

Sentinel

surround sound audio monitor

Release Notes

Version 1.22
August, 2011

Qualis Audio, Inc.
Lake Oswego, Oregon



Copyright © 2011 Qualis Audio, Inc.
All rights reserved.

Qualis Audio, Inc.
PO Box 731
Lake Oswego, OR 97034
+1 503 635-9376 voice
+1 503 635-3851 fax
www.qualisaudio.com
support@qualisaudio.com

SEN-REL 110822

Contents

Chapter 1	Changes in This Release	1
	New Features	2
	Corrections	2
	Known Issues	4
Chapter 2	Installing the Firmware	7

1 Changes in This Release

New Features 2

Corrections 2

Known Issues 4

New Features

Network Time Protocol synchronization

Added support for synchronization of the Sentinel's real-time clock with a Network Time Protocol (NTP) server.

Added a Date & Time settings panel to allow configuration of the NTP service.

Improvements to networking protocols

Corrected a vulnerability in the TCP/IP implementation that could result in endless repetition of ARP requests or DHCP server discovery requests.

An ARP flood condition on the network is now detected, and indicated in the Sentinel's LCD display as an asterisk (*) character in the right-most character position on LCD line number 2 (the bottom line).

The DHCP client now toggles between broadcast and unicast discovery requests, to improve compatibility with some Wi-Fi routers.

Device configuration

Extended the settings panels to allow configuration of several device settings that had previously been configurable only from the Sentinel front panel. The new Date & Time settings panel allows setting of the local timezone, Daylight Savings Time, and the front panel date and time display formats. The Alarm Actions settings panel allows setting of the device name.

Corrections

Front panel menu system

Fixed a problem where edits that truncated a string were not recorded correctly. Also, a blank character is now assumed to terminate a password string, since a password may not contain blanks.

Integrated loudness controls

Reworked the loudness segment handling to work correctly in both program/commercial and measure/pause modes. There were several errors in the handling of measure/pause mode.

Fixed a problem with the HTTP POST message that resets the loudness meter in the Measure/Pause software controlled mode.

Input channel configuration

Fixed a problem that caused the 2 ancillary channels to be disabled when the signal format was set to 5.1+2.

Fixed a problem that caused input channel positions to shift when switching between input modules 1 and 2. (This problem appeared only in configurations with a second input card.)

Input channel bargraph meters

The channel bandwidth indicators did not correctly show the high end of the bandwidth range. The range is now displayed correctly.

Downmix compatibility display

Corrected errors in the scaling and rounding of threshold values which caused the warning/error coloring of the meter bars to be incorrectly positioned.

Readings timeline

Included monaural downmix values in the maximum downmix calculation for the downmix trace; the calculation had been using only the stereo downmix values.

Error flags

Fixed several problems with the generation of downmix and channel swap error flags.

Added error display holds (transition to yellow triangle icon for a hold interval after error condition ends) that were missing from Loudness, Downmix, Swap, Digital In, and Digital Interchannel error displays.

Log data download

Corrected a problem that caused transfer errors to be treated as permanently missing data (causing data to be lost); such errors now force the download to be retried.

Corrected a problem that caused log data to be lost during scheduled log downloads.

Corrected an error that kept scheduled log downloads from exiting, causing multiple download processes to accumulate.

Browser compatibility

Corrected a problem with the Javascript initialization code that kept the user interface from starting correctly in Firefox 4 and Internet Explorer 9.

Java applet security

Added timestamp information to the Java applet used by the user interface. This allows the applet to be accepted by browsers without warnings, even after the applet's code certificate has expired. (An applet with an expired certificate is not an error – so long as the certificate was valid when the applet was created.)

Known Issues

Browser version requirements

The web user interface has been tested with current versions of Chrome, Firefox, Internet Explorer, and Safari. Browser performance is improving rapidly, and the responsiveness of the user interface benefits greatly. We strongly recommend using a current browser for the best experience in using the Sentinel.

Javascript, cookies, and Java must be enabled in the browser for the user interface to function correctly.

The Sentinel web user interface is not compatible with Internet Explorer 7 or 6, or with Safari on the iPad or iPhone. It will not work correctly with Internet Explorer 8 in compatibility mode (which effectively makes IE8 behave like IE7).

Java version requirements

The Sentinel uses a Java applet to save and view log data. The applet is used both within the web user interface and for scheduled downloading of log data, which operates independently of the user interface.

