TreeTalker Manual Data Download

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TTCyber Data Analyzer – User guide and data dictionary

This guide explains how to download the measurements stored in a TreeTalker's internal memory through a serial connection, using an STM32 Programmer , a USB-C data cable and the CoolT erm terminal software.

1. Download and install CoolTerm

CoolT erm is a free serial terminal by Roger Meier , available for macOS, Windows and Linux.

1. Open the official page freeware. the-meiers.org and download the CoolTerm build for your system: macOS (Intel or ARM), Windows (64-bit, 32-bit or ARM 64-bit) or Linux.
2. Install it: on macOS unzip the file and move CoolT erm to the Applications folder; on Windows unzip the folder and run CoolT erm.exe.
3. Open CoolT erm once to check that it starts.

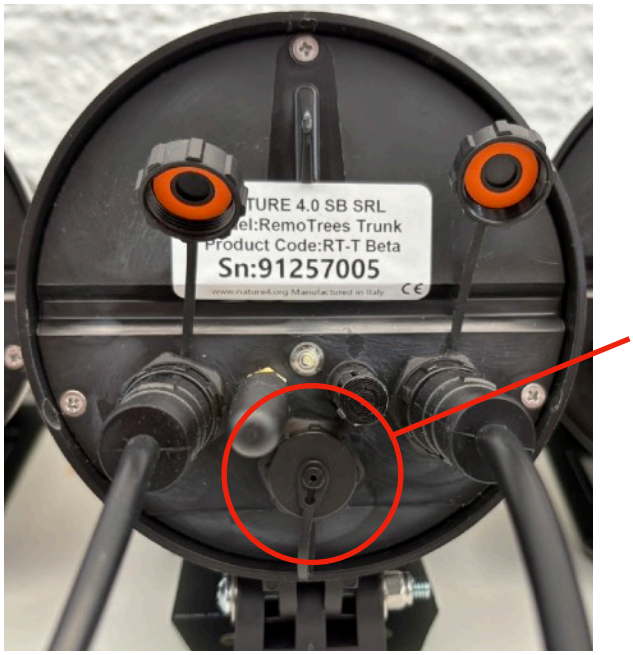
At the time of writing the page lists version 2.4.0. Windows 7 and 8 need the older version 2.0.1, also available on the same page.

2. Connect the device and set up CoolTerm

CoolT erm must use the port of the STM32 Programmer and a baud rate of 115200.

1. Connect the STM32 Programmer to the computer with the USB-C data cable (a charge-only cable will not work).
2. Open CoolTerm and click the small arrow at the bottom left of the window to open the connection menu

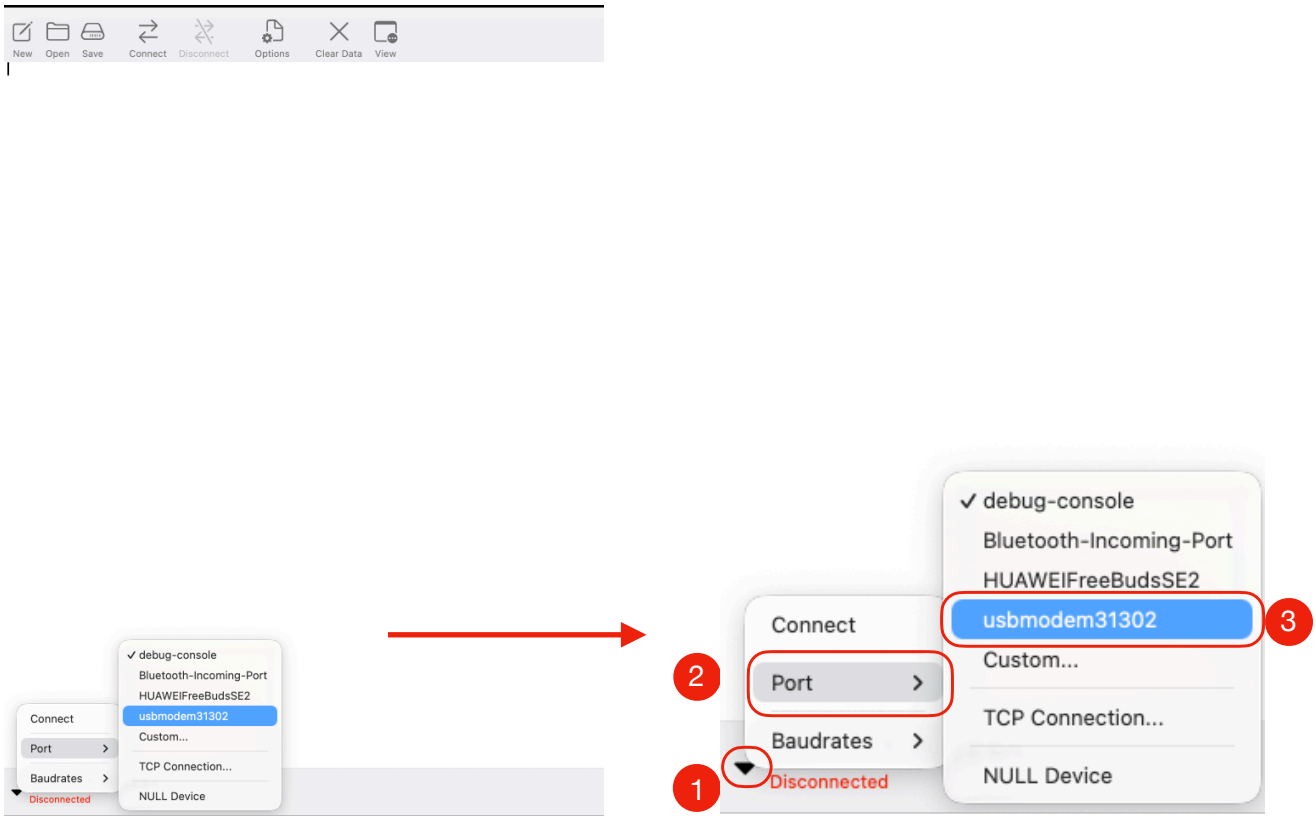
Connect the cable to the device
Remove the cap of the central port on the underside of the TreeTalker and plug in the cable from the STM32 Programmer .



