RELEASE NOTES – RDA/RPG BUILD 24.0

This page lists the enhancement and change information occurring with the Weather Surveillance Radar, 1988 Doppler (WSR-88D) Build 24.0 for the Radar Data Acquisition (RDA) and Radar Product Generator (RPG) subsystems. Multiple issues were found during testing that may be operationally impactful. They will be listed in the next section along with workarounds, solutions, or suggestions until they can be fixed/addressed in a later build.

This is a living document. The latest version of this document is hosted on the ROC public webpage under Documents/Release Notes at: https://www.roc.noaa.gov/branches/operations-branch/release-notes.php. Contact the NEXRAD Hotline (nexrad.hotline@noaa.gov) with any questions.

Key Build 24.0 enhancements (RDA and/or RPG):

- VCP preset configurations at RPG/MSCF (5 ROC-defined and 5 User-defined)
- Remove VCP 31
- Require Common Access Card (CAC) to login to RDA/RPG/MSCF
- Refresh the Console Server for both RDA/RPG
- Commercial/Private Ethernet comms versus T1 by default
- Security updates (June 2025 patches from RedHat)
- Allow RPG to get control if RMS is left in local (RDA) control (FAA only)

RDA Enhancements:

- Allow RDA antenna motion plots
  - *For negative base tilt sites (KFSX, KMAX, KMSX), the expected elevation is plotted at 359.X°. See issue and workaround below.*
- SPIP firmware updated
- Various STS optimizations and bug fixes
- New alarm for when site is on TPS power only
- RMS-RDA comms converted to TCP/IP from serial (FAA only)

RPG Enhancements:

- RPGB removed (all processes will run exclusively on RPGA)
- Range-Defined Quasi-Vertical Profile (RDQVP) for Z, ZDR, CC, and KDP operational
  - *AWIPS support available in AWIPS OB24.1.1*
- Security scans will be performed separately at the MSCF and RPG (FAA/DoD only)
- Port various GUIs to GTK from X/Motif (RDA Alarms; VCP and Mode Control)
- 2DVDA and precipitation accumulation optimizations
- Allow MPDA from AWIPS Command/Control (*AWIPS OB25.1.1*)

