Calnex
Insight and Innovation

Sentinel R7.2 Release Notes

Release Date: December 2016

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Release Overview

Sentinel R7.2 Release

This release is primarily to improve the robustness and stability of Sentinel operation as well as some software only feature enhancements. No new options are associated with these enhancements.

The software has added the following features and changes to Sentinel:

- Stability updates to improve the reliability of power cycling and general operation of Sentinel
- Additional masks added and naming convention changed to simplify selection
- Support for compensating for cable lengths and balanced to single ended conversion delays on 1PPS reference and test inputs
- Changes to settings can be applied without having to leave the settings screen
- External USB drives can be re-mounted after being selected for removal
- Error in battery module now reported as icon
- Additional status messages are written to user log

Features Description

Addition of New Test Masks and Change of Naming Convention

The following table lists the available masks in R7.2 and the naming changes between R7 and R7.2

R7 Name	R7.2 Name
DS1 Interface	ANSI DS1 Interface
DS1 Transient	ANSI DS1 Transient
OC-N Interface	ANSI OC-N Interface
OC-N Transient	ANSI OC-N Transient
PRS Output	ANSI PRS Interface
PDH(ETSI)	ETSI PDH Interface
PRC (ETSI)	ETSI PRC Interface
SEC (ETSI)	ETSI SEC Interface
SMC Holdover	ANSI SMC Holdover
-	ETSI SSU Interface
ETSI PRC	ETSI Wander Gen PRC
SEC-L (ETSI)	ETSI Wander Gen SEC
SSU-L (ETSI)	ETSI Wander Gen SSU
G.812 II-III SSU	G.812 Type II-III Wander Gen
G.812 I SSU	G.812 Type I Wander Gen
G.813 Hold SEC	G.813 Holdover SEC opt2
-	G.813 Switch SEC opt2
G.813 Trans SEC	G.813 Transfer SEC Opt2
G.813 Wander Gen SEC Op1	G.813 Wander Gen SEC Opt1
G.813 Wander Gen SEC Op2	G.813 Wander Gen SEC Opt2
PDH Sync IF	G.823 E1 PDH Sync Interface
PRC (G.823)	G.823 E1 PRC Interface
SEC (G.823)	G.823 E1 SEC Interface
G.823 E1 SSU I-face	G.823 E1 SSU Interface
G.823 E1 Traffic I-face 2048	G.823 E1 Traffic Interface 2048
-	G.824 T1 PDH Ref Interface
-	G.824 T1 PDH Ref Interface SEC Opt2
-	G.824 T1 PRC Interface
G.824 Traffic I-face 1544	G.824 T1 Traffic Interface 1544
G.8261.1 Case 3	G.8261.1 Case 3
-	G.8261 E1 CES Case1
-	G.8261 E1 CES Case2
-	G.8261 T1 CES Case1
G.8261 Wander EEC Op1	G.8261 Wander Limit EEC Opt1
G.8262 Wander Gen EEC Op1	G.8262 Wander Gen EEC Opt1
G.8261 Wander EEC Op2	G.8261 Wander Limit EEC Opt2
G.8262 Wander T-fer EEC Opt2	G.8262 Wander Transfer EEC Opt2
G.8262 Wander T-sient EEC Opt2	G.8262 Wander Switch EEC-2
G.8262 Wander Gen EEC Op2	G.8262 Wander Gen EEC Opt2
G.8271.1 Network Limit	G.8271.1 Network Limit
-	G.8272 Wander Gen PRTC
MAFE 16ppb	MAFE 16ppb
MAFE NSN HRM 1	MAFE NSN HRM 1
MAFE NSN HRM 2	MAFE NSN HRM 2

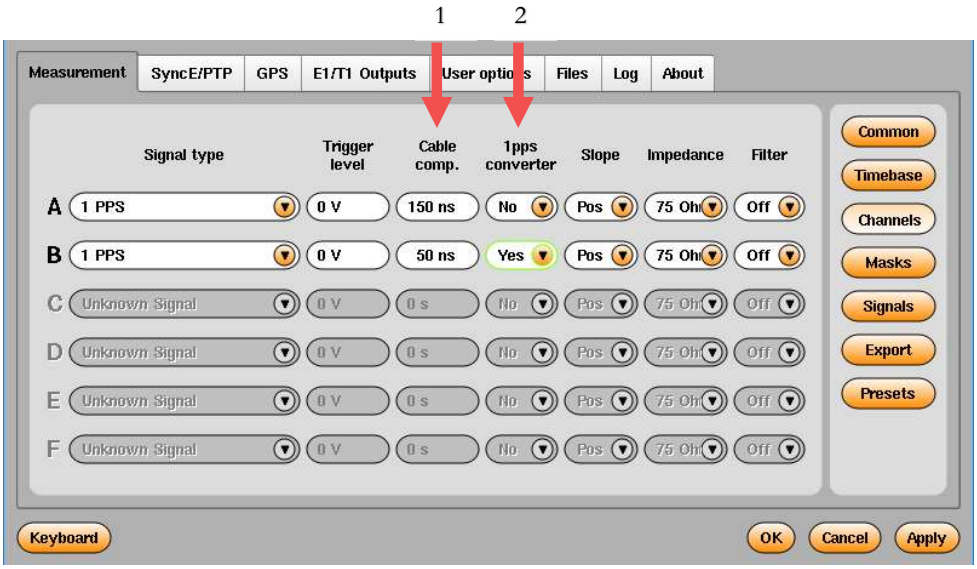
Masks G.812 IV SSU, PRC (G811), NTSC and PAL video have been removed.

