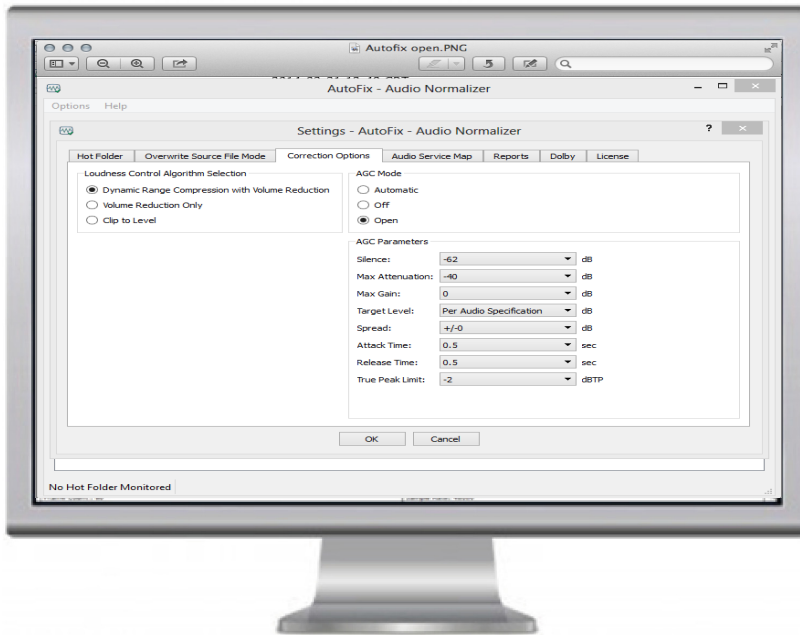# AutoFix audio normalization

AutoFix Audio Normalization is the audio loudness correction tool that top content providers rely on to ensure their files meet all international broadcast standards.

- Advanced Measurement Algorithms

- High Quality Correction

- Exceptional Dynamic Retention

- Choice of Audio Correction Methods

- Audio Mapping

- Desirable Broadcast Levels

- Guaranteed Playout Capability

AutoFix Audio Normalization automates the correction of audio levels in media files - measuring and correcting to international standards. AutoFix provides confidence that the production workflow will deliver compliant files ready for playout and placement distribution.

AutoFix Audio Normalization supports a wide range of audio file formats providing exceptional dynamic retention capabilities. AutoFix dynamically adjusts the loudness levels of only the sections of audio that are out of compliance. The default settings use a multi-band compressor for both first pass compression/reduction and make-up gain correction. Additionally correction by clipping or simply adjusting the volume gain is supported.

AutoFix Audio Normalization guarantees playout compatibility as the corrected audio is re-inserted into a copy of the original container without re-multiplexing.

Be confident that your files have been corrected to meet international broadcast standards using a system that has passed audio tests with "Golden ears" in major broadcasters in Japan, USA and Great Britain.

Standalone Application
AutoFix Audio Normalization is available as a standalone application, with versions for Windows and Mac OS available. AutoFix can be deployed anywhere within a file-based media workflow.

Integrated in Workflow Solutions
AutoFix Audio Normalization is available as an optional plug-in with leading third party workflow solutions, automatically corrected audio loudness within wider automated operations.

NLE Plugin
AutoFix Audio Normalization is available as a plug-in to some non-linear editing applications, supporting the same containers and codecs as their host applications.

Integrated with Aurora 5
AutoFix Audio Normalization can be integrated with Aurora 5 file-based QC software to add automated audio loudness correction as an action defined in the Aurora 5 decision engine.

Tektronix®

AutoFix high quality, file-based, automated audio loudness correction

Audio Loudness Measurement

AutoFix uses the same audio measurement algorithms as the market-leading Aurora 5 QC platform, including maximum level tests, average loudness tests and range tests. These algorithms focus on replicating the true experience of the human ear, so only the parts of the audio waveform that need correction are identified.

Choice of Audio Correction

AutoFix provides user selectable correction methodologies, including a true peak limit and a post-correction gain adjustment. Correction is available for R128, ATSC A/85, ARIB TR-B32 and OP59. AutoFix can also be kept in automatic mode, guaranteeing the audio will meet the desired specification.

Exceptional Dynamic Retention

AutoFix has exceptional dynamic retention capabilities with its default settings using a multi-band compressor for both first pass compression/reduction and make-up gain correction.
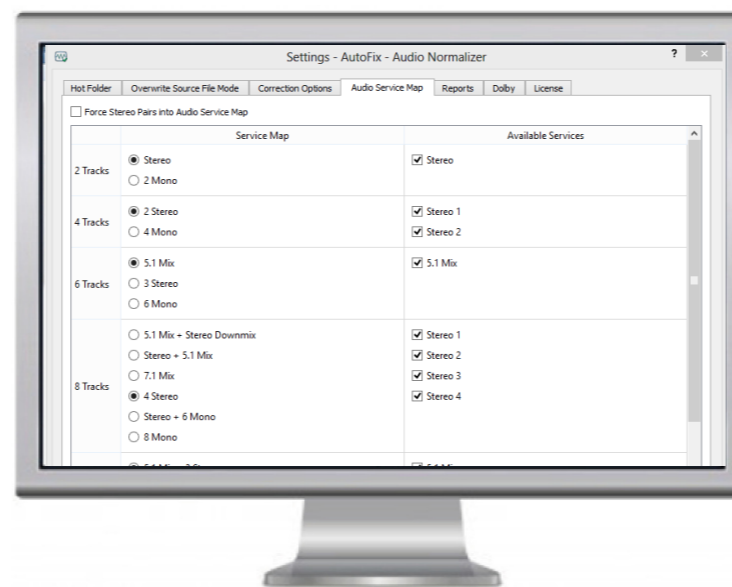
Desirable Broadcast Levels

