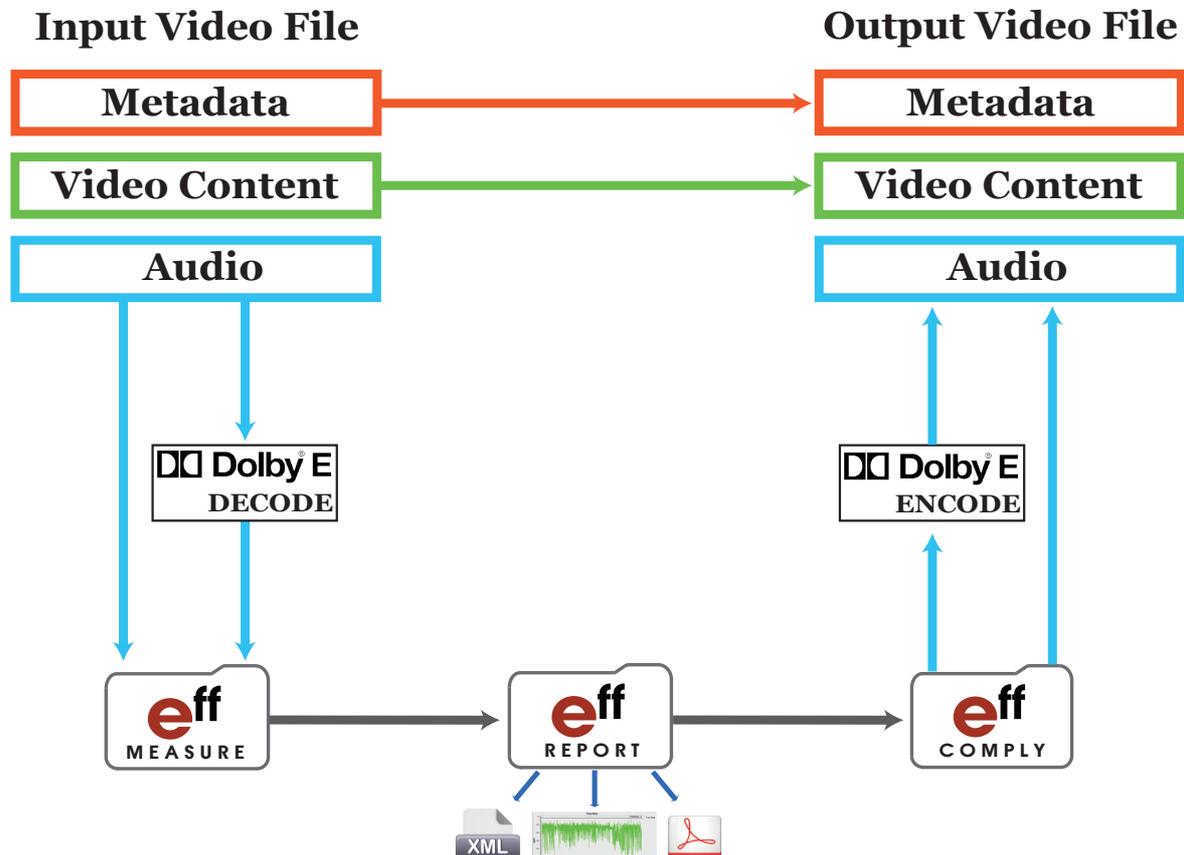




Loudness Compliance for Media Files



Emotion Systems has designed a Technology Platform that allows a wide variety of file types (MXF, LXF, GXF, QT, WAV and AIFF) to be opened, analysed and processed.

The Professional Broadcast Industry is migrating from Tape-Based to File-Based Operations. The Broadcast Industry is also changing its audio delivery requirements from Peak measurement (typically PPM) to standards based on Program Loudness (average Audio across the entire Program). Loudness standards based around BS1770-3 are now being ratified around the world.

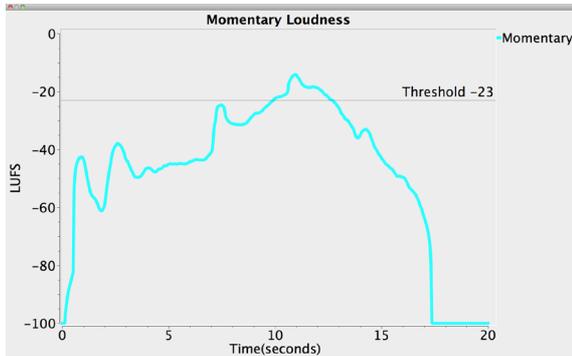
Built on the Emotion Technology Platform, **Eff** is a File-Based Loudness Compliance product that provides comprehensive measurement of Program, Short term and Momentary Loudness and actual and potential True Peak errors before applying correction. This approach preserves the creative mix.

