

NX Series Software 5.1.1

General Remarks:

NX Series Software Version 5.1.1 is a Software update suitable for all Nautel NX Series transmitters.

You can download NX Series Software Version 5.1.1 [here](#).

NOTE: Refer to the **Installation File Compatibility** section below for the appropriate installation files for your transmitter.

NOTE: Refer to the **Software Upgrade Procedures** section below for the appropriate software upgrade procedure for your transmitter.

Installation File Compatibility:

WARNING

Using incompatible software on your transmitter will cause the AUI to not connect and will cause system reboots. Resolving this issue on NX15 to NX400 transmitters will require a re-imaging of the transmitter's SSD/CF card using the compatible OS image file.

- For NX3 to NX10s, use:
 - nx.5.1.1+ARM.1.tgz for software upgrade
 - NX_OS_Recovery_v5.1.1.zip for OS recovery
- For NX15 to NX400s using a UB97/UB66 SBC (identified by the PS/2 port and CF card port), use:
 - nx.5.1.1+UB97.1.tgz for software upgrade
 - NX_5.1.1+UB97.1.img for OS image
- For NX15 to NX400s using a UB118 SBC (identified by the FM13016C/D label located on the transmitter cabinet or the HDMI-to-VGA adapter connected to the SBC), use:
 - nx.5.1.1+UB118.1.tgz for software upgrade
 - NX_5.1.1+UB118.1.img for OS image

Software Upgrade Procedures:

If you purchased an NX3 through NX100 transmitter starting from May 2019 to July 2021 please follow IS21007 “NX Series - Upgrading Controller Firmware (for NX SW 5.0 users)” before beginning the upgrade procedure.

- If upgrading from a 5.Y.Z release, refer to the “Upgrading Software” section in the transmitter’s Operation & Maintenance Manual.
- If upgrading from a pre-5.Y.Z release:
 - For NX3 to NX10s, follow IS16009A, *NX3/NX5/NX10 – Updating to 5.x Software and OS Recovery*
 - For NX15 to NX400s using a CF card, follow IS19003A, *NX15 to NX400 – Software Upgrade to NX SW 5.1.1 (CF Card)*
 - For NX15 to NX400s using an SSD, follow IS22009, *NX Series – Imaging OS Files on SSD*

Added:

- Firmware upgrades now retry up to five times during a software upgrade in the event of communication failure.
 - **NOTE:** For this functionality to be implemented, the NX SW 5.1.1 release will need to be installed at least once. When this function is implemented and a software upgrade is actioned, the software upgrade process will perform several retries at the beginning. This is known behaviour and may take up to 10 minutes to continue the process. No User intervention is required during this time.
 - There is a chance that the software upgrade process will stop attempting to program the racks. The software upgrade process can easily be restarted by exiting and reentering the Upgrade Software menu and retrying the software upgrade.
 - The software upgrade process will be successful when all the components in the Software Versions screen are green and upgraded to their latest software versions.

Changed:

- Increased RF On delay by less than 400 ms to accommodate for +48 V power supply turn-on and ramp-up timing variation.

Known Issues:

- Graphical issues may cause meters on the local AUI Rack meters summary page to be difficult to read. (UB118)
 - **Workaround:**
 - Meters appear correctly using Capture Meters in Critical Parameters and are easier to read on device-specific meter summary pages.
 - Graphical issues are not present in the remote AUI and therefore meters are not affected visually.
- When setting date/time to the past, the local AUI will freeze. (UB118)
 - **Workaround:**
 - Pressing the Nautel logo in the top-left of the local AUI will unfreeze and reload the local AUI.
 - Going forward in time via the remote AUI will unfreeze the local AUI.
 - The remote AUI is not affected when changing the time to go back or go forward in time.
 - Setting date/time to the future will not affect the transmitter.
- While running a software update, an internal software reset could occur and cause the upgrade process to halt. The AUI will reboot and transmitter functionality will be unaffected.
 - **Workaround:**
 - Wait approximately 30 seconds and re-run the upgrade.
- If you have an active preset with the first created stream as the Audio Source and another preset with the first created playlist as the Audio Source and switch to the second preset, the stream will continue to modulate due to both playlist and stream having the same order value.
 - **Workaround:**
 - Create another stream that has a different order value than the desired playlist and then switch to that stream from the current stream and then switch back to the desired playlist. This method will also work for switching from a playlist to a stream.
- If a popup appears after a button is pressed in Changeover and that button is pressed again, the popup buttons will not work, and the popup will stay on the screen. This affects both the local and remote AUI.
 - **Workaround:**
 - Pressing the Nautel logo in the top-left of the AUI will reload the AUI to the login screen and the popups will go away.

