

Release Notes

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Date: 2nd July, 2024
Classification: External
Attn: Inmarsat customers
Related Products: GXNX series
Subject: iARM & antenna FW Release Notes

Dear Valued Customers,

Intellian is pleased to release iARM packages for the Intellian NX series antenna systems.

1 Software Release Summary

The release changes and known problems are listed in Sections 1.1 and 1.2.

1.1 Release Changes

Title	Description	Component
'bucc config' detection in ADS	In ADS setting the secondary 'bucc config' was not detected after booting	iARM
GPS manual input	GPS position manual input function	iARM, PCU, ACU
External GPS	External GPS signal input to the Gyro port	iARM, PCU, ACU
Secondary ACU GPS information	During ADS, secondary ACU sync GPS information	iARM, PCU, ACU
Communication issue during external GPS	Memory leak due to increase of data	iARM
Time Sync during using external GPS	Time difference between primary and secondary	iARM
Secondary ACU sync during ADS	Heading and GPS info difference between primary and secondary	iARM
ACU display when using external GPS	GPS indicator blinking problem on OLED window of ACU	ACU,PCU
OpenAMIP[s] message receive fail	OpenAMIP[s] message receive fail	iARM
Repeating of OTC procedure	After OTC is finished, OTC procedure repeats after restart	iARM
OTC fail when repeatedly testing	OTC fail with BUC error and falcon service fails	iARM
BDU display error on secondary ACU	BDU display error when secondary terminal reboots	iARM
Display error on secondary terminal	During ADS setting secondary terminal is displayed as unknown when primary terminal is off	iARM

Table 1 shows the file name and the download link for each antenna model.

Table 1. Firmware Package Download Link

Product	File Name	Version
ACU iARM	iARM-nx-v2.06.017-202406261039	2.06.017
GX60NX	V5_GX60NX_V60KA2_240626_V2.04.010	2.04.010
		DSTK 1.14 MAIN 1.35 OLED 1.08 PCU 1.05 STAB 1.03
GX100NX	V5_GX100NX_V100NXKA_240626_V2.04.010	2.04.010
		DSTK 1.14 MAIN 1.35 OLED 1.08 PCU 1.14 STAB 1.16 STK 1.14
GX60NX 2	V5_GX60NX2_V60KA2XCVR_240626_V2.04.010	2.04.010
		DSTK 1.14 MAIN 1.35 OLED 1.08 PCU 1.03 STAB 1.03
GX100NX 2	V5_GX100NX2_V100NXKAXCVR_240626_V2.04.010	2.04.010
		DSTK 1.14 MAIN 1.35 OLED 1.08 PCU 1.03 STAB 1.02 STK 1.14

1. Known Issues

- When setting the band as a Ka band in the Setup master page and import the band information, the Detect level and Tracking level information are not visible
- If secondary antenna doesn't boot up before finishing the calibration file verification by modem, then the modem ignores secondary antenna even if iARM send 's' message with secondary antenna information
 - Symptoms are shown on cases when modem has previous calibration file and there is no antenna information changed, the booting up time gap between primary and secondary is greater than around 1 minute

2 SW (iARM) / FW Upgrade Procedure

2.1 SW (iARM) Upgrade

- Go to "TOOLS" and navigate to iARM upgrade section on the left side.
- Click **Browse** and select the iARM firmware file (*.tgz).

3. Click **Start Upgrade** button.



NOTE

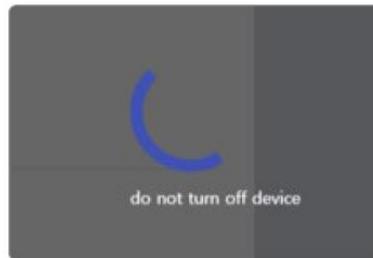
Select "Ignore warnings during installation and force the installation to continue" to allow uninterrupted upgrade.

4. Once the upgrade starts, the progress will be displayed on the screen. It will take up to 10 minutes to complete the firmware upgrade.



WARNING

Do not turn off the device if the firmware upgrade is in process. Failure to comply may damage the system.



