A LEGEND REBORN

Fireface 802

60-Channel 192 kHz High-End USB & FireWire Audio Interface

30 Input / 30 Output channels

12 x Analog I/O

4 x Mic/Instrument Preamp

1 x AES/EBU I/O

2 x ADAT I/O (or 1 x ADAT I/O plus 1 x SPDIF I/O optical)

1 x Word Clock I/O

1 x MIDI I/O

FireWire or USB operation

TotalMix FX

RME

Fireface 802

The Fireface 802 renews RME's reputation built on the legendary Fireface 800. 60 channels of audio, high-end microphone preamps, reference class converters, a complete effects section and operation at up to 192 kHz are the base for many more features:.

Ultra-low latency operation with USB or FireWire, combined with the legendary RME driver stability and maintenance. Active jitter suppression, individually switchable reference levels for all inputs and outputs, full stand-alone functionality, RME's unique DIGICheck metering and analysis toolbox, and identical operation on Windows PC and Mac.

TotalMix FX, RME's digital high-end mixer and signal router, driven by two powerful DSPs, with integrated EQ, Dynamics and Reverb/Echo effects at up to 192 kHz, plus a built-in monitoring controller.

The full-blown feature set also includes Class Compliant compatibility and operation with TotalMix FX for iPad, RME's app to fully control the 802 from the iPad, without any computer. The easy to use app includes metering for all 90 channels plus effects bus, different setup screens, and complete control of all features.

The Fireface 802 is a highly integrated pro audio solution, a full-blown studio, all within a 19" enclosure. An interface designed for users who don't want to make compromises in sound, stability and ultra-low latency operation, and who long for an unrivaled professional feature set. Once again a milestone interface from RME, including the best of the best and even a bit more.

Inputs and Outputs
The Fireface 802 provides 60 channels of audio: 30 input and 30 output channels.

All inputs and outputs can be used at the same time. Up to 12 analog and 18 digital channels can be recorded onto 30 separate tracks.

Sample Rate	Analog	AES/EBU	ADAT	Usable I/Os
44.1 / 48 kHz	12/12	2/2	16/16	30/30
88.2 / 96 kHz	12/12	2/2	8/8	22/22
176.4 / 192 kHz	12/12	2/2	4/4	18/18

Analog I/O
The Fireface 802 has 12 analog I/Os.

12 Inputs. 8 balanced TRS on the back and 4 XLR inputs with Mic/Instrument preamps on the front.

12 Outputs . On the rear: 8 balanced TRS. On the front: Two hi-power TRS stereo phones outputs provide high volumes even with hi-impedance headphones (playback channels 9/10 and 11/12).

Overview Analog I/O

Back:
Inputs 1-8 (TRS - balanced)
Outputs 1-8 (TRS – balanced)

Front:
Inputs: 9-12 (XLR/TS Combo – balanced/unbalanced)
Outputs: 9/10, 11/12 – Phones (TRS – Stereo, unbalanced)

Sound Quality
Like other RME products before the Fireface 802 combines excellent analog circuit design with latest digital conversion technology. All balanced TRS & XLR I/Os as well as the two phones outputs offer outstanding low noise and distortion values. In best RME tradition and product philosophy converters and preamps don't produce "sound", they do not add or remove anything from the source signal, just capture it as it is.

Equipped with the latest A/D and D/A converter chips, all I/Os operate at up to 192 kHz and reach 118 dBA dynamic range on playback - even both headphone outputs. Their high power technology delivers high volume no matter if high or low impedance phones are used.

Due to its efficient jitter reduction, RME's superior SteadyClock guarantees state-of-the-art AD/DA conversion, even when clocking to an external clock source.

Every input and output is individually switchable to these common professional studio levels: -10 dBV, +4 dBu, HiGain (equivalent to +2 dBV, +13 dBu and +19 dBu for digital full scale).

All outputs can be used for ASIO Direct Monitoring purposes.

Preamps for Microphones and Instruments with Low Latency Conversion. The 802 has four high-transparency preamps with four low latency converters.