Central port: the only port used for the serial connection. Do not use the side cable connectors.

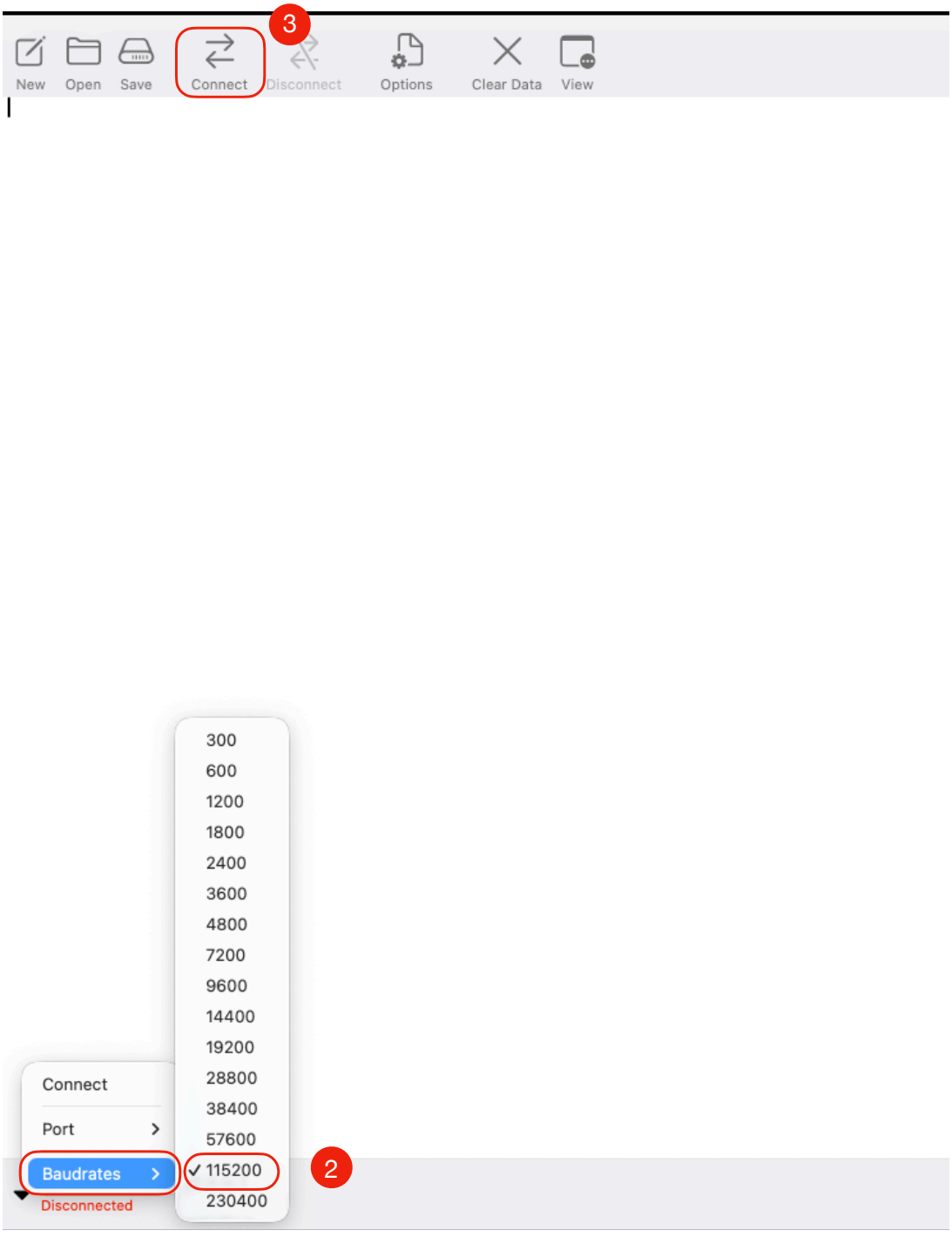
Select the port

1. Click the arrow at the bottom left to open the connection menu.
2. Open Port.
3. Select the port of the STM32 Programmer: usbmodem... on macOS, COM... on Windows. If unsure, close the menu, unplug the programmer and reopen it: the port that disappears is the right one.



Set the baud rate and connect

1. From the same menu, open Baudrates.