Eff supports a wide range of Media Files (MXF, LXF, GXF, QT, WAV and AIFF), all Program Loudness standards (worldwide) and Legacy measurements (PPM+VU). As Media files often carry multiple Audio, **Eff** will measure and correct a wide variety of audio configurations by allowing any number of user defined layouts (4 stereo, 5.1 and stereo etc.). **Eff** supports 16 channels of audio as standard but its architecture will support up to 64 channels.

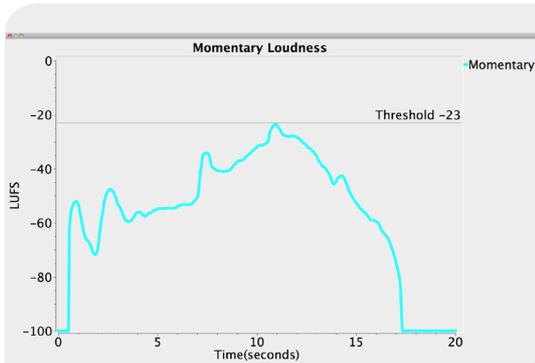


Eff is a loudness and audio normalisation tool that is designed to be easy to use, faster than Real-Time and is available for manual and watchfolder based operation.

Eff works in three clear stages: Measurement, Correction and Reports



Measurement – Eff provides a comprehensive range of measurements - Program Loudness, Short Term, Momentary Loudness, Loudness Range, True Peak, Sample Peak, PPM and VU.



Correction –

Program Loudness correction uses global gain or attenuation; True Peak correction uses carefully applied local gain or attenuation. This form of processing ensures that the quality of the creative mix is retained.

Mono
Short Term Loudness:
 -5.6 LUFs (3.0 s)
Maximum Momentary Loudness:
 -5.6 LUFs (0.4 s)
Program Loudness (Gated):
 -6.2 LUFs
True Peak:
 Channel 1: 0.33 dBTP
 This group requires correction.

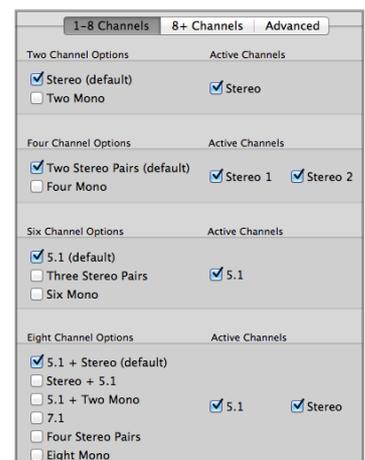
Reports – on screen reports and graphs show all the selected measurements and logs and clearly indicate where and how the files have failed. Additionally, PDF report with the summary results and graphs can be generated

Operational Speed

Emotion have written the File Parsers and processing Algorithms to provide scalability and Faster than Real-Time operation

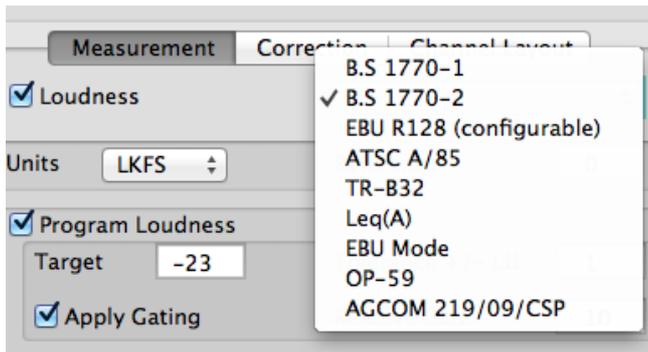
Benefits

- Compliance to a wide range of selectable standards
- Processing all done within the file domain for faster than real-time results
- Automated process for efficient operations
- Integration into a wide range of different work flows
- Supports mono, multiple mono, multi-lingual stereo, stereo, multi-channel, Dolby® E.



