AAMS Auto Audio Mastering System V3 Manual

As a musician or technician working on music sound material, you need the best sound possible when releasing material to the public. How do you know when audio material is equalized, compressed and maximized correctly and plays loud and evenly on all audio systems when it has been mastered ? To master a mix in general takes a lot of time and the procedure is mostly done after the mix is polished enough to go through the mastering process. To make a master that sounds alike on all speaker systems and also sounds like a real professional commercial recording is a difficult and time consuming task.

This is where AAMS steps in and takes control!

AAMS is a Limited Freeware software package that provides suggestions for Equalizer, Multi-Band Compression and Loudness settings with internal DSP Processing to make all such audio corrections within the AAMS Program and creates a final mastered audio file. This makes the Audio Mastering Process easy and by far less time consuming and turns your mix into a great sounding commercial quality Audio Master.

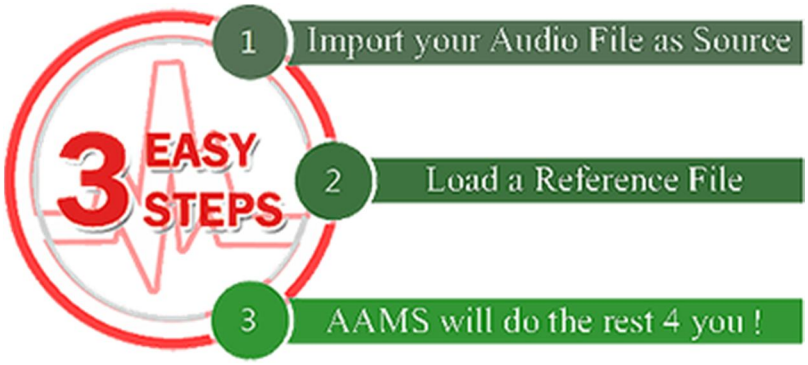
Now you can listen to what you expect!

AAMS Auto Audio Mastering System is an all-in-one solution for mastering and a good learning tool for mixing and mastering audio in general. If you need a great sounding master with a minimum of effort, AAMS does automatically create a master out of your stereo mixes in minutes of time! With easy to learn automatic features the end result is a good sounding master fit for commercial release. AAMS V3 is a software program that inputs audio files, masters the audio file according to a reference style with its own processing tools and outputs the mastered audio file to disk. The easy part is that the user does not have to know about

audio mastering but can master an audio file by just supplying a reference sound. With only a few button clicks, the user can master any audio file with AAMS!

The user interface is quite simple, once you understand the main functions of AAMS, it is always very easy.

Your own music audio files are called ‘Source’. As Source Material, these files you will deliver and import to AAMS as your own made music / audio / stereo mixes, these files are placed into a directory. The AAMS V3 database of reference styles is supplied with AAMS software to give the user a great starting point for a good sound. But also the user can create their own sound with reference styles or by analyzing and combining reference files and re-use them for audio mastering projects. You can copy and create styles from other sources like other artists, bands or any other audio material that compares to the sound you need! With the source file and reference audio file selected and loaded, AAMS will process the mastering for you automatically. Your mastered audio is processed to a stereo WAV file inside the same directory.



AAMS is easy to Use!

Whenever you are inexperienced or experienced with Audio Mastering, AAMS works 4 you!

3 Easy steps! The most common way to use AAMS is with all options (by default set on installation) directed to Full Automatic Mastering.

Step 1:

You have your own Source audio material ready to import into AAMS (Pop Song). Load a Source File On the Quick Start Tab click the button 'Auto Master Audio File'. A pop-up window will ask for an Audio File (or *.aam or *.afd file). You can select an Audio file for import now (.aiff, .flac, .mp2, .mp3, .mp4, .m4a, .ogg, .voc, .vorbis, .w64, .wav, .waveaudio, .wavpcm, .wv.). This Audio file represents your own audio or music material you need to be mastered.

Step 2:

You have made a decision on what this source represents (as what style) and you can select @PopRMS.aam out of the database. Load a Reference File Then you will be asked to load a Reference *.aam file. The reference files are found in the AAMS Database of more than 200 Style Presets provided with the AAMS installation (AAMS will redirect you to this directory). The reference file you choose is important, because the reference will reflect the style your music will be mastered against. You can select a reference file out of AAMS Reference Database or create your own references.
For starters select a reference file from AAMS Database. If you are a beginner select 'Mastering_RMS.aam'.

Step 3 :

You are then ready to start AAMS Mastering! Wait until AAMS is finished mastering! That is basically all you have to do, Load a Source Audio File and Load a Reference. The status bar below will show the progression status of AAMS Analysis, calculations and processing. Do not use AAMS until analyzing and processing is finished! After processing is complete, a Stereo file is mastered and written with the extension 'Master_wav' inside the same directory as your own source file is placed. Your audio master from is finished! Now go to that directory and double click the AAMS mastered file and listen.

That is all!

Now you can listen what you expect!

The most common way to use AAMS is with all options (by default set on installation)directed to Full Automatic Mastering (Single Files). Basically the mentioned 3 steps of Auto Mastering are the main use of AAMS, to make audio mastering easy for all users. For users who like more freedom when mastering, a mix of automatic and manual functions can help you get used to get the desired result. The rest of this manual will explain more professional and edit features of AAMS. How you can use AAMS to master and to have a better mix.

How to learn more about AAMS easy mastering ?

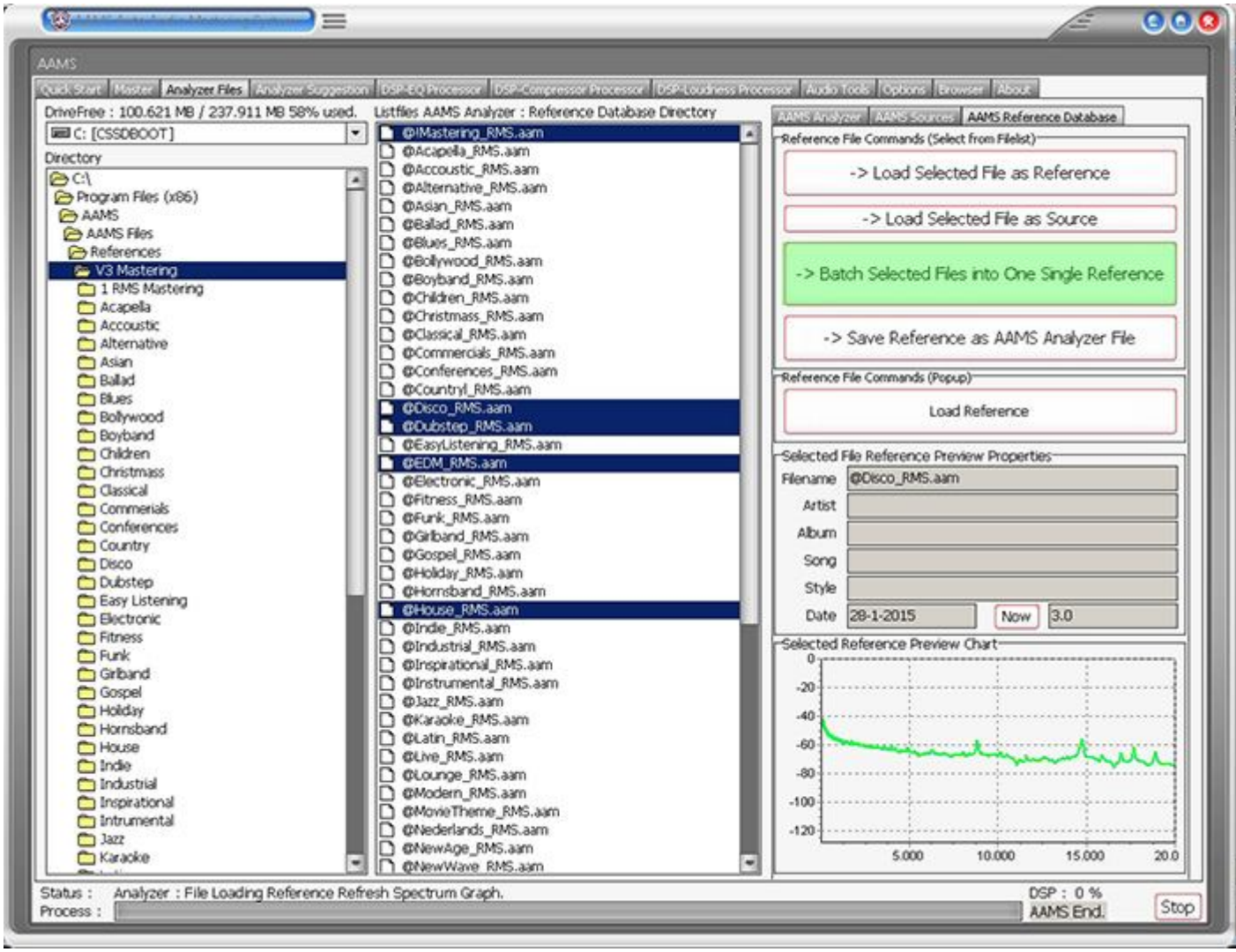
Most likely you will be using an audio sequencer or computer software to create, compose, mix, edit and make your own music. You can import or use any music track as source. As you are using a multitrack software sequencer, you must output your song or audio track to one stereo file (2 channels, 1 left and 1 Right), before mastering. Or you can have recordings you already have on your computer, just like MP3 or WAVE (WAV) files that you need to master. Anyway a finished track that is outputted as stereo will do. This is your Source Material. Inside the AAMS software the Source is always your own audio material that you have imported into AAMS. Let's say you have your own Source material ready for AAMS Mastering. Let's say this audio material refers to a standard pop song. Then your Source Pop Song needs to be mastered as a Pop Song Track. So you need a Reference Style out of AAMS Reference Database that represents Pop Songs! Lucky for you we have pre-made an AAMS Reference Style Database with 200 Styles that refers to all kinds of musical styles. And @Pop RMS.aam is one of those database files! So selecting @Pop RMS.aam as a reference against your own source material would be very wise.


AAMS Auto Audio Mastering System
Now you can listen what you expect!
Analyze, Process and Finish an Audio-Master in a single go!

How to get the sound you want and re-use it ?

With AAMS V3 there are several ways to get to your own sound, the sound you like! First we want to explain that with AAMS V3 standard references, you can get very close to a good general sound on your mastered audio file. But you need to EQ the outcome if you are not satisfied yet ? Well that is one possibility. The other possibilities are explained below.

AAMS V3 uses Reference Files to define a complete frequency spectrum from 5 Hz to 20.000 Hz, it also contains compression, loudness scans and other sound analyzed settings found by AAMS analyzer. These files can be found in AAMS V3 Database of Styles (References). For example the ‘Mastering_RMS’ is a general reference preset for a beginning user to start from. This general mastering preset is a good point to start from, but however maybe will not result into what you want to hear. So that will fix a lot, maybe it will not get you exactly the sound with accuracy 100%. This is because maybe you use speakers or an environment room that is not linear and maybe you hear some more bass or less high ? Anyway, try to listen on as many speaker systems you can find, even headphones, even in your car or even somebody else audio setup. Before you decide what you want or need to change (into the frequency spectrum), to make you happy. Anyway, if you know you are right about the sound you want, how do you get there exactly ? With AAMS V3 it is now possible to get very close or exactly there! Read about the solutions below. And watch the Video!



Combining out of the Reference Database of Styles

Until now we have only used the ‘Mastering_RMS’ single reference preset out of the AAMS V3 Database of Musical Styles. But we can also combine several references out of the database and batch them into one new single reference. For this we only have to select multiple references with the 'CTRL' key pressed and use the batch function. See the blue selected references out of the database and press the green 'Batch Selected files into One Single Reference'. You can name the file and save it to disk with the file manager that will pop up. Now the adjusted reference is saved, you can use it as your own adjusted reference, again and again.

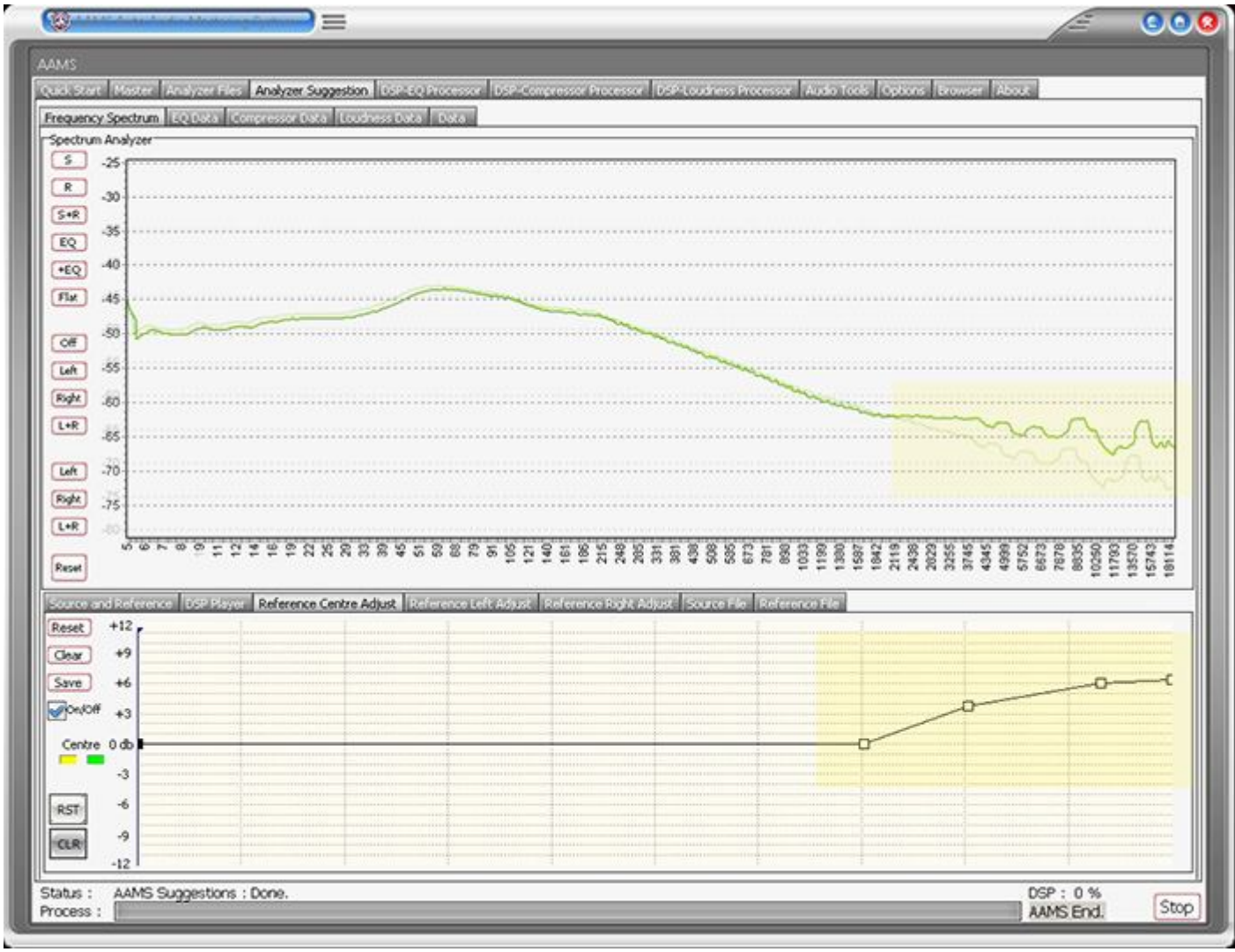
Analyze audio from other sources

One of the options is to analyze audio from other sources, like from other artists, tracks, albums. Collect them in one single directory and analyze them with AAMS Analyzer (read the manual for more explanation). When you have analyzed them all, you can batch a new reference out of the collection of analyzed files. AAMS will then batch a new reference out of all analyzed files and saves it to disk. The new reference is a good starting point and maybe is a better way to get the sound you need.

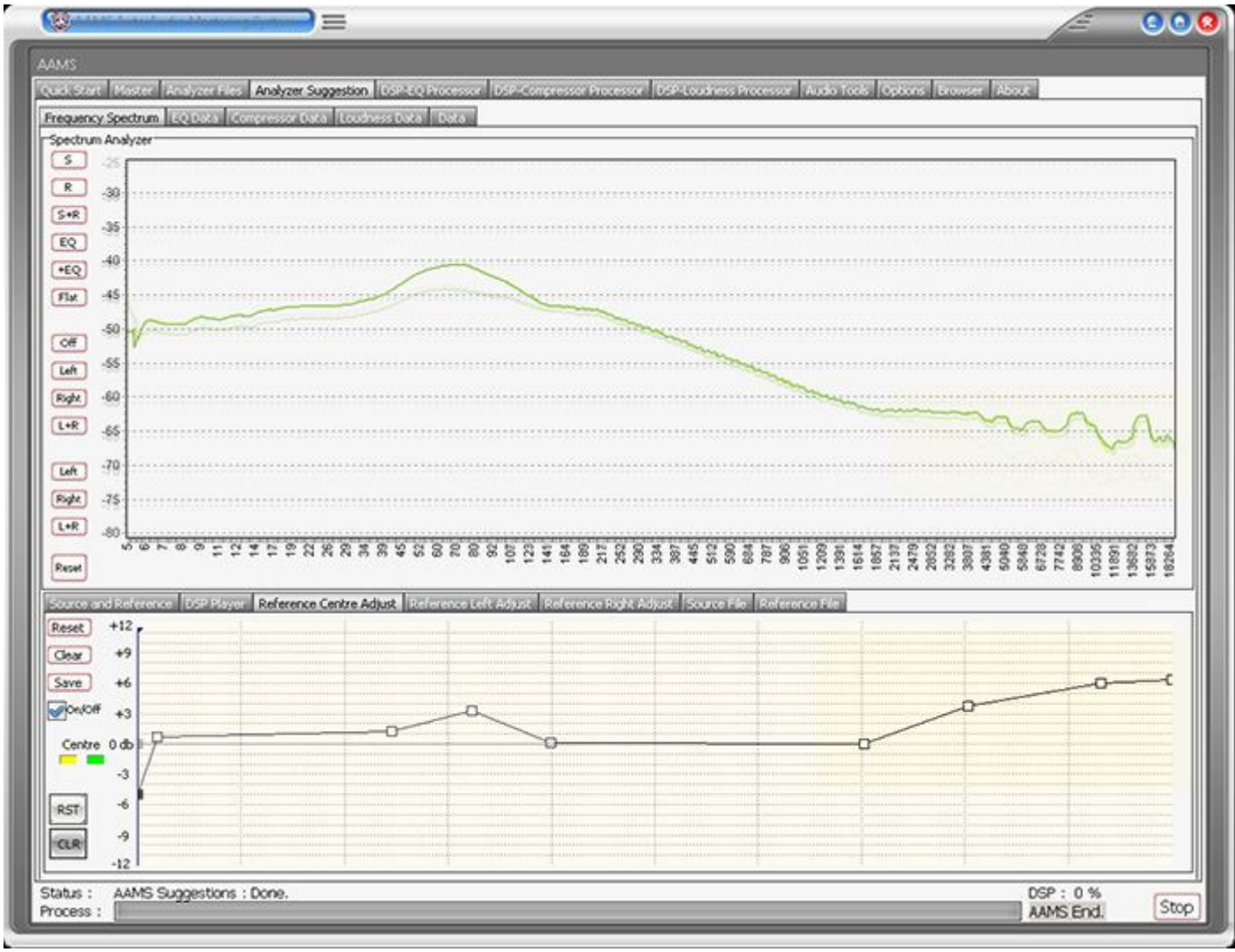
Adjust the Reference you already use or have chosen

With some testing and maybe working a longer time with AAMS V3, you maybe have some idea's witch references you are using most, or witch reference are giving you a good sound from the beginning. Maybe you are using the 'Mastering_RMS' reference from the database ? Or maybe you have an own reference ? Anyway, the solution is you can always adjust the reference to your own needs and therefore be much closer to the sound you want.

We have loaded the 'Mastering_RMS' reference out of the database as our tutorial reference. We have not loaded the source file. Off course you can load any reference file instead. See in yellow the name of the reference that has been loaded.

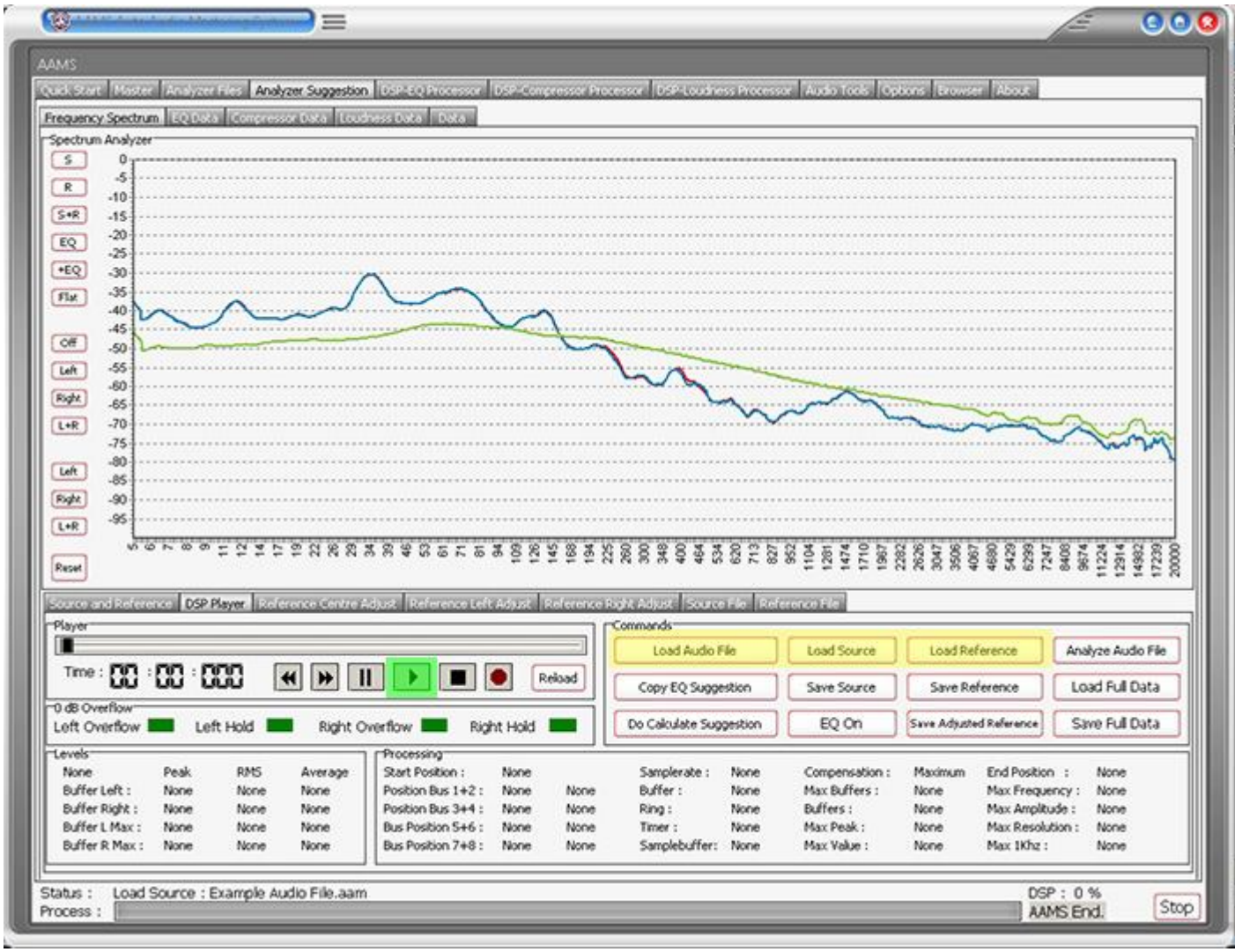


On the Reference Adjust Tab we have changed the Spectrum for the Highs and some Mids with the curve and 4 points. In yellow above you can see the effect it has on the original spectrum, that results in raised frequencies in the upper bands.



For more adjusting, we have created some extra bass frequencies in the spectrum around 80 hz and have a little cutoff in the beginning at 5-20 hz.

Finally we can save the adjusted reference (see the green button) Save Adjusted Reference. You can name the file and save it to disk with the file manager that will pop up. Now the adjusted reference is saved, you can use it as your own adjusted reference, again and again. This is a fast explanation of how to adjust the spectrum reference to your own needs and adjust it towards creating your own sound.



Playing the Source Audio with the Adjusted Reference

Have turned to the tab 'DSP-Player' that can play at any time the source audio material. Above we have loaded the source and reference (yellow buttons). When we press 'Play'(green) the source audio file will be played through your computer soundcard. If you adjust the Reference like explained above, the changes can be directly heard, so with the Reference Centre or Left or Right Adjust Tabs you can change the reference spectrum while playing. You can hear the differences from your changes at any time, AAMS will adapt the sound with the DSP-EQ processor and updates directly. When you are satisfied, you can save the reference by 'Save Adjusted Reference' to disk. You can name the file and save it to disk with the file manager that will pop up. Now the adjusted reference is saved, you can use it as your own adjusted reference, again and again.

Any combination of the above will work

If you are using AAMS V3 database of Reference Styles or you analyze your own tracks into AAMS. Or if you use the Reference Adjust Tabs, you can alter and change the way AAMS will master your own music, towards the Reference. Any combination will work and you can progress and build toward a final reference that suits your own musical style. You can even build your own library of references, it is up to you and your musical differences how many

styles you need to cover your own music. We have only explained the basic steps to building your own sound reference files. And just to make it faster for mastering, once you have a good reference you like, it can be re-used again.

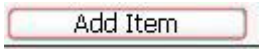
Now you can listen what you expect!

Batch Audio Mastering

When you have an album or multiple audio files to be mastered in on single go (a batch), you can use the Master Batch Tab. Fill the Grid with Mastering Jobs(Items). This is called a Batch Job. Items are Audio Files or Sources that can be mastered against a Reference. For every track inside the album or audio file choose the right reference style. You choose the reference style according to the track of the album style (like explained above). Every track must have its own reference.

Fill the Grid with Items (5 Steps)

1. Load File as Item (Import, Source Or AAMS Full Data). The Item will be shown above the Grid.

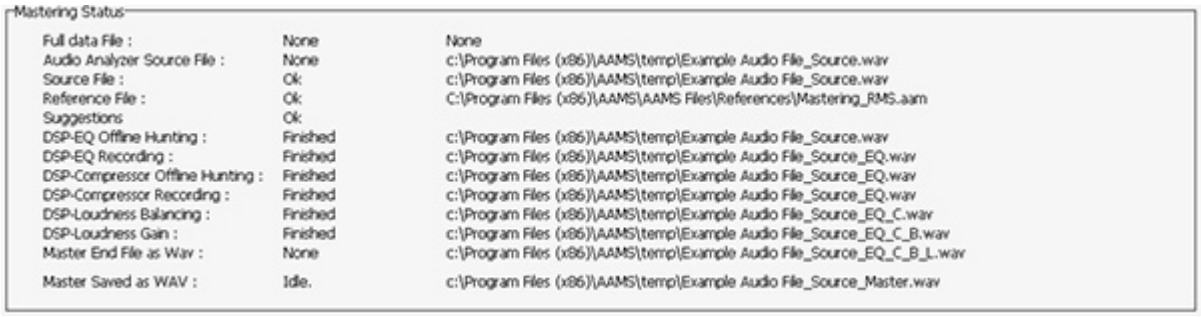


2. Add Item to the Mastering Grid List.
3. Repeat steps 1 and 2 until finished.
Or

4. Add Multiple Items to Mastering List, use this option if you use a single Reference File to Master multiple Source Items.

Start Mastering

5. Click 'Auto Audio Master - Batch All Items in Mastering List'. Then -> Wait until all Items are
finished!



You can see the Status of the mastered file in the Master Tab.
When all items are finished mastering, the batch job is done!

Tip for more coherence on a full album of tracks!

First you must have mastered every single track of the album with its own reference style (like explained above).
After you have done a full album mastering with batch mastering like described above, you can analyze all finished tracks with AAMS Analyzer.
What we want is an overall reference that consists of all tracks from the mastered individual tracks, the whole album sound from begin track to last track.
We analyze all tracks and batch then into one single reference. That will be the combined mastered sound of the album.
We are gonna use this reference (overall album sound) to correct the whole album sound (all tracks).
This will make the whole album sound more close together and more coherent.

Goto AAMS Analyzer Tab, select or Goto the directory where all the mastered audio files of the album are, and choose select all mastered files from the album.
Select -> Analyze Batch Audio File Selection. This will batch all tracks selected and creates for each track an AAMS Analyzer file (source file).

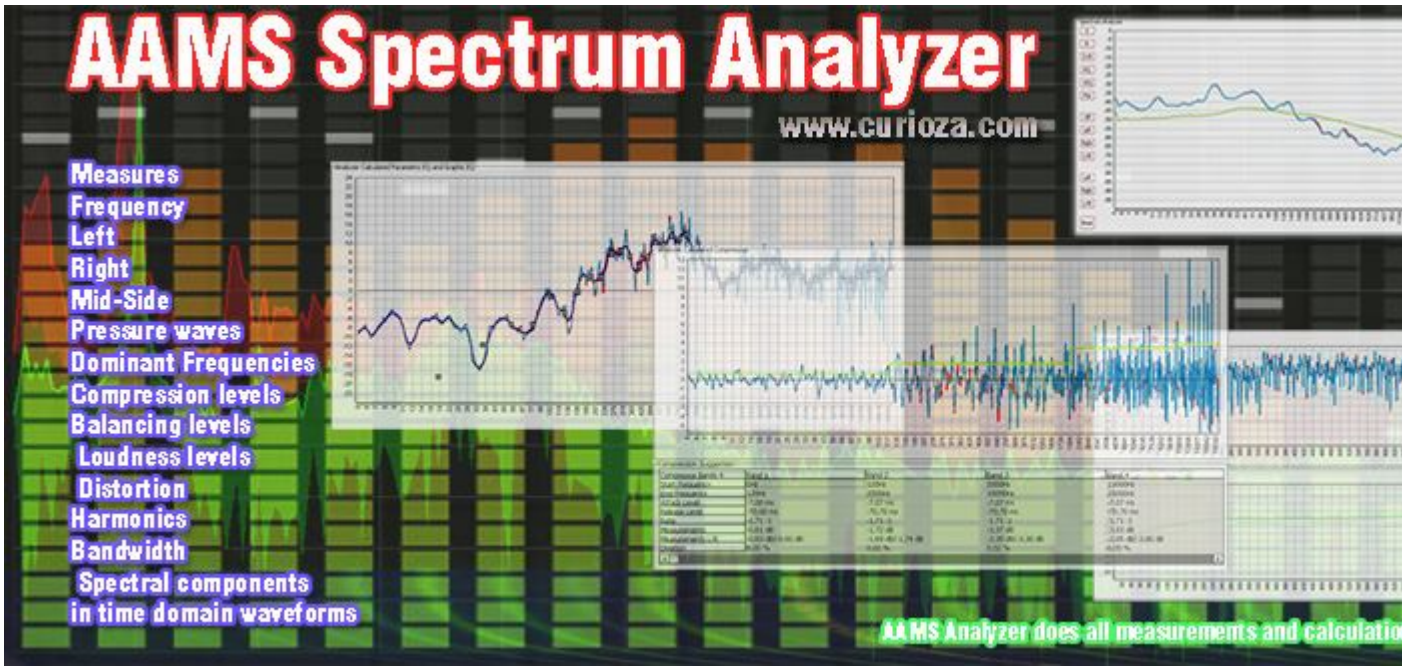
Goto AAMS Sources Tab and then combine all newly analyzed files with - > Batch Selected Files into One Single Source File

The result will be one source file that AAMS Analyzer saved by combining all mastered album tracks. Let's call and save this file as 'Album.aam'. This file 'Album.aam' can now be used as a reference file for the whole album sound! So we are gonna remaster all tracks again with this 'Album.aam' as the only reference. Now fill the batch mastering again with all mastered tracks from the album but this time only use 'Album.aam' as the reference for each track. That means all tracks will be for the second time mastered (remastered towards an whole album coherent sound). So we use Batch Audio Mastering again with the 'Album.aam' as the only reference.

Fill the Grid with Items (5 Steps)
1. Add Multiple Items to Mastering List => Select References explained above ('Album.aam').

Start Mastering
2. Click 'Auto Audio Master - Batch All Items in Mastering List'. Then -> Wait until all Items are finished!

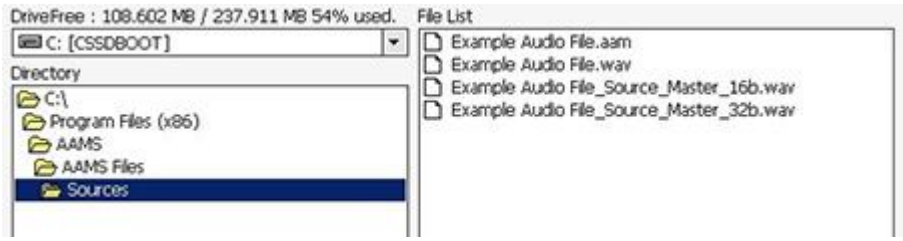
Now you have a more coherent sound for you whole album for all album tracks!
This can be a big difference for listeners and gives a more completed feeling for the whole Album sound.



AAMS Spectrum analyzer measures the power magnitude of stereo input signals (left and right) versus frequency within the full frequency range. AAMS Analyzer measures also spectral compositions signals, mid side, long or short pressure waves, dominant frequencies, compression levels, balancing levels, loudness levels. By analyzing the whole spectra, dominant frequency, power, distortion, harmonics, bandwidth, and other spectral components, in time domain waveforms. AAMS Analyzer Parameters are very useful in the characterization whole audio files. To the casual observer this maybe all too much info, but AAMS Analyzer does all measurements and calculations fully automatic.

The Analyzer is the starting point for inputting and analyse audio files into AAMS file format to source or reference file (the file format for AAMS Analyzer is *.aam and is representing a source audio file or reference file. By default as audio has been Analyzed by AAMS, the *.aam file most likely has an audio file (source) with the same name next to it on the hard drive with almost the same name. The main function of AAMS Analyzer is to convert the WAV file of Source or Reference material towards a file that AAMS understands as an analyzer file. Named *.aam. The build in Analyzer automatically analyzes audio data, calculates the differences between your music and selected musical styles (references) and shows you were the differences are. The Source and Reference spectrum function is the key element of AAMS.

AAMS can read / import the following Audio File Formats (not all are tested) : .aiff, .flac, .mp2, .mp3, .mp4, .m4a, .ogg, .voc, .vorbis, .w64, .wav, .waveaudio, .wavpcm, .wv.



How does AAMS use Audio Files?

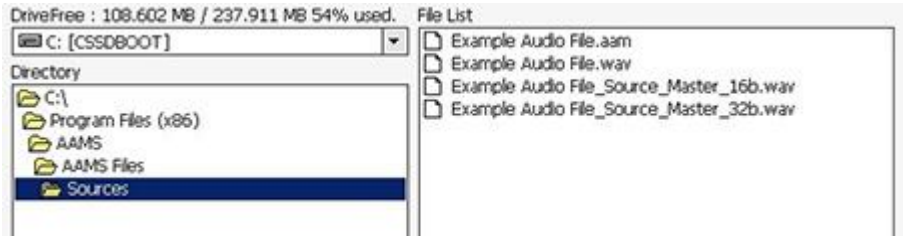
AAMS can now import and read / write different audio formats. For users who are new, AAMS reads all common audio formats, with 2 channels (stereo), 16 / 24 / 34 and 64 bit and their sample rates. AAMS can read mono files with 1 channel, but these will be converted to 2 channels by import. The main functions of AAMS is to master you're input audio file, analyze this audio file, read the audio file and write mastered and between versions of the audio file.

AAMS most important Audio File Formats

Uncompressed audio formats: such as WAV, AIFF, AU (PCM Based). Formats with lossless compression : such as FLAC, Monkey's Audio, WavPack , TTA, ATRAC Advanced Lossless, Apple Lossless, MP4, WMA Windows Media Audio Lossless. Formats with lossy compression : such as MP3, MP2, Ogg, Vorbis, Musepack, AAC, ATRAC and Windows Media Audio Lossy.