- When changing the User via the local AUI and pressing the “Ok” button, the Active Exciter in the top-right of the screen gets set to “N/A”.
 - **Workaround:**
 - Reloading the local AUI by pressing the Nautel logo in the top-left of the screen or performing a Host/AUI reboot will resolve the issue.
- Opening the Change User window, then opening the Main Menu and selecting Menu option will show the Change User window only during the page transition.
 - Pressing the Change User button again will not reveal/show the Change User Window.
 - **Workaround:**
 - Reloading the local AUI by pressing the Nautel logo in the top-left of the screen or performing a Host/AUI reboot will resolve the issue.
- If the Standby Exciter is changed from No to Yes (or Yes to No), the relevant Exciter alarms (e.g. External Mute) are not shown.
 - **Workaround:**
 - Reloading the local AUI by pressing the Nautel logo in the top-left of the screen or performing a Host/AUI reboot will resolve the issue.
- If several settings for a preset are changed and the preset is saved, some settings may not be saved successfully and will require another attempt to change and save the preset.
- Changing from an AM Overall Mode to a non-AM Overall Mode in the active preset, the L+R Modulation meter will freeze on the last reported value instead of setting the values to “0”. Changing from a non-AM Overall Mode to an AM Overall Mode will start correctly reporting the L+R Modulation.
 - This does not affect the transmitter’s functions.

Installation Considerations:

This software update will take approximately 30 minutes and may require multiple reboots. You will be OFF-AIR during the upgrade process.

NX Series Software 5.1.0+UB118

General Remarks:

NX Series Software Version 5.1.0+UB118 is a Software release suitable for NX15 through NX100 NX Series transmitters that use the UB118. This is the initial release of NX Software on the UB118 single board computer. This release includes all improvements and enhancements from NX SW 5.1.0 located [here](#).

WARNING: This release is only for NX transmitters with the UB118 (NANO-ULT5-i5-R10) SBC (identified by the HDMI-to-VGA adapter connected to the SBC). DO NOT install a TGZ that does not have a “+UB118” reference as this will cause the AUI to not connect and will cause system reboots. Resolving this issue will require a re-imaging of the transmitter’s SSD.

Known Issues:

- Graphical issues may cause meters on the local AUI Rack meters summary page to be difficult to read. See Workaround (1).
- When setting date/time to the past, the local AUI will freeze. See Workaround (2).
 - Setting date/time to the future will not affect the transmitter.
- While running a software update, an internal software reset could occur and cause the upgrade process to halt. The AUI will reboot and transmitter functionality will be unaffected. See Workaround (3).
- If you have an active preset with the first created stream as the Audio Source and another preset with the first created playlist as the Audio Source and switch to the second preset, the stream will continue to modulate due to both playlist and stream having the same order value. See Workaround (4).
- If a popup appears after a button is pressed in Changeover and that button is pressed again, the popup buttons will not work, and the popup will stay on the screen. This affects both the local and remote AUI. See Workaround (5).
- When changing the User via the local AUI and pressing the “Ok” button, the Active Exciter in the top-right of the screen gets set to “N/A”. See Workaround (6).
- Opening the Change User window, then opening the Main Menu and selecting Menu option will show the Change User window only during the page transition.
 - Pressing the Change User button again will not reveal/show the Change User Window. See Workaround (6).
- If the Standby Exciter is changed from No to Yes (or Yes to No), the relevant Exciter alarms (e.g. External Mute) are not shown. See Workaround (6).
- If several settings for a preset are changed and the preset is saved, some settings may not be saved successfully and will require another attempt to change and save the preset.
- Changing from an AM Overall Mode to a non-AM Overall Mode in the active preset, the L+R Modulation meter will freeze on the last reported value instead of setting the values to “0”. Changing from a non-AM Overall Mode to an AM Overall Mode will start correctly reporting the L+R Modulation. This does not affect the transmitter’s functions.

