SAILOR XTR Ka

GX-R2 to Ka Conversion Manual

Document number:	97-185148-A
Date:	6 March 2024
Author:	Mads Gotlieb

REVISION HISTORY				
Rev.	Date	App.	Section	Description / Remarks
A	06-03-2024	MGO	All	Original

Table of Contents

1. Scope and Purpose

This document is for converting any SAILOR XTR GX-R2 antenna to a SAILOR XTR Ka.

The process is required to follow the numerical order from section 3 through section 0. The conversion of the antenna system might not function properly if the steps are not followed in the correct order.

1.1. Abbreviations

ADU	Above Deck Unit
BDU	Below Deck Unit
BUC	Block Up Converter
GMU	GX modem unit
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GX	Global Xpress (Inmarsat)
HW	Hardware
KDM	Key and Display Module
LAN	Local Area Network
LED	Light Emitting Diode
LNB	Low Noise Block
POL	Polarisation
RF	Radio Frequency
SW	Software
TBC	To Be Confirmed
TBD	To Be Defined
VSAT	Very Small Aperture Terminal

2. Equipment

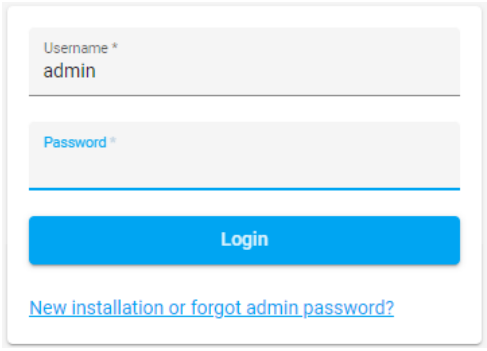
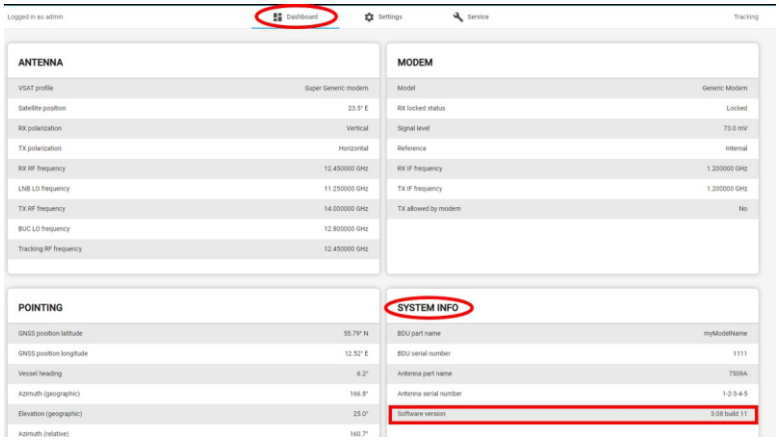
This section defines the equipment necessary for the conversion procedure.

2.1. Tools needed

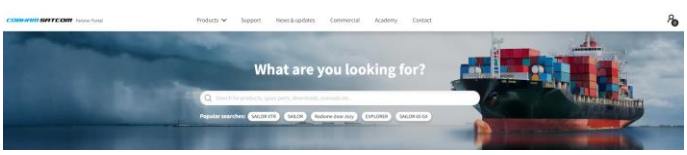
Laptop with: - Browser - SSH/PuTTy	
Ethernet cable	