Source Analyzer files reflects mostly your own audio material you have imported into AAMS. Reference Analyzer files reflects mostly the style parameters as a result, AAMS will compare Source and Reference and the will calculate the suggestions. The suggestions are processed by AAMS automatically towards an end result Mastered Audio file.

AAMS Analyzer is responsible for many tasks that go in front of the audio mastering chain, as well as for in between setting an calculations done for the different processors (DSP-EQ,DSP-Compressor, DSPLoudness). The first and most important task is to analyze audio files. Spectrum behavior and frequency behavior as well as loudness is measured very accurately and calculated into suggestions. These suggestions or settings for the processors are done by comparing and calculations from source to reference and backwards. The AAMS Mastering system is based on pure calculations and suggestions, meaning source and reference are calculated to be the same. But in its basic function it is not a mere copy between them, but the needed differences that are measured and calculated into suggestions, presets and settings for further processing. So that the best results will count and be kept for audio mastering to be possible. The AAMS Analyzer is specially designed to investigate and search through the audio material and convert it to an AAMS Analyzer File. The time that it takes to analyze your Audio Material will vary depending on the length of the audio material and the processor speed of the computer. AAMS Analyzer is designed to produce the best audio mastering results so there are a lot of calculations taking place and your processor will be pushed. But it's worth the wait for the very accurate analysis AAMS produces.



Analyzer File Directory

The directories listed are AAMS standard directories to find and place audio files within. You can select an Audio file for import now (.aiff, .flac, .mp2, .mp3, .mp4, .m4a, .ogg, .voc, .vorbis, .w64, .wav, .waveaudio, .wavpcm, .wv.). These Audio file represents your own audio or music material you need to be analyzed or mastered. The Source and Reference files can also be found in the standard AAMS file directory, as well as the complete Reference Database directory. It is possible to select multiple files (when needed) with holding Shift or CTRL keys. The drive list selects a hard drive, the directory list selects a directory and the file list selects file(s).

Analyze Single Audio File

The most common way to analyze audio files (your own audio that you need to import and have analyzed by AAMS Analyzer) is this function. A popup window will appear with the standard AAMS directory, asking for an audio file to be imported and analyzed. You can select an Audio file for import / analyzing (.aiff, .flac, .mp2, .mp3, .mp4, .m4a, .ogg, .voc, .vorbis, .w64, .wav, .waveaudio, .wavpcm, .wv.). The rest of processing will be done by AAMS Analyzer and father finishing, a popup Save window will appear asking to Save the just analyzed file. The extension for that file is *.aam. This saved Source file that has been analyzed from the audio file you imported, is important for the rest of processing internally inside AAMS.

Analyze Single Audio File and Load as Source

This function is the same function as Analyze Single Audio File, but after saving the source file is also directly loaded into AAMS as a source. A popup window will appear with the standard AAMS directory, asking for an audio file to be imported and analyzed. You can select an Audio file for import / analyzing (.aiff, .flac, .mp2, .mp3, .mp4, .m4a, .ogg, .voc, .vorbis, .w64, .wav, .waveaudio, .wavpcm, .wv.). The extension for that file is *.aam.

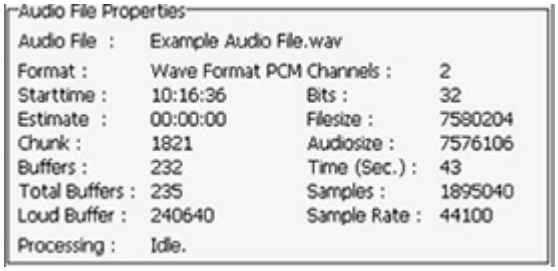
Analyze Single Audio File Selected

This function is the same function as Analyze Single Audio File, but it will use the file you have selected in the Files Window on the Left. You can select an Audio file for import / analyzing (.aiff, .flac, .mp2, .mp3, .mp4, .m4a, .ogg, .voc, .vorbis, .w64, .wav, .waveaudio,

.wavpcm, .wv.). A popup window will appear with the standard AAMS directory, asking for an audio file to be imported and analyzed. The extension for that file is *.aam.

Analyze Batch Audio File Selection

This function is the same function as Analyze Single Audio File, but it will use the file(s) you have selected in the Files Window on the Left. You can now select multiple audio files from the Left Files Window, and they will be processed one by one, as a batch. You can select an Audio file for import / analyzing (.aiff, .flac, .mp2, .mp3, .mp4, .m4a, .ogg, .voc, .vorbis, .w64, .wav, .waveaudio, .wavpcm, .wv.). A popup window will appear with the standard AAMS directory, asking for an audio file to be imported and analyzed. The extension for the file(s) is *.aam. This function can be of importance when you analyze audio sources from other artists or bands, in combination with Source Batch or Reference Batch, this is a good way to create your own sound (read about creating your own sound).



Audio File Properties

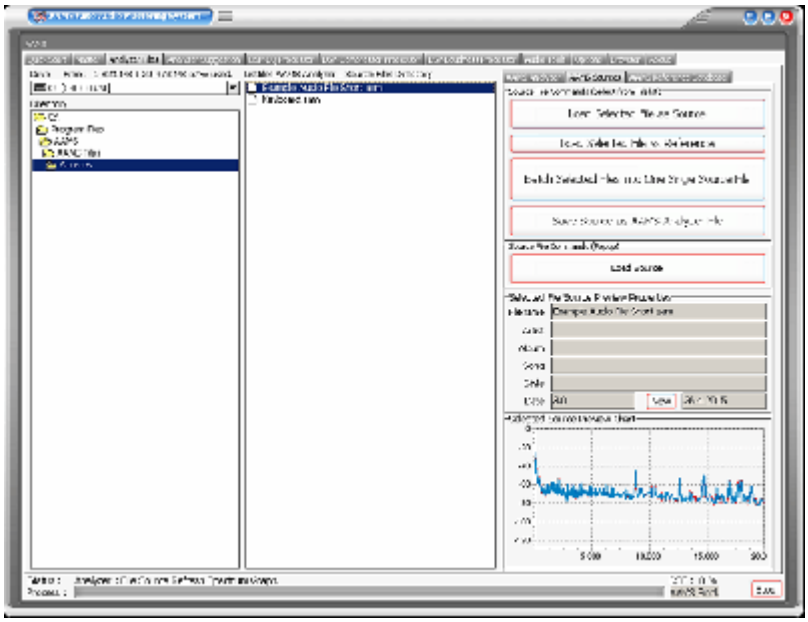
Audio File - The name of the audio file that has been processed by AAMS Analyzer
Format - Audio Format of processing
Channels - 2 Channel Audio (Stereo)
Bits - 32 Bits of Audio is loaded and processed into float format
File size - Size of the audio in bytes
Audio size - Size of the audio in the file in bytes
Time (sec) - Audio playtime of the file in processing
Samples - Amount of samples of the file in processing
Sample Rate - 44.100 Hz (44100 Samples per second)
Start time - The time analyzing started
Estimate - The time it will take analyzing to be finished (estimated)
Chunk - chunks of stereo audio into the analyzer
Buffers - Buffer count that has been processed
Total Buffers - The total amount of buffers of the audio file
loud Buffer - The maximum available amount of buffers

Load Full Data

This function is only needed when you have loaded a Source and Reference and Saved a Full Data File before. If reloads the Source and Reference directly into AAMS Analyzer. For containing and keeping Source and Reference together, can be handy to store alongside mastered files. See it as a backup system. The extension for the file(s) is *.afd.

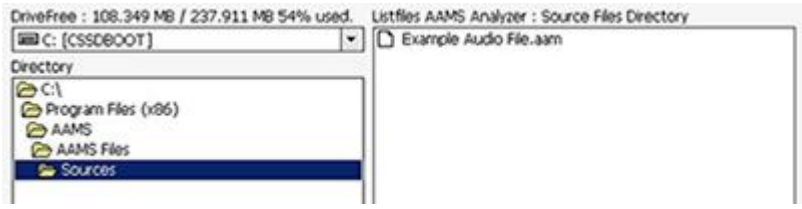
Save Full Data

When you have loaded a Source file and a Reference file, this function will store both in a single backup file. The extension for the file(s) is *.afd. For containing and keeping Source and Reference together, can be handy to store alongside mastered files. See it as a backup system.



Source

Mostly the source is a track, a song, a single track of an album or any audio part. The Source is your inputted and (to be) analyzed audio file. This is the file you import into AAMS as Source Material. Your audio material needs to be imported into AAMS, therefore we have created AAMS Analyzer. The job of AAMS Analyzer is to import audio files and convert them to a format that AAMS can understand and calculate with. Importing audio is simple and mostly is done without any user intervention, automatically.



Source File Directory

A Source file is an already AAMS Analyzed file (read about AAMS Analyzer). The directories listed are AAMS standard directories to find and place audio files within. You can select a Source File for import now. The Source and Reference files can also be found in the standard AAMS file directory, as well as the complete Reference Database directory. It is possible to select multiple files (when needed) with holding Shift or CTRL keys. The drive list selects a hard drive, the directory list selects a directory and the file list selects file(s). You can load a Source file as well as a Reference file, but remember the source file is for your own audio representation inside AAMS, the reference file is the representation of the targeted master (to be mastered against).

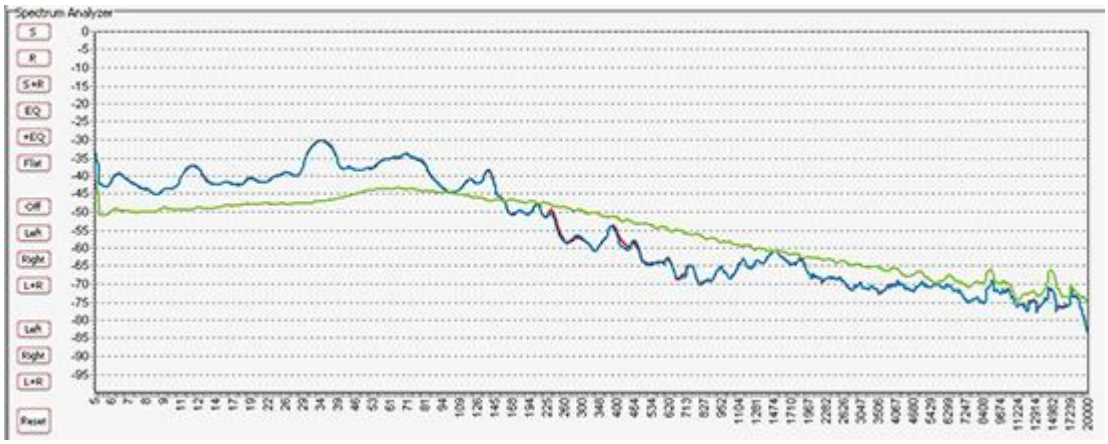
Load Selected File as Source

Load the selected file in the window left into AAMS Analyzer as Source. You can load a Source file as well as a Reference file, but remember the source file is for your own audio

representation inside AAMS, the reference file is the representation of the targeted master (to be mastered against). So it's best to load a Source file here.

Load Selected File as Reference

Load the selected file in the window left into AAMS Analyzer as Reference. You can load a Source file as well as a Reference file, but remember the source file is for your own audio representation inside AAMS, the reference file is the representation of the targeted master (to be mastered against). So it's best to load a Reference file here.

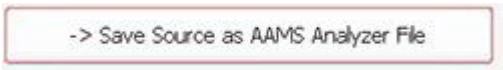


Source and Reference file are Loaded (AAMS Suggestions)

When a Source file and a Reference File are loaded, AAMS will directly calculate Suggestions by comparing source and reference, to calculate between them the best settings for processing the source file in a mastered audio file. You can load Source and Reference data at any time and AAMS will recalculate its suggestions instantly. The suggestions are displayed on the Suggestion Tab in Charts and Text, so that you can also use any hardware outboard equipment and software plugins that you already own. Also for the visual aspect Charts and Graphs are created to make the user understand more and learn, even adjusting the Reference or the DSP-EQ Suggestion is possible. Based on the Analyzer results AAMS presents suggested Mastering, Equalizer, Compressor and Loudness settings. AAMS uses these suggested calculations for further processing towards the end result, a fully automatic mastering chain. These can be reviewed and edited by the user in many ways. All you need to master your mix to a perfect result. Simply spending the time to listen and understand AAMS suggestions can help you to improve your mixing and mastering. The suggestions based on Analyzer results are displayed here. Each time the state of the AAMS program changes due loading a file or user changes, AAMS will recalculate. The outcome of these calculations will display on the Suggestion Tab and related pages. AAMS does calculated suggestions on basis of the loaded Source compared to the Loaded Reference. Therefore if we can adjust the reference we can adjust the outcome (or have influence) on the source results. If quite often happens that AAMS is almost correct, but maybe the Vocals just are mixed a little bit high (harder) then the mix itself. Mostly it is better to fix the mix, by adjusting the mix. But when this cannot be undone or done, you can now correct the Spectrum of the Reference that has been loaded and save edited reference as a new reference for later use. Later on we will address the same procedure on adjusting the DSP-EQ that will work just about the same way. But however adjusting the Spectrum Reference might be a better more compatible way.

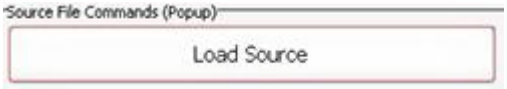
Batch Selected Files info One Single Source File

This function will batch all selected files in one single source file. This function can be of importance when you have already analyzed audio sources from other artists or bands, in combination with Source Batch or Reference Batch, this is a good way to create your own sound (read about creating your own sound). It will use the source file(s) you have selected in the Files Window on the Left. You can now select multiple source files from the Left Files Window, and they will be processed one by one, as a batch. A popup window will appear with the all the files listed, press OK. Then the standard AAMS directory will pop up and asks you to save the batch as one single source file. The extension for the file(s) is *.aam.



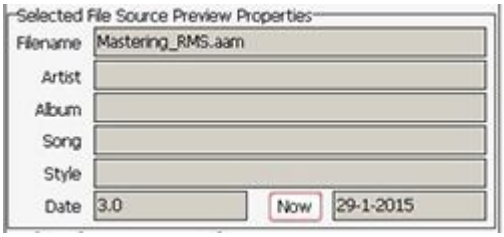
Save Source as AAMS Analyzer File

The loaded source file stored into AAMS Analyzer can be Saved to disk. This can be a handy feature when you have changed or edited the source file in AAMS Analyzer.



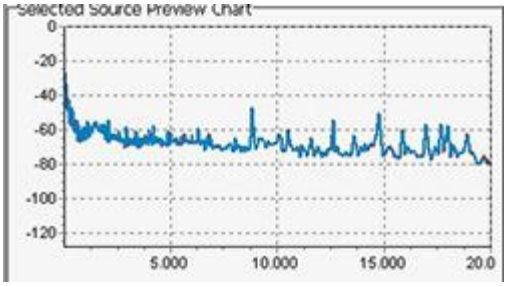
Load Source

Loads a Source file into AAMS Analyzer, you are prompted by a popup window to import a source into memory. It is best to really choose a Source file here, but as the format of a source or reference is the same, you could load a reference file instead.



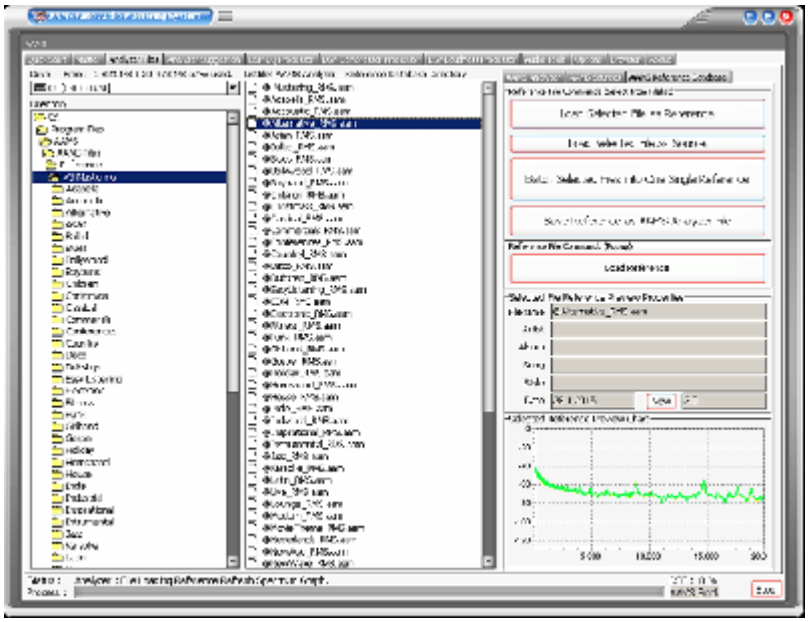
Source Properties

Shows Filename, Artist, Album, Song, Style and Date of the Source file. The text of these properties can be edited and saved, Goto the tab Analyzer Suggestion - Frequency Spectrum - Source or Reference File (Tabs).



Source Chart

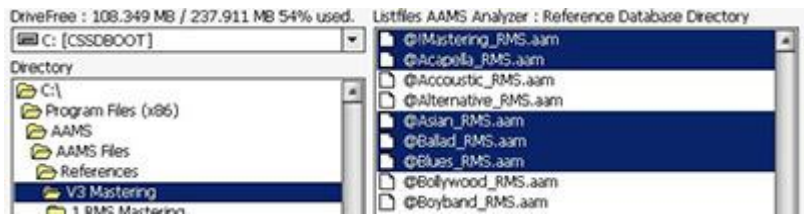
A preview of the file source spectrum will be shown here.



References

The references in the database of AAMS are specially crafted to match a source file with a reference database file and master your material accordingly and automatically. You can also generate a new reference style from scratch with AAMS. The reference is an comparison style or sound, preferred settings that were analyzed, combined or adjusted to have a good sound or at least a comparison sound. Reference Material is mostly the AAMS Database with Styles. You can choose a preset reference file out of the Reference Database. AAMS will redirect you to the directory were all reference files are placed. Choose a reference that reflects your music (source) the most. See the Reference Database for all reference files installed with AAMS. The other possibility is that you can create your own Reference File(s) out of Analyzed Audio. In this way you can import your own music or reference music track into AAMS, analyze them and use them as Reference File.

Check your music mixes, masters and even single tracks or collections / albums against different musical styles. If you want to make your own Reference Styles, this is called batched reference analyzing. It is possible to mix and match different reference styles together, like Pop with Rock or RNB with Rap etc. Or create your own specialized sound by combining your own analyzed masters and the reference styles found in the AAMS Database. Single audio tracks (vocals, guitar, bass etc.) can be analyzed so that your mix can be enhanced before it reaches the mastering stage. You can process a batch of source files together and get an overall sound for a compilation / collection or album (making your whole album sound equal of quality) and turn them into one single reference style of your own. There are many different ways to do this. In a few simple steps you can see what differences there are between the source audio material and a Reference Style chosen from a database of over 200 reference styles provided. Even it is possible to create your own References. Just load a Source and Reference and see what happens!

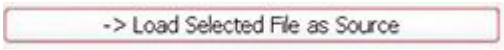


Reference File Directory

A Reference file is an already AAMS Analyzed file (read about AAMS Analyzer) or it is a file out of the AAMS Database of Musical Styles (200). The directories listed are AAMS standard directories of the AAMS Database of Musical Styles. You can select a Reference File for import now. The Reference and Source files can also be found in the standard AAMS file directory, as well as the complete Reference Database directory. It is possible to select multiple files (when needed) with holding Shift or CTRL keys. The drive list selects a hard drive, the directory list selects a directory and the file list selects file(s). You can load a Reference file as well as a Source file, but remember the source file is for your own audio representation inside AAMS, the reference file is the representation of the targeted master (to be mastered against).

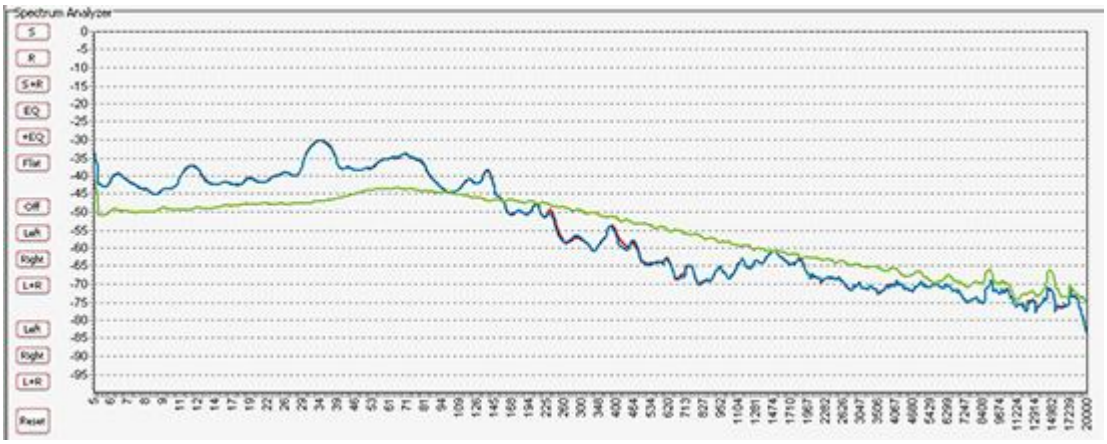
Load Selected File as Reference

Load the selected file in the window left into AAMS Analyzer as Reference. You can load a Reference file as well as a Source file, but remember the source file is for your own audio representation inside AAMS, the reference file is the representation of the targeted master (to be mastered against). So it's best to load a Reference file here.



Load Selected File as Source

Load the selected file in the window left into AAMS Analyzer as Reference. You can load a Source file as well as a Reference file, but remember the source file is for your own audio representation inside AAMS, the reference file is the representation of the targeted master (to be mastered against). So it's best to load a Reference file here.



Source and Reference file are Loaded (AAMS Suggestions)

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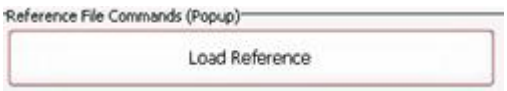
outboard equipment and software plugins that you already own. Also for the visual aspect Charts and Graphs are created to make the user understand more and learn, even adjusting the Reference or the DSP-EQ Suggestion is possible. Based on the Analyzer results AAMS presents suggested Mastering, Equalizer, Compressor and Loudness settings. AAMS uses these suggested calculations for further processing towards the end result, a fully automatic mastering chain. These can be reviewed and edited by the user in many ways. All you need to master your mix to a perfect result. Simply spending the time to listen and understand AAMS suggestions can help you to improve your mixing and mastering. The suggestions based on Analyzer results are displayed here. Each time the state of the AAMS program changes due loading a file or user changes, AAMS will recalculate. The outcome of these calculations will display on the Suggestion Tab and related pages. AAMS does calculated suggestions on basis of the loaded Source compared to the Loaded Reference. Therefore if we can adjust the reference we can adjust the outcome (or have influence) on the source results. If quite often happens that AAMS is almost correct, but maybe the Vocals just are mixed a little bit high (harder) then the mix itself. Mostly it is better to fix the mix, by adjusting the mix. But when this cannot be undone or done, you can now correct the Spectrum of the Reference that has been loaded and save edited reference as a new reference for later use. Later on we will address the same procedure on adjusting the DSP-EQ that will work just about the same way. But however adjusting the Spectrum Reference might be a better more compatible way.

Batch Selected Files info One Single Reference File

This function will batch all selected files in one single Reference file. In combination with Source Batch or Reference Batch, this is a good way to create your own sound (read about creating your own sound). You can even select multiple files out of AAMS Database. It will use the reference file(s) you have selected in the Files Window on the Left. You can now select multiple reference files from the Left Files Window, and they will be processed one by one, as a batch. A popup window will appear with the all the files listed, press OK. Then the standard AAMS directory will pop up and asks you to save the batch as one single source file. The extension for the file(s) is *.aam.

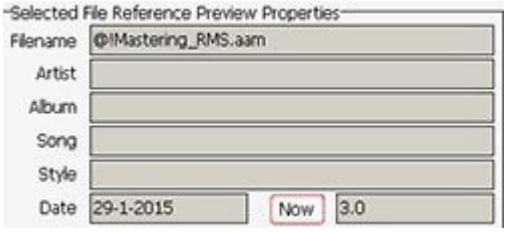
Save Reference as AAMS Analyzer File

The loaded reference file stored into AAMS Analyzer can be Saved to disk. This can be a handy feature when you have changed or edited the source file in AAMS Analyzer.



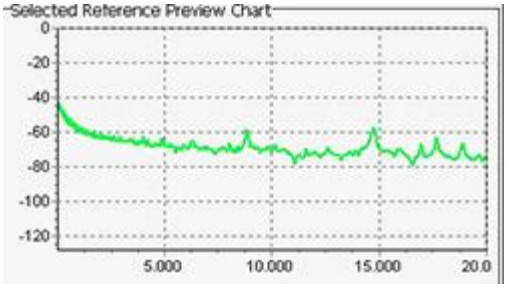
Load Reference

Loads a Reference file into AAMS Analyzer, you are prompted by a popup window to import a source into memory. It is best to really choose a Reference file here, but as the format of a source or reference is the same, you could load a source file instead.



Reference Properties

Shows Filename, Artist, Album, Song, Style and Date of the Reference file. The text of these properties can be edited and saved, Goto the tab Analyzer Suggestion - Frequency Spectrum - Source or Reference File (Tabs).



Reference Chart
A preview of the file source spectrum will be shown here.

The AAMS V3 Reference Database is an important part of AAMS software.

The reference style a user can choose is the way you want your tracks to sound alike.
AAMS works with a Source file (your audio) and a Reference File (out of the Database of Reference Styles).
AAMS does compare source against reference. You can also create new references out of the database or out of analyzed tracks, albums and other audio. The reference database is updated and contains most of successful and many more quality music references styles. The older AAMS V2 database is also installed with AAMS V3. Watch the video for instructions how to use the Reference's and also to create your own presets.

The AAMS V3 Reference Style Database

The Reference Style Database of AAMS version 3 is completely and newly written. We have AAMS Analyzed about 28.000 Tracks of Music from different Genres and Styles. From everywhere over the world, for you to compare your music against. Your own audio material is called a Source. What you compare your source with is called a Reference. So what AAMS Software Analyzer does is compare your music and creates Suggestions from making it sound as good. Then AAMS will master your music accordingly!

Directories and Files

The main function of the Reference Style Database is to give the user a readymade preset database of musical styles to compare and choose from. These References are specially crafted analysis made by interpreting musical styles and contain spectrum and loudness functions that AAMS Software can understand. As a Source is an *.aam file. A Reference is also an *.aam file (mostly an @ is used in the filename for references). The Style or

Reference Database is installed with AAMS, usually in C:Program FilesAAMSAAMS FilesReferences or C:Program Files (x86)AAMSAAMS FilesReferences. Inside this directory are all RMS files and they are suitable for most mastering purposes. The full database is in the following directory C:Program FilesAAMSAAMS FilesReferencesReference Database.

OLD : Directory with AAMS V2.0 and AAMS V1.0 Reference Database files
V3 Mastering : Directory with AAMS V3.0 Reference Database files (for AAMS Mastering).
V3 Mixing : Directory with AAMS V3.0 Reference Mixing Files (for Mixing etc).

The AAMS V3 Main Mastering Reference Database Files

RMS files explained : The main starting References for Beginners and for All Mastering functions that are general. If you do not know what reference to choose but know the genre. RMS means **root mean square**

Found in the directory : V3 Mastering/1 RMS Mastering

@AAMS Mastering_RMS – The main starting reference for all beginners and lazy users.

Different Genres RMS Styles :

@Acapella_RMS.aam
@Accoustic_RMS.aam
@Alternative_RMS.aam
@Asian_RMS.aam
@Ballad_RMS.aam
@Blues_RMS.aam
@Bollywood_RMS.aam
@Boyband_RMS.aam
@@Children_RMS.aam
@Christmass_RMS.aam
@Classical_RMS.aam
@Commercials_RMS.aam
@Conferences_RMS.aam
@Countryl_RMS.aam
@Disco_RMS.aam
@Dubstep_RMS.aam
@EasyListening_RMS.aam
@EDM_RMS.aam
@Electronic_RMS.aam
@Fitness_RMS.aam
@Funk_RMS.aam
@Girlband_RMS.aam
@Gospel_RMS.aam
@Holiday_RMS.aam
@Hornsband_RMS.aam
@House_RMS.aam
@Indie_RMS.aam
@Industrial_RMS.aam
@Inspirational_RMS.aam
@Instrumental_RMS.aam

@Jazz_RMS.aam
@Karaoke_RMS.aam
@Latin_RMS.aam
@Live_RMS.aam
@Lounge_RMS.aam
@Modern_RMS.aam
@MovieTheme_RMS.aam
@Nederlands_RMS.aam
@NewAge_RMS.aam
@NewWave_RMS.aam
@Opera_RMS.aam
@Pop_RMS.aam
@Rap_RMS.aam
@Reggae_RMS.aam
@RNB_RMS.aam
@Rock_RMS.aam
@SingerSongwriter_RMS.aam
@Sinterklaas_RMS.aam
@Slow_RMS.aam
@Soul_RMS.aam
@Soundtrack_RMS.aam
@Spanish_RMS.aam
@SpokenWord_RMS.aam
@StandupComedy_RMS.aam
@Vegas_RMS.aam
@World_RMS.aam

The AAMS V3 Mastering Reference Database Files with differences

Reference files found in subdirectories : V3 Mastering

@Acapella_Female.aam
@Acapella_House_Female.aam
@Acapella_House_Male.aam
@Acapella_Male.aam
@Acapella_Ragga_Male.aam
@Acapella_Rap.aam
@Acapella_RMS.aam

@Accoustic.aam
@Accoustic_Female.aam
@Accoustic_Male.aam
@Accoustic_RMS.aam

@Alternative.aam
@Alternative_RMS.aam

@Asian_Female.aam
@Asian_Male.aam
@Asian_Old.aam
@Asian_Pop.aam

@Asian_RMS.aam
@Asian_Rock.aam

@Ballad_Female.aam
@Ballad_Male.aam
@Ballad_RMS.aam

@Blues_Female.aam
@Blues_Male.aam
@Blues_Old.aam
@Blues_RMS.aam
@Blues_Slow.aam

@Bollywood.aam
@Bollywood_Dance.aam
@Bollywood_Female.aam
@Bollywood_Female_Slow.aam
@Bollywood_Male.aam
@Bollywood_Male_Slow.aam
@Bollywood_Old.aam
@Bollywood_RMS.aam

@Boyband.aam
@Boyband_RMS.aam
@Boyband_Slow.aam

@Children.aam
@Children_Dance.aam
@Children_RMS.aam
@Children_Slow.aam
@Christmass.aam
@Christmass_Female.aam
@Christmass_Male.aam
@Christmass_Old.aam
@Christmass_RMS.aam
@Classical.aam
@Classical_RMS.aam

@Commercials_Female.aam
@Commercials_Male.aam
@Commercials_RMS.aam

@Conferences.aam
@Conferences_RMS.aam

@Countryl_RMS.aam
@Country_Female.aam
@Country_Female_Slow.aam
@Country_Male.aam
@Country_Male_Slow.aam

@Disco_Female.aam
@Disco_Male.aam
@Disco_RMS.aam

@Dubstep.aam
@Dubstep_Hard.aam
@Dubstep_RMS.aam
@Dubstep_Slow.aam

@EasyListening_RMS.aam
@Easy_Listening.aam
@Easy_Listening_Female.aam
@Easy_Listening_Male.aam

@Electronic_Industrial.aam
@Electronic_Industrial_Slow.aam
@Electronic_Orchestra.aam
@Electronic_Pop_Female.aam
@Electronic_Pop_Instrumental.aam
@Electronic_RMS.aam
@Electronic_Rock.aam

@Fitness.aam
@Fitness_RMS.aam

@Funk_Pop.aam
@Funk_RMS.aam
@Funk_Slow.aam

@Girlband.aam
@Girlband_RMS.aam
@Girlband_Slow.aam

@Gospel.aam
@Gospel_Choirs.aam
@Gospel_Dance.aam
@Gospel_Female.aam
@Gospel_Live.aam
@Gospel_Male.aam
@Gospel_RMS.aam
@Gospel_Slow.aam

@Holiday.aam
@Holiday_RMS.aam

@Hornsband.aam
@Hornsband_RMS.aam

@House_Atmosphere.aam
@House_Breakbeat.aam
@House_Club.aam
@House_Deep.aam

@House_DJ.aam
@House_Easy.aam
@House_EDM.aam
@House_Electro.aam
@House_Female.aam
@House_Garage.aam
@House_Hardcore_Female.aam
@House_Hardcore_Male.aam
@House_HiNRG.aam
@House_Jungle.aam
@House_Male.aam
@House_Rave.aam
@House_RMS.aam
@House_Techno.aam
@House_Trance.aam

@Indie.aam
@Indie_RMS.aam
@Indie_Slow.aam

@Industrial.aam
@Industrial_RMS.aam

@Inspirational.aam
@Inspirational_Dance.aam
@Inspirational_RMS.aam

@Instrumental.aam
@Instrumental_RMS.aam

@Jazz.aam
@Jazz_Best.aam
@Jazz_BlueNote.aam
@Jazz_Lovers.aam
@Jazz_Miles.aam
@Jazz_RMS.aam
@Jazz_Sax.aam
@Jazz_Soul.aam

@Karaoke.aam
@Karaoke_RMS.aam

@Latin.aam
@Latin_Dance.aam
@Latin_RMS.aam
@Latin_Slow.aam

@Live_Pop_Rock.aam
@Live_RMS.aam
@Live_Rock.aam
@Live_Rock_Ballad.aam

@Lounge.aam
@Lounge_Atmosphere.aam
@Lounge_RMS.aam
@Lounge_Sax.aam

@Modern.aam
@Modern_RMS.aam

@MovieTheme_RMS.aam
@Movie_Orchestra.aam
@Movie_Theme.aam

@Nederlands.aam
@Nederlands_RMS.aam

@NewAge_Female.aam
@NewAge_Female_Slow.aam
@NewAge_Male.aam
@NewAge_Male_Slow.aam
@NewAge_RMS.aam

@NewWave_Female.aam
@NewWave_Female_Slow.aam
@NewWave_GuitarBand.aam
@NewWave_Male.aam
@NewWave_Male_Slow.aam
@NewWave_RMS.aam
@NewWave_Slow.aam

@Opera.aam
@Opera_RMS.aam

@Pop_Female.aam
@Pop_Female_Slow.aam
@Pop_Male.aam
@Pop_Male_Slow.aam
@Pop_RMS.aam
@Pop_Rock.aam

@Rap_Biggie.aam
@Rap_Club.aam
@Rap_Disco.aam
@Rap_Dutch.aam
@Rap_Emi.aam
@Rap_Female.aam
@Rap_Female_Slow.aam
@Rap_Hardstyle.aam
@Rap_Male.aam
@Rap_Male_Slow.aam
@Rap_OldSkool.aam
@Rap_Pop.aam
@Rap_RidingCar.aam

@Rap_RMS.aam
@Rap_RNB.aam
@Rap_Snoop.aam
@Rap_Soul.aam
@Rap_White.aam

@Reggae.aam
@Reggae_Acapella_Male.aam
@Reggae_Dancehall.aam
@Reggae_Dub.aam
@Reggae_Female.aam
@Reggae_Live.aam
@Reggae_Male.aam
@Reggae_RMS.aam
@Reggae_Slow.aam

@RNB_Female.aam
@RNB_Male.aam
@RNB_RMS.aam
@RNB_Slow.aam
@RNB_White.aam

@Rock_1950_1960.aam
@Rock_1960_1970.aam
@Rock_1970_1990.aam
@Rock_1990_2015.aam
@Rock_Alternative.aam
@Rock_Female.aam
@Rock_Female_Slow.aam
@Rock_Grunge.aam
@Rock_Indie.aam
@Rock_Indie_Slow.aam
@Rock_Instrumental.aam
@Rock_Live.aam
@Rock_Male.aam
@Rock_Male_Slow.aam
@Rock_Metal_Hard.aam
@Rock_Metal_Medium.aam
@Rock_Metal_Slow.aam
@Rock_Pop.aam
@Rock_Progressive.aam
@Rock_Punk.aam
@Rock_RMS.aam
@Rock_Slow.aam
@Rock_Voodoo.aam
@Rock_Voodoo_Slow.aam
@Rock_Zion.aam

@Sinterklaas.aam
@Sinterklaas_RMS.aam

@Slow_Female.aam
@Slow_Male.aam
@Slow_RMS.aam

@SingerSongwriter_Female.aam
@SingerSongwriter_Female_Slow.aam
@SingerSongwriter_Male.aam
@SingerSongwriter_Male_Slow.aam
@SingerSongwriter_RMS.aam

@Soul_Female.aam
@Soul_Male.aam
@Soul_Motown_Female.aam
@Soul_Motown_Female_Slow.aam
@Soul_Motown_Male.aam
@Soul_Motown_Male_Slow.aam
@Soul_Motown_Slow.aam
@Soul_Pop_Female.aam
@Soul_Pop_Male.aam
@Soul_RMS.aam
@Soul_White_Female.aam
@Soul_White_Male.aam

@Soundtrack.aam
@Soundtrack_RMS.aam

@Spanish_Female.aam
@Spanish_Love_International.aam
@Spanish_Male.aam
@Spanish_Male_Slow.aam
@Spanish_RMS.aam

@Spokenword_Female.aam
@Spokenword_Male.aam
@SpokenWord_RMS.aam

@StandupComedy_Female.aam
@StandupComedy_Male.aam
@StandupComedy_RMS.aam

@Vegas.aam
@Vegas_RMS.aam

@World_Female.aam
@World_Male.aam
@World_Male_Slow.aam
@World_RMS.aam

The AAMS V3 Mixing Reference Database Files with differences

Reference files found in subdirectories : V3 Mixing

BASS
DRUMS
GUITAR
PIANO
VOCALS

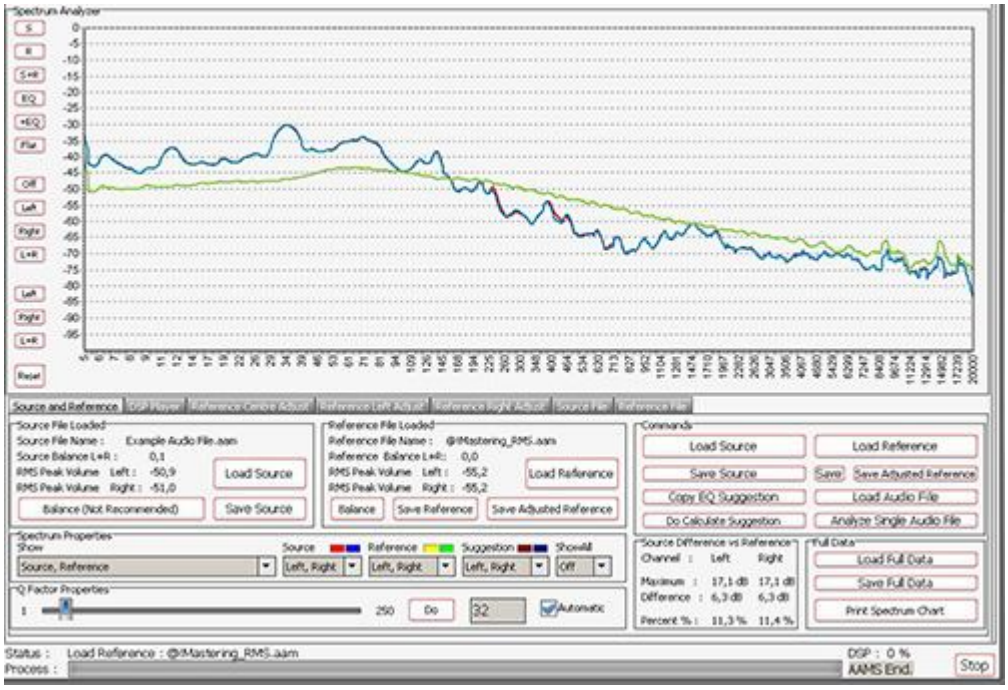
The Mixing database is highly experimental, because Mixing Tracks with AAMS Mastering Software is kind of under construction. But we like to give our users a hint what is coming up in later versions of aams and we would not underestimate our users for experimenting with this Mixing Database. This database is not generally used for Mastering purposes with AAMS.

