Music Media Helper

User Documentation

Tools for managing and converting Audio and Music Video media files, creating Playlists and Music Video NFOs

App Version 7.1.22
Document Version 7.1.4

11 April 2024

NOTE: Clicking on a Title in the following Table of Contents will hyperlink to the section selected

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Requirements:
- Windows 11, 10, or 8
- **Microsoft .NET 7 Desktop Runtime** (may be pre-installed on some Windows 11, 10 and 8 PCs with recent Service Packs)
- Internet connection: Required for tagging audio files with data from Musicbrainz and to scrape album and concert/music videos artwork. Also, to check for updated future versions of Music Media Helper.

If you are planning to do lots of media conversion and tagging: a fast hard drive is recommended (SSD is the fastest)

Installing Music Media Helper (MMH):

Install the application from this URL (hosted on a Microsoft Azure server in USA):

https://reva.blob.core.windows.net/mmh/publish.htm

This screen will show you the current version number. Example:

Click: Install

The program installer (MMHInstaller.msi) will be downloaded (approx. 100MB).

NOTE: This file is standard Microsoft Windows installer. (No viruses or malicious code).

- Microsoft Edge web browser pops-up a small window asking what you want to do with the MMHInstaller.msi file. Click: Run (to start the installer & download all required files).
- The Google Chrome browser will warn you that this file may be 'dangerous' (just like any executable downloaded from the internet). You will need to tell Windows to 'Keep' the file (Don't discard it).
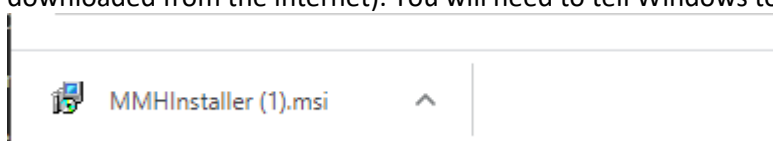
In Google Chrome use the pop-up menu next to the 'Open' the MMHInstaller.msi file. Please use that. When downloaded open the MMHInstaller.msi or run it to start the installation of all required files.

Depending on your browser and Windows version you may get another security warning (again normal for running code from a downloaded file). Here's the one on Windows 10 after running MMHInstaller.msi from Google Chrome:

Windows protected your PC

Windows Defender SmartScreen prevented an unrecognized app from starting. Running this app might put your PC at risk.
More info

Don't run
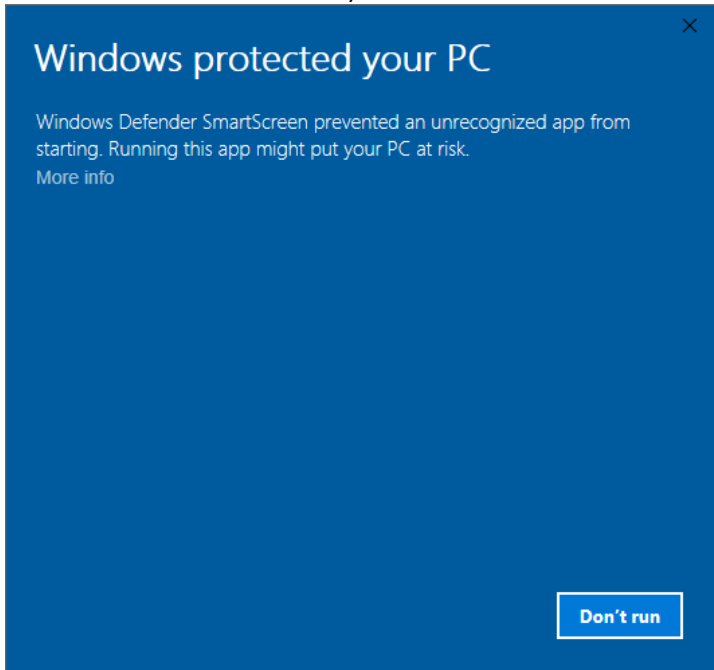
You will need to confirm that MMHInstaller.msi is ok to run. With the above dialog click: 'More Info' link text with will show more info and give you an option to 'Run anyway':

Windows protected your PC

Microsoft Defender SmartScreen prevented an unrecognised app from starting. Running this app might put your PC at risk.

Application: MMHInstaller.msi
Publisher: Reva Consulting Services

Run anyway   Don't run
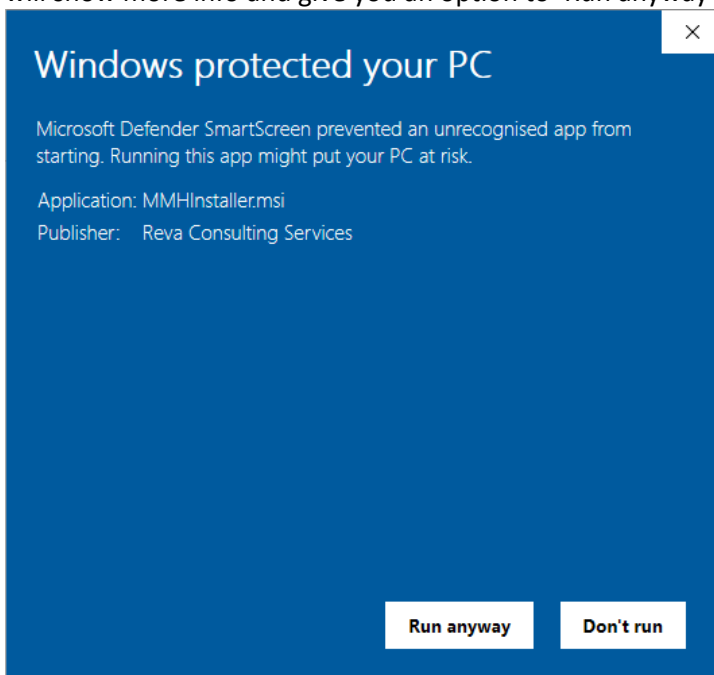
The installer (MMHInstaller.msi) will now run and install the Music Media Helper application and add it to your Start menu and creates a short-cut on your desktop.

Updating Music Media Helper

Music Media Helper (MMH) automatically checks if there is an updated version on start-up and will allow you to update your version. Of course, this will only occur if you have an internet.

There is a 'Check for Updates' toolbar command on the MMH Launcher dialog which you can use to check if you have the latest version. If a newer version has been published, you will see a pop-up asking if you wish to upgrade. If you click 'Yes' MMH will auto download and update its changed files, then automatically will re-start MMH. Easy.

Launcher Dialog:

On start-up Music Media Helper (MMH) shows the tool *Tools Launcher* dialog allowing access to the various Audio and Video tools provided by this application:

	Music Media Helper Tools Launcher	— □ X
	Preferences About Help Check For Updates	

Concert Video Tools

Split & Rename Concerts	Split MKV video file into Chapters, Rename Concert Chapter files (lookup releases on MusicBrainz)
Scrape a Concert Folder	Scrape a single Concert Video folder to get Poster and Fanart and/or Create NFO files for Kodi
Chapter Editor	Create & Edit Chapters in a MKV, MP4 or MKA file. Create CUE file. Change Default Audio stream
Batch Creation Tools	Scrape, Create NFO (XML), CUE files or M3U Playlists for All Music Concerts/Video folders (all at once)
Split & Join MKV Files	Batch Split MKV files with Chapters. Batch Join MKV, M2TS (multiple files into Single MKV with Chapters)

Audio and Video Tools:

Play List Editor	Create and Edit M3U Playlist files for both Audio and Music Video files
Media File Manager	Create a List of all Media files from multiple Sources, Copy selected files to another disc etc
Tag & Rename Media Files	Tag & Rename files (Supports Copy & Paste from track list) and/or Tag from MusicBrainz. Create CUE file.
Merge Video & FLAC files	Merge MKV/MP4 video & FLAC/WAV audio files to create new MKV/MP4 files

Audio Tools:

Extract Audio from MKV	Split MKV/MKA into Audio files by chapter, convert audio files & Tag (lookup releases on MusicBrainz)
Join or Split Audio	Join or Split WAV or FLAC files. Create CUE file.
Resample	Resample Audio files (stereo or multichannel - FLAC & WAV only)
Channel Volume	Edit Channel Volume (Gain) for FLAC & WAV. View DR & Waveforms (FLAC, WAV, DSF, M4A, MKA & MKV)
Remix Channel Layout	Edit Channel Layout, Add Silent Channel(s) to Quad (4.0 to 5.0 or 5.1), Remove Channels, Invert Phase
Channel Delay	Edit Channel Alignment/Delay in multichannel files (FLAC, WAV or DSF)
Channel Split & Merge	Split MCH files into Mono Channel files. Merge Mono files to create MCH files.
Batch Audio Tools	Analyze & update ReplayGain; Update/Report Cover Art; Report Disc Art & DR; Report Musicbrainz IDs
Update Penteo Files	Batch Tag Penteo MCH FLACs. Copy Tags from input files & rename Output files. Add Quad silent ch.
Rename Audio Folders	Restructure Audio files from single: 'Artist - Album' folders to: 'Artist\Album' folders for Kodi
MMH Atmos Helper	Create Atmos® Master File Sets from multichannel interleaved WAV files. Decode Atmos to WAV.
MPEG-H Decoder	Decode MPEG-H Audio in .MP4 or .M4A files to WAV.

Version: 7.1.0   Exit

HINT: To help new users understand each tool's workflow, upon opening a tool window only valid commands and options are enabled or visible. Most often opening a file or selecting multiple files will enable additional commands and options to continue with the current tool.

On the Launcher toolbar there are three options:

Preferences: Allows setting of Application Global Preferences

About: Shows information about MMH

Check For Updates: This forces MMH to check if your version is still current. If there is a newer version available MMH will display a dialog with information about the update. You can accept the update (MMH will download and install) or you can choose to ignore the update.

NOTE: Clicking on the Version Number at the bottom left of the Launcher dialog pop up a version history dialog.

NOTE: This PDF documentation can be viewed from the Launcher dialog by clicking the small Help (?) icon on the top right of the dialog.

Each MMH Launcher tool's functionality is explained in the following sections:

Preference dialog:
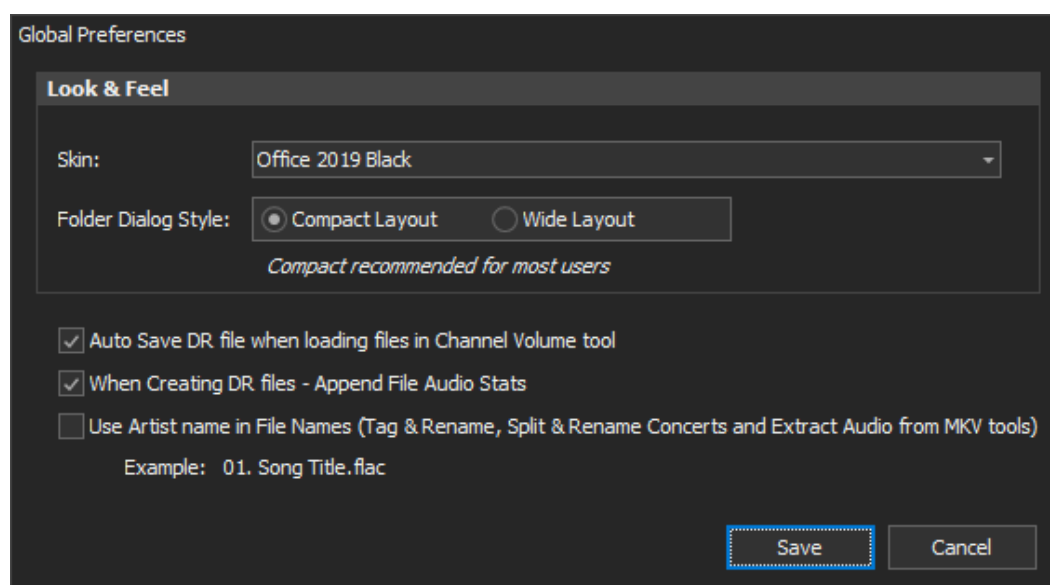
Description of Preference options:

Skin: In Version 4.0 a new 'Preferences' dialog was added on the Launcher toolbar that enables users to select their preferred skin/themes. By default, the 'Office 2019 Black' skin is enabled (as shown above). You can choose from eight different skins. Some of the screen captures in this document were captured using the original default skin. Version 6.1.0 added two new Windows 11 themed skins (WXI Darkness & Clearness).

Folder Dialog Style: This preference controls how the Folder Browser dialog appears in MMH. 'Compact' is a simple tree view that works well for most users. 'Wide' provides a view more like Windows File Explorer and allows users to enter a folder name including folders on unmapped servers (e.g. \\MyServer\MyFolder).

Auto Save DR file when loading files in Channel Volume tool: Will save a DR file automatically on file loading

When Creating DR files – Append File Audio Stats: Saves individual channel stats to the end of the normal DR files MMH creates in its Channel Volume tool or Batch Audio Tools (Report/Create DR report option)

Use Artist name in File Names: When MMH auto-creates or updates a file name after where the Tag Editor is used enabling this preference will append the Artist name (if known). This affects MMH's *Tag & Rename* tool, *Split & Rename Concerts* tool and *Extract Audio from MKV* tool.

Split & Rename Concerts:

Functionality:

This tool enables you to do the following:

- Split an MKV file (with Chapters encoded) into individual MKV or MP4 files, one file per chapter.
- Convert an MKV without Chapters to MP4. Dragging multiple MKV files onto the Split and Rename grid with the output set to 'MP4' will convert all the MKV files to MP4 with the video stream and a single audio stream (without splitting each input file into chapters).
- Rename the output files by copying a list of tracks (typically from a website containing a list of songs in the music concert release disc).
- Rename and tag output files by using a MusicBrainz online lookup (only albums and concert release will be found in the Musicbrainz online database)
- Supports tagging via manual data entry.
- Renaming can also create NFO files (small XML data files used by Kodi) or XML sidecar files (for JRiver). These can be either scanned in Kodi's music video library to load artist and song titles into the music video library and used for playback from the library or scanned by JRiver to add additional tags to JRiver's video library.

Renaming also has an option to 'Renumber' all the new chapter files (prefix each file sequentially to force the chapters to be shown in file browsers in their original concert sequence). Example:

01. First Song Title.mkv
02. Second Song Title.mkv

HINT: There are various applications that will convert a DVD or Blu-ray disc to MKV including MakeMKV. You should ensure the MKV output contains chapter information (chapter start times) if you wish to split into chapter files.

NOTE: The MKV chapter files created by MMH will contain the same audio tracks as per the original MKV file. When MP4 output selected the output file(s) contain only the selected audio stream (MMH will display a list of audio streams to choose – if the MKV file has multiple audio streams). The original source MKV file does not get changed in any way.

NOTE: MP4 does not support PCM streams. If your selected audio input stream is PCM, MMH will auto convert to the stream to FLAC. Therefore, the output files will contain a lossless copy of the PCM input stream converted to FLAC. MMH supports copying of Dolby (inc. Atmos) and DTS streams

If your music concert is already split into chapters, you can still use the Split & Rename tool to only *Rename* your files.

Although this tool is named 'Split & Rename Concerts' it can also be used to split audio-only Albums in MKV format to MKV or MP4 files.

Split & Rename Walk-Through:

Splitting a Concert Video MKV file:

In this scenario we will assume you already have a Concert MKV containing the entire concert in a single MKV file.

Firstly, ensure you have created a folder named in this format: ARTIST - CONCERT NAME and you have copied your Concert MKV file into that folder.

Click: 'Split & Rename Concerts' from the *Launcher* dialog. The following dialog appears as shown in the next figure. All the controls a disabled until you select an MKV file from the 'Split MKV File' button (or you drag and drop an MKV File from Windows Explorer):
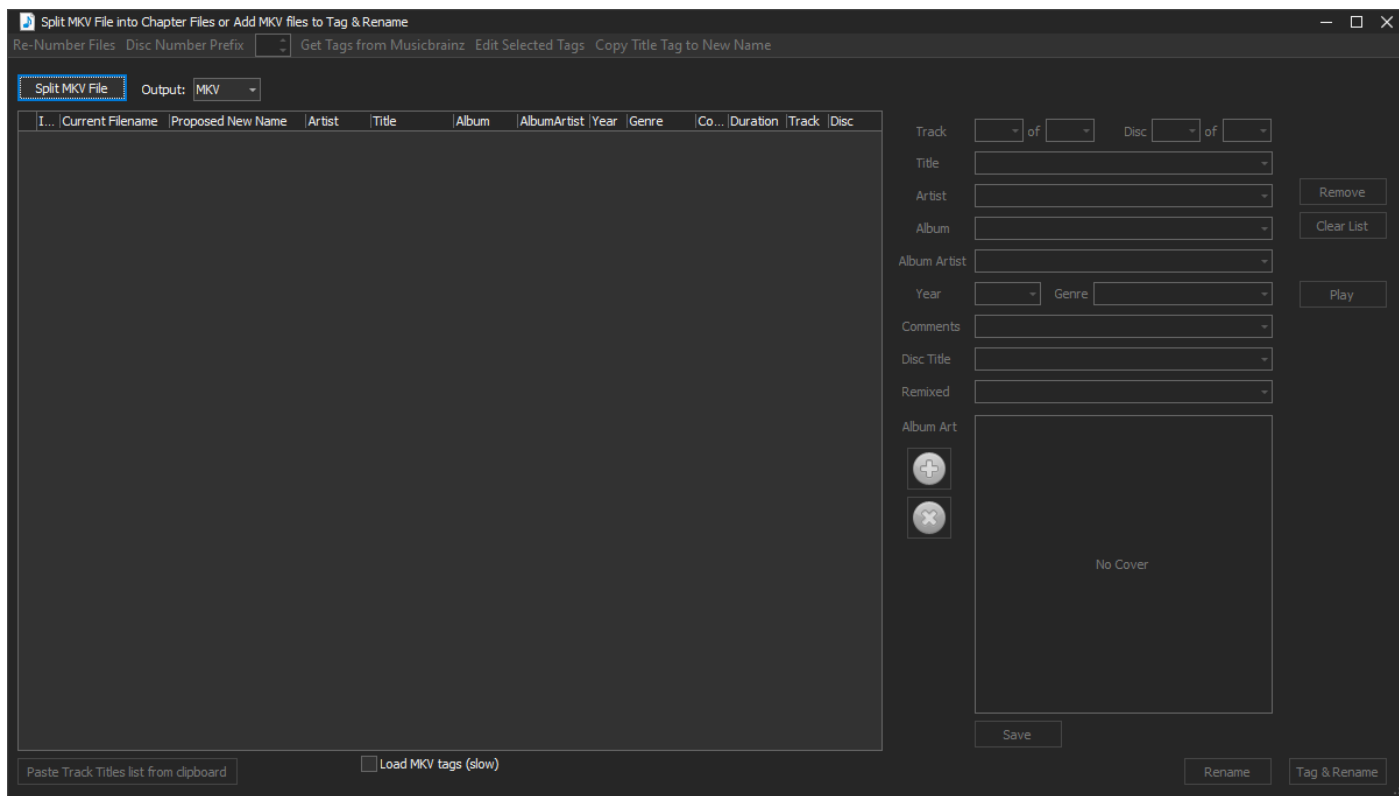
HINT: If your Concert Video has already been split into chapters you can use the 'Tag & Rename Media Files' tool to load all the files into its dialog. (This supports copying a list of song titles in one step and/or renaming from a Musicbrainz online lookup)
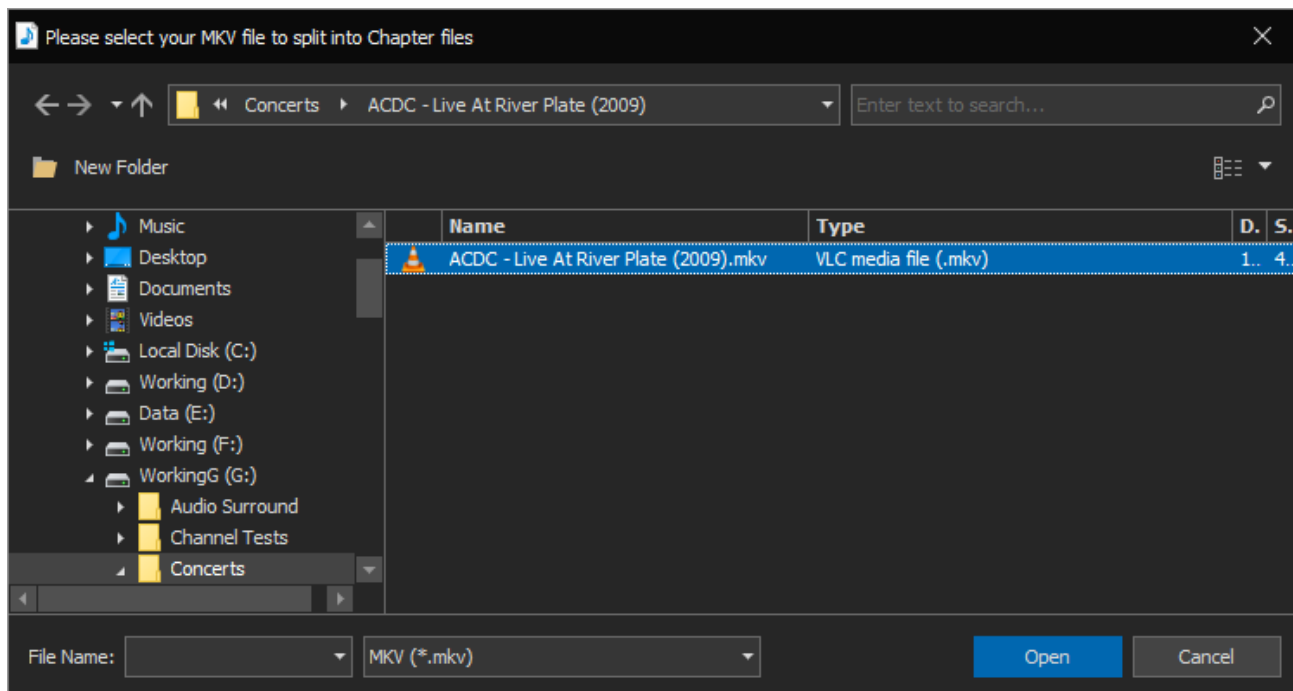
Click: 'Split MKV File' from the top menu (You can also drag an MKV or MKA file from Windows Explorer into the tool's grid)

MMH will pop up a file browser dialog for you to select the source MKV file you wish to split:

NOTE: The new output chapter files are saved to the same directory as the original source MKV selected to split.

Select the Concert MKV and click: Open (or just *double-click* on the MKV file)

MMH will now pop up a dialog displaying all the Audio Streams in the selected file so you can change the Default Audio Stream. This only pops up if the input MKV file has multiple audio streams:
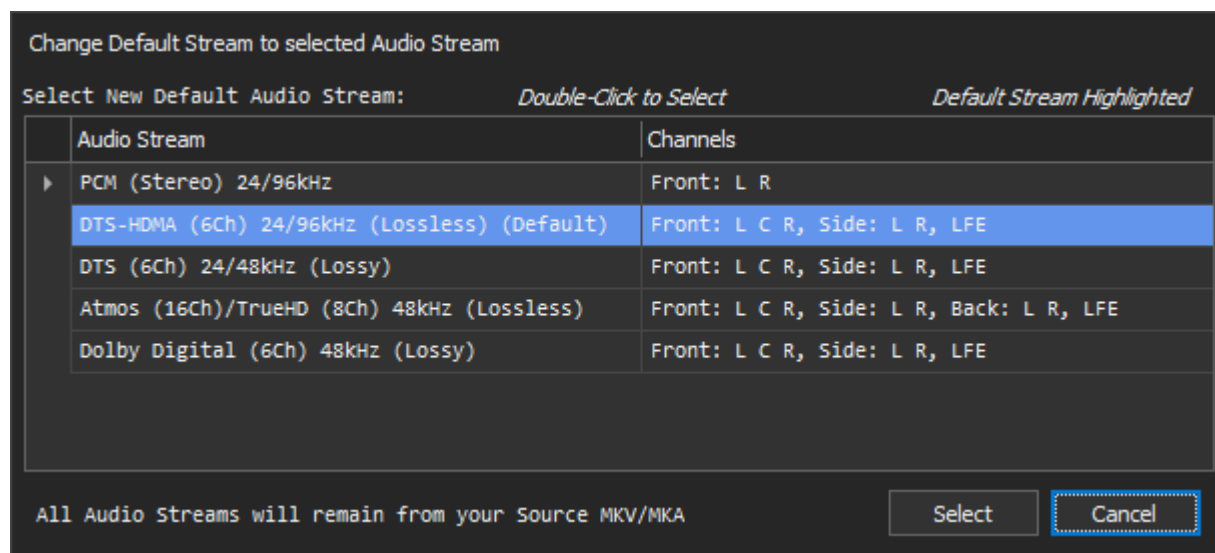
The current Default stream is highlighted (as shown above).

NOTE: The Default audio stream is played automatically on initial playback.

Select a new audio stream and click: Select (or just *double-click* on the stream in the list) to change the default audio stream. Click: Cancel to leave the existing default audio stream unchanged.

NOTE: When outputting to MP4 only the selected audio stream is copied to the MP4 files created.

MMH now splits the selected file into its chapter files – You will see a progress bar showing percentage complete while this task runs.

When the split task is completed the original MKV has now been split into its individual chapter files named in same sequence as the original chapter layout and all the chapter file names are loaded into the *Split & Rename* dialog. If the original MKV file has named chapters to the 'New name' column they will be loaded as the screenshot below:
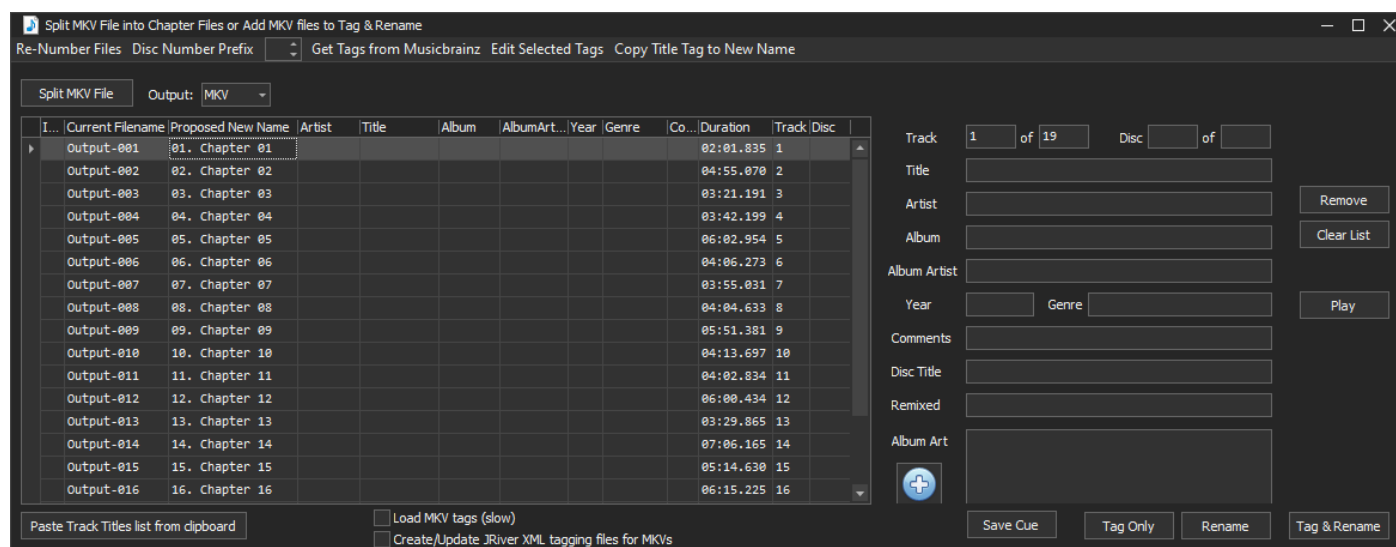
HINT: You can manually edit the 'New Name' value if required.

If there are no named chapters in the original MKV you may end up with 'New Names' that do not contain correct Song Titles or they are empty like the next screenshot, in which case you should rename them:

HINT: You can select any file (row) in the grid and click: Play to listen/view the file. This is sometimes useful when auto renaming files in the next section as often video releases have additional chapters such as Intro and credits. Playing the first and last chapter files is always useful.

Getting Track (file) Names from Musicbrainz (online music database):

After the split files are loaded into the grid, to get the concert or album information and tracks from Musicbrainz:

Click: 'Get Tracks from MusicBrainz' from the toolbar menu.

This displays the MMH Musicbrainz Tagging dialog:

Initially this is empty.

To search for an album's tracks:

Enter the Artist and Concert or Album Name (first two text boxes), then

click: 'Find'

HINT: if the folder name is in the format ARTIST – CONCERT NAME then MMH will split the folder name and pre-load the artist name and concert name into the dialog ready to search

The next figure shows a typical Musicbrainz dialog after a search for a concert video:

NOTE: If there is more than one matching 'Album Artist' name found in the Musicbrainz database, MMH will ask you to select the correct artist from the Album Artist pop-up list. Once selected MMH will then search for your selected Album or Concert Name by the Album Artist chosen.

If you enter valid names the 'Releases' list will be populated with all known releases. Click on any release to see its track names listed in the Track List.

To use these tracks to rename and tag: Click: 'Copy Tags' at bottom. The Split & Rename dialog will now contain the album's track info.

You can also manually edit the track list by clicking 'Copy Track Titles to Edit'. This opens a new dialog with free form editing of all the text. You can also copy txt into that dialog.

Re-Number Files Disc Number Prefix   Get Tags from Musicbrainz Edit Selected Tags Copy Title Tag to New Name

Split MKV File   Output: MKV

I...	Current Filename	Proposed New Name	Artist	Title	Album	AlbumArtist	Year	Genre	Co...	Duration	Track
	Output-001	01. Rock N Roll T…	AC/DC	Rock N Rol…	Live At…	AC/DC	2011	Arena Ro…		02:01.835	1
	Output-002	02. Hell Ain't A…	AC/DC	Hell Ain't…	Live At…	AC/DC	2011	Arena Ro…		04:55.070	2
	Output-003	03. Back In Black	AC/DC	Back In Bl…	Live At…	AC/DC	2011	Arena Ro…		03:21.191	3
	Output-004	04. Big Jack	AC/DC	Big Jack	Live At…	AC/DC	2011	Arena Ro…		03:42.199	4
	Output-005	05. Dirty Deeds D…	AC/DC	Dirty Deed…	Live At…	AC/DC	2011	Arena Ro…		06:02.954	5
	Output-006	06. Shot Down In…	AC/DC	Shot Down…	Live At…	AC/DC	2011	Arena Ro…		04:06.273	6
	Output-007	07. Thunderstruck	AC/DC	Thunderstr…	Live At…	AC/DC	2011	Arena Ro…		03:55.031	7
	Output-008	08. Black Ice	AC/DC	Black Ice	Live At…	AC/DC	2011	Arena Ro…		04:04.633	8
	Output-009	09. The Jack	AC/DC	The Jack	Live At…	AC/DC	2011	Arena Ro…		05:51.381	9
	Output-010	10. Hells Bells	AC/DC	Hells Bells	Live At…	AC/DC	2011	Arena Ro…		04:13.697	10
	Output-011	11. Shoot To Thri…	AC/DC	Shoot To T…	Live At…	AC/DC	2011	Arena Ro…		04:02.834	11
	Output-012	12. War Machine	AC/DC	War Machine	Live At…	AC/DC	2011	Arena Ro…		06:00.434	12
	Output-013	13. Dog Eat Dog	AC/DC	Dog Eat Dog	Live At…	AC/DC	2011	Arena Ro…		03:29.865	13
	Output-014	14. You Shook Me…	AC/DC	You Shook…	Live At…	AC/DC	2011	Arena Ro…		07:06.165	14
	Output-015	15. T.N.T.	AC/DC	T.N.T.	Live At…	AC/DC	2011	Arena Ro…		05:14.630	15
	Output-016	16. Whole Lotta R…	AC/DC	Whole Lott…	Live At…	AC/DC	2011	Arena Ro…		06:15.225	16
	Output-017	17. Let There Be…	AC/DC	Let There…	Live At…	AC/DC	2011	Arena Ro…		07:16.749	17
	Output-018	18. Highway To He…	AC/DC	Highway To…	Live At…	AC/DC	2011	Arena Ro…		12:26.888	18
	Output-019	19. For Those Abo…	AC/DC	For Those…	Live At…	AC/DC	2011	Arena Ro…		04:03.744	19

Track 1 of 19   Disc   of
Title   Rock N Roll Train
Artist   AC/DC   Remove
Album   Live At River Plate   Clear List
Album Artist AC/DC
Year 2011   Genre Arena Rock   Play
Comments
Disc Title
Remixed
Album Art

Paste Track Titles list from clipboard   ☐ Load MKV tags (slow)   Save Cue   Tag Only   Rename   Tag & Rename
☐ Create/Update JRiver XML tagging files for MKVs

NOTE: When tagging from MusicBrainz MMH will tag MusicBrainz IDs for: AlbumArtist, Album and ReleaseGroup used my Kodi's music library. You can view these tag values by adding these columns to the tagging grid (*right-click* on a column header and click: 'Column Chooser'. There are also columns for Disc No and DiscTitle used by Kodi to group multi disc releases in the Kodi UI.

