

RELEASE NOTES - ORDA BUILD 7.0

This document lists minor RDA problems along with workarounds, solutions, explanations of how some functionality works, and suggestions on how to prevent various problems and situations.

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1 RDA HCI

1.1 Main RDA HCI Window

Problem: Under heavy load, the Main RDA HCI will occasionally start to flicker. For example, in the Status Log Window, if all processes are set to log in "Verbose" mode while the system is in Operate and multiple RDA HCIs are connected, the Main RDA HCI status area will blink repeatedly due to the heavy load.

Workaround: A workaround is to set as many processes as possible to log in Normal mode, close the RDA HCI, and start a new RDA HCI.

1.2 Status and Alarm Log Window Filtering

Note: When searching or filtering on specific parameters in the RDA Status Log or Alarm Log on the RDA HCI, select the Pause Log before filtering. If Pause Log is not selected, new incoming messages will override the filter selection and make it seem as though the search or filter parameter is not working correctly.

1.3 Performance/Maintenance Data - RDA vs. RPG Window

Note: The RDA HCI Performance Data window does not dynamically update. This may be confusing to users familiar with the RPG's RDA Performance Data windows which do update when new Performance Data is received from the RDA. The user must select the 'Update' button on the RDA HCI Performance Data window to update the displayed performance data values.

1.4 RDA HCI and RPG Performance/Maintenance Data Values May Differ Slightly

Problem: Various differences exist between the RDA HCI display and the RPG display of Performance/Maintenance Data (for example, value precision, label names, units of measure labels, etc.)

Workaround: Most differences will be corrected in Build 8.0.

1.5 Transmit Burst Phase and Burst Power Values Never Change

Problem: Values for Transmit Burst Phase and Transmit Burst Power are 0 and never change.

Workaround: These values are not used but will be used in the future.

1.6 Transmitter Recycling Count Incorrect

Problem: For transmitter high voltage faults, such as Transmitter Overvoltage, the transmitter is designed to attempt multiple recycles to clear the fault condition before declaring the transmitter inoperable. The RDA software is not accurately counting the number of recycle attempts which will be reflected in the values displayed in Performance/Maintenance Data.

Solution: Either count number of recycle attempts or ignore the counter in the Performance/Maintenance window. This problem will be corrected in Build 8.0.

2 Alarms

2.1 RF/GEN STALO FAIL Alarm

Problem: In some cases, the RF Generator in the Legacy system will not indicate any faults until the ORDA system is installed. If the radar data looks good, but the RF/GEN STALO alarm is being generated, this is an indication of a bad RF Generator.

Workaround: Obtain new RF Generator from NRC with correct capacitor values.

2.2 False MISSING BURST PULSE Alarm

Problem: Data received through the SIGMET software from the Signal Processor occasionally provides a false positive for the MISSING BURST PULSE alarm.

Workaround: Ignore intermittent MISSING BURST PULSE alarms. If the alarms persist through multiple VCPs, verify burst input to the IFD.

2.3 Multiple RADIAL DATA LOST Alarms

Problem: When the RPG is in control of the RDA and running a VCP, on the second half of a split cut, if the RDA/RPG communications is lost, the RDA may produce numerous RADIAL DATA LOST alarms when the RPG re-connects.

Workaround: This will correct itself on the next VCP; however, these alarm messages may fill up the alarm log on the RPG. To prevent over-flowing the RPG alarm log, the operator may immediately command a VCP Restart one or more times. This problem will be corrected in Build 8.0.

2.4 Possible Misinterpretation of COM Alarms by Systems Downstream

Problem: Alarms in the "COM" device category are interpreted as Wideband failures in downstream systems such as AWIPS. The RDA classifies all communication alarms

(RAS connect/disconnect, etc...) as "COM" alarms. For example, the new ORDA alarm REMOTE LOGIN THROUGH REMOTE ACCESS SERVER may trigger a false Wide-band Failure on AWIPS.

Solution: Technician should note the specific alarm text if a "COM" alarm is detected. In most cases, data is still available at the system downstream and the warning banner can be ignored. Will be corrected in a future AWIPS build.

2.5 REMOTE LOGIN THROUGH REMOTE ACCESS SERVER Alarm

Problem: When a user logs into the RDA through a remote HCI, the alarm REMOTE LOGIN THROUGH REMOTE ACCESS SERVER is set. Sometimes the alarm does not clear when the user logs out from a remote dial-in session. In this case, the system will falsely indicate that someone is still logged into the system.

Workaround: Either dial back into the system & exit to clear the alarm or Restart the application software to clear the alarm.