As a Source is an *.aam file. A Reference is also an *.aam file (mostly an @ is used in the filename for references). The Style or Reference Database is installed with AAMS V3, usually in C:Program FilesAAMSAAMS FilesReferences or C:Program Files (x86)AAMSAAMS FilesReferences. Inside this directory are all RMS files and they are suitable for most mastering purposes. The full database is in the following directory C:Program FilesAAMSAAMS FilesReferencesReference Database.

The database was rewritten 28-01-2015.

AAMS DSP-Analyzer and AAMS Suggestions

Frequency Spectrum - Chart Tab



Analyzer Suggestion - Frequency Spectrum

When a Source file and a Reference File are loaded, AAMS will directly calculate Suggestions by comparing source and reference, to calculate between them the best settings for processing the source file in a mastered audio file. You can load Source and Reference data at any time and AAMS will recalculate its suggestions instantly. The suggestions are displayed on the Suggestion Tab in Charts and Text, so that you can also use any hardware outboard equipment and software plugins that you already own. Also for the visual aspect Charts and Graphs are created to make the user understand more and learn, even adjusting the Reference or the DSP-EQ Suggestion is possible. Based on the Analyzer results AAMS presents suggested Mastering, Equalizer, Compressor and Loudness settings. AAMS uses these suggested calculations for further processing towards the end result, a fully automatic mastering chain. These can be reviewed and edited by the user in many ways. All you need to master your mix to a perfect result. Simply spending the time to listen and understand AAMS suggestions can help you to improve your mixing and mastering. The suggestions based on Analyzer results are displayed here. Each time the state of the AAMS program changes due loading a file or user changes, AAMS will recalculate. The outcome of these calculations will display on the Suggestion Tab and related pages. AAMS does calculated suggestions on basis of the loaded Source compared to the Loaded Reference. Therefore if we can adjust the reference we can adjust the outcome (or have influence) on the source results. If quite often happens that AAMS is almost correct, but maybe the Vocals just are mixed a little bit high (harder) then the mix itself. Mostly it is better to fix the mix, by adjusting the mix. But when this cannot be undone or done, you can now correct the Spectrum of the Reference that has been loaded and save edited reference as a new reference for later use. Later on we will

address the same procedure on adjusting the DSP-EQ that will work just about the same way. But however adjusting the Spectrum Reference might be a better more compatible way.

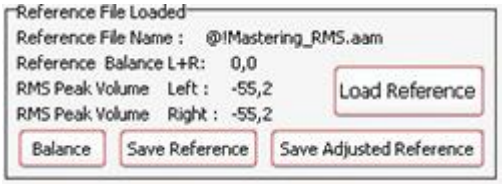
Spectrum Analyzer Chart Buttons

S- Shows only Source
R - Shows only Reference
S R - Shows Source and Reference
EQ - Shows only EQ Suggestions
EQ - Shows EQ, Source and Reference
Flat - Shows EQ Corrections
Off - Shows Left and Right
Left - Shows only Left Signals
Right - Shows only Right Signals
L R - Shows Left and Right (Reset)
Reset - Resets the Spectrum Chart

Source File Loaded

Source File Name - The filename of the loaded source file
Source Balance L R - The balance in dB or -dB, from left to right. 0 dB is perfect balance!
RMS Peak Volume Left - the peak volume of the left channel in -dB
RMS Peak Volume Right - the peak volume of the right channel in -dB

Balance (Not Recommended) - To balance the source to 0dB (L R) not recommended, but can be handy trick.
Load Source - Loads a source with a popup window.
Save Source - Saves the source with a pout window.



Reference File Loaded

Reference File Name - The filename of the loaded reference file
Reference Balance L R - The balance in dB or -dB, from left to right. 0 dB is perfect balance!
RMS Peak Volume Left - the peak volume of the left channel in -dB
RMS Peak Volume Right - the peak volume of the right channel in -dB

Balance - To balance the reference to 0dB (L R) not recommended, but can be handy trick.
Load Reference - Loads a reference with a popup window.
Save Reference - Saves the reference with a pout window.
Save Adjusted Reference - Saved the adjusted or edited reference with a popup window.

Spectrum Properties

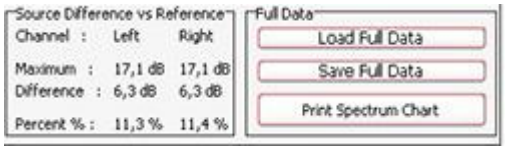
Show - Shows Source, Reference, EQ or any combination.
Source - Shows Left, Right or both channels of the source.
Reference - Shows Left, Right or both channels of the reference.
Suggestion - Shows Left, Right or both channels of the EQ Suggestion.
Show All - Shows Left, Right or both channels of the Source, Reference and EQ Suggestion.

Q-Factor Properties

The calculated Q-factor will automatically change accordingly to what DSP-EQ suggestion or preset is used. When the option Automatic Q-factor is set to manual (in the options Tab), you can change the Q-factor manually and set up the Parametric EQSuggestion for use with your own External Parametric EQ. Users who want to work manually with the Qfactor within AAMS must be aware of side effects. When AAMS Parametric EQ Suggestion is switched to manual and you set the Q-factor, this will change the behavior of rest of the automated suggestions, (Graphic EQ, Compressor and DSP-EQ Settings). For this reason it is usually best to use an automatic Qfactor when using the internal AAMS DSP-EQ and DSP-Compressor.

Commands

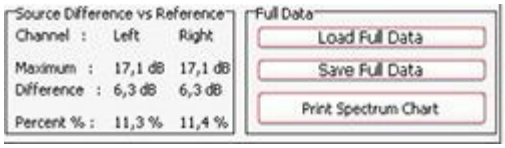
Load Source - Loads a source with a popup window
Load Reference - Loads a reference with a popup window
Save - Saves the Reference (original)
Save Adjusted Reference - Saves the adjusted or edited reference
Copy EQ Suggestion - Copy the EQ suggestion
Do Calculate Suggestion - Recalculates all AAMS Suggestion
Load Audio File - Loads an audio file into the DSP-EQ Player
Analyze Single Audio File - Analyzes an audio file with a popup window



Source Difference VS Reference

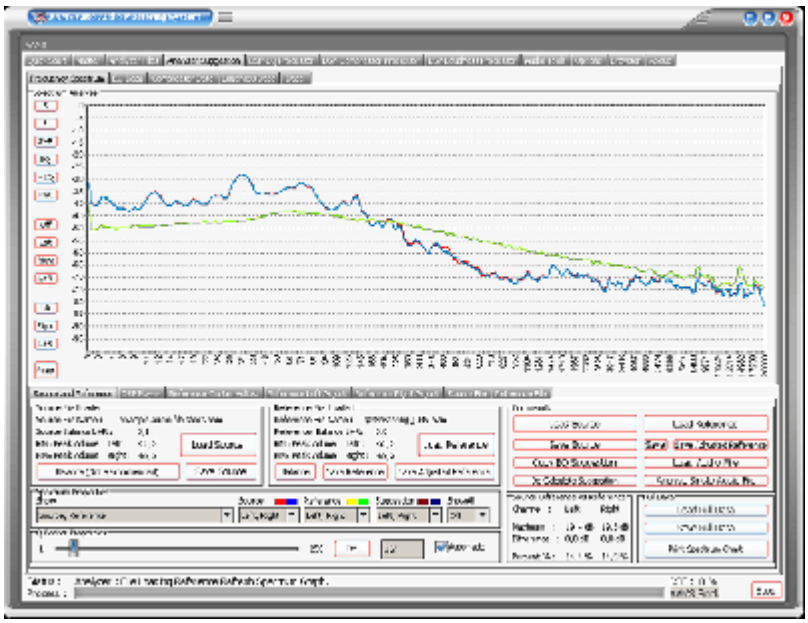
Channels Left and Right get compared here from Source to Reference
Channel - Left and Right
Maximum - Maximum levels for left and right in dB.

Difference - Difference levels for left and right in dB.
Percent - Difference levels for left and right in percentages.



Full Data

Load Full Data - Load the Full Data file (Source and Reference in one file).
Save Full Data - Saves a Full Data file (Source and Reference in one file).
Print Spectrum Chart - Prints the Spectrum chart only.



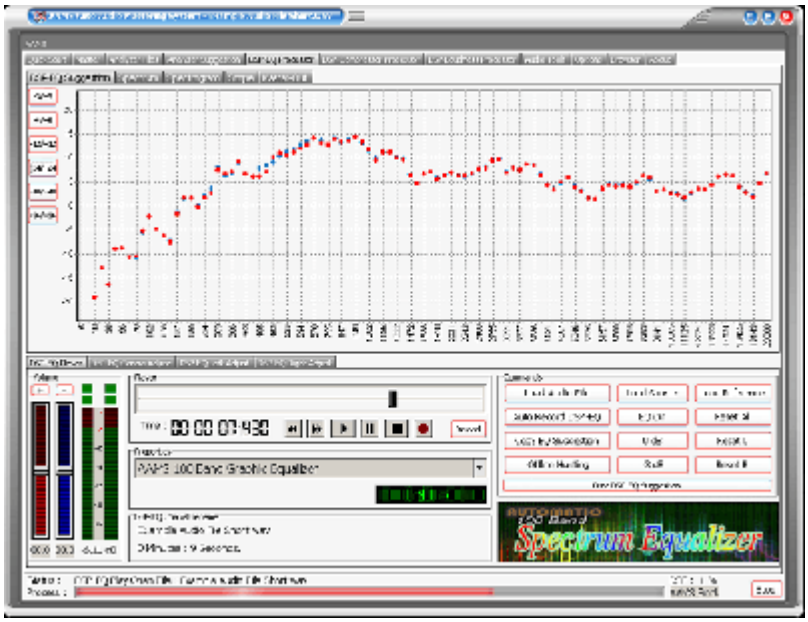
The loaded Source and Reference are displayed here. Under properties the Show function can be changed. Normally Source and Reference are displayed. But however there are more options to display. Source, Reference and 0 dB EQsuggestion. Showing the EQsuggestion can be worth full for users who need to know how the results display in one single chart. Source, Reference 0 dB Flatline. Showing the Reference as a Flatline 0 dB function, makes it easier to see the differences of the Source against the reference. Also the slider (turn of the automatic Qfactor function first) changes the Q factor that is used to display Source and Reference. The will change peak into more flat or more like peak. This Q Factor function does not affect calculations, but changes the displayed chart only.

Now it's getting interesting. We have loaded the Source and adjusted the loaded Reference by adjusting the charts. Let's play the sound that will come out on the soundcard and on our speakers or headphones. First we need to load the 'Example Audio.wav' file. Press Play and you will be asked for the audio file. Then AAMS will play the file. While playing you can still adjust the charts and AAMS will update calculations and suggestions. The audio that is being played, is played audio wise with the DSP-EQ Processor.

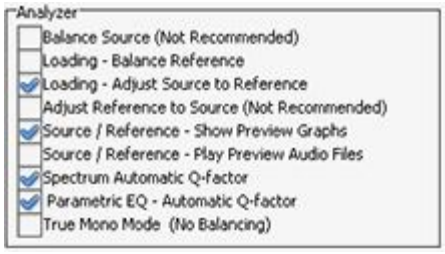
So be sure not to adjust the DSP-EQ Charts, because this will influence the outcome (we discuss the DSPEQ Processor later on). Basically you can adjust the Spectrum and Adjust the DSP-EQ, because both work in serial audio pipeline. Again, for Reference adjusting. Be sure

you did nothing with the DSP-EQ settings. Now you have learned that you can be of influence and adjust the Reference Centre, Left and Right.

Therefore you can shape your own sound and use the same adjusted reference for other purposes! The example we have given you is only an example. Using the reference adjust charts this way, and you raise or lower bass frequencies, this will have effect on the outcome (more or less bass frequencies). In the beginning we said that maybe the voice would stick out of the mix, by adjusting the correct frequencies you might have better results and lower some voice frequencies this way. A good start is using AAMS database and use RMS database presets. These are general presets. Mostly AAMS does a good job and maybe you must only adjust when this is really needed. You can save the adjusted reference for later use and therefore have your own preset sound, even the reference can be handy for later use on other tracks. The ‘save reference’ saves the reference without adjustments. The ‘save adjusted reference’ saves the reference with adjustments.



The DSP-EQ Graphic Equalizer Processor is used for processing the adjusted sound and can only be adjusted from -12dB to 12dB per EQ band. So in the real world (hearing audio) the lowest possible cutoff is -12dB by the DSP-EQ Equalizer. The highest possible boost per EQ band is 12dB. So even when you use the Spectrum Reference Adjust Charts and DSP-EQ Adjust charts, the possible boost can only be between -12dB and 12dB on the outcome of the DSP-EQ Graphic Equalizer Processor.



Analyzer Suggestion Options Tab

The AAMS DSP Analyzer consists of a spectrum analyzer and measurements of levels, this can be EQ levels or Compression Levels in dB. The AAMS Analyzer can scan audio files up

to 64bit in memory and comes up with AAMS Suggestions. AAMS Suggestions are suggestions for DSP-EQ, DSP-Compressor and DSP-Loudness. But also ment for the user to see what AAMS is suggesting and mastering against. The written *.aam file is a file that represents AAMS Analyzer file system. The *.aam file must belong coexisting with an Audio File (source) of the same name. Or an *. aam file can be a reference file. Anyway AAMS Analyzer does Audio Analyzing by scanning an audio file or Realtime by playing audio inside AAMS. You can say AAMS Analyzer is the first and foremost item that is needed towards creating an audio master. The options therefore must only be changed by a more experienced user.

Balance Source (Not Recommended)
Balances the Source before AAMS Calculates the suggestions. This will Balance Left and Right of the Source Suggestions. This does not mean Mono mode balancing, but just the Spectrum Left and Right are adjusted to sound equal on both left and right side together. Mostly this will affect the Balance and is standard turned Off. Because we do not want the analyzed material to be changed internally by calculations, we want the analyzed material to be the same as the audio file (source).

Loading - Balance Reference
Balances (L+R) the Reference before AAMS Calculates the suggestions. This will Balance Left and Right of the Reference Suggestions. The might be a good idea when you want Left and Right of the Reference to be Balanced. In the later stage the DSP-Loudness Balance has then less balancing to do. This will not affect later mastering, but can be helpful for DSP-EQ and DSP-Compressor and can have a better feel of middle hearing sense.

Loading - Adjust Source to Reference
Source is adjusted before AAMS calculates the suggestions. This will adjust the source to the reference. Mainly will lower or raise the whole spectrum to match the reference. When not turned ON, standard is ON, The DSP-EQ can have one sided raising or lowering of the whole EQ spectrum. When turned ON the DSP-EQ will do more equal to 0dB line suggestions and mastering might sound better because of not using too much EQ power to raise or lower the whole spectrum.

Adjust Reference to Source (Not Recommended)
Reference is adjusted (Not Recommended) before AAMS calculates the suggestions. This function is not Needed and is standard turned Off. When turned On, the Reference is raised or lowered in the whole spectrum, therefore matches the source spectrum. As this is the other way what we want (we want mastering of Source towards Reference) this options is made but has not much use. It is the opposite option from 'Loading - Adjust Source to Reference'.

Source/Reference - Show Preview Graphs and Preview Audio
Shows Compressor Chart in Analyzer Tab, Source and Reference Tabs.

Source/Reference - Play Preview Audio Files
Plays a selected file in the Analyzer Tab.

Q Factor
Q Factor and Bandwidth in EQ: what they mean ? If you are reading up on EQ, and wondering exactly what the terms ‘Q factor’ and ‘bandwidth’ mean, maybe this will help. Q factor controls the bandwidth—or number of frequencies—that will be cut or boosted by the equalizer. The lower the Q factor, the wider the bandwidth (and the more frequencies will be affected). Low Q factor of 0.35 results in a wide bandwidth. The higher the Q factor, the

narrower the bandwidth (and the fewer frequencies will be affected). High Q factor of 3.10 results in a narrow bandwidth. Most software-based EQ programs have a Q factor range of somewhere around 0.10 to 100; however, only a very small part of this range need be used. Most boosts and cuts should be carried out with a much gentler Q factor, of somewhere between 0.6 and 1.0, as this tends to result in a much more natural sound.

AAMS Q Factor
AAMS used a q factor from 1 to 250. This is because AAMS Analyzer is based on Spectrum analyzing and differs from EQ that it's measurements are much more detailed. Though we have placed an Q factor for making the displays and charts more readable. The Q factor is also used for AAMS internal processing. A Q Factor for AAMS as 1 is detailed and 250 means more straight lines horizontal. So the more AAMS Q Factor forwards 250 the wider the band is. The more AAMS Qfactor comes to 1 the more detailed the spectrum will be. The Standard Q Factor is about 32.

Spectrum Automatic Q-Factor
The Q-Factor of the Spectrum Analyzer is automatically set. Turn this OFF to input your own Qfactor. Use the slider to user setup the Q Factor.

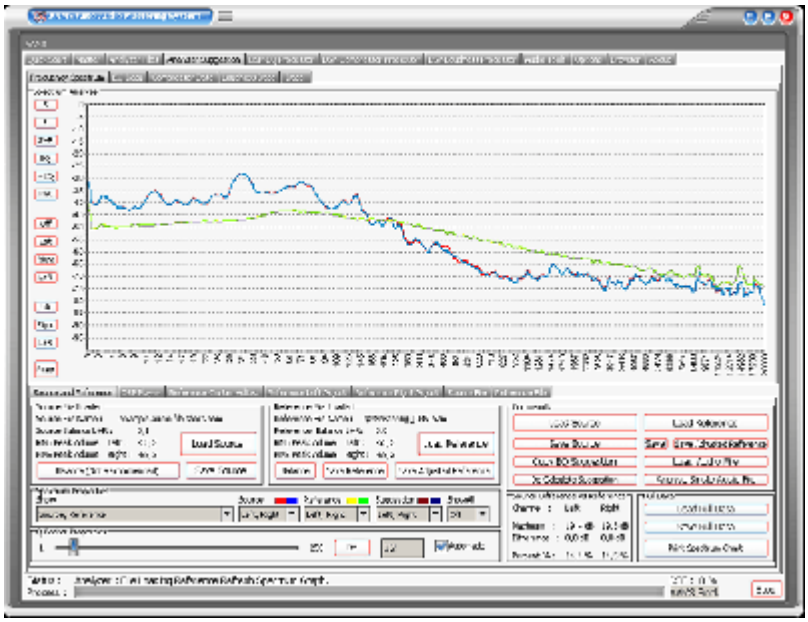
Parametric EQ - Automatic Q-Factor
The Q-Factor of the Parametric EQ is automatically set. Turn this OFF to input your own Qfactor. Use the slider to user setup the Q Factor.

True Mono Mode (No Balancing)
Sets AAMS to work in mono mode, this can work good on audio that is recorded very different with left right middle settings that are panned. Like drums on the left and vocals hard right (example). With the mono mode AAMS will apply mono settings calculated from left and right channels and re-applies them for both channels (left and right) equally. So this may not hurt the left right balance the mix was originally intended for. This settings keeps the balance of the original recording audio source, and does not do anything to correct the balance.

Show Original x-axis
Shows the x-axis from the spectrum analyzer (not in Frequency Hz like standard).

Settings, Save Options
Saves all options in the AAMS.INA file. This feature must be used when you changed any option as mentioned above. You can restore AAMS defaults in the preferences tab.

Settings, Load Options
Reloads the AAMS.INA file and restores the options. This feature can be used when you need to reset AAMS options.



Equalizers Explained

An equalizer is designed to alter the tonal quality of audio passing through it, this by using a number of filter circuits. Filters are capable of applying gain to audio signals within specific frequency ranges, positive or negative, referred to a 'boost' or 'cut'. The more filters the better control over the whole frequency range in steps, but with crossovers in the filters there can be upcoming distortion. AAMS uses a linear spectrum equalizer with 100 filters, what basically means there is lots of control and the sidewalls are so steep, the filtering does not affect each other. The quality of the AAMS DPS-EQ Spectrum Equalizer with 100 EQ Bands is very high and by our users admitted as the one of the best EQ's around.

Suggestions are made by comparing source and reference, to calculate between them the best settings for processing the source file.

You can load Source and Reference data at any time and AAMS will recalculate its suggestions instantly. The suggestions are displayed on the Suggestion Tab in Charts and Text, so that you can also use any hardware outboard equipment and software plugins that you already own. Also for the visual aspect Charts and Graphs are created to make the user understand more and learn, even adjusting the Reference or the DSP-EQ Suggestion is possible. Based on the Analyzer results AAMS presents suggested Mastering, Equalizer, Compressor and Loudness settings. AAMS uses these suggested calculations for further processing towards the end result, a fully automatic mastering chain. These can be reviewed and edited by the user in many ways. All you need to master your mix to a perfect result. Simply spending the time to listen and understand AAMS suggestions can help you to improve your mixing and mastering. The suggestions based on Analyzer results are displayed here. Each time the state of the AAMS program changes due loading a file or user changes, AAMS will recalculate. The outcome of these calculations will display on the Suggestion Tab and related pages.

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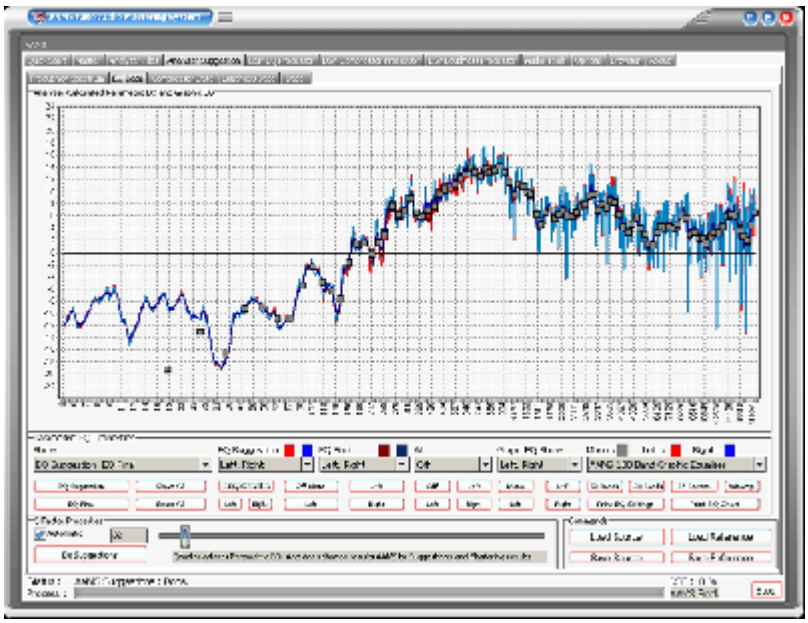
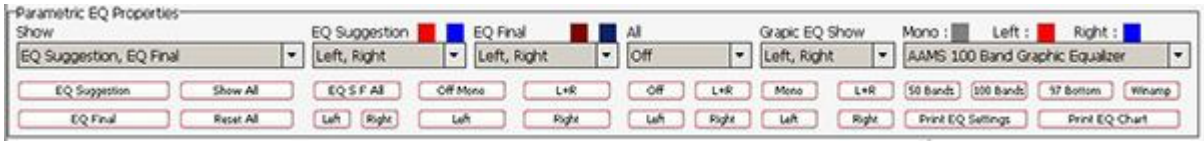
correct the Spectrum of the Reference that has been loaded and save edited reference as a new reference for later use. Later on we will address the same procedure on adjusting the DSP-EQ that will work just about the same way. But however adjusting the Spectrum Reference might be a better more compatible way.



The Parametric EQ Page

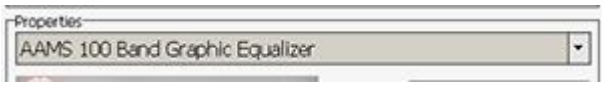
This page shows you how to adjust a Parametric EQ accordingly to the analyzer suggestions. How to get a real Equalizer to play these settings is explained later. On the display red lines show Left EQ and blue lines show Right EQ. The darker red and blue lines are Q-factored and smoothed allowing you to set up a parametric EQ accordingly. It is possible to zoom-in (left click mouse and drag to right) and zoom-out (Right click mouse and drag to left), this way you can have a close look at EQ Settings within detailed frequency spectrum. For users who want to investigate and see, this can be a very good overview.



Parametric EQ Properties

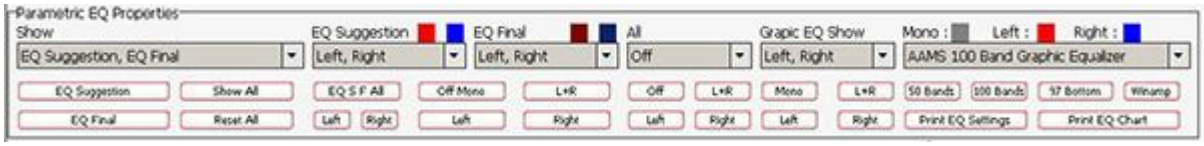
Shows the different status of EQ Suggestion into the chart.
Show - EQ Suggestion, EQ Final, EQ Suggestion-EQ Final.
EQ Suggestion - Pre Calculated EQ Suggestion.
EQ Final - The EQ Final Settings.

EQ Suggestion - Left, Right, Left-Right.
EQ Final - Left, Right, Left-Right.
All - Off, Left, Right, Left-Right.
Graphic EQ Show - Off, Mono, Left, Right, Left-Right, Left-Right-Mono.



DSP-EQ Setup

AAMS 100 Band Graphic Equalizer (standard for AAMS Professional Version)
AAMS 50 Band Graphic Equalizer (locked standard for AAMS Freeware)
AAMS 25 Band Graphic Equalizer
AAMS 50 Band Graphic Equalizer
AAMS 15 Band Graphic Equalizer
Standard 31 Band Graphic Equalizer
Standard 61 Band Graphic Equalizer
Standard 15 Band Graphic Equalizer
Alesis 24 Band Graphic Equalizer
59 Bands Bottom End Graphic Equalizer
97 Bands Bottom End Graphic Equalizer
49 Bands Mid Lows Graphic Equalizer
41 Bands High Mids Graphic Equalizer
41 Bands Highs Graphic Equalizer
99 Bands Graphic Equalizer
Keys 86 Band Graphic Equalizer
Samsung 15 Band Graphic Equalizer
Firium 50 Band Graphic Equalizer
61 Band Graphic Equalizer
Sony Plugin 10 Band Graphic Equalizer
Sony Plugin 20 Band Graphic Equalizer
Winamp 11 Band Graphic Equalizer



Buttons

EQ Suggestion - Recalculates AAMS Analyzer EQ Suggestions.
EQ Final - Recalculates AAMS Analyzer DSP-EQ Final Settings.
Show All - Shows original state in the chart.
Reset All - Resets to original state in the chart.

EQ Suggestion - EQ S F All, Left, Right.
EQ Final- Off Mono, Left, Right, L R.
ALL, Off, Left, Right, L R
Graphic EQ Show - Mono, Left, Right, L R.

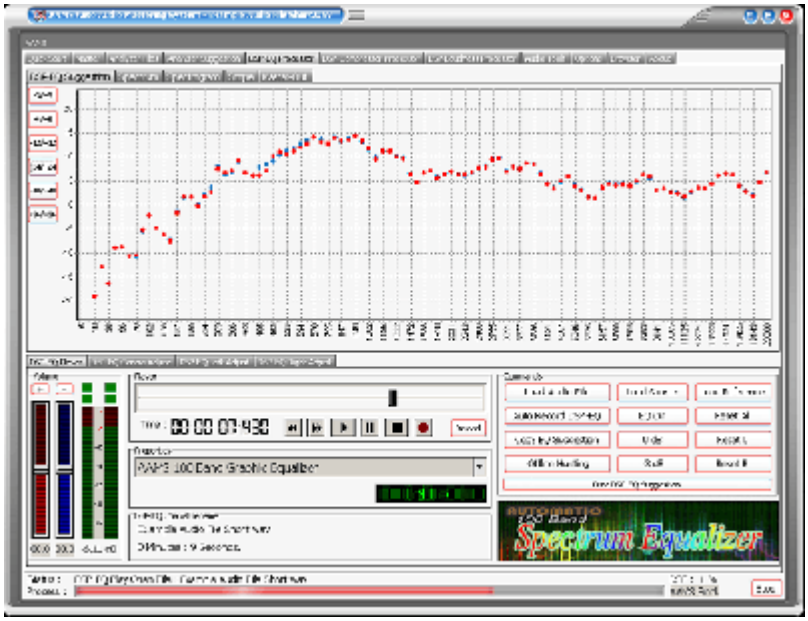
50 Bands - Sets the DSP-EQ to 50 Bands AAMS Linear EQ.
100 Bands - Sets the DSP-EQ to 100 Bands AAMS Linear EQ.
97 Bottom - Sets the DSP-EQ to 97 Bands of Bottom End EQ.
Winamp - Sets the DSP-EQ to Winamp 10 Band EQ.
Print EQ Settings - Printout of all EQ Settings.
Print EQ Chart - Printout the EQ Chart.

Q Factor Properties

In the Properties window you can change the display of the Q-Factor. The calculated Q-factor will automatically change accordingly to what DSP-EQ preset is used. When the option Automatic Q-factor is set to manual, you can change the Q-factor manually and set up the Parametric EQ Suggestion for use with your own External Parametric EQ. Users who want to work manually with the Qfactor within AAMS must be aware of side effects. When AAMS Parametric EQ Suggestion is switched to manual and you set the Q-factor, this will change the behavior of rest of the automated suggestions, (Graphic EQ, Compressor and DSP-EQ Settings). For this reason it is usually best to use an automatic Qfactor when using the internal AAMS DSP-EQ and DSP-Compressor.

Commands

Load Source - Loads a source with a popup window.
Save Source - Saves the source with a popup window.
Load Reference - Loads a reference with a popup window.
Save Reference - Saves the reference with a popup window.



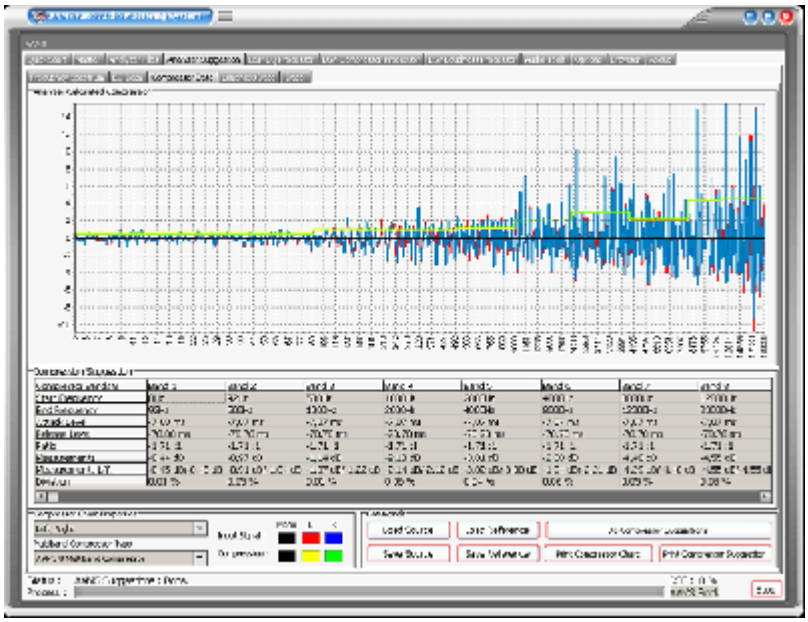
The Graphic EQ Page (see DSP-EQ Processor)

This page shows you how to adjust a Graphic Equalizer with several EQ bands that can range from 1 to 100. You can select any of the EQ presets and in the properties window you can pre-select a Graphic Equalizer of your choice. The black lines on the display show Mono EQ, red lines show Left EQ and blue lines show Right EQ. These settings will be directly copied to the DSP-EQ. We will discuss the DSP-EQ later on, were you can listen to the outcome of your audio material with the AAMS internal DSP-EQ processor. The settings can be

previewed and processed by the AAMS internal Players alike Analyzer and DSP-EQ, so you can hear the proposed changes. Processing is all done internally by aams, so an mastered outcome audio file is written to disk. The built-in DSP audio processing includes a 100-band DSP-EQ, 8-band DSP-Compressor and DSP-Loudness that can process audio in fully automatic, semi-automatic or manual modes. And AAMS will take care of all in between audio problems as clipping, dithering or normalizing.