2. Select 115200.
3. Click Connect in the toolbar . The status at the bottom left changes from Disconnected to Connected.



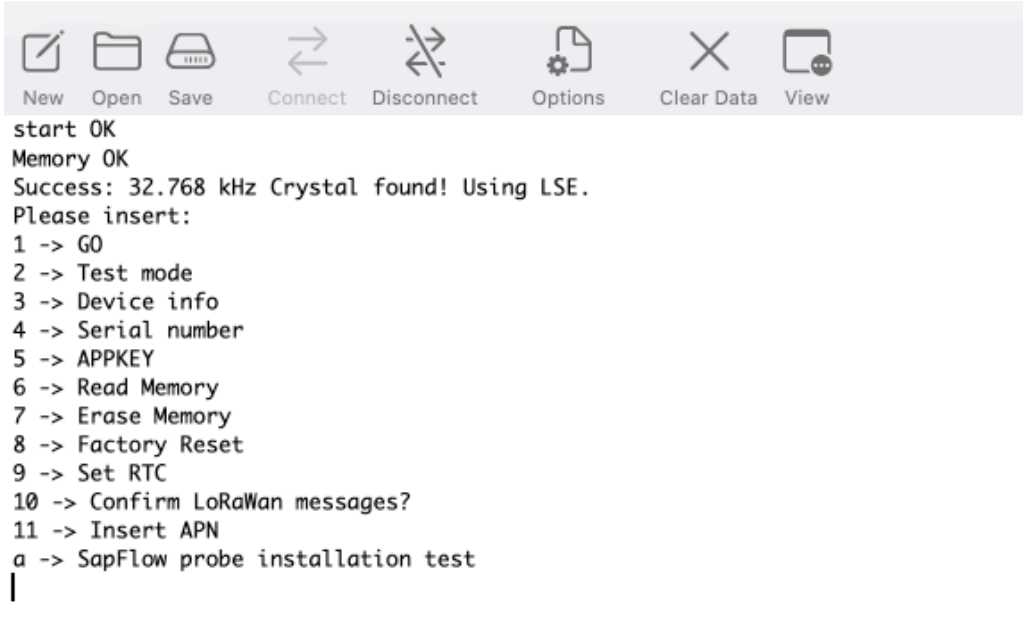
Reset the device with the magnet

With CoolTerm connected, swipe the magnet over the marked label on the side of the device. The swipe resets the device: the blue LED lights up and the command menu appears in CoolTerm. The menu is shown only after a reset, so to open it again at any time, swipe the magnet again and wait for the blue LED .



