VX Series Software 7.0.1

General Remarks:

VX Series Software Version 7.0.1 is a software upgrade suitable for all Nautel VX Series transmitters.

For those who do not require any of the bug fixes/improvements identified below, are satisfied with current transmitter behaviour or require any of the unimplemented features, do not upgrade to this version.

Due to the backwards incompatible changes made for this software release, any attempt to downgrade to a previous major version (e.g. 6.Y.Z) may cause the loss of transmitter configuration or settings. This includes performing a TGZ downgrade or inserting an SD card that has software from a previous major version. Nautel recommends creating a backup SD card image after performing the software upgrade to the newest major version release.

You can download VX Series Software Version 7.0.1 here.

Software upgrade procedures can be found in IS23006, *VX Series – Software Upgrade Procedure*. Please be sure to review and understand the complete set of instructions prior to beginning your upgrade.

This software upgrade will take approximately 30 minutes, but you will only be OFF-AIR during the rebooting process for approximately 2 minutes.

Due to an issue found in releases between and including VX SW 6.3.0 and VX SW 6.4.0, upgrading to VX SW 7.0.1 will not show the Reboot button on the FPUI (Front Panel User Interface) to indicate when the upgrade is complete. To verify that the software upgrade is complete, you must view the software upgrade on the transmitter's AUI (Advanced User Interface) and perform the reboot using the AUI when the software upgrade is finished.

Nautel does not recommend downgrading to previously released software.

Fixed:

- Fixed an issue where the RTC (real-time clock) would drift over time without NTP enabled or reset to January 1st, 2020, 00:00:00 if the transmitter was left unpowered for over 2 weeks, which would impact Event History log timestamps and Scheduler rules.

Known Issues:

User Experience

- Software upgrades using USB may not be functional for all VX transmitters. If a software upgrade file is located on a USB storage device and connected to the transmitter, the file may not appear in the list and indicate that the transmitter will not mount the USB storage device.
    - Uploading the software upgrade file to the transmitter will remedy this issue.
- After performing a software upgrade, the Remote AUI's browser page may show a white screen.
    - While on the AUI's page, refresh the browser's cache by pressing CTRL + F5 at the same time.
- The Pilot 1PPS Sync may momentarily go out of sync and the Pilot Unsync alarm will trigger during long-term synchronous operations approximately 1-2 times per day.
    - The transmitter will adjust itself back to the desired pilot phase within seconds and clear the alarm.
- If RDS is enabled with Data Source set to Internal RDS and Alternate Frequencies set to something other than 0, the Alternate Frequencies are not correctly outputted.
    - ASCII over IP and UECP over IP are not affected.