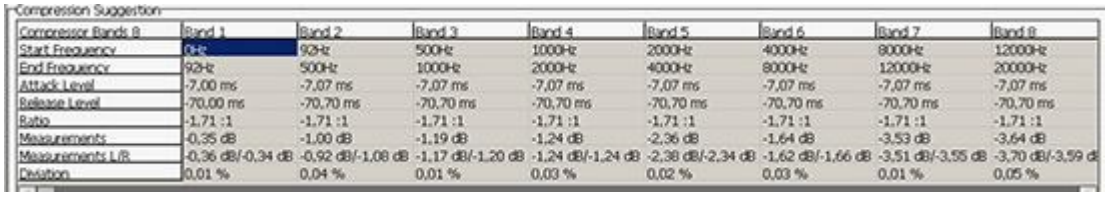
The functions and processing of the DSP-EQ is not only doing EQ-ing, but in corporation with AAMS Analyzer will process first Spectrum and EQ results by calculations and processing made internally. Mid and Side processing (m/s) is being applied as well as normal EQ processing. The possible 100 band EQ is defining a more spectrum wise way of using EQ. AAMS automatic suggestions will tell DSP-EQ how to behave. So that the best balance and spectrum is possible, AAMS will compare source and reference, making decisions what frequencies to adjust to have the same sound. This is not a copy of the reference, the source and reference are compared by AAMS Analyzer to get the best sound without just copying from the reference spectrum.

The DSP-EQ takes these settings and will EQ spectrum the audio. Also DSP-EQ is accurate meaning straight and each Frequency Band is 41 steep. Next to each other they can form a 100 band EQ, and apply as much differences as possible, because of the higher band count. With the user functions to adjust source to reference and adjust the EQ, the user can make little corrections if needed. Select the DSP-EQ Tab, this represents a Graphic Equalizer that can have a single EQ band or up to 100 EQ Bands. The DSP-EQ also functions as a player for your audio material, just press Load Audio File or press Play and a window will pop up asking for a *.wav file to play. Press Stop to stop the player and press Pause to pause playing. On top of the faders is the Equalizer frequency band, lowering the faders below will change the gain of the EQ Frequency band in db. The first row of red Faders are adjusting all Left EQ frequencies and the second row of blue Faders are adjusting all Right EQ Frequencies. You can move the faders up or down and set all faders to 0dB with Zero All Faders, Zero Left, and Zero Right. If you already have loaded a Source and Reference, AAMS has calculated suggestions for the DSP-EQ and they can be copied with Copy EQ Suggestion. In this way you won’t have to set up the DSP-EQ yourself as AAMS does all the hard manual work for you automatically. Now you can listen to the differences that AAMS suggests. You can always turn OFF the EQ to hear the original audio material. You can also use Zero All Faders and Copy EQ suggestion to A/B your audio material.



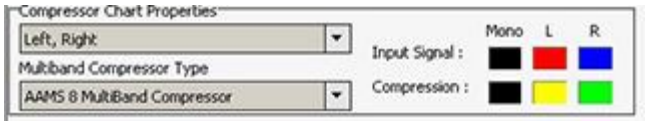
The Compressor Page

This page shows you how to adjust a multi-band Compressor according to AAMS calculations. The Average Compression values for each band are displayed in a grid. Average Compression is the value the compressor lowers the gain while the threshold limits the audio gaining that goes through the compressor band. The more the compressor lowers gain in dB per compressor band is the average compression needed. It is not necessary to understand this in detail as AAMS features an internal DSP-Compressor were suggestions are automatically configured. You can also use tools like plugins or outboard equipment to set up your compressor accordingly to AAMS calculated Average Compression settings. Basically the intention is to lower the Compressor's Threshold per Band to get the right amount of gain reduction. The ratio, attack and decay times are suggested, but you can use different settings as long as you refer to the Average Compression AAMS is suggesting per Compressor Band. The red lines and blue lines show Left and Right, the yellow line shows the Average Compression per Band. Following the yellow line and seeing the differences per band can help you see what band needs compression the most and what band does not. The display will show black for Mono settings and red and blue for stereo settings. You can select a compressor in the properties window. The DSP-Compressor is a 1-8 multi band Compressor, more on this later. The compressor suggestions are a good way to learn about compressor settings, also you can choose Izotope or Waves compressor settings, if you own those plugins. It is possible to zoom-in (left click mouse and drag to right) and zoom-out (Right click mouse and drag to left), this way you can have a close look at Compressor Settings within detailed frequency spectrum. For users who want to investigate and see, this can be a very good overview.



Compression Suggestion

Compressor 8 Bands - The maximum for Multiband Compression is 8 Bands, all other multiband setups are less.
Start Frequency - The start frequency of the band filter (steep filter).
End Frequency - The ending frequency of the band filter (steep filter).
Attack Level - Attack level in ms per band.
Release Level - Release level in ms per band.
Ratio - The ratio determines how much compression is applied to a signal that goes over your threshold.
Measurements - Compression Levels Suggested in mono (L R = Mono).
Measurements L/R - Compression Levels Suggested for Left and Right channels.
Deviation - Percentage of the suggestion that is deviation, the unsure factor of the calculated compressor band suggestion.

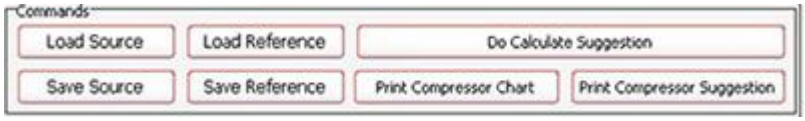


Compressor Chart Properties

Channels - Left, Right, Left-Right
Legend - Red and Blue, the input signal (source). Yellow and Green, the suggestion for compression.

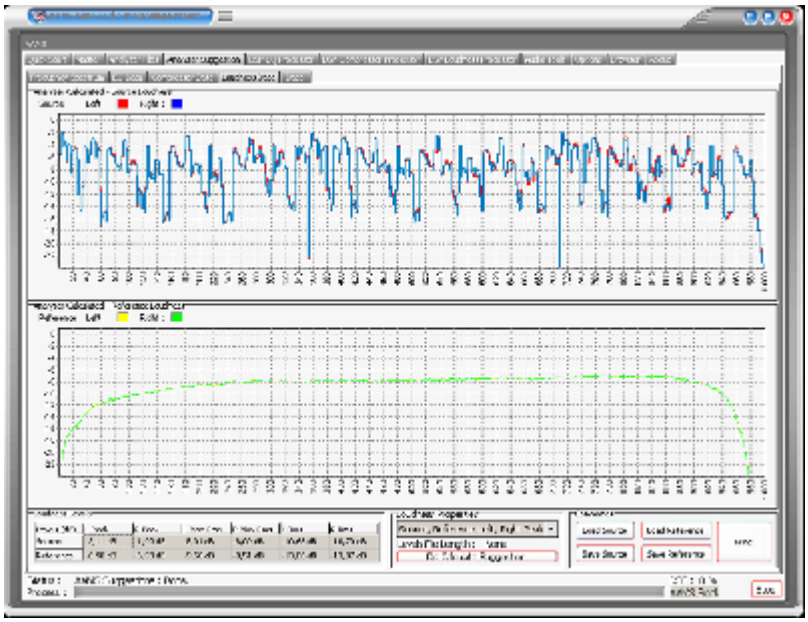
Multiband Compressor Type

AAMS 8 Band Multiband Compressor - Standard for AAMS Professional.
AAMS 4 Band Multiband Compressor - Standard for AAMS Freeware (locked).
AAMS 1 Band Single Compressor - Standard Compressor with 1 Band.
AAMS 2 Band Multiband Compressor.
AAMS 3 Band Multiband Compressor.
AAMS 5 Band Multiband Compressor.
AAMS 6 Band Multiband Compressor.
AAMS 7 Band Multiband Compressor.
Izotope Ozone 4 Band Compressor.
Waves C4 Multiband Compressor.
Waves LINMB 5 Band Compressor.



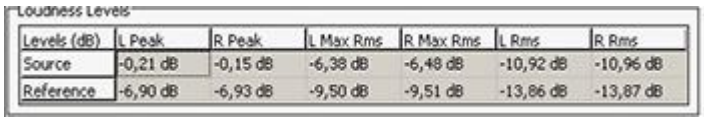
Commands

Load Source - Loads a source with a popup window.
Save Source - Saves the source with a popup window.
Load Reference - Loads a reference with a popup window.
Save Reference - Saves the reference with a popup window.
Do Calculate Suggestion - Recalculates AAMS Analyzer Suggestions.
Print Compressor Chart - Printout the compressor multiband chart.
Print Compressor Suggestion - Printout the Compressor Suggestion Table.



The Loudness Page

This page shows the overall loudness of the Source and Reference. Red and blue lines show Left and Right from the Source in db. Yellow and green lines Left and Right from the Reference in db. The highest lines show peaks and the lines below show RMS averages. From this you can see if the Source comes close to the Loudness of the Reference. Although it is not necessary to get the Source audio material as loud as the Reference, it is a good visual representation of how even your audio material sounds. The internal DSP Loudness processor will re-load and scan levels again when an audio file is loaded. The suggestions from the Loudness Suggestion Tab are not copied directly to the DSP-Loudness settings as the DSP-Loudness processor has its own routines for balance and gain. The grid display will show average and peaked level information in db. The loudness shown on this page is from the original analyzed audio file although the DSP-Loudness page will carry out its own analysis procedure and may differ in levels.


Loudness Levels

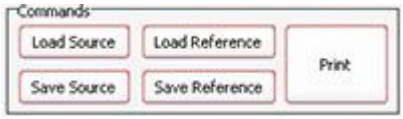
Levels (dB)	L Peak	R Peak	L Max Rms	R Max Rms	L Rms	R Rms
Source	-0,21 dB	-0,15 dB	-6,38 dB	-6,48 dB	-10,92 dB	-10,96 dB
Reference	-6,90 dB	-6,93 dB	-9,50 dB	-9,51 dB	-13,86 dB	-13,87 dB

Loudness Levels

Source - The AAMS Analyzed loudness levels for Source.
Reference - The AAMS Analyzed loudness levels for Reference.
L Peak - Peak level found for Left Channel.
R Peak - Peak level found for Right Channel.
L Max RMS - Maximum RMS Peak level found for Left Channel.
R Max RMS -Maximum RMS Peak level found for Right Channel.
L RMS - RMS level found for Left Channel.
R RMS - RMS level found for Right Channel.

Loudness Properties

Source Left Peak - Shows Left Peaks for Source calculated in chart above.
Source Right Peak - Shows Right Peaks for Source calculated in chart above.
Source Left-Right Peak - Shows Left and Right Peaks for Source calculated in chart above.
Reference Left Peak - Shows Left Peaks for Reference calculated in chart above.
Reference Right Peak - Shows Right Peaks for Reference calculated in chart above.
Reference Left-Right Peak - Shows Left and Right Peaks for Reference calculated in chart above.
Source Left RMS - Shows Left RMS Levels for Source calculated in chart above.
Source Right RMS - Shows Right RMS Levels for Source calculated in chart above.
Source Left-Right RMS - Shows Left and Right RMS Levels for Source calculated in chart above.
Source Reference Left RMS - Shows Left RMS Levels for Source and Reference calculated in chart above.
Source Reference Right RMS - Shows Right RMS Levels for Source and Reference calculated in chart above.
Source Reference Left-Right RMS - Shows Left and Right RMS Levels for Source and Reference calculated in chart above.
Show All (Peak and RMS - Shows Source and Reference, both RMS and Peak Levels.
Do Calculate Suggestion - Recalculates AAMS Analyzer Suggestions.

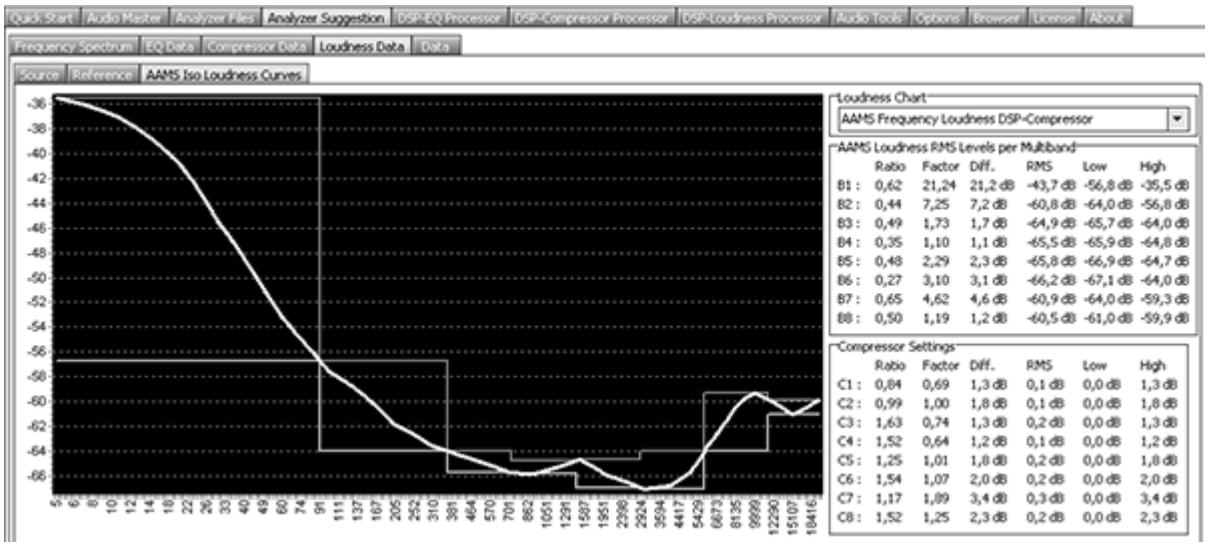


Commands

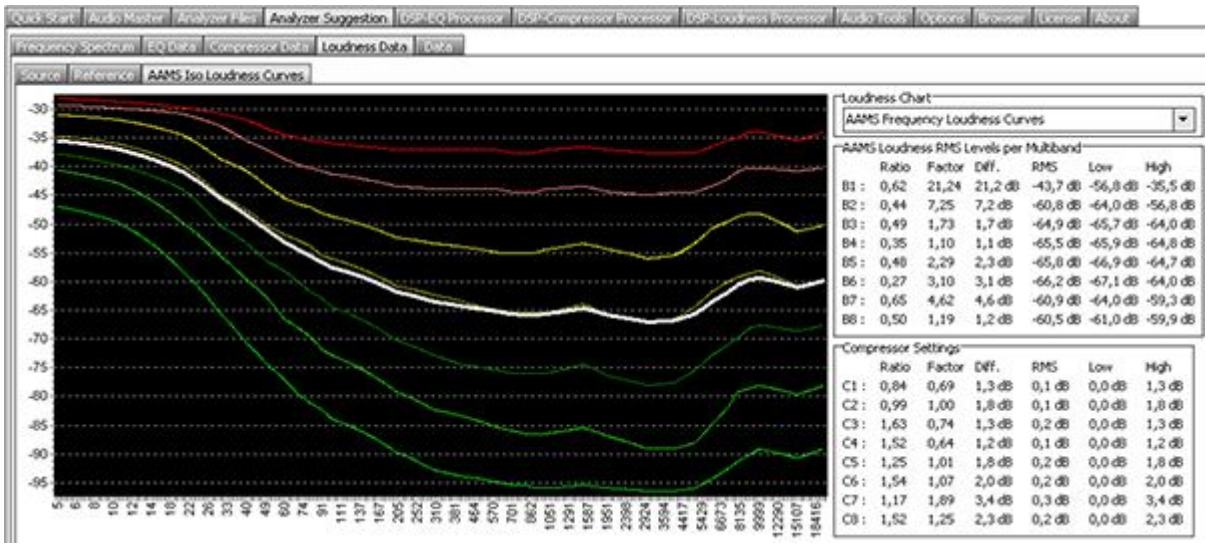
Load Source - Loads a source with a popup window.
Save Source - Saves the source with a popup window.
Load Reference - Loads a reference with a popup window.
Save Reference - Saves the reference with a popup window.
Print - Print the loudness Levels table.

AAMS Loudness Curves (ISO226 Fletcher Munson Curves)

For AAMS Suggestions te be done, the AAMS Loudness Curves can be calculated from source against reference. When options for AAMS Loudness Curves are turned ON, the AAMS Loudness Curves for Human Hearing are taken into consideration by AAMS Calculated Suggestions for the DSP-EQ, DSP-Compressor and DSP-Loudness.

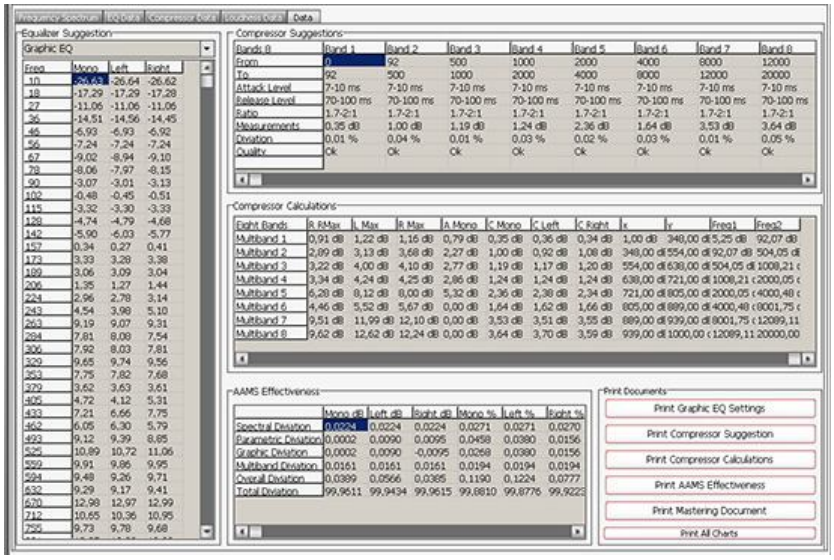


Above picture shows the AAMS Frequency Loudness for DSP-Compressor Multibands. This will show the calculations made for AAMS Suggestions on the DSP-Compressor when AAMS Loudness Curves are used. You can see Bass or lower frequency signals have a higher power dynamic range and impact then higher frequencies. The Chart shows the differences that a human can hear audio with the correct levels according to the ISO226 standard for Human Hearing. If the AAMS Loudness Curves or AAMS Loudness Levels System is used (Turned On standard) the compression levels that raise or lower the signal has been done accordingly to the AAMS Loudness Curves. When turned Off, AAMS uses the straightforward calculations instead.



The Fletcher–Munson curves are one of many sets of equal-loudness contours for the human ear, determined experimentally by Harvey Fletcher and Wilden A. Munson, and reported in a 1933 paper entitled "Loudness, its definition, measurement and calculation" in the Journal of the Acoustic Society of America. The first research on the topic of how the ear hears different frequencies at different levels was conducted by Fletcher and Munson in 1933. Until recently, it was common to see the term Fletcher–Munson used to refer to equal-loudness contours generally, even though a re-determination was carried out by Robinson and Dadson in 1956, which became the basis for an ISO 226 standard. It is now better to use the generic term equal-loudness contours, especially as a 2003 survey by ISO redefined the curves in a new standard. According to the ISO report, the Robinson–Dadson results were the odd one out,

differing more from the current standard than did the Fletcher Munson curves. The report states that it is fortunate that the 40-phon Fletcher–Munson curve on which the A-weighting standard was based turns out to have been in agreement with modern determinations. The AAMS Loudness Curves are derived from the ISO226 standard and is converted to work with AAMS Spectrum signals. The DSP-EQ, DSP-Compressor and DSP-Loudness can be affected by AAMS Loudness Curves for Human Hearing, by that taking in account that raising the signal (EQ or Spectrum Frequencies) influence the way the Human Ear perceives the signal as hearing. Most likely a Bass signal when EQ is applied to it, raising the Bass signal by EQ will be much louder than raising other higher frequency based signals. The factor of Bass B1 (multiband 1) is much higher (21,24 times) then B8 (1.19 times). So Bass or Lower Band signals tend to give much power and lose headroom more. Higher signals like High hats or so, will give not so much power and do not really affect headroom as much. In fact Bass Signals are 21 times more powerful (0-150hz) then signals (10.000hz to 22500hz). The Ratio converts the multibands factor into a workable Ratio. Though Bass signals are more powerful, a change in signal of Bass B1 and B8 (0.62 and 0,5) are not so different. The Ratio will say something about when a signal is raised or lowered, how it will likely affect human hearing. Anyway the ISO226 Curves are translated by AAMS into the AAMS Loudness Curves and is used by AAMS Suggestions, and the processing's chain of AAMS. We see the AAMS Loudness Curves as a good method to predict changes to the source audio material towards the reference chosen. And all will affect the Mastered Outcome. Most likely the AAMS Loudness Curves and AAMS Analyzer / processing system will give a more equal sound when the volume is turned UP or DOWN and therefore improved the steadiness of your sound by more speaker systems played and by more humans hearing.

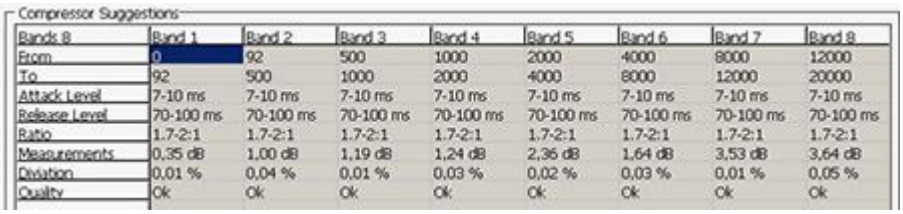


Data Tab

The Data Tab displays all data for every AAMS Analyzer Suggestion. Equalizer Suggestions, Compressor Suggestions, Compressor Calculations, AAMS Effectiveness, Printing Documents. All data is presented here from AAMS Analyzer and its suggestions that are calculated.

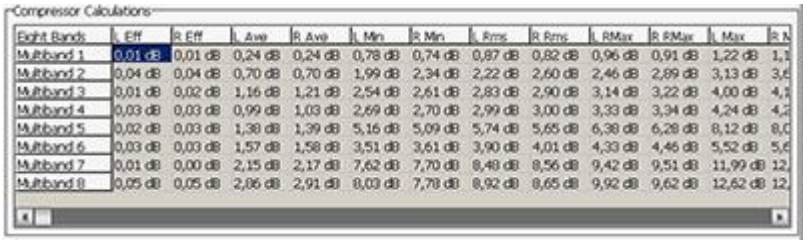
Equalizer Suggestion (Graphic EQ Preset)

Freq - Frequency Band (from EQ Preset).
Mono - Level Mono for EQ Band in dB (raise dB, lower -dB).
Left - Level Left Channel for EQ Band in dB (raise dB, lower -dB).
Right - Level Right Channel for EQ Band in dB (raise dB, lower -dB).



Compressor Suggestions

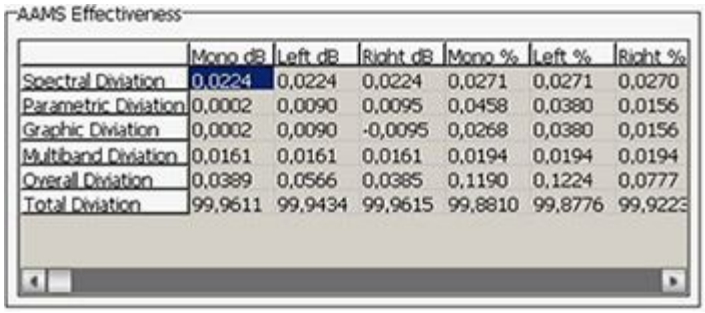
Bands - Multiband (1 to 8 Maximum)
From - Start frequency of the multiband.
To - End frequency of the multiband.
Attack Level - Attack level in ms per band.
Release Level - Release level in ms per band.
Ratio - The ratio determines how much compression is applied to a signal that goes over your threshold.
Measurements - Compression Levels Suggested in mono (L R = Mono).
Measurements L/R - Compression Levels Suggested for Left and Right channels.
Deviation - Percentage of the suggestion that is deviation, the unsure factor of the calculated compressor band suggestion.
Quality - OK for Good or Excellent, Not OK for a miscalculation.



Compressor Calculations

Multibands - Multiband (1 to 8 Maximum).
L Eff - Left Effectiveness in dB.
R Eff - Right Effectiveness in dB.
L Ave - Average Compression Level for Left.
R Ave - Average Compression Level for Right.
L Min - Minimum Compression Level for Left.
R Min - Minimum Compression Level for Right.
L Rms - Average Compression Level for Left.

R Rms - Average Compression Level for Right.
L R Max - Maximum Compression level for Left (R).
R R Max - Maximum Compression level for Right (R).
L Max - Maximum Compression level for Left.
R Max - Maximum Compression level for Right.
A Mono - Average Mono Compression Level.
C Mono - Mono Compression Level.
C Left - Left Compression Level
C Right - Right Compression Level.
X - Internal number for Frequency (0-1000).
Y - Internal number for Frequency (0-1000).
Freq 1 - Start Frequency of the filter band.
Freq 2 - End Frequency of the filter band.



AAMS Effectiveness

Mono dB - Maximum deviation in Mono dB (L R).
Left dB - Maximum deviation in Left dB.
Right dB - Maximum deviation in Left dB.
Mono Percentage - Maximum deviation in Mono Percentage (L R).
Left Percentage - Maximum deviation in Left Percentage.
Right Percentage - Maximum deviation in Right Percentage.
Spectral Deviation - Spectral Deviation in maximum of dB.
Parametric Deviation - Parametric Deviation in maximum of dB.
Graphic Deviation - Graphic Deviation in maximum of dB.
Multiband Deviation - Multiband Deviation in maximum of dB.
Overall Deviation - Overall Deviation in maximum of dB.
Total Deviation - Total Deviation in percentage (close to 100%).

Print Documents

Print Graphic EQ Settings - Printout of EQ Suggestions.
Print Compressor Suggestion - Printout of Compressor Suggestions.

Print Compressor Calculations - Printout of Compressor Calculations.
Print AAMS Effectiveness - Printout of how effective AAMS is.
Print Mastering Document - Printout of the last Mastering Document.
Print All Charts - Printout of All Charts.

AAMS Mastering Document

The mastering document is supplied with every master AAMS will output into a directory and is in TXT MSWORD format. It will show the AAMS Analyzer Suggestion and when processing is done towards a finished Audio Master, what settings where applied on the audio file. This can be handy as documentation and is written alongside the original audio file.

AAMS Auto Audio Mastering System - Mastering Document (Example)
Below is an example of an AAMS Mastering Document :

Source File : example audio file.aam
Reference File : Mastering_RMS.aam

Equalizer Suggestion - Settings

(1) Freq. : 10 Hz M : -26,6 dB L : -26,6 dB R : -26,6 dB
(2) Freq. : 18 Hz M : -17,3 dB L : -17,3 dB R : -17,3 dB
(3) Freq. : 27 Hz M : -11,1 dB L : -11,1 dB R : -11,1 dB
(4) Freq. : 36 Hz M : -14,5 dB L : -14,6 dB R : -14,5 dB
(5) Freq. : 46 Hz M : -6,9 dB L : -6,9 dB R : -6,9 dB
(6) Freq. : 56 Hz M : -7,2 dB L : -7,2 dB R : -7,2 dB
(7) Freq. : 67 Hz M : -9,0 dB L : -8,9 dB R : -9,1 dB
(8) Freq. : 78 Hz M : -8,1 dB L : -8,0 dB R : -8,1 dB
(9) Freq. : 90 Hz M : -3,1 dB L : -3,0 dB R : -3,1 dB
(10) Freq. : 102 Hz M : -0,5 dB L : -0,5 dB R : -0,5 dB
(11) Freq. : 115 Hz M : -3,3 dB L : -3,3 dB R : -3,3 dB
(12) Freq. : 128 Hz M : -4,7 dB L : -4,8 dB R : -4,7 dB
(13) Freq. : 142 Hz M : -5,9 dB L : -6,0 dB R : -5,8 dB
(14) Freq. : 157 Hz M : 0,3 dB L : 0,3 dB R : 0,4 dB
(15) Freq. : 173 Hz M : 3,3 dB L : 3,3 dB R : 3,4 dB
(16) Freq. : 189 Hz M : 3,1 dB L : 3,1 dB R : 3,0 dB
(17) Freq. : 206 Hz M : 1,4 dB L : 1,3 dB R : 1,4 dB
(18) Freq. : 224 Hz M : 3,0 dB L : 2,8 dB R : 3,1 dB
(19) Freq. : 243 Hz M : 4,5 dB L : 4,0 dB R : 5,1 dB
(20) Freq. : 263 Hz M : 9,2 dB L : 9,1 dB R : 9,3 dB
(21) Freq. : 284 Hz M : 7,8 dB L : 8,1 dB R : 7,5 dB
(22) Freq. : 306 Hz M : 7,9 dB L : 8,0 dB R : 7,8 dB
(23) Freq. : 329 Hz M : 9,6 dB L : 9,7 dB R : 9,6 dB
(24) Freq. : 353 Hz M : 7,8 dB L : 7,8 dB R : 7,7 dB
(25) Freq. : 379 Hz M : 3,6 dB L : 3,6 dB R : 3,6 dB
(26) Freq. : 405 Hz M : 4,7 dB L : 4,1 dB R : 5,3 dB
(27) Freq. : 433 Hz M : 7,2 dB L : 6,7 dB R : 7,8 dB
(28) Freq. : 462 Hz M : 6,0 dB L : 6,3 dB R : 5,8 dB
(29) Freq. : 493 Hz M : 9,1 dB L : 9,4 dB R : 8,8 dB
(30) Freq. : 525 Hz M : 10,9 dB L : 10,7 dB R : 11,1 dB
(31) Freq. : 559 Hz M : 9,9 dB L : 9,9 dB R : 10,0 dB
(32) Freq. : 594 Hz M : 9,5 dB L : 9,3 dB R : 9,7 dB
(33) Freq. : 632 Hz M : 9,3 dB L : 9,2 dB R : 9,4 dB
(34) Freq. : 670 Hz M : 13,0 dB L : 13,0 dB R : 13,0 dB
(35) Freq. : 712 Hz M : 10,7 dB L : 10,4 dB R : 10,9 dB

(36) Freq. : 755 Hz M : 9,7 dB L : 9,8 dB R : 9,7 dB
(37) Freq. : 801 Hz M : 13,0 dB L : 13,0 dB R : 12,9 dB
(38) Freq. : 847 Hz M : 11,7 dB L : 11,8 dB R : 11,7 dB
(39) Freq. : 898 Hz M : 10,7 dB L : 10,6 dB R : 10,7 dB
(40) Freq. : 949 Hz M : 7,5 dB L : 7,5 dB R : 7,4 dB
(41) Freq. : 1005 Hz M : 9,2 dB L : 9,2 dB R : 9,2 dB
(42) Freq. : 1062 Hz M : 8,3 dB L : 8,2 dB R : 8,3 dB
(43) Freq. : 1124 Hz M : 4,7 dB L : 4,7 dB R : 4,8 dB
(44) Freq. : 1186 Hz M : 5,2 dB L : 5,3 dB R : 5,2 dB
(45) Freq. : 1254 Hz M : 4,3 dB L : 4,4 dB R : 4,3 dB
(46) Freq. : 1322 Hz M : 3,7 dB L : 3,7 dB R : 3,8 dB
(47) Freq. : 1379 Hz M : 2,8 dB L : 2,7 dB R : 2,8 dB
(48) Freq. : 1472 Hz M : 0,4 dB L : 0,4 dB R : 0,4 dB
(49) Freq. : 1555 Hz M : 0,9 dB L : 0,8 dB R : 0,9 dB
(50) Freq. : 1638 Hz M : 2,1 dB L : 2,1 dB R : 2,1 dB
(51) Freq. : 1729 Hz M : 2,7 dB L : 2,7 dB R : 2,7 dB
(52) Freq. : 1820 Hz M : 1,6 dB L : 1,5 dB R : 1,7 dB
(53) Freq. : 1920 Hz M : 2,4 dB L : 2,4 dB R : 2,5 dB
(54) Freq. : 2021 Hz M : 5,0 dB L : 5,0 dB R : 5,0 dB
(55) Freq. : 2132 Hz M : 5,2 dB L : 5,3 dB R : 5,2 dB
(56) Freq. : 2243 Hz M : 5,4 dB L : 5,4 dB R : 5,3 dB
(57) Freq. : 2364 Hz M : 5,0 dB L : 5,0 dB R : 5,0 dB
(58) Freq. : 2486 Hz M : 4,6 dB L : 4,5 dB R : 4,6 dB
(59) Freq. : 2620 Hz M : 5,3 dB L : 5,2 dB R : 5,3 dB
(60) Freq. : 2755 Hz M : 6,5 dB L : 6,5 dB R : 6,4 dB
(61) Freq. : 2903 Hz M : 6,3 dB L : 6,3 dB R : 6,3 dB
(62) Freq. : 3051 Hz M : 5,6 dB L : 5,6 dB R : 5,6 dB
(63) Freq. : 3214 Hz M : 5,9 dB L : 5,9 dB R : 6,0 dB
(64) Freq. : 3377 Hz M : 5,9 dB L : 5,9 dB R : 6,0 dB
(65) Freq. : 3556 Hz M : 6,7 dB L : 6,7 dB R : 6,7 dB
(66) Freq. : 3736 Hz M : 5,1 dB L : 5,0 dB R : 5,1 dB
(67) Freq. : 3933 Hz M : 4,6 dB L : 4,5 dB R : 4,7 dB
(68) Freq. : 4131 Hz M : 3,8 dB L : 3,8 dB R : 3,9 dB
(69) Freq. : 4349 Hz M : 3,0 dB L : 3,0 dB R : 3,0 dB
(70) Freq. : 4567 Hz M : 3,9 dB L : 3,9 dB R : 3,8 dB
(71) Freq. : 4806 Hz M : 4,3 dB L : 4,3 dB R : 4,3 dB
(72) Freq. : 5046 Hz M : 2,9 dB L : 2,9 dB R : 2,9 dB
(73) Freq. : 5310 Hz M : 2,3 dB L : 2,2 dB R : 2,3 dB
(74) Freq. : 5575 Hz M : 0,8 dB L : 0,8 dB R : 0,8 dB
(75) Freq. : 5866 Hz M : 1,3 dB L : 1,3 dB R : 1,2 dB
(76) Freq. : 6157 Hz M : 2,5 dB L : 2,4 dB R : 2,5 dB
(77) Freq. : 6478 Hz M : 3,0 dB L : 3,0 dB R : 3,1 dB
(78) Freq. : 6799 Hz M : 2,5 dB L : 2,5 dB R : 2,5 dB
(79) Freq. : 7152 Hz M : 3,5 dB L : 3,5 dB R : 3,5 dB
(80) Freq. : 7505 Hz M : 4,2 dB L : 4,2 dB R : 4,2 dB
(81) Freq. : 7894 Hz M : 4,5 dB L : 4,5 dB R : 4,5 dB
(82) Freq. : 8283 Hz M : 5,2 dB L : 5,2 dB R : 5,2 dB
(83) Freq. : 8712 Hz M : 5,0 dB L : 4,9 dB R : 5,0 dB
(84) Freq. : 9141 Hz M : 2,8 dB L : 2,8 dB R : 2,9 dB
(85) Freq. : 9613 Hz M : 2,4 dB L : 2,4 dB R : 2,4 dB

(86) Freq. : 10085 Hz M : 2,2 dB L : 2,1 dB R : 2,2 dB
(87) Freq. : 10605 Hz M : 1,8 dB L : 1,7 dB R : 1,9 dB
(88) Freq. : 11125 Hz M : 1,5 dB L : 1,4 dB R : 1,5 dB
(89) Freq. : 11698 Hz M : 2,7 dB L : 2,6 dB R : 2,8 dB
(90) Freq. : 12271 Hz M : 3,5 dB L : 3,3 dB R : 3,6 dB
(91) Freq. : 12902 Hz M : 2,8 dB L : 2,7 dB R : 3,0 dB
(92) Freq. : 13533 Hz M : 3,2 dB L : 3,1 dB R : 3,3 dB
(93) Freq. : 14228 Hz M : 3,6 dB L : 3,6 dB R : 3,5 dB
(94) Freq. : 14924 Hz M : 5,1 dB L : 5,2 dB R : 5,0 dB
(95) Freq. : 15689 Hz M : 5,0 dB L : 5,1 dB R : 4,8 dB
(96) Freq. : 16455 Hz M : 2,9 dB L : 2,9 dB R : 2,9 dB
(97) Freq. : 17299 Hz M : 2,2 dB L : 2,1 dB R : 2,3 dB
(98) Freq. : 18143 Hz M : 1,5 dB L : 1,6 dB R : 1,4 dB
(99) Freq. : 19046 Hz M : 4,0 dB L : 4,0 dB R : 4,0 dB
(100) Freq. : 20000 Hz M : 7,2 dB L : 7,1 dB R : 7,3 dB

Compressor Suggestion - Settings

Compressor Band : 1
Start Frequency : 5,3 Hz
End Frequency : 92,1 Hz
Compression M : 0,3 dB
Compression Left : 0,4 dB
Compression Right : 0,3 dB

Compressor Band : 2
Start Frequency : 92,1 Hz
End Frequency : 504,1 Hz
Compression M : 1,0 dB
Compression Left : 0,9 dB
Compression Right : 1,1 dB

Compressor Band : 3
Start Frequency : 504,1 Hz
End Frequency : 1008,2 Hz
Compression M : 1,2 dB
Compression Left : 1,2 dB
Compression Right : 1,2 dB

Compressor Band : 4
Start Frequency : 1008,2 Hz
End Frequency : 2000,0 Hz
Compression M : 1,2 dB
Compression Left : 1,2 dB
Compression Right : 1,2 dB

Compressor Band : 5
Start Frequency : 2000,0 Hz
End Frequency : 4000,5 Hz
Compression M : 2,4 dB

Compression Left : 2,4 dB
Compression Right : 2,3 dB

Compressor Band : 6
Start Frequency : 4000,5 Hz
End Frequency : 8001,7 Hz
Compression M : 1,6 dB
Compression Left : 1,6 dB
Compression Right : 1,7 dB

Compressor Band : 7
Start Frequency : 8001,7 Hz
End Frequency : 12089,1 Hz
Compression M : 3,5 dB
Compression Left : 3,5 dB
Compression Right : 3,5 dB

Compressor Band : 8
Start Frequency : 12089,1 Hz
End Frequency : 20000,0 Hz
Compression M : 3,6 dB
Compression Left : 3,7 dB
Compression Right : 3,6 dB

DSP-EQ Results

Fader End Volume L : -3,4 dB
Fader End Volume R : -3,4 dB

DSP-Compressor Results

Hunting Repeats : 4 / 10

Compressor band : 1
Start Frequency : 5,3 Hz
End Frequency : 92,1 Hz
Suggestion Mono : 0,3 dB

Suggestion Left : 0,4 dB
Measured Left : -0,4 dB
Differences Left : 0,0 dB
Threshold Left : -3,5 dB
AGC Correct Left : OK.

