Welcome to Cab–Lab 1.0, the **User Cab Impulse Response Mixer** for the Fractal Audio Systems Axe–Fx II.

The Axe–Fx II **Cab Simulator** uses Impulse Response ("IR") technology to reproduce the tone of a real speaker, including the microphone(s) used to capture it. With over 100 onboard "Factory" cabs representing the most popular speaker types, the unit has tremendous sonic potential right out of the box. An additional 100 "User" Cab memory slots allow you to load your own IRs, effectively giving the Axe–Fx II a limitless range of cab tones. The built–in ability of the Axe–Fx II to capture IRs—including **Tone Matches**—plus the release of "Cab IR Packs" from Fractal Audio Systems and 3rd party companies like OwnHammer and RedWirez, has helped to propel user cabs to the forefront of guitar tone conversations everywhere, with **IR Mixing** taking center stage. Just as an artist, producer or engineer would create a guitar tone using a blend of signal from multiple microphones on one or more speakers, some of the best available cabinet IRs are mixes of IRs captured from different sound sources. Individual speaker mic IRs for the Axe–Fx II have been available for years, but you've been limited in ways to mix these "in the box."

Now, **Cab–Lab** allows you to combine up to eight IRs in the same way a studio mixer allows you to combine the parallel signals from multiple microphones on a guitar speaker cab. You might blend the big tone of a ribbon on the cone with some sizzle from a close condenser and bring in a bit of large diaphragm for color, or combine the different colors of two favorite 4x12 cabinets in to a single, new hybrid cabinet IR. You just load the individual IRs, set levels using faders, audition the result, and save it to the Axe–Fx II or your computer when you've found your sound.

Cab–Lab is easy to use and connects directly to your Axe–Fx II via USB. All results can be sent to the Scratch Pad for auditioning, saved more permanently to one of the 100 User Cab memory slots, or saved as a SysEx file on your computer. Cab–Lab processes IRs in full 2048 sample "high" resolution.

The program can even combine IRs in series, allowing you, for example, to "print" the sound of a Tone Match IR onto a Cab IR so the Tone Matching block can be removed from the grid to save CPU power.

It should be noted that Cab–Lab must not be used to mix or modify copyrighted IRs. Mixing in even one IR for which you do not have explicit permission to redistribute is against the law. Fractal Audio Systems LLC cannot be held responsible for the illegal use of Cab–Lab in violation of US and International copyright laws.

Visit http://www.fractalaudio.com/cab–lab for the latest updates to Cab–Lab.
Cab–Lab is available at http://shop.fractalaudio.com.

Minimum Requirements

Cab–Lab requires an Axe–Fx II running firmware 11.0 or newer. Your Axe–Fx must be connected via USB (with the Axe–Fx II driver installed) for auditioning or direct storage of Cab mixes. (Cabs can always be saved to your computer.). Find drivers at www.fractalaudio.com/support.