- If RDS is enabled with Data Source set to either ASCII over IP or UECP over IP and there's a telnet connection to the transmitter, changing the Data Source to another option (even the other "over IP" option) and saving causes the Preset menu to freeze in a loading state with an error.
    - o Closing the telnet connection will allow the Preset menu to start working again.
- If the transmitter is outputting audio and the AGC Limiter is enabled with AGC Time Constant set to 10 ms or less, the modulation meter will go to >600 % and the audio will stop being outputted.
    - o An Exciter/Controller reboot using the FPUI (Front Panel User Interface) will fix the issue.
- Performing a software update via the AUI may not show the Reboot button when the update is completed.
    - o Pressing the browser's refresh button for the Remote AUI's page will remedy the issue.
- Transmitter does not inhibit RF correctly during reboot from a software update using the AUI. While the transmitter does inhibit the RF during the reboot, it does not properly inhibit the RF before the reboot.
    - o Turn off RF before performing a post-software update reboot using the AUI to mitigate any undesirable behaviour.
- The Display Failure alarm may not trigger if the FPUI display suffers a partial or full failure.
- During a reboot, entering the FPUI's Network menu before the AUI is available resets the network settings to DHCP enabled.
    - o Wait approximately 2 minutes before accessing the FPUI's Network menu after a reboot.
- Turning RF off and then rebooting/ac cycling the transmitter within 20-30 seconds will cause the RF to turn back on after startup.
    - o Wait approximately 2 minutes before rebooting/ac cycling the transmitter after turning RF off.
- VS-TC-HP-related alarms are currently not logged in the AUI or FPUI.
- The increment values for the Low Forward Power and Very Low Forward Power fields in the AUI are 0.5 % when they should be 0.1 % to match the FPUI.
- The 10 MHz Delta Meter in Exciter VCXO requires a page refresh to update the meter value.
- The VCXO 10 MHz Calibration Start button does not automatically change its state based on the external 10 MHz connection.
    - o Pressing the browser's refresh button for the Remote AUI's page will remedy the issue.
- Clearing the Transmitter Name/Call Sign, saving and rebooting the transmitter causes the Transmitter Name/Call Sign to go back to the previous value.
- Depending on the AUI's browser size, the Source for Software Upgrade files may not be shown.
    - o Change the AUI's browser size until the Source appears.
- If the Spectrum Analyzer's Measurement Source is set to MPX and the Resolution Bandwidth is not set to a specific value, then the minimum, center and maximum frequencies show incorrect values. The Resolution Bandwidth values where this does not happen are 250 Hz, 500 Hz, 750 Hz, 1000 Hz, 2000 Hz and 2500 Hz.
- If the VCXO 10 MHz Calibration is started via the AUI, the FPUI shows the calibration and then changes to the Exciter VCXO instead of its original screen when the calibration is completed.
- After performing an Exciter/Controller reboot or ac cycle and accessing the FPUI's Network menu, the MAC Address shows all 0s.
    - o Exiting and reentering the menu shows the correct MAC Address.
- Setting the High SWR Threshold to 1.000 will result in an error and will revert to 1.400.
    - o Setting the High SWR Threshold to 1.001 will save the High SWR Threshold as 1.000.
- Hard Limiter may allow some modulation overshoot of around 1 % to 2 % in MPX Audio Sources.

Audio Player

- If a playlist that is attached to a preset is deleted, the preset that had that playlist may not be able to change to another non-deleted playlist.
  - Create a new playlist to replace the deleted playlist and select the new playlist in the preset.
- Songs in a playlist may show a duration of 00:00:00.
  - An Exciter/Controller reboot using the FPUI will fix the issue.
- Navigating to another page and back to the Manage Audio Files page on the AUI while uploading audio files will lock the Audio Files Available list and disallow refreshing the list or selecting and deleting files. The progress bar will also disappear but the audio files will still continue to be uploaded.
  - Pressing the browser's refresh button for the Remote AUI's page will remedy the issue.

Notifications

- Email notifications will fail using port 25 with authentication disabled.
  - Using an authenticated email on port 465 or 587 will resolve this issue.
- If an email is being inputted into an email field and the local-part (contents on the left of the @) is made up of 32 or more characters and then the @ symbol is inputted, adding any character after the @ makes the AUI more and more unresponsive.
  - Enter the @ symbol and complete the domain name before entering the local-part to avoid this issue.
- If there's an apostrophe in an Email Server Configuration field, emails will not be sent and result in an error.
- Emails sent for Transfer Controller alarms do not include the device or alarm name in the subject.
- Emails sent for various alarms do not include the alarm name in the subject.

Orban Audio Processor

- A temporary "SP:" Orban preset is created when a new custom Orban preset is created.
  - Pressing the browser's refresh button for the Remote AUI's page will remedy the issue.
  - This does not affect functionality.
- An Orban preset may hold onto an unsaved changed value in its settings instead of showing its saved value.
  - Reactivating the Orban preset will set the settings back to their saved values.
- Setting ST ENC NO LIM as the active Orban preset and reloading the Audio Processing page shows none of the Orban presets as active.

Presets

- Changing and saving a preset and then immediately attempting to delete the preset will result in an error and the preset will not be deleted.
  - Changing and saving another preset and attempting to delete the original preset will result in a successful deletion.
  - Making a new preset using cloning and attempting to delete the original preset will result in a successful deletion.
  - An Exciter/Controller reboot using the FPUI will fix the issue.
- If a preset is set as the Active Preset and is not attached to any scheduled rules, Remote I/O or Mod Loss Timeout and the Active Preset is changed to another preset, the original preset's Delete button does not activate. This also happens for a preset becoming the Active Preset where the Delete button does not deactivate.
  - An Exciter/Controller reboot using the FPUI will fix the issue.
- Switching back and forth between 2 presets with less than 5 second intervals can cause AUI instability.
- Repeatedly updating a preset's frequency can cause AUI instability.

