



## Overview

The Fireface 800 is the world's most powerful FireWire audio interface ever. Up to 56 channels record/playback, up to 192 kHz sample rate, and true FireWire 800 sum up to an unsurpassed high-end, high performance and high speed FireWire audio interface. Since the Fireface first shipped in July 2004, the unit became the reference for FireWire audio - and still is today!

The Fireface 800 combines the latest and also proven technologies of previous RME products with the fastest FireWire technology. Analog technology of the ADI-8 converters, microphone technology of the OctaMic, TotalMix technology of the Hammerfall DSP series, years of experience in programming of efficient and reliable drivers, up to complete support from DIGICheck - only the best of the best, and even a bit more. The Fireface 800 offers the best worked out instrument input that could ever be found in an audio interface, a high power headphone output and signal-to-noise ratios of 119 dBA.

RME's Fireface 800 is seen as reference by users and editors, when talking about FireWire audio and mobile recording. RME's FireWire audio offers many pro-audio features not available from other manufacturer's units:

- Complete realtime sample rate lock
- Complete realtime sample rate control, even during playback/record
- Complete start/stop control. No changed offset after reboot.
- Extreme varispeed / external sync support, in all modes (even DS / QS)
- Despite having a superior sync behavior (see above), the Fireface's SteadyClock provides a heavy jitter suppression even in varipitch applications.
- Reduced protocol overhead, by not sending CIP (Common Isochronous Packet format) headers (AVC, mLAN)
- Working FireWire 800 solution; Working FireWire 800 fix for Windows XP SP2
- Latency change on the fly, while ASIO is running; Latency change on the fly, while GSIF is running
- Hardware-based data packet check and drop out correction
- Complete realtime monitoring solution, covering all inputs and all playback channels, equaling an 28+28 channels
- inline console having 28 Aux sends per channel.
- Lots of advanced and unique features. Plus hardware based Peak/RMS metering.
- Windows and Mac OS X drivers are completely identical in terms of features and functionality
- Super low jitter MIDI I/O similar to PCI-based performance (1 ms)

## Connectivity

- 8 x Analog I/O
- 1 x Stereo Headphone Out
- 2 x ADAT I/O or 1 x ADAT I/O plus 1 x SPDIF I/O optical
- 1 x SPDIF I/O coaxial
- 1 x MIDI I/O
- 4 x Mic/Line Inputs with Preamps
- 1 x Instrument input adjustable
- 2 x FireWire 800
- 1 x Firewire 400
- optional: Time Code Module
- TotalMix

## Features

- TotalMix™
- Intelligent Clock Control
- ADAT S/MUX
- ZLM™
- SteadyClock™
- SyncCheck™
- SyncAlign™



## Inputs and Outputs

**Analog I/Os:** Eight balanced line inputs and outputs with software controlled switching of the reference levels (-10 dBV, +4 dBu, HiGain), of course realized discretely in the analog domain, guarantee highest dynamic range and highest fidelity. Apart from the levels of the microphone pre-amps and the headphone outputs, all device settings are software controlled. Equipped with the latest A/D and D/A converter chips, all I/Os operate up to 192 kHz and reach 119 dBa dynamic range on playback - even the headphone output (playback channels 9/10), whose high power technology delivers high volume even with low-impedance headphones.

On the front side, the Fireface 800 has 4 discrete balanced microphone inputs with class-A stage, separate activation of 48 V phantom power and separate XLR/TRS inputs, where the latter can also be used as additional Line inputs. Two of the four mic inputs are permanently available as channels 9 and 10, the other two can be used together with or alternatively to the inputs 7/8 on the back.

The FireFace 800's Hi-Z instrument input offers a soft-limiter, which has been tuned especially for musical instruments. Due to a soft transition and deliberate creation of harmonics, the input signal is compressed steplessly according to taste, or the limiter can be used for distortion with tube sound. Activate the Drive circuit too for broad guitar distortion. The Speaker Emulation filter, which can also be switched on separately, takes low- and high-frequency disturbances away and guarantees an optimal basic sound even when recording directly into the computer, or when monitoring through a mixing console.

**Digital I/Os:** Two ADAT optical I/Os allow for a connection and insertion of effects devices, mixing consoles or external converters. Of course, these 16 channels are available simultaneously with the analog channels. Using two additional ADI-8 DS, there are 26 analog inputs and outputs, which remain still 18 at 96 kHz. The coaxial SPDIF I/O works up to 192 kHz, so that there are still 10 analog in- and outputs at the highest sample rate, plus two digital ones.