Microphone and instrument preamps of the 802 use the classic technology of the OctaMic 2, a high-end preamp for supreme sonic demands and critical applications, like the professional recording of classical concerts. The symmetrical preamp design impresses with extremely low distortion, excellent signal to noise ratio and a perfect linear frequency response. A premium solution for transmitting and amplifying any audio input truly unchanged, be it high-level stage or typical studio signals, lower level and high-impedance instruments, or dynamic, condenser and ribbon microphones.

The pot-controlled gain of up to 60 dB, adjustable over a range of 54 dB, is individually set for every preamp on the front of the 802.

The four inputs on the front use balanced XLR/TRS combo sockets and operate alternatively as Hi-Z inputs. Directly plug in up to four guitars or other instruments - no other hardware required.

Each channel can be individually switched to 48V phantom power or instrument mode. LEDs for signal, clip, TS operation and activated phantom power provide overview on the unit's status.

The Fireface 802 follows RME's tradition of providing flexible and expandable audio systems. Adding additional preamplifiers or more analog inputs is easily done via the dual ADAT optical I/Os on the rear.

Digital I/Os

AES/EBU The Fireface 802 provides a professional AES/EBU I/O with 192 kHz support.

ADAT Two 8-channel ADAT I/Os expand the 802 and allow for a connection of two additional AD/DA converters or the insertion of effects devices and mixing consoles. Both I/Os support sample rates at up to 192 kHz (S/MUX4). Like AES/EBU, these 16 ADAT channels are available simultaneously with the analog channels. Using two external converters like the ADI-8 QS, the 802 will provide 28 analog inputs and outputs, 20 with a sample rate of 96 kHz, and still 16 at 192 kHz.

SPDIF The second ADAT I/O can be used as optical SPDIF I/O, making the UFX connections even more flexible.
Word Clock & MIDI
A word clock input and output (BNC) with switchable termination and a MIDI I/O complete the list of connections, turning the Fireface 802 into a professional audio system with universal usability.

TotalMix FX
The DSP based TotalMix mixer allows fully independent routing and mixing of all 30 input and 30 playback channels to all 30 physical outputs. Up to 15 totally independent stereo submixes plus a luxury Control Room section offer unrivalled monitoring capabilities and unsurpassed routing flexibility.

And that is not all: TotalMix FX offers hardware mixing/routing with lots of interesting features and a highly improved usability.

Every input and output channel comes with a luxury feature set, comparable to a full-scale digital console. The effects per channel include 3-band parametric EQ, adjustable Low Cut, Auto Level, Compressor, Expander, MS Processing and phase reversal. The Reverb and Echo effects unit is available for all channels by a stereo send and return bus. The 802 easily surpasses the competition by offering all these effects even at 192 kHz operation.

The two DSPs ensure an impressive performance even in extreme applications. As usual with RME, TotalMix is available with all channels (90) at all sample rates, completely unlimited. The second DSP calculates the effects only, therefore has sufficient resources. For example, at 48 kHz 60 EQs, 40 Low Cuts, 8 Dynamics, Reverb and Echo can be activated.

The FX-DSP uses automatic overload surveillance. As soon as no effect can be added anymore the TotalMix surface will clearly signal this condition. When changing to higher sample rates the 802 automatically deactivates all effects that exceed the DSP's performance - the DSP will never be overloaded. This also prevents the user from destroyed loudspeakers.

The complete effects section not only adds a lot of flexibility to the recording chain, but makes latency burdened software dispensable. TotalMix can easily replace any external mixer, e.g. to create different latency-free monitoring mixes with EQ and Reverb for the main studio monitors and the headphone of the vocalist(s) in the recording chamber.

Features/Differences to RME's classic TotalMix (as in Fireface 800):

- New design and improved usability
- Control Room Section: Dedicated section for the main output (e.g. studio monitors) and other monitoring outputs (e. g. phones). All existing stereo output channels can be freely assigned as source for the control room section channels.
- Four definable groups for Solo, Mute and Faders
- Switchable Mono and Stereo channel view
- Channel Options: Stereo Width, MS Processing, Phase L/R
- Trim mode: Adjusts the volume for all routed signals of a channel. This option allows to modify the volume of all sends of a channel simultaneously, equalling a hardware's trim functionality.
- Unlimited Undo and Redo
- FX Sends and Returns: One send bus for every input/play back channel with Reverb/Echo
- Expandable channel view for channel settings, EQ and Dynamics
- Slim channel mode for selected or all channels, to save space or give a meter bridge view
- 2 Row Mode: reduces the height of the mixer to two rows for smaller displays
- Reworked Matrix with mono/stereo mode, Undo/Redo, Display of phase and mute.