- o Allow at least 5 seconds between saving preset frequency changes.
- Audio Delay units in the AUI's Presets do not match the units in the FPUI's Presets.
- Quickly deleting two scheduled rules in their order of creation causes a Connection Lost and the AUI does not reconnect.
  - o An Exciter/Controller reboot using the FPUI will fix the issue.
- Attempting to save a preset with the frequency less than 87.50 MHz will result in an error.
- The Pilot Sync Phase option incorrectly appears when the Audio Source is set to MPX 1, MPX 2, DMPX AES 1, or DMPX AES 2.
- The Local Echo option incorrectly appears when the RDS Data Source is set to ASCII over IP.

Remote I/O

- If the Remote AUI is opened in a new browser tab and an Analog Output Sample Full Scale value is changed and saved, the AUI page refreshes. The Sample Full Scale value successfully saves.
- Changing Analog Output Sample Full Scale value and performing an Exciter/Controller reboot or ac cycle may revert the Sample Full Scale value back to its original value.

Reports

- When filtering options from the Audio section in Reports, Audio Delay from Other Settings is included when it should not be.
- Power and frequency changes are not currently logged in Event History.
- Sorting by Device in Event History does not sort correctly.
- Local/Remote events in a downloaded report file are not translated.

SNMP

- SNMP traps return the alarm OID instead of the trap OID.

Users

- If a User is logged in with the Administrator permission disabled, the User cannot download the Event History report.

Miscellaneous

- Error handling for the VCXO 10 MHz DAC Value field is incorrect.
- DMPX AES1/2's DMPX Level maximum value is 0.1 dBFS when it should be 0 dBFS.
- Mod Loss Timeout Seconds' maximum value is shown as 59.95 s when it should be 59.9 s.
- Minute selection maximum in the FPUI's Time menu is 100 instead of 59.
- If entering an incorrect value into a field, the error message will appear without attempting to save the value.
- Settings in Network have an "*" next to their names to indicate that the fields require values. Since the page cannot be changed using the AUI, the "*" should not be there.
- Switching from DHCP IP addressing to Static IP addressing will not reset IP address to 0.0.0.0.
- Setting a Scheduler Rule Time's To value to 24:00 and saving fails to create the rule.
  - o Use a time other than 24:00 when creating a Scheduler Rule.
- The version at the bottom of the AUI's Main Menu is the OS version when it should be the Current Product version.
- Attempting to log into the AUI with invalid credentials will show an untranslated error message.
  - o The message will appear as "login.Internal Server Error".

VX Series Software 7.0.0

General Remarks:

VX Series Software Version 7.0.0 is a software upgrade suitable for all Nautel VX Series transmitters.

For those who do not require any of the bug fixes/improvements identified below, are satisfied with current transmitter behaviour or require any of the unimplemented features, do not upgrade to this version.

Due to the backwards incompatible changes made for this software release, any attempt to downgrade to a previous major version (e.g. 6.Y.Z) may cause the loss of transmitter configuration or settings. This includes performing a TGZ downgrade or inserting an SD card that has software from a previous major version. Nautel recommends creating a backup SD card image after performing the software upgrade to the newest major version release.

Software upgrade procedures can be found in IS23006, *VX Series – Software Upgrade Procedure*. Please be sure to review and understand the complete set of instructions prior to beginning your upgrade.

This software upgrade will take approximately 30 minutes, but you will only be OFF-AIR during the rebooting process for approximately 2 minutes.

Due to an issue found in releases between and including VX SW 6.3.0 and VX SW 6.4.0, upgrading to VX SW 7.0.0 will not show the Reboot button on the FPUI to indicate when the upgrade is complete. To verify that the software upgrade is complete, you must view the software upgrade on the transmitter's AUI and perform the reboot using the AUI when the software upgrade is finished.

Nautel does not recommend downgrading to previously released software.