2.6 GENERATOR AUTO/RUN/OFF SWITCH NOT AUTO Alarm

Problem: When the "GENERATOR AUTO/RUN/OFF SWITCH NOT AUTO" alarm occurs, on the RPG display at the MSCF, the label "Cmd Swtchvr" incorrectly appears near the "Utility/Auxiliary/Fuel Tank" icon before the command is given to switch to auxiliary power.

Workaround: Disregard this label. This problem will be corrected in Build 8.0.

2.7 RDA UPS ON BATTERY Alarm Cleared Multiple Times

Problem: Sometimes the RDA HCI displays multiple RDA UPS ON BATTERY alarm cleared messages for a single alarm that was set.

Workaround: Ignore the extra alarm cleared messages.

2.8 False NTP FAILURE; GPS FAILURE Alarms

Problem: The GPS receiver intermittently fails to detect sufficient satellites for 2-3 seconds causing false NTP FAILURE and GPS FAILURE alarms. Both alarms happen concurrently in this case.

Workaround: Ignore intermittent GPS FAILURE and NTP FAILURE alarms. If alarms persist for more than 30 minutes, reboot the GPS system and follow the troubleshooting procedures found in EHB 6-515.

2.9 Alarm Changes and Notes

Problem: Some alarms display different names on the RDA HCI vs. the RPG display. The following table includes the affected alarms:

Workaround: Look at the RDA HCI Alarm Log for alarm text, especially for alarms reporting spare on the RPG Alarm Display.

Alarm Code	RDA HCI Alarm Text	RPG Alarm Text
27	SNMP TIME OUT: POWER ADMINISTRATOR	SNMP TIME OUT: POWER MANAGER
68	CHARGING SYSTEM FAILURE	FLYBACK CHARGER FAILURE
69	CHARGING SYSTEM INVERSE CURRENT FAILURE	CHARGING SYSTEM FAILURE
118	POWER ADMINISTRATOR OVERLOAD	POWER MANAGER OVERLOAD
119	POWER ADMINISTRATOR FAILURE	POWER MANAGER FAILURE
128	GENERATOR AUTO/RUN/OFF SWITCH NOT AUTO	POWER TRANSFER NOT ON AUTO
363	RF IFD COHO INPUT MISSING	SPARE
387	SIGNAL PROCESSOR TRIGGER ERROR	SPARE
388	SIGNAL PROCESSOR SELF CHECK FAILED	SPARE
389	IFD TEST SWITCH POSITION ERROR	SPARE

3 System Test Software (STS)

3.1 Using RDA System Test Software (Off-Line Test)

Note: It is no longer necessary to stop the RDA software to use Off-Line System Test functionality. The former RDASOT no longer exists. Off-Line System Test functionality is available from the RDA HCI button "System Test Software". When this button is selected and confirmed by the technician, the RDA software logically disconnects the RPG and prepares the RDA to run in an Off-Line Maintenance mode. When the RDA System Test Software Window is exited, the RDA software logically reconnects the RPG and restores operational status without the operator having to command RDA software start.

3.2 Pedestal Control

Problem: In Pedestal Control, the uncorrected antenna positions do not update continuously so encoder alignments may be incorrect.

Workaround: RDA Adaptation Data values for AZ_CORRECTION_FACTOR and EL_CORRECTION_FACTOR should be recorded. Then they should be set to 0 and application software restarted before the alignment. After encoder alignment, follow TM procedure to run Suncheck to re-measure the azimuth and elevation boresight correction factors. This problem will be corrected in Build 8.0.

3.3 IFD Configuration Race Condition

Problem: When closing the IFD Configuration window in STS with either the plot burst or the plot spectra tab selected, the IFD Configuration may silently crash, leaving HV on and no changes saved.

Workaround: Select the General tab before closing the IFD Configuration window.

3.4 Linearity Graphics Incorrect

Problem: When running Linearity in STS, sometimes the data array exceeds the bounds defined in the software resulting in large spikes at the low and high ends of the graphics display.

Workaround: If the computed values for Noise, Dynamic Range and IO look correct, ignore the graphics display. If linearity alarms are present or the calibration values are inconsistent with expected values, then troubleshoot hardware problems.

3.5 Unavailable Transmitter Locks Receiver Manual Control

Problem: If the Transmitter is Unavailable, Klystron Output is selected and the signal is injected in Receiver Control in STS, the window hangs and cannot be closed. If you attempt to start another test procedure at this time, STS hangs.

Workaround: If you have not attempted to run another procedure (that is, only Receiver Control window hangs), exit & re-enter STS to continue. If STS hangs, restart the system from the background menu. This problem will be corrected in Build 8.0.

3.6 Receiver Diagnostics Subtests 8 & 10

Problem: Subtests 8 & 10 give false results due to a Log Amp noise-floor measurement problem.