5. Once the upgrade is completed, the iARM module will automatically reboot in 10 seconds.



2.2 FW Upgrade

*Please install the latest iARM before upgrading FW

1. Go to "TOOLS" and navigate to FW upgrade section on the left side.
2. Choose **Manual Upgrade** from the pull-down menu. **Browse** and select the FW package (*.fwp).

3. Click the **Upload** button to transfer the FW package file (*.fwp). The antenna FW version will be displayed on a pop up display.

New F/W Upgrade ⓘ **1**

Upgrade Method **Manual Upgrade** ▾

2 Select the F/W file to upload

Browse **3** **Upload**

Ignore warnings during installation and force the installation to continue



NOTE

Select "Ignore warnings during installation and force the installation to continue" to allow uninterrupted upgrade.

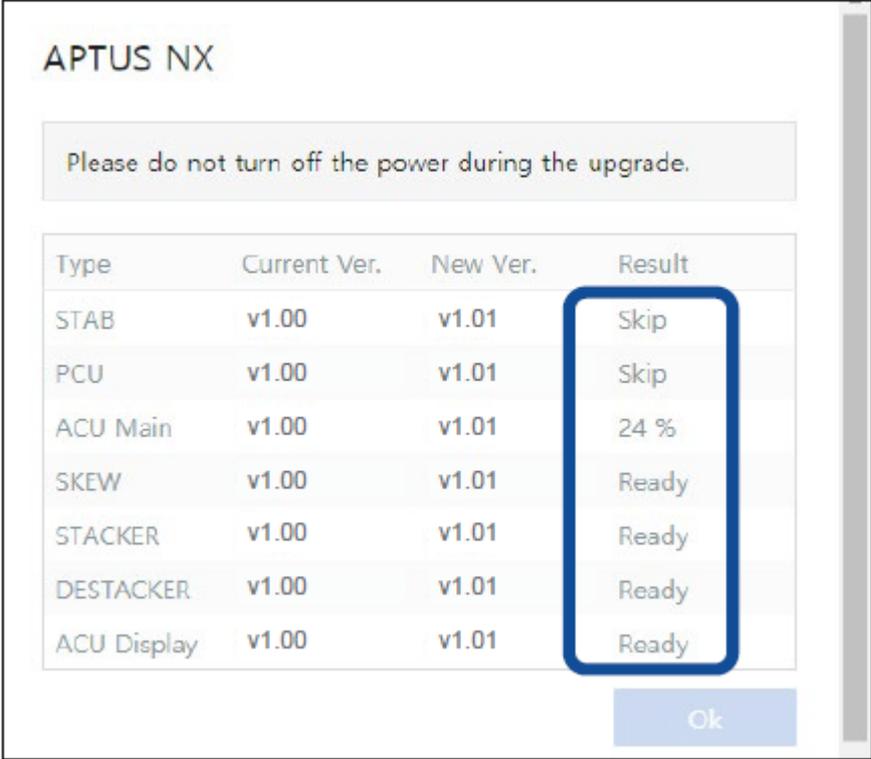
4. Check the current version installed and the new version available, then click the **Start Upgrade** button.

Type	Current Ver.	New Ver.
STAB	v1.00	v1.01
PCU	v1.00	v1.01
ACU Main	v1.00	v1.01
SKEW	v1.00	v1.01
STACKER	v1.00	v1.01
DESTACKER	v1.00	v1.01
ACU Display	v1.00	v1.01