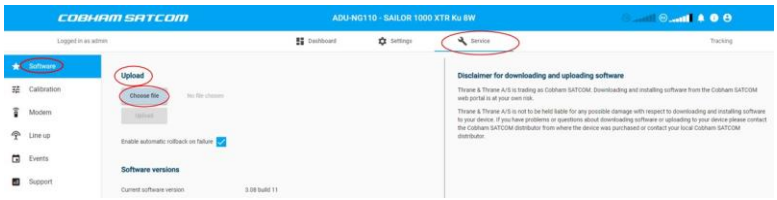
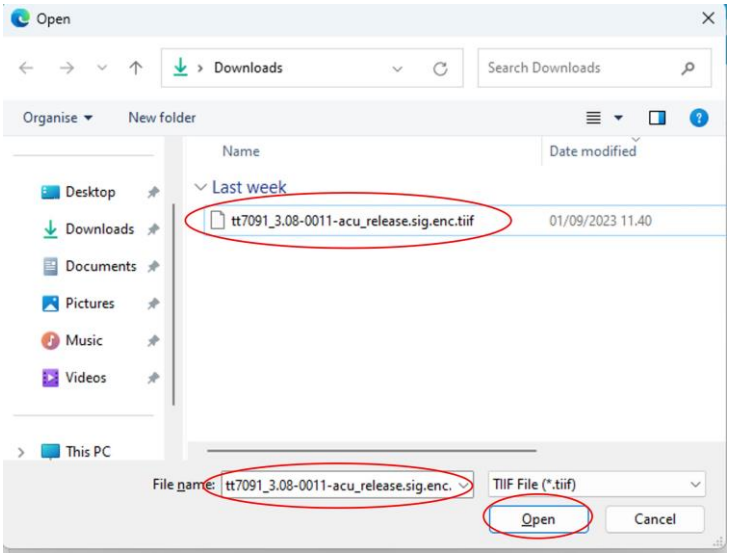
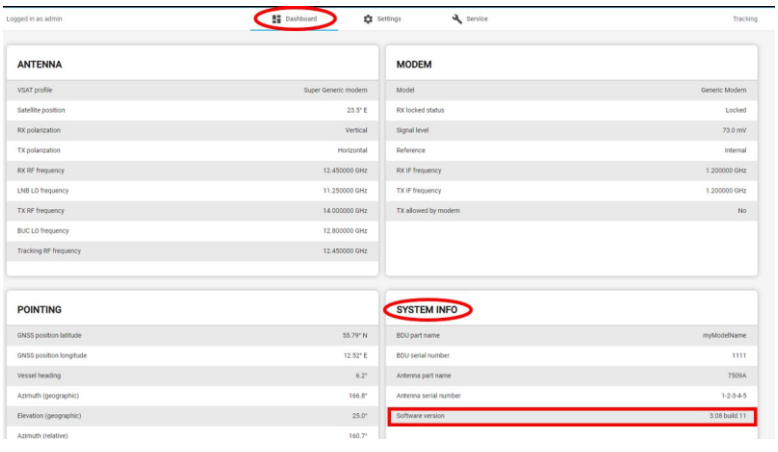
3. Stepwise procedure – Software Setup

3.1. Checking for current software version

Step	Description	Graphical illustration
1.	Login as admin on **antenna** web-interface https://192.168.0.1/	
2.	Navigate to "**Dashboard**" in the top bar and then scroll down to "**System info**" and the current software version can be seen next to "**Software version".**	
3.	If the software version installed is not the newest version, proceed to follow the software update procedure.	

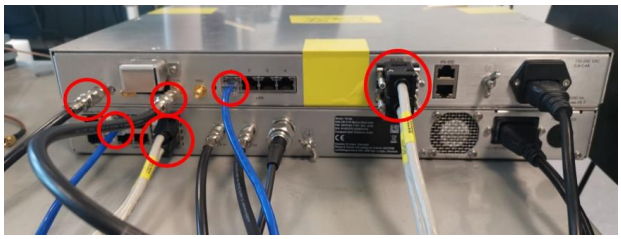
3.2. Updating to newest software

Step	Description	Graphical illustration
1.	Download newest software from Sync/Partner Portal.	

2.	Navigate to “**Service**” in the top bar, then “**Software**” in the side bar, then under “**Upload**” click “**Choose file”**.	
3.	In the newly opened window select the new software file “**tt7091_x.xx-xxxx-acu_release.sig.enc.tiif”** and click “**Open**”	
4.	Click “**Upload”**. The antenna system will upload the new software and reboot.	
5.	After the system becomes available again navigate to “**Dashboard**” in the top bar and then scroll down to “**System info**” and verify that the new software version can be seen next to “**Software version”.**	

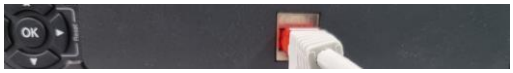
4. Stepwise procedure – Hardware

4.1. Removing GX-R2 hardware

Step	Description	Graphical illustration
1.	Turn off power to the antenna system	
2.	Turn off XTR GMU	
3.	Disconnect XTR GMU (TOP) from antenna system (bottom) Connect new VSAT Ka modem *See **SAILOR XTR Ka Installation Manual** for details on how to do this.*	