Users can freely edit any tag field directly in the grid or click on any row (track) and edit the tags in the MMH 'Tag Editor' control (refer to the MMH 'Tag & Rename Media File' tool documentation for a full description).

Copying all the Tracks Titles from the clipboard:

Sometimes the Musicbrainz lookup will not find the release (maybe it doesn't yet exist in the database, or your search names entered aren't a close enough match to find the entry). In this case you can copy a list of track name from a text list of tracks or from a web page.

If you do not already have a list of all the track names that you can copy, use your favourite web browser, search for your Concert or Album in Google, find a web page that lists the songs, select all the list text and 'copy' (CTRL-C) to your clipboard.

The next figure shows a webpage from Discogs where a mouse was dragged over the track list (ready to copy):

The Beatles – Abbey Road

Genre: Rock
Style: Pop Rock
Year: 1969
Notes: Released originally in 1969, the 2019 50 years anniversary editions have the same basic artwork but contain a remix/remaster of the album and the arrangements do differ from the original album.

More Images

Tracklist

Come Together	4:21
Something	3:03
Maxwell's Silver Hammer	3:27
Oh! Darling	3:27
Octopus's Garden	2:51
I Want You (She's So Heavy)	7:47
Here Comes The Sun	3:05
Because	2:46
You Never Give Me Your Money	4:02
Sun King	2:27
Mean Mr. Mustard	1:06
Polythene Pam	1:13
She Came In Through The Bathroom Window	1:57
Golden Slumbers	1:32
Carry That Weight	1:37
The End	2:20
Her Majesty	0:23

After highlighting (selecting) the track list press CTRL-C to copy the selected text to your clipboard

If you do have the titles already in a file then open the file, select all the track list text and 'copy' (CTRL-C) to your clipboard.

HINT: Sometimes the published concert Track List does not include the introduction chapter or the credits chapter, so sometimes the number of chapters (hence the number of chapter files) is not the same as the number of track list songs. In this case you may wish to first copy your clipboard selection to a temporary text file and manually add an intro at the beginning and/or credit at the end. You can remove the first and/or last chapters from the Rename dialog's list by selecting the file and clicking 'Remove'. Once you have your updated Track List copy that to your clipboard and you are ready to continue.

Now click: 'Paste from clipboard' command on the main dialog:

This pops up the MMH Track Editor:

Click: 'Paste Track Titles from Clipboard' from the Track Editor's toolbar and the text copied from Discogs is pasted, but in this example, it also includes the track duration:

Track Text Editor

Remove | Paste Track Titles from Clipboard

Remove Leading Numbers
Remove Trailing Numbers
Remove Text (below)
User Text: [   ]

Because 2:46
You Never Give Me Your Money   4:02
Sun King   2:27
Mean Mr. Mustard   1:06
Polythene Pam   1:13
She Came In Through The Bathroom Window 1:57
Golden Slumbers 1:32
Carry That Weight   1:37
The End 2:20
Her Majesty   0:23

Copy Tracks | Cancel

To remove the track lengths, use the Track Text Editor's Remove menu option 'Remove Trailing Numbers' as shown above. This removes the unwanted trailing numbers:

Track Text Editor

Remove   Paste Track Titles from Clipboard

Come Together
Something
Maxwell's Silver Hammer
Oh! Darling
Octopus's Garden
I Want You (She's So Heavy)
Here Comes The Sun
Because
You Never Give Me Your Money
Sun King
Mean Mr. Mustard
Polythene Pam
She Came In Through The Bathroom Window
Golden Slumbers
Carry That Weight
The End
Her Majesty

Copy Tracks | Cancel

Click: 'Copy Tracks' to update the track names and proposed new file names in the main grid.

NOTE: The Track Text Editor shows each track name in its own line. Users can add and delete lines in this editor to add and remove tracks from the current track list used to rename tracks in the grid.

NOTE: MMH will automatically add a sequence prefix to the New Names imported from the clipboard. So, you don't have to add any numeric prefix. You only need to ensure the song titles are in the correct sequence. MMH will remove any leading numbers and renumber them, so if some song titles have leading numbers and some don't' MMH will clean up those for you.

Tagging Files - Overview:

All existing tags for each loaded file are displayed in the file's grid row. These can be freely edited on a cell-by-cell basis (which saves the changes directly to each media file), or users can edit tags in the MMH 'Tag Editor' control on the right side of this dialog. Tags can also be edited in batch using MMH's Musicbrainz online database lookup or by copying a list of track names from a text file or from a web page.

Tags from the grid cells are saved to each file by:
- Editing in a grid cell immediately the cell is exited (e.g. Tab key or mouse click on another cell)
- Clicking either the 'Tag & Rename' or 'Tag Only' command buttons

When either of the two 'Tag & Rename' or 'Tag Only' command buttons are used, MMH saves all grid tags for all files in the grid if there is only one album (folder) in the grid. If there are multiple folders (albums) in the grid MMH saves all tags for all files BUT only for the selected rows (files).

HINT: Use the normal Windows selection methods to select rows (CTRL+A for all, CTRL+Click, SHIFT+Click for multiples). Each folder name row has a 'Select Files' button on its right which selects all rows for that folder.

The dialog's 'Tag & Rename' and 'Tag Only' command buttons save the grid tags to each media file:
- If only one folder (album) is loaded in the grid, both commands save tags to all files for the folder
- If multiple folders (albums are loaded in the grid, both commands save tags to all files by folder (album) if the row (file) is selected

The Tag Editor control:

The Tag Editor always displays the tags from the current grid row (see next figure on left) or tags for all the selected rows (se next figure on right). When displaying tags for multiple rows (files) if all the tag values for each file's tag are identical the tag textbox shows that value (see Artist tag in right figure). If the all the values are not identical the tag shows '[multiple values' (or '[mv' if the text box is small – see Track tag) and the textbox becomes a dropdown list which list all the unique values for that tag.

Users can edit any tag in the Tag Editor. Any changes are saved to the selected grid rows when a user clicks the 'Tag & Rename' or 'Tag Only' dialog buttons

- If only one row is selected, just that row's tags are updated in the grid.
- With multiple rows selected, the 'Tag' buttons saves all tags (except those with values '[multiple values' or '[mv]') to all selected rows in the grid.

IMPORTANT: The Tag Editor does not save tags to media file(s). To save to tags to media files use the 'Tag & Rename' or 'Tag Only' button at bottom of the main dialog.

Album Cover Art:

The Tag Editor control displays existing embedded cover art (if any). The 'Plus' button allows are user to select a cover art file via a file browser ('folder.jpg' or cover.jpg' only). The 'cross' button removes cover art.

Renumbering Tracks and Files:

Sometimes you may wish to auto-renumber the album/concert tracks or add a Disc Number prefix to all the files in a folder to help breakdown a large compilation or music concert or create your own compilation of music files and you want to renumber tracks.

The toolbar command: **Renumber Files** will automatically update the Track number for all selected rows in the grid using the current grid sort order (default sort is the File Name). The first row (file) will be 1 and all other selected files will be incremented. Renumbering files will auto update the proposed new file name.

MMH's normal file naming is in the form shown below with a two-digit track prefix added:
Track. Title - example: 01. My Track's Title.flac (for Track 1)

NOTE: There is an Application Global Preference to append the track's Artist name to the file name. Example:
 01. Pink Floyd – Speak to Me

NOTE: MMH uses a two-digit track prefix if the number of files in the grid < 100. If the number of tracks in the grid >99, MMH uses a 3-digit track prefix (example for > 100 files: 001. My Track's Title.flac)

Disc Numbering:
Setting the 'Disc No' in the toolbar (to the right of the Renumber Files command) adds a disc prefix to the file name: Disc.Track. Title - example: 1.01. My Track's Title.flac (for disc 1, Track 1)

Renaming Files:

You can rename all the files in the grid at any time using either the 'Tag & Rename' or 'Rename Only' button at the bottom right of the dialog.

MMH always uses the value of the 'Proposed New Name' cell for each file. This value is automatically updated by MMH using the row's Disc, Track and Title tag cells using the format:

    Disc.Track. Title - example: 1.01. Speak to Me

If the Disc tag is empty or 0 the Disc number is ignored and the format used for the filename is:

    Track. Title - example: 01. Speak to Me

NOTE: For Music Concert videos in MKV files in Kodi only the File Name (based on the song title) is required to generate NFO files for the Kodi Music Video library. All other tags are ignored by Kodi in the Kodi Video library. However, you can add MP4 music video files to the Kodi Music library by tagging the MP4 files and including the files in a Kodi Music source (just like for Kodi music (audio-only) files.

NOTE: MMH will automatically check for illegal characters in the proposed new file names (characters that are not allowed in Windows file names). If any exist, you will be warned and shown which new file names need to be edited.

You are now ready to rename your new files:

When you have your new names set as you require:

Click: 'Rename' button to rename all the chapter files to your new names.

If the Renaming is successful, you will see a dialog asking if you want to create NFO files for Kodi or create XML sidecar file for JRiver.

NOTE: MMH defaults to the Kodi NFO option unless the option 'Create/Update JRiver XML tagging files' is ticked.
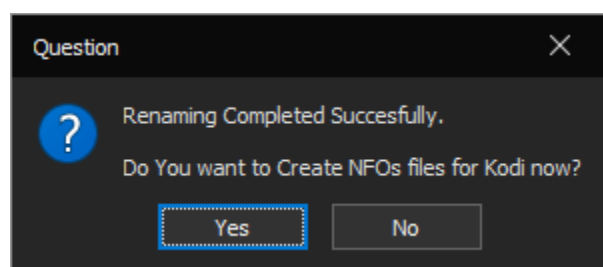
Or:
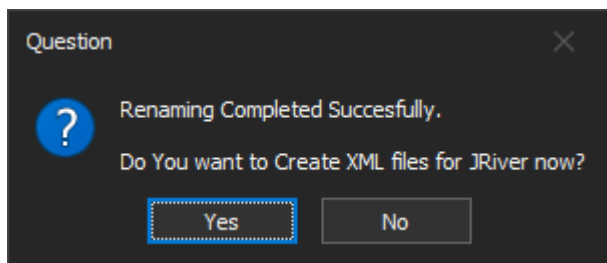
Click: 'Yes' if you want to create the NFO or XML files now (recommended if you use Kodi or JRiver)

If you are creating Kodi NFO files, another dialog pop up asking if you want to Scrape the concert online using the MMH Concert Scraper. This will search The Movie Database and find additional data about the concert and image art for the Poster, Fanart and performers If available (see the 'Concert Scraper' section later in this document for more information):
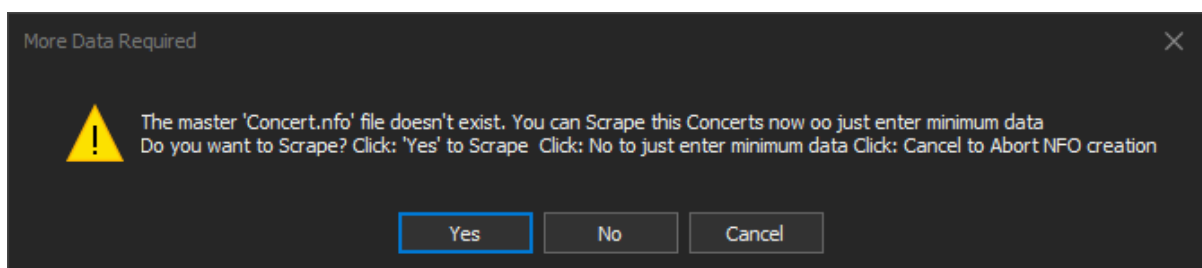
(go to the Scraper docs to find out what happens if you click: 'Yes' to this dialog)

If you click: 'No', MMH will open a dialog to allow you to edit the Concert/Music Video NFO file information. It initially gets the Artist, Concert Name and Year from 'Split and Rename' grid (if it can):

Depending on the JRiver XML file option either the NFO files (for Kodi) or XML files (for JRiver) will be created for each video file in concert folder from the data in this dialog and the file names and is formatted like these examples:

Kodi NFO file (minimum data version):
```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<musicvideo>
    <track>2</track>
    <title>02. Rock n Roll Train</title>
    <artist>AC/DC</artist>
    <album>Live At River Plate</album>
    <genre>Hard Rock</genre>
    <year>2009</year>
</musicvideo>
```

This file provides the Kodi Music Video Library with the metadata to group the music videos into Artist and Album and gives Kodi the track sequence (for the albums tracks).