Cancel **Start Upgrade**

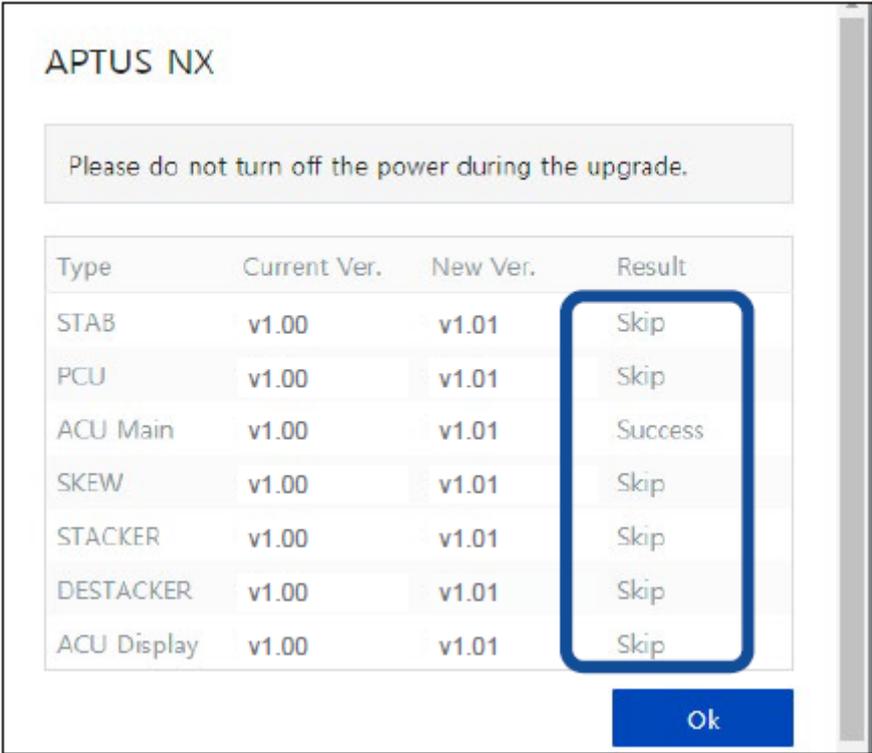
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The upgrade process is displayed on the window.



If the firmware is successfully upgraded, "Success" will be displayed in the Status column.

- 5. Click the **OK** button to close the pop-up window and complete the upgrade.



3 New function

3.1 GPS position manual input function

Go to setup menu, turn on the fixed location function on the 'GPS update config' and click apply. Go to the 'Ship' category and input the location and click 'Apply' button.

NOTE: If you turn on the Fixed Location function, 'Manual' icon appeared on the Ship info of the Dashboard.