Added:

- The Audio Player has been added.
  - Added the Audio Player menu with the following pages:
    - Playlists to create and manage playlists with audio files.
    - Manage Audio Files to upload, view and delete audio files.
  - Added Audio Player as an Audio Source option in Presets.
  - For more information about the Audio Player, please refer to the *Operating the Transmitter* section of the transmitter's *Operations & Maintenance Manual*.
- The transmitter's internal RDS encoder now recognizes and receives the "DPSTEXT=" command to send text to both the Radio Text (RT) and Dynamic/Scrolling Program Service name (DPS) when transmitter is set to an ASCII-related data source.
- Added Product, OS, and AUI (Advanced User Interface) Versions to the AUI's Versions page to improve visibility of software component versions.

Changed:

- If a User attempts to downgrade from a software release to another with a smaller major version (e.g. 7.Y.Z to 6.Y.Z), the upgrade will not start and a message in the AUI's banner will appear saying that major version downgrades are not supported. Pressing "Click Here" will bring the User to the Upgrades page and the transmitter will continue to function as normal.

Fixed:

- RF no longer can be turned off remotely via SNMP when transmitter is set to Local-only.
- The transmitter no longer pings www.google.com.

- If a Remote AUI session was open and the device's IP address changed, the AUI would crash.
- Email notifications now work on port 587 using authentication and TLS encryption.
- Email Server Configuration settings with an apostrophe no longer breaks email notification functionality.
- Users without permissions can no longer edit their First Name, Last Name or Email.
- A VX transmitter set as standby in a VS-TC/VS-TC-HP system will no longer trigger Low Forward Power, Very Low Forward Power, TX 2 Fail, or TX 2 Output Low alarms when not in operation.
- Performing SNMP GETs on a recently power-cycled transmitter would sometimes result in "No Such Object".
- When the transmitter's RF was turned on or off, the PS Not Installed alarm would sometimes trigger and clear briefly.
- Unassigned was missing as a Control in Digital Inputs and Digital Outputs.
- The Unassigned channel in Digital Outputs had Active High and Active Low for options instead of Unassigned.
- If a new Preset is created, deleted, or a Preset name is changed, viewing a Preset's Mod Loss Preset option will now show the new changes to the presets.
- If a new custom Orban preset is created, viewing the Orban Preset list in Presets will now show the new custom Orban preset. This also applies to deleting a custom Orban preset where the Orban Preset list will now not show the deleted preset.
- If a User is logged in with only RF Control permissions, the User could not change the RF On/Off state.
- If a User is logged in with the Edit Presets permission disabled, the User could not view the Active Preset page in Reports.
- Sorting by Meter Collection, Meter Name, Value, or Units in Meters under Reports would "freeze" the AUI and the AUI could not be changed from the Meters page under Reports and no actions could be made.
- Viewing a Scheduler Rule where the Repeat Every value is set to 00:00 will no longer show as 24:00.
- If the User starts a software upgrade, the process bar no longer stops at 101 % and the Reboot button is now shown in the FPUI when the software upgrade is completed.
- SNMP OIDs that are invalid for the transmitter type no longer appear in an SNMP walk.
- If the User logs into a transmitter within a minute of startup, the AUI's time would not appear in the banner and the Time menu.
- While uploading a software installation file, the "Connection Lost" message would appear in the top banner and the meters, date and time would stop updating.
- Various text translation errors.

Unavailable Features:
- RDS ASCII Over Serial is not available.
- RDS UECP Over Serial is not available.

Known Issues:

User Experience
- The RTC (real-time clock) drifts over time without NTP enabled and may reset to January 1st, 2020, 00:00:00 if the transmitter is left unpowered for over 2 weeks, which will impact Event History log timestamps and Scheduler rules.
- Software upgrades using USB may not be functional for all VX transmitters. If a software upgrade file is located on a USB storage device and connected to the transmitter, the file may not appear in the list and indicate that the transmitter will not mount the USB storage device.
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- o While on the AUI's page, refresh the browser's cache by pressing CTRL + F5 at the same time.
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- The VCXO 10 MHz Calibration Start button does not automatically change its state based on the external 10 MHz connection.
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- Attempting to save a preset with the frequency less than 87.50 MHz will result in an error.
- The Pilot Sync Phase option incorrectly appears when the Audio Source is set to MPX 1, MPX 2, DMPX AES 1, or DMPX AES 2.
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