Suggestion Right : 0,3 dB
Measured Right : -0,3 dB
Differences Right : 0,0 dB
Threshold Right : -3,5 dB
AGC Correct Right : OK.

Compressor band : 2
Start Frequency : 92,1 Hz
End Frequency : 504,1 Hz
Suggestion Mono : 1,0 dB

Suggestion Left : 0,9 dB
Measured Left : -0,9 dB
Differences Left : 0,0 dB
Threshold Left : -4,1 dB
AGC Correct Left : OK.

Suggestion Right : 1,1 dB
Measured Right : -1,1 dB
Differences Right : 0,0 dB
Threshold Right : -4,1 dB
AGC Correct Right : OK.

Compressor band : 3
Start Frequency : 504,1 Hz
End Frequency : 1008,2 Hz
Suggestion Mono : 1,2 dB

Suggestion Left : 1,2 dB
Measured Left : -1,2 dB
Differences Left : 0,0 dB
Threshold Left : -4,9 dB
AGC Correct Left : OK.

Suggestion Right : 1,2 dB
Measured Right : -1,2 dB
Differences Right : 0,0 dB
Threshold Right : -4,9 dB
AGC Correct Right : OK.

Compressor band : 4
Start Frequency : 1008,2 Hz
End Frequency : 2000,0 Hz
Suggestion Mono : 1,2 dB

Suggestion Left : 1,2 dB
Measured Left : -1,2 dB
Differences Left : 0,0 dB
Threshold Left : -5,0 dB
AGC Correct Left : OK.

Suggestion Right : 1,2 dB
Measured Right : -1,2 dB
Differences Right : 0,0 dB

Threshold Right : -5,0 dB
AGC Correct Right : OK.

Compressor band : 5
Start Frequency : 2000,0 Hz
End Frequency : 4000,5 Hz
Suggestion Mono : 2,4 dB

Suggestion Left : 2,4 dB
Measured Left : -2,4 dB
Differences Left : 0,0 dB
Threshold Left : -6,6 dB
AGC Correct Left : OK.

Suggestion Right : 2,3 dB
Measured Right : -2,3 dB
Differences Right : 0,0 dB
Threshold Right : -6,6 dB
AGC Correct Right : OK.

Compressor band : 6
Start Frequency : 4000,5 Hz
End Frequency : 8001,7 Hz
Suggestion Mono : 1,6 dB

Suggestion Left : 1,6 dB
Measured Left : -1,6 dB
Differences Left : 0,0 dB
Threshold Left : -5,8 dB
AGC Correct Left : OK.

Suggestion Right : 1,7 dB
Measured Right : -1,7 dB
Differences Right : 0,0 dB
Threshold Right : -5,8 dB
AGC Correct Right : OK.

Compressor band : 7
Start Frequency : 8001,7 Hz
End Frequency : 12089,1 Hz
Suggestion Mono : 3,5 dB

Suggestion Left : 3,5 dB
Measured Left : -3,5 dB
Differences Left : 0,0 dB
Threshold Left : -6,7 dB
AGC Correct Left : OK.

Suggestion Right : 3,5 dB
Measured Right : -3,5 dB
Differences Right : 0,0 dB
Threshold Right : -6,7 dB
AGC Correct Right : OK.

Compressor band : 8
Start Frequency : 12089,1 Hz
End Frequency : 20000,0 Hz
Suggestion Mono : 3,6 dB

Suggestion Left : 3,7 dB
Measured Left : -3,7 dB
Differences Left : 0,0 dB
Threshold Left : -6,2 dB
AGC Correct Left : OK.

Suggestion Right : 3,6 dB
Measured Right : -3,6 dB
Differences Right : 0,0 dB
Threshold Right : -6,2 dB
AGC Correct Right : OK.

DSP-Compressor AGC Status

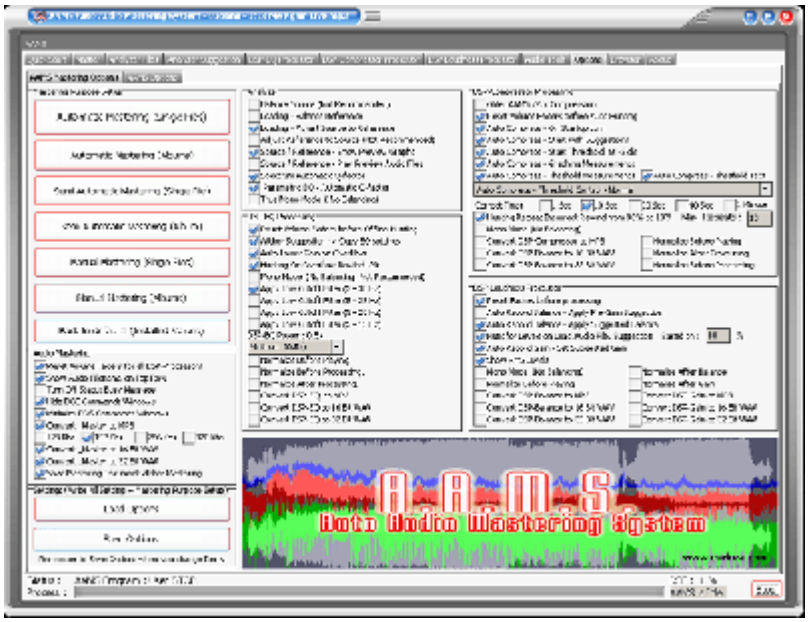
All AGC Correct!

Fader End Volume : 0.00 dB
Fader End Balance : 0.00 dB

DSP-Loudness Results

Master End Balance : 0,00 dB
Master End Loudness : 0,21 dB
DSP-Loudness Results

Master End Balance : 0,00 dB
Master End Loudness : 0,04 dB



AAMS Mastering Options

On Program Startup

Startup - Create Desktop Icon
Creates an icon for AAMS on your desktop. This icon is also created by installation of AAMS.
When you double click on the AAMS Icon on your desktop the AAMS Software will start.

Create Startup Icon
Creates an icon for AAMS in the Start Menu. This icon is created at installation.
When you click on the AAMS Windows Menu item the AAMS Software will start.

AAMS Options

Show Status Messages in Status tab
Standard to ON. Shows the status messages in AAMS Status Tab. The status messages are mainly to indicate AAMS progress. And serves as a purpose for debugging.

Save Processor Time while Mastering is Busy
Standard to ON. This reduces a bit of processing power that is needed for playback, but not needed while AAMS is mastering. Therefore reduces processor time when AAMS is mastering.

AAMS Display Visual Skin Colors
The user can choose a different skin file by clicking the button and choosing a skin file for AAMS.
This will change the looks and feel of AAMS. Standard is AAMS3.ssk.

Audio Mastering and Processing

Reset Volume Faders for all DSP-Processors
By default ON. This feature ensures by start of processing that all faders are reset to initial values. So it resets all faders to standard AAMS settings again before each mastering start. If you touched the faders, they will be reset before starting processing. You can turn this feature OFF when you are using manual mastering (nut don't turn this to Off when you don't know what you are doing, it is not recommended.

Show Audio Filename on Top Row
Shows the audio filename on the top of AAMS Auto Audio Mastering System and extends the text with the audio filename you have loaded or the filename AAMS is busy with mastering.

Turn Off Status Busy Message
Turns the busy message Off (not recommended).

Hide DOS Commands Windows
Cannot be changed.

Minimize DOS Commands Windows
Cannot be changed.

AAMS Audio Processing DSP Audio Output File(s)

Convert DSP EQ to MP3
When set and AAMS is mastering or you use DSP-EQ to record (output files), the recording audio file will be saved as MP3 file.

Convert DSP EQ to 16 Bit WAV
When set and AAMS is mastering or you use DSP-EQ to record (output files), the recording audio file will be saved as WAV format 16 bit file.

Convert DSP EQ to 32 Bit Float WAV
When set and AAMS is mastering or you use DSP-EQ to record (output files), the recording audio file will be saved as WAV format 32 bit float file.

Convert DSP Compressor to MP3
When set and AAMS is mastering or you use DSP-Compressor to record (output files), the recording audio file will be saved as MP3 file.

Convert DSP Compressor to 16 Bit WAV
When set and AAMS is mastering or you use DSP-Compressor to record (output files), the recording audio file will be saved as WAV format 16 bit file.

Convert DSP Compressor to 32 Bit Float WAV
When set and AAMS is mastering or you use DSP-Compressor to record (output files), the recording audio file will be saved as WAV format 32 bit float file.

Convert DSP Loudness Gain to MP3
When set and AAMS is mastering or you use DSP-Loudness Gain to record (output files), the recording audio file will be saved as MP3 file.

Convert DSP Loudness Gain to 16 Bit WAV
When set and AAMS is mastering or you use DSP-Loudness Gain to record (output files), the recording audio file will be saved as WAV format 16 bit file.

Convert DSP Loudness to 32 Bit Float WAV
When set and AAMS is mastering or you use DSP-Loudness to Gain record (output files), the recording audio file will be saved as WAV format 32 bit float file.

Convert DSP Loudness Balance to MP3
When set and AAMS is mastering or you use DSP-Loudness to Balance record (output files), the recording audio file will be saved as MP3 file.

Convert DSP Loudness Balance to 16 Bit WAV
When set and AAMS is mastering or you use DSP-Loudness to Balance record (output files), the recording audio file will be saved as WAV format 16 bit file.

Convert DSP Loudness Balance to 32 Bit Float WAV
When set and AAMS is mastering or you use DSP-Loudness to Balance record (output files), the recording audio file will be saved as WAV format 32 bit float file.

AAMS Audio Mastering Audio Output File(s)

Save Mastering File(s) with Reference Name
This will write the Reference Name chosen behind the Audio Filename of each mastered outcome.
By this why you can find in the AAMS Audio Mastered files will have the reference name as extension text.
So you know by what reference the audio master has been mastered with by AAMS.

Convert AAMS Mastered Audio File to Mp3
This will output an MP3 file just alike the WAV file as output file written by AAMS Mastering. Standard turned ON and with 192Kbs as setting.

Convert _Master to 16bit Wav
The AAMS mastered output file is standard 16bit Integer 44.1khz WAV file format.
This is CD Quality format.

Convert _Master to 32bit Wav
The AAMS mastered output file is standard 32bit Float 44.1khz WAV file format.
This is a better resolution format.

Save Mastering Document after Mastering
By default ON. This feature will create a full mastering document (*.doc) in the directory were AAMS is processing your audio files. This document can tell you all settings AAMS

used while mastering your track. The document is saved alongside your original file in the same directory. This document can be used for learning and mixing / mastering purposes. Also this document tells you the mastering end results for all DSP processing Features of AAMS. When not needed, you can turn this feature OFF.

Mastering Purpose Setup

There are 7 buttons to choose from, AAMS will setup itself to according settings. Instead of fiddling with AAMS separate options, you can choose AAMS Settings for Mastering Purposes directly by clicking on one of these 7 buttons and saving the options. The mastering purposes can be different for a user, because for normal mastering of 1 single track or mastering for an full album or collection. This is shown as (Single Files) or (Album) in the buttons name. By default AAMS is setup for Full Automatic Mastering for Single Files (without any user interference or control over AAMS suggestions or processing).

Back to defaults (Installed Values)
Will turn the whole AAMS Options towards original basic settings for AAMS Mastering. The basic settings are for Auto Mastering Features and Single File Automatic Mastering. This is a standard setup for AAMS as it was installed. Use ' Back to defaults' when you are not sure anymore and you changed settings in AAMS options. AAMS will return to original settings. Use Save Options to write the options file and you are back to AAMS defaults at each startup of AAMS. Whilst you do not change settings afterwards, you can revert to the standard setup by clicking Back to Defaults and then Save Options (Buttons).

Automatic Mastering (Single File)
This button will setup AAMS for full automatic mastering as intended (as by AAMS installation). Use this setting for each audio file to be corrected and mastered by AAMS for full best sound possible (on all speaker systems). Single Files means single tracks that do not need coherence between them, because you want then to be mastered as best as AAMS can. This Single File mastering setup can be good for Audio that spread on the internet or streaming services. Mostly as MP3 or some kind of packed audio data. Also it is a good setup for audio collections of MP3 files to be remastered (like using for Batch Mastering Multiple files at once). As long as you understand it is Full AAMS mastering and for Single File(s). Use Save Options to write these options settings.

Automatic Mastering (Albums)
This button will setup AAMS for full automatic mastering as intended for Albums or Collections. This setting is for when you are mastering for Albums (sets of single tracks that

need coherence between each other as a whole. Mostly an Album will explain much with 16 tracks but released by an single artist or band, DJ or performing act. The main thing here is that AAMS will Analyze and take all the tracks inside the collection or album, and master with an overall reference in mind. So AAMS will master each track as best, but within coherence of the Album. That is a bit different then Mastering for Single Files. When you need the same processing to be done by AAMS on a set of audio files that have the same purpose (they are forming an Album, they are common to each other), use this setting. Use Save Options to write these options settings

Semi-Automatic Mastering (Single File)
This button will setup AAMS for semi-automatic mastering, use this setting for each audio file to be correct for full best sound. Use this setting for each audio file to be corrected and mastered by AAMS for full best sound possible (on all speaker systems). Single Files means single tracks that do not need coherence between them, because you want then to be mastered as best as AAMS can. This Single File mastering setup can be good for Audio that spread on the internet or streaming services. Mostly as MP3 or some kind of packed audio data. Also it is a good setup for audio collections of MP3 files to be remastered (like using for Batch Mastering Multiple files at once).The Realtime Analyzer is now turned ON for DSP-EQ and DSP-Compressor. These give the user some more input on AAMS Analyzer, DSP-EQ and DSP-Compressor visualization when playing audio files and to adjust AAMS parameters. Use Save Options to write these options settings.

Semi-Automatic Mastering (Album)
This button will setup AAMS for semi-automatic mastering. This setting is for when you are mastering for Albums (sets of single tracks that need coherence between each other as a whole. Mostly an Album will explain much with 16 tracks but released by an single artist or band, DJ or performing act. The main thing here is that AAMS will take all the tracks inside the collection or album, and master with an overall reference in mind. So AAMS will master each track as best, but within coherence of the Album. When you need the same processing to be done by AAMS on a set of audio files that have the same purpose (they are forming an Album), use this setting. The Realtime Analyzer is now turned ON for DSP-EQ and DSP-Compressor. These give the user some more input on AAMS Analyzer, DSP-EQ and DSP-Compressor visualization when playing audio files and to adjust AAMS parameters. The output files of AAMS Mastering becomes much more by adding in-between files that do come from DSP-EQ, DSP-Compressor and DSP-Balancing and DSP-Loudness. Therefore the user can have access to all files that AAMS can save including the in-between files (in between AAMS processing) and the Mastered Outcome. Use Save Options to write these options settings.

Manual Mastering (Single File)
This button will setup AAMS for manual mastering Single Files, use this setting for each audio file to be correct for full best sound. The user is expected to know about audio mastering, but the AAMS software will still be helping by Mastering or doing suggestions. The user is free to setup AAMS and adjust parameters. Mostly the user is recommended to use DSP-EQ Recording, DSP-Compressor Recording and DSP-Balance and DSP-Loudness Recording. These are 3 steps that complete an audio mastering inside AAMS Software. But the user can still use Automatic Mastering functions of AAMS, even do a complete full automatic mastering. The Realtime Analyzer is now turned ON for DSP-EQ and DSP-Compressor. These give the user some more input on AAMS Analyzer, DSP-EQ and DSP-Compressor visualization when playing audio files and to adjust AAMS parameters. The output files of AAMS Mastering becomes much more by adding in-between files that do

come from DSP-EQ, DSP-Compressor and DSP-Balancing and DSP-Loudness. Therefore the user can have access to all files that AAMS can save including the in-between files (in between AAMS processing) and the Mastered Outcome. Use Save Options to write these options settings.

Manual Mastering (Album)
This button will setup AAMS for manual mastering for Albums. When you need the same processing to be done by AAMS on a set of audio files that have the same purpose (they are forming an Album), use this setting. The user is expected to know about audio mastering, but the AAMS software will still be helping by Mastering or doing suggestions. The user is free to setup AAMS and adjust parameters. Mostly the user is recommended to use DSP-EQ Recording, DSP-Compressor Recording and DSP-Balance and DSP-Loudness Recording. These are 3 steps that complete an audio mastering inside AAMS Software. But the user can still use Automatic Mastering functions of AAMS, even do a complete full automatic mastering. The output files of AAMS Mastering becomes much more by adding in-between files that do come from DSP-EQ, DSP-Compressor and DSP-Balancing and DSP-Loudness. Therefore the user can have access to all files that AAMS can save including the in-between files (in between AAMS processing) and the Mastered Outcome. The Realtime Analyzer is now turned ON for DSP-EQ and DSP-Compressor. These give the user some more input on AAMS Analyzer, DSP-EQ and DSP-Compressor visualization when playing audio files and to adjust AAMS parameters. Use Save Options to write these options settings.

Settings (Write All Settings + Mastering Purpose Setup)

Load Options
Loads options settings from disk. Reloads the AAMS.INA file and restores the options. This feature can be used when you need to reset AAMS options.

Save Options
Saves options settings to disk. Saves all options in the AAMS.INA file. This feature must be used when you changed any option as mentioned above. You can restore AAMS defaults in the preferences tab.

Back To Defaults
Initialize Options to default settings.

AAMS Program Options

The Program path, Program name and Windows Path list directories that cannot be changed.

Check Windows Version
Allows the Windows Version number to shown. This feature is for the user and debugging purposes.

Show Program Path
Shows the AAMS directory where AAMS is working in / from (as default working directory).

Turn Off Monitor
Turn Off the Monitor (don’t try if you cannot turn your monitor On again!).

Turn On Monitor
Turns the Monitor Back On.

Screensaver On
Runs the screensaver from Windows.

Screensaver Off
Turn the screensaver Off.

Soundcard
AAMS Internal processing do not need a soundcard installed on your computer, though the soundcard is only needed for playback. This sets the default playback soundcard for AAMS. AAMS does all processing inside the AAMS program. The soundcard is only needed to play audio and to listen. The availability of a soundcard is not needed, AAMS does all processing internally. Button - Reset Soundcard.

Internet Connection
The internet is only used for seeking AAMS Updates. No user info or other info is transmitted or send, the website www.curioza.com is checked for AAMS Higher versions or Updates. If so it will state here 'AAMS Updates is Online' and that Winsock is Enabled, then you are online. Show if you have internet in Windows and if it is working correctly. This is a check that AAMS can download updates.

Check for AAMS Updates
Checks for AAMS updates (newer versions available from www.curioza.com. If so AAMS will ask you to download. Most likely the AAMS.zip file will be placed on your Windows Desktop.

Check Internet Connection
Checks the internet connection of your Windows again.

Memory Readout
For debugging purposes, the author or software support can ask you to turn on this option. Mainly the user does not have to turn on this feature when not asked for. This feature measures memory and file handles while aams is processing. The log file will be save to disk, for later use by software support or debugging purposes. This is only needed for debugging sessions of AAMS. The user has no gain by turning this ON. Rather let it stay Off (unchecked). But however for debugging and problem finding of AAMS support, the user can be asked to turn this On.

Processor Information
Shows the Processor of your computer, the info readout of the processor name and brand, id, etc. The last row AAMS Calculations and DSP system (64bits or 32bits) decides the calculation density for AAMS.

Settings, Save Options
Saves all options in the AAMS.INA file. This feature must be used when you changed any option as mentioned above. You can restore AAMS defaults in the preferences tab.

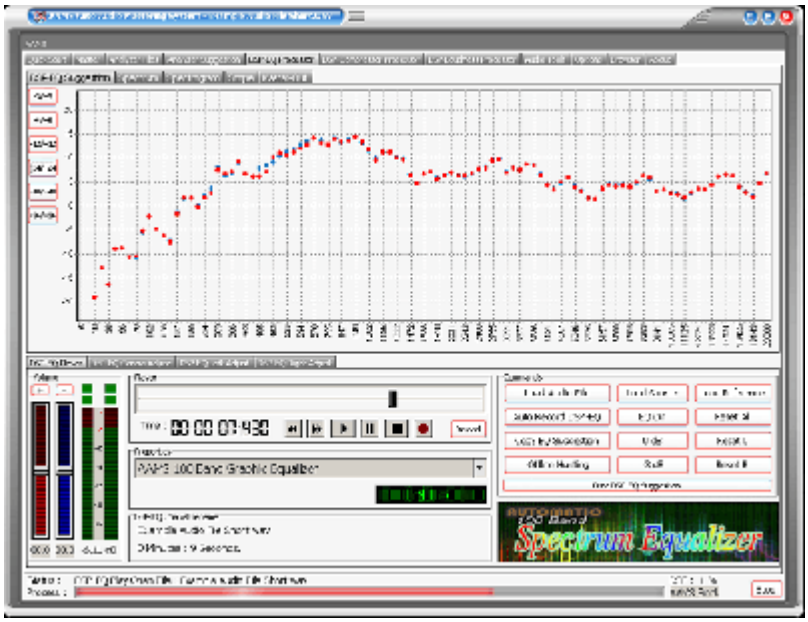
Settings, Load Options
Reloads the AAMS.INA file and restores the options. This feature can be used when you need to reset AAMS options.

Back to Defaults
Resets AAMS to basic installation defaults.

Refresh, refreshes the screen and basic processing functions.

Stop All Processing, this is the button to hit when you need AAMS to stop what it is processing or doing. AAMS will stop or be halted. If this is needed (hitting the Stop button repeatedly) then you may want to restart AAMS also to be in its default state of startup again.

DSP-Processing Options
Further setups and options are available in DSP-EQ, DSP-Compressor and DSP-Loudness.



Equalizers Explained

An equalizer is designed to alter the tonal quality of audio passing through it, this by using a number of filter circuits. Filters are capable of applying gain to audio signals within specific frequency ranges, positive or negative, referred to a 'boost' or 'cut'. The more filters the better control over the whole frequency range in steps, but with crossovers in the filters there can be upcoming distortion. AAMS uses a linear spectrum equalizer with 100 filters, what basically means there is lots of control and the sidewalls are so steep, the filtering does not affect each other. The quality of the AAMS DPS-EQ Spectrum Equalizer with 100 EQ Bands is very high and by our users admitted as the one of the best EQ's around.

The AAMS internal DSP-EQ Player / Processor explained

The settings can be previewed and processed by the AAMS internal Players alike Analyzer and DSP-EQ, so you can hear the proposed changes. Processing is all done internally by AAMS, so an mastered outcome audio file is written to disk. The built-in DSP Equalizer audio processing tool includes a 100-band DSP-EQ, 8-band DSP-Compressor and DSP-Loudness that can process audio in fully automatic, semi-automatic or manual modes. And AAMS will take care of all in between audio problems as clipping, dithering, normalizing and corrects the settings to Human Hearing (ISO 226, Fletcher Munson, Equal Loudness Contours).

A 100 Band Spectrum Equalizer, setup by AAMS suggestion calculations.

The functions and processing of the DSP-EQ is not only doing EQ-ing, but in corporation with AAMS Analyzer will process first Spectrum and EQ results by calculations and processing made internally. Mid and Side processing (m/s) is being applied as well as normal EQ processing and EQ Balancing. The possible 100 band EQ is defining a much more accurate spectrum wise way of using EQ. AAMS automatic suggestions will tell DSP-EQ how to behave. So that the best balance and spectrum is possible, AAMS will compare source and reference, making decisions what frequencies to adjust to have the same sound. This is

not a copy of the reference, the source and reference are compared by AAMS Analyzer to get the best sound without just copying from the reference spectrum. The DSP-EQ is a flat linear Equalizer that can correct the source towards the reference in 99.2% accuracy (with the 100 Band EQ applied). Therefore AAMS DSP-EQ is acclaimed as one of the best sounding and correcting Equalizers around that will not hurt or destroy your sound, instead AAMS DSP-EQ is made to do what is expected give excellent results!

AAMS 100 Band Graphic Equalizer (standard for AAMS Professional Version)
AAMS 50 Band Graphic Equalizer (locked standard for AAMS Freeware)
AAMS 25 Band Graphic Equalizer
AAMS 50 Band Graphic Equalizer
AAMS 15 Band Graphic Equalizer
Standard 31 Band Graphic Equalizer
Standard 61 Band Graphic Equalizer
Standard 15 Band Graphic Equalizer
Alesis 24 Band Graphic Equalizer
59 Bands Bottom End Graphic Equalizer
97 Bands Bottom End Graphic Equalizer
49 Bands Mid Lows Graphic Equalizer
41 Bands High Mids Graphic Equalizer
41 Bands Highs Graphic Equalizer
99 Bands Graphic Equalizer
Keys 86 Band Graphic Equalizer
Samsung 15 Band Graphic Equalizer
Firium 50 Band Graphic Equalizer
61 Band Graphic Equalizer
Sony Plugin 10 Band Graphic Equalizer
Sony Plugin 20 Band Graphic Equalizer
Winamp 11 Band Graphic Equalizer

AAMS calculates for the best possible settings.

The DSP-EQ takes these settings and will EQ spectrum the audio. Also DSP-EQ is accurate meaning straight and each Frequency Band is 41 steep. Next to each other they can form a 100 band EQ, and apply as much differences as possible, because of the higher band count. With the user functions to adjust source to reference and adjust the EQ, the user can make little corrections if needed. Select the DSP-EQ Tab, this represents a Graphic Equalizer that can have a single EQ band or up to 100 EQ Bands. The DSP-EQ also functions as a player for your audio material, just press Load Audio File or press Play and a window will pop up asking for a *.wav file to play. Press Stop to stop the player and press Pause to pause playing. On top of the faders is the Equalizer frequency band, lowering the faders below will change the gain of the EQ Frequency band in db. The first row of red Faders are adjusting all Left EQ frequencies and the second row of blue Faders are adjusting all Right EQ Frequencies. You can move the faders up or down and set all faders to 0dB with Zero All Faders, Zero Left, and Zero Right. If you already have loaded a Source and Reference, AAMS has calculated suggestions for the DSP-EQ and they can be copied with Copy EQ Suggestion. In this way you won’t have to set up the DSP-EQ yourself as AAMS does all the hard manual work for you automatically. Now you can listen to the differences that AAMS suggests. You can always turn OFF the EQ to hear the original audio material. You can also use Zero All Faders and Copy EQ suggestion to A/B your audio material.

Playing and Equalizing with AAMS internal DSP-EQ processor

The file Example1.aam file is the Source file and is located in the same directory as Example1.afd. The Example1.aam file was created by AAMS analysis of the Example1.wav file located in the same directory. The Example1.wav file can be listened to using the DSP-EQ Player. Go to the DSP-EQ tab and press the button Play or Load Audio File and select the Example1.wav file. AAMS has already copied the Graphic EQ Suggestion into the faders of the DSP-EQ, so there is no need to set up the DSP-EQ. You can adjust the DSP-EQ Bands later on, if needed. What you hear now is the audio file playing with the DSP-EQ turned ON and the AAMS Suggestions applied. If you want to hear how the original audio material sounds like, you can Zero All Faders or Turn OFF the EQ. If you want to hear the suggestion again, turn ON the EQ and press Copy EQ Suggestion.

DSP-EQ Analyzer Realtime

Above is displayed the AAMS DSP-EQ Analyzer Realtime Chart with the Analyzed 1 second timeframe EQ Suggestion. The Red line is for Left audio channel, the Blue line is for Right audio channel. The AAMS Analyzer can scan audio files and create suggestions, the AAMS Realtime Analyzer outputs each 1 second suggestions and parameters (charts) and must be Turned On, in DSP-EQ Options Tab. Read about the DSP-EQ options later in this document. The DSP-EQ Analyzer Realtime can display the EQ Suggestions in several spectrum forms. The standard is that the Spectrum shows the EQ settings. But however more van be viewed by turning On or Off the options. The Chart is refreshed every 1 second when audio is playing or being processed. The Chart can be zoomed in or our bj using the mouse and click and making a rectangle. The Analyzer Realtime outputs each second and analyzed calculation of Reference Spectrum, Source Audio Spectrum, EQ Suggestions and Differences between Source and Reference. The user has now Realtime analyzing of AAMS Suggestions and measuring visible in the DSP-EQ Analyzer Realtime Tab. For Semi-Automatic Mastering or Manual mastering the DSP-EQ Analyzer Realtime is setup to On and is working when the audio is being played inside the DSP-EQ or DSP-Analyzer. Mostly this function is disabled (turned Off) by AAMS Automatic Mastering settings or by AAMS installation. In Options, the Mastering purpose Setup will determine if the Realtime Analyzer is On or Off.

Above is displayed the AAMS DSP-EQ Analyzer Realtime Chart with the Analyzed 1 second timeframe Reference Spectrum, Differences Spectrum, EQ Suggestion. The Red line is the Left Source Spectrum Realtime 1 Second (of the original source audio). The Blue line is the Right Source Spectrum Realtime 1 Second (of the original source audio). The Yellow and Green lines are from the chosen Reference file. The darker Yellow and Green lines are the EQ Suggestions Spectrum (of the original source audio). Remember the DSP-EQ Analyzer Realtime needs to be turned On. Read the DSP-EQ options for this feature.

Ana (On/Off)
This will turn On or Off the internal Realtime analyzer.

EQ (On/Off)
This will display the Realtime spectrum EQ suggestions in the Chart.

S+R (On/Off)
This will display the reference chosen and the Difference of Levels around it in the Chart.

Sugg (On/Off)
This will display the reference chosen and the EQ Suggestions around it in the Chart.

Auto
The Chart y-axis in levels of dB are automatically setup.

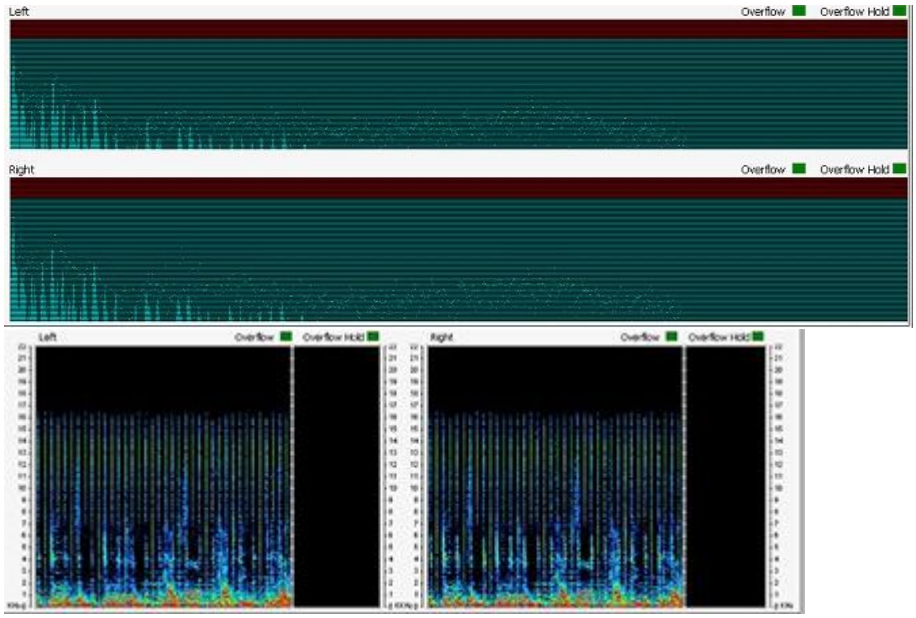
0/-96
The Chart is setup to view from 0 dB to -96 dB.

-30/-80
The Chart is setup to view from -30 dB to -80 dB.

Ana
The Count Ana means how many seconds are in the buffer and is being calculated with by AAMS Analyzer (Realtime).

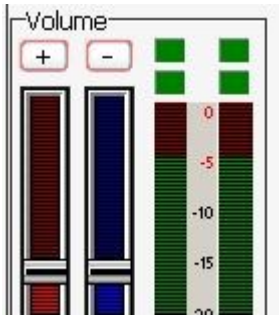
Fresh
Refreshes the Charts and sets Ana to Second. Then Ana will count te analyzed seconds number of audio again.

Correct
Transfers the Realtime EQ Suggestion Spectrum to the DSP-EQ Suggestions. Meaning it will correct (as you press the button) the DSP-EQ suggestion with the Realtime EQ Suggestion. Do not use this function. It will affect standard AAMS Suggestion for the DSP-EQ. Only use this to experiment or you know what you are doing. Refreshes the Charts and sets Ana to Second. Then Ana will count te analyzed seconds number of audio again.



DSP-EQ Real-time Views

The Real-time DSP views are preset in the DSP-EQ Tabs. When an audio file is loaded and playing these views will display and update the Spectrum, Spectrogram, Scope and Master-Out. All views as well as all level meters are updated with their own overflow LED's. When the signal is distorted by passing the highest possible maximum sound level an overflow LED will turn red. The overflow LED will return to green if all levels are returning to normal. The Hold LED’s will stay red until they are reset which can be done manually with a click of the mouse.