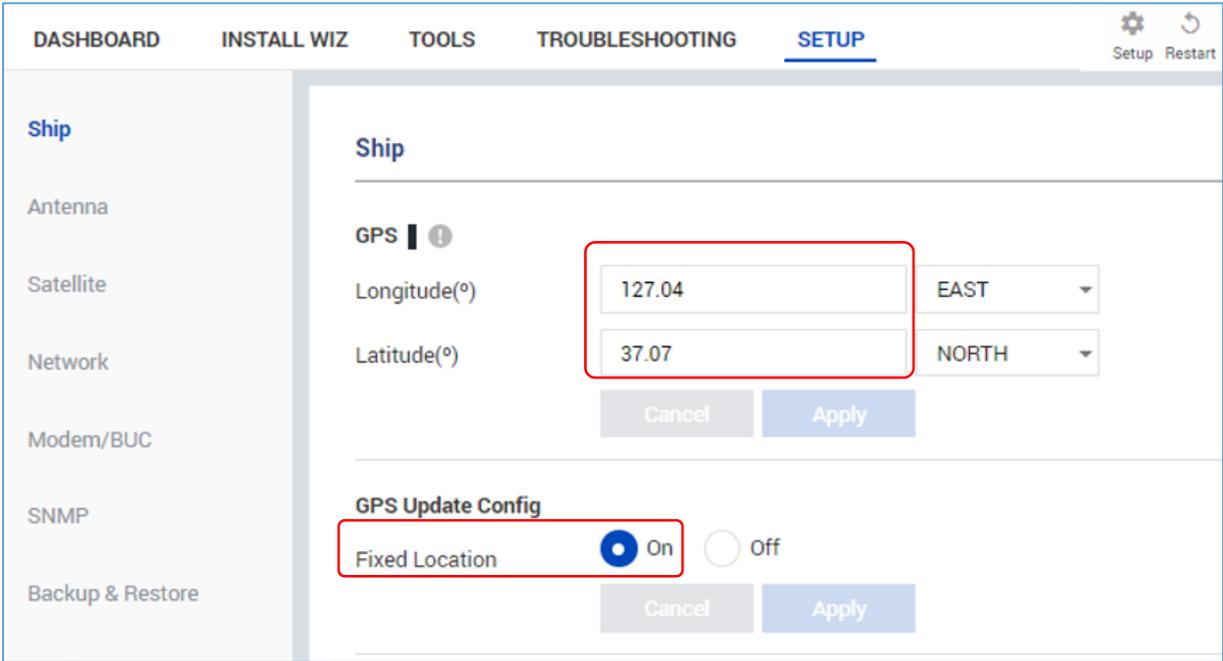


Image 1. GPS set up

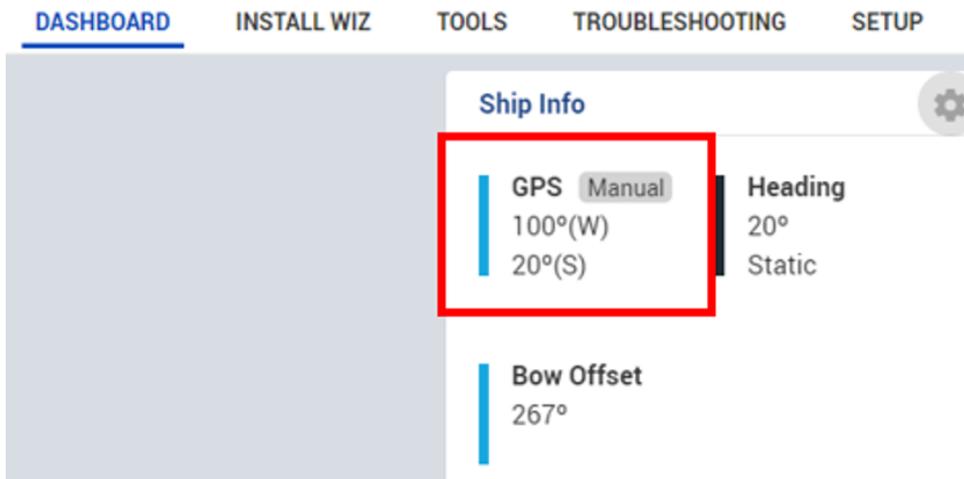


Image 2. Ship information in dashboard

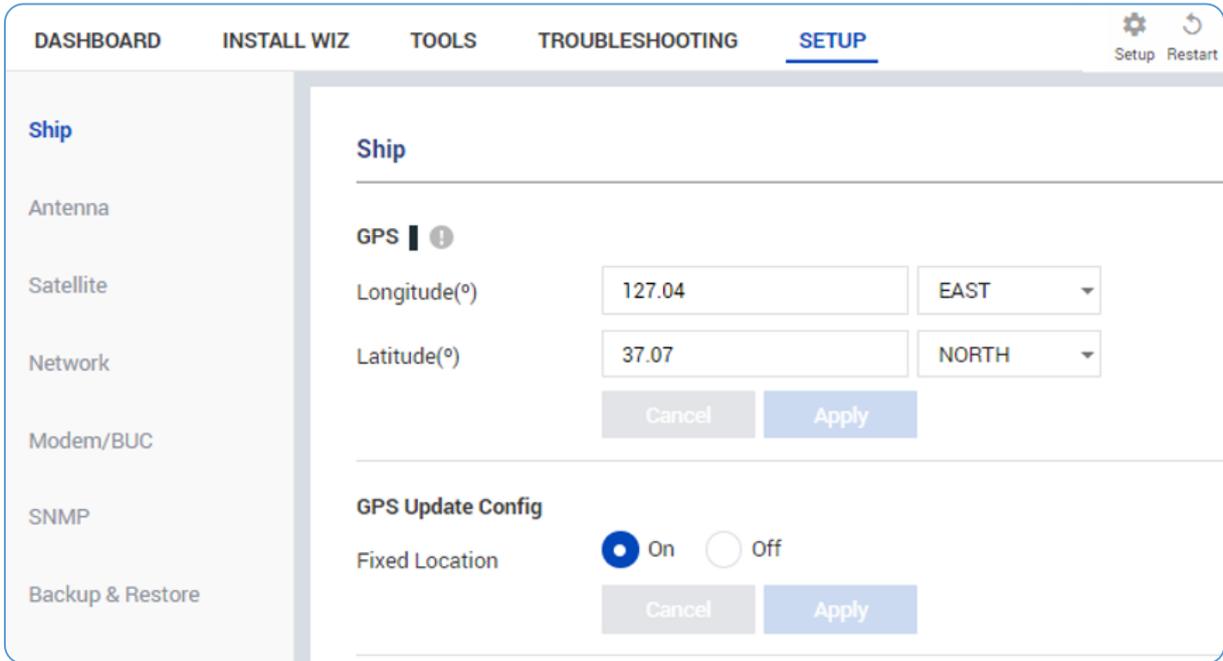


Image 3. Manual GPS input

3.2 External GPS signal input to the Gyro port

Input NMEA signal using UART signal to the corresponding port. If the signal is valid, the external GPS signal is prioritized. If the signal from the GYRO port is lost, the Antenna system will automatically switch to the internal GPS signal after 60 seconds.