JRiver XML file:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<MPL Version="2.0" Title="JRSidecar" PathSeparator="/">
<Item>
<Field Name="Album Artist">AC/DC</Field>
<Field Name="Album">Live At River Plate</Field>
<Field Name="Date">40907</Field>
<Field Name="Track #">2</Field>
<Field Name="Artist">AC/DC</Field>
<Field Name="Name">02. Rock n Roll Train</Field>
<Field Name="Genre">Hard Rock</Field>
<Field Name="Comment"></Field>
</Item>
</MPL>
```

This file provides the JRiver Library with the metadata to tag the music videos with Artist, Album etc and gives JRiver the track sequence (for the 'albums' tracks)

INFO: There is feature 'Add Chapters to MKV' to enable users to add chapters to MKV Concerts that don't already have chapters and can't be split in song files.

If you are using Kodi or JRiver you just need to copy the new (split) MKV files and NFO (Kodi) or XML files (JRiver) to one of your Music Video source folders and 'Scan' its contents into the Kodi Music Video library or 'Import' into the JRiver library. Not all skins support Music Video views in Kodi. I use Aeon Nox Silvo.

Scrape Concert Folders:

Functionality:

This tool enables you to do the following:

- Download Concert Video Poster/Cover & Fanart Images, you can choose which one to use.
- Download the Concert's metadata from The Movie Database.
- Create Kodi NFO files for each video file in the scraped folder (adds files to Kodi's Music Video library) or Create XML sidecar files for JRiver (adds tags to JRiver's video library).
- When creating Kodi NFO files, include additional Concert metadata tags including performers and their image urls, concert outline etc. MMH will add this metadata and links to the NFO files.
- If you have multiple supported video files in your concert folder (if have split your concert into individual song files) MMH will create NFO files for all video files automatically.

NOTE: When using MMH's 'Split & Rename Concerts', after you have tagged the newly created files, MMH asks if you would like to Scrape the concert. If 'Yes' is selected, MMH starts this tool and passes the Artist and Concert names to this 'Scrape Concert' tool so you don't have to re-enter this data to scrape.

NFO files are used in Kodi to import Music Video artists, 'albums' and tracks into its Music Video library (database) for playback through Kodi's Music Video user interface which allows searching/grouping by Artist, 'Album' and playback of individual 'tracks' (or files with a matching NFO file).

XML files are used in JRiver to import additional tags into Video Library. MMH defaults to creating NFO files for Kodi but you can check the 'Create/Update JRiver XML tagging files' if you are using JRiver Media Centre.

NOTE: There is also an option in the 'Batch Creation Tools' dialog that runs this single Scrape dialog on all the concert sub-folders recursively which is a little faster and easier than running this single Scrape dialog manually on each concert folder. The Batch Creation tool has options to auto Scrape, auto Save and not to re-scrape concert folders already scraped etc.

It is highly recommended you Rename your video final output files to the song name prior to auto generating your NFOs. Please see the MMH Tools: 'Rename/Tag Media file' and 'Split & Rename Concerts'.

Kodi NFO files:

As at Kodi 19 the only way to get your Concert videos into Kodi's Music Video Library is to provide an accompanying NFO file for each music video file. This NFO file (an xml file text file) contains data about the concert, artist etc.

The minimum data is: Artist & Concert Name (album) and video files should be named in the correct song title and track sequence file sort order.

The MMH Music Video Scraper can attempt to fetch additional data about the concert. A description outline, its release year, performers and images etc. If you do not want or need this extra data and images and just want to auto create NFOs then you can. This tool will also create auto-generated NFO files for all your folder's video files by entering just the *Artist* and *Concert Title* in the 'Concert Tags (Mandatory)' text boxes, you do not need to scrape, just click 'Save NFOs'. MMH will then create all the NFO files for all supported video files in your selected folder using each file name as track name and the file name sort order to generate the sequential Track number. Done. Now just Scan into Kodi's music video library in Kodi.

How to Scrape Concert folder:

The following dialog appears for you to select an existing concert folder to containing concert video files Scrape:
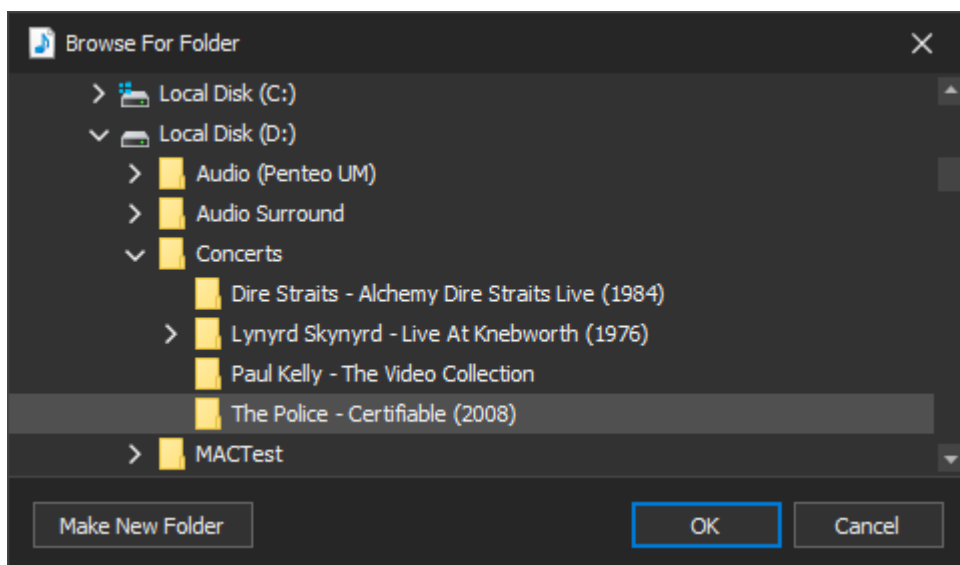
Select your concert folder to scrape, then:

Click: 'Ok'

MMH will now pop up its 'Scrape Concert' dialog:
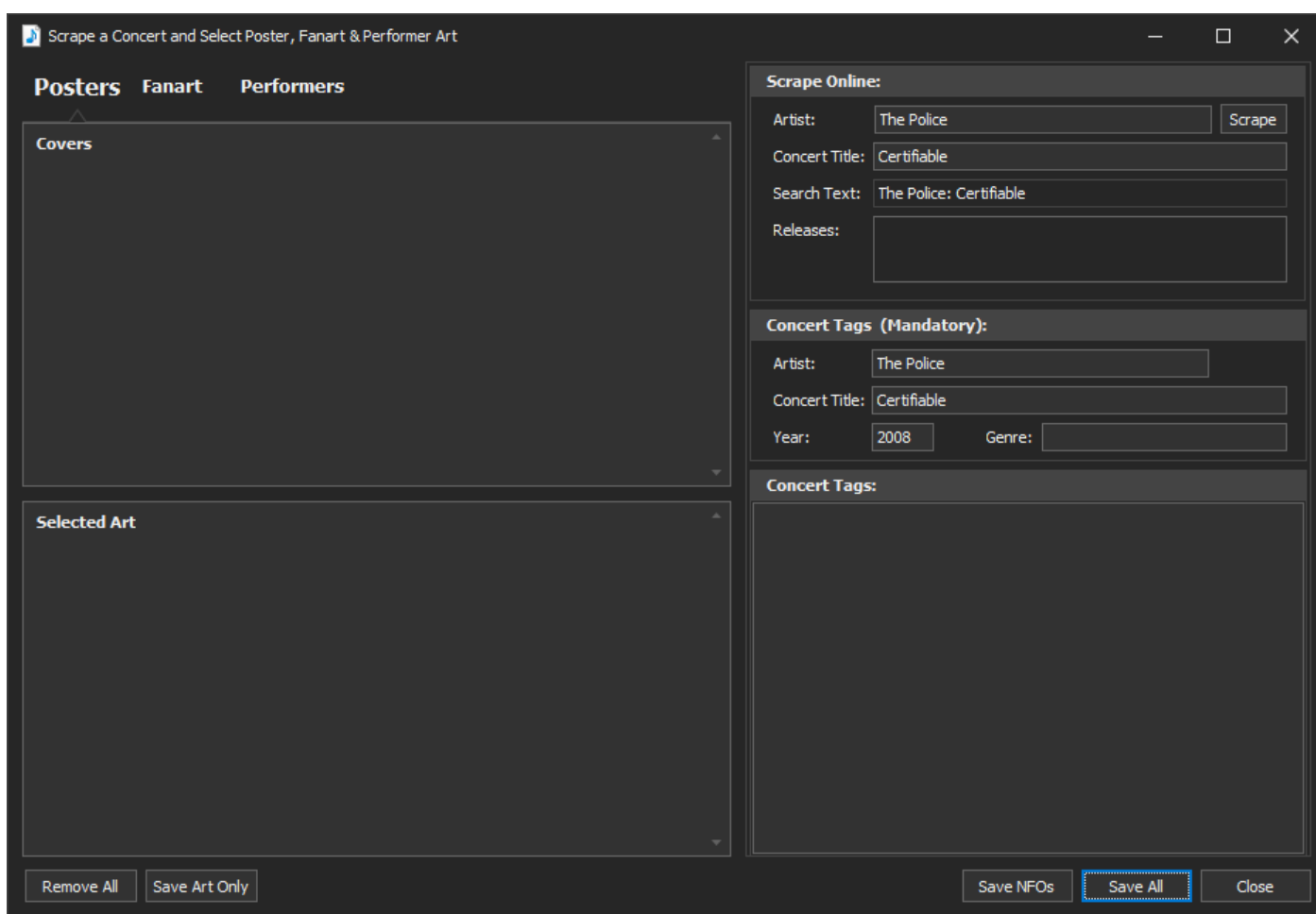
If a user starts this tool from the Launcher dialog and select a folder to scrape the concert's folder name is used to pre-enter the Artist and Concert names ready to scape and to pre-fill text boxes in the 'Concert Tags (Mandatory)' section (see previous screen shot).

NOTE: The concert folder name should be in the format: ARTIST - CONCERT NAME to support this pre-enter feature. If there is a year suffix in brackets '(NNNN)' is removed as The Movie Database (TMDB) website does not use the year in its search.

If you first use MMH's 'Split & Rename Concerts' tool to split a concert video with chapters into individual song files and rename the song files using the MusicBrainz, MMH will offer Scrape the concert and this dialog opens with the Artist and Concert names pre-filled.

You can manually edit/enter a new concert search name if required or if your folder name is not found on the in a scrape search.

NOTE: Only the 'Scrape Online' text box values for Artist and Concert name are used to do the online search. The 'Concert Tags (Mandatory)' area is not used for the search. Those values will be used when you save your data to create NFO files.

To change Concert search text, enter or change values in both the *Artist* and *Concert Title* textboxes in the 'Scrape Online' area. You can change pre-entered information at any time (especially if the Scraper does not find a match - The artist and concert title need to match The Movie Database very closely).

NOTE: If you already have a 'folder.jpg' or 'fanart.jpg' files in your selected concert folder they will appear in the 'Selected Art' image gallery at the left bottom of this dialog

NOTE: If you open a concert folder that already contains an NFO file, this dialog will pre-fill the 'Scrape Online' and Concert Tags (Mandatory)' areas with data from the existing NFO files, overwriting any values found by looking at the folder naming.

To Scrape:

Click: 'Scrape' button

If a match is found, all the matching releases are added to the Release list box (in the 'Scrape Online' box). If there is only one release MMH displays all the scraped metadata on the right and downloads Poster, Fanart and Performer images into the image gallery on the left side (adding to any existing images you may have in your concert folder or previously Scraped for your concert):
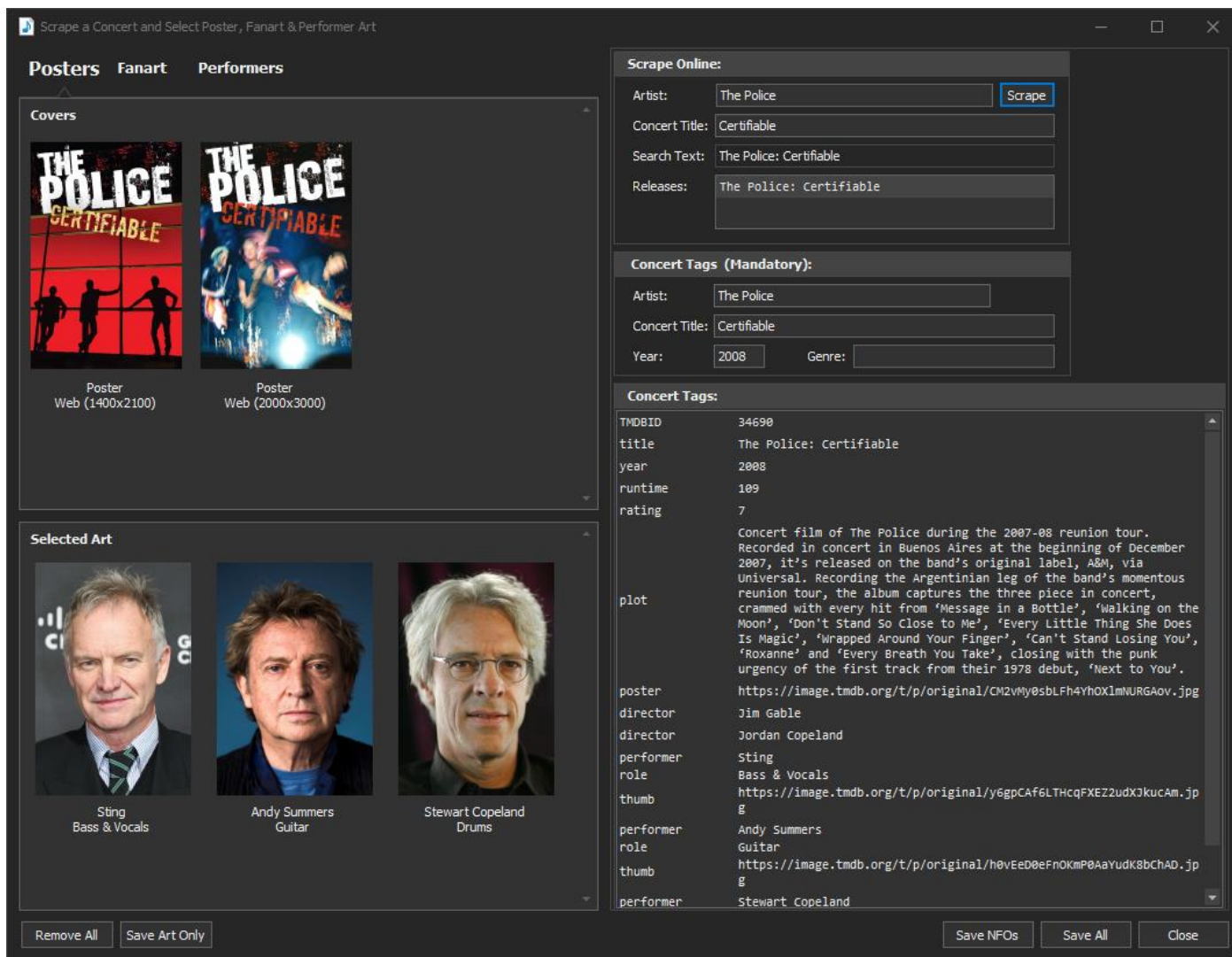
If there are multiple releases found for the Concert you need to select a release in the Releases list box to view metadata and images for the selected release.

About the Music Video Scraper dialog:
The dialog is split into two main sections:
1. Scraping & data on the right side: A 'Scrape Online' area to do your online search and two 'Concert Tags' areas to display the metadata returned from a successful search. The 'Concert Tags (Mandatory)' area is used for a data entry or to modify those tags in the final NFOs created by 'Saving'.
2. Concert Images on the left: The top section has 3 tabs that will show all the available images found sorted into Posters, Fanart and Performers groupings. The bottom 'Selected Art' image gallery shows current images selected for the concert (either local files found in the concert folder or default images if a user has previously performed a Scrape)

Save Options:
Save NFOs: Saves a 'master' data NFO file named 'Concert.nfo' (not used by Kodi) containing all the metadata in the Concert Tags list boxes and creates an NFO file for every music video file in the concert folder.

Save Art Only: Any Poster or Fanart images in the 'Selected Art' image gallery are saved to 'folder.jpg' and ''fanart.jpg' files respectively to the concert folder.

Save All: Combines both 'Save NFOs' and 'Save Art Only' above plus saves the Performer image URLs to the NFO for Performers in the 'Selected Art' gallery.

Auto Generation of Video File NFO files: Both these Save options automatically create a required music video NFO file (used by Kodi) **for all video files** in the concert folder selected earlier. The NFO files have the same file name as the video files but with an extension of '.nfo'. These music video NFO files inherit all tags from the 'Concert.nfo' file created from the 'Concert Tags' list boxes created initially in the save process. Each music video file also contains two additional tags not shown in this dialog used by Kodi: *Track* and *Title* (Kodi's user interface uses *Track* to sort the concert files and *Title* is used as the track name displayed in the concerts track list.

IMPORTANT: Saving NFOs after Scraping an existing concert ALWAYS OVERWRITES the master 'Concert.nfo' file and all the music video NFOs in the concert folder. If you wish to use this tool to just edit NFO data, open the concert folder (this loads the existing concert.nfo data), edit the tags and click: 'Save NFO'.

Selecting Concert Images to use from those available:
To select an image to use for your concert simple *double-click* on one of the images in the top galleries. The selected image will move from the top tabbed gallery to the bottom 'Selected Art' gallery.

Click on the Poster, Fanart or Performers tab to view images for those categories. The next screenshot shows the Performers tab selected (showing the Performer images found during a scrape):
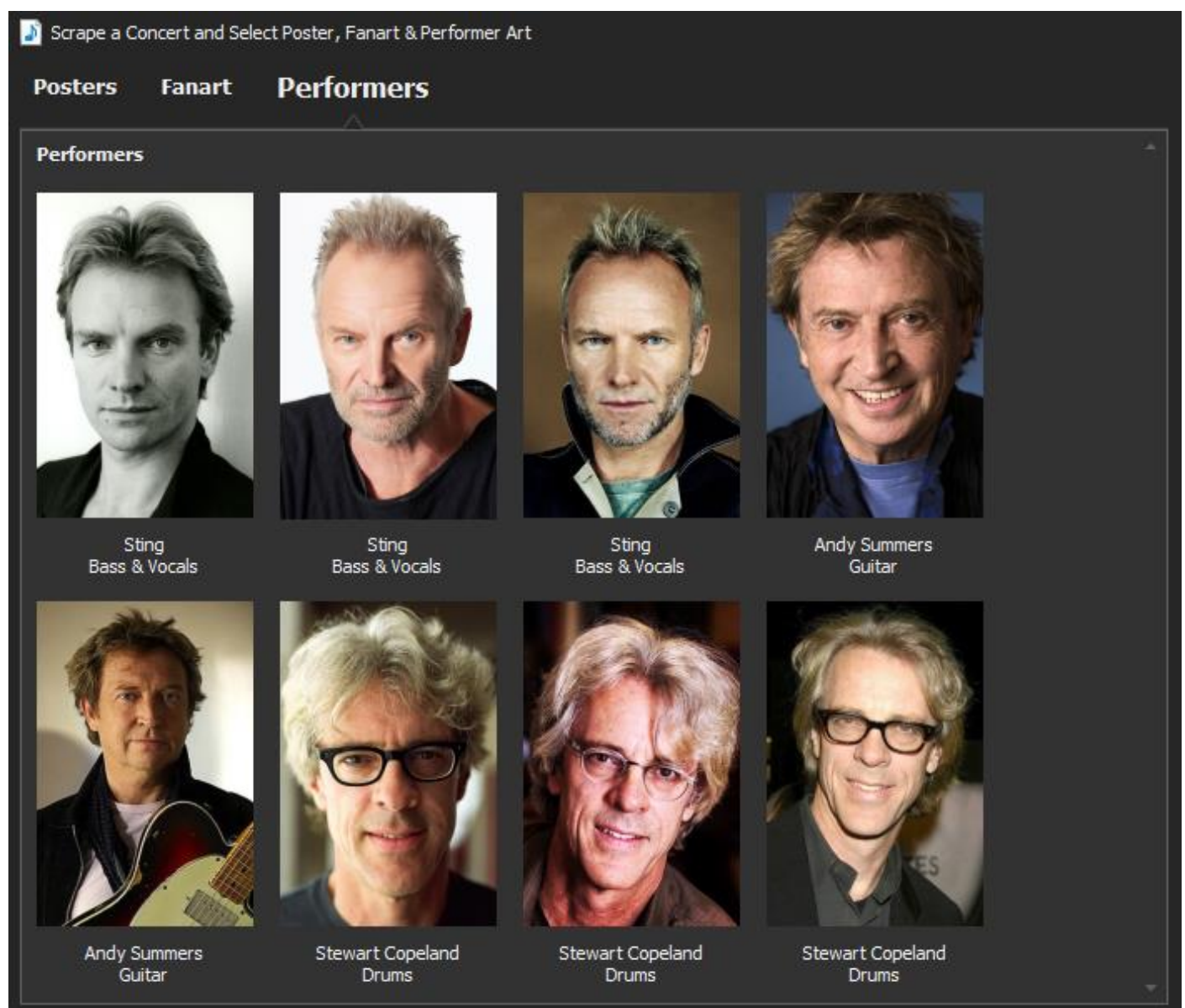
NOTE: Kodi supports a single Poster and Fanart image for the concert and single image per performer.

When loading any image into the 'Selected Art' gallery to be used as either local files (folder.jpg or fanart.jpg) or NFO URL tags (Performers) MMH first checks if the selected image type already exists in the 'Selected Art' gallery, if it does MMH will move the existing select image from 'Selected Art' to the appropriate Poster, Fanart or Performer tabbed image gallery. Finally, the image just selected is moved to the 'Selected Art' gallery. At this point no data is saved to files, you are just selecting your preferred art prior to Saving this data.

Editing Tags in the Concert Tag list:

Users can edit the mandatory tags for Kodi by entering data into the 'Concert Tags (Mandatory)' area text boxes. You must enter data for *Artist* and *Concert Title* to create NFOs for Kodi. *Year* and *Genre* are recommended but only optional.

The lower right 'Concert Tags' list box contains all other tags that will be saved to the NFO files. This data is usually created by performing a 'Scrape' or is pre-filled from a previously saved NFO file in the current folder (if one existed from a previous scrape or a user already has NFO files in the concert folder).

Editing a in the lower Concert Tags list:
To Edit a Tag: *Right-click* on the tag to be edited. This pops up a context menu with various options.
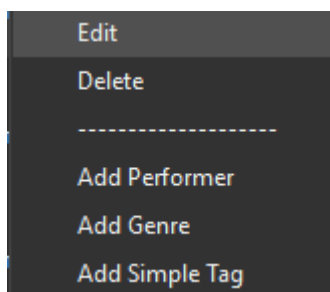
Click: 'Edit' in the context menu

OR: You can simply *double-click* on the tag.

The Tag editor dialog opens:
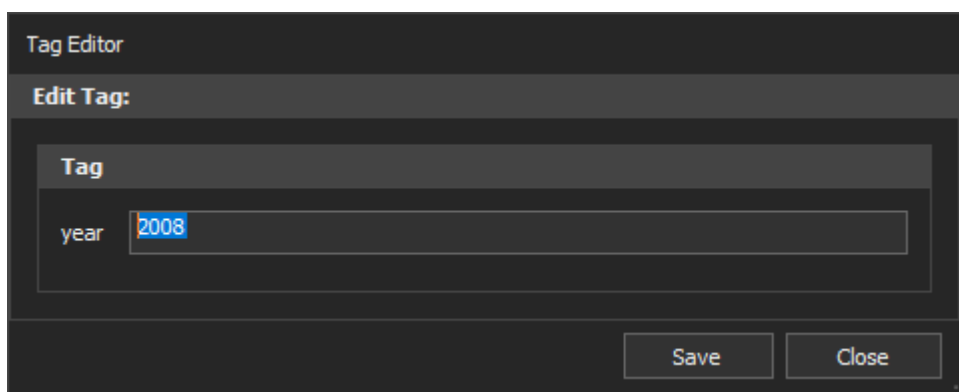
Go ahead and enter the new data.

Click: 'Save' to save the data back to selected tag

The Tag editor auto sizes to display the tag data, here is an Artist tag:

NOTE: Performer roles in TMDB are often 'self' (i.e. musicians play themselves). This dialog allows users to change their role in Kodi to be the musical instruments used. You can also find your own artist image you prefer online and can paste the URL here so Kodi will display your specific profile image.

Adding a new Tag:
To add a Tag: *Right-click* on any tag. When the context menu pops up

Click one of the three new tag option:

- Add Performer
- Add Genre
- Add Simple Tag

Enter the required data, then click 'Save' to add the new tag (new tags are always appended to the list)

A Simple Tag can be any tag you like. Kodi supports user tags named 'tag' so users could decide to tag your favourite music videos they'd like to find later with a new tag of:

TagName: 'tag'

TagValue: 'Favourite'

For the geeks that will create an XML tag in the NFO like this: **<tag>Favourite<tag>**

NOTE: Kodi only a consumes a pre-defined list of tags. Any tag not supported will be ignored. Use a tag name of 'tag' shown above to create a tag you can use in Kodi. Any other Tag Name must be predefined. See the Kodi Wiki)

Since genre and performer are commonly added there are built in options to create those tags. Additionally, some tags cannot be included multiple times: artist, album, title etc so MMH will check when saving a new tag and will warn users when attempting to create unsupported duplicate tag names.

Supported multiple tags in a NFOs by MMH are:

- genre
- actor (called Performer in MMH but created as 'actor')
- director
- studio

HINT: The MMH Video Batch tool can batch Scrape concert folders (see next section)

How to get Concerts into Kodi's Music Video Library:

Once you have a concert in its own folder with its video files AND NFO files have been created by one of the 'Save' options:

Ensure you have created a Root Music Video folder on your media drive (a USB Drive or on a NAS) and that you have added this folder to Kodi's as a Video Source. (In Kodi's System, Setting, Media screen). **You must set the Source Type to 'Music Videos'.** With this root folder set as music videos Kodi will add video files (with an NFO) to the Kodi Music Video library. You only need to do this once for each new Source.

Copy the Concert folder you have been working on (I rip and setup files on my PC, then copy to my NAS), copy the folder to your Kodi Source Music Video folder on your media drive (a USB Drive or on a NAS).

Scan the Kodi Video Library (Music Videos are of type 'video', they are not 'music' as they are not audio only – in the Kodi database world)

After the scan you Concert will appear in the Kodi Music Video menu, navigate from 'Artist' down.

Chapter Editor:

Functionality:

This tool enables users to:
- Create Chapters in an MKV, MKA, MP4 or M4A file without chapters.
- Edit existing chapters (change titles, and/or start times).
- Rename existing chapters for music releases from a Musicbrainz online lookup.
- Remove existing chapters (all or selected)
- Change the Default audio stream for MKV/MKA files with multiple audio streams.
- Create a CUE file to enable playback of specific chapters (songs) in Kodi and other media players.

Creating chapters is useful if you want to split an MKV, MKA or MP4 concert or album into its songs (by chapter) using the MMH tool 'Split & Rename MKV' or extracting audio to FLAC and splitting into song files your Concert Video does not have Chapters.

Chapters are useful for creating a CUE file's track (song) titles. The CUE file is created using the chapter names as Song titles. If the chapters names are named in a format: PERFORMER – SONG TITLE then the CUE file splits that name to create the Performer and Title CUE tags.

NOTE: Kodi will import CUE files for concerts and albums into its Music Library

Editing chapter start times can correct incorrect authoring of chapter times on some releases.

Users can also fetch chapter titles from the MusicBrainz online database if the MKV was created from a BDA or DVD Audio for an album or from a BDV or DVD Video of a concert release.

A CUE file can be created from the chapters for playback from the MKV track times and titles. This is ideal to add a MKV with chapters to the Kodi audio library or to the JRiver audio library. Both Kodi and JRiver adds each chapter and its CUE tags as individual album tracks in their respective audio libraries.

NOTE: Saving Chapters in large MP4 files takes much longer than saving chapters in MKV files. It is recommended to use MKV files for video in Kodi.

This tool can also change the default audio stream in any MKV or MKA file. This is the audio stream that will be played by default by your playback application or device.

There are five methods supported setting the Chapter Names:
- Manually add chapters and enter the desired Start Time (for each song)
- Copy & Paste a track list from a simple text file.
- Copy & Paste a track list from the MKVMerge/www.chapterdb.org website's text file (see below)
- Use 'Get Tracks Titles from MusicBrainz' to fetch the data from the online database (recommended)
- Import from an existing CUE file (MMH will convert a cue format time in mm:ss:ff to hh:mm:ss.nnn)

NOTE: The www.chapterdb.org website can also create chapters

This dialog only support chapter start times in the format: hh:mm:ss.sss (Hours, Minutes and Seconds with s separated by a colon ':' – milliseconds with a decimal point) but CUE files are created with ss.sss converted to frames (ff)

Edit Chapters dialog description:

Click: 'Chapter Editor' from the *Launcher* dialog.

This displays the Chapter Editor tool dialog:
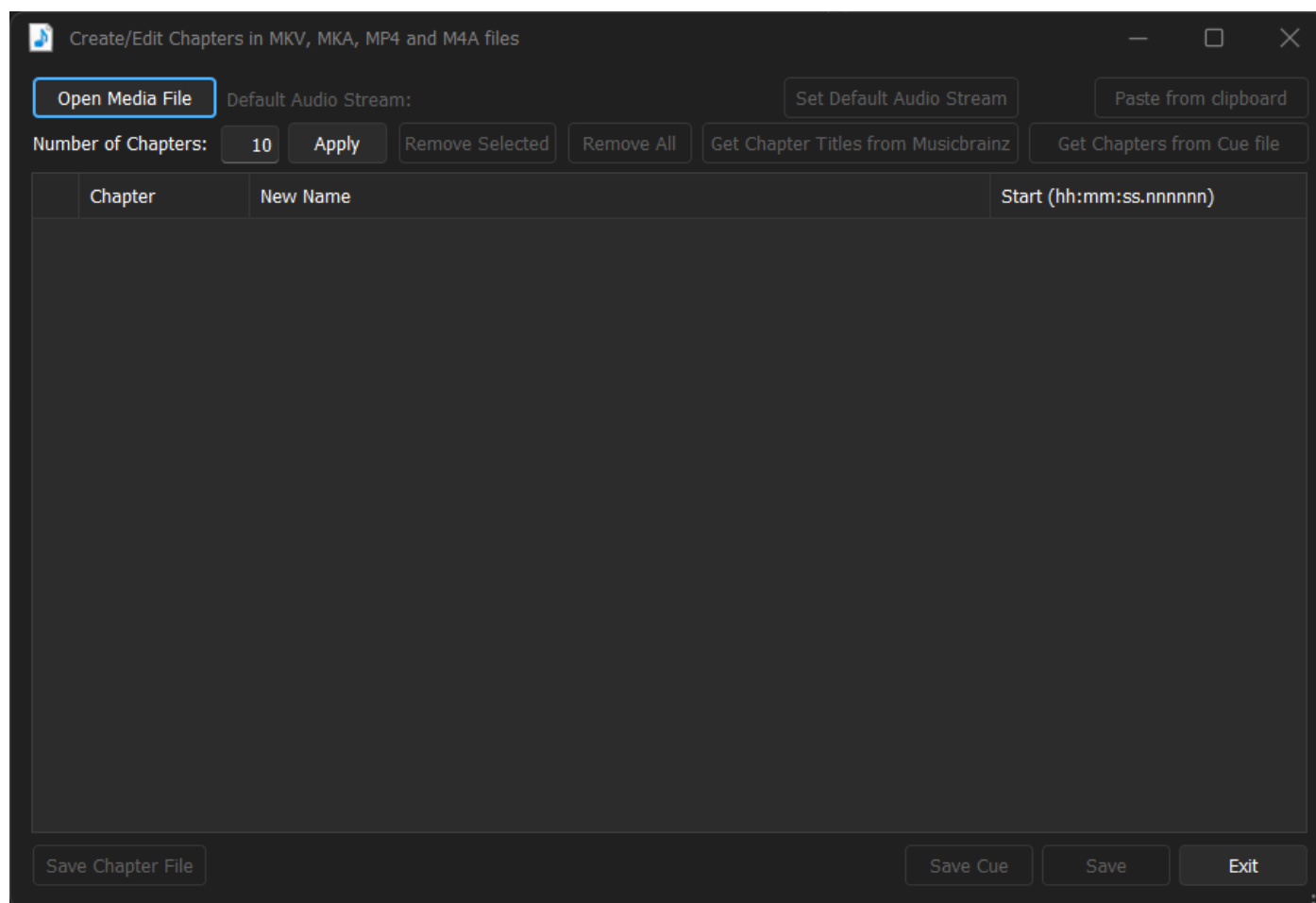
To get the existing chapter data, load the MKV, MKA MP4 or M4A file into the Chapter Editor dialog:

Click: 'Open Media file'

Now navigate and select the file to load.

NOTE: Users can also drag & drop files from the Windows File Explorer onto the grid

After selection, MMH reads the input file and loads the chapters, its current chapter name and duration into the grid.

NOTE: If there are no chapters you can import and create chapters from a list of chapters with Copy & Paste (see later)

The next screen shot shows the Chapter Editor dialog after an MKV file with existing chapters is loaded:
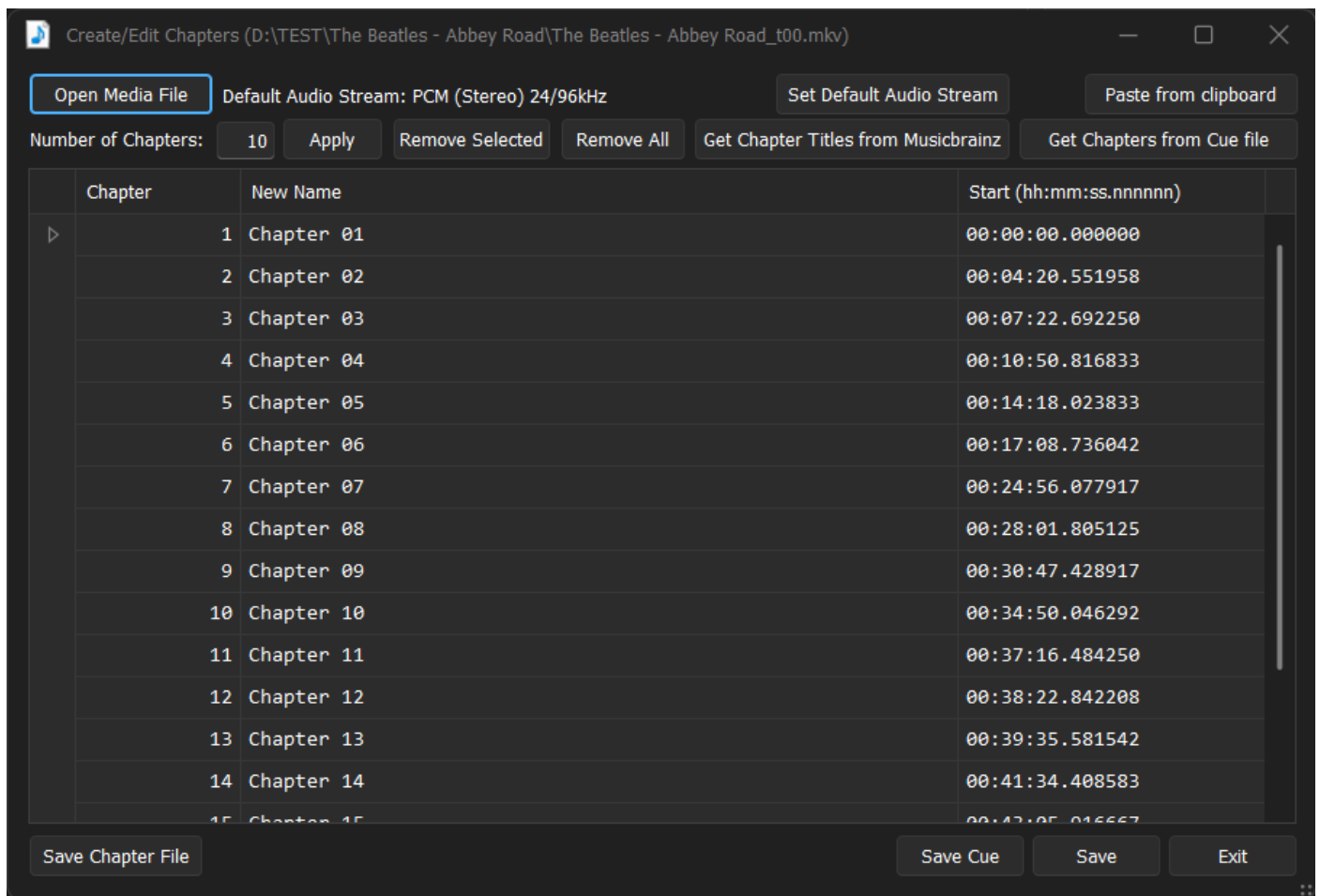
At the top, the current Default Audio stream is shown.

HINT: When an MKV with multiple audio streams is played its Default Audio Stream is played. Often Blu-rays are authored with the stereo track as the Default stream. For surround enthusiasts wanting to hear a surround stream it is recommended you change the Default to your preferred surround stream (e.g. Atmos if you have an Atmos system)

Changing the Default Audio Stream in the MKV/MKA:
To change the default audio stream:

Click: Audio Streams button at top

MMH will now pop up a dialog displaying all the Audio Streams in the current file so you can change the Default Audio Stream:
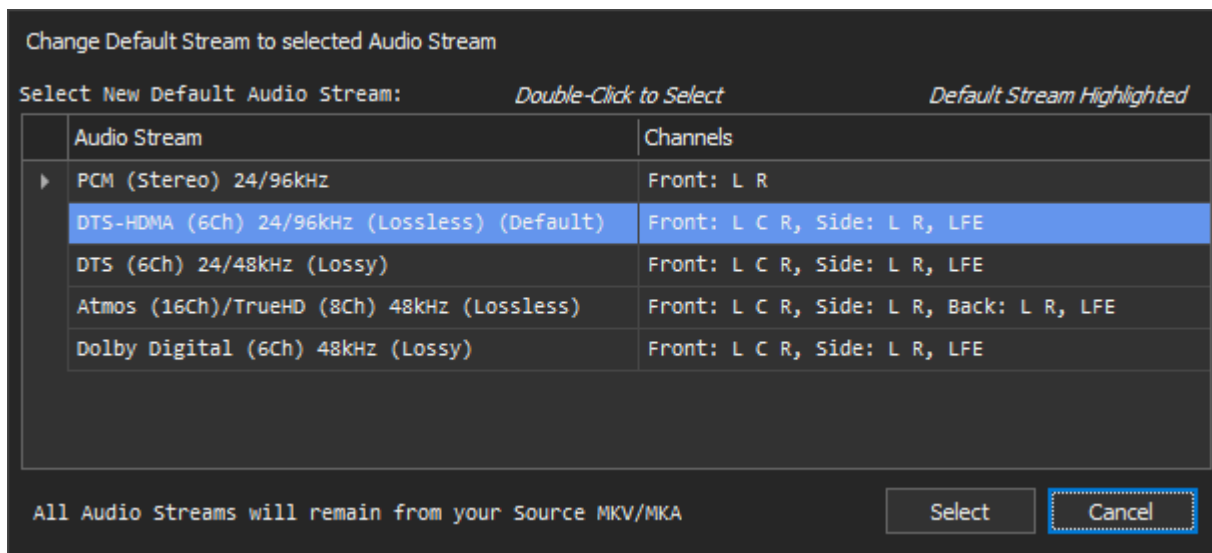
The current Default stream is highlighted (as shown above).

Select a new audio stream and click: Select (or just *double-click* on the stream in the list) to change the default audio stream. Click: Cancel to leave the existing default audio stream unchanged.

Getting Chapter Titles from MusicBrainz:

NOTE: Only music albums and concert data are available on MusicBrainz. Ignore this section for Movies.

To get the chapter titles from MusicBrainz:

Click: 'Get Titles from MusicBrainz'

The MMH Musicbrainz Tagger pops up:

NOTE: MMH attempts to preload the Artist and Album (or Concert Name) by reading the folder name (expected format: ARTIST – ALBUMNAME) or from a Kodi compatible NFO file located in the folder. If these values are not pre-loaded then enter the values.

Enter the Album Artist and Album Name (For Concert videos enter the release title):
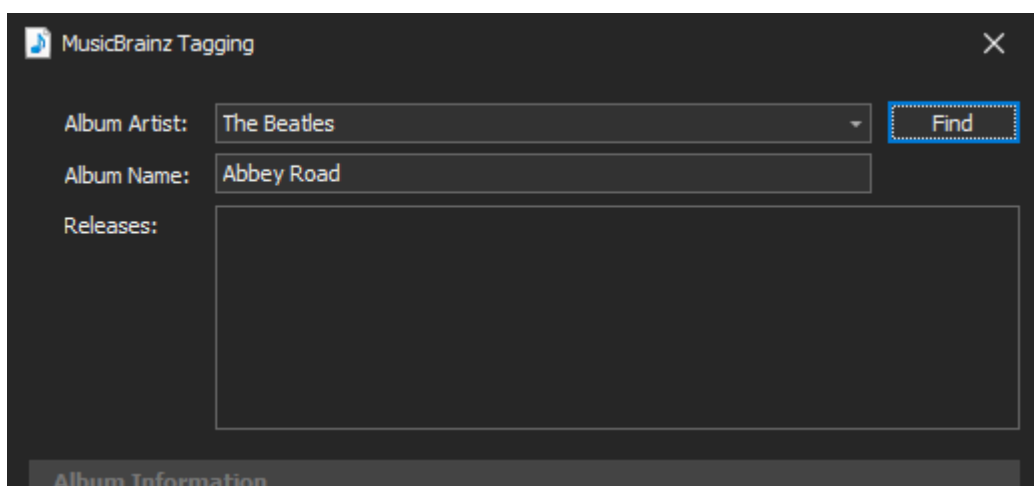
Click: 'Find'

If the Artist name is unique MMH will attempt to download matching releases from the MusicBrainz database. If there are multiple artists with same names you will need to select the artist to use.

If the Artist and Album names match a release(s) you will see dialog populated with release data.

Find the desired release from the Releases list box and select it. The Track List will be populated from the selected release. If the release has multiple discs (e.g. a CD and a DVD or Blu-ray or two DVDs etc) the Discs list is shown with a list of its discs. Select the desired disc to see the disc's tracks. If the release has only one disc, no disc list is displayed):
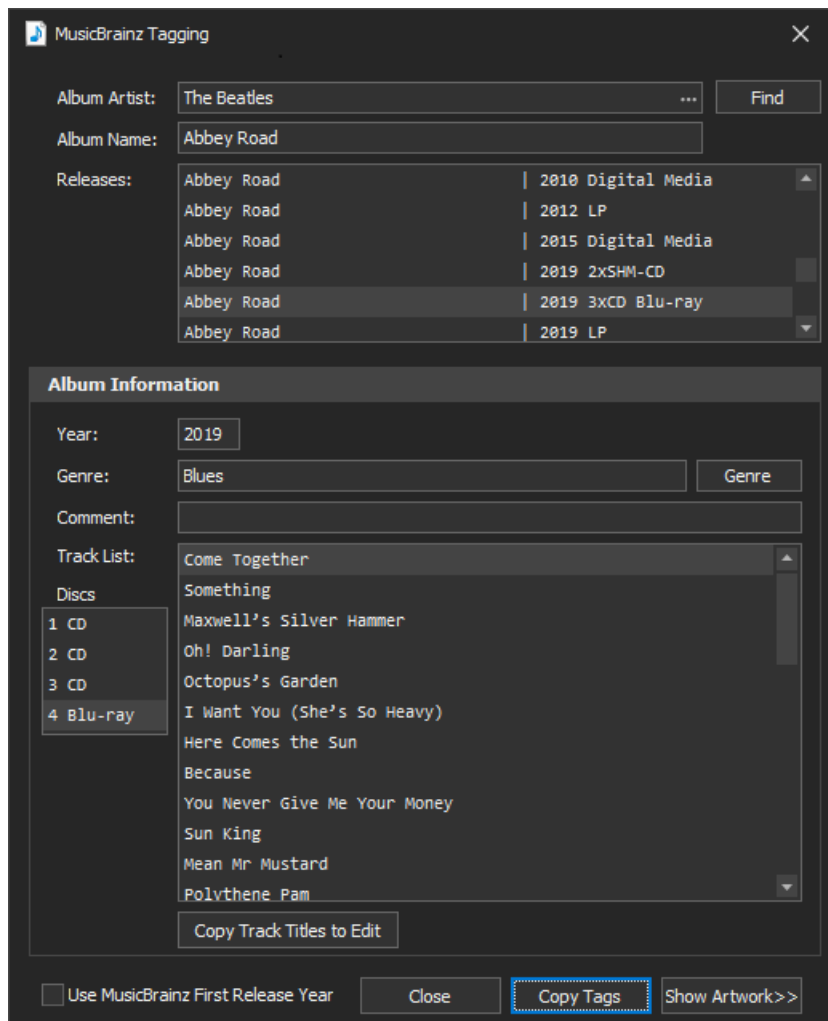
Click: 'Copy Tags' to copy the Track List to the MKV Chapter Editor dialog

HINT: Often concert video discs (both BDV and DVD) will have short intro chapters and/or short outro chapters. Copying the tags may mean the tracks list is not correctly aligned in the Chapter Editor's grid. If this is the case, you can use 'Copy Track Titles to Edit'. This feature allows you to add new track titles, remove them and even change the names. When you save that edited list it copies the new track list back to MusicBrainz dialog, overwriting the track list found in Musicbrainz.

You will now see the track titles in the Chapter Editor:
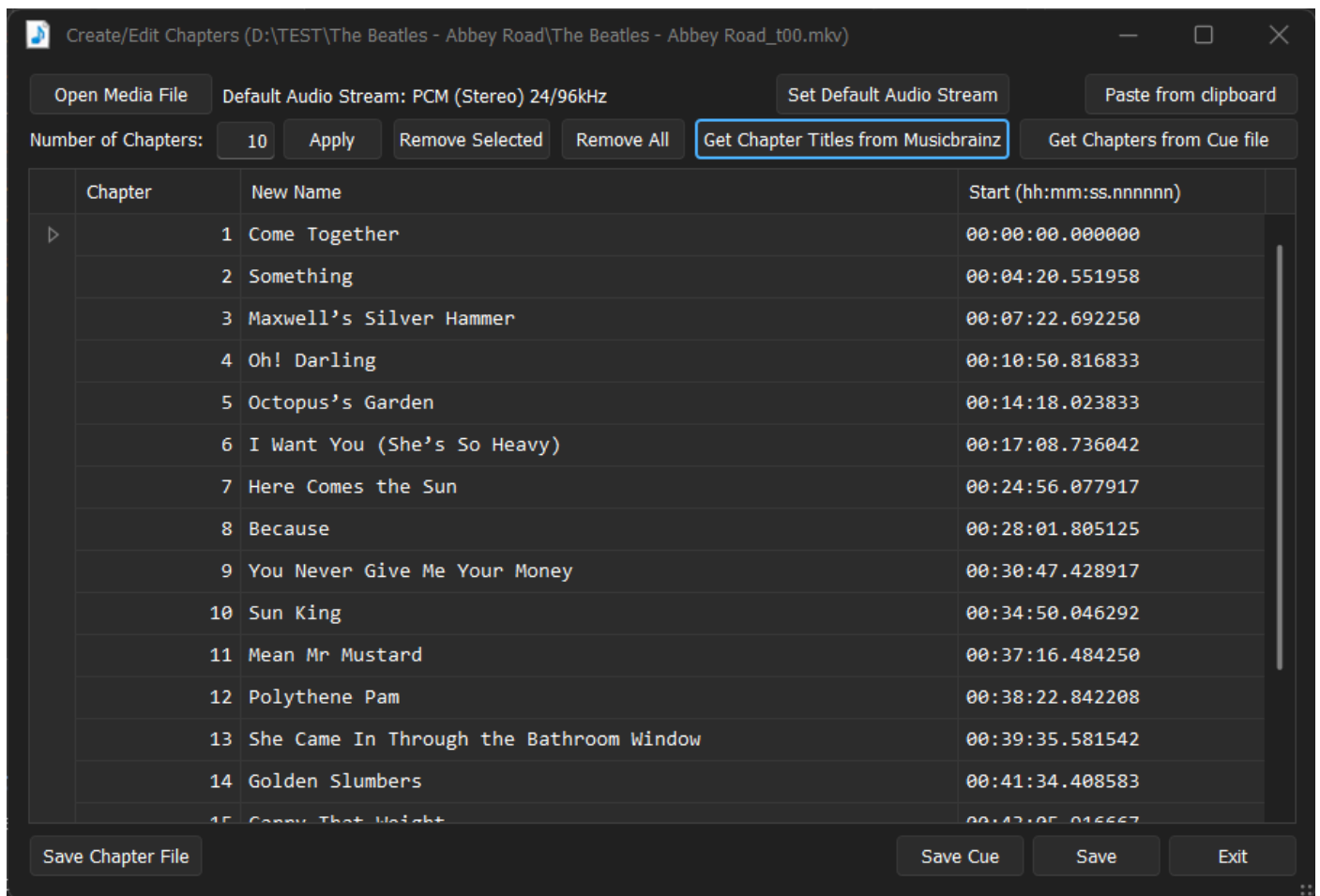
There are two main options moving forward:

Click: 'Save' to save the New Name column to the Chapter names in the MKV or MKA file (the dialog will exit)

Or:

Saving a CUE file for your MKV/MKA/MP4 file:
After loading chapters into your Chapter Editor and naming the tracks (previous section)

Click: 'Save Cue' to create a CUE file for the MKV/MKA/MP4file selected with the chapter titles included.

If you save a Cue file, MMH will pop up a dialog to collect further data about the album or concert release to include in your CUE file:

If you have just fetched data from Musicbrainz this dialog will be pre-filled with this data (as above). If you have not used Musicbrainz or the search found nothing you will need to enter this data which will be saved to the CUE file.

Kodi 21 and earlier versions do not recognise CUE files when used with a Chaptered MKA/MKV file. To load Kod's music library from a CUE using an MKA/MKV file after creation of the CU you will need to remove the chapters in the original MKA/MKV file (Use 'Remove All' then 'Save' to remove the chapters. NOTE: Back up your MKV with the chapters before deleting chapters!)

Adding Chapters to an MKV without Chapters:
Click: 'Edit Chapters in MKV' from the *Launcher* dialog.

To add chapters, first select an MKV file (that does not have chapters):

Click: 'Open MKV'

This pops up a dialog asking you to select an MKV file:
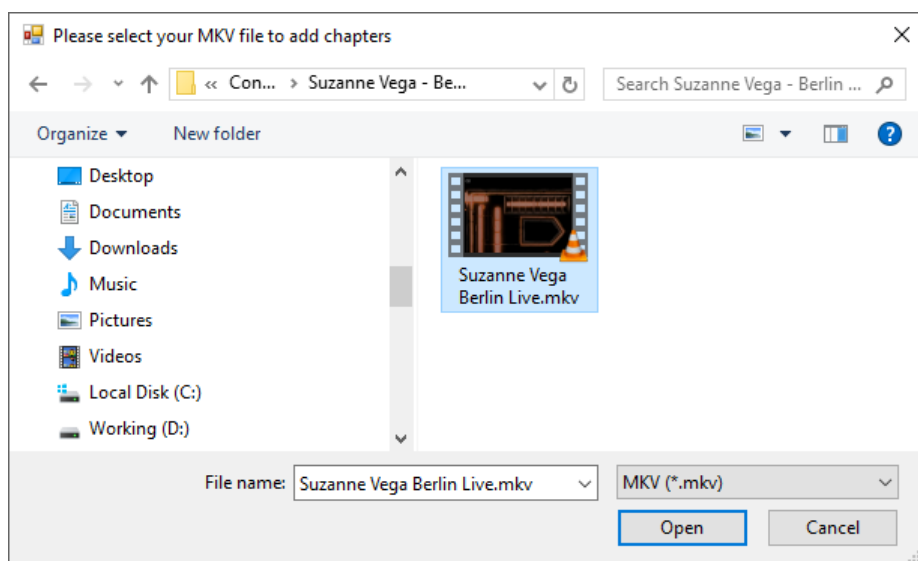
Click: 'Open' or double-click on the desired file

Let's describe the first method of adding Chapters:

Manually Adding Chapters & Start Times:

To manually add Chapters:

Enter the Number of Chapters in the 'Number of Chapters' numeric up/down control (or click up or down to increase/decrease the current number. Then:

Click: 'Apply' to set the number of chapters entered

Now you need to enter each Chapter Name and its start time (always absolute meaning 00:28:05 is 28 minutes and 5 seconds from the beginning of the video).

Typically, the first chapter will begin at 00:00:00.000 but it's possible to cut out the intro and start at the first song (e.g. first chapter at 00:02:00.000).

The Start Time column is a masked input allowing only valid time entry:

The New Name column allows you to manually enter the chapter/song name. (of course you can manually copy & paste a text string into either column, but the Start text must be in the hh:mm:ss.sss format)

HINT: When entering Start times in the grid cell you can use the space bar to move to next time field (e.g. When entering minutes hit space to move to seconds etc)

Typically, you could view your MKV in something like *VLC Media Player* to find the time at which each song starts, entering that into the dialog's Start Time field for each song.

Adding Chapters & Start Times by Copying from the Clipboard:

MMH supports two text formats copied to the clipboard: (You do not need to set the number of chapters like you have to for manual chapter creation. MMH will auto add all the chapters from the clipboard)

Simple Format:

Just a list of chapter names, one line per chapter. This also supports the Start Time if it is appended to the Chapter Name (but separated with a bar '|' character) as per the example below (Time must be in hh:mm:ss format):

