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Publication No. 14670035

07/21/2016

## TECHNICAL BULLETIN

### RCCR NXDN-Mode Random Reset

#### Models Affected:

All Models of the RCCR-151, RCCR-151-NX, RCCR-152, and RCCR-152-NX

#### Symptom/Cause:

Ritron has discovered a firmware bug in its RCCR NXDN product that can cause an infrequent reset of the radio under conditions of heavy NXDN digital traffic(>50 % channel activity) while on an NXDN channel. Very infrequently (up to approximately 6 times per day), a data block between the NXDN board and the main-board processor could be missed because the main board processor is busy handling other tasks.

An internal processor timer takes note that the data block information transfer did not take place and signals a reset of the main board processor. The timer and resulting reset is to prevent the radio from locking up and becoming inoperable. The reset is similar to the radio being powered off and back on. This reset process takes about eight seconds, and the radio is not functional during this time.

- Under conditions of heavy NXDN traffic, traffic not necessarily directed to or from the radio, the reset may occur up to approximately 6 times per day. The heavier the traffic, the more likely the reset is to occur.
- Note that this does NOT occur in Analog-Mode during analog voice operation. Analog activity does not cause an issue since the NXDN board does not detect a digital message and thus, does not send data blocks to the main processor.
- Mixed analog and digital voice operation could cause this issue when the radio is actually monitoring digital activity.
- The fault itself is not harmful to radio and does not impact its reliability or longevity.

#### Solution:

Ritron has firmware upgrades for this issue, Main Board Rev "MAIN\_UPDATE\_2831.s19" and NXDN Board Rev "NXDN\_update\_08.S19". Both updates are required for an NXDN-equipped RCCR radio.

**NOTE:** For RCCR radios not equipped with NXDN, Main Board Firmware MAIN\_UPDATE\_2831.s19 is recommended if the NXDN option is to be added in the future.

**NOTE:** These upgrades do not apply to railroads using a beta version of "RAN" firmware, however, the beta RAN firmware will also require an upgrade. Please contact Ritron, Inc. for the specific RAN firmware upgrade needed.

For RCCR firmware Upgrades go to: [www.ritron.com/tech](http://www.ritron.com/tech), scroll to the tab titled Firmware, then scroll to the appropriate RCCR Firmware Upgrade Version.

RCCR radios (NXDN and non-NXDN) returned to Ritron, Inc. for repair, unless otherwise instructed, will automatically receive these updates beginning approximately 7/27/16.

To determine the firmware revisions installed in the RCCR radio, the RCCR radio will momentarily display the current Firmware Rev # of each of the 3 sub-boards when powered up.