Track Layout

Eff has been designed to provide measurement and correction for user-defined Audio Channels (any permutation of Stereo, 5.1, 7.1, Mono)

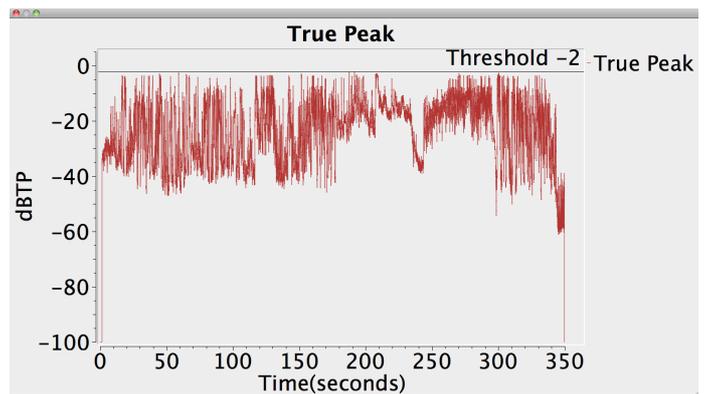
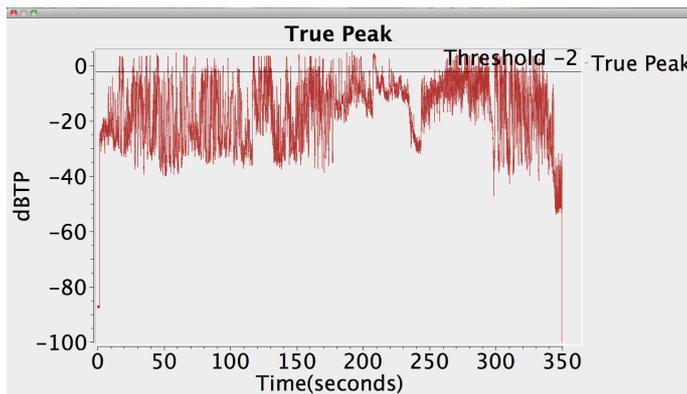


Compliance Standards

Numerous standards exist, each with their own nuances and level requirements. **Eff** supports a wide range of standards with more to be added in the future with ongoing software support.

Workflows

Eff has been designed to work in a number of different ways, depending on your requirements. Manual – drop a file into **Eff** and control its functions. Automatic – select a group of files to be made compliant and drop them into a watch folder to let **Eff** automatically analyse, report and measure each one in turn. Integrated - integrates Loudness compliance and other audio tools into your MAM workflow, using the **Emotion Engine**.



True Peak

True Peak audio normalisation using the Dynamic Normalisation Algorithm allows the system to identify and correct true signal peaks.