```
Intro|00:00:00.000
One Way or Another|00:01:14.000
Rave|00:05:03.000
Hanging on the Telephone|00:09:19.000
```

If the Start time is not included MMH will only add the Chapter Names, not the Start Times and you must manually edit the Start Times in the dialog after it is pasted from the clipboard.

To copy & paste a Simple Format simply open the text file you have with the chapter/track list, highlight all the text, and copy (CTRL-C), now in the 'Create Chapters' dialog:

Click: 'Paste from clipboard'

Chapter	New Name	Start (hh:mm:ss)
1	Intro	00:00:00
2	One Way or Another	00:01:14
3	Rave	00:05:03
4	Hanging on the Telephone	00:09:19
5	Mile High	00:13:14
6	Call Me	00:17:21
7	Take Me in the Night	00:23:05
8	Maria	00:25:48
9	Euphoria	00:31:30

MMH creates a Chapter entry for each of the text lines from your clipboard and if the text contains the Start Times then they are also copied for each chapter.

MKVMerge and Chapterdb.org website's Format (both are same formats):

This format is a more complex text file list of Chapters and chapter Start Times in the following format:

```
CHAPTER01=00:00:00.000
CHAPTER01NAME=Intro
CHAPTER02=00:01:14.000
CHAPTER02NAME=One Way or Another
CHAPTER03=00:05:03.000
CHAPTER03NAME=Rave
CHAPTER04=00:09:19.000
CHAPTER04NAME=Hanging on the Telephone
```

With this text file format each chapter's information is on two text lines, first the Start Time then the Chapter Name.

To copy & paste a MKVMerge/Chapter.org Format simply open the text file you have with the chapter/track list, highlight all the text, and copy (CTRL-C), now in the 'Create Chapters' dialog:

Click: 'Paste from clipboard'

Chapter	New Name	Start (hh:mm:ss)
1	Intro	00:00:00
2	One Way or Another	00:01:14
3	Rave	00:05:03
4	Hanging on the Telephone	00:09:19
5	Mile High	00:13:14
6	Call Me	00:17:21
7	Take Me in the Night	00:23:05
8	Maria	00:25:48
9	Euphoria	00:31:30

MMH creates a Chapter entry for each of the text lines from your clipboard with the Start Times for each chapter.

To Create new Chapters:

Once the dialog chapter list completed (by manual entry or from the clipboard) to create the chapters:

Click: 'Save'

MMH now runs mkvmerge.exe in a command window and the chapters are added into a copy of your original chapter-less MKV (in the same folder as the original MKV). Please do not close the command window, wait until it automatically closes on completion.

When completed, you will have a new MKV file with your added chapters. Now you can use the MMH tool 'Split and Rename MKV' to break your new MKV into separate concert song files named after the new chapter names you just added.

Batch Creation Tools (Music Videos):

Functionality:
These tools enable you to do the following:
- Batch Scrape all sub-folders under a selected Source folder to get concert data and art online.
- Batch Create an M3U Playlist file for every concert sub-folder, each concert has a single Playlist with all songs
- Batch Create NFO files for Kodi or XML sidecar files for JRiver for all sub-folders under a selected folder for all music video/concert files.
- Batch create CUE files for every concert sub-folder, each concert folder has a single CUE with all songs. If the concert folder has a single MKV or MP4 file with chapters, the CUE contains of chapters in the CUE.

These tools are ideal for users that already have music videos and just want to create NFO files for Kodi and/or M3U playlists to play their music videos.

Why create M3U playlist when Kodi can play music videos without M3U playlist? Some of the Kodi remote apps for smartphones and tablets cannot play music videos, but they can play files in playlists!

IMPORTANT: To help automate the NFO (& XML) and CUE creation feature the MMH expects all Music Concert Folders to be named with the format: ARTIST - CONCERT NAME (YEAR). However, if MMH cannot parse and find Artist, Concert name or Year you can still enter this data into a dialog that pops up if the Artist and Concert Name cannot be found.

In recent versions of MMH, for each sub-folder if a file named 'concert.nfo' exists (this file is created by MMH to hold data about the concert), then MMH ignores the folder naming and just reads the Artist, Concert Name, Year, Genre from the concert.nfo. In this case all media files in that folder have NFOs & CUEs created automatically (no user data entry).

A NFO file provides the Kodi Music Video Library with the metadata to group the music videos into Artist and 'Album' and gives Kodi the track sequence (for the albums tracks). If using JRiver there is an option to create JRiver sidecar XML files instead of NFO files. These XML files add additional tags to the JRiver library for video files.

M3U Playlists are supported by Kodi and many other media players. For Kodi, if you copy an M3U playlist to either of these Kodi Userdata folders you can play video playlist:
> UserData\Playlists\Video
> UserData\Playlists\Mixed

CUE files allow your Concert folders to be added to Kodi's music library. All the files in a concert folder can be viewed in the Kodi user interface as songs, concerts appear as 'albums'. If your music video is a single MKV or MP4 file with chapters, you see each chapter as a 'song' and can play any chapter in the file by selecting the song in Kodi.

Batch Creation:
Click: 'Batch Creation Tools' from the *Launcher* dialog.

This displays the Music Concert Batch Tools dialog:
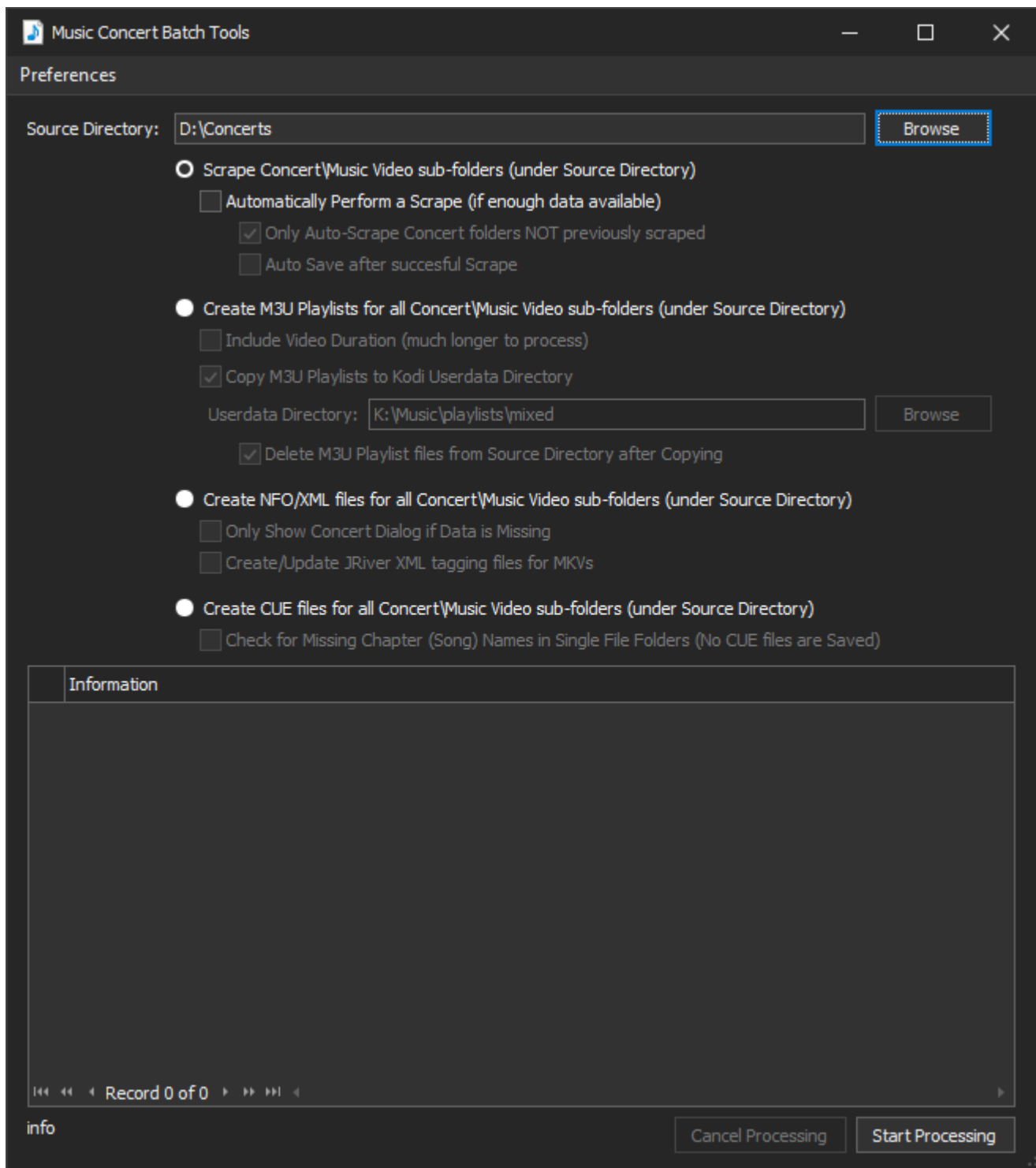
Select a 'Source Directory'. This is the Root Folder for your Music Concerts. The processing will occur on ALL sub-folders from the selected Source Directory (Parent folder) down recursively.

Click: 'Browse' and select a Root folder for your Music Concerts

Once a Source Directory is selected, select one of the radio button batch options:
- Scrape Concert\Music Video sub-folders (this is semi-automated and calls the 'Scrape Concerts' tool)
- Create M3U Playlists for all Concert\Music Video sub-folders.
- Create NFO files for Kodi (or XML sidecar XML files for JRiver) for all Concert\Music Videos in sub-folders.
- Create CUE file for all Concert\Music Video sub-folders.

Batch Concert Folder Scraping:

This mode runs the MMH tool 'Scrape a Concert Folder' recursively on all sub-folders. Please refer to the section in this document describing the functionality.

Once the mode is selected you can enable options for the upcoming batch process:

- Automatically Perform a Scrape: With this enabled MMH will attempt to search online automatically if it can find enough data to do so. If the folder has never been scraped previously, it will attempt to find 'Artist' and 'Concert Name' from the sub-folder name. If it has been scraped previously, by reading the existing 'concert.nfo' file to get the data.

If the above option is enabled:

- Only Auto-Scrape Concert folder NOT previously scraped: With this enabled MMH will not auto-scrape folders already done, but instead just load the existing NFO data into the Music Video Scraper dialog for user to view, edit, choose new art, or do a manual Scrape.
- Auto Save after successful Scrape: With this enabled if the Music Video Scraper dialog will auto 'Save All' if there is enough data to create a minimum NFO file for Kodi.

NOTE: If you use Auto-Save MMH will keep and folder image file unchanged (folder.jpg and fanart.jpg) if they exist but auto those images if they do not exist and auto select Performer images (if found in the Scrape).

IMPORTANT: Saving NFOs after Scraping an existing concert ALWAYS OVERWRITES the master 'Concert.nfo' file and all the music video NFOs in the concert folder. If you wish to use this tool to just edit NFO data, open the concert folder (this loads the existing concert.nfo data), edit the tags and click: 'Save NFO'.

To go ahead and batch Scrape all you Concert folders:

Click: 'Start Processing'

MMH will recursively process every sub-folder from the selected Source Directory.

NOTE: You can Cancel Batch processing at any time

Batch Play List Creation:

NOTE: You should set your Playlist path naming Preferences from the preferences dialog (see later in this document) before using the 'Create M3U Playlist for all' option.

NOTE: If a folder contains a single MKV file and a CUE file, MMH will create an M3U file playlist from the contents of the CUE file

If you are using Kodi there is an option to set the Kodi Userdata Folder path. If this is set the after all the Playlist files have been created MMH will copy all those files to the folder selected like the following screenshot:
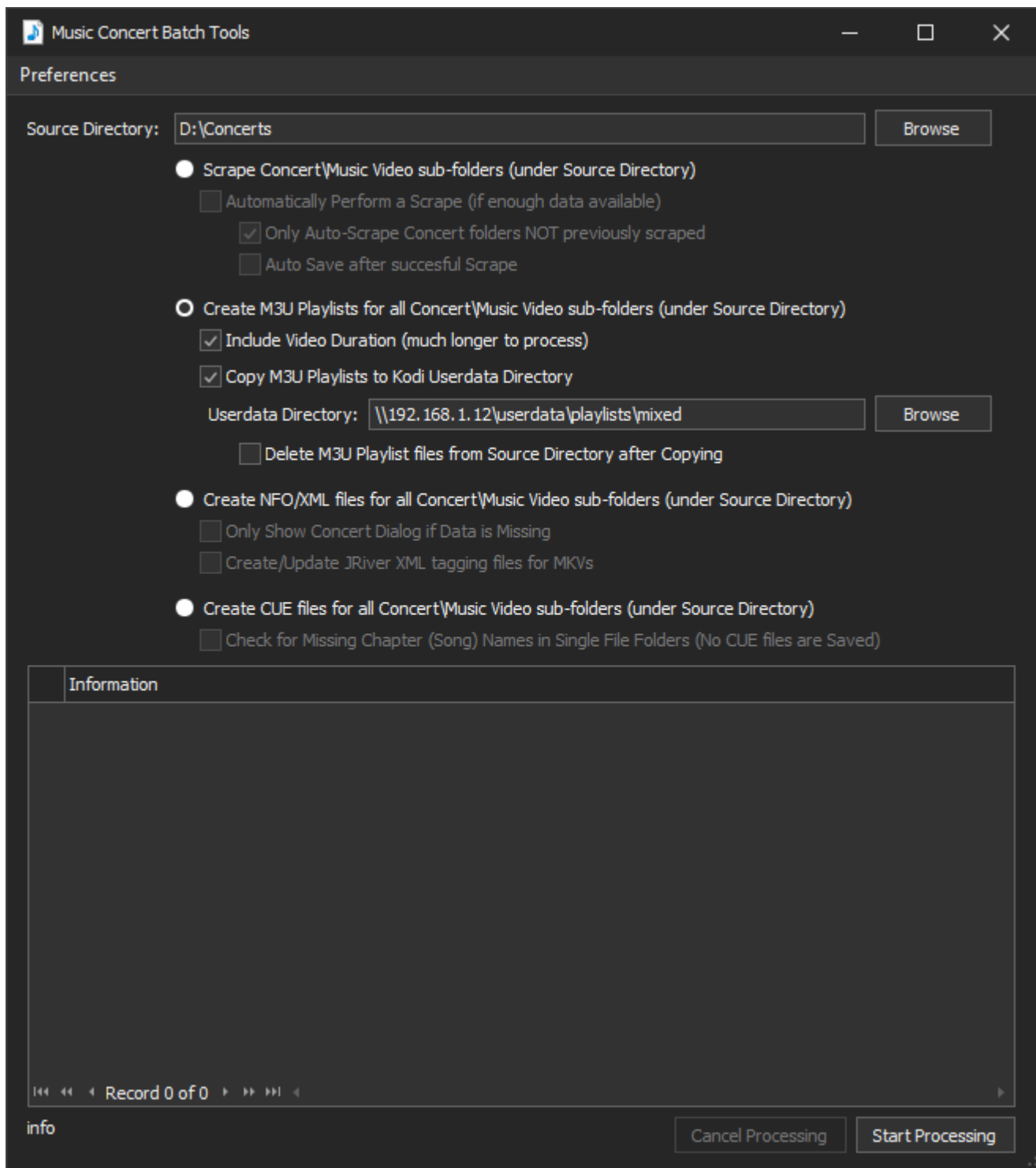
NOTE: If you are using another device for Kodi (e.g. CoreELEC or LibreELEC device) you may have to manually enter the Kodi UserData path if your Windows Explorer does not display it in your 'Network' devices

NOTE: The folder you select should be either the '..\userdata\playlists\video' or '..\userdata\playlists\mixed' folder on your Kodi device.

To go ahead and create all your Concert or Music Video playlists:

Click: 'Start Processing'

This is very fast!

MMH will recursively process every sub-folder from the selected Source Directory creating either:

- Create an M3U Playlist for each Concert Folder (always saved into the Source Directory – each Playlist is named after the Concert Folder and contains every concert's video files in each playlist

If there is a valid 'Kodi UserData Folder' set (and your PC can connect to it), MMH will copy all the Playlists to that folder. There is also an option to delete the created m3u files on the Source after copying to the Kodi folder.

Playlist Preferences:

This dialog sets the music file path format in the saved playlists. The example settings are for a LibreElec/CoreElec (Linux based) Kodi system with music files stored on a NAS/Server):

NOTE: For Kodi files on a separate device (not your Windows PC, e.g. a LibreElec/CoreElec Media Player) NAS or Server you can use **advancedsettings.xml** to convert your Windows mapped drive paths to ones used on your Kodi device.

Example: Here is my Kodi advancedsettings.xml nodes for my LibreElec NUC to convert my Windows PC paths created in the Playlist Editor to paths used by my LibreElec Kodi & NAS using Kodi's pathsubstitution:

```
<pathsubstitution>
    <substitute>
      <from>/MediaBackup/Audio Surround/</from>
      <to>nfs://192.168.1.6/volume1/Volume1/MediaBackup/Audio Surround/</to>
    </substitute>
    <substitute>
      <from>/MediaBackup/Music Video/</from>
      <to>nfs://192.168.1.6/volume2/Volume2/MediaBackup/Music Video/</to>
```