3. Device commands and data download

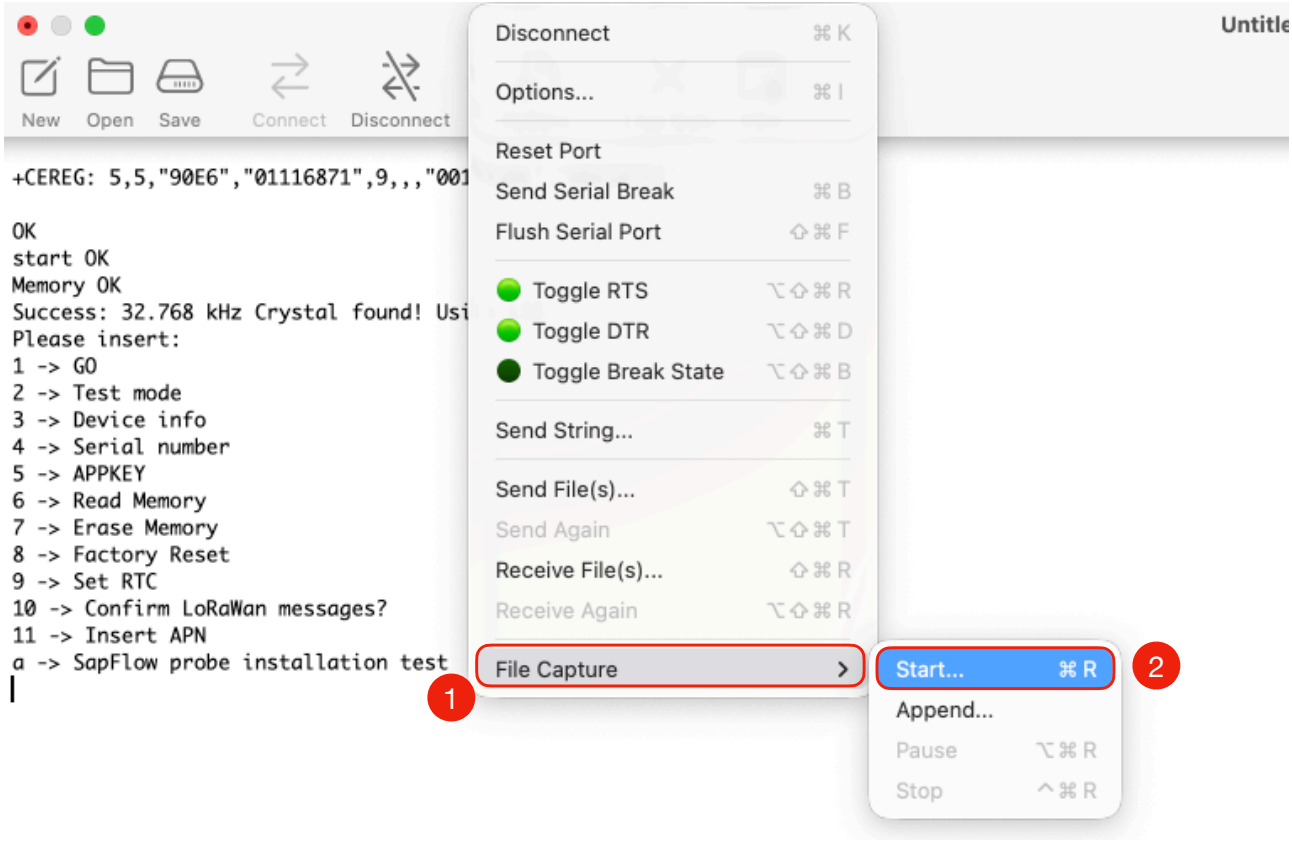
After the magnet swipe the device runs its start-up checks (start OK, Memory OK) and shows the command menu. A command is sent by typing its number or letter in the CoolT erm window . Only command 6 is needed to download the data.



Key	Command	Function	Use for data download
1	GO	Leaves the menu and returns the device to normal operation.	At the end
2	Test mode	Runs the device test mode.	No
3	Device info	Shows device information.	Optional
4	Serial number	Shows or sets the serial number .	No
5	APPKEY	Sets the LoRaW AN application key .	No
6	Read Memory	Prints all measurements stored in the internal memory .	Yes
7	Erase Memory	Deletes all stored measurements.	Never
8	Factory Reset	Restores factory settings.	Never
9	Set RTC	Sets the real-time clock of the device.	No
10	Confirm LoRaWan messages?	Enables or disables confirmation of LoRaW AN messages.	No
11	Insert APN	Sets the APN of the mobile network (NB-IoT).	No
a	SapFlow probe installation test	Checks the sap-flow probe after installation.	No

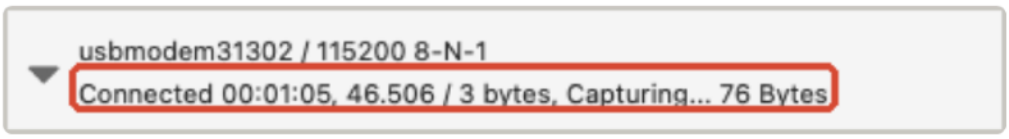
Save the memory to a text file

Start the file capture before sending command 6, so that every line printed by the device is saved. Each capture (Start → Stop) creates its own file, so start a new capture for every device and name each file after its serial number .