Furthermore the DSP hardware calculates RMS and Peak levels for all 90 audio channels with zero CPU load.

Most functions of TotalMix can be remote controlled via MIDI with any Mackie Control compatible controller. TotalMix FX also supports OSC and the usage of multiple remotes.

Monitor Controller

The Fireface 802 is not only a perfect desktop level controller, but a monitor switcher and source selector with integrated talkback function for modern Mix-In-the-Box studios. As the 802 includes the usually externally added monitoring controller, it also preserves the original sound, as its hardware output stays directly connected to the studio monitors.

Monitoring Management Any hardware output can be assigned as Main or Phones output. Talkback, Listenback, Mono, Dim, Recall and External Input will then work automatically and as expected on the assigned outputs.

Advanced Remote Control The 802 has a connection for the optional Advanced Remote Control, offering direct access to Volume, DIM, Store, Recall, Mono, Talkback, External Input and much more. Its keys can be also be reprogrammed with individual commands. (link to image)

USB & FireWire

With the release of the Fireface 800 in 2004 RME stirred up the FireWire audio market, setting the benchmarks and providing a superior solution with a unique feature set. It is no surprise many customers and testers see RME as reference and technology leader for FireWire audio interfaces. In 2009 RME released the Fireface UC, a USB solution which again provided an exceptional performance, previously not available from USB audio interfaces, once more becoming the technology leader.

The secret of success: RME is the only manufacturer not to use a third party USB or FireWire audio technology, but an own, self-developed audio interface core with outstanding performance and uncompromised pro audio features.

The Fireface 802 now combines USB 2.0 and FireWire 400 within one interface.

USB 2.0 The Fireface 802 has been uncompromisingly optimized for highest performance under Windows and Mac OS. It uses a special customized firmware for every operating system. Like Fireface UCX and UFX, the 802 provides revolutionary ultra-low latencies* even with multiple channels, comparable to those of OCI and PCI-Express solutions.

* Minimal latencies are not guaranteed as they depend on the specific computer and application.

FireWire RME's FireWire core offers exceptional compatibility at highest performance. 10 years of experience with FireWire guarantee optimal and undisturbed operation with any computer having a FireWire port.

Further Features

SteadyClock RME's unique SteadyClock technology in the Fireface 802 guarantees exemplary operation in any clock mode. Due to the highly efficient jitter reduction, the 802's AD and DA converters operate independently from the quality of the reference clock signal, guaranteeing a prestine sound quality.

SteadyClock allows the Fireface 802 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.

ICC Intelligent Clock Control not only displays every clock status, but will also retain the last valid input sample rate in case of failure of the external source. Other renowned RME technologies like SyncCheck offer a quick detection of clock problems.

DIGICheck The 802 comes with RME's unique software tool box for metering, testing, measuring and analyzing digital audio streams. It provides a multi-track recorder, calculates the level meters peak and RMS in hardware, and analyzes and displays audio in multiple ways, like stereo, multichannel, all channels, surround, spectral, and many more.

Power supply The specially developed, internal hi-performance switch mode power supply lets the 802 operate in the range of 100V to 240V AC, thus can be operated all over the world. It is short-circuit proof, has an integrated line-filter, is fully regulated against voltage fluctuations, and suppresses mains interference.

Stand Alone Operation with Setup Recall The Fireface 802 can be set up and configured directly via iPad, MIDI remote and ARC. Additionally 6 memory slots are present where the current configuration can be stored permanently. This way the 802 operates independently from a computer. In stand-alone operation it can turn itself into different devices by the simple push on a button.

Driver Support

- Windows 8 / 7 / Vista / XP SP2 (32 & 64 bit)
- Apple Mac OS X 10.6 or up (Core Audio)

Windows and Mac OS X drivers are completely identical in terms of features and functionality, as far as this is possible on the respective platform.
Some features in DIGICheck are not available in the Mac version.