Support for Cable and Conversion Delay Compensation in 1PPS Measurements

Sentinel settings in the Channels page have been modified to allow the delays of reference and DUT cable lengths on 1PPS signals to be removed from the TE results. Also, if the Calnex External 1pps/ToD/frequency converter accessory (option 133) is used then the delay in the conversion can also be removed from the results.

There are 2 new fields in the Channels settings page:

1. The Cable comp. field allows a delay of up to 1000 ns to be entered for any 1PPS signal type
2. The 1pps converter is a Yes/No dropdown menu that indicates that the 1PPS signal is being passed through a Calnex converter accessory

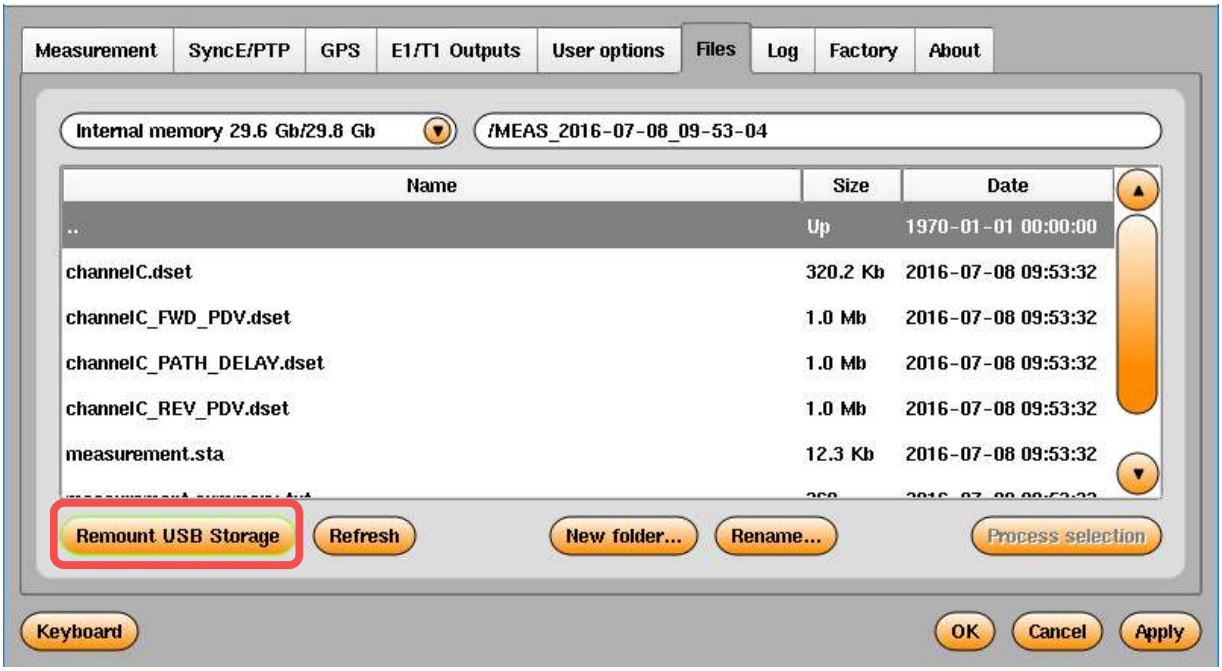


Changes to Settings can be Applied Without Having to Leave the Settings Screen

In R7 changes made to the settings page only took effect when the OK button was pressed. Settings changes could be discarded by pressing the Cancel button. A third button (Apply) is now available on all settings pages. This saves the changes to any settings that have been altered without leaving the settings page. Note that pressing Cancel will not discard any changes made by pressing the Apply button.

External USB Drives can be Re-mounted After Being Selected for Removal

In the Files settings page there is a Remove USB storage button to allow external USB drives to be safely removed. Other USB drives can be mounted by physically unplugging and inserting a USB drive. Sentinel software will also change the Remove USB Storage button to a Remount USB Storage button, allowing the original drive to be remounted remotely.



Error in Battery Module Now Reported as Icon

Sentinel software periodically checks the battery module to determine the charge state of the battery. If this status read failed then the battery icon would change to indicate 0% charge, making it difficult to determine if the battery just needed charge or there was a hardware fault. Failure to read from the battery module is entered in the user log and the battery icon is changed to in the bottom of the Sentinel screen.

Additional Status Messages are Written to User Log

A complete list of user log status messages are now included the Sentinel reference Guide.

Known Potential Issues

The following items are being investigated by Calnex and product updates will be provided as and when resolved:

1. Sentinel can occasionally display high PDV (i.e. in the order of seconds). Powering down the unit and physically removing the power cable will reset the issue. This has happened on two occasions in the past two years and has not been seen by Calnex in the last 18 months.

2. Saving measurement data to USB memory may encounter issues with some memory stick types. If this issue is seen, we recommend using a different brand of memory stick or use the internal memory.

3. In Pseudo-slave mode, setting 128 packets/second rate on Sentinel will actually run at a lower rate (i.e. 105 packets/second)

4. The Measurement Duration setting can incorporate processing times of ±1 second for TIE and ±10s for PDV measurements

5. Loss of Signal: Short link down events may not be reported in the log if they happen between status requests to the PTP board

6. Lock button: The lock button will not unlock when the measurement complete pop up box is displayed. A possible workaround for this is to VNC to Sentinel and press Ok to clear this pop up box, then the lock button will unlock.

7. An issue has been observed when entering certain values in the Antenna Delay field of the GPS settings. Some values will have no effect on the measurement result. If this is the case then setting the antenna delay 1ns above the desired value will work as expected.