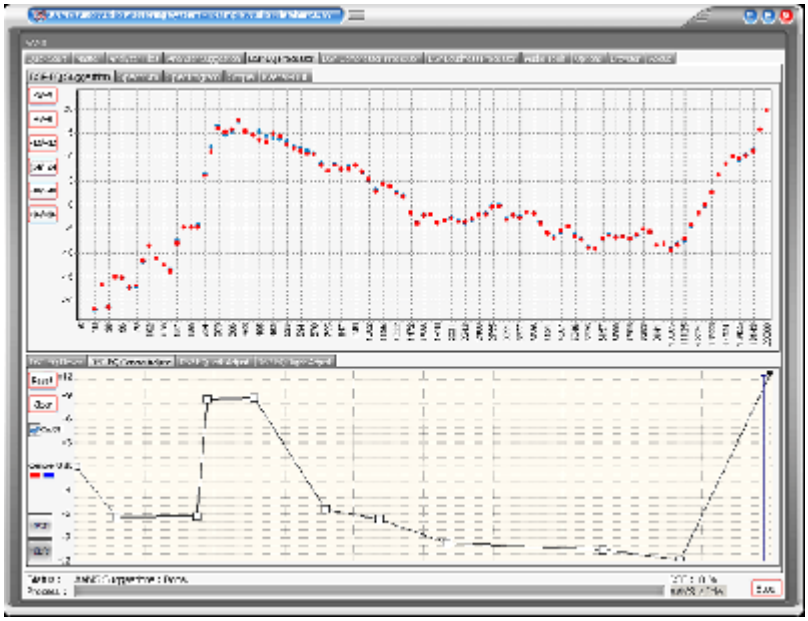
DSP Overflow

When audio becomes too loud for the AAMS internal DSP-Processor an overflow is registered by one of the LED’s. AAMS will correct such overflows automatically when the player is playing, lowering the volume faders step by step. This is called AGC (Automatic Gain Control) and the DSP-EQ, DSP-Compressor and DSP-Loudness all use the AGC automatically to reduce the volume to a level that does not contain overflows. In this way you

can be assured that levels will stay below 0dB and will not distort your sound. The Automatic Overflow feature can be turned off in the Options Tab, but this is not recommended.

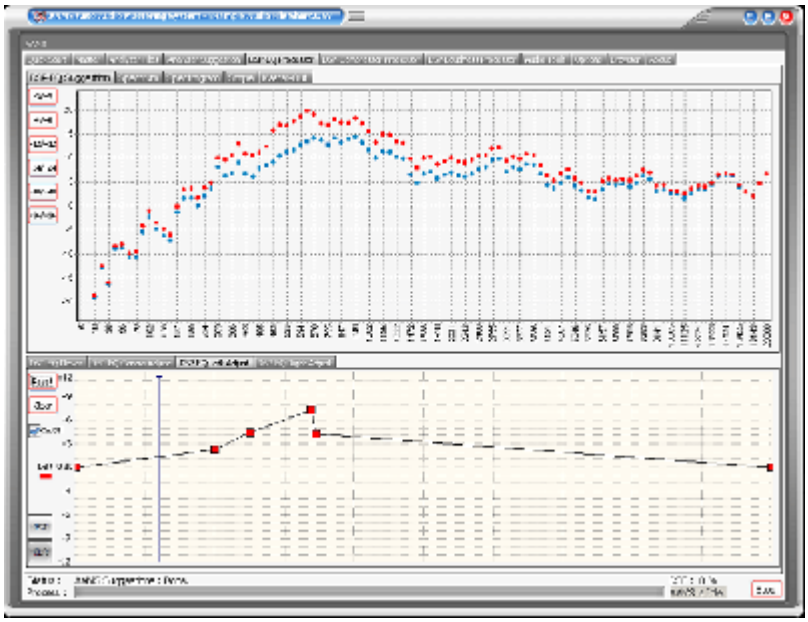
DSP-EQ

All processing is done by AAMS V3 internal DSP-Processor, by the player and DSP pipeline processing. The DSP-EQ is quite an improvement of AAMS V3 and will allow you to hear your audio material directly inside AAMS without the use of other programs, you can also edit the DSP-EQ Bands Centre, Left and Right. Changing the Reference will update all settings and you can hear differences directly, choosing a reference to match the sound you want to hear. A good starting point is loading References from the Reference Database's 200 Styles. If in doubt, choose the style closest to your music and play that one first. Initially the Example file is intended to explain how AAMS works. The same example will be used to complete a full mastering job later on, but for now take the time to get familiar AAMS features and have some fun with it.



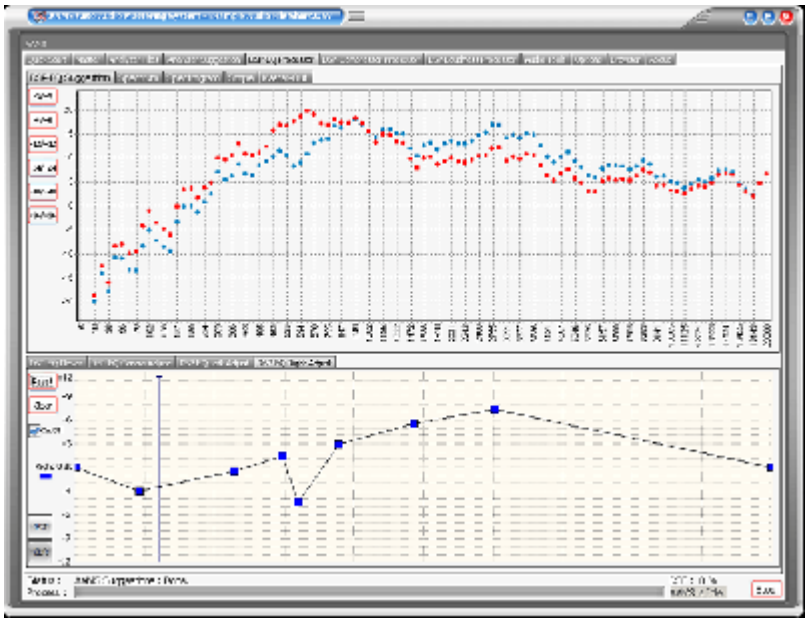
DSP-EQ Centre Adjust

To have influence on the outcome of DSP-EQ Calculations between Source and Reference (Analyzer Suggestions) the DSP-EQ Centre Adjust presents an adjustable envelope chart for all DSP-EQ Bands to be edited upwards or downwards. By clicking into the envelope chart new envelope points are created and can be adjusted. The Left and Right EQ Bands (Centre) will be adjusted accordingly. The DSP-EQ Chart will be adjusted each time you change the envelope. For users who want to adjust the DSP-EQ Bands without changing the Reference, this can be a handy tool. You can off course load a corresponding audio file into the DSP-EQ Player and listen directly to the changes in audio sound. You can reset the Envelope pressing the Reset Button. Or clear the envelope by pressing the Clear Button.



DSP-EQ Left Adjust

To have influence on the outcome of DSP-EQ Calculations between Source and Reference (Analyzer Suggestions) the DSP-EQ Left Adjust presents an adjustable envelope chart for all Left DSP-EQ Bands to be edited upwards or downwards. By clicking into the envelope chart new envelope points are created and can be adjusted. The Right EQ Bands will be adjusted accordingly. The DSP-EQ Chart will be adjusted each time you change the envelope. For users who want to adjust the DSP-EQ Bands without changing the Reference, this can be a handy tool. You can off course load a corresponding audio file into the DSP-EQ Player and listen directly to the changes in audio sound. You can reset the Envelope pressing the Reset Button. Or clear the envelope by pressing the Clear Button.



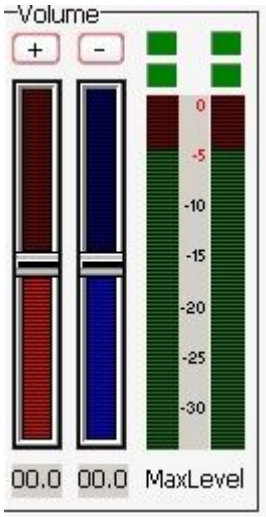
DSP-EQ Right Adjust

To have influence on the outcome of DSP-EQ Calculations between Source and Reference (Analyzer Suggestions) the DSP-EQ Centre Adjust presents an adjustable envelope chart for

all Right DSP-EQ Bands to be edited upwards or downwards. By clicking into the envelope chart new envelope points are created and can be adjusted. The Right EQ Bands will be adjusted accordingly. The DSP-EQ Chart will be adjusted each time you change the envelope. For users who want to adjust the DSP-EQ Bands without changing the Reference, this can be a handy tool. You can off course load a corresponding audio file into the DSP-EQ Player and listen directly to the changes in audio sound. You can reset the Envelope pressing the Reset Button. Or clear the envelope by pressing the Clear Button.

Auto Record DSP-EQ

This function is fully automatic. It has 2 Stage processing, first Hunting down the audio file for the suggested volume settings. This will prevent overflows that go over 0dB keeping the signal below 0dB while playing. The second stage is recording the audio file with the DSP-EQ. There is no need to set up the DSP-EQ manually as all settings are taken care of automatically as long as a valid Source and Reference are loaded into AAMS. The recorded audio file has the same name as the original audio file with the addition of the extension '_EQ.wav'.



Overflow LED’s

The overflow LED’s turn from green to red when an overflow is present in one of AAMS DSP processors. You can press each LED and the Overflow Hold LED’s turn green again. An overflow is basically a digital domain term, when a signal goes over the 0dB limit an overflow is present. Recording in the digital domain with signals over 0dB will result in damaged audio with distortion therefore it is better to adjust the volume (gain) to a lower level. You can also adjust the faders of the Equalizer to compensate for overflows but this is quite tedious.

Recording the DSP-EQ

After you are satisfied, you can process the audio material with the Record button. The Record button processes the audio and saves it as a new audio *.wav file. The Example file Example1.wav would be saved as Example1_EQ.wav.

Settings

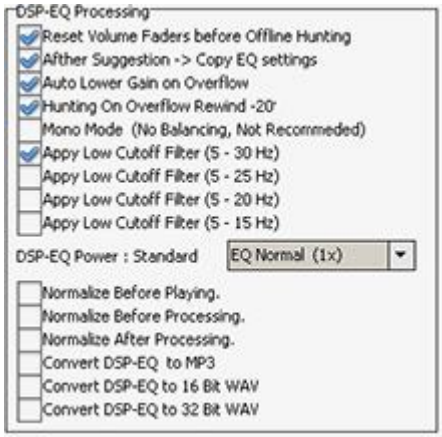
The DSP-EQ can handle from 1 to 100 Band Graphic EQ settings. The Default is 100 Band Graphic EQ which is a very good setting for all applications. Whenever you need a bit more detail, you can use the 100 Band Graphic EQ setting. Although the 100 Band Graphic EQ will give more detail this will affect processing speed. As a general rule using more EQ Bands can bring phasing into the sound. This will depend on frequency overflow in the audio material and the way a Graphic EQ does its job. Whenever you hear Phasing starting to begin, switchback to a lower DSP-EQ Setting. Most likely Phasing sometimes will only happen using the 100 Band EQ Setting. However 95% of all audio material does not introduce Phasing when using the 100 Band EQ Settings. If you better be on the safe side and in general a 50 0r 32 Band Graphic EQ is a very good default.

Manual and Automatic Mode

Because AAMS is usually set up for Automatic Mastering at installation, if you wish to work manually with the AAMS Processors it is recommended that you use the Record button of each processor. Also for configuring AAMS Options for working in manual mode, there are some settings on the Options Preferences Tab. For all Automatic Mastering purposes, switch back to Automatic Mode in Options Preferences Tab.

Specifications

The internal DSP-EQ has a natural sounding algorithm that equalizes in an exact linear manner with no resonance peaks. The frequency range is 5Hz-22050Hz. The amount of Graphic Equalizer Bands range from 1 band to 100 with 'Natural' and 'Steep' filters. Depending on the amount of EQ-Bands and the Frequency range calculated by AAMS Suggestions, the frequency range 0-5 Hz or 20000-22050 Hz is rolled-off and all Factory Presets have a Roll-On and Roll-Off Frequency range. Gain ranges from -12dB to 12dB, and can be set in fractions of 0.1dB. The Q-factor of each filter is displayed for convenience and changes depending on the amount of Graphic Equalizer filters that are in use. Designed to operate at sampling rates ranging from 44.1 KHz to 192 KHz, although the Sample rate is normally 44.1 KHz, depending on the Audio File outputted by the Player. The Internal DSP-Processing can handle 16/24/32 Bit calculations while the rest of the programming handles 64-bit code. The DSP-EQ allows comparison of the AAMS EQ Suggestions and the Original Audio.



DSP-EQ Options Tab

Reset Volume Faders before Offline Hunting
By default ON. This feature will reset all DSP-EQ faders to original AAMS positions. When manual mastering or setting are applied by using AAMS manually, turn OFF. Otherwise when AAMS is setup for Full Automatic Mastering, Turn ON.

After Suggestion -> Copy EQ Settings
After AAMS Suggestions are calculated or refreshed the EQ-Suggestions are automatically copied. Disable this option if you want to listen to the original audio material first. By default ON. This feature will reset all DSP-EQ faders to original AAMS positions. Then the faders are set to AAMS Suggestions that are pre-calculated from the Analyzer outcome. When manual mastering or setting are applied by using AAMS manually, turn OFF. This an essential setting for AAMS Mastering Automatically, turn ON. Only Turn Off when you know what you are doing, if turned Off the Suggestions that AAMS Analyzer will do, will not make it to the DSP-EQ, DSP-Compressor and DSP-Loudness, therefore AAMS will master badly. Only for users that want AAMS to have less control and the user more control over the AAMS setting or suggestions.

Auto Lower Gain on Overflow when Playing.
When the DSP-Compressor is used to play audio, AAMS DSP-EQ will automatically lower the gain of the DSP-EQ (Volume Faders) when the signal becomes too loud > -0.1dB, Led's will turn red. By default ON. This feature will reduce the level when clipping occurs. This is automatically done by AAMS processing (hunting and processing EQ). Basically no need to turn OFF, only turn OFF when you know what you are doing. So for ensuring AAMS is not creating or passing digital distortion by going over 0dB, you better leave this setting ON.

Auto Lower Gain on Overflow when Hunting.
While AAMS is mastering with DSP-EQ or the user is Recording the AAMS DSP-EQ will automatically lower the gain (Volume Faders) When the signal becomes too loud > -0.1dB. By default ON. This feature will reduce the level when clipping occurs. This is automatically done by AAMS processing (hunting and processing EQ). Basically no need to turn OFF, only turn OFF when you know what you are doing.

Hunting On Overflow Rewind -20% of Playtime
When playing audio trough the DSP-EQ. This feature is important for AAMS mastering and playing the DSP-EQ. It protects the overflows of maximum audio power (by going over 0dB digital border) and reduces the overall volume before DSP-EQ processing chain. Each time in Playing Audio and the Overflow Leds turn from Green to Red, the volume is lowered. Also the playtime is setback for -20% therefore the audio is repeated (and can be lowered again if needed). The -20% will passes if no overflows do occur. So for ensuring AAMS is not creating or passing digital distortion by going over 0dB, you better leave this setting ON, when you want an correct undistorted signal.

Mono Mode (No Balancing, Not Recommended)
For DSP-EQ processing in mono mode, the balancing is kept original when this feature is ON. It is not recommended but can be handy for audio that has stranger settings for left and right audio channels. Standard is Off. When you have left and right channels on a source file that is so different from each other, it can't be counted as equal, then maybe no balancing is a better deal to master the track.

Apply Low Cutoff Filter (This will bring the setup of AAMS DSP-EQ with a little cut below < 30 Hz, this can save some headroom by reducing the bottom end (not needed frequencies).

Mostly what is below < 30 Hz is rumble and really low base sounds. Standard the < 30 Hz filter setting is ON.

Apply Low Cutoff Filter (This will bring the setup of AAMS DSP-EQ with a little cut below < 25 Hz, this can save some headroom by reducing the bottom end (not needed frequencies). Mostly what is below < 25 Hz is rumble and really low base sounds. Standard the < 25 Hz filter setting is Off.

Apply Low Cutoff Filter (This will bring the setup of AAMS DSP-EQ with a little cut below < 20 Hz, this can save some headroom by reducing the bottom end (not needed frequencies). Mostly what is below < 20 Hz is rumble and really low base sounds. Standard the < 20 Hz filter setting is Off.

Apply Low Cutoff Filter (This will bring the setup of AAMS DSP-EQ with a little cut below < 15 Hz, this can save some headroom by reducing the bottom end (not needed frequencies). Mostly what is below < 15 Hz is rumble and really low base sounds. Standard the < 15 Hz filter setting is Off.

Normalize Before Playing
When loading an audio file into the DSP-EQ the file will be Normalized. Standard is ON. This will give better dynamics and loaded sound if the signal can be raised by normalization.

Normalize Before Processing
When AAMS is mastering the source file will be Normalized. Standard is ON. This will give better dynamics and loaded sound if the signal can be raised by normalization.

Normalize After Processing
When AAMS is mastering the source file will be Normalized after DSP-EQ processing is done. Standard is Off.

AAMS Equal Loudness Curves
Standard is ON. This helps the DSP-EQ Suggestion to be according to the AAMS Equal Loudness Curves derived from ISO226 Loudness Curves or the Fletcher Munson Curves. Mainly this helps the DSP-EQ to be in accordance with the Loudness Curves for Human Hearing, what means if AAMS changes EQ it will do it with the AAMS Loudness Curves in mind. Turned Off, the DSP-EQ suggestions will be straightforward EQ.

DSP-EQ Power Factor from AAMS Loudness Curves
The EQ power factor (how much 1dB raising or lowering the EQ settings will produce in dB) can be changed below.
This feature is according to the ISO226 Loudness Curves and ISO226 Fletcher Munson. When turned Off, the DSP-EQ suggestions will be straightforward EQ. The standard Power Factor is AAMS Normal : 1.0x. Changing can apply more or less power to EQ processing. Basically AAMS is based on 1x EQ power, like all EQ will do, leave this setting. Experiment only when you need to. If the EQ power is lowered then the original source file will come more true in mastering, but there will be less changes to be heard. If the EQ power is raised above 1x the original source file will be affected more by AAMS DSP-EQ suggestions. For users to experiment, else leave the DSP-EQ Power Factor at 1x.

Bias Suggestions correct to zero Frequency Domain
The EQ suggestions can be of a kind that bottom end is raised or lowered so it will affect the whole audio in volume that much and raise the whole spectrum or lower the whole spectrum,

also it can overflow the EQ and create some distortion. To reduce the Frequency Domain distortions, AAMS will calculate lowering in volumes for Left, Right and Mono channels, and reduces them while processing or mastering. Mostly this helps the DSP-EQ not going over 0dB and have more room for actual EQ to be in line with 0dB.

Bias Suggestions correct to AAMS Loudness ISO226 Fletcher Factor
This will be according to the AAMS Loudness Curves Factor. The EQ suggestions can be of a kind that bottom end is raised or lowered so it will affect the whole audio in volume that much, also it can overflow the EQ and create some distortion. To reduce the distortions by taking into account the Loudness Curves, AAMS will calculate lowering in volumes for Left, Right and Mono channels, and reduces them while processing or mastering.

Bias Suggestions correct to AAMS Loudness ISO226 Fletcher Ratio
This will be according to the AAMS Loudness Curves Ratio. The EQ suggestions can be of a kind that bottom end is raised or lowered so it will affect the whole audio in volume that much, also it can overflow the EQ and create some distortion. To reduce the distortions by taking into account the Loudness Curves, AAMS will calculate lowering in volumes for Left, Right and Mono channels, and reduces them while processing or mastering.

DSP-EQ FFT Fast Fourier Transform Multiband Precision Equalizer Setup

DSP-EQ FFT Window Shape Kind

Windowing of a simple waveform like cos ωt causes its Fourier transform to develop non-zero values.
Commonly called spectral leakage) at frequencies other than ω. The leakage tends to be worst (highest) near ω and least at frequencies farthest from ω. If the waveform under analysis comprises two sinusoids of different frequencies, leakage can interfere with the ability to distinguish them spectrally. If their frequencies are dissimilar and one component is weaker, then leakage from the stronger component can obscure the weaker one's presence. But if the frequencies are similar, leakage can render them unresolvable even when the sinusoids are of equal strength. The rectangular window has excellent resolution characteristics for sinusoids of comparable strength, but it is a poor choice for sinusoids of disparate amplitudes. This characteristic is sometimes described as low dynamic range. At the other extreme of dynamic range are the windows with the poorest resolution and sensitivity, which is the ability to reveal relatively weak sinusoids in the presence of additive random noise. That is because the noise produces a stronger response with high-dynamic-range windows than with high-resolution windows. Therefore, high-dynamic-range windows are most often justified in wideband applications, where the spectrum being analyzed is expected to contain many different components of various amplitudes. In between the extremes are moderate windows, such as Hamming and Hann. They are commonly used in narrowband applications, such as the spectrum of a telephone channel. In summary, spectral analysis involves a trade-off between resolving comparable strength components with similar frequencies and resolving disparate strength components with dissimilar frequencies. That trade-off occurs when the window function is chosen.

DSP-EQ Shape Kind
Options are Hamming is Standard ON, Blackman, Gaussian, Hamming, Hanning. Parzen. Rectangular and Welch. Hamming is the EQ Shape that has the least distortion levels and good EQ properties. For instance Rectangular is the Best Shape for EQ, but comes with a little bit more distortion of the EQ signal. Hamming is the best option for middle of the road.

But Rectangular is the best for EQ wise have the most correct EQ lowering or Raising as suggested. All the shapes are curved but the rectangular is straight line. If you do not know (read about it on the web) do not change and leave at Hamming.

DSP-EQ Window Buffer Size
The Buffer Size for the FFT, leave it at 4096! Do not change. It will affect the whole of AAMS Processing. Mostly this is an internal setting of the DSP-EQ, the 4096 buffer for FFT is used 4x4096=16384. That is about 5hz to 22.500hz of spectrum FFT frequency levels that can be accurately be measured by AAMS Analyzer. The lower the setting the less accurate the DSP-EQ will be. So 4096 is best.

DSP-EQ FFT Window Frequency
The lowest undistorted frequency that can be measured perfectly 100%.Actually AAMS measures 5 Hz at 70,7% correctly. The higher frequencies over 50hz are all measured 100% correct.

DSP-EQ Realtime Setup ON
This button will turn the DSP-EQ Realtime Analyzer ON and setup accordingly (and also the Realtime Analyzer). These are shown in charts and mostly will be updated each 1 second. The DSP-EQ Realtime Analyzer can be used for playback and to give the user some more insight to their plain audio source file. The Turn Off button will turn off the Realtime DSP-EQ Analyzer. Read about the Realtime DSP-EQ Analyzer in the section of the DSP-EQ manual.

DSP-EQ Analyzer Realtime Processing
This will turn ON the DSP-EQ Realtime Analyzer and the AAMS Analyzer Realtime functions. This does not mean any of the Realtime Charts will be visible. This set to ON will only turn on the Realtime Calculations needed for processing the audio file playing.

DSP-EQ Analyzer Realtime Show Spectrum
Shows the spectrum of the playing audio source file.

DSP-EQ Analyzer Realtime Show EQ
Shows the EQ Suggestion of the playing audio source file.

DSP-EQ Analyzer Realtime EQ Suggestion
Shows the Spectrum EQ Suggestion of the playing audio source file.

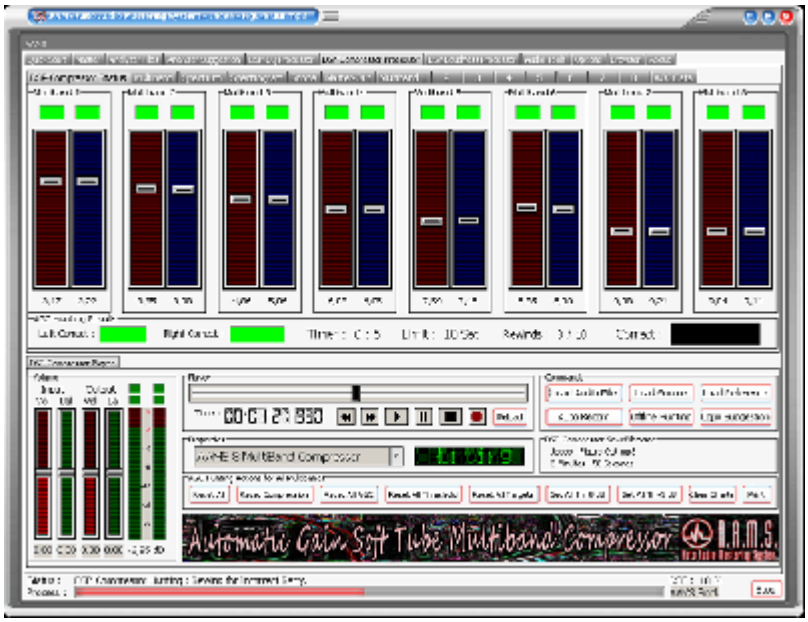
DSP-EQ Analyzer Realtime Bias S+R
Calculates the Bias of the EQ (lower frequencies have more power than higher frequencies).

DSP-EQ Analyzer Realtime Bias S+R
Shows the Bias of the EQ (lower frequencies have more power than higher frequencies).

DSP-EQ Suggestion - Show Realtime Suggestion
Shows in the DSP-EQ Suggestion Chart, shows an extra 2 lines of the Realtime DSP-EQ Suggestion per 1 Second.

Settings, Save Options
Saves all options in the AAMS.INA file. This feature must be used when you changed any option as mentioned above. You can restore AAMS defaults in the preferences tab.

Settings, Load Options
Reloads the AAMS.INA file and restores the options. This feature can be used when you need to reset AAMS options.



DSP-Compressor

A multiband compressor is to compress several different frequency ranges.

Compression is one of the most useful tools and is widely used in the recording process from tracking to mixing to mastering. The majority of compressors act on the entire audio frequency range, but when we need more control over specific audio frequencies we use a multiband compressor. A multiband compressor is a collection of several individual compressors, typically 3, 4, 5 or 8 multibands. Dividing up the frequency range via crossovers per multiband.

AAMS DSP-Multiband Compressor

A 8 Band Soft Tube Multiband Compressor, setup by AAMS and by compressing automatic on the fly! The AAMS multiband compressor does setup and self maintains the compression levels, because it is setup by AAMS Analyzers and hunts for its own compression levels. AAMS DSP Compressor constantly is active to see and hear the signals it is compressing and adjusting to the perfect levels. No more under- or over compression!

8 Multibands

! Soft tube behavior
! Fully Automatic Compressor

Multiband compressor with automatic gain or limiter functions, 8 multibands possible. Soft tube behavior, not curved but also not straight lined soft tube compressor for each band. Automatic hunting function for calculation of threshold levels per band and automatic gaining functions. AAMS Compressors are setup by AAMS Analyzer calculations in suggestions, these are applied by the automatic DSP-Compressor processing on the audio. A compressor reduces the dynamic range of an audio signal if its amplitude exceeds a specified threshold. The amount of gain reduction is determined by Attack, Delay, Threshold and Ratio

settings. A Multiband Compressor has more Bands and each frequency Range (Band) can be separately compressed. A Single Band Compressor has basically no use for Mastering purposes, instead a Multiband Compressor can be highly recommended for Mastering Purposes. AAMS Compressor and multibands are based on compressor functions as for mastering is known.

The main function is balancing the audio track dynamics per multiband spectrum after DSP-EQ has done its spectral functions. The DSP-Compressor is based on spectrum frequency as well as on dynamics and dynamic balancing. Mostly complex to setup by user or manual compressors. Maybe also because compressor as a subject is less easy to understand and maintained as EQ does. Compression in mastering is more subtle. It tries to EQ a bit and Loudness a bit. The DSP-EQ in front and the DSP-Loudness afterwards, they are good friends in AAMS Mastering chain.

The AAMS internal DSP-Compressor Player / Processor explained

Select the DSP-Compressor Tab. This represents a Multi-Band Compressor that can have a single band compressor simulated toward 8 Multi-Bands. The DSP-Compressor functions as a player for your audio material, just press Load Audio File or press Play and a window will pop up asking for a *.wav file to play. Press Stop to stop the player and press Pause to pause playing. If you have already loaded a Source and Reference, AAMS has calculated suggestions for the DSP-Compressor and they can be copied with Copy EQ Suggestion. In this way you won't have to set up the DSP-Compressor yourself as AAMS does all the hard manual work for you automatically. You can also use Zero All Faders and Copy EQ suggestion to A/B your audio material.

Playing and with AAMS internal DSP-Compressor processor

The file Example1.aam file is the Source file and is located in the same directory as Example1.afd. The Example1.aam file was created by AAMS analysis of the Example1.wav file located in the same directory. The Example1.wav file can be listened to using the DSP-Compressor Player. Go to the DSP-Compressor tab and press the button Play or Load Audio File and select the Example1.wav file.

The DSP-Compressor

Depending on the Setup chosen from the Settings Tab, a single band compressor up to an eight band Multi-Band compressor can be simulated. Each Multi-Band compressor has its own settings for Threshold, Attack, Decay, Ratio and Window. The Threshold fader of each Multi-Band can be set manually and when you click on the value below the Threshold Fader it will reset to 0dB. The DSP-Compressor has got a natural sound and is there to compress the Multi-Band as natural as possible, meaning there are no extra functions like EQ or Exciters used.

Auto Record DSP-Compressor

This function is fully automatic and has two processing stages. The first searches the audio file for the suggested compressor settings. The second stage recordings the audio file with the correct threshold settings found by the AGC. There is no need to set up the DSP-Compressor manually as all settings are taken care of automatically as long as a valid Source and Reference are loaded into AAMS. The recorded audio file has the same name as the original audio file with the addition of the extension '_C.wav'.

Offline AGC Hunting

This function is the first stage and scans the audio file for the correct AGC settings as suggested by AAMS calculations. The outcome is shown by the 'Suggested Threshold Targets' and is automatically copied to the threshold faders of each Multi-Band. After this function you can press Record to proceed to the Second stage.

The Faders

The threshold fader for left and right can be set manually or by choosing a setup. When you click on the value below the fader will reset to 0dB. The Attack, Delay, Ratio and Window settings are preset by the Setup you have chosen but can be changed manually.

The AGC Control

AGC Control is the automatic feature that runs the DSP-Compressor. When the AGC is turned ON, the DSP-Compressor will automatically hunt the audio that is being played or processed for the correct levels. These levels are based on the Compressor Suggestion AAMS has calculated. When the AGC is turned On the DSP-Compressor is hunting for these levels and the AGC Graph and AGC Data displays the results while the audio file is being played or processed. In the AGC Data grid you can see all levels and the suggestion in db. The 1-8 LED’s below show the correct found levels when they turn to Green, indicating the Multi-Band Left or Right threshold level has been found by the AGC. It is possible that Green LED’s turn off and on for a while as the AGC is waiting for the audio signal to be corrected. When all Left and Right LED’s are green a timer will run and after some time the AGC Correct LED will also show green meaning all Multi-Bands are now ok. All correct Multi-Band threshold levels have been found based on the AAMS Compressor suggestion. The suggested Threshold level of every Multi-Band is shown as 'Threshold Suggestion Left' and 'Threshold Suggestion Right'. It is best to turn AGC ON when playing and let the AGC Control hunt down the right threshold levels, playing through the whole file. Then turn the AGC off and set 'All targets threshold' and Record the Audio File (when you press the Record button the AGC is automatically turned to off).

The AGC Chart

The AGC Chart shows the selected Multi-Band and shows the real time audio compressed signal in red and blue lines for Left and Right. The maroon and dark blue lines are the AC controls signal that will try to stay close to the yellow and green Suggestion lines. The nearer that the maroon and dark blue lines come to the yellow and green Suggestion lines, the better the result. The AC will compensate with the Left and Right threshold faders of each Multi-Band and will show the 'Suggested Threshold' as a result while playing the audio signal. You can reset the AC chart and found levels with the buttons besides the chart.

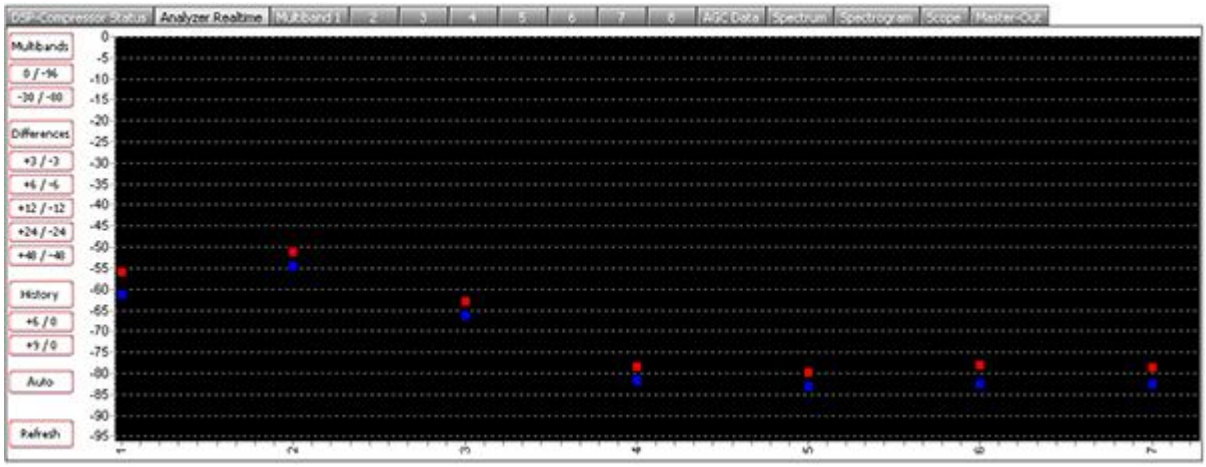
The AC Data

The AC Data grid will show all data that has been measured for each Multi-Band, including the suggestions for each Multi-Band as calculated by AAMS. When the AC is “Hunting” a correct threshold level is not found yet. When the AC is “Ok” the AC has found correct levels. The LED’s below the AC will turn to green for each found Multi-Band level that is correct.

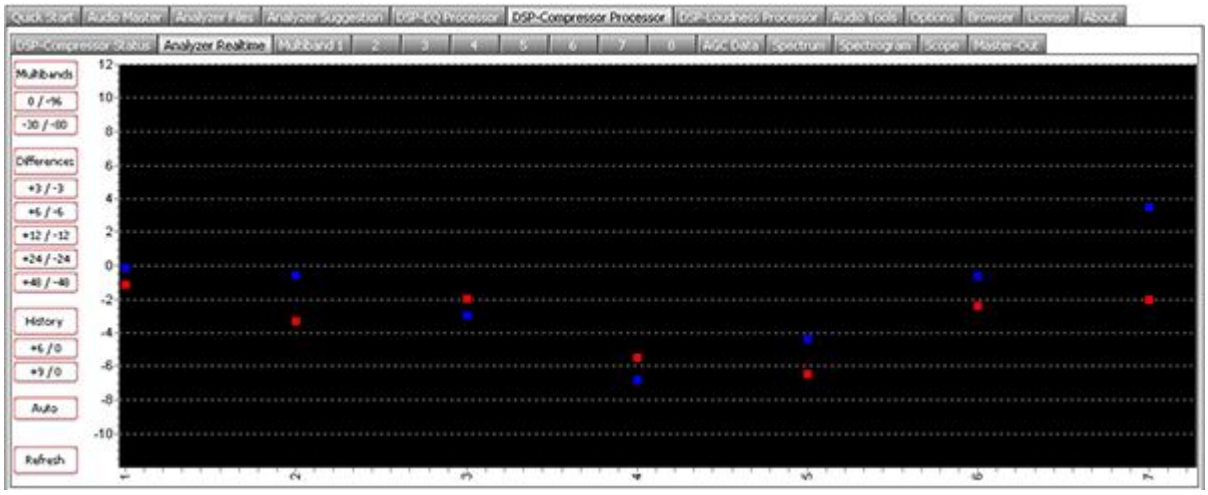
Filters

Each set up of the DSP-Compressor consists of one or several Multi-Bands each with a specific frequency range. The frequency ranges for each Multi-Band are shown in the Filters Chart.