5. Stepwise procedure – Software

5.1. Antenna type configuration

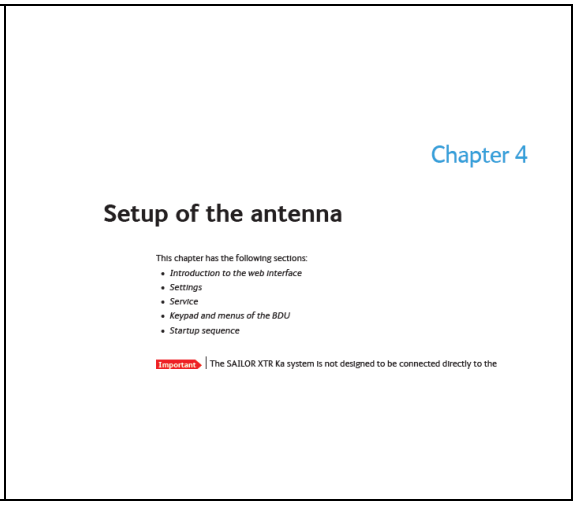
Step	Description	Graphical illustration
1.	Turn on power to the antenna system *Antenna will start up. Wait until the system has completed the startup process*	
2.	Connect Laptop to front ethernet port on BDU	
3.	Login via SSH/PuTTy as admin *Admin password is set during the initial installation of the antenna. See **SAILOR XTR Ka Installation Manual** for details on how to reset this.*	`ssh admin@192.168.0.1`

4.	Read out antenna sub type
	
	The sub type can be either '0' or '1'
		`antenna_data type`
		
		Example output:
		`System: 7509C`
		`Type: 1`
		`Oem: 1`
		`sub type: 0`
		`lnb type: 1`
		`buc type: 3`

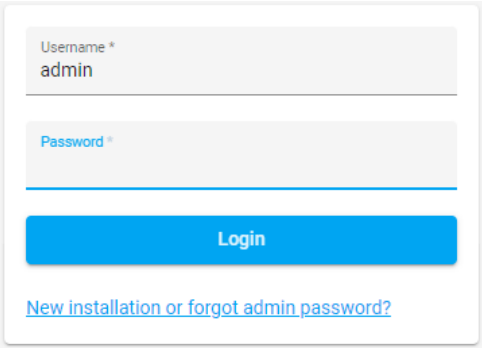
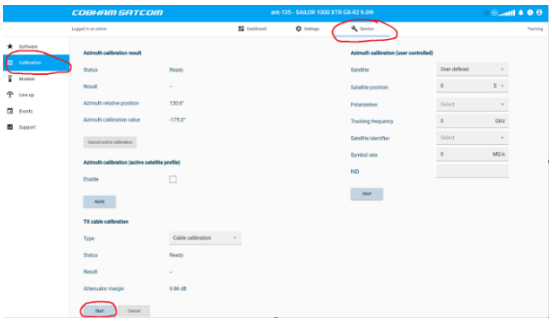
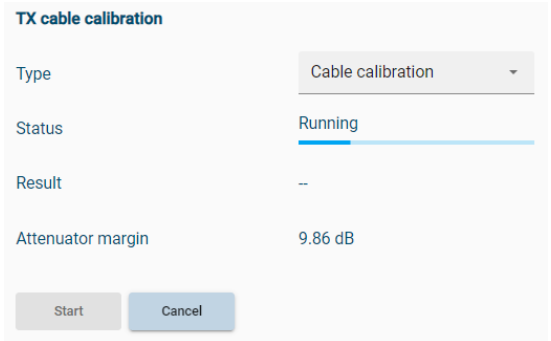
5.	Change antenna type in UCLI
	
	*The **<subtype>** part of the command should be substituted with the subtype read out from step 4 above.*
		For S600 **4.5W** transceiver:
		`antenna_data type 7506B <subtype>`
		
		For S600 **9W** transceiver:
		`antenna_data type 7506E <subtype>`
		
		For S1000 **4.5W** transceiver:
		`antenna_data type 7509F <subtype>`
		
		For S1000 **9W** transceiver:
		`antenna_data type 7509G <subtype>`

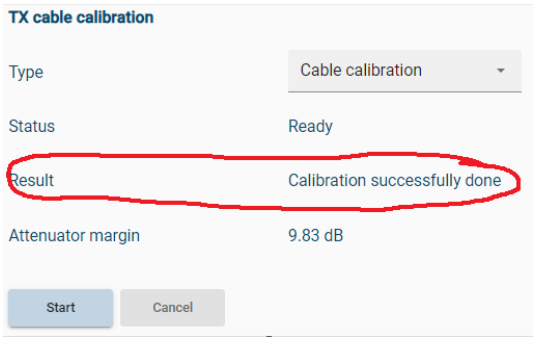
6.	Press 'y'.
	