Manual GPS setting is also available while using external GPS, and it will automatically switch to internal GPS when the setting is disabled.

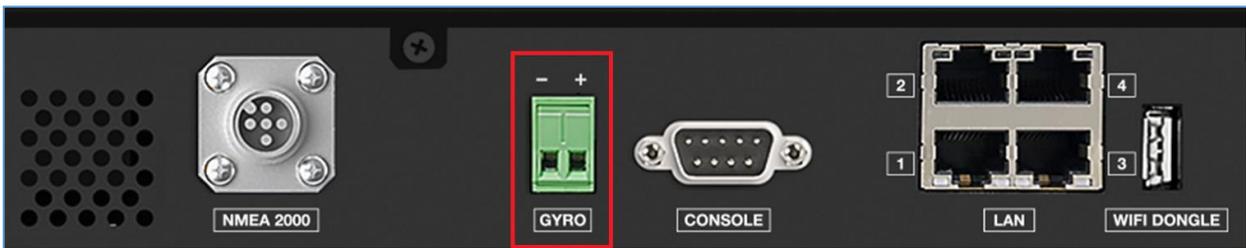


Image 4. BDT(ACU) rear GYRO port

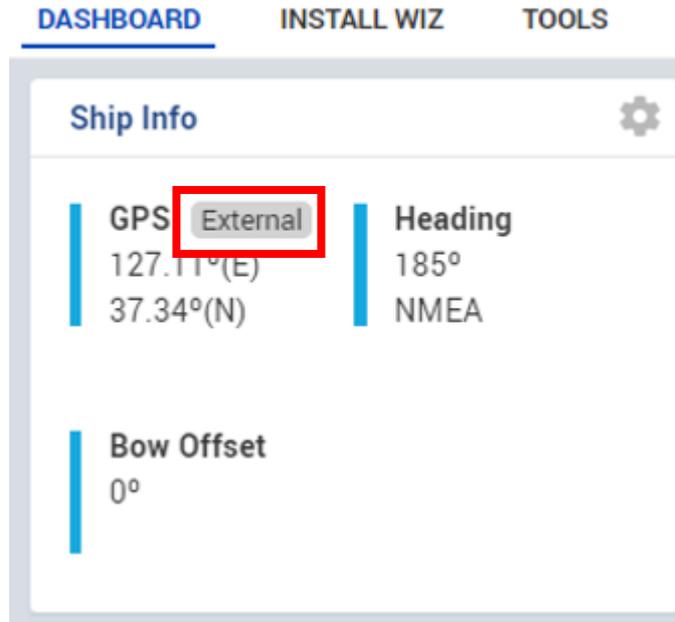


Image 5. Ship information in dashboard for external GPS

3.3 ADS setting

Secondary GPS and heading settings are dependent on the primary.