DSP-Compressor Analyzer Realtime
The DSP-Compressor Analyzer Realtime must be Turned On in DSP-Compressor Options Tab. In Automatic Mastering mode the DSP-Compressor Analyzer Realtime is turned Off. In Semi-Automatic or Manual Mastering Modes the Realtime Analyzer is Turned On. The DSP-Compressor Analyzer Realtime Chart updates about 3 times a second with Spectrum Multiband informational levels of each multiband compression. The multiband frequencies can be displayed as 1 to 8 (for 8 multiband Compression settings) and the appropriate measured levels are displayed.

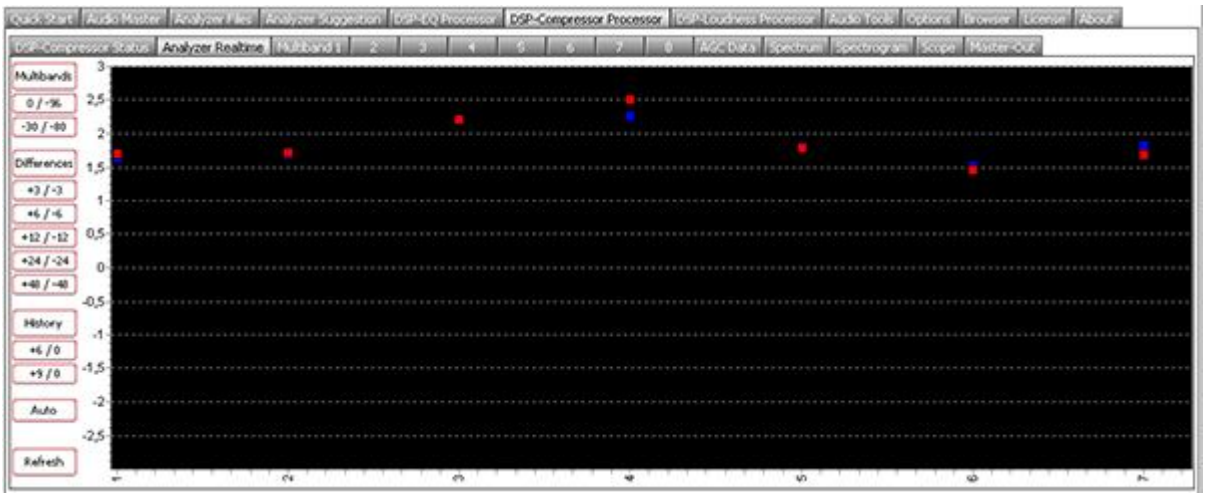


Multiband Differences displayed in Realtime
The above picture shows the DSP-Compressor Analyzer Realtime Chart filled with the Spectrum Levels per Multiband. The Spectrum levels measured per multiband will show an accurate representation what is happening to the signal per multiband. Most likely the signal will follow the reference and by amount the lower frequency multibands will have more level then the higher frequency multibands. By playing the audio or processing the audio, the levels will differ 3 times a second, are captured by AAMS Spectrum Analyzer and Suggestions of Compression are based on what the Spectrum is like and how levels deviate. The Chart an view can be a benefit for a Semi-Automatic Mastering user or a manual mastering user. By following the Chart you might see when the Basedrum kicks, or when Vocals begin or end. This gives a feel of how dynamic the audio spectrum per multiband is.



Multiband Differences displayed in Realtime

The above picture shows the DSP-Compressor Analyzer Realtime Chart filled with the Differences per Multiband. This will only show the differences against the spectrum multiband measured per cycle. Each 1 second of Analyzing there are about 3 times measurements done by AAMS Analyzer for the DSP-Compressor. This means the differences are higher than 0 dB measured, the signal of the multiband went Up wards and raised (the measured signal per multiband from the source audio file being played or processed. When the differences are lower than 0 dB measured, the signal of the multiband went Down and lowered. Also when looking a longer time you could recognize that when all signals are around 0 dB the compression is hard and most likely compressed more. When signals are having a better spread and do not come close to 0 dB, the compression is less. Playing the whole track of audio and watching this chart can reveal some info on how the audio has been compressor more or less in time. By following the Chart you might see when the Basedrum kicks, or when Vocals begin or end. This gives a feel of how dynamic the audio spectrum per multiband is.



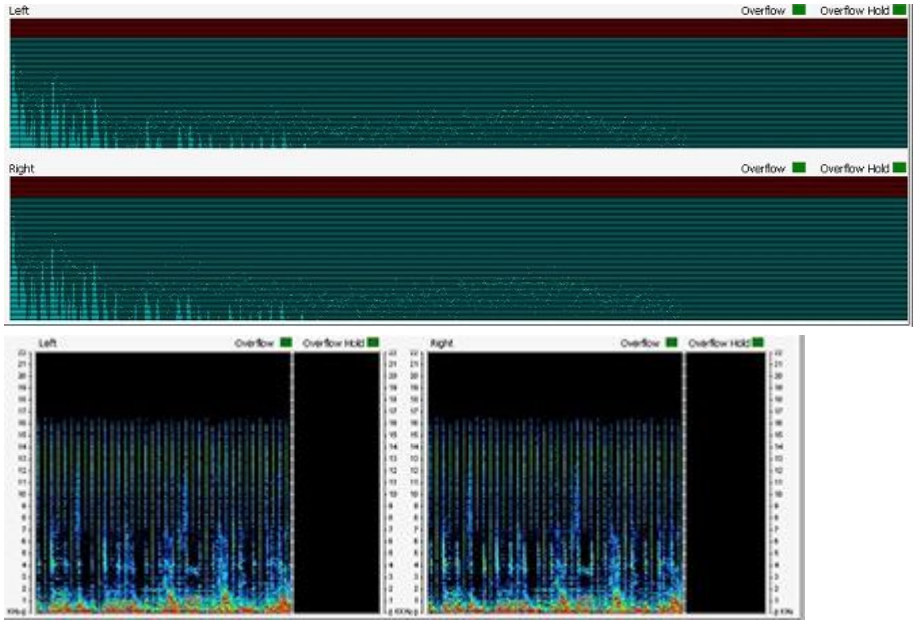
Multiband History displayed in Realtime

The above picture shows the History of the Differences Calculated by the amount of cycles recorded. When the values are above 0 dB there is likely more compression needed. Take in account that +6 dB or +12dB levels shown, will indicate by doing more compression per multiband, the compression levels should get better and more dynamic headroom will free up for loudness to raise the whole audio. When signals are around 0 dB or +3 dB (or so) the compression levels of the audio seem pretty good. When audio signals are below 0 dB it seems that there should be a reduction (decompression) done for the audio being played. It is more likely when signals

are -3 dB to -12dB that the audio was compressor too much while mixing or mastering. The audio file that has been played or recorded / processed is in the History Chart. Most likely you need the play the whole audio file for the History to be correct. The levels will fall the longer the audio has been played. So be sure for correct readings to play your audio file from beginning to end, so the History is correct for the whole audio file shown / played.

DSP-Compressor Analyzer Realtime Options

Like said by DSP-EQ Analyzer Realtime or DSP-Compressor Analyzer Realtime need to be Turned On in their Options Tab. For Automatic Mastering Settings the Realtime Analyzer is being Turned Off. The Semi-Automatic or Manual Mastering setups, Turn On the Realtime Analyzer functions. Find the DSP-EQ Options Tab or DSP-Compressor Options Tab explained to turn On or Off the Realtime functions of AAMS.



DSP-Compressor Real-time Views

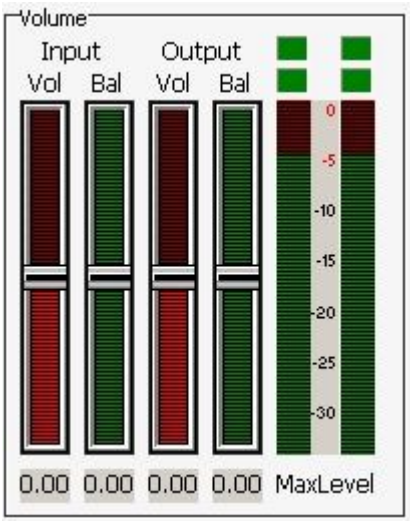
The Real-time DSP views are preset in the DSP-Compressor Tabs. When an audio file is loaded and playing these views will display and update the Spectrum, Spectrogram, Scope and Master-Out. All views as well as all level meters are updated with their own overflow LED's. When the signal is distorted by passing the highest possible maximum sound level an overflow LED will turn red. The overflow LED will return to green if all levels are returning to normal. The Hold LED’s will stay red until they are reset which can be done manually with a click of the mouse.

Settings

Here you can set up a DSP-Compressor from several useful presets. The AAMS 1-8 Multi-Band Compressor settings are suitable for most purposes. The AAMS 1-8 Low Band Multi-Band Compressor settings are for lower quality recordings like MP3 and Tape Copies and these settings will concentrate more on the lower rather than high frequencies. Furthermore there are some settings that will help you work with plugins using the correct settings. In a normal situation a 4 Band Multi-Band Compressor is the default setting. Changing to an 8 Multi-Band Compressor will affect processor speed and will improve quality a little more. Use the 8 Multi-Band Compressor when you think you need the extra Multi-Bands, otherwise the 4 Band Multi-Band Compressor setting is default. Selecting a Preset will change the setup of the DSPCompressor and when audio is being played the player will stopped...

The Volume Faders and Level Meters

When the DSP-Compressor is playing the volume faders are automatically lowered when an overload is present on the master-out. To be sure that there are no overloads you should listen to the whole audio material until the end, then the volume faders are set just right and the master-out will not go over 0dB. You can turn off this function in the Options Tab.



Overflow LED's

The overflow LED's turn from green to red when an overflow is present in one of AAMS DSP processors. You can press each LED and the Overflow Hold LED's turn to green again. An overflow is basically a digital domain term when a signal goes over the 0dB limit. Recording in the digital domain with signals over 0dB will result in damaged, distorted audio. So it is better to adjust the volume (gain) to a lower level. You can also adjust the faders of the Equalizer to compensate for overflows, but this is quite tedious.

Recording the DSP-Compressor

After you are satisfied with the results you can process the audio material with the Record button. The Record button processes the audio and saves it as a new audio *.wav file. The Example file Example1.wav would be saved as Example1_C.wav.

General Rules

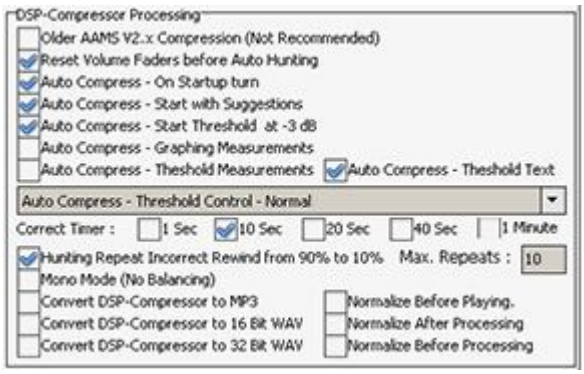
The default 4 Band Compressor setting is the basic set up for compression. This will give good results on all kinds of processor speeds and available memory. When you are using a modern computer you can switch to the 6 or 8 Multi-Band Compressor for some slightly better results. 8 Multi-Bands almost halves the speed of operation, so switch back to a 6 or 4 Band Multi-Band Compressor if you experience problems. For best results it is also important that all AC LED's are green, confirming that good compression levels have been found. When using Automatic Mastering there is a Mastering Document saved alongside the Mastered Audio file, here you can check that the right levels are found (AC Correct).

Manual and Automatic Mode

Because AAMS is set up for Automatic Mastering by default, when working manually with AAMS Processors it is recommended that you use the Record button of each processor. Also for configuring AAMS Options for working in manual mode, there are some settings on the Options Preferences Tab. For all Automatic Mastering purposes, switch back to Automatic Mode in Options Preferences Tab.

Specifications

The internal DSP-Compressor has a natural sounding algorithm that provides linear compression. The DSPCompressor AC Control can handle AAMS Compressor Suggestions automatically or manually. The frequency range is 5Hz to 22050 Hz. Compressor Bands range from 1 to 8 depending on the Factory Preset in use. The frequency range 0-5 Hz or 20000-22050 Hz is rolled-off and all Factory Presets have a Roll-On and Roll-Off Frequency range. The application is designed to operate at sampling rates ranging from 44.1 kHz to 192 kHz. The Sample rate is normally 44.1 kHz depending on the Audio File output by the Player. The Internal DSP-Processing can handle 16/24/32 Bit calculations while the rest of the programming handles 64 bit code.



DSP-Compressor Options Tab

Older AAMS V2.x Compression (Not Recommended)
This will turn ON the compression settings emulation of AAMS V2.x versions. Standard Off, the AAMS V3 compression settings are improved, so better stay to Off.

Reset Volume Faders before Auto Hunting
By default ON. This feature will reset all DSP-Compressor faders to original AAMS positions. When manual mastering or setting are applied by using AAMS manually, turn OFF. Only turn OFF when you do not need auto mastering and using manual user preset controls.

Auto Compress - On Startup turn
The DSP-Compressor will turn the Auto Compression Suggestions On automatically when you play or process a file. By default ON. This feature will turn ON the auto compression DSP features at startup. Only turn OFF when you do not need auto mastering and using a manual user pre-setting.

Auto Compress - Start with Suggestions
The DSP-Compressor will start with AAMS Suggestions settings for the DSP-Compressor that are copied automatically.

Auto Compress - Start Faders at -2.75 dB
The DSP-Compressor starts all Multi-Band Thresholds at -2.75 dB when hunting for levels. By default ON. This feature will start the automatic compression setting of the threshold at -2.75db. This is a better setting than 0db initial fader setting. The initial -2.75db setting will be corrected when the automatic compression feature is ON. Recommended to stay ON.

Auto Compress - Graphing Measurements
Shows Compression Levels measurements in Auto Compression Graphs of all multibands charts. By default OFF. This will show the AGC (auto gain control) in the graphs of the DSP-Compressor.

Auto Compress - Threshold Measurements.
Shows suggestions for threshold in Auto Compression Graphs of all multibands charts.

Auto Compress - Threshold text.
Shows suggestions for threshold in Auto Compression Graphs of all multibands texts.

Auto Compress - AAMS Loudness Curves from ISO226 (fletcher)
Standard set to On. By analyzing the audio passing the DSP-Compressor, the AAMS Loudness Curves are taken into mind and creates offset suggestions according to human hearing. This will improve the DSP-Compressor by doing only compression needed to get the levels by suggestions. When turned Off, the straightforward suggestions pass and will be leveled straightforward.

Auto Compress - Factor Multibands
Standard set to On. Uses the Factor calculated from the AAMS Loudness Curves (ISO226, Fletcher Munson). The compression levels to raising or lowering levels, are according to Loudness Human Hearing Levels. When turned Off, the straightforward suggestions pass and will be leveled straightforward.

Mono Mode
By default OFF. Only turn ON when you are sure the audio file is a two mono channel stereo audio file. The Mono mode will add Left + Right and divide it again. Then applies same levels on Left as on Right. When turned Off as standard, the Left levels can be different from the Right levels.

Normalize Before Playing
When loading an audio file into the DSP-Compressor the file will be Normalized. Standard is On. Normalization will give improved dynamics, only when the signal can be raised by normalization.

Normalize Before Processing
When AAMS is mastering the source file will be Normalized. Standard is ON. Normalization will give improved dynamics, only when the signal can be raised by normalization.

Normalize After Processing
When AAMS is mastering the source file will be Normalized after DSP-Compressor processing is done. Standard is Off.

Auto Compress - Threshold Control
This will change the Threshold Correction while DSP-Compression is done. This feature can make Threshold correction faster or slower by setting. Standard is Normal (1x). The DSP-

Compressor Hunts (Hunting) for the correct compression levels per multiband, to find correct levels the compression levels are constantly updated and changed if not correct until the correct compression level is found.

AGC Auto Correct Timer
For the DSP-Compressor to check the compression is correctly done, a timer is placed. This timer (each multiband has its own timer) controls and checks for correct compression. When correct compression is found, a green light will turn on for each multiband. When all multibands are found correct by AAMS, the ALL light will turn on. For each channel Left and Right there can be maximum 8 multibands. So actually for correct compression to be found by AAMS, 16 lights will need to turn ON for 8 multibands. The standard chosen multibands by AAMS is 4 multibands. The user can change multibands in the DSP-Compressor tab. The timer can be set to 1 second to 1 minute. The longer you set the timer, the longer it takes for AAMS to find correct levels for compression for each multiband. Standard Default is 5 Seconds. When the correct compression level is found for each multiband, it takes 5 seconds before AAMS Analyzer approves the correct levels and are taken into account for the final compression levels per multiband.

Hunting Mode Repeat Incorrect Rewind from 90% to 10%
The AAMS DSP-Compressor will Hunt for levels of compression and suggests on them a threshold level for each multiband. Wham audio mastering the DSP-Compressor will rewind while hunting and repeat the audio source and hunts until the retries are drowned. Standard is On.

Hunting Maximum Repeats
The amount of retries the DSP-Compressor can play the audio file for hunting the levels. This feature is only used in hunting mode. The more retries the more chance the suggestion be correct, but will take more time when the hunting is still with incorrect levels. Before all lights go green and all multibands have good compressions levels found, the DSP-Compressor will try to get correct levels for multiband thresholds as fast as can be. Standard set to 3 retries. The more retries the more likely AAMS Analyzer will find the correct levels for compression on each multiband. Most likely with a track more than 2 or 3 minutes of playtime, AAMS Analyzer will find the correct levels in one single pass. So 3 reties is enough for most audio tracks.

DSP-Compressor Analyzer Realtime Processing
This will turn ON the DSP-Compressor Realtime Analyzer and the AAMS Analyzer Realtime functions. This does not mean any of the Realtime Charts will be visible. This set to ON will only turn on the Realtime Calculations needed for processing the audio file playing.

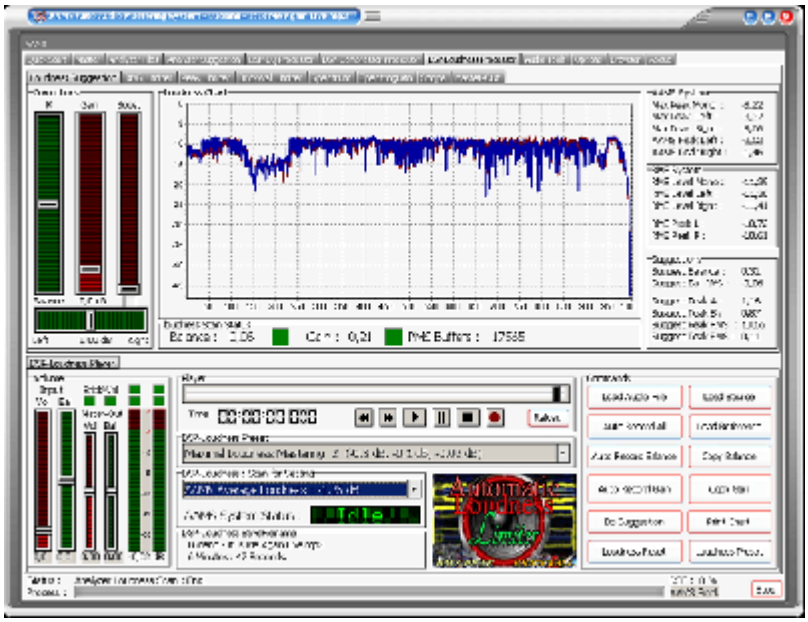
DSP-Compressor Analyzer Realtime Show Multibands
Shows the Multibands Spectrum Levels in the DSP-Compressor Realtime Chart per Multiband.

DSP-Compressor Analyzer Realtime Show Differences
Shows the Multibands Difference Levels in the DSP-Compressor Realtime Chart per Multiband.

DSP-Compressor Analyzer Realtime Show Multibands
Shows the Multibands Historic Difference Levels in the DSP-Compressor Realtime Chart per Multiband.

Settings, Save Options
Saves all options in the AAMS.INA file. This feature must be used when you changed any option as mentioned above. You can restore AAMS defaults in the preferences tab.

Settings, Load Options
Reloads the AAMS.INA file and restores the options. This feature can be used when you need to reset AAMS options.



DSP-Loudness

Today, most spoken audio issue is control of loudness, daily millions of people adjust their volume controls because of louder or softer audio signals. Modern Music recordings are louder than recordings from the past, promos and commercials are generally much louder than normal. Even the difference by playing recordings, will make you adjust the volume. In general more loudness means we are in the Loudness War, each time upping the loudness levels of recordings. In fact we will lose loudness and the sparkle of the recording (mix) when boost too much, so everything is compressed hard at the tops to 0 db! Speakers need to move, and what happens when we want more loudness ? They actually move less! In general the music industry is still upping the levels, but there is a great understanding now that this is only hurting the actual recording. Loudness is a balance between hearing it loud and hearing soft and hard clearly. So we need to have the loudness levels tamed! AAMS Loudness is according to the setup rules!

Loudness and Limiters

Loudness is the quality of a sound that is the primary psychological correlate of physical intensity. Loudness, a subjective measure, is often confused with objective measures of sound intensity such as decibels. Filters attempt to adjust intensity measurements to correspond to loudness as perceived by the average human. However, true perceived loudness varies from person to person and cannot be measured this way. Loudness is also affected by parameters other than intensity, including: frequency and duration. A Peak or RMS Limiter is a circuit that allows signals below a set value to pass unaffected and compresses the peaks of stronger signals that exceed this set value. A Brick wall Limiter is a circuit that allows signals below a set value to pass unaffected and cutoff the peaks of stronger signals that exceed this set value and to avoid clipping at 0db or above 0db.

The AAMS internal DSP-Loudness Processor explained

AAMS loudness is based on AAMS Analyzer suggestions and a pre-setup desired level. Select the DSP-Loudness Tab and Select Loudness. The DSP-Loudness Player and Processor contain a Balancing Tool, Loudness Maximizer, RMS Limiter, Peak Limiter and Brick wall Limiter in one. Also the loudness DSP has analog properties, meaning the

compressor curves are soft and round. Main functions of the DSP-Loudness processor is RMS Audio Scanning, Peak Audio Scanning, Balance Search that balances Left and Right of the whole track. A Gain processor, that functions on AAMS Peak RMS based system or the user can change to RMS more Dynamic based system. In whole the DSP-Loudness Mastering routine that does DSP-Loudness functions automatically or user based. The DSP-Loudness also functions as a player for your audio material. Simply press Load Audio File or press Play and a window will pop up asking for a *.wav file. Press Stop to stop the player and press Pause to pause playing.

Chart - Display Levels

When an audio file is loaded into the player the file will be automatically scanned for its levels. These levels are shown on the chart and above the chart are the Peak / RMS levels. After scanning is finished the suggestions for Balancing and Gaining are shown below the chart. The basic intention of the DSP-Loudness is to balance then add gain to the audio file. The Balance suggestion shows a value in dB, a minus - value is balanced to the Left and a plus value is balanced to the Right. You can set the Balance Faders (There are three in total connected to each other) with the mouse. You can reset the Balance Faders by clicking on the value below the fader and the fader will reset to 0dB. The red LED's for Balance and Gain will show up when suggestions matching the Audio File are correct.

Auto Record Loudness

This function will automatically process Balance and Gaining onto the audio file you load into the DSP-Loudness player/processor. A balanced audio file with the extension '_B.wav' and a gain processed audio file with the extension '_L.wav' will be created. All you have to do is wait until processing is finished. This function is fully automatic, just choose an audio file and AAMS will do the balancing and gaining for you. There is no need to set up the DSP-Loudness functions before using this function as all calculations are done automatically. This function is a two-stage process with Balancing as the first stage and gaining the second stage.

Auto Record Balance

This function is the first stage of the DSP-Loudness processor and balances the audio file you loaded into the Player/Processor. A recorded and processed file with the extension '_B.wav' will be created as the balanced audio file. This function is fully automatic, just choose an audio file and AAMS will do the balancing. There is no need to set up the DSP-Loudness functions before using this function as all calculations are done automatically.

Auto Record Gain

This function is the second stage of the DSP-Loudness processor and gains the audio file you loaded into the Player/Processor. A recorded and processed file with the extension '_L.wav' will be created as the gained audio file. This function is fully automatic, just choose an audio file and AAMS will automatically do the Loudness Gaining. There is no need to set up the DSP-Loudness functions before using this function as all calculations are done automatically.

1 or 2 Stages?

You can use 1 or 2 Stage functions with AAMS. A 1 Stage manual job involves playing the audio file with the Player and setting up Balance and Gain, ensuring that the signal does not go over 0dB, and then record the results. A 1 Stage processing job is less accurate than the 2

Stage type. A 2 Stage Processing job is more accurate and means you Balance the Audio File First Stage 1, record it, and then do Stage 2.

The internal Processing Route

The routing of the DSP-Processor is as follows. The Audio is processed by the Loudness part of the DSPLoudness processor. The Loudness Tab shows Balancing Faders and Loudness Gain Volume faders. The RMS Limiter is there to compress/limit the audio signal when necessary. The RMS limiter is based on an RMS compressor and has as large a ratio range as possible. The Peak Limiter limits some the highest peaks and can be set towards Brick walling or the more moderate Peak Limiting. Finally the Brick wall Limiter limits any signals below 0dB or lower. All Limiters can be turned off or on by depending on what set up from the Setting Tab you have chosen.

Playing and with AAMS internal DSP-Compressor processor

The file Example1.aam file is the Source file and is located in the same directory as Example1.afd. The Example1.aam file was created by AAMS analysis of the Example1.wav file located in the same directory. The Example1.wav file can be listened to using the DSP-Compressor Player. Go to the DSP-Compressor tab and press the button Play or Load Audio File and select the Example1.wav file.

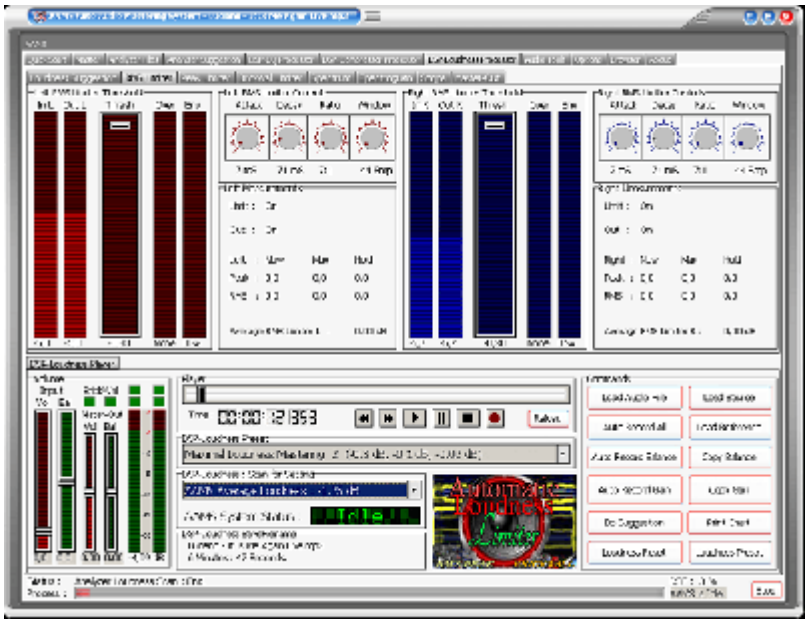
The Setups

The Settings Tab will show the DSP-Loudness setup and you can choose any of the listed DSP-Loudness settings. The Maximal Setups are for Maximal Loudness and will try to get the loudest sound possible and is the default preset. The Average Setups are for Average Loudness and will try to get the best sound possible. The Minimal Setups are for Minimal Loudness and will try to get the sound towards a minimal level. This is useful for compiling CD's or multiple tracks and saves some loudness space for later use. The values for the RMS Limiter, Peak Limiter and Brick wall limiter are also listed. When a Limiter is not shown in the chosen setup this means that it is not required in the current configuration. When an Audio File is loaded into the DSP-Loudness processor / Player, the levels in the file are scanned. You can change the Scan Level in the Settings Tab, which will raise or decrease the Loudness Level that is being scanned for (and are subsequently used in the suggestions. When the correct level is reached for the Maximal 0dB Setup the Suggestion Correct LED’s will show Green. When the correct level is reached, for the other Setups the Suggestion Correct LED’s will show Green or Yellow. The Yellow Led indicates that the Used Setup highest level has not been reached yet as only the Maximal 0dB Setup will do this. You can use the Average and Minimal Setups for a single stage pass. When you apply the Average and Minimal Setups more than once the Yellow LED will stay and will turn green only when it reaches the Maximum Setup Loudness Levels. When you use the Average or Minimal DSP-Loudness Setups the first pass of DSP-Loudness Processing is sufficient, so making multiple passes is not recommended. You can always use more Loudness Gaining to make it louder although this is also not recommended. When you use the Maximal DSP-Loudness Setup, the first pass will gain the loudness directly to the Maximal and then the Green Led will show-up. On start up the Average 1 Setup is the default to ensure a good Average Loudness. When you change

the DSPCompressor Setup to Maximal, be aware that some distortion in the audio signal cannot be prevented. Only use the Maximal Setup when you are certain of it and the intended result. If you are unsure, a good start is the Average Setups of the DSP-Compressor.

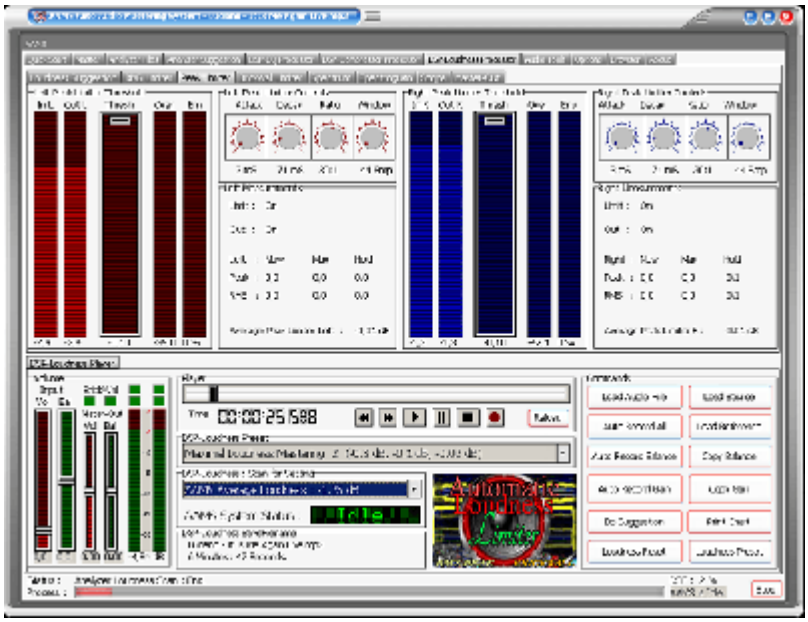
Loudness

The Balance Fader can be set manually and clicking on the value below the fader will reset it to 0dB. When you use 'Copy Balance Suggestion' the suggested Balance is copied to the Balance Fader. The Gain fader can be set manually and clicking on the value below the Gain Fader will reset it to 0dB. When you use 'Copy Gain Suggestion' the suggested gain is copied to the Gain fader. The buttons 'DSP-Loudness Preset' and 'DSP-Loudness Reset' are setting or resetting the chosen Setup, which is useful for comparing its effect.



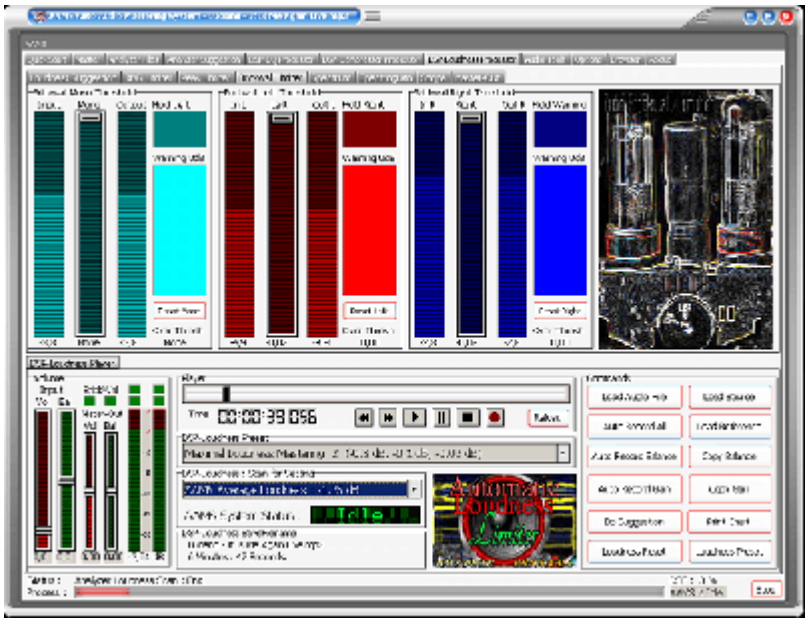
RMS Limiter

The threshold fader for left and right can be set manually or by choosing a setup and when you click on the value below the fader it will reset to 0dB. The Attack, Delay, Ratio and Window settings are preset by the Setup you have chosen but can be changed manually. The RMS Limiter is not as fast in correcting the audio signal as the Peak Limiter is. Most of the times when threshold levels for left and right are low, the RMS Limiter will only work on loud parts of the audio signal, making it slightly lower when needed. The RMS Limiter will pass signals higher than 0dB to the Peak Limiter and is only meant for moderately correcting the audio signal.



The Peak Limiter

The threshold fader for left and right can be set manually or by choosing a setup and when you click on the value below the fader it will reset to 0dB. The Attack, Delay, Ratio and Window settings are preset by the Setup you have chosen but can be changed manually. The Peak Limiter is very fast in correcting the audio signal and can also be used as a Brick wall Limiter when the attack time is set to <= 1ms. The Peak Limiter will adjust every signal that goes above the threshold level with the ratio chosen. A ratio of 50:1 will compress / limit the audio signal a lot more than the RMS Limiter will ever do. The Peak Limiter is meant to 'Scrape off' some of the loudest peaks of the audio signal.



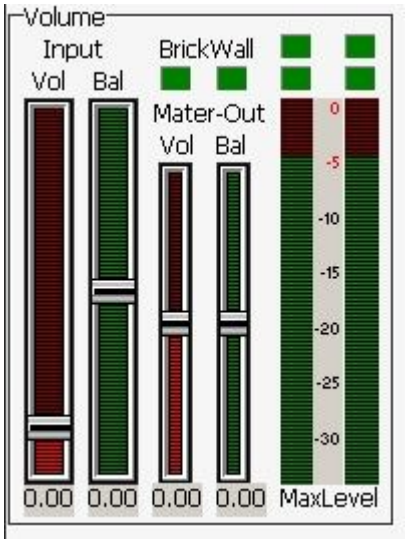
The Brick wall Limiter

The threshold fader for left / right and mono can be set manually or by choosing a setup and when you click on the value below the fader it will reset to 0dB. Every audio signal that goes over the Threshold Level will be cut off immediately. A Threshold Level of -0.05 dB will cut

off all audio signals before it rises above 0dB. The LED's indicate only if the Brick wall limiter is correcting the audio signal, and are not the same as an overflow. The LED's can be reset by clicking the corresponding button.

The Volume Faders and Level Meters

When the DSP-Loudness is playing and Gaining / limiting the volume faders are automatically lowered when an overload is present on the master-out. To be sure that there are no overloads you should listen to the whole file until the end, then the volume faders are set just right and the master-out will not go over 0dB. You can turn off this function in the Options Tab.