```
    </substitute>
    <substitute>
      <from>/MediaBackup/Audio Stereo/</from>
      <to>nfs://192.168.1.6/volume1/Volume1/MediaBackup/Audio Stereo/</to>
    </substitute>
    <substitute>
      <from>/MediaBackup/Audio Classical/</from>
      <to>nfs://192.168.1.6/volume1/Volume1/MediaBackup/Audio Classical/</to>
    </substitute>
  </pathsubstitution>
```

HINT: If your music media source(s) is located on a USB hard drive plugged into a LibreElec or CoreElec (Linux based) media player your local Linux path to the drive is: /var/media/[YOUR DRIVE NAME]

Creating NFO (Kodi) or XML (JRiver) tag files:

If you choose to create NFO or XML tag files with the Batch Creation (Videos) tool MMH will pop up a Concert Info dialog for you to confirm each concert folders contents if your concert folder does not already have a file 'concert.nfo' created by MMH in a previous NFO creation task from Concert Scraping or Tagging. If the nfo file does exist, MMH reads the Artist, Concert Name, Year and Genre from the 'concert.nfo' file.

MMH will recursively process every sub-folder from the selected Source Directory and Create an NFO metadata file for all Concert folder's video files recursively.

If MMH cannot find enough data (from the folder name or 'concert.nfo' file) to get Artist, Concert Name and Year MMH will pop-up a dialog for users to enter this data. These fields will be blank. Just go ahead and enter the information requested (or edit the data if not correct or what you want to see in either Kodi or JRiver):

When you save this information about the folder's contents, MMH saves this data to a special file named 'concert.nfo' (an XML file). The next time you create NFOs or XML files for the current folder being processed MMH will read this data from the 'concert.nfo' file (if it exists) saving you from having to enter the information again.

When doing a batch process (creating NFO/ or XML files for all sub-folder recursively) this dialog pops up for every folder that it processes, unless an option is set to only show when there is missing data:

NOTE: In the main Batch Creation tools (videos) dialog there is an option to stop MMH from popping up this Music Information dialog above, if all the data is already entered for the current folder being processed:
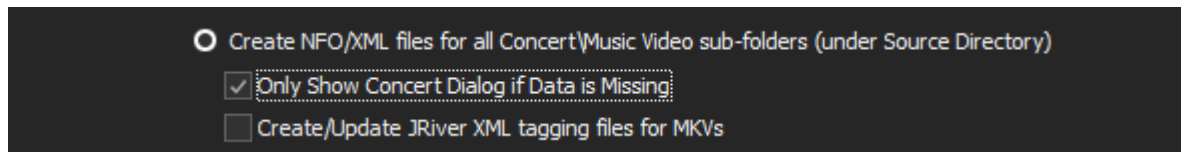
This is also one place to set whether you wish to create JRiver sidecar XML files instead of NFO file

You can stop processing all the sub-folders by clicking [Cancel Processing].

Creating CUE Files:
The MMH Batch CUE tool supports creation of:
- A single CUE file for multiple MKV or MP4 files in a single folder
- A single CUE file for a single MKV or MP4 file with multiple chapters in a single folder

NOTE: A single CUE file for a single MKV or MP4 file with multiple chapters in a single folder uses the Chapter Names embedded in the MKV or MP4 file. Ideally the chapters names would be the song titles. MMH has a 'Chapter Editor' tool that supports renaming chapters from a Musicbrainz lookup or by a Copy and Paste from a track list. Of course, you can also manually edit the CUE file MMH creates and change the Track names in each cue file prior to scanning into Kodi or playback in another player (e.g. JRiver).

CUE Files for Concerts in Kodi:
CUE files allow your Concert folders to be added to Kodi's music library (not Kodi's Music Video library). All the files in a concert folder can be viewed in the Kodi user interface as songs, concerts appear as 'albums'. If your music video is a single MKV or MP4 file with chapters, you see each chapter as a 'song' and can play any chapter in the file by selecting the song in Kodi.

If you add your Concert folder as a Music Source in Kodi's Media Settings, when Kodi reads each CUE during a music scan it creates an 'album' and 'songs' for the concert's artist by reading tags from the cue file. User do not need to create NFO files (a requirement for Kodi's Music Video library). A single CUE file in each folder contains enough information for the Kodi music scan to create data in the music database. Furthermore, the Kodi scan can use one of its music scrapers to find additional data online during the scan process, assuming your *Artist* and *Album* (concert name) match one of the online databases.

When you select Cue Creation in the Batch Creation tool, you get an option to 'Check for Missing Chapter (song) names'. This option performs a recursive search from the selected Source Directory but does not save any CUE files. It checks for issues that should be fixed where artist, album and chapters names cannot be found (if a single file with multiple chapters) by MMH, allowing users to fix the issues prior to a full CUE creation run.

Click: 'Check for Missing…' option

Click: 'Start Processing' to run a Check

All the folders under the Source Directory are loaded into the Information list and if there is an issue the Error flag is shown against the folder as shown in the next screenshot:
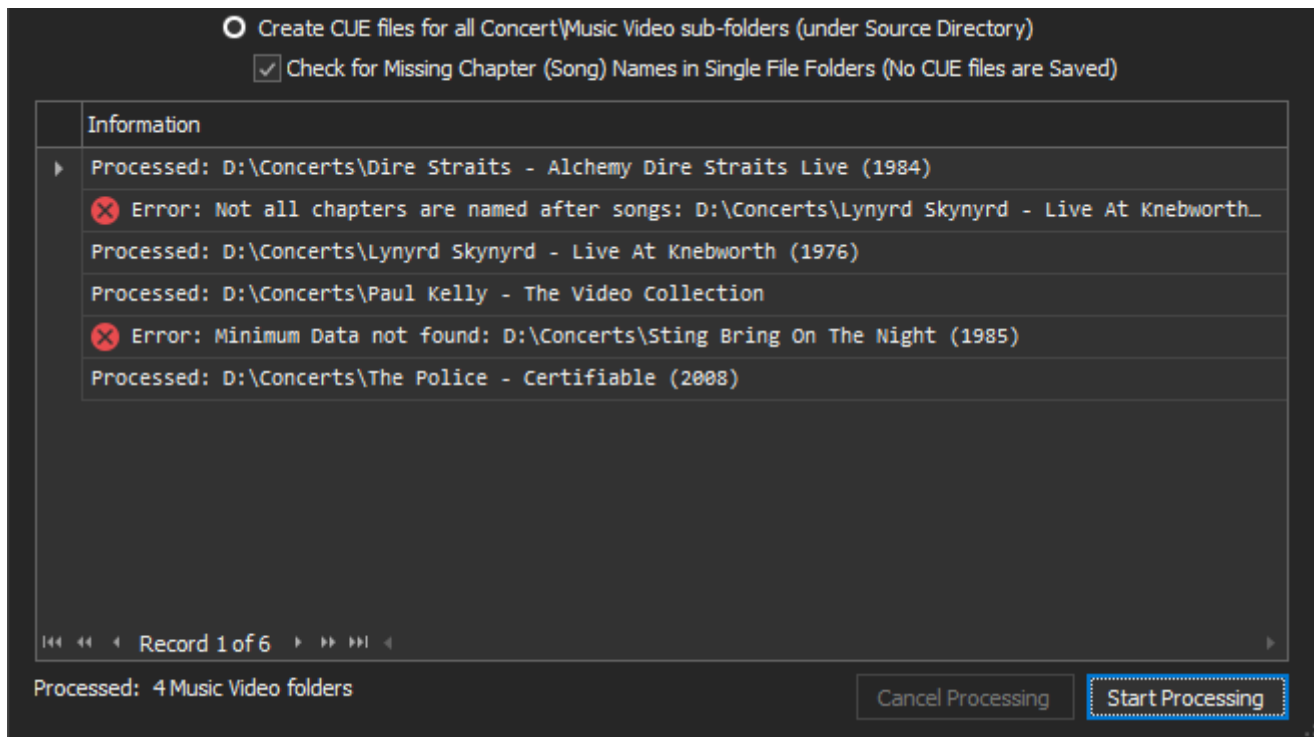
Issues Reported:

Not All Chapters are named after songs: Occurs when a single file with multiple chapters has chapter names that do not contain Song Titles that would be used in the CUE file if it were created.

Fix: Rename the Chapters using MMH's 'Chapter Editor' or ignore the error and edit the CUE file that will get created.

If you *double-click* on this error type in the Information List (above), MMH opens its 'Chapter Editor' tool for the file.

NOTE: If you ignore this error MMH will create a CUE without valid Song Titles. (Not good for Kodi).

Minimum Data not found: Occurs when MMH could not find both the *Artist* and *Album* (concert) names to use as those tags in the CUE file if it were created (the CUE would not be imported into Kodi).

Fix: This error can be fixed by renaming the concert folder to the expected format or creating an NFO file (MMH's 'Scrape a Concert Folder' tool will create NFO files).

NOTE: MMH performs the following to attempt to get the *Artist* and *Album* names:
- Reads the concert folder name, expected naming format: ARTIST - ALBUM (YEAR)
- Looks for an NFO file (compatible with Kod's Music Video library)

If you *double-click* on this error type in the Information List (above), MMH opens its Windows Explorer at the folder.

When the errors are resolved:

disable the 'Check..' option

Click: Start Processing

All the CUE files will be created (one per concert folder)

Batch Split and Join MKV Files:

Functionality:

This tool enables you to:

- Split multiple MKV files (with Chapters encoded) into individual MKV files, one file per chapter but unlike the first tool you can select multiple files and each is Split in a batch mode (all at once).
- Merge previously split files to create a single MKV file with chapters created at the joins between each of the selected source files. Merging creates chapters using the file names of the source files. MMH will also create a CUE file for all the Merged file chapters.

This tool is useful if you have many MKVs to split or merge as you can run unattended on multiple files or folders.

Batch Split:

This Tool gives additional options for using a Temporary Folder for your conversions which is faster if your Source MKV files are stored on a NAS and you have a slow network connection.

This unlike the previous 'Split and Rename Concerts' tool this 'Batch Split' only creates a file per chapter. You would need to go back and rename the chapters using the 'Rename & Tag' tool. Since Splitting an MKV can take time and it does not require any input from a user (apart from selecting the MKVs to Split) this may be useful if you want to split multiple MKVs.

It is highly recommended you create a separate folder for each MKV you wish to split and copy each source MKV file into each folder prior to running this batch tool.

Splitting Multiple Concert Video files:

In this scenario we will assume you already have a few Concert MKV files containing the entire concerts in single MKV files.

Firstly, ensure each MKV is in its own folder named in this format: ARTIST - CONCERT NAME and you have copied your Concert MKV files into each folder.

Click: 'Batch Split MKV Files' from the *Launcher* dialog. The following dialog appears:
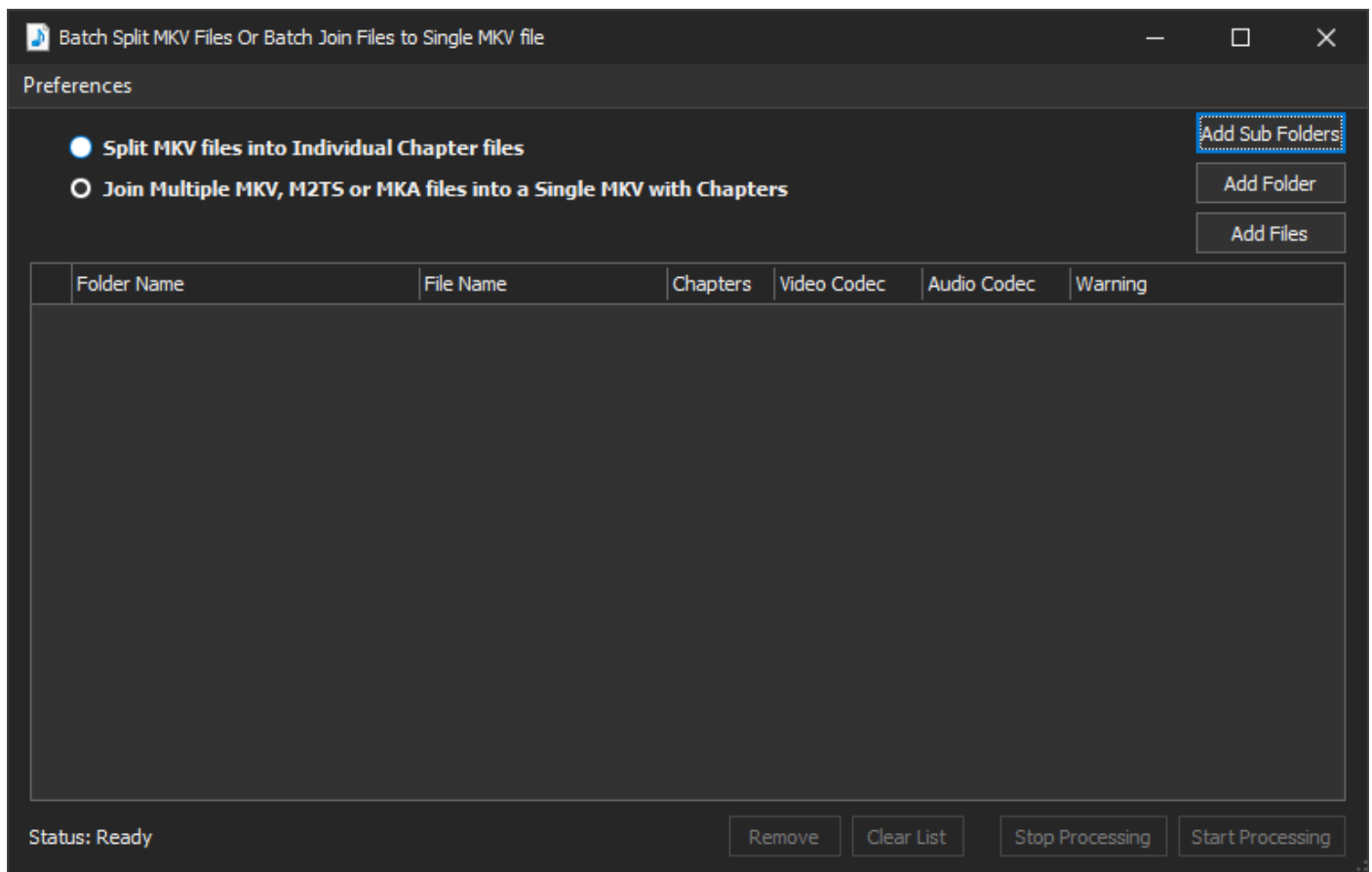
Ensure you select the 'Split MKV Files..' option.

The 'Add Files' button allows you to select individual 'Source' MKVs to be split.

The 'Add Sub Folders' button allows you to select a single 'parent' folder and MMH will recursively scan all the sub-folders and load all MKV files it finds.

With either method (above) the MKV files are added to the list for batch splitting and will show the number of chapters found in each MKV file. MMH will not allow you to Split an MKV with 1 or less chapters (for obvious reasons).

You can remove selected MKV files from the list or Clear the list using the appropriate command buttons. MMH will ignore any MKV files with less than 2 chapters.

By default, MMH uses each Source MKV's folder as its working folder.

NOTE: You should ensure there is enough spare disk space for the new Chapter files. All the chapters (together) will require the same disc space as the original Source MKV.

To Split all the Source MKVs in the list (that have more than 1 chapter):

Click: Split MKVs

MMH will pop-up a dialogue on completion showing the total time to Split all the selected MKVs. You can experiment with a Temporary Folder (see next section) to see if one of those options will provide better performance, particularly if you are splitting over a network or to a slow USB drive.

Batch Split Preferences:

The 'Preferences' toolbar menu on the 'Batch Split MKV' dialogue allows users to set a Temporary Folder:

This is the default settings:
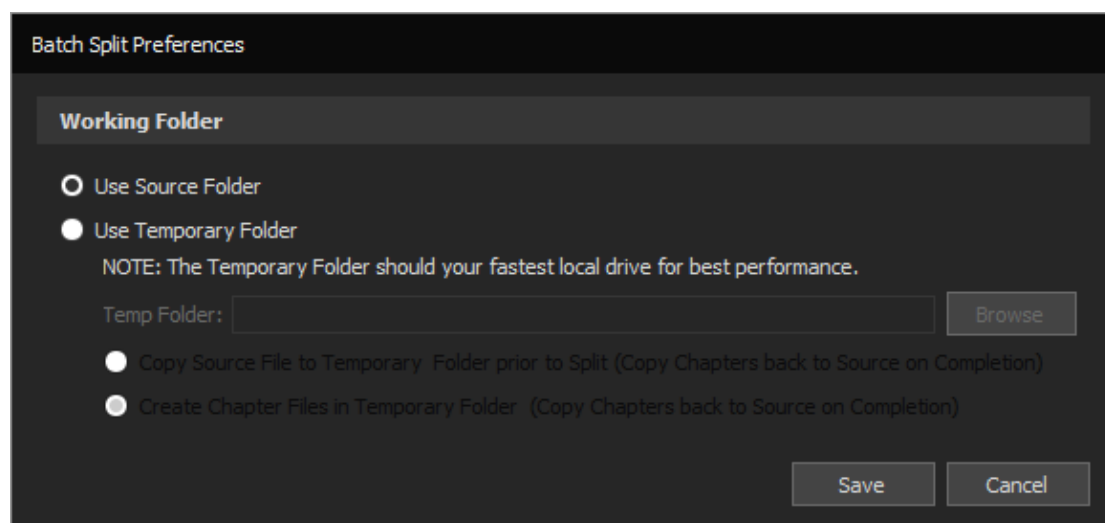
Here is a typical user setting:
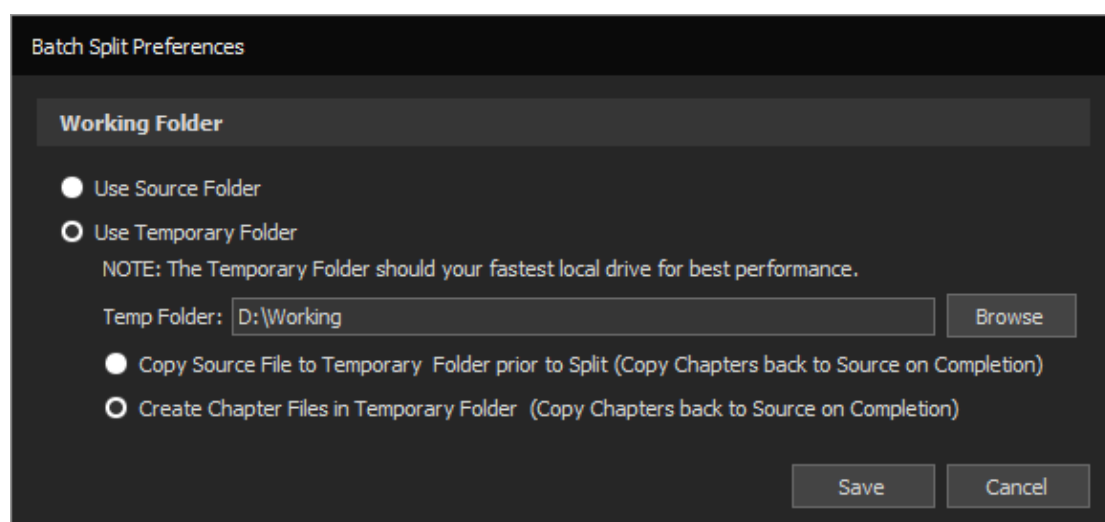
The fastest method will always be using your fastest (high performance drive, such as an SSD drive). You may need to experiment to find the best set of preferences for your infrastructure (network, drives, processor etc.)

When your batch split is completed use MMH's 'Rename & Tag' tool to rename and tag your files and to create NFO files for Kodi or XML files for JRiver if required.

Batch Merge:

This tool works by merging all the video files in a single folder into a new single Merged MKV file with chapters at each input file's join time. The Merged MKV file has the same name as the file's folder name. The CUE file created also has the same name as the file's folder name.

The chapters created in the Merged MKV have the same chapter names as the source file names. The CUE file is created using the Chapter Names as Song Names. If the source file names (chapters names) are named in a format: PERFORMER – SONG TITLE then the CUE file splits that name to create the Performer and Title CUE tags.

Merging Multiple Concert Video files from a folder:
In this scenario we will use the 'Add Folder' button to select a folder containing multiple MKV files previously split by chapter into files. After you select a folder using the MMH folder browser, all the MKV files in the folder are loaded into the tools grid:

MMH can only merge video files that have identical video and audio streams. If the streams in some files are different a Warning is displayed and MMH will ignore those files will during its merge process.

To merge the files:

Click: 'Start Processing'

A progress bar will show progress. At the end, a CUE file is also created along with a Merged MKV with all the sources files. The CUE file only contains data about the files merged (it ignores files with Warnings).

Merging Multiple Concert Video files from multiple folders:
In this scenario we will use the 'Add Sub Folders' button. MMH will then search recursively all sub-folder from the selected folder and load each sub-folders files as shown in the next figure:
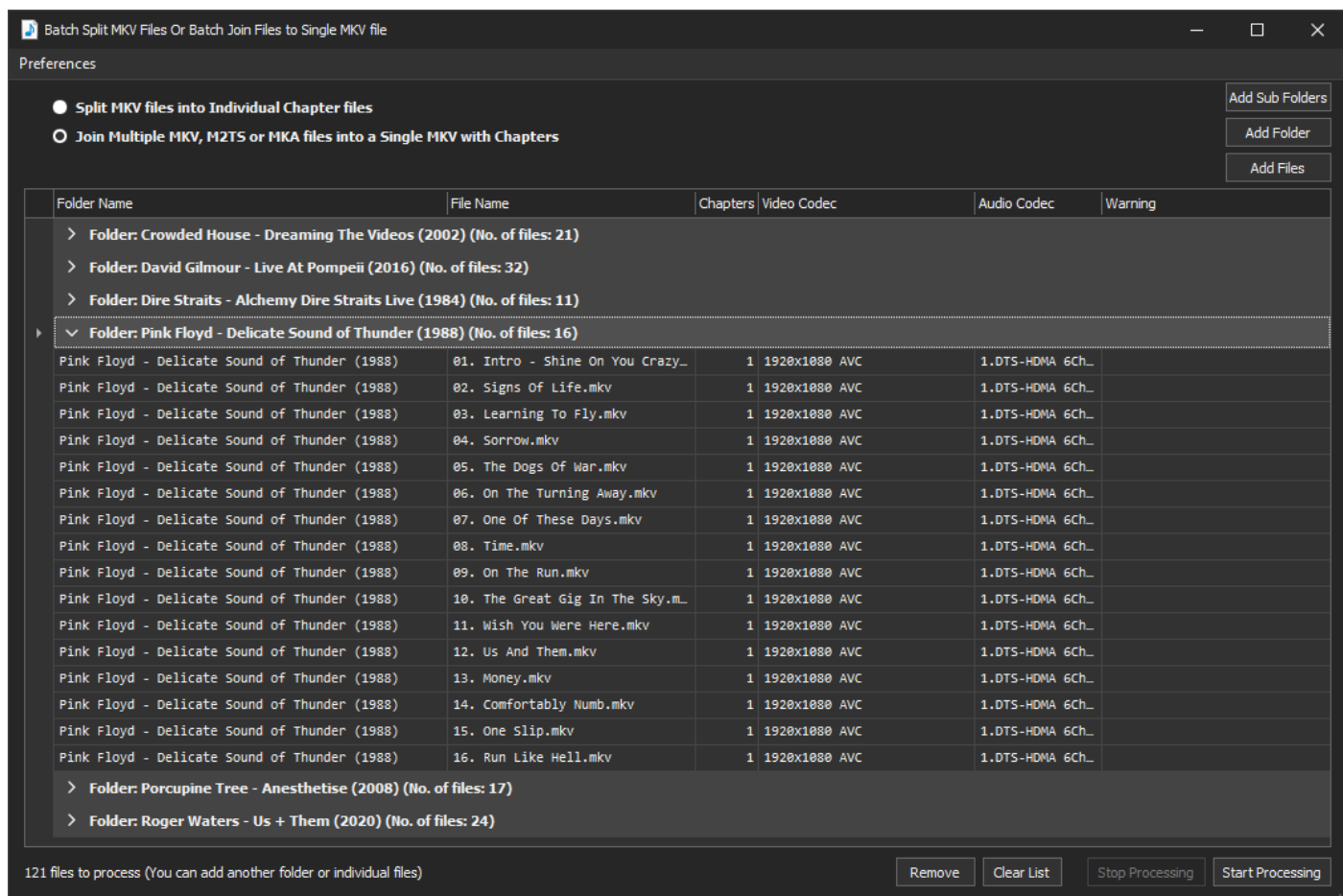
The grid is in a 'treeview' style where you can click the Folder name to open/close the folder's file details. By default, on loading all folder files are shown.

Again, MMH can only merge video files that have identical video and audio streams. If the streams in some files are different a Warning is displayed and MMH will ignore those files will during its merge process.

To merge the files:

Click: 'Start Processing'

A two progress bars will show progress. One is the progress by Folder, the other progress by Files in the current folder being processed. When each folder is completed, a CUE file is also created along with a Merged MKV containing all the source files for each folder. The CUE file only contains data about the files merged (it ignores files with Warnings).

To play the Merged MKV in Kodi with Songs copy the Merged MKV and its CUE file to a Kodi Music Source.

Playlist Editor:

Functionality:
This tool enables you to do the following:
- Create and edit m3U playlists for both Audio and Music Video files (including mixing Audio & Video files)
- Copying the media files in any m3U playlist to another folder location or disc
- Re-Order files in a playlist

The Playlist media supported should be all the common audio and video files supported by Kodi (FLAC, MKA, M4A MP3, AAC, WAV, DSF etc for Audio and MKV, M2TS, VOB, AVI and MP4 for video).

Playlist dialog description:
Click 'Playlist Editor' from the *Launcher* dialog.

This displays the Playlist dialog:
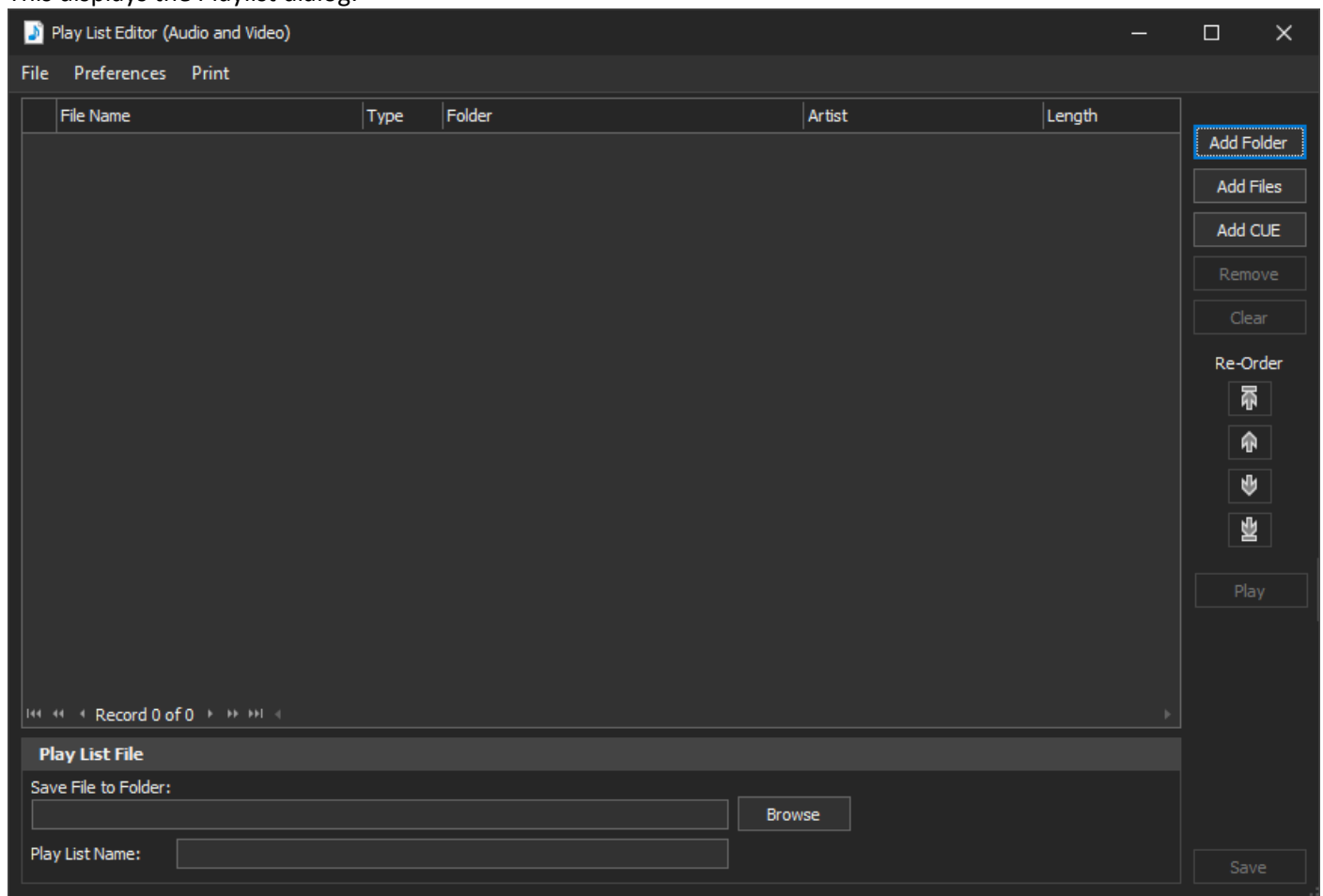
Toolbar menu options:

File:	Allows you to create a new or open an existing M3U playlist file (add/edit/remove the contents)
Preferences:	Allows setting your Path preferences for the saved playlist files
Print:	Allows the current playlist to be printed or exported to PDF

Command Buttons:

Add Folder:	Adds all media files in the selected folder (to the end of current playlist)
Add Files:	Adds all selected files (to the end of the current playlist)
Add CUE:	Adds selected track(s)from a CUE file for a multitrack media file (e.g. file with chapters)
Remove:	Removes all *selected* files from the playlist
Clear:	Clears the playlist (Removes all)
Play:	Plays the selected file (the Selected grid row)

The **Re-Order** buttons moves the selected file:

- To the Top of the playlist
- Up (one position)
- Down (one position)
- To the Bottom of the playlist

  HINT: You can also drag & drop a selected file in the playlist to re-order your playlist

Browse: Sets the 'current folder' and location of the saved playlist

Save: Saves the current playlist

HINT: You can also drag & drop selected files from Windows Explorer into your playlist. The selected files will be added at the position you drop onto your list (example: Dropping 4 files on top of the 3rd song in your list will add the 4 new songs at positions 3, 4, 5 & 6 – moving the original 3rd song to position 7)

HINT: You can also add files to your playlist from the MMH 'Media File Manager' grid by double-clicking on any track in the track list grid

Adding from a CUE file pops up a list tracks to choose from, after selecting a CUE file. *Double-click* on a CUE track to add to the playlist.

NOTE: You can copy all the files from any playlist to another folder by using the [File] menu's [Copy Playlist Files] command. This is equivalent to 'exporting' your playlist which can contain files from many folders into a single folder.

NOTE: If you open an existing playlist MMH checks each music file to see if it exists. If a file cannot be found it is highlighted. Since this is often due to changes in files names of album folder name, you can *double-click* on the missing file in the playlist and MMH will open a 'select file' dialog at album folder (if file does not exists but album folder does) or the parent folder (if the album folder no longer exists)

Example Music (Audio) playlist:
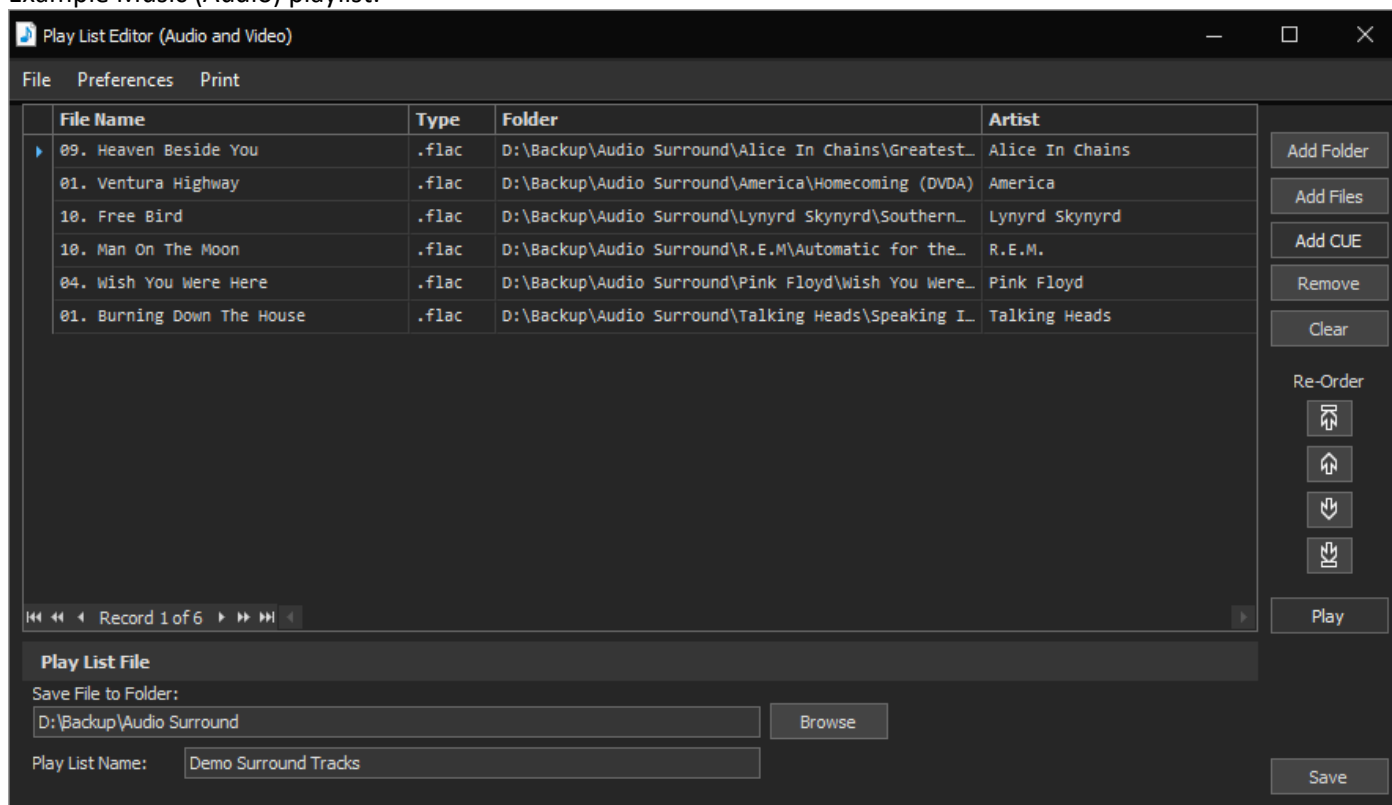
Example Music Video (Concert) playlist:
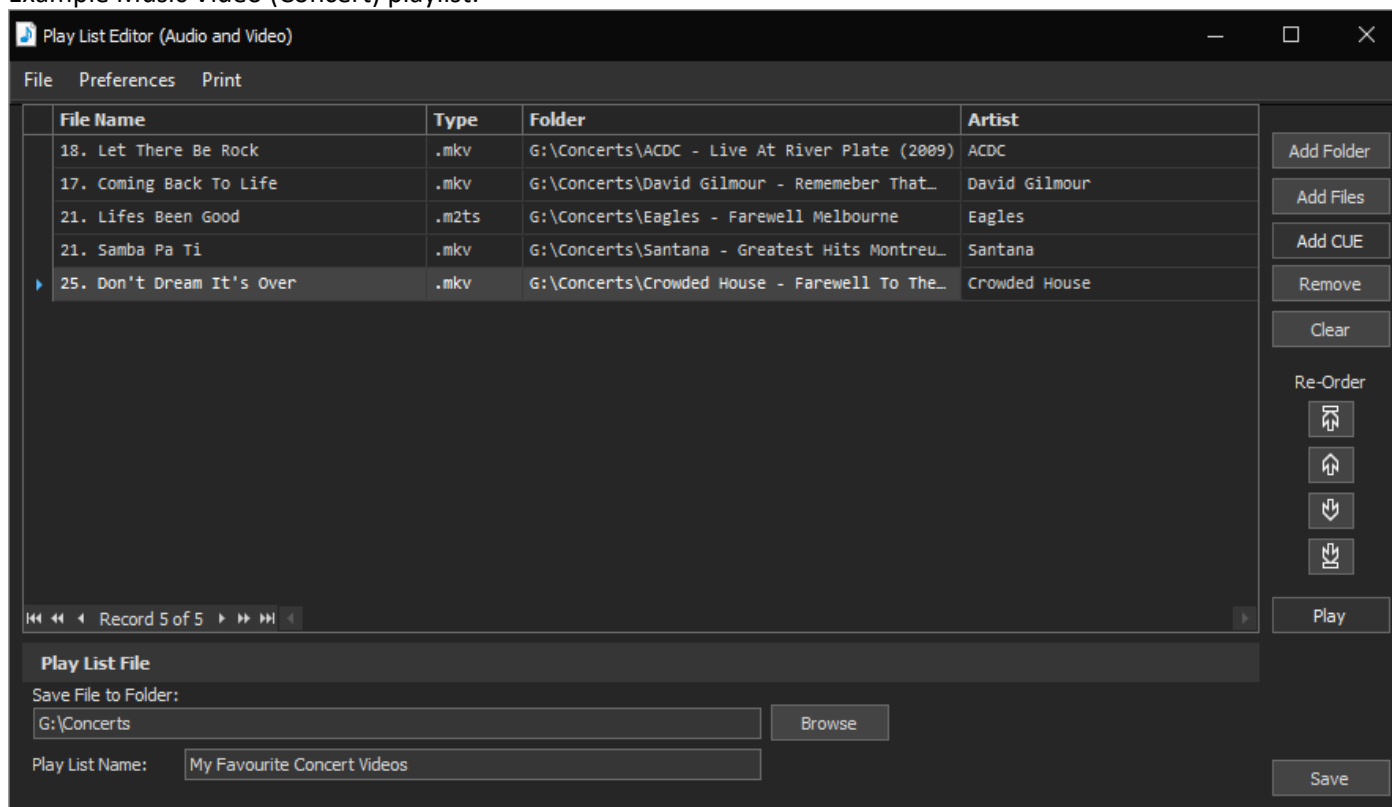
HINT: When Selecting files from the Open File Dialog you will need to change the default files type option in the dialog from Audio to Video

NOTE: The Artist name is found from the 'Artist' tag for audio files that are tagged. If the file is not tagged or it is a video file MMH attempts to get the Artist name from the folder structure. The expected folder structures are based on Kodi's recommended folder structures:

- Music (audio only):   `\ARTIST\ALBUM NAME\files`
- For music videos (concerts):   `\ARTIST - CONCERT NAME\files`

MMH automatically checks for duplicate songs in the current playlist when saving and warns if any duplicate songs are included (you can still save the Playlist with duplicates if you wish)

Copying Playlist Media Files:

After you have opened and existing playlist or added files to a new playlist the 'Files' toolbar menu command 'Copy Playlist Media Files' is enabled. This command allows users to copy all the media files in the current playlist to a new folder. (Maybe you wish to copy the playlist to a USB stick to play in your car, for example).

By default, the media files are copied 'as is'. The Playlist Preferences dialog gives various options to:

- Retag the copied files.
- Rename the copied files (Include Artist name in file name etc.)
- Renumber the copied tracks (sequentially in the playlist order – both file name and track tag)

NOTE: These options effect Copied files only – original playlist files remain unchanged

Playlist Preferences:

The 'Preferences' menu option in the Playlist Editor's menu enables setting of preferences:
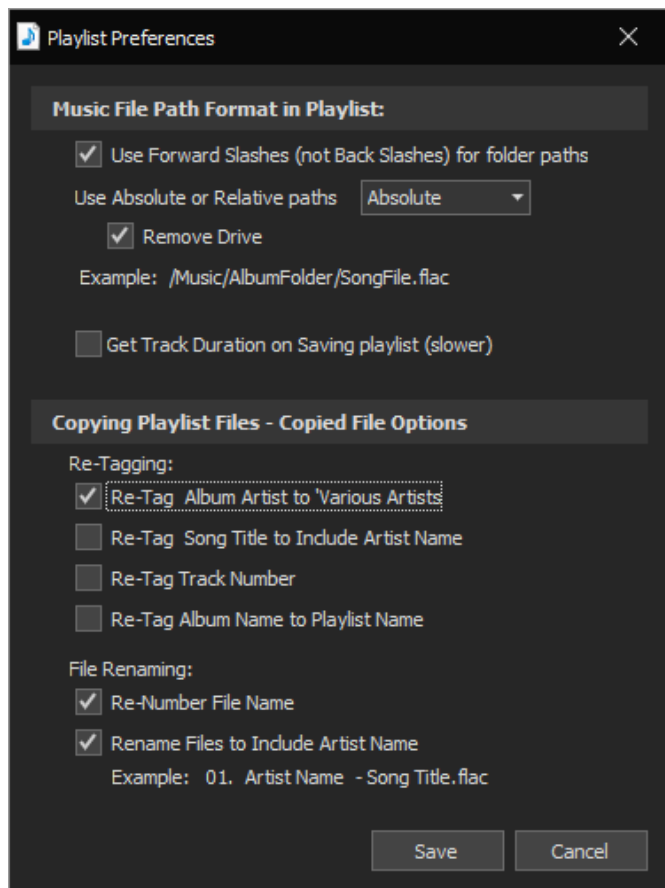
Music File Path Format:
These options set the path information in the saved playlists which is useful if your playlists will be used on another device that does not use your PC's Windows paths.

NOTE: For Kodi files on a separate device (not your Windows PC, e.g. a CoreELEC or LibreELEC Media Player) NAS or Server you can use **advancedsettings.xml** to convert your Windows paths to ones used on your Kodi device.

Example: Here is my Kodi advancedsettings.xml nodes for my LibreElec NUC to convert my Windows PC paths created in the Playlist Editor to paths used by my LibreElec Kodi & NAS using Kodi's pathsubstitution:

```
<pathsubstitution>
    <substitute>
      <from>/Audio Surround/</from>
      <to>nfs://192.168.1.6/volume1/Volume1/Audio Surround/</to>
    </substitute>
    <substitute>
      <from>/Music Video/</from>
      <to>nfs://192.168.1.6/volume2/Volume2Music Video/</to>
    </substitute>
    <substitute>
      <from>/Audio Stereo/</from>
      <to>nfs://192.168.1.6/volume1/Volume1/Audio Stereo/</to>
    </substitute>
    <substitute>
      <from>/Audio Classical/</from>
      <to>nfs://192.168.1.6/volume1/Volume1/Audio Classical/</to>
```

```
        </substitute>
      </pathsubstitution>
```

Copying Playlist Media Files – Copied File options:

This preference section provides two option groups/types:

- Re-Tagging
- File Renaming

NOTE: These options effect Copied media files only – original playlist media files remain unchanged

Media File Manager:

Functionality:
This tool enables you to do the following:
- Create a list (and report) of all your media files (including audio sample/bit rates and video resolution)
- Selectively Copy any media to another folder or disc (Destination)
- Selectively Delete any media already on a Destination disc

The feature supports any source type including Audio only (Music), Music Videos, Movies and TV Series. It gives best results when a user has tagged music and video files as MKVs, MP4s etc but can attempt to provide a listing of movies and music stored as ISOs and disc folder structures based on the ISO/Disc Folder names.

I developed this for three reasons:
1. I wanted an automated/updatable list of all my media.
2. I have a 'master' disc on my PC for all my music which includes quite a few duplicate versions of the same album (e.g. remastered, CD, Vinyl, DVD-Audio etc.) but I only want to have one version on in my Kodi Library)
3. I often travel and have a small media player and a portable USB drive. So, I want to manage what music, movies and TV Series I copy to the USB drives for my various trips away.

These are all made easier by using this Tool.

Media File Manager dialog description:
Click: 'Media File Manager' from the *Launcher* dialog.

This displays the Media File Manager's dialog:
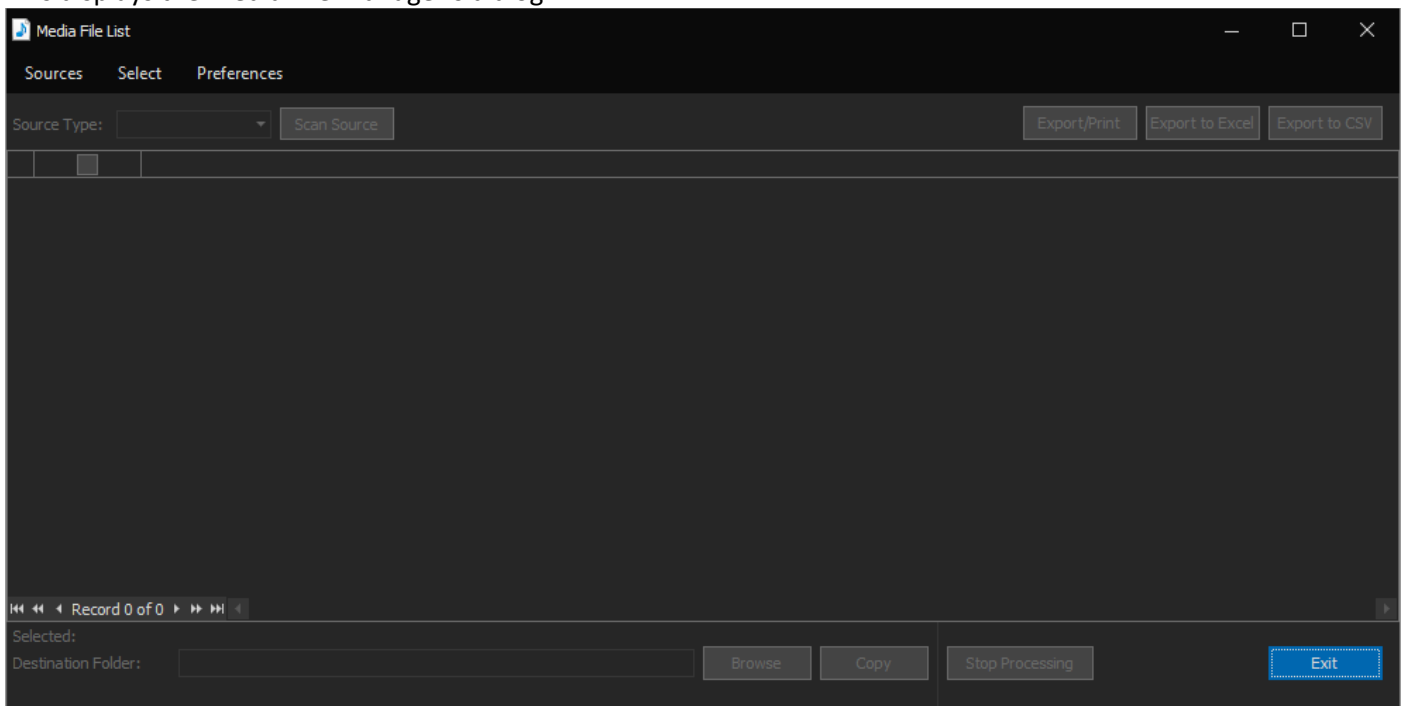
Initially most the commands are disabled until you 'Add Sources' and 'Scan' the Source folders for media content.

'Sources' in MMH can be any of the following categories (Source Types):
- Music (Audio Only)
- Music Videos
- Movies
- TV Series

You can add as many Source folders as you like as you may have multiple root folders or disc drives for Movies etc.

To setup your Sources:

Click: 'Sources' on toolbar menu at the top of the Media File Manager's dialog (previous screen shot)

This pops up the 'Media Source Folders' dialog where you can add/remove source folders:
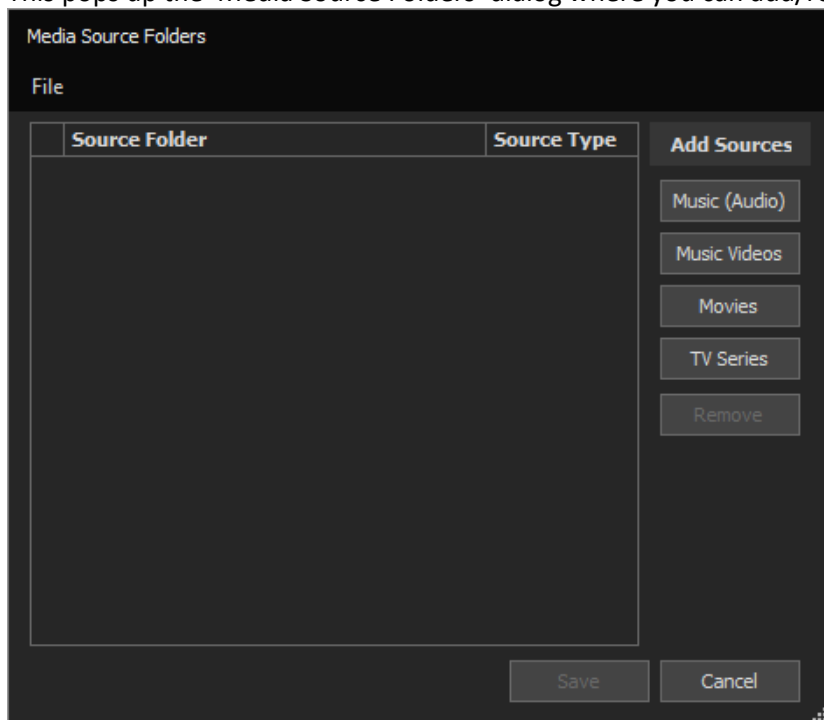
To add a 'Music (Audio)' Source folder to the File Manager Source Folders list:

Click: 'Music (Audio)' command button

This brings up a folder selection dialog where you can select the Root folder for your Audio Music sub-folders:
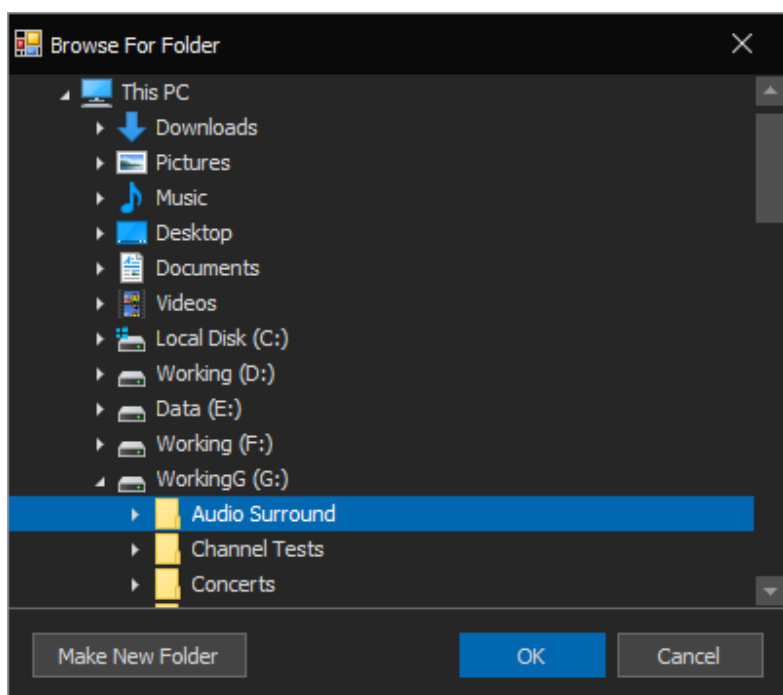
Click: 'OK' to save the new Source as a 'Music (Audio)' source

The Sources dialog will then show the new Source Folder:
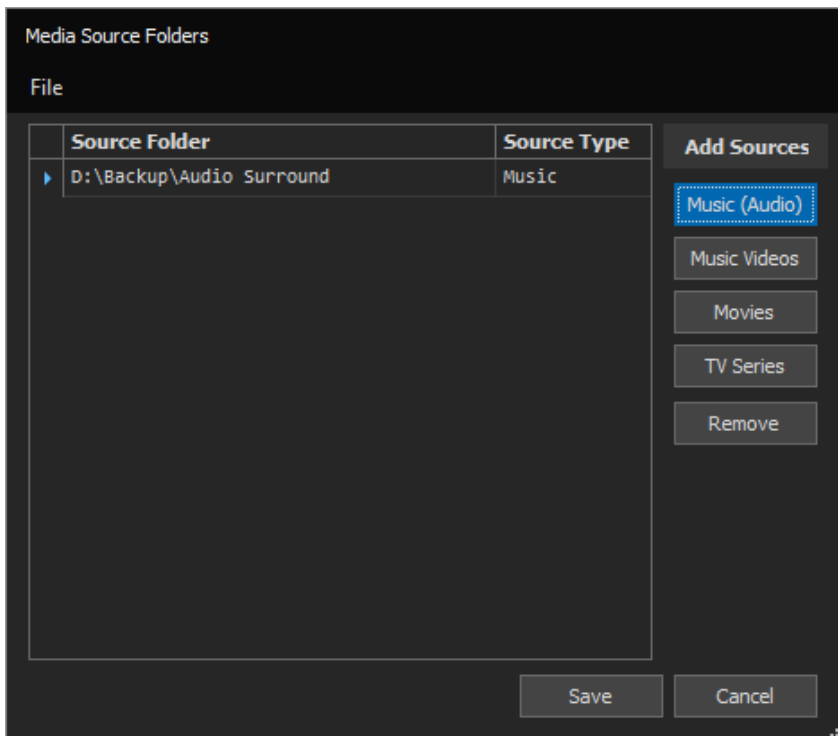
You can add as many as you like. You cannot use any media in the Media File Manager without adding its Root folder to the Sources dialog as a Source Type. Once you have added your sources:

Click: 'Save' to save the sources

NOTE: The Source List is saved and will automatically reload the next time you open Media File Manager

Saving and Importing Sources from a text file:

The Media File Manager feature also enables users to save their Sources to a text file and Import Sources from a text file. It must include the first line header: Folder Name|Media Type). Each source is written on one line in the format: SourePath|SourceType (separated by a bar character '|').

An example of the supported text format is shown below (first line is a 'header' showing data format).