GPS data & heading data cannot be modified, it is dependent on primary's setting

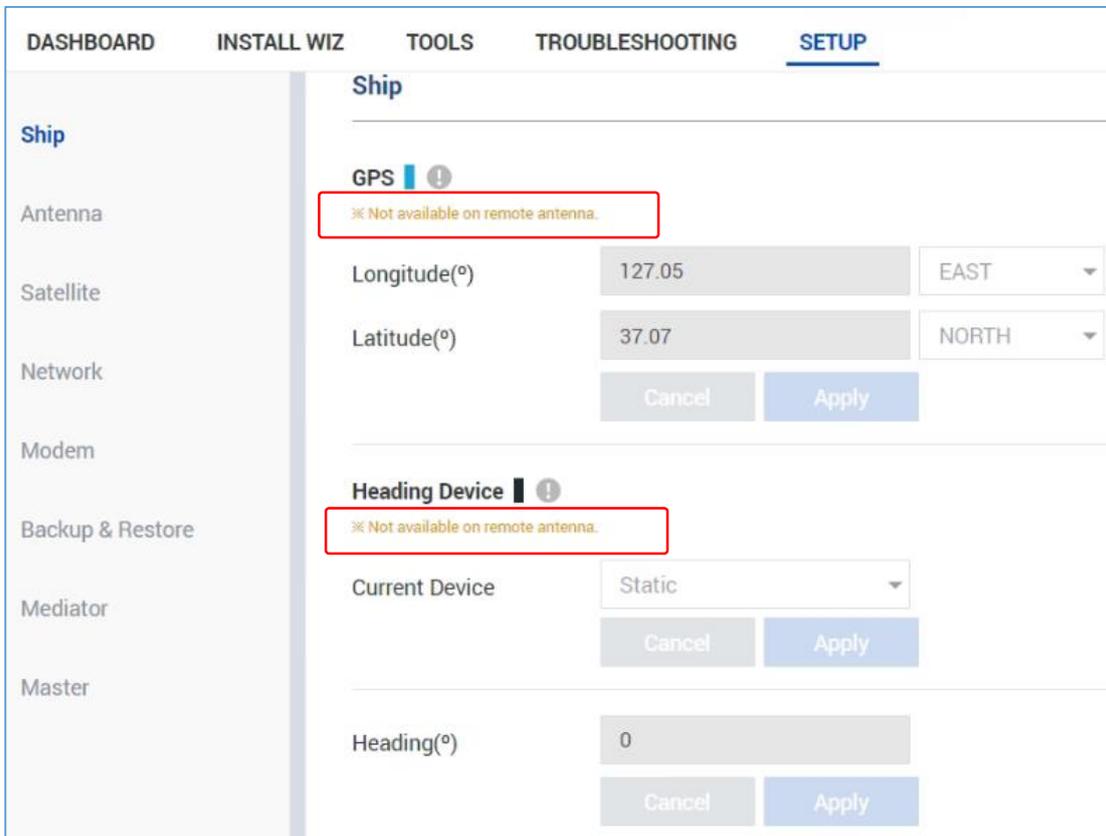


Image 6. Secondary setup

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Contact Information

Please contact your local Technical Support team or Product Management team if you have any questions or require any additional information.

Thank you.

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Appendix. Revision History

Date	Version	Item	
Jul 2 nd 2024	ACU/BDT iARM GX60NX GX100NX GX60NX 2 GX100NX 2	2.06.017	In ADS setting the secondary 'bucc config' was not detected after booting
		2.04.010	GPS position manual input function
		2.04.010	External GPS signal input to the Gyro port
		2.04.010	During ADS, secondary ACU sync GPS information
		2.04.010	Memory leak due to increase of data
		2.04.010	Time difference between primary and secondary
		2.04.010	Heading and GPS info difference between primary and secondary
		2.04.010	GPS indicator blinking problem on OLED window of ACU
		2.04.010	OpenAMIP[s] message receive fail
		2.04.010	After OTC is finished, OTC procedure repeats after restart
		2.04.010	OTC fail with BUC error and falcon service fails
		2.04.010	BDU display error when secondary terminal reboots
		2.04.010	During ADS setting secondary terminal is displayed as unknown when primary terminal is off
Apr 14 th 2024	ACU/BDT iARM	2.05.007	Logs are being missed due to miscommunication on ACU
Mar 6 th 2024	ACU/BDT iARM	2.05.006	BUC/XCVR configuration selection available in AptusNX in setup mode
		2.05.006	AptusNX account password combination must use number, upper/lower case & special character
		2.05.006	10' time-out after 10 failed login attempts within 1 minute to enhance security
		2.05.006	Unused open ports deactivated
		2.05.006	Backup & report file display of iARM version improvement
		2.05.006	Modem and ACU (mediator) out-of-sync concerning active antenna after ADS system reboot.
Nov 23 rd 2023	ACU/BDT iARM	2.04.002	Temperature misrecognition error update
		2.04.002	Keyline setting unstable after booting
Jul 28 th 2023	GX60NX GX100NX GX60NX 2 GX100NX 2	2.04.003	NMEA Heading Format "\$XXTHS" function support
		2.04.003	Hardware matching firmware check added
		2.04.003	During tracking/searching temperature value was not shown
		2.04.003	Wrong temperature information reading
		2.04.003	Antenna pedestal tilt compensation has been applied to the tracking algorithm
	2.04.003	Antenna model no. increased to 13 digits	
	2.03.018	OpenBMIP using Ethernet function added	
Feb 3 rd 2023	GX60NX GX100NX GX60NX 2 GX100NX 2	2.03.001	New IMU Sensor(Epson IMU G330) is supported.
		2.03.001	
		2.03.001	
		2.03.001	
	ACU/BDT iARM	2.02.011	Switch port configuration setting does not switch in network setting. Save function updated
Nov 29 th 2022	GX60NX GX100NX GX60NX 2 GX100NX 2	2.02.001	New demodulator application is supported
		2.02.001	The IMU sensor register setting value has been updated for antenna stability improvement.
		2.02.001	When the iDirect Open AMIP protocol is used, the BUC keyline is turned off while antenna information is being updated.
		2.02.001	