## Features

All inputs and outputs can be used at the same time\*! E. g., the instrument input can be used either instead of the line input on the back, or together with it. Even the TRS jack and the XLR socket of the microphone inputs can be used simultaneously. This way, up to 35 signal sources can be connected to the Fireface 800 and recorded onto 28 separate tracks!

Thanks to the DSP-based TotalMix mixer, known from the Hammerfall DSP series, all inputs and outputs can be freely mixed, distributed and routed. Up to 14 completely independent stereo submixes are possible. Each of the mixer's output channels, that is every single submix channel, can be recorded directly, without the need of external cable loops. And there's more: TotalMix can be MIDI remote controlled with any Mackie Control compatible controller.

All settings including TotalMix are recalled during boot via flash memory. After making all desired settings, the device works stand-alone even without computer as a submixer, A/D and D/A-converter, headphone mixer, format converter, instrument or microphone pre-amplifier, monitoring mixer and much more.

The Fireface 800 is equipped with SteadyClock(TM), RME's unique sync and clock technology. With this, the device becomes a sync reference for the whole studio. SteadyClock refreshes clock signals, removes jitter, and takes permanent care of optimal conversion quality, thus guarantees a sensational sound quality, completely independent from the reference clock's quality.

SteadyClock allows the Fireface 800 to control the sample rate freely on its own. The Settings dialog includes a direct choice of the video and audio world's most often used sample rates. Additionally, two faders can be used to set the sample rate freely and in real-time, within the range of +/- 4% and +/- 0.4%.

Via an insert slot on the back, a Time Code Option (TCO) for synchronizing to LTC and video can be added. Thanks to SteadyClock, the Fireface 800 does not only extract absolute positions, but also a very clean low-jitter word clock.

The Fireface 800 has a second port for hub functionality, bi-lingual mode for full FireWire 400 compatibility, and an additional FireWire 400 port. Several Fireface 800 can be used in parallel and at the same time on one FireWire port.

\* In Quad Speed mode (176.4 and 192 kHz), both ADAT I/Os are deactivated

## Tech Specs

**Input AD:** 88 x 1/4" TRS, 4 x XLR Mic, 4 x 1/4" TRS Line, all servo-balanced. 1 x 1/4" TS unbalanced

**Output DA:** 8 x 1/4" TRS, servo-balanced, DC-coupled signal path. 1 x 1/4" TRS unbalanced

**Input Digital:** 2 x ADAT optical or SPDIF optical, SPDIF coaxial (AES/EBU compatible)

**Output Digital:** 2 x ADAT optical or SPDIF optical, SPDIF coaxial (AES/EBU compatible)

**MIDI:** 1 x MIDI I/O via 5-pin DIN jacks, for 16 channels low jitter hi-speed MIDI

**Dynamic range AD:** 109 dB RMS unweighted, 112 dBA

**THD AD:** < -110 dB (< 0.00032 %)

**THD+N AD:** < -104 dB (< 0.00063 %)

**Crosstalk AD:** > 110 dB

**Dynamic range DA:** 116 dB RMS unweighted, 119 dBA (unmuted)

**THD DA:** < -103 dB (< 0.0007 %)

**THD+N DA:** < -100 dB (< 0.001 %)

**Crosstalk DA:** > 110 dB

**Input/Output level for 0 dBFS @ Hi Gain:** +19 dBu

**Input/Output level for 0 dBFS @ +4 dBu:** +13 dBu

**Input/Output level for 0 dBFS @ -10 dBV:** +2 dBV

**Sample rate internally:** 32, 44.1, 48, 64, 88.2 kHz, 96 kHz, 128, 176.4, 192 kHz

**Sample rate externally:** 28 kHz - 200 kHz

**Frequency response AD/DA:** -0.1 dB: 5 Hz - 21.5 kHz (sf 48 kHz)

**Frequency response AD/DA:** -0.5 dB: < 5 Hz - 43.5 kHz (sf 96 kHz)

**Frequency response AD/DA:** -1 dB: < 5 Hz - 70 kHz (sf 192 kHz)



Worldwide Distribution

**audio ag**

Am Pfanderling 60 . 85778 Haimhausen . Germany  
Tel.: +49-08133-91810 Fax: +49-08133-9166

[www.rme-audio.de](http://www.rme-audio.de)

3 / 3