```
Folder Name|Media Type
X:\Audio Surround|Music
P:\Music Video|Music Videos
M:\Movies|Movies
N:\Movies|Movies
O:\War Movies|Movies
T:\TV Series|TV Series
```

NOTE: The 'SourceType' (Media Type) must be one of the following:
- Music
- Music Videos
- Movies
- TV Series

The 'File' menu of the Source dialog (above) has two menu options to Save your current Source List to a file or to Import a Source List from a file. To import a Source List file (formatted above) it must have a file extension of '.csv'.

Scanning Your Sources for Media:

Any time after you have defined your Sources you can select a 'Source Type' from the Source Type dropdown list which is only enabled once you have added Sources (you have at least one Source):
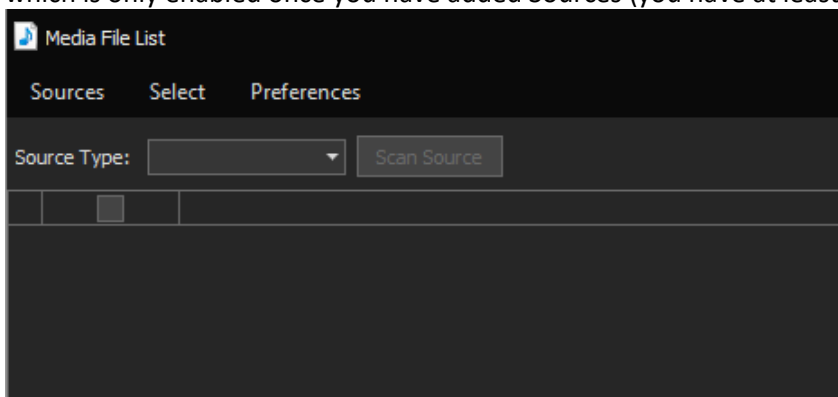
Select a Source Type from that combo (above) and now many of the controls are enabled:
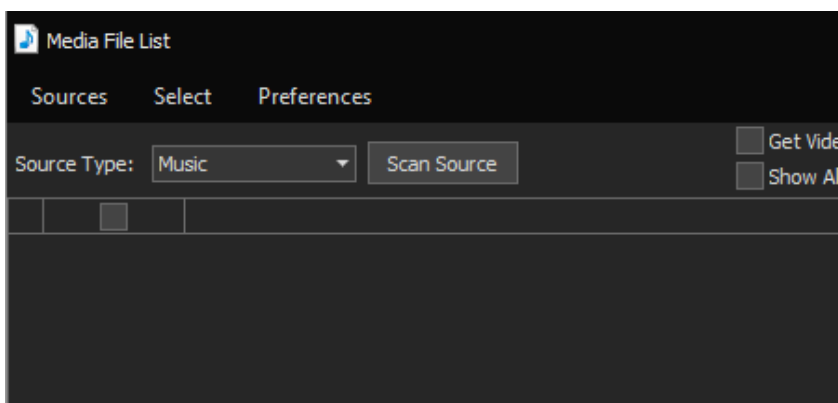
To load the grid with all the media for the selected 'Source Type' in previous screenshot:

Click: 'Scan Source' (button)

MMH goes ahead and scans the Source Folders that are 'Music' sources and loads them into the grid:
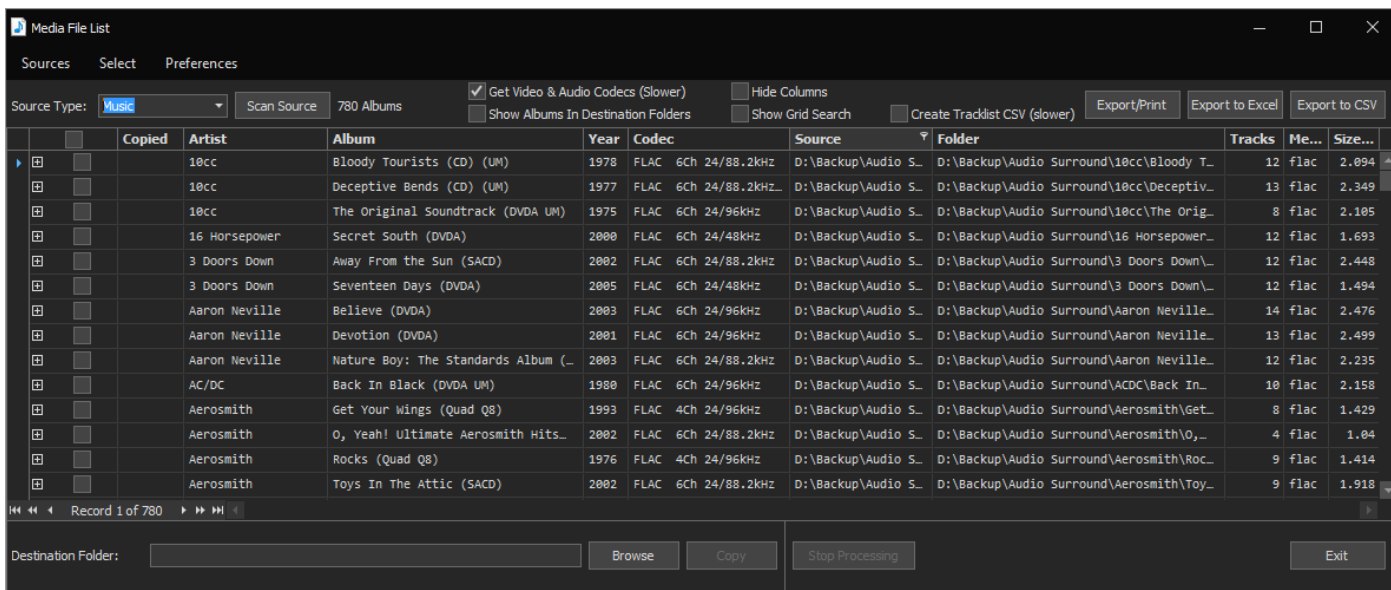
In the screenshot above the checkbox option 'Get Video & Audio Codecs (Slower)' has been enabled so with this option the grid shows the 'Codec' data (Audio Channels and sample rates).

For Music (Audio), Music Videos and TV Series the grid also shows the number of media files in each folder ('Tracks' column above for Audio folders).

For video sources an additional column named 'Resolution' is added showing the video resolution of the files (e.g. 1920x1080 etc.)

For Audio files the grid shows the Tagged Artist and Album Names, Year and Comment tags.

The 'Hide Columns' checkbox hides predefined columns more suitable for Export/Print of your media lists.

'Add Tracklist to Grid' checkbox adds each album's track tags to the grid. This slows the scanning process and is not required to get a album report, but may be useful to some users.

Filtering & Sorting rows and Hiding Columns:

IMPORTANT: All the Export/Print reporting in the Media File Manager exports or reports ONLY data rows that have not been filtered out with any filter options above. Only Columns that are not Hidden are exported/printed. This gives you some control of what is printed/exported to PDF, Excel etc

Sorting: Clicking on a column header toggles the sorting (up/down) for the column clicked. Hold the CTRL key and clicking adds the column sort to the previous column sort (e.g. Sort on Artist + Album). You can easily find recent additions to your media with a 'Date' column sort. Additional Sorting option are available by *right-clicking* on a column header (see the right click menu section below)

Filtering: When you hover your mouse over a column header a filter image in the header on right is displayed. Click on the filter image and the Grid Column Filter box dropdown (see next figure). There are two main types of column filters in the dropdown column filter box:

The 'Values' filter (Default) shows a list of all the unique values in the selected column with checkboxes (Checked means 'show', unchecked means 'hide'):
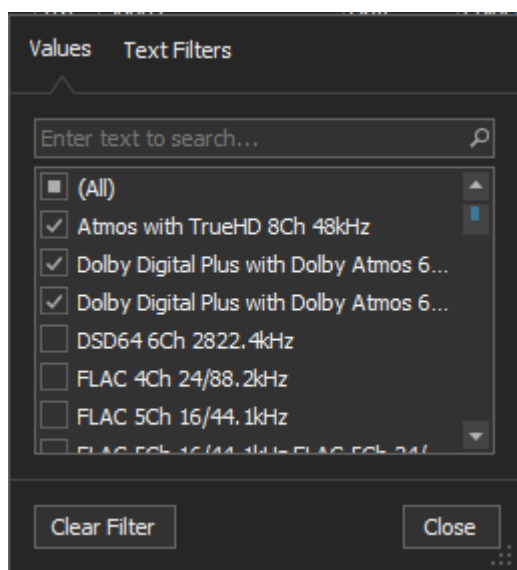
In this dropdown, clicking on the 'Text Filters' tab at the top displays the 'Text' filter. Initially it is empty, but in the figure below the filter type 'Contains' was selected from the dropdown box and the text 'Quad' has been entered:
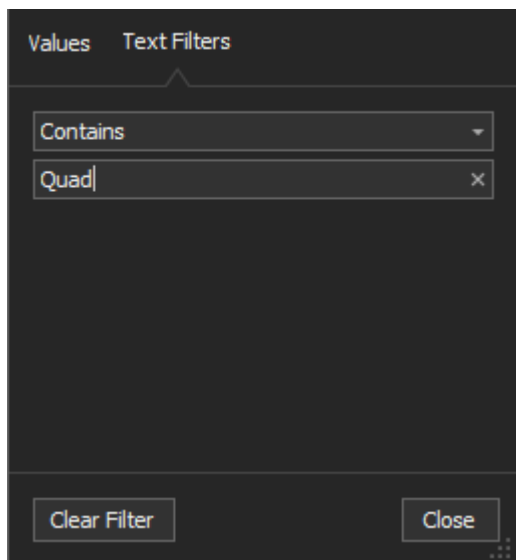
Column Right-Click menu:

A *right-click* on any column header pops up the Column menu allowing various functionality including Hiding the current column. The Column Chooser command allows you complete control over which columns are displayed in the grid:
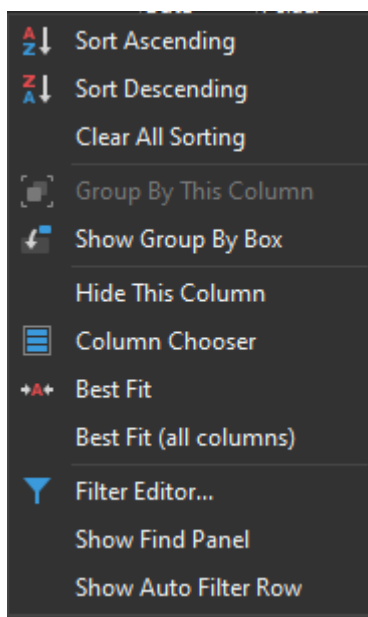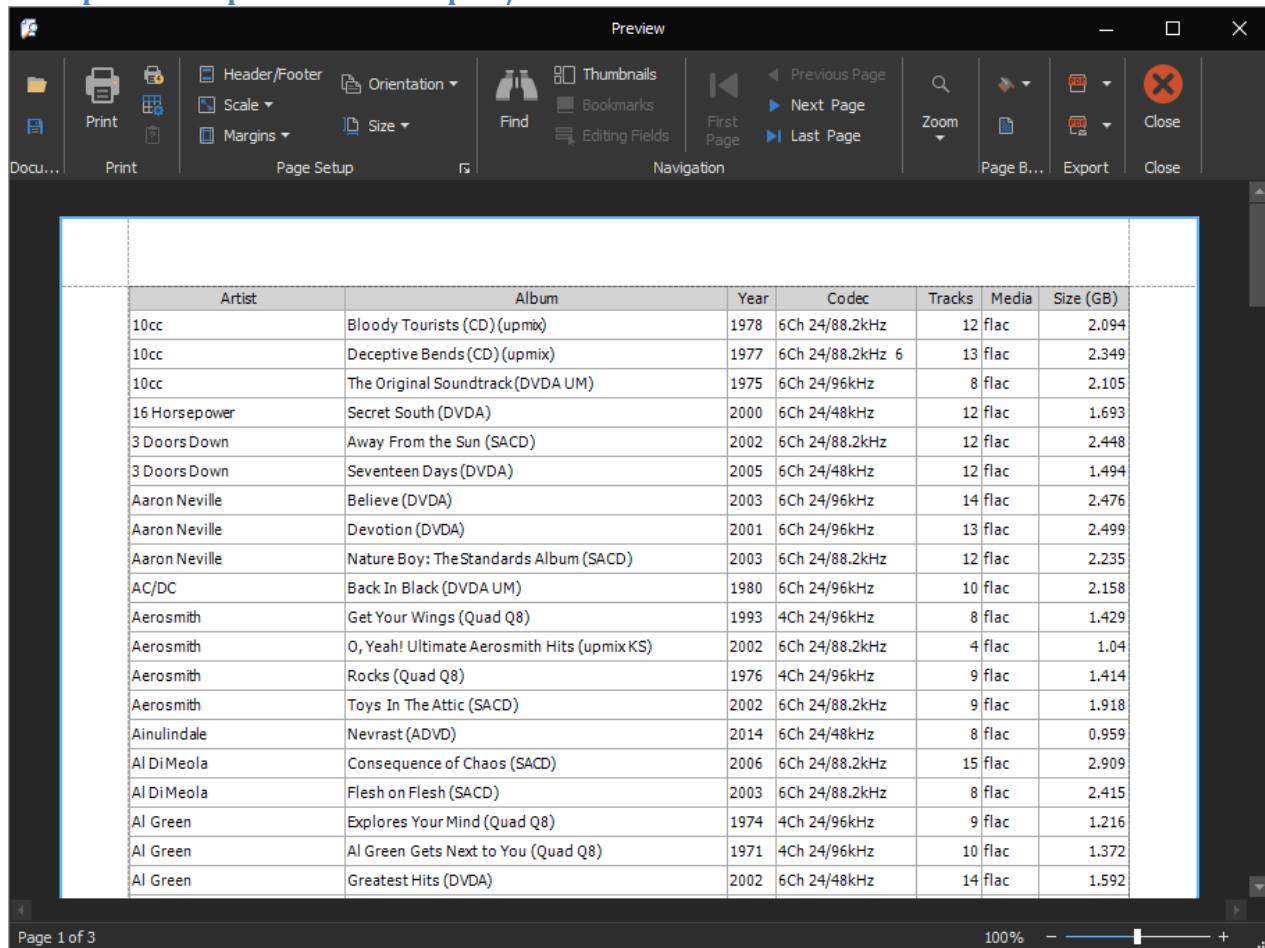
Most of the above commands are obvious. Try them and see what it does to the grid.

Command Buttons:

Export/Print:	Pops up the grid Print Preview dialog with options to print/export to PDF, Word or Excel etc
Export to Excel:	Exports all the Grid contents to an Excel (.xlsx) file
Export to CSV:	Exports all the Grid contents to a CSV file (for import into Excel to make a pretty report etc)

Copy:	Copies the 'Selected' folders ('Copy' checkbox in the grid) to set 'Destination Folder'
Browse:	Sets the 'Destination Folder' (where selected folder/files will be copied.

The option 'Show Albums in Destination Folders' shows the grid's contents that are matched in the Destination Folder (so you know it's already copied; it also compares file dates to see if anything is different). The info appears in the 'Copied' column – 'Yes' is match, 'Part' if some files missing or dates are different).

Example PDF Report from the Export/Print command:

Artist	Album	Year	Codec	Tracks	Media	Size (GB)
10cc	Bloody Tourists (CD) (upmix)	1978	6Ch 24/88.2kHz	12	flac	2.094
10cc	Deceptive Bends (CD) (upmix)	1977	6Ch 24/88.2kHz 6	13	flac	2.349
10cc	The Original Soundtrack (DVDA UM)	1975	6Ch 24/96kHz	8	flac	2.105
16 Horsepower	Secret South (DVDA)	2000	6Ch 24/48kHz	12	flac	1.693
3 Doors Down	Away From the Sun (SACD)	2002	6Ch 24/88.2kHz	12	flac	2.448
3 Doors Down	Seventeen Days (DVDA)	2005	6Ch 24/48kHz	12	flac	1.494
Aaron Neville	Believe (DVDA)	2003	6Ch 24/96kHz	14	flac	2.476
Aaron Neville	Devotion (DVDA)	2001	6Ch 24/96kHz	13	flac	2.499
Aaron Neville	Nature Boy: The Standards Album (SACD)	2003	6Ch 24/88.2kHz	12	flac	2.235
AC/DC	Back In Black (DVDA UM)	1980	6Ch 24/96kHz	10	flac	2.158
Aerosmith	Get Your Wings (Quad Q8)	1993	4Ch 24/96kHz	8	flac	1.429
Aerosmith	O, Yeah! Ultimate Aerosmith Hits (upmix KS)	2002	6Ch 24/88.2kHz	4	flac	1.04
Aerosmith	Rocks (Quad Q8)	1976	4Ch 24/96kHz	9	flac	1.414
Aerosmith	Toys In The Attic (SACD)	2002	6Ch 24/88.2kHz	9	flac	1.918
Ainulindale	Nevrast (ADVD)	2014	6Ch 24/48kHz	8	flac	0.959
Al DiMeola	Consequence of Chaos (SACD)	2006	6Ch 24/88.2kHz	15	flac	2.909
Al DiMeola	Flesh on Flesh (SACD)	2003	6Ch 24/88.2kHz	8	flac	2.415
Al Green	Explores Your Mind (Quad Q8)	1974	4Ch 24/96kHz	9	flac	1.216
Al Green	Al Green Gets Next to You (Quad Q8)	1971	4Ch 24/96kHz	10	flac	1.372
Al Green	Greatest Hits (DVDA)	2002	6Ch 24/48kHz	14	flac	1.592

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Setting up your final output:

Initially the Export/Print command shows a Preview of your data (above). The menu at top enables you to customise the presentation of your report:

Page Setup section: Page Orientation, Margins & Size are often important as reports attempt a 'best fit' for column widths.

Watermark: Enables you can set up a watermark for your report (QQ members will see these on a few QQ Poll and Engineers reports)

Export: Enable you to create files from your reports. Most common formats are PDF, Excel, Word and CSV.

HINT: Filtering rows in the grid controls the rows Exported and Hiding Columns controls the columns exported. Adjusting column widths in the grid also affects the column width in Reports.

Copying Files to Another Folder or Disc:

Select the 'Copy' column checkbox to select folders (with all their files) to the 'Destination Folder' (as set in the bottom of this dialog.

NOTE: When a Media Folder is copied it also copies all media files and sub-folders. For Music it also copies the parent (Artist) folder's metadata & image files including 'extrafanart' folder, so this ensures the Kodi metadata files are all copied for both the Album and its Artist.

If the 'Destination Folder' is set and the 'Show Albums in Destination Folders' checkbox is checked as you select each Folder to Copy MMH will enter add 'Copied' or 'Part' to the 'Copied' column ('Copied' if all files exist and are same date in both your Source and Destination folders for that Album. 'Part' if one or more files is missing in the Destination or is of a different date)

MMH also shows the total amount of disc space that is required on the Destination Drive and will warn you if the available free space is less than the than the total of the selected and not existing on destination.

To Copy the Selected Files:

Click: 'Copy' command button

Sit back and relax. Copying large files and collections will take some time.

NOTE: The 'Select' toolbar menu contains an option to Delete selected media folders on the Destination Folder. This may be useful if you want to remove something from a USB drive to make room for new media.

There is also an option checkbox to create a CSV Tracklist file containing a list of every media file (song, video etc) found during 'Scanning'. This file may be imported into Excel to view, sort and filter etc.

Viewing Track details from the Media Manager grid:
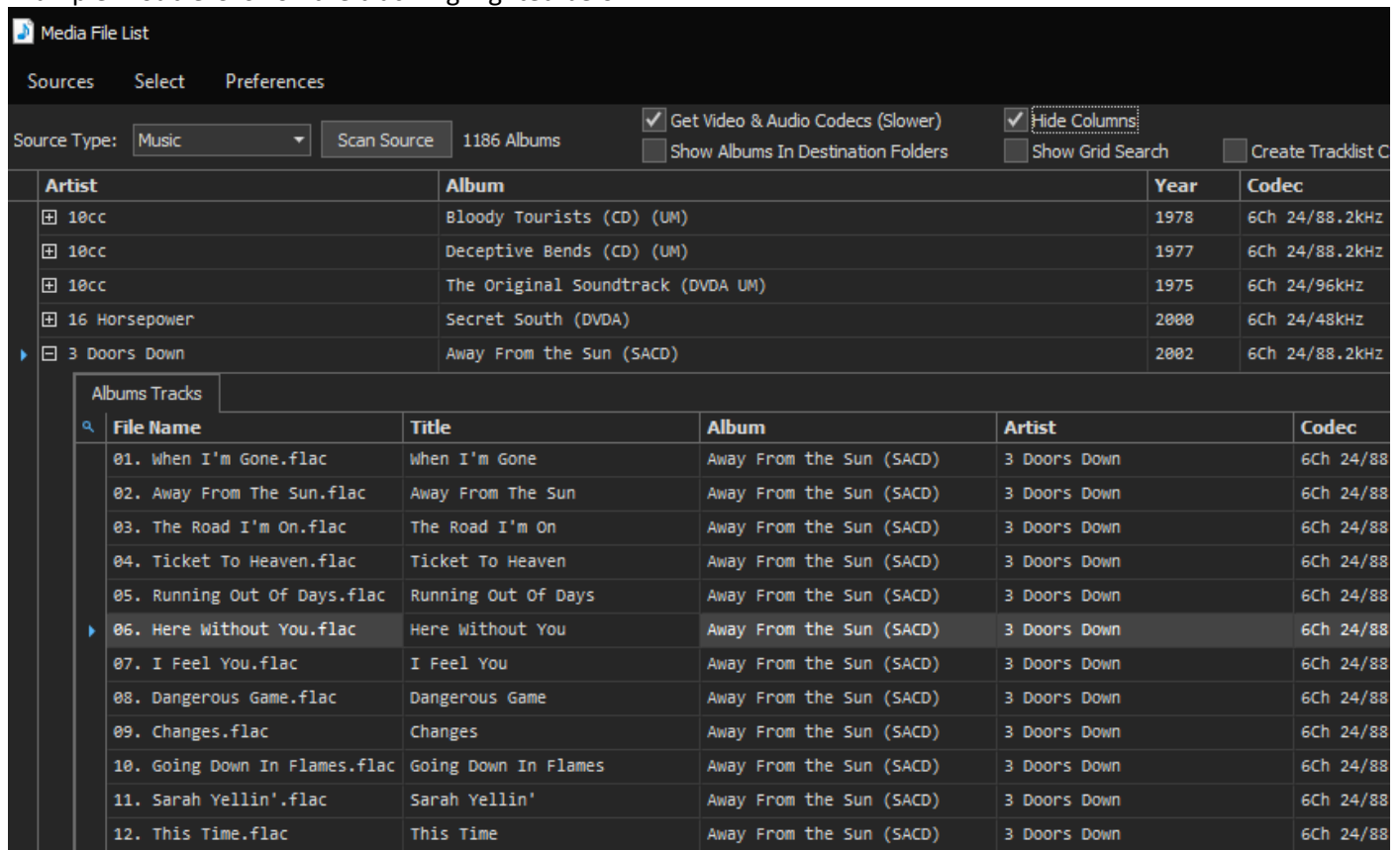
You may view album and concert songs/tracks by simply clicking on the small '+' (plus) icon on the left of the album or concert record in the grid, this open up the album's/concert's track Details sub-grid as shown, click the '-' (minus) icon to close the Track sub-grid:

Adding a Track from the Media Manager grid to a Playlist:

If you have a Playlist open in MMH you can *double-click* on any Album or Concert track and the track will be added to the currently opened Playlist:

Example: *Double-Click* on the track highlighted below:

The track is now added to your open Playlist as shown below:

Tag & Rename Media Files:

Functionality:
This tool enables you to do the following:
- Tag supported media files (including adding cover art):
    - Manually editing the grid cells or using the MMH 'Tag Editor' control on right.
    - Auto tagging of tracks from MusicBrainz (based on a search by Artist and Album names).
    - Copying a list of tracks (typically from a website containing a list of songs in the album or music concert release disc).
- Rename Media files (video or audio)
- For Video files only: Can create NFO files for Concerts/albums (For Kodi's Music Video library).
- Create JRiver sidecar xml files for mka and all supported video files (allows importing tags into JRiver)
- Create a CUE file for all album/concert files
- This tool supports loading files from multiple folders (albums) for convenient concurrent tag editing

This tool supports the following file types:
In Audio mode: mkv, mka, mp4, m4a, flac, dsf, mp3, aac, ape, wav, wavpack, and wma
In Video mode: m2ts, mkv, vob, mp4, avi, and ts

NOTE: When tagging from MusicBrainz MMH will tag MusicBrainz IDs for: AlbumArtist, Album and ReleaseGroup used my Kodi's music library. You can view these tag values by adding these columns to the tagging grid *(right-click on a column header and click: 'Column Chooser'*. There are also columns for Track, TrackCount, Disc, DiscCount and DiscTitle (tags used by Kodi to group multi disc releases in the Kodi UI).

Tag & Rename Files dialog description:
Click: 'Tag & Rename Media Files' from the *Launcher* dialog. This displays the Tag & Rename Files tool dialog:
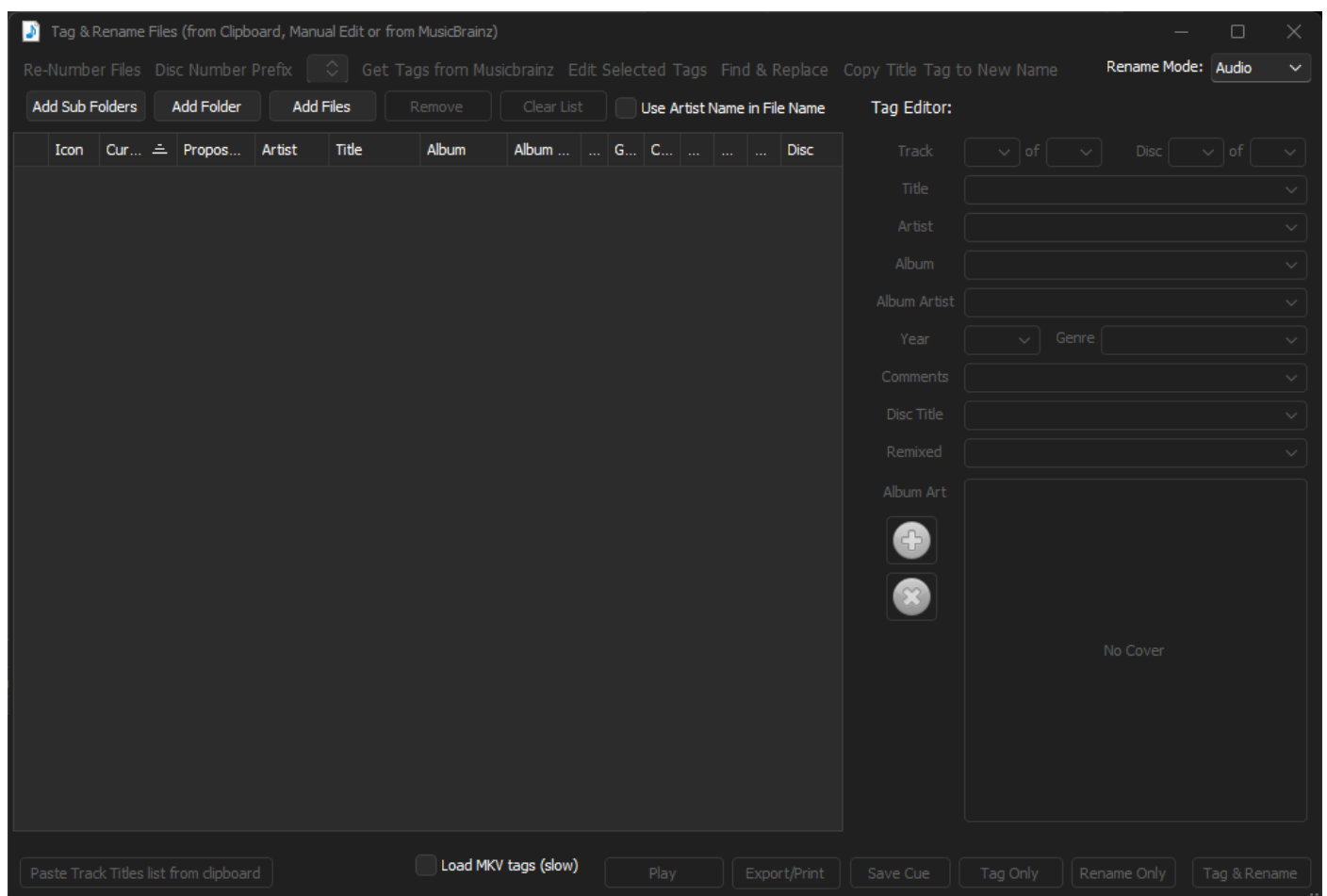
Initially, all the controls except 'Add Sub Folders', 'Add Folder' and 'Add Files' are disabled. The disabled controls are enabled once files have been added to the tool's grid.

First set the 'Rename Mode' at top right. MMH works a little differently based on whether you are working with audio or video files – typically tagging and renaming options. NFO files are only created for Video files.

Selecting Media Files to Tag and/or Rename:

This tool supports loading of multiple folder (album) files (concurrent editing of multiple album tags).

There are five command buttons at the top left of the dialog. Three to add files to this tool:

Add Sub Folders: Adds all supported media files in all sub-folders (recursively adds all sub folder files)

Add Folder: Adds all supported media files in the selected folder(s) (supports multiple folder selection)

Add Files: Adds the selected media files supported from files selected in the File browser

NOTE: Users can also drag & drop files from the Windows File Explorer onto the grid

Two buttons to remove files from this tool:

Remove: Removes the current or all selected rows (files) – this does not delete the files just removes from the grid.

Clear List: Removes all rows (files) from the grid.

NOTE: 'Add Folder" and 'Add Files' browser dialogs in this tool support multiple folder or file selections using Windows selection methods: First select the folder or file you wish to add (clicking on a folder or file selects that single row), CTRL + A key selects all rows, holding the CTRL key down while clicking folders/files adds folder/file clicked. Holding SHIFT key down and selecting a single item selects all folders/files from the first selected to the last and every folder/file in between.

Tagging Files - Overview:

All existing tags for each loaded file are displayed in the file's grid row. These can be freely edited on a cell-by-cell basis (which saves the changes directly to each media file), or users can edit tags in the MMH 'Tag Editor' control on the right side of this dialog. Tags can also be edited in batch using MMH's Musicbrainz online database lookup or by copying a list of track names from a text file or from a web page.

Tags from the grid cells are saved to each file by:
- Editing in a grid cell immediately the cell is exited (e.g. Tab key or mouse click on another cell)
- Clicking either the 'Tag & Rename' or 'Tag Only' command buttons

When either of the two 'Tag & Rename' or 'Tag Only' command buttons are used, MMH saves all grid tags for all files in the grid if there is only one album (folder) in the grid. If there are multiple folders (albums) in the grid MMH saves all tags for all files BUT only for the selected rows (files).

HINT: Use the normal Windows selection methods to select rows (CTRL+A for all, CTRL+Click, SHIFT+Click for multiples). Each folder name row has a 'Select Files' button on its right which selects all rows for that folder.

The dialog's 'Tag & Rename' and 'Tag Only' command buttons save the grid tags to each media file:
- If only one folder (album) is loaded in the grid, both commands save tags to all files for the folder
- If multiple folders (albums are loaded in the grid, both commands save tags to all files by folder (album) if the row (file) is selected

The Tag Editor control:

The Tag Editor always displays the tags from the current grid row (figure on left) or tags for all the selected rows (figure on right):

When displaying tags for multiple rows (files) if all the tag values for each file's tag are identical the tag textbox shows that value (see Artist tag in right figure). If the all the values are not identical the tag shows '[multiple values' (or '[mv] if the text box is small – see Track tag) and the textbox becomes a dropdown list which list all the unique values for that tag.

Users can edit any tag in the Tag Editor. Any changes are saved to the selected grid rows when a user clicks the 'Tag & Rename' or 'Tag Only' dialog buttons
- If only one row is selected, just that row's tags are updated in the grid.
- With multiple rows selected, the 'Tag' buttons saves all tags (except those with values '[multiple values' or '[mv]') to all selected rows in the grid.

IMPORTANT: The Tag Editor does not save tags to media file(s). To save to tags to media files use the 'Tag & Rename' or 'Tag Only' button at bottom of the main dialog.

Album Cover Art:
The Tag Editor control displays existing embedded cover art (if any). The 'Plus' button allows are user to select a cover art file via a file browser ('folder.jpg' or cover.jpg' only). The 'cross' button removes cover art.

Tagging Tracks from Musicbrainz (online music database):

After loading files, first select a row from the folder (album) you wish to update, then:

Click: 'Get Tracks from MusicBrainz' from the toolbar menu.

This displays the MMH Musicbrainz Tagging dialog.

Initially this is empty, although MMH will pre-enter the 'Album Artist' and 'Album Name' text boxes if at least one of the following is found:

- The selected row's (file) contains values in the 'Album Artist' and/or 'Album' columns.
- The file's folder name is in the format: ARTIST NAME - ALBUM NAME

To search for an album and its tracks on Musicbrainz:

Ensure the Artist and Album Names textboxes (first two text boxes) have the correct values, then click: 'Find'

NOTE: If there is more than one matching 'Album Artist' name found in the Musicbrainz database, MMH will ask you to select the correct artist from the Album Artist pop-up list. Once selected MMH will then search for your selected Album Name by the Album Artist chosen.

If you enter valid names the 'Releases' list will be populated with all known releases that match the Album name entered. Click on any release to see its track names.

To use these tracks to rename and tag: Click: 'Copy Tags' at bottom right. The Rename Files dialog will now contain the album's track info.

If the selected release (from the Releases list) contains multiple discs (see previous capture), MMH displays a Disc list on the left. Selecting a Disc updates the Track List to the selected disc. If a single disc release the Disc list is not displayed.

You can also manually edit the track list by clicking 'Copy Track Titles to Edit'. This opens a new dialog with free form editing of all the text. You can also copy txt into that dialog.

HINT: If your entered Artist and Album Name cannot be found in the online MusicBrainz database it could be your entered text does not match closely enough to the database values, or the album does not exist in the database. Users can click the small button at the right side of the Album Artist text box to open a browser window at the MusicBrainz website and can do a manual search using the website tools.

Musicbrainz will display the artists' Discography (Albums, Singles, Live etc. If you select an Album title you will then see a list of all the album's releases. If you click on one of the albums you will see all its tracks etc. You can now copy the Musicbrainz ReleaseID from your browser page URL (address) and paste in into the MMH dialogs 'Album Name' text box and click 'Find' and MMH will use that Release ID to populate the data. The ReleaseID is a GUID like this: 9f33f746-7f95-43b3-a388-772e7ba5556d

If an artist's release is selected in the browser users can copy the release page URL (or the ReleaseID) into MMH's 'Album Name' text box then click 'Find' an MMH will load that release into this dialog.

Tagging Album Cover Art from Fanart.tv (online artwork database):

After searching the Musicbrainz database for tags a new feature introduced in MMH 3.8.2 that allows users to find and download album art images from the Fanart.tv website (MKV and MKA cannot be tagged with cover art in MMH).

Click: Show Artwork

This will pop out the MMH Album artwork gallery. MMH will always attempt to download all cover art and disc art on the Fanart.tv website for the release selected in the Release list box from the Musicbrainz lookup:
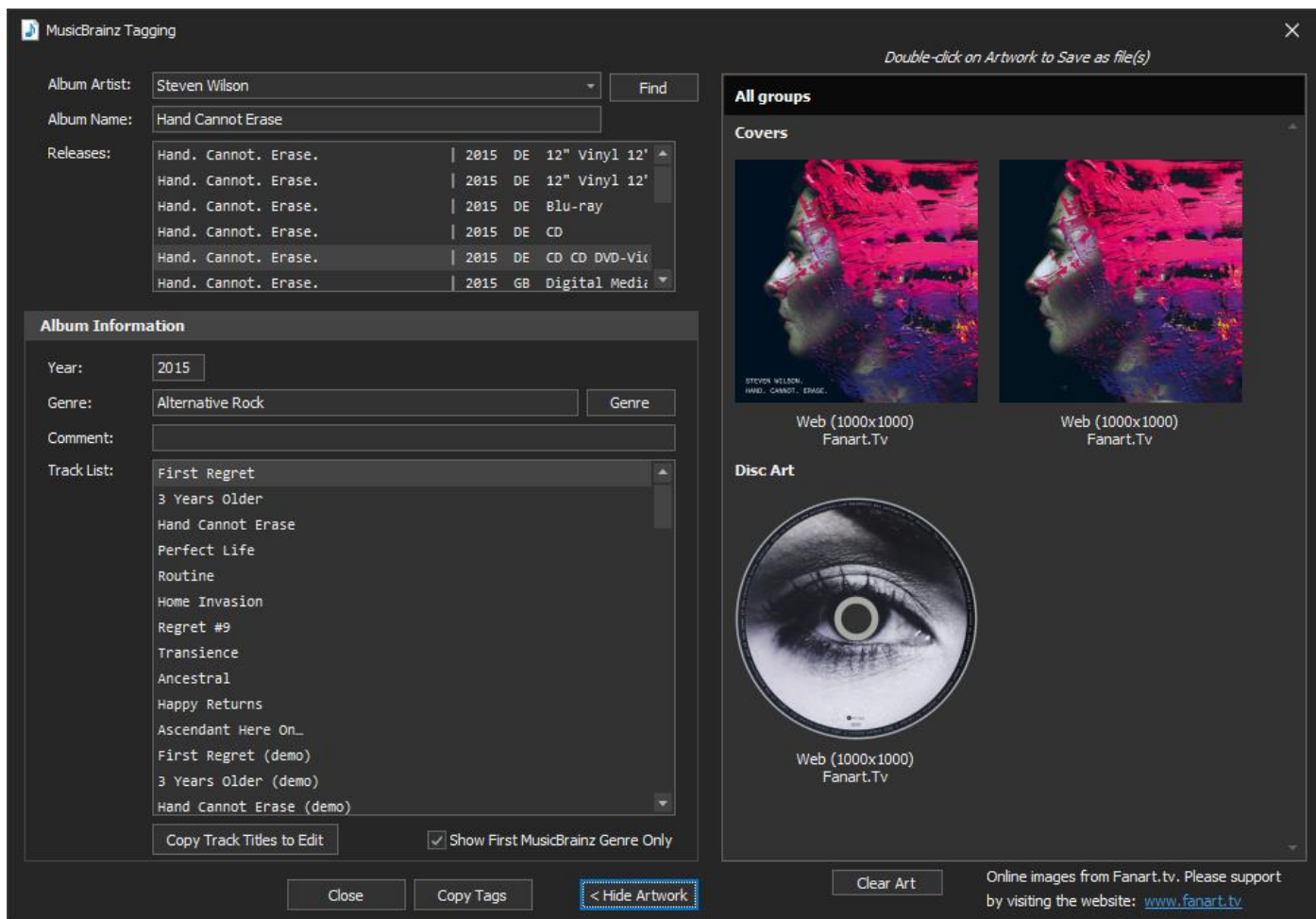
To Save any art to the current albums folder: *Double-Click* on the art image

NOTE: If you use JRiver as your playback device and you are tagging MKV files it is recommended that you enable 'Create/Update JRiver XML tagging files for MKV' which will be visible at the bottom of the dialog after you load MKV files for tagging.

This setting only an MKV file is being tagged. This should only be enabled if you are using JRiver as your MKV playback device. With this enables MMH creates a JRiver sidecar xml file for each MKV file being tagged. The xml files contain the tags in the tagging grid view (either manually entered or from the Musicbrainz online music database lookup). The JRiver sidecar xml files are imported into the JRiver music view when your new MKV files are imported by JRiver, affectively auto tagging your MKV files in JRiver.

Copying all the Tracks Titles from the clipboard:

Sometimes the Musicbrainz lookup will not find the release (maybe it doesn't yet exist in the database, or your search names entered aren't a close enough match to find the entry). In this case you can copy a list of track name from a text list of tracks or from a web page.

If you do not already have a list of all the track names that you can copy, use your favourite web browser, search for your Concert or Album in Google, find a web page that lists the songs, select all the list text and 'copy' (CTRL-C) to your clipboard.

The next figure shows a webpage from Discogs where a mouse was dragged over the track list (ready to copy):

The Beatles – Abbey Road

Genre:	Rock
Style:	Pop Rock
Year:	1969
Notes:	Released originally in 1969, the 2019 50 years anniversary editions have the same basic artwork but contain a remix/remaster of the album and the arrangements do differ from the original album.

More Images

Tracklist

Come Together	4:21
Something	3:03
Maxwell's Silver Hammer	3:27
Oh! Darling	3:27
Octopus's Garden	2:51
I Want You (She's So Heavy)	7:47
Here Comes The Sun	3:05
Because	2:46
You Never Give Me Your Money	4:02
Sun King	2:27
Mean Mr. Mustard	1:06
Polythene Pam	1:13
She Came In Through The Bathroom Window	1:57
Golden Slumbers	1:32
Carry That Weight	1:37
The End	2:20
Her Majesty	0:23

After highlighting (selecting) the track list press CTRL-C to copy the selected text to your clipboard.
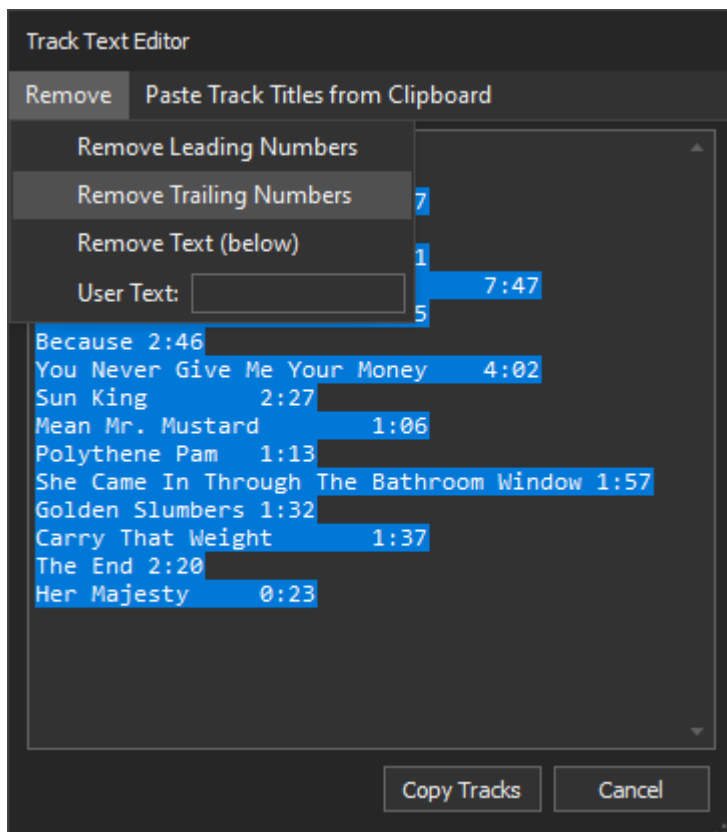
If you do have the titles already in a text file then open the file, select all the track list text and 'copy' (CTRL-C) to your clipboard.

HINT: Sometimes the published concert Track List does not include the introduction chapter or the credits chapter, so sometimes the number of chapters (hence the number of chapter files) is not the same as the number of track list songs. In this case you may wish to first copy your clipboard selection to a temporary text file and manually add an intro at the beginning and/or credit at the end. You can remove the first and/or last chapters from the Rename dialog's list by selecting the file and clicking 'Remove'. Once you have your updated Track List copy that to your clipboard and you are ready to continue.

Now click: 'Paste from clipboard' command at the bottom left of the Tag and Rename dialog.

This will pop up the MMH Track Text Editor:

Click: 'Paste Track Titles from Clipboard' in the Track Editor and the text copied from Discogs is pasted, but in this example, it includes the unwanted track length:

Track Text Editor

Remove Paste Track Titles from Clipboard

Remove Leading Numbers
Remove Trailing Numbers   7
Remove Text (below)   1
User Text: [   ]   7:47
                                            5
Because 2:46
You Never Give Me Your Money   4:02
Sun King   2:27
Mean Mr. Mustard   1:06
Polythene Pam   1:13
She Came In Through The Bathroom Window 1:57
Golden Slumbers 1:32
Carry That Weight   1:37
The End 2:20
Her Majesty   0:23

Copy Tracks   Cancel

To remove all the track lengths, use the Track Text Editor's Remove menu option 'Remove Trailing Numbers' as shown above. This removes the unwanted trailing numbers. You can also remove other unwanted text like '(5.1 version)' from all the track names by entering the test string to remove in the 'User Text' textbox and then click: 'Remove Text (below)'.

Track Text Editor

Remove   Paste Track Titles from Clipboard

Come Together
Something
Maxwell's Silver Hammer
Oh! Darling
Octopus's Garden
I Want You (She's So Heavy)
Here Comes The Sun
Because
You Never Give Me Your Money
Sun King
Mean Mr. Mustard
Polythene Pam
She Came In Through The Bathroom Window
Golden Slumbers
Carry That Weight
The End
Her Majesty

Copy Tracks   Cancel

Click: 'Copy Tracks' to update the track names and proposed new file names in the main grid.

NOTE: The Track Text Editor shows each track name in its own line. Users can add and delete lines in this editor to add and remove tracks from the current track list used to rename tracks in the grid.

