

DSP effects for sound quality enhancement of consumer audio devices

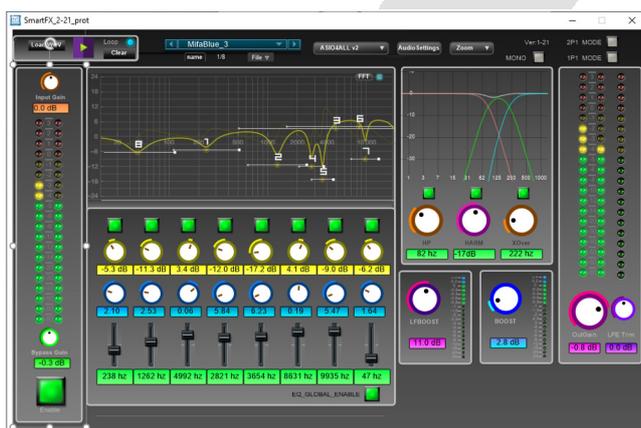
Overview

SmartFx is the successor to our widely acclaimed **FixFx** tuning tool.

Major enhancements include:

- **SmartFx** can be used to tune 1.0, 1.1, 2.0 and 2.1 products (not just 2.0).
- A simpler tuning process as some previous features are combined in a single set of controls to achieve the desired objective – hence the name **SmartFx**.
- No evaluation board hardware required; this is a PC app that can tune for all platforms.
- Once the tuning parameters are identified they can be transferred to the embedded application for inclusion in product.

SmartFx incorporates a fixed configuration of audio DSP effects that allow limitations in a device's acoustic performance to be overcome and features sound processing derived from Oxford Digital's pro-audio heritage.



Applications

SmartFx's high-end performance makes it the ideal tuning solution for audio devices such as wireless speakers, sound bars, accessory speakers, cell phones, flat panel televisions,

and many other consumer audio devices which need to provide the high-quality audio demanded by today's end-users.

Features

- **EQ-master:** 8 parametric EQs.
- **X-over:** A switchable crossover network used for speaker response correction and pre-set effects. It also incorporates a "missing Fundamental Style" Bass Enhancer.
- **Low Frequency Boost** (LF Boost) is a combination of: Compressive style Bass Enhancer to assist the loudspeaker where it has some partial response but is not functioning well and a Dynamic Gain Control to make the signal louder.
- **HF Boost** is a combination of a Limiter section to make the signal louder and **LoudMaster**, an effect that can increase the volume without increasing peak signal level.

Usage & availability

SmartFx can provide up to 8 unique scenes for different tunings to be saved and restored.

These allow parameters to be set up for different audio modes such as 'rock', 'classical', 'jazz' for music applications, or 'sports', 'movie', 'news' and 'music' for AV devices.

All 8 scenes can be saved in a tuning for the device, or alternatively individual scenes can be saved – for example to be reloaded so that non-destructive comparisons can be tried out in order to optimise results.

SmartFx is available as a single precision floating point C embedded app but can also be ported to fixed point C or low level assembler code if required. Contact info@oxford-digital.com for more information.