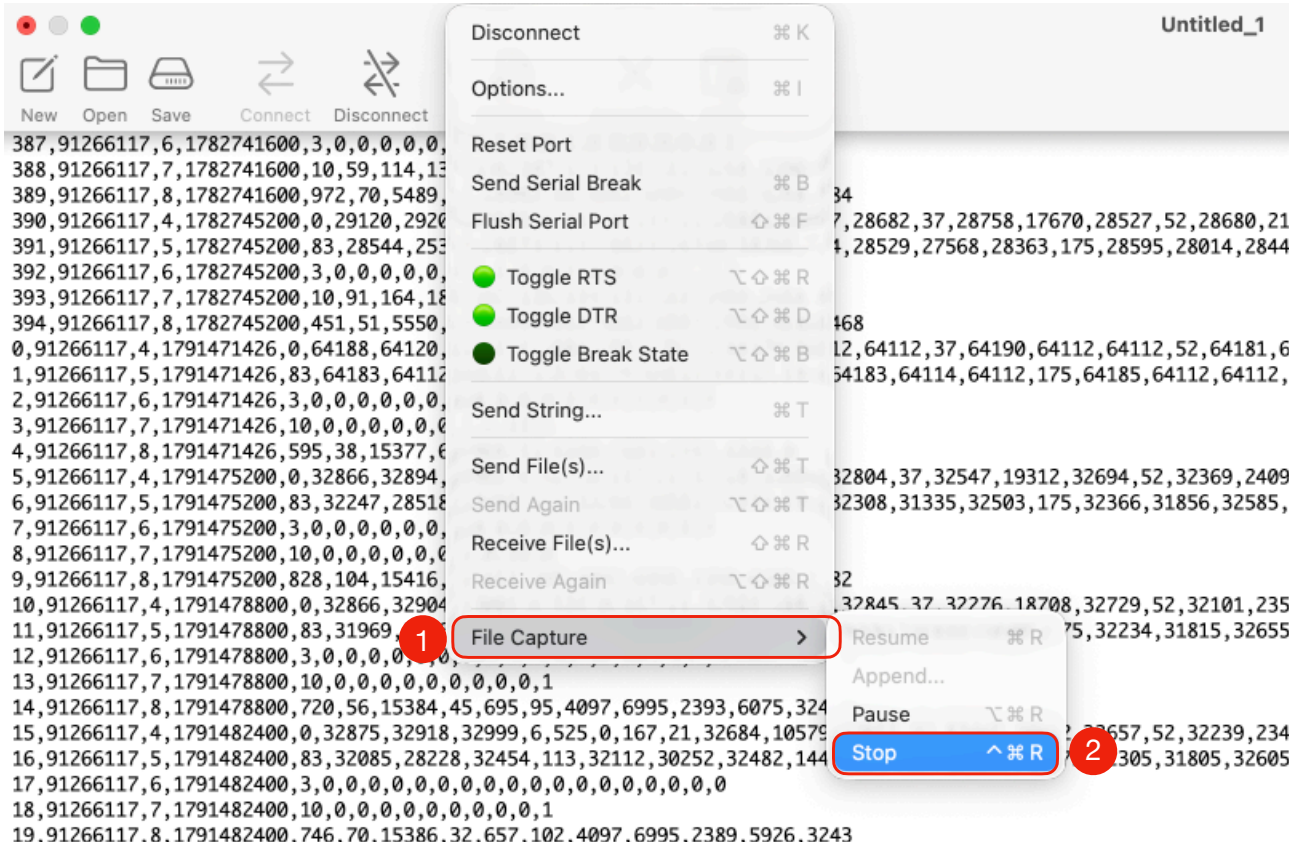
1. Open the Connection menu and choose File Capture.
2. Click Start… and save the file as a . txt file with the device serial number in its name (e.g. 91266117. txt).

Then type 6 in the CoolT erm window . The stored records scroll on screen; each line is one record: record number , serial number , message type, Unix timestamp, measurement values. The bottom bar shows “Capturing…” and the bytes saved.



Stop the capture and disconnect

Wait until the device stops printing and the byte counter no longer increases. Then stop the capture.



1. Open the Connection menu and choose File Capture.
2. Click Stop: the text file is closed.

Finally type 1 (GO) to return the device to normal operation, click Disconnect and unplug the cable from the central port. Close the port with its cap. Repeat the procedure for each device.

4. Send the data

Send the raw text files, one per device, keeping the serial number in each file name. Do not erase the memory (7), reset the device (8) or update the firmware: only the stored measurements are needed.