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MAINTENANCE-RELATED ISSUES

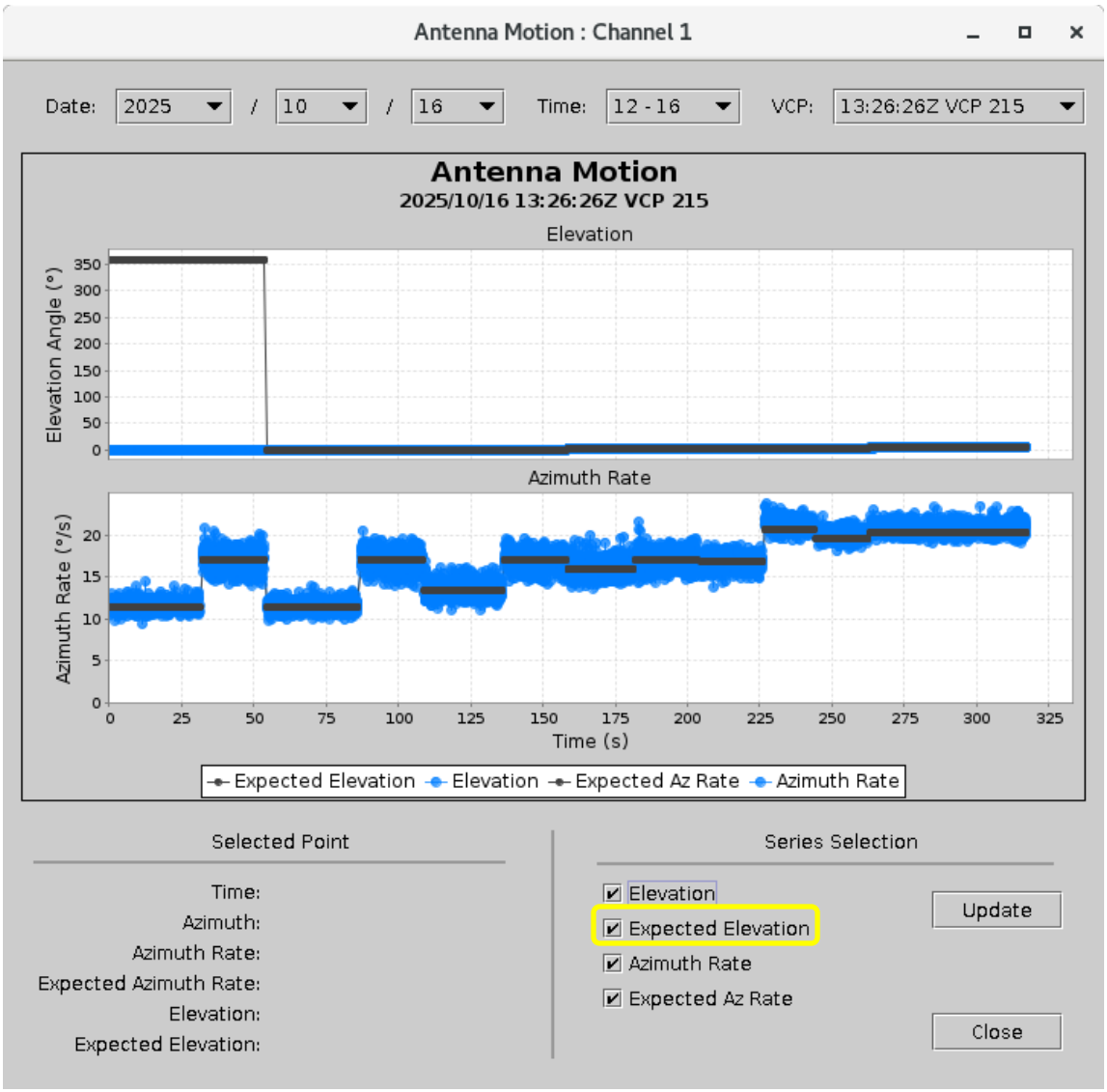
RPG Console Server Shipped w/ Wrong Adapter

Problem: The adapter sent with the new console server may be the wrong type and not allow the RPG to configure the console server as well as the other devices. The correct part number is **319018-xx**