Sept 27 th 2022	GX60NX GX100NX GX60NX 2 GX100NX 2	2.01.004 2.01.004 2.01.004 2.01.004	The inclined orbit tracking information received by the OpenAMIP 's' command can be applied to the satellite tracking setting.	
			Antenna angle information is now displayed on the ACU OLED display window.	
			Antenna "Stabilization Mode" added for the status of no signal while in blockage zone.	
			If the antenna fails to track satellite for 2 hours during setup, the system will now reboot. Previously, the system would not reboot after 2 hours without successful satellite tracking during antenna setup.	
	ACU/BDT iARM	2.02.008	Antenna "Stabilization Mode" added for the status of no signal while in blockage zone.	
			Antenna RF type information can now be checked via the CLI command (show acs).	
			Added support for both systems with separate gyro and tilt sensors and new systems with the gyro and tilt sensing handled by the IMU.	
			iARM firmware versions earlier than factory default are not allowed to avoid firmware upgrade error.	
			When the iARM firmware is upgraded, progress is displayed with more detailed information.	
			iARM log download is now available on AptusNX. The "IARM_LOG" folder is included in the Antenna Log compressed file.	
			Intermittent error of the ACU subsystem firmware version information update has been fixed.	
Aug 18 th 2022	GX60NX GX100NX GX60NX 2 GX100NX 2	2.00.001 2.00.002 2.00.000 2.00.000	The firmware package has been unified and expanded for supporting new BDT main board with newly applied MPUs.	
			New software versioning rules applied to each board level. (i.e: 1.23 > 1.23.456)	
	ACU/BDT iARM	2.01.021	The firmware package has been unified and expanded for supporting new BDT main board with newly applied MPUs.	
			The BUC/XCVR type can be configured in the AptusNX user page.	
			New software versioning rules applied to each board level. (i.e: 1.23 > 1.23.456)	
Jan 25 th 2022	GX60NX GX100NX	1.05 1.10	Function added Tx attenuator value changeable function	
			Improved on the phenomenon that the satellite signal is received stably, but the tuner lock is released intermittently.	
			Improved the phenomenon that the value is continuously updated when NMEA heading is input even when "Heading Device" is "None" or "Static" Mode.	
			Improved error LED condition.	
				Fixed NMEA2000 data reception and crash during live upgrade
	ACU/BDT iARM	1.21.088	Switch method added after block zone is cleared in dual antenna system	
			Green LED blinking function "Modem Info" added to menu in AptusNX .	
			Function added Tx Attenuator value changeable function	
Fixed NMEA2000 data reception and crash during live upgrade				
			Fixed information reset issue when saving and uploading library	
			Fixed the BDT power test result was missed when all diagnosis test	
	GX60NX	1.04	Function added to periodically check the receive PLL frequency	