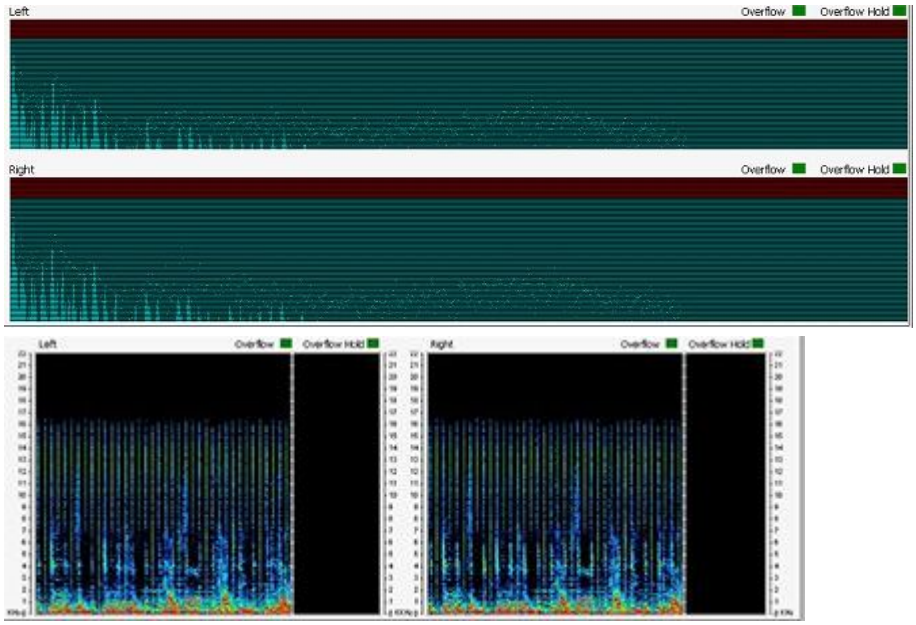


Overflow LED's

The overflow LED's turn from green to red when an overflow is present in one of AAMS DSP processors. Press each LED and the Overflow Hold LED's turn green again. An overflow is basically a digital domain term. When a signal goes over the 0dB limit an overflow is present. Recording in the digital domain with signals over 0dB will result in distorted audio, so it is better to adjust the volume (gain) to a lower level. You can also adjust the faders of the Equalizer to compensate for overflows, but this is quite tedious.

Recording DSP-Loudness

When you are satisfied with the results you can process the audio material with the Record button. The Record button processes the audio and saves it as a new audio *.wav file. The Example file Example1.wav would be saved as Example1_L.wav.



DSP-Loudness Real-time Views

The Real-time DSP views are preset in the DSP-Loudness Tabs. When an audio file is loaded and playing these views will display and update the Spectrum, Spectrogram, Scope and Master-Out. All views as well as all level meters are updated with their own overflow LED's. When the signal is distorted by passing the highest possible maximum sound level an overflow LED will turn red. The overflow LED will return to green if all levels are returning to normal. The Hold LED’s will stay red until they are reset which can be done manually with a click of the mouse.

Manual and Automatic Mode

Because AAMS is set up for Automatic Mastering by default, when working manually with AAMS Processors it is recommended that you use the Record button of each processor. Also when configuring AAMS Options for working in manual mode there are some settings on the Options Preferences Tab. For all Automatic Mastering purposes, switch back to Automatic Mode in Options Preferences Tab.

General Rules

DSP-Loudness Processor settings define how loud the end result will be. By default the Loudness Scan setting is 'Average', which is quite a conservative setting. Usually you can master multiple tracks (for example for an album of tracks) with the 'Average' Setting and this will give good results on all kinds of tracks. Whenever you need some more loudness power, set the DSP-Loudness Settings higher.

Specifications

The internal DSP-Loudness has a natural sounding algorithm to produce exact, linear Loudness Gain with no resonance peaks. The DSP-Loudness processor has several main functions, Balancing, Loudness, RMS Limiter, Peak Limiter, Brick wall Limiter. The frequency range is 5Hz to 22050 Hz. The frequency ranges 0-5 Hz and 20000-22050 Hz are rolled-off and all Factory Presets have a Roll-On and Roll-Off Frequency range. The amount of gain ranges from - 80dB to 9dB, and can be set in fractions of 0.1dB. Designed to operate

at sampling rates ranging from 44.1 KHz to 192 KHz, the Sample rate is normally 44.1 KHz depending on the Audio File output by the Player. The Internal DSP-Processing can handle 16/24/32 Bit calculations while the rest of the programming handles 64 bit code.

AAMS Loudness System

The AAMS Loudness system is based on a percentage of peaks and RMS levels or RMS/Peak Levels. The AAMS system will do a more peak based search of the audio and also scans for RMS levels. But however AAMS system will calculate and process audio as being more careful to avoid distortion levels. This means that for most it will bring your audio input to appropriate levels. Not doing the Loudness War, but being careful and still have a loud sound. AAMS DSP-Loudness process will anticipate troubles and avoids them. Still Loudness that is applied to much, will still have distortion or overflows. So limiters and calculations in processing are used in the AAMS Loudness Based system option. When needed this system can do full album mastering based on AAMS System of transferring loudness levels. Also on its main settings Single Audio Mastering can be an advantage over the RMS Dynamic Levels system.

RMS Dynamic Level System

The RMS Dynamic Level system is based on more know RMS and Peak scanning methods. If you are into RMS levels, there is much to say about it. Because it is the main system used by everyone into the discussion of the loudness war. So read about that on the internet if you are unknown.
The main function is RMS and Dynamics / some say Dynamic Range.

Why use a Loudness Processor and what is it doing?

Well the user can setup a desired RMS level for the whole track. The peaks will be calculated and shaved off the whole track, so that the RMS Level is what is needed as loudness or RMS levels for the whole track. Basically the user setup is for RMS Levels, and the Limiters or Calculations a computer can do to process the audio that loud. For different genres there are RMS levels appropriate. So the user can make up the RMS, and does not really care about peaks that will be hurt. RMS Levels are nowadays convenient method to get the loudness desired. With shaving the peaks and making things louder, comes at a price. Distortion and Overflows. We hope that the Limiters and internal processing will do not do too much damage. If the user sets the RMS Levels too high (-6dB to 0db!) be sure of artifacts inside the audio.

You can select RMS levels and Dbfs levels.

For single files and genres of music, when mastering to a certain level is needed. Dbfs system is the same as RMS system but it relies on other measurement system called dbfs. Both RMS and dbfs systems are good when you are wanting to do things manually and adjust the loudness. When mastering or even after mastering. You can hunt down your appropriate levels and setup AAMS DSP-Loudness to follow. That must be digital distortion? Both systems AAMS system and the RMS System are not opponents, but friends!

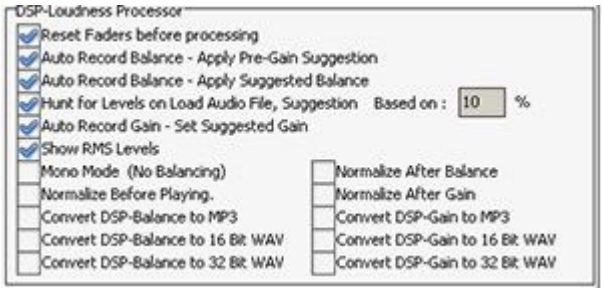
AAMS Loudness System

AAMS Sub Zero 0: 6.00 dB
AAMS Sub Zero 1: 5.75 dB
AAMS Sub Zero 2: 5.50 dB
AAMS Sub Zero 3: 5.25 dB
AAMS Sub Zero 4: 5.00 dB
AAMS Sub Zero 5: 4.75 dB
AAMS Sub Zero 6: 4.50 dB
AAMS Sub Zero 7: 4.25 dB
AAMS Loudness War I 1: 4.00 dB
AAMS Loudness War I 2: 3.75 dB
AAMS Loudness War I 3: 3.50 dB
AAMS Loudness War I 4: 3.25 dB
AAMS Loudness War II 1: 3.00 dB
AAMS Loudness War II 2: 2.75 dB
AAMS Loudness War II 3: 2.50 dB
AAMS Loudness War II 4: 2.25 dB
AAMS Increased 1: 2.00 dB
AAMS Increased 2: 1.75 dB
AAMS Increased 3: 1.50 dB
AAMS Increased 4: 1.25 dB
AAMS over the Top 1: 1.00 dB
AAMS Over the Top 2: 0.75 dB
AAMS Over the Top 3: 0.50 dB
AAMS Over the Top 4: 0.25 dB
AAMS Ultra Hard Loudness: 0.00 dB
AAMS Hard Loudness: -0.25 dB
AAMS Super Strong Loudness: -0.50 dB
AAMS Strong Loudness: -0.75 dB
AAMS Good Loudness: -1.00 dB
AAMS Average Loudness: -1.25 dB - Normal levels AAMS target setting
AAMS Medium Loudness 1: -1.50 dB
AAMS Medium Loudness 2: -1.75 dB
AAMS Soft Low ends 1: -2.00 dB
AAMS Soft Loudness 2: -2.25 dB
AAMS Uttara Soft Loudness 1: -2.50 dB
AAMS sutra Soft Loudness 2: -2.75 dB
AAMS Headroom Loudness 1: - 3.00 dB
AAMS Headroom Loudness 2: - 3.25 dB
AAMS Headroom Loudness 3: - 3.50 dB
AAMS Headroom Loudness 4: - 3.75 dB
AAMS Minimal Loudness 1: - 4.00 dB
AAMS Minimal Loudness 2: - 4.25 dB
AAMS Minimal Loudness 3: - 4.50 dB
AAMS Minimal Loudness 4: - 4.75 dB
AAMS Minimal Loudness 5: - 5.00 dB
AAMS Minimal Loudness 6: - 5.25 dB
AAMS Minimal Loudness 7: - 5.50 dB

AAMS Minimal Loudness 8: - 5.75 dB
AAMS Minimal Loudness 9: - 6.00 dB

RMS Dynamic Loudness System

RMS Range Ultra Stupid: 0 dB
RMS Range Ultra Stupid: -2 dB
RMS Range Ultra Stupid: -3 dB
RMS Range Ultra Hard: -4 dB
RMS Range Ultra Hard: -5 dB
RMS Range Ultra: -6 dB
RMS Range Ultra: -7 dB
RMS Range Loud: -8 dB
RMS Range Loud: -9 dB
RMS Range Normal: -10 dB – Normal levels target setting
RMS Range Normal: -11 dB
RMS Range Normal: -12 dB
RMS Range Normal: -13 dB
RMS Range Normal: -14 dB
RMS Range Normal: -15 dB
RMS Range Normal: -16 dB
RMS Range Low: -17 dB
RMS Range Low: -18 dB
RMS Range Low: -19 dB
RMS Range Low: -20 dB
Dbfs Range Ultra Stupid: 0 dB
Dbfs Range Ultra Stupid: -2 dB
Dbfs Range Ultra Stupid: -3 dB
Dbfs Range Ultra Hard: -4 dB
Dbfs Range Ultra Hard: -5 dB
Dbfs Range Ultra: -6 dB
Dbfs Range Ultra: -7 dB
Dbfs Range Loud: -8 dB
Dbfs Range Loud: -9 dB
Dbfs Range Normal: -10 dB – Normal levels target setting
Dbfs Range Normal: -11 dB
Dbfs Range Normal: -12 dB
Dbfs Range Normal: -13 dB
Dbfs Range Normal: -14 dB
Dbfs Range Normal: -15 dB
Dbfs Range Normal: -16 dB
Dbfs Range Low: -17 dB
Dbfs Range Low: -18 dB
Dbfs Range Low: -19 dB
Dbfs Range Low: -20 dB



DSP-Loudness Options Tab

Reset Faders before processing
By default On. This feature ensures all DSP-Loudness faders are reset to original default position. Set to On, when you need full automatic mastering by AAMS. Set to Off, when you are manual mastering. Better to leave this function On.

Auto Record Balance - Apply Pre-Gain Suggestion
By default Off. When turned On, before using loudness AAMS will apply pre-gain from its suggested calculations. This can improve Loudness by using pre-gain, but also raises levels, so more clipping could occur. Only use this feature when your original track is very soft. Else, leave it Off.

Auto Record Balance - Apply Suggested Balance
By default On. This feature applies the automatic calculated suggested balancing by AAMS. This will balance your track (audio master) and will have a good effect on the listener's left and right perception while hearing the audio master. The balancing is done before loudness is applied. Balancing will mean Left and Right signals are even powered. Balanced audio gives a more human feel and will give a little bit more headroom to raise to 0dB and give some more dynamics.

Hunt For Levels on Audio File
Scans the loaded Audio File for its levels (DPS-Loudness Suggestions will not work when this feature is turned off). By default On. This feature scans the audio file for its levels and is needed for AAMS Suggestion for DSP-Loudness. Better leave this On.

Hunt for Levels on Load Audio File, suggestion based on Loudness Points
Set to On, when you need full automatic mastering. Set to Off, when you need manual mastering. Basically leave this ON, only set to Off when you do not want levels te be changed by AAMS. Turn this feature OFF when you need no balancing done by AAMS and keep your track as balanced as original (not recommended). Scan Suggestion Based on 10 Loudness Points (default). This feature is hard to explain, because its AAMS internal processing for hunting the correct Loudness levels to be found and corrected for end mastered file. This value can be raised or lowered by users to experiment. Else when not sure, leave 10 as a value here.

Auto Record Gain - Set Suggested Gain
By default ON. This feature applies the Loudness. When turned OFF, no Loudness will be applied. Keep in mind the DSP-Loudness will be functioning, so when turned OFF only the limiters will work. Better leave this On.

Chart Show RMS Levels
By default ON. This feature will show RMS levels in the chart. By turning OFF it will not.

Chart Show Loudness Left, Right and Mono lines
By default Off. This feature will show RMS levels in the chart. By turning OFF it will not.

Mono Mode (No Balancing)
By default Off. When turned On, ensures Stereo tracks that are actually two mono channels to stay correct as original. AAMS by default does not read or open mono files. But it is possible to fake AAMS by inserting two mono files into one stereo file. Only turn this feature ON, if you are sure your original file is completely mono. You can also turn Off, when you completely do not want any Balancing to be done by AAMS. Better not to use Mono mode, so leave it Off.

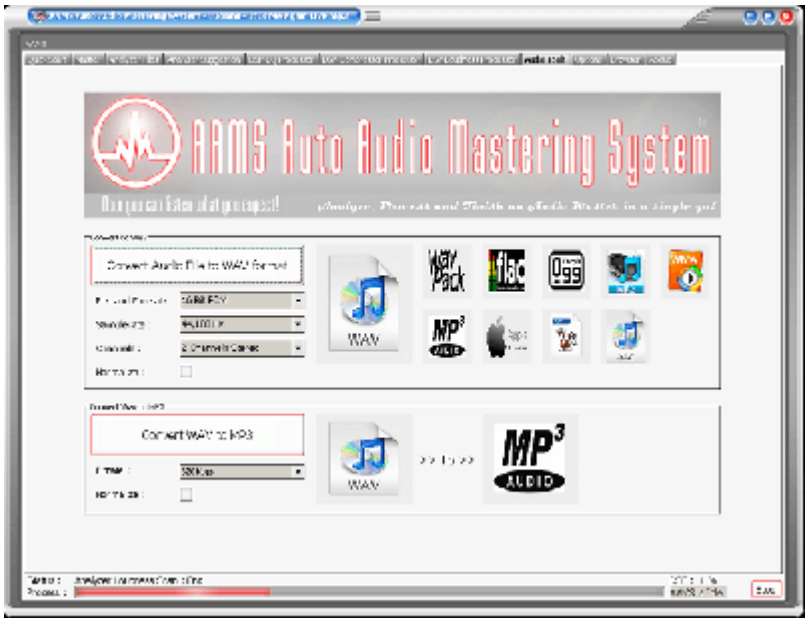
Normalize Before Playing
When loading an audio file into the DSP-Compressor the file will be Normalized. Standard is On. When normalization can raise the signal, the more dynamics are applied. But the DSP-Loudness system will raise the audio master to the suggested levels anyway. So this options helps, but is not of such importance. Leave it Off.

Normalize After Balance
By default off. This feature is mainly not needed to turn ON. Only turn ON for a normalize pre-balance. This will make the audio file before Balancing more louder. When normalization can raise the signal, the more dynamics are applied. But the DSP-Loudness system will raise the audio master to the suggested levels anyway. So this options helps, but is not of such importance. Leave it Off.

Normalize After Gain
By default off. This feature is mainly not needed to turn ON. Only turn ON for a normalize pre-gain. This will make the audio file before Loudness more louder. When normalization can raise the signal, the more dynamics are applied. But the DSP-Loudness system will raise the audio master to the suggested levels anyway. So this options helps, but is not of such importance. Leave it Off.

Settings, Save Options
Saves all options in the AAMS.INA file. This feature must be used when you changed any option as mentioned above. You can restore AAMS defaults in the preferences tab.

Settings, Load Options
Reloads the AAMS.INA file and restores the options. This feature can be used when you need to reset AAMS options.



AAMS Tools Tab

Audio file conventions and multiple dithering in 64bit calculations. Mostly understand AAMS will work best with WAV 32 or 16 Bit Stereo 44.1 KHz Files. You can import MP3 and WAV files. When AAMS has a problem with these files, use the tools tab. Or convert your files with a convertor program / software, audio editor of your choose.

Normalize Audio File

Normalize an audio file to 0dB. Select the file format, click on Normalize Audio File. Select the input audio file that will be normalized. Select the output audio file that will be saved.

Convert MP3 Audio File

Convert an audio file to Wav. Select the file format, click on Convert MP3 Audio File. Select the input MP3 file that will be converted. Select the output audio file that will be saved.

Convert Wav to MP3 Audio File

Converts Wave Format files to MP3 audio files. Select the file format, click on Convert Wav Audio File. Select the input Wav file that will be converted. Select the output audio file that will be saved.

Wav Bitrate Converter

Select the file format, click on Convert Wav Audio File. Select the input Wav file that will be converted. Select the output audio file that will be saved.

- **AAMS Freeware**
- vs Registered

AAMS V3 - Freeware version

is free to download and free to use. It allows users to audio master files up to 4 minutes for free. Also the free version of AAMS you can test out the software and the quality of sound by listening the end results on your own speakers of computer / audio player. AAMS is a good Learing tool and so it is recommended just to hear the sound and play around with the settings of reference vs source.

The following functions do apply to the freeware version :

Mastering single audio files up to 4 minutes with standard settings.
The user can analyze and master single audio files only ono by one.
The user can choose a reference file out of the Reference database Only.
Importing WAV and MP3 Audio Files into AAMS or Master Audio Files With AAMS.

DSP-EQ, 50 EQ Bands only.
DSP-Compressor, 4 Multibands only.
DSP-Loudness, AAMS measuring system only.

AAMS will only save the mastered outcome files as WAV16, WAV32 and MP3(192).

For most users this might be enough, simple one button mastering for free.
For full functionality read about the AAMS V3 Full Licensed Version.

To make full use of AAMS V3, you must register for AAMS V3 Full Professional Version. The AAMS software program, website and this manual gives information how to do so. AAMS Limited Freeware Version can be freely used. This program is Free Distributable, i.e. you can evaluate this functional Limited Freeware Version. Distribution of AAMS installer and AAMS software can be done on a freeware basis, take into account that asking money or payments for the AAMS software is prohibited and not legal. AAMS is distributed on NON-COMMERIAL basis, so if you paid money for AAMS, ask your money back from

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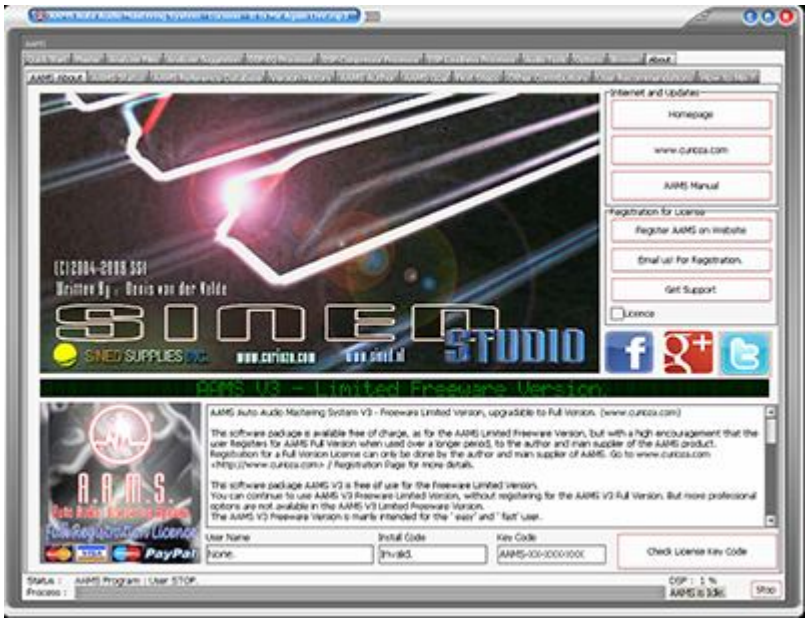
AAMS Auto Audio Mastering System - Is Limited Freeware!

This software package is available free of charge. You can show your appreciation and support future development by donating on existing and upcoming products. When you are using this software for a longer time or using this software for commercial use, to earn money, you must think about giving a part of it to the author and register AAMS for a Full Version License.

Thank You!

Denis van der Velde
Sined Supplies Inc.



AAMS Auto Audio Mastering System V3 - Full Professional Registered Version.

The freedom to create your own audio style (reference) out of analyzing a single file or multiple files, combining references or adjusting references.

For users who like more control over the reference or the aams processing, create / adjust a reference out of the AAMS database.
Spectrum Reference Adjustments possible for Mono, Left and Right spectrum of a loaded reference and saving a new reference.
Or analyze commercial audio and create a reference accordingly.
Therefore having full control over Creating your own style reference and creating your own sound!

Features : Over > 1 Hour mastering audio tested, interesting option for long tracks or dj-mixes.

Reference Adjust, adjust the loaded reference file according to user EQ Spectrum changes, save user created reference.
Adjustments possible 5Khz to 20 KHz, -12dB to 12dB in the spectrum reference range by editing envelopes for Mono, Left and Right spectrum
Master Batch Audio Files, master multiple audio files at a single go, this is a good function for creating your own style reference!
Master Batch Analyze Files, create a new reference (or source) out of multiple analyzer files.
Auto Mastering (Albums), Semi Mastering (Single), Semi Mastering (Albums), Manual Mastering (Single), Manual Mastering (Albums), features to change AAMS behavior directly (options) for Single Audio or Albums of Audio.
Batch Multiple Reference(s) into One, this is a good function for creating your own style reference!
Batch Mastering multiple files or albums, first each files with their own reference.
Batch Mastering multiple files or albums, with a user made album reference (option).
DSP-EQ processing up to 100 Bands and full control to adjust each EQ band.
DSP-Compressor, 8 band Multiband Compressor Maximum, 1 to 8 Multibands setups possible.
DSP-Loudness (Balance and Loudness), with AAMS measuring system or dBFS measuring

system.
DSP-Loudness, with two measuring and correction systems, AAMS measuring system and dBFS measuring system.
Able to Automatic Master, Semi-Automatic Master and Manual Mastering!
AAMS Options are all available, as well as options from Analyzer, DSP-EQ, DSP-Compressor and DSP-Loudness.
Printing Documents in text and as charts.
Realtime Spectrum Analyzer.

Mastering outcome audio files and in between files.
This means after DSP-EQ processing an audio file is saved.
After DSP-Compression an audio file is saved.
After DSP-Loudness Balancing an audio file is saved.
After DSP-Loudness Gain an audio file is saved.
This gives the user control over the mastering process.
Also the AAMS Mastered audio file is saved.

Importing Wav, Wavpack,Vorbis Ogg, MP2, MP3,WMA, Apple M4a, Monkey Audio, AAC, Audio Files into AAMS or Master Audio Files With AAMS.

Get the AAMS V3 Full Registered Version for Licensed Users!

This software package is available free of charge, as for the AAMS Limited Freeware Version. But with a high encouragement that the user Registers for AAMS Full Version when used over a longer period, to the author and main supplier of the AAMS product. Registration for a Full Version License can only be done by the author and main supplier of AAMS. Go to www.curioza.com / Registration Page for more details.

This software package AAMS V3 is free of use for the Limited Freeware Version. You can continue to use AAMS V3 Limited Freeware Version, without registering for the AAMS V3 Full Version. But more professional options are not available in the AAMS V3 Limited Freeware Version. The AAMS V3 Limited Freeware Version is mainly intended for the ' easy' and ' fast' user. we’re mastering of a single track is done with a few button clicks and is done by AAMS V3 automatic functions. The end result will be a fully mastered track and all free of charge, AAMS V3 will stay Limited Freeware! You can master as many tracks as you like.

Register for the AAMS V3 Full Version.

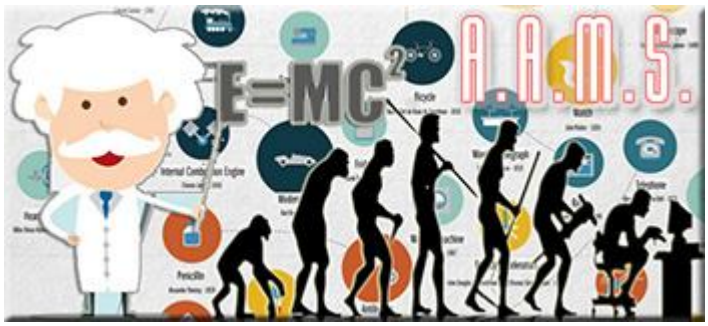
This software package is available free of charge, but with an encouragement that the user makes a registration to the Full Professional Version. You can show your appreciation and support future development by registering AAMS, and make full use of the AAMS Software Full License Package.
Without any blocking of options. A registered and licensed user can make use of all AAMS V3 professional functions! The price for registering a single computer and full license for AAMS V3 will be around 65 dollars or 65 Euros. For each single computer after registration is around 33 Dollars or 33 Euros.

Go to www.curioza.com / Registration Page for more details.

Thank You!

Denis van der Velde
Sined Supplies Inc.

- **Words from The Author**
- Believe It



For all users who want to know the background to of the creation of AAMS Auto Audio Mastering System, here are some words about the author.

AAMS V1 to AAMS V3 - Year 2004 to 2017!

The programming of AAMS Started in mid-2004, at which time I had done enough manual mastering to see that some aspects could be automated. At first the AAMS V0.5 Beta program was simply creating suggestions for EQ, Multi-Band Compression and Loudness. This information was displayed and could be used to set up external equipment like plugins or outboard gear. This was time saving and made the mastering process more visible. Then in AAMS V0.97 I added the routine for saving a Firium Preset based on the Graphic EQ Suggestions that would help setting up Firium EQ without having to do this manually (which that was time consuming). I could listen each time AAMS calculated suggestions and confirm that it really did speed up the mastering process. After adding some more routines, testing and bug testing the small Reference database with 100 presets to use and scan for a good sound. AAMS V1.0 was released on 01/01/2005 and soon a user base was established. The best thing about releasing AAMS V1.0 to the public, was that more users were giving information back on their feelings about the program. After some time and changing some functions to be more defined, AAMS V1.1 was released. This version was quite stable and gave good information to users in its suggestions. The information back from users confirmed that the suggestions were quite good and helped most users very well. Although AAMS V1.1 needed some work to understand most users were very pleased with AAMS results. Most complaints about AAMS V1.1 were that the calculations were not very fast and the application needed some guidance when installing.

So for AAMS V1.5 I had to speed up the programs calculations and change the AAMS V1.1 platform. This meant full recoding and programming. For the requested use of DSP it was also necessary to increase the speed and the way AAMS V1.1 operated. After some DSP-EQ coding and reprogramming, AAMS V1.5 was released with its own internal Player and DSP-EQ. Now it was possible to listen and play AAMS Suggestions through a windows soundcard that helps scanning for a good sound. The DSP-EQ had a natural sound and worked correctly for most users, so the programming for DSP-Compressor and DSPLoudness could continue.

Now days AAMS V3 has got its own internal Mastering Rig!
With the combination of DSP-EQ, DSPCompressor, DSP-Loudness you can complete a

quality mastering job within AAMS with ease. I have a good understanding of mastering and AAMS contains those ideas. AAMS users also have a lot to say and have good ideas, so if you have something to add your ideas will be listened to. I do hope you have as much fun as me using the AAMS Program.

We do make a lot of work making AAMS a good and steady mastering alternative and I know AAMS can make a good sounding master. So please donate for this software when you are using AAMS and like it! We can use the donations for future updates and for keeping AAMS alive. Also we will use the donations for creating more software tools in future SSI releases. Register AAMS V3 for Full Version.

Thank You!
Denis van der Velde
AAMS Author

AAMS Auto Audio Mastering System V3

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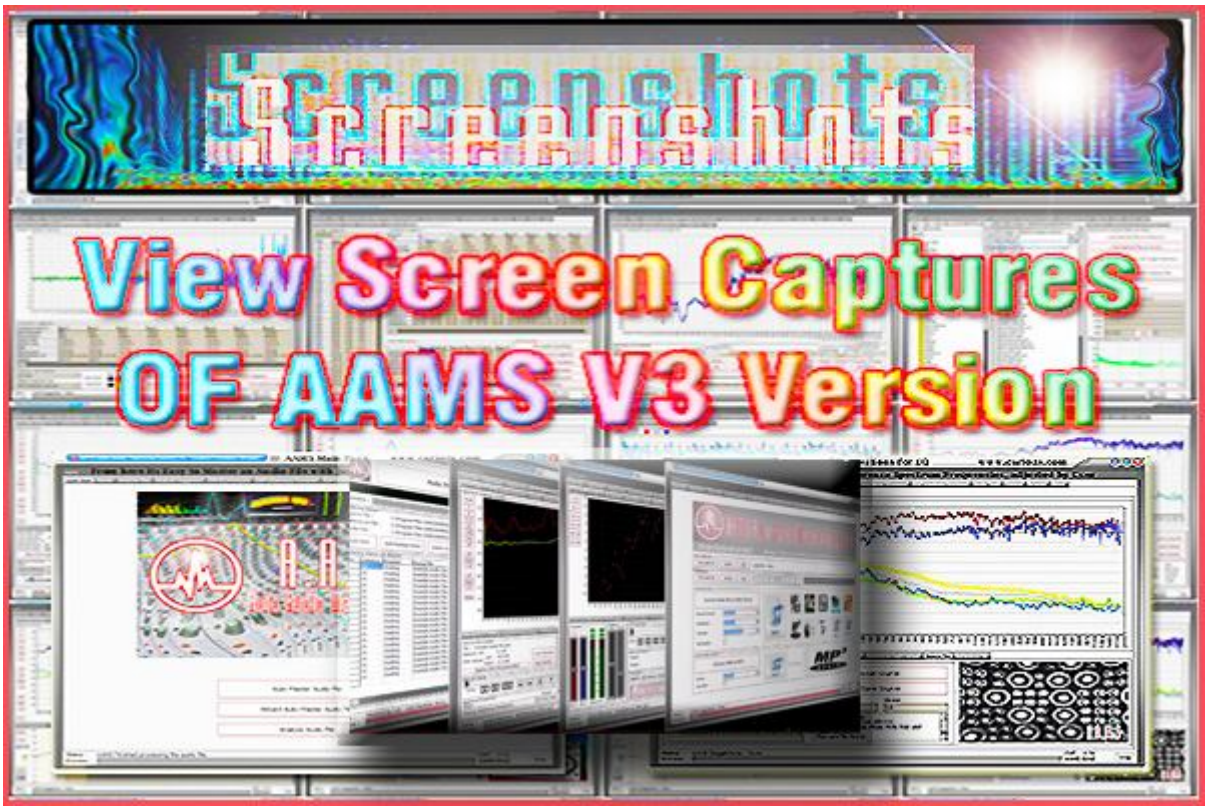
On our website : www.curioza.com

AAMS V3 - Video Tutorials Page

Quick video tutorials with tips and tricks for getting the most out of AAMS. These walkthroughs are perfect for visual learners who would rather watch a video than read a manual. The Video Tutorials Page offers all Video's about AAMS. From beginner starting with AAMS, tips to intermediate and advanced audio mastering techniques. Learn to use AAMS features step-by-step. Learn to do Audio Mastering with AAMS easy and fast. Learn how to use the Database of References and Presets. Learn how to create your own sound. Tutorials are from AAMS and from users that made a video on YouTube or are found on the net. Sure there is a lot to watch and find out about AAMS!

AAMS V3 - Audio Mastering Examples Page

Here you can find Audio Examples of Original Audio files and AAMS Mastered Audio Files. A good demonstration to listen what AAMS can do as an Audio Mastering Tool. You can listen and download the files directly. We also have some Tutorials in the Audio Section. The original audio files where not changed and are as found. These audio examples are mastered with AAMS Auto Audio Mastering System, Everything is done automatically and the audio files where not altered in any way or fashion. The files are MP3 format using the Lame MP3 Encoder.



AAMS V3 - Screenshots Page

AAMS Version 3 screenshots and pictures, the main page with the Auto Master Audio File button is the main starting point for audio mastering your own music or input any audio file. AAMS consists of an Analyzer that analyzes the audio or music you input into AAMS, then the AAMS Suggestion are done based on what AAMS Analyzer and AAMS Suggestion generator automatically generates for AAMS 100 Band DSP-EQ Processor, AAMS 8 Multiband Tube Compressor and AAMS Balancing and Loudness Processor. This means you only have to input your audio file or music and choose a reference file against it. AAMS will do all the mastering work 4 you, you don't have to do anything but wait for the mastered outcome. AAMS saves the Audio Mastered file as a MP3 or WAV 16bit Linear or 32bit Float audio file. So then you can listen between the original audio file and the AAMS Audio Mastered file. The Screenshot will show the Frequency Spectrum, EQ and Compression settings as charts and grids sheets. The charts can all be zoomed in or out, so as a more experienced user can do more with AAMS software program when adjustments on the mix or audio master directly into AAMS can be done by the more experienced user.

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==========
Sined Supplies Inc. => Terms of Service
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Sined Supplies Inc. has the right to terminate the Online Shop at its sole discretion.
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Sined Supplies Inc. reserves the right to terminate or restrict Your access to the Online Shop without prior notice if You violate these Terms of Service or if You abuse the Online Shop or load the Online Shop to an unusual extent.
Sined Supplies Inc. is entitled to prevent access to the Online Shop if it has reason to believe that You are engaged in illegal activity or compromise other users' or Sined Supplies Inc. data security or privacy.
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Information on Product delivery times and other Product information is specified in the Online Shop web site.
Sined Supplies Inc. takes commercially reasonable efforts to provide You with Product information that is as accurate as possible.

Sined Supplies Inc. does not however warrant that the Product information or other content on the Online Shop is accurate, reliable, complete or error-free.

Shipping

Shipping times may vary depending on the Product, its availability and other possible practical factors.
Please check the shipping times for each Product separately.
Should You wish to receive a printout of an order You have placed, this can be done by printing out the order confirmation You receive after You have placed Your order.
This confirmation will be sent to You by e-mail after You have completed the order process.
Once your payment information has successfully been processed.

5 Pricing

The prices in force from time to time are specified in connection with each Product.
Shipping charges are added when applicable and they may vary in accordance with the shipping destination and other applicable practical factors.
The prices shall include all public charges determined by the authorities, including value added tax pursuant to the legislation in force from time to time.
Please note that the public charges may vary depending on the country You reside in.
Payment will be done at the time of purchase using the available payment methods.
Additional customs, duties as well as brokerage charges may however apply depending on the shipping destination and will be collected at the time of delivery.
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Once your payment information has successfully been processed.

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Sined Supplies Inc. may also at its discretion notify You of amendments and make the amended Terms of Service available without prior notice upon the next time.
You access the Online Shop and make it conditional for continued use of the Online Shop for You to specifically accept the amended Terms of Service (for example by clicking “Accept”).
However, should You choose not to accept the amended Terms of Service made available to You in accordance with this paragraph Your right to use the Online Shop shall terminate immediately.
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The legality, validity or enforceability of the remaining provisions shall in no way be affected or impaired thereby.
The invalid provision shall be replaced by a valid one which achieves the original purpose and commercial goal of the invalid provision to the extent possible.

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Sined Supplies Inc.’ maximum liability for direct damages caused to You or Your property is at all times limited to the amount paid by You for the Product(s) You have ordered via the Online Shop that gave reasons for the claim.
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