The Sentinel user interface will work correctly with Java Runtime Environment v1.5.x or later. However, scheduled downloading requires JRE v1.6 or later. Using an earlier version of the JRE will cause an error when the scheduled download is attempted.

Slow user interface startup

The Sentinel web interface is slow to start up. In addition to the usual web page loading delays, the JavaScript code that animates the interface performs extensive initialization, a Java applet must be loaded and initialized, and there is initial synchronization with the Sentinel.

This may cause your browser to display a warning about a slow script, and ask you whether you want to stop the script or let it continue. If this happens, *tell it to continue* – stopping the script will leave the interface unusable.

Log repository file format

Enhancements to the measurement capabilities of the Sentinel result in changes to the data reported by the Sentinel and recorded in the log repository. For some changes, new and old formats are incompatible – the newer user interface can no longer interpret the older log repository data correctly.

Such changes are indicated by a change to the file type (file name extension) of the daily log files in the repository. The current file type is *.qa1*. The user interface will not display earlier log files.

Incomplete help pages

The Sentinel help pages have not been fully updated to include new functionality. The Sentinel User Manual is the most current and complete source of information. A PDF version is available from the downloads page of the Qualis Audio web site (www.qualisaudio.com); contact us for printed copies.

Browser caching of readings packets

In certain cases where communications between the Sentinel and browser interface are lost, the browser supplies stale cached readings in response to readings requests. The effect is that the displays appear to be showing live data, even though no data is being received from the Sentinel. (This is not a problem as long as communications are live.) This will be corrected in a future release.

2 Installing the Firmware

The Sentinel is designed to allow firmware updates over the network from a web browser. The process is as follows.

Unzip the archive, verify its contents

Updates are packaged as zip archives, containing documentation and the firmware images required to update the Sentinel. Use the unzip command or whatever command you normally use for unpacking zip archives.

There are five separate field-upgradeable ROMs in the Sentinel 1.22 firmware update:

SentinelDSP_20110816.bin base
SentinelCPU_20110816.bin base
SentinelWeb_20110804.bin base
SentinelDINMCU_20110201.bin digital input module (AES, SDI only)
SentinelFPGA_20110309.bin digital input module (AES, SDI only)

Images are identified by date. Make sure you have firmware images for all the ROMs you're planning to update.

You can check installed firmware versions from your Sentinel's front panel. Dates in the firmware image filenames are in *yyyymmdd* format (year, month, day); this differs from the front panel firmware display, which is *mm/dd/yy* format (month, day, year).

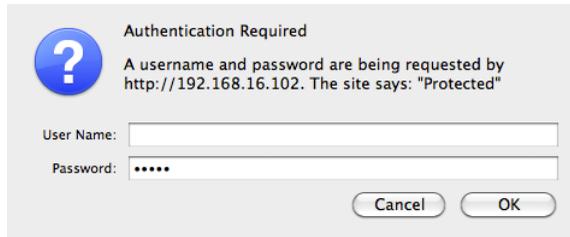
Load the Firmware Update page in your browser

Navigate to the Firmware Update page:

`http://address/fwupdate`

Replace the *address* with actual address of the Sentinel you're updating.

The Sentinel will display a pop-up menu that prompts you for a User Name and Password:



Leave the User Name blank; the default password is *audio*.

Once you are authenticated, the Sentinel will display the Firmware Update page.

Select the firmware image to update

Sentinel Firmware Update



Use the Browse... button to select the firmware image file, then press the Update button to upload the file to the Sentinel.

The Sentinel will display a message indicating the Firmware Update is in progress. Wait for the Sentinel to update the ROM and restart.

When the update completes, the Sentinel will restart and the Sentinel Firmware Update page will again appear.

If you are updating multiple firmware images, select and update the next image. Normally, you will repeat the update process for each image file provided in the zip archive.

If the update fails due to a corrupted firmware image, the Sentinel will display a Firmware Update File Invalid message. If you see this message, you'll need to get a new copy of the image file.

Restart your browser and clear its cache

If you've updated the SentinelWeb firmware, you'll need to quit and restart your browser, and clear the browser's cache when you restart it.

Otherwise, the browser will use stale copies of the Sentinel web pages from its cache – the resulting errors can be quite confusing.

For Firefox, go to the Tools menu, select Clear Recent History, and make sure the Time range to clear is set to Everything and Cache is checked.

Other browsers have similar options. For Chrome, use the Clear Browsing Data... in the Tools menu. For Internet Explorer, use the Delete Browsing History... in the Tools menu. For Safari, use Empty Cache... in the Safari menu.