Nov 30 th 2021	GX100NX	1.09	Improved on the phenomenon that the satellite signal is received stably, but the tuner lock is released intermittently.	
			Improved the phenomenon that the value is continuously updated when NMEA heading is input even when "Heading Device" is "None" or "Static" Mode.	
			Improved error LED condition.	
			Fixed NMEA2000 data reception and crash during live upgrade	
			Fixed "Modem Lock" did not work in the secondary antenna if the Modem was Comtech I/O when configuring dual antenna.	
	ACU/BDT iARM	1.21.077	Switch method added after block zone is cleared in dual antenna system	
			DHCP on/off function added for SNMP/SYSLOG function when using iDirect X7 velocity version	
			Green LED blinking function "Modem Info" added to menu in AptusNX .	
			Improved firmware upgrade status error for NX and E series models.	
			Fixed NMEA2000 data reception and crash during live upgrade	
Dec 2 nd 2020	GX60NX GX100NX	1.02 1.07	Cable compensation function has been improved.	
			Skew Motor variable duty function has been improved.	
			Terrasat BUC serial number has been added on BUC M&C of AptusNX.	
			As searching satellite after tracking lost, EL Bias correction has been improved to reduce tracking acquisition time.	
			In the case where Pol motor encoder malfunction, Pol motor for target angle does not move at more than 10 times in order to protect skew belt	
	ACU/BDT iARM	1.20	1.20	LNB diagnosis has been improved in order to check more precisely.
				IM8 (Intelligent Mediator Gen 2) has been compatible with NX-Series
				Modem mediator has been upgraded to support NX-Series
				As iARM update is under progress, update progress on OLED display has been added
				Function of Tx attenuator has been added.
ACU/BDT iARM	1.20	1.20	The bug beam switch is operated repeatedly after frequency changed has been fixed.	
			Cable compensation function has been improved.	
			Newtec Modem OpenAMIP function was only for single mode antenna. Now it has been improved for mediator function support.	
			Backup to ACU & restore from ACU function have been removed.	
			Information message has been added on firmware upgrade.	
ACU/BDT iARM	1.20	1.20	Terrasat BUC serial number has been added on BUC M&C of AptusNX.	
			Blockage setting for 0 to 360 in AZ and 90 in EL has been set as invalid blockage range with pop-up.	
			For E-series using iDirect(velocity) or other brands modem, Line-up Page UI has been improved to input test result (CPI and P1dB value).	

			IM8 (Intelligent Mediator Gen 2) has been compatible with NX-Series
			Modem mediator has been upgraded to support NX-Series
			As iARM update is under progress, update progress on OLED display has been added
			Function of Tx attenuator has been added.
			For NJRC BUC type, Tx input power has been removed.
			As mediator mode is not operating, the bug which OLED display had remained mediator mode has been fixed.
			For mediator mode, the bug primary ACU IP intermittently disconnects secondary ACU IP has been fixed.
			For mediator mode, the 0.1° difference between primary and secondary heading value has been fixed.
Jun 17 th 2020	GX60NX GX100NX	1.01	Detail explanation for upgrade status window
			GX60NX Terminal type applied
		1.06	Telenor RF Terminal Types have been added and revised
			v85NX Ka & v100NX Ka model ADS function have been added
	ACU/BDT iARM	1.18	Improvement for firmware cold upgrade
			Detail explanation for upgrade status window
			Telenor RF terminal types have been added and revised
			v85NX Ka & v100NX Ka model ADS function have been added
			iARM version information displayed on AptusNX login page
			Improvement for the difference information of dBm and Es/No in Newtec webpage and AptusNX
Apr 10 th 2020	GX100NX	1.05	Improvement for firmware cold upgrade
			Web user password is encrypted
			Added the MMW BUC for M&C, and select BUC manually
			Tracking performance improvement at high elevation angle
			Firmware version display Improvement
	ACU/BDT iARM	1.17	Terrasat BUC M&C improvement
			Beam switching does not occur during GX firmware live upgrade.
			Fix the NMEA2000 heading error
			Fix the connection issue with Gilat modem
			Added the MMW BUC for M&C, and select BUC manually
ACU/BDT iARM	1.17	Able to skip the same version of firmware	
		The upload progress bar is displayed during iARM package file upload.	
		Terrasat BUC M&C improvement	
		Antenna Log storage method is changed	
		Reduced the iARM upgrade time	
ACU/BDT iARM	1.17	Improve the AptusNX login process	
		Fix the mediator description error at a backup file	
		Fix the mediator algorithm error	