Workaround: The operator should manually measure the power for these test points using STS Receiver Manual Control. This problem will be corrected in Build 8.0.

3.7 RVP8 IO62 Card Configuration Error Message

Problem: When configuring the SIGMET equipment (specifically the RVP8 IO62 card), STS shows that the io62 configuration failed. This message is incorrect.

Workaround: Ignore this message. This problem will be corrected in Build 8.0.

3.8 Suncheck Fails to Execute if Failure Encountered

Problem: If the Suncheck routine fails due to insufficient number of data points (likely to happen on cloudy days), the second attempt locks up the system.

Workaround: Execute Suncheck on clear days to prevent an Insufficient Data Points error message. If error is encountered, restart the application software.

4 Data Quality

4.1 Batch Cuts – Ring at Unfolding Boundary in Reflectivity

Problem: In batch cut Reflectivity products, there is a narrow ring of slightly reduced reflectivity values at the range corresponding to the first trip PRF boundary. Velocity and Spectrum Width products will show no data within the small ring at this same range.

Workaround: Reductions in reflectivity values are very small. There is no indication that any algorithm products, including Vertically Integrated Liquid, Storm Total Precipitation, or Composite Reflectivity products, are affected.

4.2 Bypass Clutter Map - 1km Offset Causes Fringing in Reflectivity

Problem: The clutter map generation utility in Build 7.0 is off by 1km. The map is 1km concentrically closer than actual targets; therefore, when applied, a small fringe of clutter is evident on the radar image.

Workaround: For sites with large areas of clutter (e.g., mountainous sites), we recommend adding clutter censor zones at the outside boundary of the map to remove the fringing effect. A detailed explanation of this workaround can be found on the NEXRAD ROC web site in the Hotline Home Page at the following address:

<http://www.roc.noaa.gov/ops/ORDA.asp>

It is also available in the Training - WDTB Home Page at the following address:

<http://wdtb.noaa.gov/buildTraining/ORDA/index.html>

5 Backup and Restore Utility

5.1 Size of Archived Log Files Can Become Too Large

Problem: When the system has been running for an extended period of time, it is possible that the size of the archived log files will become too large to fit on a standard CD-RW (holds approximately 700 MB). There is no indication to the operator that they should use a DVD (holds approximately 4.7 GB) for larger Archive or Backup operation.

Workaround: The size of the files which will be included in the Archive or Backup is displayed on the Backup/Restore HCI when the Archive or Backup tab is selected. The operator should look at the displayed size to determine if a DVD-R is required for the operation before continuing.

5.2 Log Files May Become Too Numerous

Problem: System log files too numerous for correct backup/restore functionality. Currently, the dspc process logs each radial's azimuth and elevation angle information. A new

log file is created for each VCP. Although the log files are small, too many files will inhibit proper operation of the backup/restore utility.

Workaround: Log files should be archived monthly & deleted from the system after having been archived.

5.3 Backup/Restore Utility May Hang

Problem: In rare instances, the backup/restore utility will not restore files from a CD. The software will hang.

Workaround: Close the HCI & restart the application software.

6 Hardware

6.1 DCU/Pedestal Communications

Problem: Rare occurrences of PEDESTAL BIT RESPONSE alarm and MULTIPLE PED COMM ERROR - RDA FORCED TO STANDBY alarm indicate DCU/Pedestal communication problem.

Workaround: Either recycle power to the Pedestal Electronics from the Maintenance Panel or reset the DCU communications by entering STS and selecting Reset DCU from the Control menu.

6.2 RCP/RVP LAN Cable

Problem: When the LAN cable between the RCP and RVP is disconnected, commands to change high voltage and servo switches fail until the cable is reconnected. The operator will also notice a SIGNAL PROCESSOR COMMUNICATION ERROR alarm.

Solution: Check the cable between the RCP and the RVP and reconnect the cable if disconnected. Restart the RCP and RVP.

6.3 New Routers – Hardware Configuration Failure

Problem: The hardware configuration script checks to see if the IOS version matches what was fielded, and if it doesn't match it copies the correct IOS version to the router. When a router has never been configured, its ethernet port is disabled and the copy of the IOS fails.