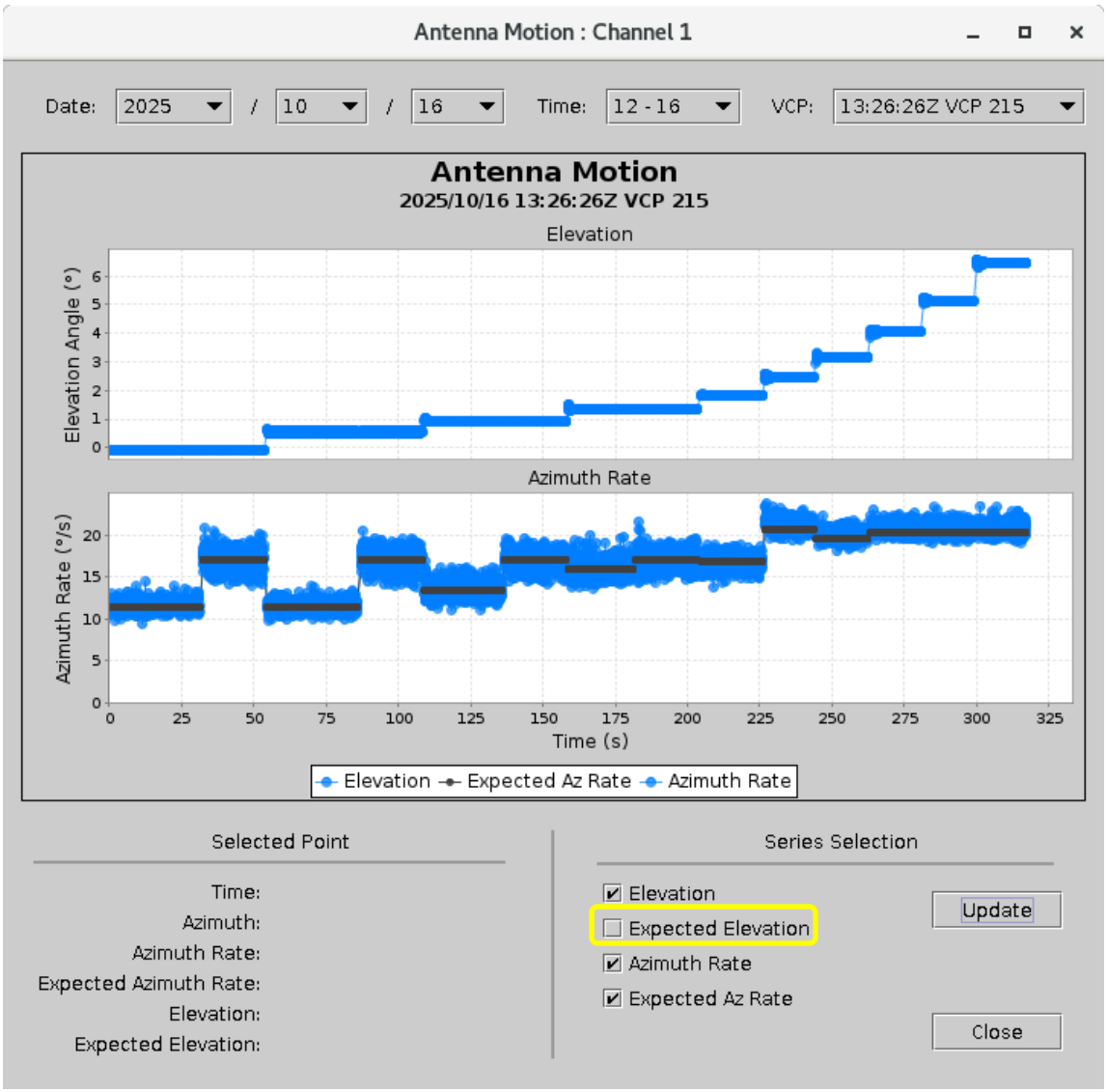
Solution: Ensure the part number listed on the RPG adapter is **319018-xx** before proceeding with the RPG install. If you have already begun installation and had issues with configuring devices, then call the NEXRAD Hotline for further guidance.

Antenna Motion Plot Places Negative Base Tilt Expected Elevation at 359.X°

Problem: For negative base tilt sites (KFSX, KMAX, KMSX), the expected elevation is plotted at 359.X° in the new Antenna Motion plot, making the plot difficult to read/interpret.



Workaround: The workaround for this issue is to deselect Expected Elevation from the bottom right of the window and select Update, or zoom in on the area of interest. Correctly plotting Expected Elevation will be fixed in a future build.



New Multi Factor Authentication (MFA)

Enhancement: The radarop group account is being eliminated in Build 24.0 to comply with Homeland Security Presidential Directive 12 compliant credentials to include Multi Factor Authentication (MFA) such as a Common Access Card/Personal Identity Verification (CAC/PIV) as a primary means of identification and authentication to use NOAA information systems.

MFA is implemented in Build 24.0 and a CAC/PIV will be required for individuals to login and gain access to WSR-88D processors. User's will also be required to log out of their NEXRAD session if they are leaving the vicinity of the system for any amount of time.

Additional information about MFA and CAC/PIV can be found in the NWS EHB 6-504, WSR-88D System Security document.

