RELEASE NOTES

Version 3.2.8

Onyx 400F Software Update • July 11, 2007

Introduction

The 400F 3.2.8 materials are a combination of new drivers, console software, and internal firmware that provides various fixes, as well as new features. This document will explain how to install the new materials as well as detail the new improvements.

OS X Installation

1. Double click the "Onyx Console.zip" file to unpack the .zip archive. OS X will automatically unpack the archive. You will then see the "Onyx Console" file.
2. Make sure your 400F is connected to the computer's FireWire port. To verify that the computer is seeing your 400F, launch the "Audio MIDI Setup" utility in Applications/Utilities, click the "Audio" tab, and make sure that Onyx 400F is selectable as an audio input/output source in the drop-down menus. When you are finished, quit the Audio MIDI Setup application.
3. Find your copy of the original 400F console application (version 1.05), and drag it to the trash.
4. Double-click the newly downloaded 400F console (version 3.2.8). The console will launch, and then show a message that it needs to update your 400F's firmware. Click "OK". This newer firmware is designed to work with the newer console.
5. Follow the on-screen instructions that display during the firmware update, including repowering your unit when the update has completed.
6. Launch the new 3.2.8 console. This time it will launch right away since the 400F now has the newly updated firmware. You now have a 400F with the updated 3.2.8 firmware and the new 3.2.8 Console.

Windows XP Installation

1. Double-click the "Setup Onyx F Series 3.2.8" icon. This will launch the Windows installer that will update your machine with the new 3.2.8 series drivers and console.
   Note: You do not need to uninstall any older versions of the driver and control panel you are running. The installer will intelligently replace the older files as needed.
2. Follow the on-screen instructions that are presented by the Windows installer.
3. When the installer is finished, launch the Onyx 400F console (there will be a shortcut to it on the desktop, put there by the installer).
4. The console will launch, and then show a message that it needs to update your 400F's firmware. Click "OK". This newer firmware is designed to work with the new console.
5. Follow the on-screen instructions that display during the firmware update, including repowering your unit when the update has completed.
6. Launch the new 3.2.8 console. This time it will launch right away since the 400F now has the newly updated firmware. You now have a 400F with the updated 3.2.8 firmware, 3.2.8 drivers, and the new 3.2.8 console.

RELEASE NOTES FOR VERSION 3.2.8

These release notes describe improvements that have been made to the Onyx 400F software console and drivers since the previous version.

New Features and Improvements

Multi-unit Support

The 400F now supports daisy-chaining of multiple units, to form one large recording device. For example, you could daisy-chain three 400Fs together for a 30 input system, with 12 mic inputs, 12 line inputs, and 6 digital inputs.

On a Windows system, the sum of inputs and outputs will appear as one large ASIO device to your Windows DAW of choice. On an OS X system, you will need to combine the units into one large "aggregate device" in the "Audio MIDI Setup" application, located in Applications/Utilities.

To configure such a system, connect a FireWire cable from the first 400F to the computer. Then, connect another FireWire cable from the first 400F to the second 400F.

When the console is launched, the driver will poll the FireWire bus and automatically know how many 400Fs are connected. It is not necessary to "tell" the software that you are using more than one.

A separate console window will appear for each 400F in the system. When you click on any one console, the FireWire LED will flash on the physical 400F that is controlled by that console. This lets you know what console corresponds to each physical unit. Make sure that all consoles are set to the same sample rate.

When using multiple units, the clocks of all units must be synchronized to each other. Set one of the 400Fs to internal clock, and then set the other unit(s) to slave to external clock. Then, connect a BNC cable from the master unit's clock output to the clock input of the first slave unit. If you are using three units, connect a BNC cable from the clock output of the first slave unit to the clock input of the second slave unit.

In terms of how many 400Fs can be combined together, this is more of a limitation of the bandwidth of the FireWire bus than the 400F architecture itself. We have tested systems combining three 400Fs, making a 30x30 system, at sample rates of 44.1/48 kHz. Higher sample rates use more bandwidth and would offer less combined channels before producing unreliable results.

Multi-client audio

Multi-client audio allows multiple apps to record and playback at the same time.

When using multi-client audio, be sure that all your audio applications are set to the same sample rate. You may wish to use the sample rate lock feature on the console; this prevents applications from changing the sample rate.

Audio inputs are shared; any number of applications may record from the same audio input at the same time.

Different applications must use different audio outputs; you will need to configure each individual audio application's output selection accordingly.

Link Buttons

With the previous 1.05 console, any pair of console channels could be linked by pressing the shift key while adjusting either fader in a pair. With the new 3.2.8 console, we have added graphical "link" buttons to each fader pair to make this function easier to remember.

Simply click on the link button to link any even pair of faders together, and click on it again to turn the link function off.

This feature is useful for adjusting stereo audio material feeding a pair of inputs, such as a stereo keyboard/guitar processor/video deck, etc.

C/R Phones can now mirror any of the 5 output pairs

With the previous version 1.05 console, the settings tab allowed the user to have the control room/phones outputs mirror either output pair 1-2, or 7-8. With the new 3.2.8 console, you can have the control room/phones outputs mirror any of the 5 output pairs (1-2, 3-4, 5-6, 7-8, or 9-10)

Universal Binary (OS X)

The new 3.2.8 console is a universal binary application, and will run equally well on both PowerPC and Intel based Macintosh computers.

Lower feeling latency values (Windows XP)

Various improvements have been made to the Windows ASIO driver's latency figures. As a result, a sample buffer setting of the same value will produce an even lower real world latency than with the 1.05 drivers.

Fixes and Updates

MIDI output timing is improved

The previous 1.04 firmware contained an issue with MIDI buffers that could, for some users, cause MIDI performance issues. This has been corrected.

Last-used sample rate is now stored with Flash settings

The previous 1.04 console would not properly store the current sample rate as part of the settings written to flash. This has been corrected.

Miscellaneous Fixes

- The ASIO driver now displays more descriptive channel names.
- The ASIO driver no longer needs to be reset when changing sample rates.
- Windows no longer displays the message "No audio device" in the Sounds and Audio Devices control panel.
- Fixed an issue in the firmware where asynchronous packets could be dropped.
- Fixes for handling 1394 bus resets.
- Fixed various problems with handling commands and isochronous packets.
- Fixed issues with causing spurious bus resets by transmitting invalid isochronous packets.
- New scheduler for ARM code.
- Better calibration of 400F front panel LED meters.
- Improved time stamping of transmit packets for Mac OS X.
- Fixed a blue screen starting GSIF when ASIO was already running.
- Fixed issues with surprise removal while playing.
- Fixed issues with recording at 24 or 32 bits per sample.
- Driver now creates multiple wave devices to support Adobe Audition.
- Fixed a possible blue screen with GSIF.
- Added dithering for 8-bit and 16-bit recording.
- Fixed issue with resuming from standby.
- Fixed issue with allocating enough resources for large 1394 buffers.
- Fixed issue with audio not restarting after 1394 bus reset.
- Better playback buffer timing to more accurately track external clocks.
- Reworked how buffer sizes are set.
- Fixed "Blue Screen of Death" caused by improper mute usage.
- Fixed some minor issues with restoring driver settings from the registry.

- Fixed issue with MIDI stopping isochronous audio.
- Fixed an issue with the global sample rate on box startup.
- Improved KS framing for SONAR.
- Fixed a potential "Blue Screen of Death" with MIDI.

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