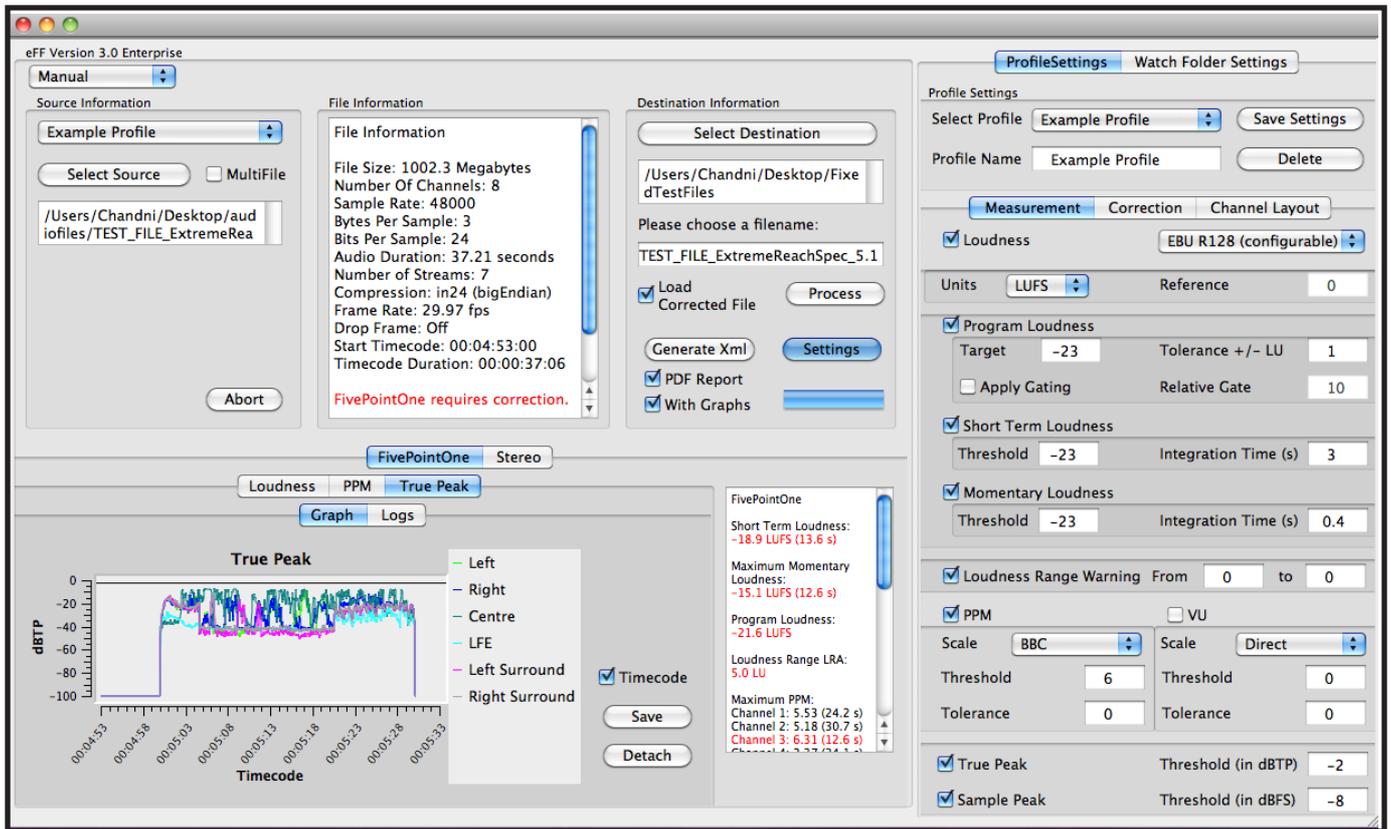
eFF Options



Emotion Systems are proud to announce that Dolby® E is now supported within **Eff**. This means that **Eff** now has the ability to open Dolby® E encoded content to ensure that it is loudness compliant.

Dialogue Intelligence®

Eff now offers Dialogue Intelligence® - speech-gating technology to focus analysis of content on the areas of a program which contain dialogue.



Clear and simple UI enables easy configuration



Function Table Sept 2016

	Measure	Comply	Comply with Watch Folder
Graphical report	✓	✓	✓
Multiple language UI	✓	✓	✓
Windowed measurements	✓	✓	✓
XML/PDF/Logs report	✓	✓	✓
16 Channel	✓	✓	✓
Measure to multiple profiles	✓	✓	✓
Multifile	✗	✓	✓
True Peak Processor	✗	✓	✓
File fix to standard/profile	✗	✓	✓
P2 Mode	✗	✓**	✓**
LRA Processor	✗	✓**	✓**
▲*Dolby E®	✗	✓**	✓**
▲*Dolby Dialogue Intelligence®	✗	✓**	✓**

**Option

* Dolby®, Dolby® E and Dialogue Intelligence® are registered trademarks of Dolby Laboratories

▲ Any Dolby related functionality require purchase of Dolby® E option.

Containers/Formats supported:

bwav, wav, aiff, mov, mpeg I, Layer II, mxf, gxf, lxf

Standards supported:

BS 1770-1/2/3, BS 1771, EBU R128, ATSC A-85, TRB-32, OP-59, Leq(A), AGCOM 219/09/CSP, DPP

Loudness Measurements supported:

Program Loudness, LRA, True Peak, Short Term and Momentary Loudness

PPM Measurements supported:

BBC, EBU, Nordic, DIN, dBFS (type I), dBFS (type II), VU, Sample Peak, Leq(A)

Audio formats supported:

Mono, stereo, 5.1, 7.1 and combinations

Audio sample rates supported:

44.1kHz, 48kHz

Audio bit depths supported:

16bit, 24bit

Watch Folder Option:

Watch Folder with automatic renaming option, flexible file manipulation, auto generation of XML reporting, and PNG graphs.

Correction:

Eff will correct Program, Short term and Momentary Loudness as well as True Peak errors without changing the original mix. **Eff** can also be configured to correct to PPM or VU

Platforms supported:

Windows 8&10, Server 2003/2008. Mac OSX 10.8 onwards. Linux