	UCLI output shown to the right:
		`Warning! Changing the antenna type may render the system useless unless the correct conversion kit is mounted on the system.`
		
		`Press 'y' within 10 seconds to confirm or any other key to cancel`
		
		`- Changes are only applied after reboot!`

7.	Reboot antenna and wait until it has rebooted twice	`system restart`

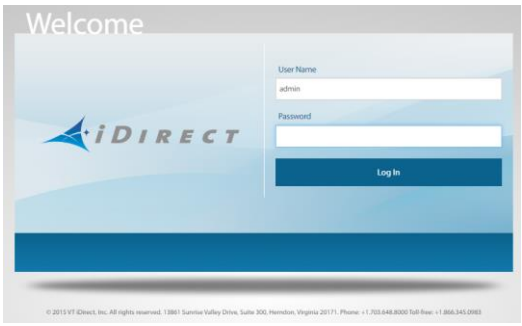
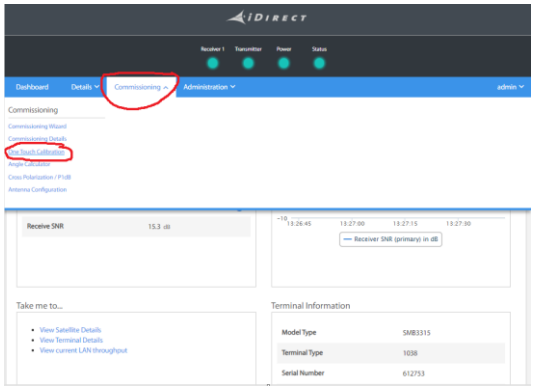
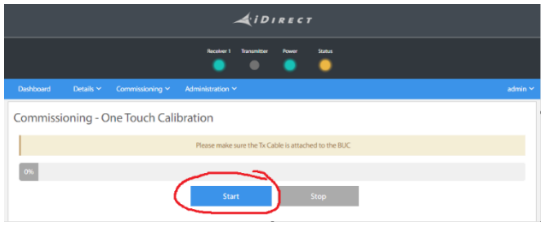
8.	Connect the Ka modem to the BDU and create a VSAT Ka profile via the antenna web-interface. *Delete the old GX-R2 profile under **Settings > VSAT Profiles** in the web-interface* *See **SAILOR XTR Ka Installation Manual** for details on how to do this. The manual can be downloaded from https://partnerportal.cobhamsatcom.com*	

5.2. Tx Calibration

Step	Description	Graphical illustration
1.	Login as admin on **antenna** web-interface https://192.168.0.1/	
2.	Navigate to "**Service**" in the top bar, then "**Calibration**" in the side bar, then scroll down to "**TX cable calibration**" and press "**Start**".	
3.	Wait for calibration to finish	

4.	Calibration is finished when "**Result**" shows: *Calibration successfully done*	

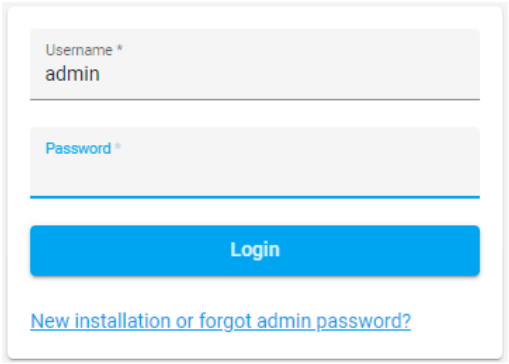
5.3. One Touch Calibration – Only for iDirect Modems

Step	Description	Graphical illustration
1.	Login as admin on **modem** web-interface https://192.168.0.1:8443/	
2.	Navigate to "**Commissioning**", → "**One Touch Calibration**".	
3.	Press "**Start**" / "**Repeat**".	

4.	Wait until OTC has finished. Modem will reboot automatically	 

6. Verification of installation

6.1. Verification

Step	Description	Graphical illustration
1.	Login as admin on **antenna** web-interface https://192.168.0.1/	
2.	Verify that the antenna goes into "**Ready**", **"Acquiring"**, or **"Tracking"**, and that there are no errors, warnings, or event messages.