Workarounds:

1. Meters appear correctly using Capture Meters in Critical Parameters and are easier to read on device-specific meter summary pages.
 - a. Graphical issues are not present in the remote AUI and therefore meters are not affected visually.
2. Pressing the Nautel logo in the top-left of the local AUI will unfreeze and reload the local AUI.
 - a. Going forward in time via the remote AUI will unfreeze the local AUI.
 - b. The remote AUI is not affected when changing the time to go back or go forward in time.



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3. Wait approximately 30 seconds and re-run the upgrade.
4. Create another stream that has a different order value than the desired playlist and then switch to that stream from the current stream and then switch back to the desired playlist. This method will also work for switching from a playlist to a stream.
5. Pressing the Nautel logo in the top-left of the AUI will reload the AUI to the login screen and the popups will go away.
6. Reloading the local AUI by pressing the Nautel logo in the top-left of the screen or performing a Host/AUI reboot will resolve the issue.

NX Series Software 5.1.0

General Remarks:

NX Series Software Version 5.1.0 is a Software update suitable for NX3 through NX100 Nautel NX-Series transmitters.

NOTE: This software is not compatible for use with NX200 through NX400 transmitters. For NX200-NX400 please continue to use NX SW 4.9.1.

This release is considered **NECESSARY** for those who require any of the improvements/bug fixes listed below. Nautel recommends you upgrade at your earliest convenience, **during your next scheduled site visit.**

In the event you require support from Nautel Customer Service, they may require you to upgrade to the latest software release to resolve your issues if deemed necessary.

You can download NX Series Software Version 5.1.0 [here](#).

Please be sure to review and understand the complete set of instructions prior to beginning your upgrade.

NOTE: If you purchased an NX3 through NX100 transmitter starting from May 2019 to July 2021 please follow IS21007 “NX Series - Upgrading Controller Firmware (for NX SW 5.0 users)” before beginning the upgrade procedure.

Software upgrade procedures can be found in “Upgrading Software” in the transmitter’s Operation & Maintenance Manual. Based on your transmitter configuration, select the appropriate IS below:

- If going from pre-5.Y.Z to 5.Y.Z, for NX15 through NX100, follow IS13004* “*NV and NX Series – Burning Compact Flash Card*”.
- If going from 5.0.0 to 5.1.0 follow IS16009A for NX3/5/10 or IS19003 for NX15 through NX100 in-order to upgrade your transmitter software.

WARNING: This release is only for NX transmitters NX15 through NX100 with the UB97 (NANO-PV-D5251-R10) or UB66 (NANO-8522G-R13) SBC (identified by the PS/2 port and CF card port). DO NOT install a TGZ that has a “+UB118” reference as this will cause the AUI to not connect and will cause system reboots. Resolving this issue will require a re-imaging of the transmitter’s CF card/SSD.

New Features:

- Added AMC Long Attack as a Dynamic Carrier Control mode.
- Added nxControllerSetPower OID to the NX MIB.

Improvements / Enhancements:

- The Spectrum Mask for the IBOC MA3 mode was set to NRSC-2-C.

Bug Fixes:

- Fixed an issue with the NX Controller Set Point Power.
- Fixed an issue where the MER values for IBOC MA1/MA3 were negative.

Known Issues:

- When running a software update, an internal software reset could occur and cause the upgrade process to halt. The AUI will reboot and transmitter functionality will be unaffected. See Workaround (1).

- If you have an active preset with the first created stream as the Audio Source and another preset with the first created playlist as the Audio Source and switch to the second preset, the stream will continue to modulate due to both the playlist and stream having the same order value. See Workaround (2).
- If a popup appears after a button is pressed in Changeover and that button is pressed again, the popup buttons will not work, and the popup will stay on the screen. This affects both the local and remote AUI. See Workaround (3).
- When changing the User via the local AUI and pressing the “Ok” button, the Active Exciter in the top-right of the screen gets set to “N/A”. See Workaround (4).
- Opening the Change User window, then opening the Main Menu and selecting Menu option will show the Change User window only during the page transition.
 - Pressing the Change User button again will not reveal/show the Change User Window. See Workaround (4).
- If the Standby Exciter is changed from No to Yes (or Yes to No), the relevant Exciter alarms (e.g. External Mute) are not shown. See Workaround (4).
- If several settings for a preset are changed and the preset is saved, some settings may not be saved successfully and will require another attempt to change and save the preset.
- Changing from an AM Overall Mode to a non-AM Overall Mode in the active preset, the L+R Modulation meter will freeze on the last reported value instead of setting the values to “0”. Changing from a non-AM Overall Mode to an AM Overall Mode will start correctly reporting the L+R Modulation. This does not affect the transmitter’s functions.