Mac Minimum Requirements
- OS X 10.6.8 or later.
- Intel Processor.
- 512MB minimum RAM.
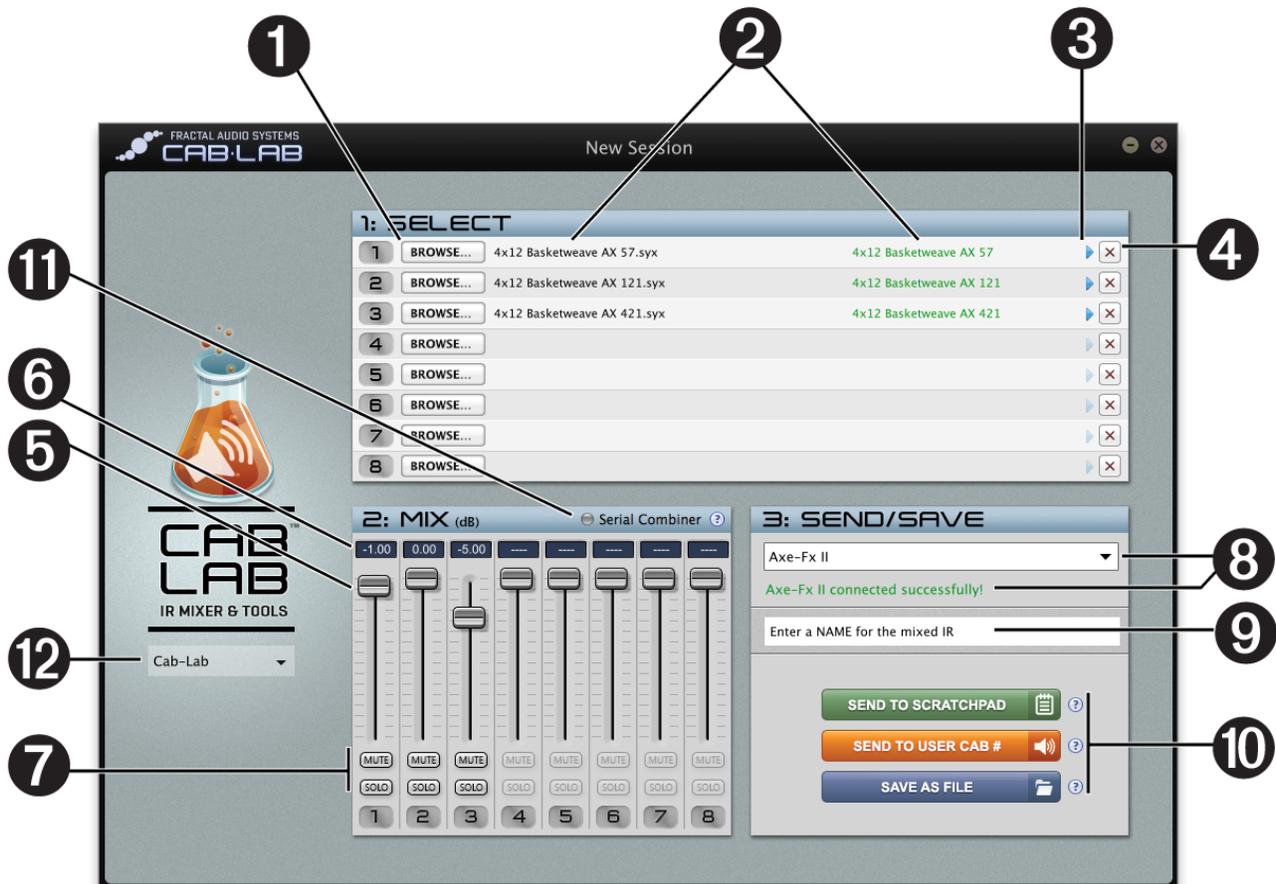- USB 2.0 Support.

Windows Minimum Requirements
- XP SP3, Vista SP2, Win 7 SP1, Win 8 (x86 or x64 support for all).
- Intel Core 2 @1.6 GHz, or AMD equivalent.
- 1GB minimum RAM.
- USB 2.0 support.

Installation & Release Notes

The Cab-Lab installer is packaged in a **zip archive** containing various documents in addition to the actual program. Double-click the installer and follow any on-screen instructions. Please read any "Release Notes" included with the installer download.

Using Cab-Lab

Welcome to Cab-Lab 1.0, the **User Cab Impulse Response Mixer** for the Fractal Audio Systems Axe-Fx II. The following program features are detailed in the notes below.

Cab-Lab Features

	Notes, Tips and Tricks
1. BROWSE buttons	Use the BROWSE buttons to load cab IRs for mixing. You can choose and load up to eight cabs at once by holding SHIFT or CONTROL in the **Select File(s)** dialog. Cab-Lab remembers the last folder you opened a cab from. You can also drag IR files into this area to populate mixer slots.
2. File and Cab Name	The **File Name** for each loaded cab is shown in black. IR files may also contain internal Cab Names, shown onscreen in the Axe-Fx II or Axe-Edit. TIP: Double-clicking the green Cab Name allows you to permanently change it in the source file.
3. PLAY button	The PLAY button (a blue triangle) can be used to send a single cab directly to the Axe-Fx II without mixing. After clicking PLAY, you will be prompted to select a User Cab location in the Axe-Fx II.
4. CLEAR button	Click the Clear button (a red "x") to remove a cab from the mixer.

