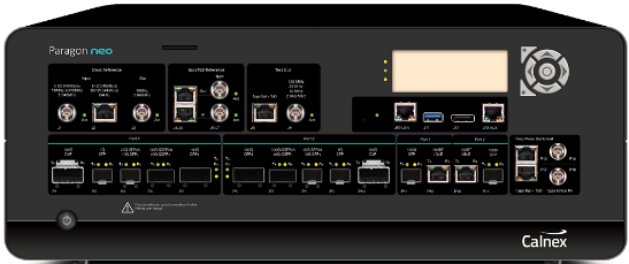


Paragon-**neo** Drop 1

NEW FUNCTIONALITY AND ENHANCEMENTS

(Release 01.00.XX)




Contents

1 Software Release Overview	3
2 Features and Benefits.....	4
3 New Options	5
3.1 40/100GbE Interface support	5
4 Enhancements to Existing Options	6
4.1 Mixed Rate testing	6
4.2 CAT: G.8262.1 Masks	6
5 Appendix A: Software Advisory Notes.....	7


1 Software Release Overview

Drop 1 (01.00.XX) adds the following features to Paragon-neo and CAT¹:

Software Update with valid CSS
(Customer Support Service) contract



New Options	Enhancements to existing Options	Base product enhancements
Option 40G Option 100G	Mixed Rate Testing CAT: G.8262.1 Masks	Defect Fixes

 To check the current software version installed, select **Help > About** on the Paragon-neo GUI.

¹ This release includes enhancements to the CAT. The CAT accompanies Paragon-neo and is used to display/present graphical results such as Wander and Time Error and to calculate metrics such as MTIE/TDEV for further analysis.

2 Features and Benefits

Paragon-neo	Benefit
40/100GbE Interfaces (Optional)	Complete ITU-T standards-based testing up to 5G accuracy levels (G.8273.2 Class C, D) for PTP devices operating at 40G and 100G speeds, enabling concise and reliable validation of timing performance for these interfaces.
Mixed Rate Testing	Perform e.g. Boundary Clock testing to standards in real-world scenarios with mixed input and output rates from DUT.
CAT: G.8262.1 Masks	Validate Enhanced EECs to high accuracy as per IEEE G.8262.1

3 New Options

3.1 40/100GbE Interface support

To allow ITU-T standards-based synchronization testing of e.g. 100GbE Boundary Clock capable Core network devices, Full PTP and SyncE Wander testing capabilities (enabled with the relevant Paragon-neo options) can now be run at 40 and 100GbE.

With QSFP+, CXP or QSFP28 Optics inserted as appropriate, the required ports can be selected in the **Select Interfaces** page from the Paragon-neo GUI, and RS-FEC toggled on/off as required.

Features such as the G.8273.2 Boundary and Slave Clock Conformance Test App, or PFV packet capture and analysis can then be run in the same manner as for other available interfaces and rates.



4 Enhancements to Existing Options

4.1 Mixed Rate testing

To allow ITU-T standards-based synchronization testing across rates – as is likely to be the deployment scenario for Boundary Clock devices, Full PTP and SyncE Wander testing capabilities (enabled with the relevant Paragon-neo options) can now be run at decoupled port rates.