AutoFix ensures that your audio levels are playout and distribution ready using AGC (automatic gain correction). This includes True Peak Limit adjustment, Final LU Target adjustment and Dynamic audio adjustment tuning (attack, release, spread, silence threshold, attenuation).

Guaranteed Playout Capability

AutoFix corrects the audio and re-inserts it into a copy of the original container without a re-multiplexing operation, ensuring that the output has all of the original mux parameters, metadata and stream layout. AutoFix supports Transport Stream, MXF, GXF and LXF, and MP4/MOV.

Channel Mapping

AutoFix Audio automatically handles any multi-channel audio codecs, and also includes the ability to create an Audio Service Map as a template for incoming files with AES wrapped or mono channel audio tracks.

AutoFix Audio Normalization is the audio loudness correction tool that top content providers rely on to ensure their files meet all international broadcast standards. AutoFix's correction methods result in exceptional dynamic retention that has passed "golden ears" listening tests in major broadcasters worldwide.

Broad Codec and Wrapper Support

AutoFix supports the latest fixed bit rate codecs and wrappers. Our committed participation in the EBU, SMPTE, AMWA and FIMS) ensures early awareness of new formats or updates which are incorporated into our products

AutoFix Correction Reports

AutoFix assigns job IDs to all jobs it processes with .xml file reports easily accessed in the AutoFix web browser for viewing or printing. The actual measured values are shown in the report while corrected values are shown in Test Parameters.

Application for Mac or Windows

AutoFix Audio Normalizer is available as a desktop application for Windows or Mac OS X. Correction jobs can be manually launched or automated workflows implemented using input and output hot folders, along with audio specification and values.

Plug-in for NLEs

AutoFix Audio Normalizer is available as a plug-in to non-linear editing applications, including Final Cut Pro 6/7, FCP X and Adobe Premiere Pro CS6/CC. AutoFix plug-ins support the same containers & codecs as their host applications.
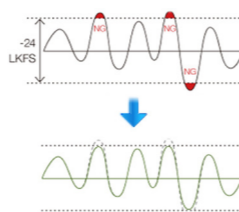
Plug-in for Workflow Solutions

AutoFix Audio Normalizer is available as a plug-in to a wide variety of workflow systems, including Digital Rapids Kayak-based applications and Telestream Vantage, utilizing encoder and mux processes to take incoming files and create a new output files after audio correction.
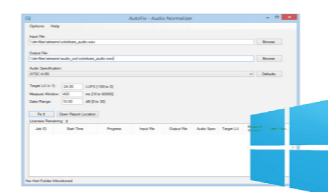
Implementation with Aurora QC

AutoFix Audio Normalizer can be implemented downstream from the Tektronix Aurora QC software. The Decision Engine in Aurora QC can be configured to place files that fail the audio loudness test into a watch folder for AutoFix to automatically correct.
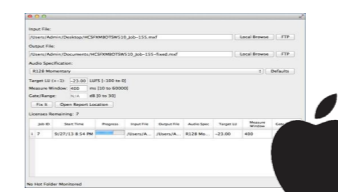
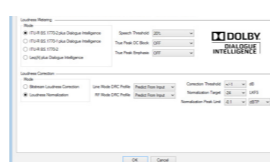Correction to ITU-R BS. 1770

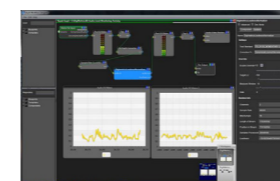Exceptional Dynamic Retention

Windows Application
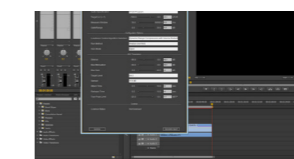
Mac OS Application

Guaranteed Playout Capability

Dolby Codec Support

Kayak Integration

FCP and Adobe Premiere Plug-In

Tektronix®

Supported Formats

As of April 2015 AutoFix supports the following file formats.
Please contact Tektronix for latest listing.

Audio Wrappers

AutoFix applications support MXF (OP-Atom, OP1-a, OP1-b), Transport Stream, Program Stream, MP4/MOV, LXF and GXF wrappers. AutoFix Plug-in container support is governed by the workflow or editing system.

Audio Codecs

AutoFix applications support MXF (OP-Atom, OP1-a, OP1-b), Transport Stream, Program Stream, MP4/MOV, LXF and GXF wrappers. AutoFix Plug-in container support is governed by the workflow or editing system.

Ordering information

Please contact your Tektronix Sales Representative to understand how AutoFix may be customized for your specific workflow needs and content volume.

CE (SRI) (SRI) Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar..

For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tektronix.com.

10 Mar 2015   2NW-60056-0

www.tektronix.com