5. Mixer FADERS	Eight faders allow you to set the relative levels of loaded IRs. Cab levels are set in dB, making it easy to precisely transfer values from a multi-cab Axe-Fx II preset. Double Click to zero any fader. Use the mouse Scroll Wheel or Up and Down arrows to adjust a selected fader in 0.1 dB increments. Hold Command (Mac) or CTRL (Win) for 1.0 dB increments. NOTE: Mixes are normalized upon export, so you cannot use Cab-Lab to adjust the level of a single cab IR.
6. Mixer dB display	Each fader has a field to show the precise value set. Clicking the field allows you to use the computer keyboard to enter a precise value.
7. MUTE/SOLO buttons	Each Mixer Channel has MUTE and SOLO buttons, allowing you to make quick changes when auditioning or saving a mix.
8. Connect to Axe-Fx II	When an Axe-Fx II is connected to your computer via USB (with the correct drivers installed) Cab-Lab can send cab mixes directly to a User Cab memory slot. To make the connection, you must select "Axe-Fx II" from this dropdown menu. A status message is displayed here to indicate whether Cab-Lab is able to communicate successfully with the connected Axe-Fx II. It is possible to use Cab-Lab without an Axe-Fx II connected, but you will only be able to save cab mixes to disk.
9. Cab Name Field	Every Axe-Fx II User Cab can be given a name of up to 31 characters. Names are displayed in the edit menu of the Cab block and in Axe-Edit so you know which user cab is selected. Names are *required* for Cab-Lab to send or save a mix. To enter a name, click the Name field, type the desired name, and press Enter/Return. Please note that Axe-Fx II cab names can include characters that are illegal in computer file naming systems. When you save a cab mix to disk, these will be removed (ex: / \ | * et al) from the name of the file.
10. SAVE/SEND buttons	Once you've created a mix, you'll want to send it to the Axe-Fx II or save it to your computer. There are three ways to do this: **SEND TO SCRATCHPAD** – The SCRATCHPAD is a temporary cab memory area in the Axe-Fx II. Use it to audition a Cab-Lab mix without overwriting a User Cab memory slot. The SCRATCHPAD is ideal for auditioning your mix ideas. Just set your current preset's Cab Block to "SCRATCHPAD" (found after "USER 100") and you will hear the result immediately after Cab-Lab transmits to this location. The SCRATCHPAD is cleared when you power down your Axe-Fx II so remember also to send your finished mix to a User Cab location in the Axe-Fx II or save it as a file. **SEND TO USER CAB** – The Axe-Fx II contains 100 memory locations for storing user cabs. When you use Cab-Lab to send a mix to a numbered User Cab memory location, it remains there indefinitely until you overwrite or otherwise remove it. **SAVE AS FILE** – Use this option to save your Cab-Lab mix as a file (SysEx) for sharing or archiving. Fractal-Bot, our free MIDI utility, can be used to transmit user cab SysEx files to the Axe-Fx II.
11. Serial Combiner	The "Serial Combiner" is an advanced option. It changes the fundamental way that Cab-Lab works. Instead of mixing cab IRs together in *parallel* like a mixer would, it strings them together in series and concatenates the result into a single IR. This is essential for "printing" the effect of a corrective IR (typically exported from a Tone Match block) on to another Cab IR, thereby allowing you to remove the Tone Match block (whether to be re-used in another location or simply eliminated to save CPU power is up to you). Although you can combine up to eight IRs in this way, we recommend that the serial combiner be limited to use with two IRs.
12. Cab-Lab Menu	The Cab-Lab Menu contains options for saving the state of Cab-Lab as a "Session." Sessions preserve all settings in the program so you can pick up where you left off after exiting and returning to the program. While developing the program, we found we wanted to test our new IRs in performance conditions, perhaps to fine tune later. The saved session provides this capability. You will find options for **New**, **Open**, **Save**, and **Save As**. The current session name is displayed in the title bar. The Cab-Lab menu also includes a bonus utility, Wav2Syx. This tool converts an entire directory of Impulse Responses in Wav file format to Axe-Fx II SysEx format. Wav2Syx can convert mono Wav IRs of any sample rate or bit depth. If any invalid IRs are found in a directory a notification will appear and the problematic IR will not be converted.

If you have questions about using Cab-Lab, please visit http://forum.fractalaudio.com for member-to-member support, or contact Fractal Support via http://support.fractalaudio.com.

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