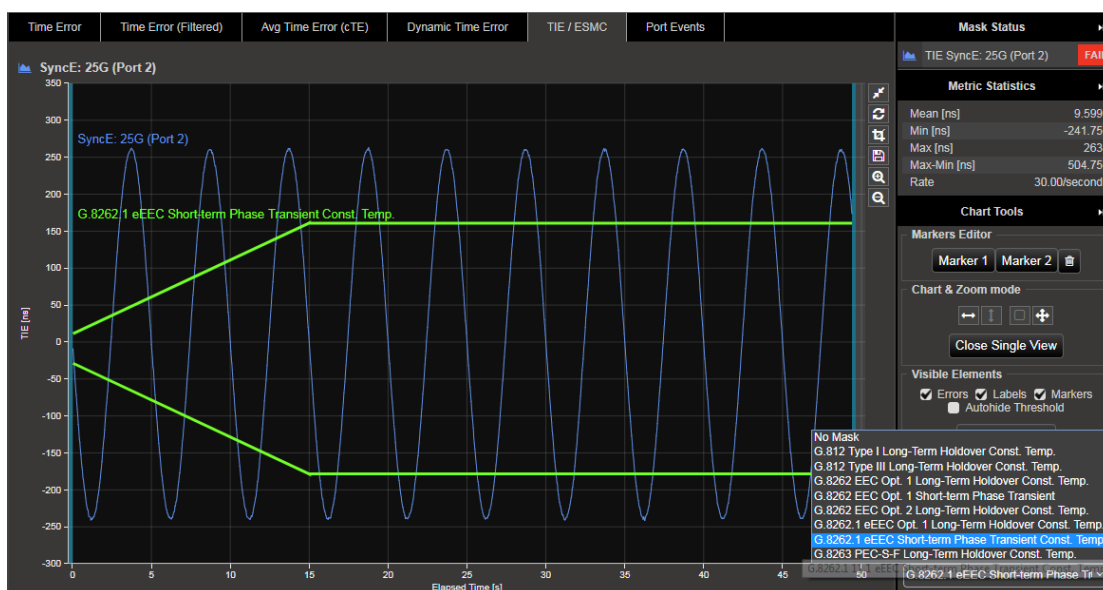
To allow mixed-rate testing, from the **Setup Ports** page, choose the **Ethernet** tab, then move **Port Coupling** to **Off**:



With the required optics fitted, individual rates (and FEC on/off if appropriate) can be set per port.

4.2 CAT: G.8262.1 Masks

To allow full ITU-T standards-based SyncE testing for enhanced clocks, the Calnex Analysis Tool has been updated to include all recently ratified limits and masks for G.8262.1, such as Short-term phase transient. These can all be selected from the drop-down menus in the appropriate TIE, MTIE or TDEV tabs.



5 Appendix A: Software Advisory Notes

- There is a **fix in this release** for a known issue causing invalid Time Error measurement results when fibres/optics were removed or link flaps initiated during a test run without reinitialising.
- There is a known issue in this release, affecting Transparent Clock Mode T4 measurements when transmitting at relatively high packet rates. It is recommended to use the ITU-T G.8275.1 specified packet rate of 16pkt/s.
- When using automation, it is recommended to have live captures stopped before trying to access/read data via script, as there can be intermittent errors.

To Install:

Paragon-neo SW is delivered as an ISO (disk image). To upgrade the instrument, this ISO file must be written to a USB stick as an image. To do this, you will need to install an application capable of writing ISO images to USB. One such application is Win32DiskImager. This can be downloaded from <http://sourceforge.net/projects/win32diskimager/>

Once you have your application installed, run it. You should then load the Neo ISO. Using Win32DiskImager:

- Select the folder icon next to the “Image File” field
- In the “Select a disk image” dialog, select the *.* file filter
- Locate and open the Neo SW package installer ISO

The ISO should then be written to your USB stick:

- Select “Write”

Once written to USB, you are ready to load on to the Paragon-neo unit.

The instrument should be powered on BEFORE you insert the USB stick. In addition, it is not possible to upgrade unless the box is idle - make sure to stop all generation and capture.

Click **System** in the menu selection on the top right of the UI

- Click **Setup** in the left hand menu bar
- Insert the USB stick
- Click **Update**

The instrument will now begin the upgrade process. Note that updating the Paragon-neo can take up to 30 minutes. **Please do not power off while the upgrade is in process.**

You can now connect and the new software is ready to use.

Calnex Solutions Ltd
Oracle Campus
Linlithgow
West Lothian
EH49 7LR
United Kingdom

tel: +44 (0) 1506 671 416
email: info@calnexsol.com

calnexsol.com

© Calnex Solutions Ltd, 2019.
This document is subject to change without notice.

Document v0.1 Apr-19