New GTK Windows Open in the Background

Problem: Various windows launched from the RPG Control/Status window (main RPG HCI) have been converted to using GTK instead of Motif. When launching these windows from the RPG HCI, they will launch in the background which means they will either be fully or partially blocked by the RPG HCI.

Workaround: The workaround for this issue is to click in the new GTK window that has just been launched to bring it to the foreground. If the RPG HCI is blocking the new GTK window completely, click on the window title in the task bar at the bottom of the desktop.

OPERATOR-RELATED ISSUES

AWIPS Does Not Support Viewing the New Range Defined Quasi-Vertical Profiles (RDQVP) Products

Problem: The RDQVP products will become operational with RPG Build 24.0, but AWIPS does not support viewing the RDQVP products.

Solution: AWIPS build 24.1.1 will be able to display the products when AWIPS build 24.1.1 is deployed. WDTD will have a standalone lesson when the products become available.

Overestimations with VPRC On at Base-Tilt Sites

Problem: Flagstaff (KFSX) was a Build 24.0 Beta test site. During a widespread rainfall event after Build 24.0 was installed, the site reported noticeable overestimation in areas where the Vertical Profile of Reflectivity Correction (VPRC) (one of the QPE improvements in Build 24.0) was being utilized.

This is an inherent limitation with how the VPRC builds its correction factor. The correction factor is best calculated when the beam intersects the melting layer at a large enough angle to produce well-defined lower and upper boundaries. When the beam intersects the melting layer at shallow angles, this correction factor may not be as representative. In the KFSX case, the -0.2° radar beam was intersecting the melting layer at a very shallow angle, essentially running along the melting layer as opposed to cutting through it. The result was a non-representative correction factor.

Solution: Playback at the ROC found that setting **Enable VPR Correction** to **OFF** in RPG adaptation data helped in this event. More generally, sites with Base-Tilt elevations are more susceptible to this issue.

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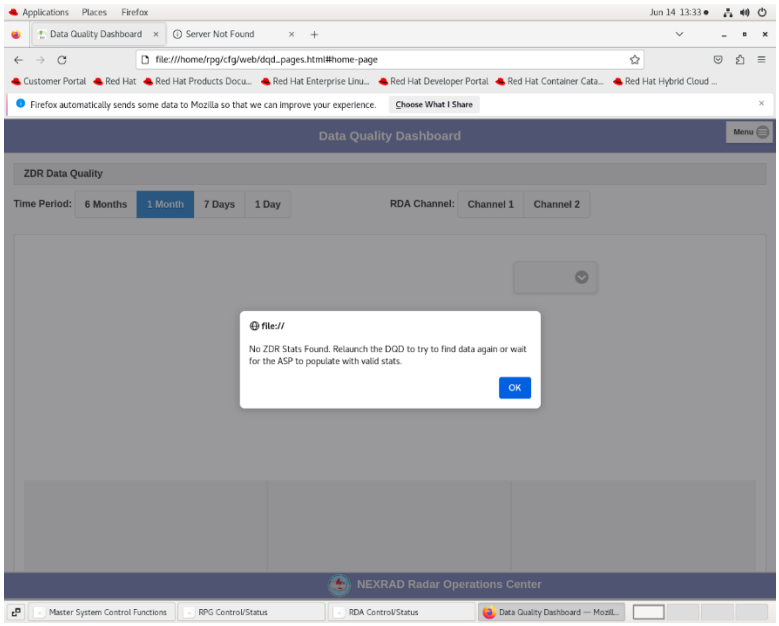
ZDR Database and the Data Quality Dashboard (DQD)

Problem: In Build 24.0, the database which stores the last six months' worth of ZDR bias information was reduced in size to reduce the size of save logs sent to the ROC to aid in troubleshooting. Because of this reduction in size, the database will not get carried forward. Therefore, the DQD page will be blank after loading Build 24.0 until weather events occur and start populating that database again.



Workaround: In the event you need ZDR bias information prior to Build 24.0, please refer to the ZDR Shade Charts on the ROC webpage.