Workaround: When installing a new router, follow the steps below:

1. Use the Hardware Config and make sure router is selected then click the **Manual Mode** button.
2. Use the arrow keys to highlight **Serial port setup**, then press **<Enter>**.
3. Press **a** to select Serial Device.
4. Edit the Serial Device line to change S1 to R3 (i.e., **/dev/ttyR3**), then press **<Enter>**.
5. Press **e**, then press **e** again, then press **<Enter>**.
6. Use the arrow keys to highlight **Exit**, then press **<Enter>**.
7. At the Router> prompt,
enter:
en <Enter>
8. At the Router# prompt,
enter:
conf t <Enter>
9. At the Router(config)# prompt,
enter:
int f0/0 <Enter>
10. At the Router(config-if)# prompt,
enter:
no shutdown <Enter>
11. At the Router (config-if) # prompt,
enter:
ip address 172.25./xxx/.x31 255.255.255.128 <Enter>
where “/xxx/” is the site number, and “x” is the channel

12. Enter:

exit <Return>

Once more, enter:

exit <Return>

13. Press **<ctrl>a** then press **z** to get to the minicom menu.

14. Press **q** then **<Enter>** to close minicom

15. Click the **Configure Device** button to configure the router and the script will work.

6.4 RCP/RVP – Possible Keyboard Controller Problem

Problem: In the unlikely event that the message “**pc_keyb: controller jammed (0x1D)**” occurs on boot for the RCP and RVP, then keys that are subsequently pressed on the keyboard can be received as the wrong input.

Workaround: Disable the USB support in BIOS using the following commands:

1. Reboot the System:
2. Press the **** when the screen says to **enter BIOS select ‘del’**.
3. Use the **<right arrow>** key to highlight **Advanced** tab.
4. Use the **<down arrow>** key to highlight **PCI/PnP Configuration** tab.
5. Select:
<Enter>
6. Verify **PCI/PnP Configuration** is disabled.
If not, use **<Page Up>** or **<Page Down>** to change.
7. Press **<F10>** and verify **YES** is highlighted to save and exit.
8. Exit BIOS by entering:
<Enter>

6.5 WIC Card Seating Problems

Problem: The WIC cards obtained from NLSC that are installed in the routers as part of Mod Note 79, Part 1 are more difficult to seat than previous versions.

Solution: It may take two or three attempts to get the WIC cards to seat properly. Also, if you attempt to over-tighten the retaining screws to get them to seat properly, it is possible to separate the head from the shaft on the screw. In theory this makes the module "defective", but another screw can be substituted in these cases.

7 UPS Notes

7.1 UPS Sensitivity

Problem: The default UPS Sensitivity setting is high. As such, the component checks the total harmonic distortion on the input lines. Since the power is obtained from the TPS, this parameter has too tight a tolerance for normal site operation resulting in multiple UPS ON BATTERY alarms due to perceived input power instability. A UPS Sensitivity of LOW should be used for all sites.

Workaround: When an UPS is replaced, the user should set the Sensitivity to LOW by depressing the selection control at the back of the LRU. The automatic hardware configuration script will set the UPS configuration to LOW sensitivity in Build 8.0.

<p>Voltage Sensitivity</p> <p>The UPS detects and reacts to line voltage distortions by transferring to battery operation to protect the connected equipment. Where power quality is poor, the UPS may frequently transfer to battery operation. If the connected equipment can operate normally under such conditions, reduce the sensitivity setting to conserve battery capacity and service life.</p>	 high	<p><i>Brightly lit:</i> UPS is set to high sensitivity.</p> <p><i>Dimly lit:</i> UPS is set to medium sensitivity.</p> <p><i>Off:</i> UPS is set to low sensitivity.</p>  high  medium  low	<p>To change the UPS sensitivity, press the <i>voltage sensitivity</i> button  (rear panel). Use a pointed object (such as a pen) to do so.</p> <p>You can change the sensitivity level through PowerChute software.</p>
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7.2 UPS Selftest

Problem: The default UPS Selftest cycle is every two weeks. During the UPS selftest, the UPS goes on battery for 5-10 seconds. The RDA software detects the UPS ON BATTERY, sets the alarm & puts the system in an inoperable state assuming that the UPS has gone on

battery due to shelter power loss. Although the RDA restarts the elevation cut as soon as the test ends, the RPG executes a restart VCP command causing loss of data.

Workaround: When an UPS is replaced, the user should set the Selftest to OFF by executing the following commands. The automatic hardware configuration script will set the UPS selftest configuration to OFF in Build 8.0.

1. Open a command line window:
Press and hold **<CTRL><ALT><F2>**
2. Log in as operator. See the System Administrator for the operator account password.
3. Execute the snmp command to turn off the selftest
snmpset -v 1 -c floyd ups1 1.3.6.1.4.1.318.1.1.1.7.2.1.0 i 4
4. Exit the operator account:
exit
5. Close the command line window:
Press and hold **<CTRL><ALT><F7>**

8 R82 Not Used In System Software

Problem: System software does not use R82 for any calibration computations.

Workaround: Recommend following TM guidelines to set R82 to zero.