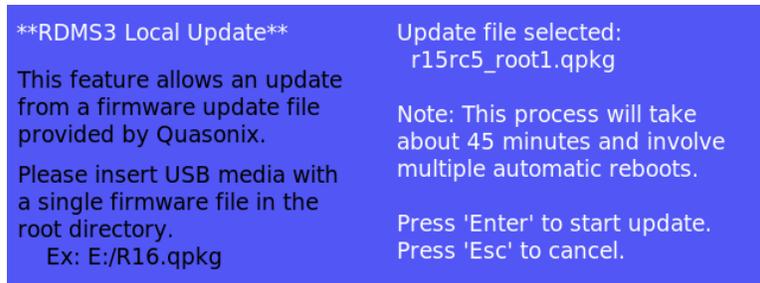
Figure 19: RDMS3 Local Update Screen, Update File Selected

8. Press Enter to start the update. The RDMS copies the update file from the USB drive and begins the update.

- Do not power off the RDMS during the update.

- During the update, a status displays, as shown in Figure 20.

- The RDMS will reboot twice during the update.

- After the first reboot, the front panel displays are automatically updated first. This update may cause the screens to be blank for several minutes while they are being updated.

RDMS3 Local Update

This feature allows an update from a firmware update file provided by Quasonix.

Please insert USB media with a single firmware file in the root directory.
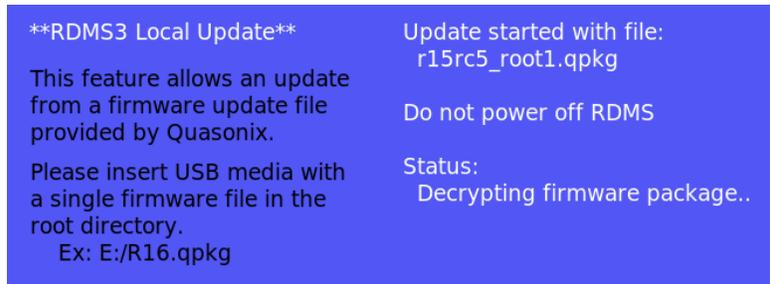   Ex: E:/R16.qpkg

Update started with file:
   r15rc5_root1.qpkg

Do not power off RDMS

Status:
   Decrypting firmware package..

Figure 20: RDMS3 Local Update Screen, Update Status

Upon completion of the update, the RDMS returns to normal operating mode and all parameters are reset to system defaults.

9. Navigate to the System Settings screen, then select System Info, as shown in Figure 21, to verify that the System Version matches the firmware update version.
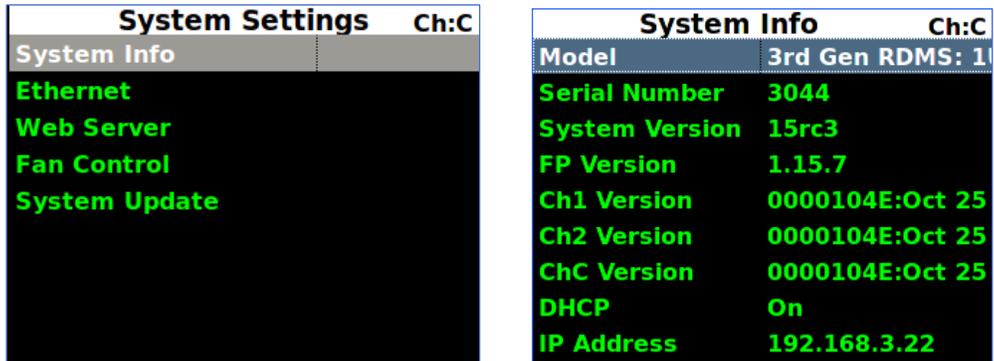

Figure 21: System Settings, System Info

2   Maintenance Instructions

The Rack Mount Receiver requires no regular maintenance, and there are no user-serviceable parts inside.

3   Product Warranty

The Rack Mount Receiver carries a standard parts and labor warranty of one (1) year from the date of delivery.

4   Technical Support and RMA Requests

In the event of a product issue, customers should contact Quasonix via phone (1-513-942-1287) or e-mail (support@quasonix.com) to seek technical support. If the Quasonix representative determines that the product issue must be addressed at Quasonix, a returned materials authorization (RMA) number will be provided for return shipment.

Authorized return shipments must be addressed in the following manner:

<div align="center">

Quasonix, Inc.
ATTN: Repair, RMA #
6025 Schumacher Park Drive
West Chester, OH 45069

</div>

To ensure that your shipment is processed most efficiently, please include the following information with your product return:

- Ship To – Company name, address, zip code, and internal mail-drop, if applicable

- Attention/Contact person – Name, Title, Department, Phone number, email address

- Purchase Order Number – If applicable

- RMA Number – provided by the Quasonix representative

Please note that Quasonix reserves the right to refuse shipments that arrive without RMA numbers.