

Introduction

With **NTP-Tool** you can easily retrieve the status of the Rubidium or any other NTP server. It is designed to help you configure the NTP option of the IE module. It is also a helpful tool for troubleshooting related to NTP problems.

How to start

Just start the NTP-Tool.exe. You will see a screen with an input box where you can type in the IP address of the NTP server. After typing in the correct address, press the "Go" button. Then, you will see an output similar to that shown in *Figure 1*.

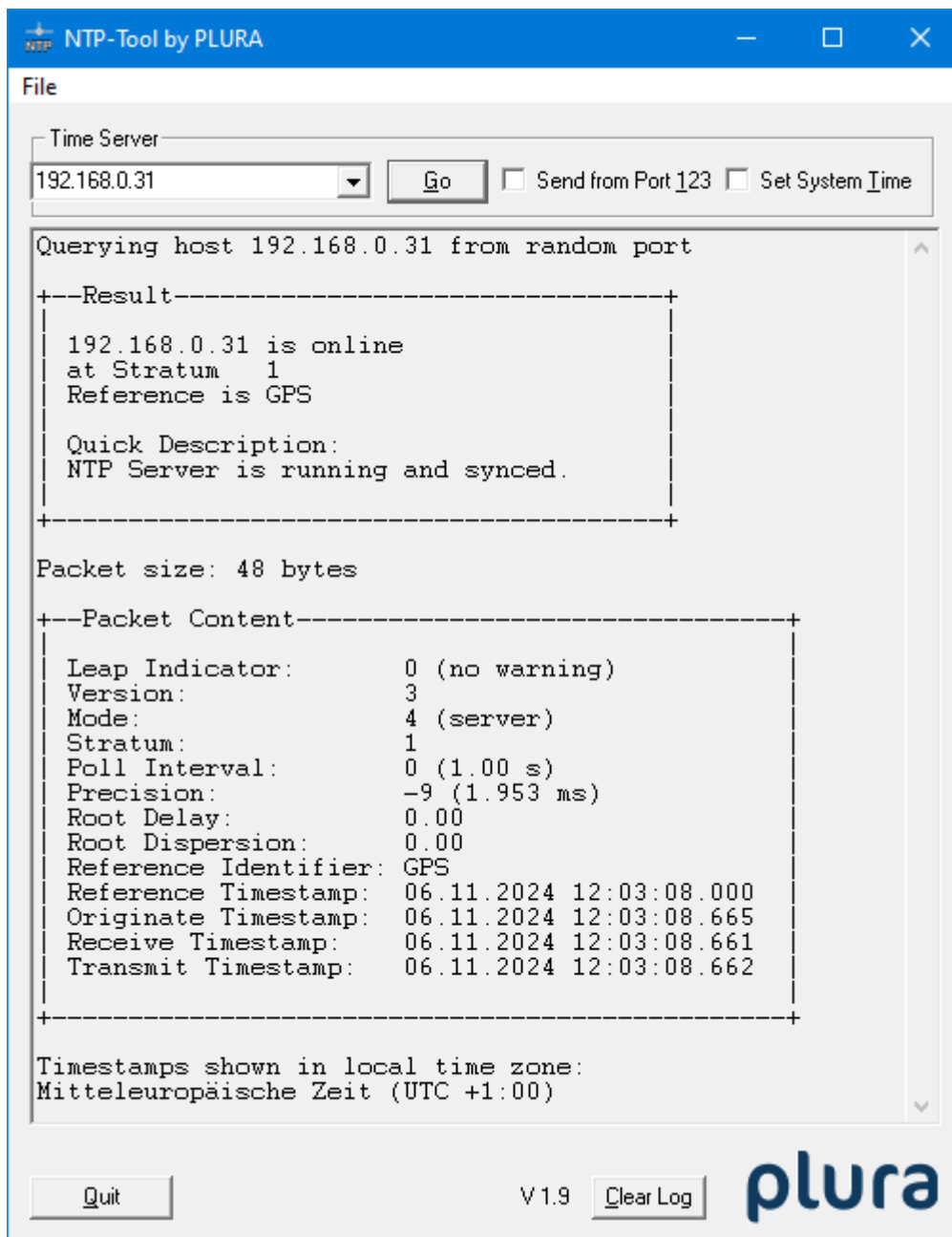


Figure 1 Screenshot of NTP-Tool



What does the output mean?

There are two fields in the output window. The second one, which is labeled "Packet Content", gives a detailed view of the received NTP packet.

The section "Result" shows information that is relevant for the IE module. The values "stratum" and "reference" give information about the state of the GT (or GPS) module which is used as NTP time source.

The following table gives an overview of the possible states:

Stratum	Reference	Possible reasons (module GT/GI as time source)
0	INIT	The IE module has never received a TC_link packet since power-on. Reasons could be: <ul style="list-style-type: none"> - Link Telegram not activated (check if Link → Telegram 1, 2 or 3 is set to "Reference") - No or wrong sync signal (See what's set at Generate → Sync) - External reference not connected or without valid data or cannot be found (See what's selected at Reference → Source/Format) and internal battery not present or empty
1	GPS	Normal operation. The internal clock has been synchronized by an external reference within the last 24 hours.
1	NVAL	GT/GI has not received a reliable time since power-on due to one of the following reasons: <ul style="list-style-type: none"> - Time of the external reference wasn't synced yet (no receive of GPS or DCF77 signal) - No or no valid data from an external reference could be received. GT/GI uses it's internal buffered time.
1	NSYN	The internal clock was set by an external reference or manually by any configuration program. The internal clock is not synced to an external reference, because <ul style="list-style-type: none"> - it was set manually - during last synchronization, the external time did not indicate the "synchronous" or "locked" state. - the internal clock wasn't set by a synchronous external reference for more than 24 hours.
10	0.0.0.0	The TC_link telegram could not be received for more than 5 seconds (check if Link → Telegram 1, 2 or 3 is set to "Reference")
11 ... 15	0.0.0.0	The TC_link telegram could not be received for more than 10 ... 50 minutes (check if Link → Telegram 1, 2 or 3 is set to "Reference")
0	LOST	The TC_link telegram could not be received for more than one hour (check if Link → Telegram 1, 2 or 3 is set to "Reference")



Setting the System Time

Type in the hostname or IP-Address of a NTP Server, check "Set System Time" and press "Go". This will hard set the clock of your Windows PC to the received Time.

Using Outgoing Port 123

The usual behaviour of a NTP Client is to send the request from a randomly assigned outgoing port. There are however rare cases with very restrictive firewalls that do not allow the server to answer on that random port. In this case you can click the Checkbox "Send from Port 123". The request will then use the NTP-Port 123 as the source port.

This option will not work if you have a NTP server running on your system, because the port 123 will then be blocked and an error message will appear.

Troubleshooting

Error	Reason	Solution
No answer from Server. timed out.	There is no NTP server running at the given IP address or hostname.	Try another address.
Could not find host xy.	The given host "xy" is no valid host.	Give a valid hostname.
receive error no. 10054 (Connection reset by peer)	If there is an IE module running at the given address, it probably does not have the NTP option	Check if the IP address is correct. If the message still appears after restart and your IE module should have NTP option installed, please contact Alpermann+Velte.
Socket Error while sending.	There is an error with your network and/or network configuration.	Check network configuration and network cable.