Workarounds:

1. Wait approximately 30 seconds and re-run the upgrade.
2. Create another stream that has a different order value than the desired playlist and then switch to that stream from the current stream and then switch back to the desired playlist. The same goes for switching from a playlist to a stream.
3. Pressing the Nautel logo in the top-left of the AUI will reload the AUI to the login screen and the popups will go away.
4. Reloading the local AUI by pressing the Nautel logo in the top-left of the screen or performing a Host/AUI reboot will resolve the issue.

Installation Considerations:

This software update will take approximately 30 minutes and may require multiple reboots. You will be OFF AIR during the upgrade process.

NX Series Software 5.0

General Remarks:

NX Series Software Version 5.0 is a Software update suitable for NX3 through NX100 Nautel NX-Series transmitters. It is not fully compatible with NX200 through NX400 transmitters, as the software upgrade process may fail if attempted.

This release is considered **CRITICAL** for those who are experiencing issues with network/system stability, are using a streaming service for audio content (such as Shoutcast) or require any of the bug fixes/improvements identified below. Nautel recommends you upgrade at your earliest convenience, **during your next scheduled site visit**.

For those who do not require any of the bug fixes/improvements identified below or are satisfied with current transmitter behaviour, this release is considered **NON-CRITICAL** and Nautel typically does not recommend you upgrade under these circumstances. If you choose to upgrade, Nautel recommends you perform the upgrade **during a regularly scheduled site inspection**. In the event you require support from Nautel Customer Service, they may require you to perform an upgrade to the latest software release in order to resolve your issue if deemed necessary.

You can download NX Series Software Version 5.0 [here](#).

Software Upgrade procedures can be found in IS13004*, *NV and NX Series – Burning Compact Flash Card*, IS16009A, *NX3/NX5/NX10 – Updating to 5.x Software and OS Recovery* and IS19003, *NX15 – NX100 – Updating to 5.x Software*. Please be sure to review and understand the complete set of instructions prior to beginning your upgrade.

New Features:

- Added ability to configure Analog Output Sample Voltage Scaling.
 - Analog Outputs now show up under the Remote I/O page.
 - The following fixed meters are now configurable Analog Outputs with a Sample Full Scale Range of 1-10V:
 - Forward Power
 - Reflected Power
 - B+ Voltage
 - Total B+ DC Current

Improvements / Enhancements:

- Improved system stability and network stability/connectivity.
- Improved stability for streaming audio and audio files.
- Increased the Watchdog timeout from 30 seconds to 1 minute to account for the stability health check system.
- Increased the precision of Reflected Power meters in the AUI from 3 to 4 digits (e.g. when the Reflected Power is 200W, the meter now shows 0.200 kW instead of 0.20 kW).
- Disabled Phone Home logging for NX3, NX5 and NX10s due to the transmitter remote AUI crashing because of large log file sizes.

Bug Fixes:

- Fixed a bug that disallowed the Audio Player to play audio streams or MP3s on High Power NXs (NX15 – NX400).
- Fixed a bug that disallowed the User from adding a new Scheduler event using the Local AUI on High Power NXs (NX15 – NX400).



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Known Issues:

- Software upgrade process for multi-rack NX transmitters (NX200 through NX400) is not reliable, typically failing while attempting to upgrade the individual racks. Repeat attempts to upgrade may be required if software upgrade process is initiated, with no guarantee of successful completion.
- If you have an active preset with the first created stream as the Audio Source and another preset with the first created playlist as the Audio Source and switch to the second preset, the stream will continue to modulate due to both the playlist and stream having the same order value. See (1).

Workarounds:

1. Create another stream that has a different order value than the desired playlist and then switch to that stream from the current stream and then switch back to the desired playlist. The same goes for switching from a playlist to a stream.

Installation Considerations:

This software update will take approximately 30 minutes and may require multiple reboots. You will be OFF AIR during the upgrade process. If you experience LAN-related alarms soon after an OS recovery/CF card reimage, another OS recovery/CF card reimage may be needed.