NOTE: MMH will automatically add a sequence prefix to the New Names imported from the clipboard. So, you don't have to add any numeric prefix. You only need to ensure the song titles are in the correct sequence. MMH will remove any leading numbers and renumber them, so if some song titles have leading numbers and some don't' MMH will clean up those for you.

Renaming Files:

You can rename all the files in the grid at any time using either the 'Tag & Rename' or 'Rename Only' button at the bottom right of the dialog.

MMH always uses the value of the 'Proposed New Name' cell for each file name. This value is automatically updated by MMH using the row's Disc, Track and Title tag cells using the format:
      Disc.Track. Title - example: 1.01. Speak to Me
If the Disc tag is empty or 0 the Disc number is ignored and the format used for the filename is:
      Track. Title - example: 01. Speak to Me

NOTE: There is an Application Global Preference to append the track's Artist name. Example:
 01. Pink Floyd – Speak to Me

NOTE: For Music Concert videos in MKV files in Kodi only the File Name (based on the song title) is required to generate NFO files for the Kodi Music Video library. All other tags are ignored by Kodi in the Kodi Video library. However, you can add MP4 music video files to the Kodi Music library by tagging the MP4 files and including the files in a Kodi Music source (just like for Kodi music (audio-only) files.

NOTE: MMH will automatically check for illegal characters in the proposed new file names (characters that are not allowed in Windows file names). If any exist, you will be warned and shown which new file names need to be edited.

Renumbering Tracks and Files:

Sometimes you may wish to auto-renumber the album/concert tracks or add a Disc Number prefix to all the files in a folder to help breakdown a large compilation or music concert or create your own compilation of music files and you want to renumber tracks.

The toolbar command: **Renumber Files** will automatically update the Track number for all selected rows in the grid using the current grid sort order (default sort is the Original File Name). The first row (file) will be 1 and all other selected files will be incremented. Renumbering files will auto update the proposed new file name.

MMH's normal file naming is in the form shown below with a two-digit track prefix added:
Track. Title - example: 01. My Track's Title.flac (for Track 1)

NOTE: There is an Application Global Preference to append the track's Artist name to the file name. Example:
 01. Pink Floyd – Speak to Me

NOTE: MMH uses a two-digit track prefix if the number of files in the grid < 100. If the number of tracks in the grid >99, MMH uses a 3-digit track prefix (example for > 100 files: 001. My Track's Title.flac)

Disc Numbering:
Setting the 'Disc No' in the toolbar (to the right of the Renumber Files command) adds a disc prefix to the file name:
Disc.Track. Title - example: 1.01. My Track's Title.flac (for disc 1, Track 1)

This tool supports selecting specific tracks in the grid, using Windows CTRL-Click, SHFT-Click (range) etc and renumbering only the selected files. This enables users to select groups of tracks and adding or changing the Disc prefix. Example:

Select the first 20 tracks, set Disc Number to '1', then click: 'Re-Number files'.
Now select tracks 21 to 30, set Disc Number to '2', then click: 'Re-Number files'

Extract Audio from MKV, MKA & M4A files:

Functionality:
This tool enables you to do the following:
- Split an MKV or MKA file containing High Resolution Audio into lossless FLAC, M4A, WAV, MKV, MKA or MP4 files (multichannel and lossless DTS-HDMA, TrueHD and Atmos supported and any sample rate including 24/192kHz from BD ripped to MKV/MKA and DTS 96/24 from DVDV ripped to MKV/MKA)
- Automatically Rename and Tag the FLAC, M4A, WAV, MKV, MKA and MP4 output files based on Artist and Album lookup to MusicBrainz online database or manual tag editing.
- For JRiver users, optionally create JRiver XML sidecar files to add tags for MKV files (if output is set to MKV)
- Convert multiple M4A files to MKA or FLAC files (drag and drop multiple M4A files onto the grid)
- Extract to Native audio files from Dolby TrueHD, Dolby Digital Plus etc and DTS-HDMA and DTS streams

NOTE: Users should always select their desired Output audio file format from the Output dropdown PRIOR to adding any files as this tool immediately converts on file loading.

NOTE: If you select multiple MKV, MKA or M4A files in the Open MKV/MKA File browser MMH will extract the audio for all files selected in batch mode, however, in this 'multiple input file mode' MMH will not split the input files into chapters. With Multiples selected each file is converted to the selected output format.

This tool also supports dragging multiple MKV, MKA and M4A files onto the grid from the Windows File Explorer. If you drag and drop M4A files with tags the tags auto-loaded into the grid to save into the output files (e.g converting M4A to FLAC).

NOTE: M4A is a MPEG container that can hold lossless audio and special codecs such as Atmos and can be tagged and used in Kodi's Music Library and some other media players.

If selecting a single MKV/MKA file it should contain chapters and at least one Audio stream. This tool automatically uses the only audio stream to extract to FLAC if the MKV contains just a single audio stream, otherwise the user is asked to select which audio stream to use to create the output files.

If you select MKV or MP4 as the output MMH copies both the video and the selected Audio stream to the output MKV or MP4 files.

NOTE: MPA and M4A files do not support PCM streams. PCM streams are converted to FLAC if output is MPEG format.

Extract Audio from MKV/MKA dialog description:
Click 'Extract Audio from MKV' from the *Launcher* dialog.

This displays the Extract Audio from MKV Tool dialog:
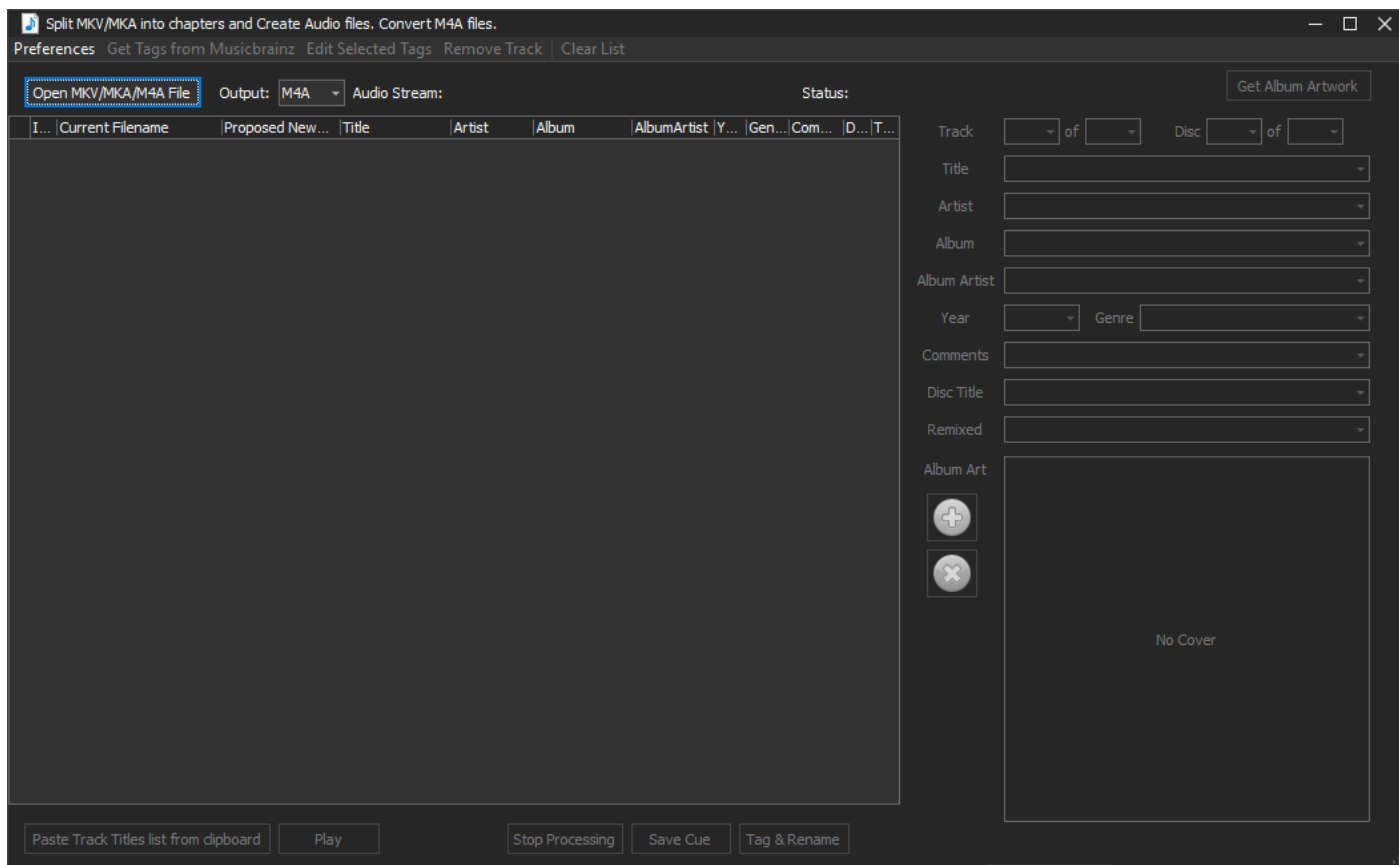
BEFORE opening your input MKV or MKA file, first select the Audio Output format (FLAC, M4A, WAV, MKV, MKA or MP4) from the Output dropdown list at top left, the default is FLAC.

You can then go ahead and select your MKV or MKA file using the tool menu (highlighted above at top left):

Click: 'Open MKV/MKA File' (NOTE: You can also drag MKV & MKA input file(s) from Windows File Explorer into this tool's grid)

The next screen shot shows a File Selection dialogue used to select the MKV file:
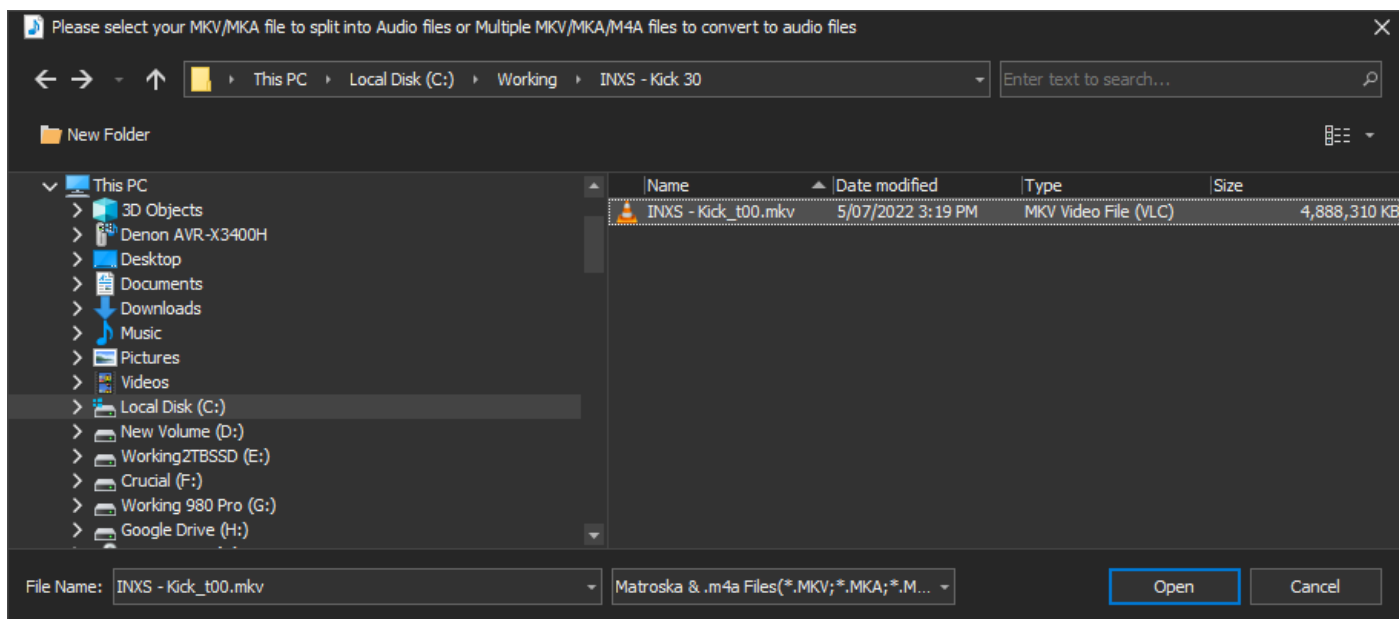
NOTE: If the MKV file is named in the format: **Artist - Album** then MMH will automatically place the Album Artist and Album in the Album Tags text boxes on the right of this dialog.

MMH will pop up the 'Select Audio Stream' dialog, allow you to choose which audio stream to convert to your already selected Output format (FLAC or WAV) or stream to copy to M4A, MKV, MKA or MP4 output files:
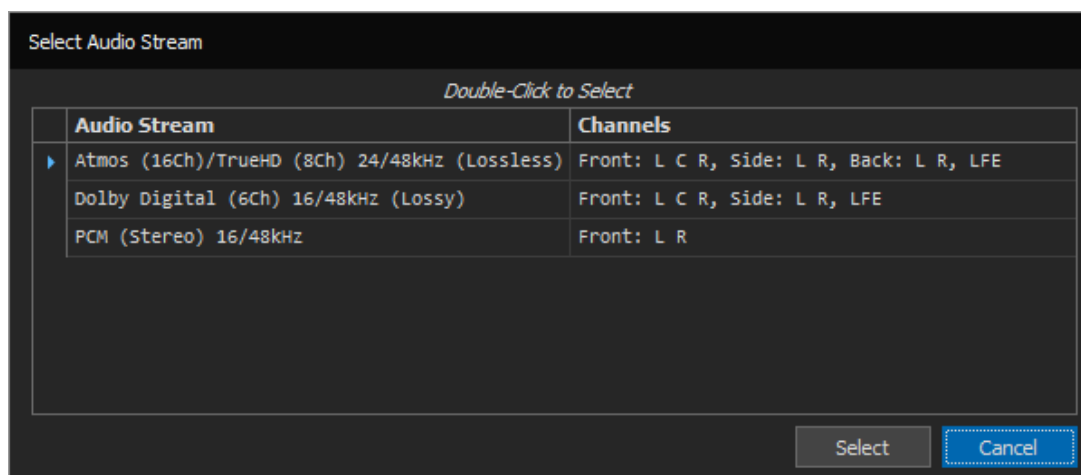
Go ahead and *double-click* on the Audio Stream.

NOTE: If you select an Atmos stream its TrueHD 7.1 core lossless stream will be used. If you select a DTS:X stream its core lossless DTS-HDMA stream will be used. Atmos and DTS:X are object based audio streams, FLAC is limited to 8 channels and furthermore, there is no direct relationship between 'objects' and 'channels'. You can playback Atmos or DTS:X in MKV, MP4 and M4A file as well as Matroska audio (MKA) files. You may wish to convert Atmos/DTS:X audio using MMH's 'Convert MKV to MKA' tool.

After selecting an MKV file, MMH processes the MKV, splitting into chapters and converting the selected audio track to FLAC. The output audio files a saved to the same folder as your source MKV or MKA file(s) selected.

When completed the dialogue will contain all the chapters (output files) as seen in the next figure:
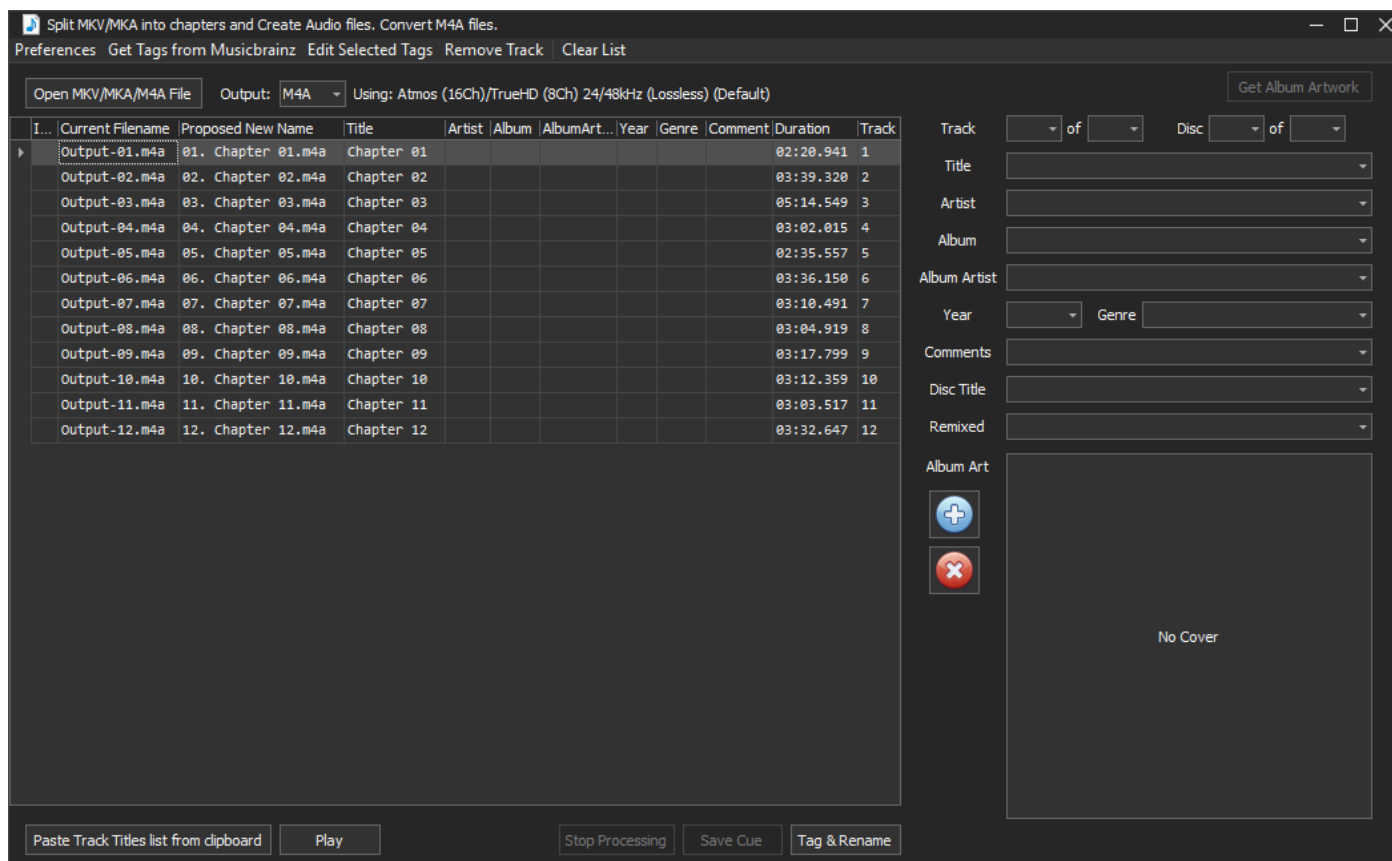
HINT: You can select any file (row) in the grid and click: Play to listen/view the file. This is sometimes useful when auto renaming files in the next section as often a video release has additional chapters such as Intro and credits. Playing the first and last chapter files is always useful.

NOTE: MMH now supports converting MKV and M4A files to FLAC without splitting the MKV selected by chapters. So now this tool allows you to select multiple MKV (or M4A) files (concerts or albums already split into chapter files). If you select multiple MKVs, MMH now pops up a dialog:
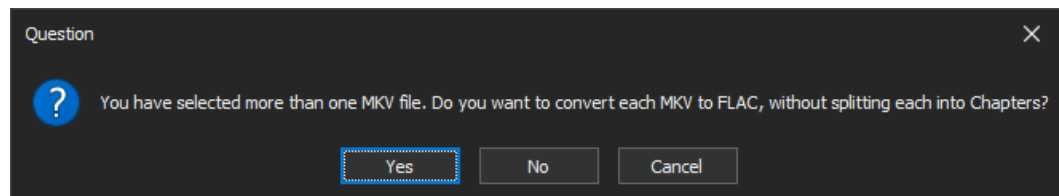
If you answer 'Yes', MMH creates an audio file for each MKV (or M4A) file from the selected MKV audio stream (or if the input files are M4A or the MKV has only one audio stream it automatically selects it).

Extract Audio Preferences:

There are four preference settings that the Extract Audio from MKV tool uses. These Preferences are accessed via the Preferences tool bar button, which pops up the Preferences dialog:
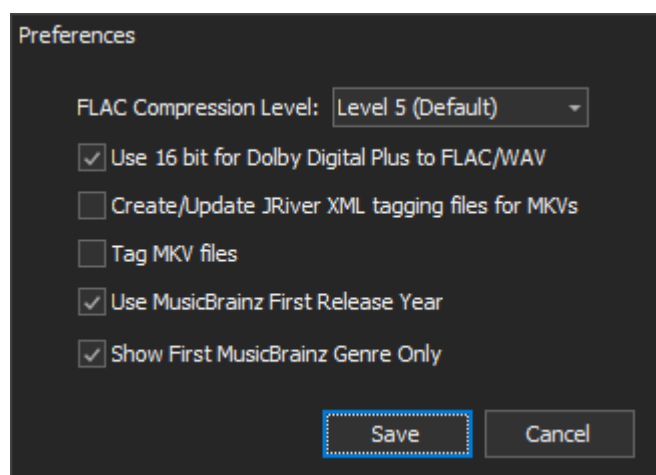
FLAC Compression Level: This sets the FLAC Compression Level. Only takes effect if a FLAC output is selected in the Extract Audio from MKV tool dialog.

Use 16 bit for Dolby Digital Plus to FLAC/WAV: With this checked conversions from DD+ to FLAC or WAV will be 16 bit. If not checked 24 bit FLAC and WAV files are created. (DD+ appears to be bit depthless)

Create/Update JRiver XML tagging files for MKVs: Only takes effect if a MKV or MKA output is selected in the Extract Audio from MKV tool dialog. This should only be enabled if you are using JRiver as your MKV/MKA playback device. With this enabled, MMH creates a JRiver sidecar xml file for each MKV/MKA file created containing the tags in the Extract Audio from MKV tool's grid view (either manually entered or from the Musicbrainz online music database lookup). The JRiver sidecar xml files are imported into the JRiver music view when your new MKV/MKA files are imported by JRiver, affectively auto tagging the new MKV/MKA files.

Tag MKV files: MKV/MKA files are tagged during conversion. Most playback devices do not read Matroska tags.

Use Musicbrainz first Release Year: The 3rd setting controls the MusicBrainz release Year used. Enabled it uses the first release date of the album, disabled it's the date of the release you select. An example is Abbey Road: Its first

release was 1969 but the blu-ray audio was released in 2019. Some users prefer the original release date for the album, others prefer the actual disc release date.

Show First Musicbrainz Genre Only: Enables users to only set the Genre to the first genre listed for the current album when doing a Musicbrainz lookup. If this preference is not enabled and there are multiple genres found the genre is filled with a semi-colon delimited list (example: Classic Rock; Jazz Rock; etc). Of course, this text can also be edited manually in the dialog's genre textbox.

Tagging Files - Overview:

All existing tags for each loaded file are displayed in the file's grid row. These can be freely edited on a cell-by-cell basis (which saves the changes directly to each media file), or users can edit tags in the MMH 'Tag Editor' control on the right side of this dialog. Tags can also be edited in batch using MMH's Musicbrainz online database lookup or by copying a list of track names from a text file or from a web page.

Tags from the grid cells are saved to each file by:
- Editing in a grid cell immediately the cell is exited (e.g. Tab key or mouse click on another cell)
- Clicking either the 'Tag & Rename' command button

When the 'Tag & Rename' command button is used, MMH saves all grid tags for all files in the grid if there is only one album (folder) in the grid. If there are multiple folders (albums) in the grid MMH saves all tags for all files BUT only for the selected rows (files).

HINT: Use the normal Windows selection methods to select rows (CTRL+A for all, CTRL+Click, SHIFT+Click for multiples). Each folder name row has a 'Select Files' button on its right which selects all rows for that folder.

The dialog's 'Tag & Rename' command button saves the grid tags to each media file:
- If only one folder (album) is loaded in the grid, saves tags to all files for the folder
- If multiple folders (albums are loaded in the grid saves tags to all files by folder (album) if the row (file) is selected

The Tag Editor control:

The Tag Editor always displays the tags from the current grid row (figure on left) or tags for all the selected rows (figure on right):

When displaying tags for multiple rows (files) if all the tag values for each file's tag are identical the tag textbox shows that value (see Artist tag in right figure). If the all the values are not identical the tag shows '[multiple values' (or '[mv] if the text box is small – see Track tag) and the textbox becomes a dropdown list which list all the unique values for that tag.

Users can edit any tag in the Tag Editor. Any changes are saved to the selected grid rows when a user clicks the 'Tag & Rename' dialog button:
- If only one row is selected, just that row's tags are updated in the grid.
- With multiple rows selected, the 'Tag' buttons saves all tags (except those with values '[multiple values' or '[mv]') to all selected rows in the grid.

IMPORTANT: The Tag Editor does not save tags to media file(s). To save to tags to media files use the 'Tag & Rename' or 'Tag Only' button at bottom of the main dialog.

Album Cover Art:
The Tag Editor control displays existing embedded cover art (if any). The 'Plus' button allows are user to select a cover art file via a file browser ('folder.jpg' or cover.jpg' only). The 'cross' button removes cover art.

Tagging Tracks from Musicbrainz (online music database):

Once the MKV conversion to FLAC files is completed, you can now search for the album details by manually entering the Album Artist and Album text boxes (if they have not already been added) and click: 'Find' to get do a search for the album on the MusicBrainz online music database server.

NOTE: Please ensure you have the EXACT artist and album names. In MMH 4.0.11 the album name search was changed to a 'fuzzy search' so album names don't have to be an exact match, example: Division Bell vs. The Division Bell.

NOTE: If there is more than one matching 'Album Artist' name found in the Musicbrainz database, MMH will ask you to select the correct artist from the Album Artist pop-up list. Once selected MMH will then search for your selected Album Name by the Album Artist chosen.

If you enter valid names the 'Releases' list will be populated with all known releases. Click on any release to see its track names.

If the selected release (from the Releases list) contains multiple discs, MMH displays a Disc list on the left. Selecting a Disc updates the Track List to the selected disc. If a single disc release the Disc list is not displayed.

You can also manually edit the track list by clicking 'Copy Track Titles to Edit'. This opens a new dialog with free form editing of all the text. You can also copy txt into that dialog.

Artist, Album, Year, Genre and Comment values from the text boxes are used for tagging the audio files.

The next screenshot shows the Extract Audio from MKV dialogue after a MusicBrainz search has located the album. The selected Release is populated into the grid views tag fields after the 4th disc in the release is selected from the Discs list (The selected release was a 4 disc set):

NOTE: When tagging from MusicBrainz MMH will tag MusicBrainz IDs for: AlbumArtist, Album and ReleaseGroup used by Kodi's music library. You can view these tag values by adding these columns to the tagging grid *(right-click on a column header and click: 'Column Chooser'.* There are also columns for DiscNo and DiscTitle used by Kodi to group multi disc releases in the Kodi UI.

To copy the selected release's data (including disc and track names) simply click: 'Copy Tags'. The Musicbrainz dialog will close, and all the data will be copied to the grid's tag columns.

NOTE: The 'Copy Track Titles to Edit' button will copy all the tracks titles in the Track List to the MMH Track Editor dialog. This dialog allows to add/remove tracks and edit the titles and is described in the .

Copying all the Track Titles from the clipboard for editing:

Sometimes the Musicbrainz lookup will not find the release (maybe it doesn't yet exist in the database, or you search names entered aren't a close enough match to find the entry). In this case you can copy a list of track name from a text list.

If you do not already have a list of all the titles that you can copy, use your favourite web browser, search for your Concert or Album in Google, find a web page that lists the songs, select all the list text and 'copy' (CTRL-C) to your clipboard.

The next figure shows a webpage from Discogs where a mouse was dragged over the track list (ready to copy):

After highlighting (selecting) the track list press CTRL-C to copy the selected text to your clipboard

If you do have the titles already in a file then open the file, select all the track list text and 'copy' (CTRL-C) to your clipboard.
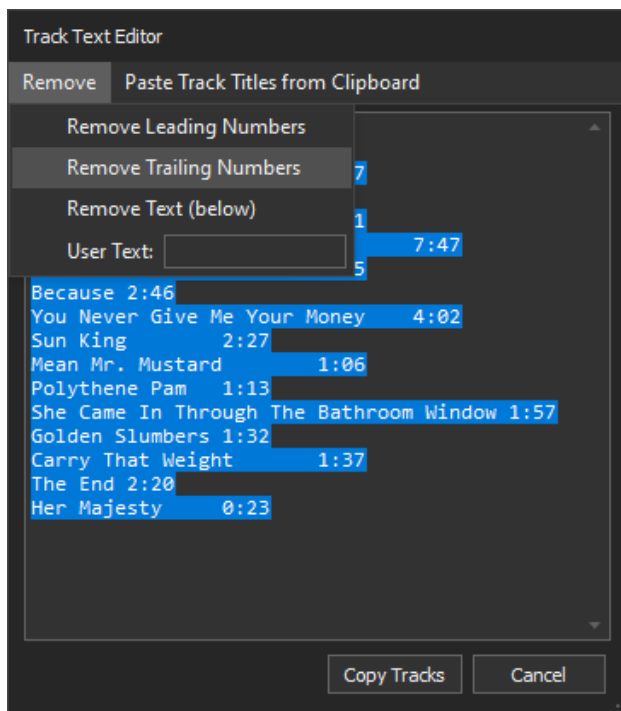
HINT: Sometimes the published concert Track List does not include the introduction chapter or the credits chapter, so sometimes the number of chapters (hence the number of chapter files) is not the same as the number of track list songs. In this case you may wish to first copy your clipboard selection to a temporary text file and manually add an intro at the beginning and/or credit at the end. You can remove the first and/or last chapters from the Rename dialog's list by selecting the file and clicking 'Remove'. Once you have your updated Track List copy that to your clipboard and you are ready to continue.

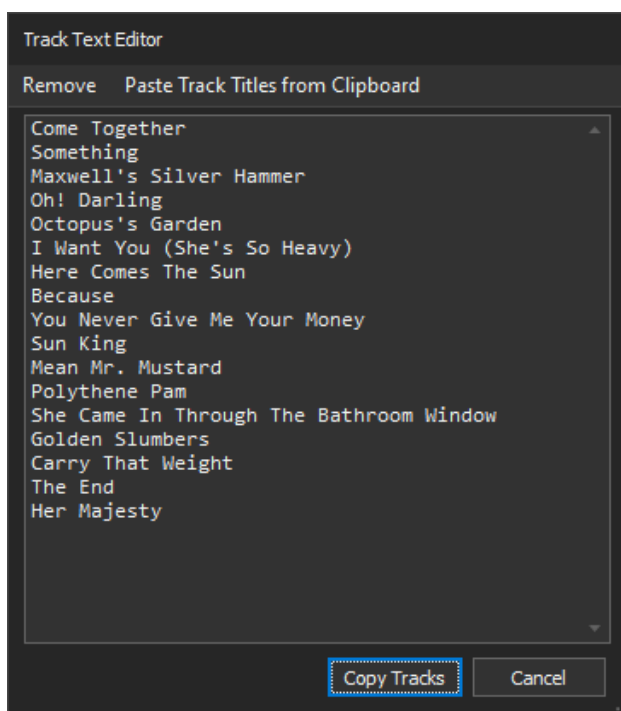Now click: 'Paste from clipboard' command in the main Rename dialog:

This will pop up the **MMH Track Editor**:

NOTE: If you use the Musicbrainz Tagging dialog its 'Copy Track Titles to Edit' button copies the Track List tags to this Track Editor.

Click: 'Paste Track Titles from Clipboard' from the Tracks Editors toolbar and the text is copied from Discogs is pasted, but in this example, it also includes the track length:

Track Text Editor

Remove | Paste Track Titles from Clipboard

Remove Leading Numbers
Remove Trailing Numbers
Remove Text (below)
User Text: [   ]

Because 2:46
You Never Give Me Your Money   4:02
Sun King   2:27
Mean Mr. Mustard   1:06
Polythene Pam   1:13
She Came In Through The Bathroom Window 1:57
Golden Slumbers 1:32
Carry That Weight   1:37
The End 2:20
Her Majesty   0:23

[Copy Tracks] [Cancel]

To remove the track lengths, use the Track Text Editor's Remove menu option 'Remove Trailing Numbers' as shown above. This removes the unwanted trailing numbers:

Track Text Editor

Remove   Paste Track Titles from Clipboard

Come Together
Something
Maxwell's Silver Hammer
Oh! Darling
Octopus's Garden
I Want You (She's So Heavy)
Here Comes The Sun
Because
You Never Give Me Your Money
Sun King
Mean Mr. Mustard
Polythene Pam
She Came In Through The Bathroom Window
Golden Slumbers
Carry That Weight
The End
Her Majesty

[Copy Tracks] [Cancel]

Click: 'Copy Tracks' to update the titles and proposed new file names.

Renaming Files:

You can rename all the files in the grid at any time using the 'Tag & Rename' button at the bottom right of the dialog.

MMH always uses the value of the 'Proposed New Name' cell for each file name. This value is automatically updated by MMH using the row's Disc, Track and Title tag cells using the format:

Disc.Track. Title - example: 1.01. Speak to Me

If the Disc tag is empty or 0 the Disc number is ignored, and the format used for the filename is:
Track. Title - example: 01. Speak to Me

NOTE: There is an Application Global Preference to append the track's Artist name. Example:
 01. Pink Floyd – Speak to Me

NOTE: For Music Concert videos in MKV files in Kodi only the File Name (based on the song title) is required to generate NFO files for the Kodi Music Video library. All other tags are ignored by Kodi in the Kodi Video library. However, you can add MP4 music video files to the Kodi Music library by tagging the MP4 files and including the files in a Kodi Music source (just like for Kodi music (audio-only) files.

NOTE: MMH will automatically check for illegal characters in the proposed new file names (characters that are not allowed in Windows file names). If any exist, you will be warned and shown which new file names need to be edited.

Renumbering Tracks and Files:

Sometimes you may wish to auto-renumber the album/concert tracks or add a Disc Number prefix to all the files in a folder to help breakdown a large compilation or music concert or create your own compilation of music files and you want to renumber tracks.

The toolbar command: **Renumber Files** will automatically update the Track number for all selected rows in the grid using the current grid sort order (default sort is the Original File Name). The first row (file) will be 1 and all other selected files will be incremented. Renumbering files will auto update the proposed new file name.

MMH's normal file naming is in the form shown below with a two-digit track prefix added:
Track. Title - example: 01. My Track's Title.flac (for Track 1)

NOTE: There is an Application Global Preference to append the track's Artist name to the file name. Example:
 01. Pink Floyd – Speak to Me

NOTE: MMH uses a two-digit track prefix if the number of files in the grid < 100. If the number of tracks in the grid >99, MMH uses a 3-digit track prefix (example for > 100 files: 001. My Track's Title.flac)

Disc Numbering:
Setting the 'Disc No' in the toolbar (to the right of the Renumber Files command) adds a disc prefix to the file name:
Disc.Track. Title - example: 1.01. My Track's Title.flac (for disc 1, Track 1)

Merge Video and FLAC files:

Functionality:
This tool enables you to batch merge video files (MKV, MP4, AVI, M2TS, VOB & TS) with FLAC audio files that are in the same source folder. The original sources files remain unaltered. The new FLAC audio track becomes to new default track for playback. FLACs can be stereo or multichannel (up to 8 channels).

Output can be either MKV or MP4 (user selectable). For MP4 the output MP4 will contain just the original video stream and the new FLAC stream. For MKV all sources video vile streams are retained.

Many media players can playback HD and 4K Video and lossless multichannel audio from and MKV and MP4 files containing FLAC.

I often find music concerts that need audio adjustments: Examples:
- LFE (subwoofer) volume is too low
- A Music Video release is in stereo and I have a multichannel audio release I want to hear in the video
- The concert has a stereo only audio track and I want to upmix to 5.1 surround
- The concerts 5.1 track is just stereo in fronts and crowd noise in rears. Another Penteo upmix candidate.

In many of the above examples I use MMH to extract FLAC from the original MKVs, then do my audio manipulations, get the FLACs how I want, then use this Merge Video and FLAC file tool to get my new audio back into the original MKV.

File Naming Requirements:
This tool does not need any specific file naming to merge multiple video files with multiple FLACs. It merges based on the file name sort order only. That is, the first video file is merged with the first FLAC, 2nd with 2nd etc. So, the only 'rule' is to name the files in the correct sequence. MMH's existing tools Split and Rename MKVs and Extract FLAC from MKVs both create files with the same file name sequence, so this is not a difficult requirement to meet. NOTE: You cannot use filenames the begin with the letter '-'.

Output (New Merged) Files:
This tool never overwrites the existing source files. New merged output MKV or MP4 files are created under the source folder in a folder named REMIXED. All source video and FLACs are unchanged.

Merge Video and FLAC Walk-Through:
In this scenario we will assume you already have a music MKV files with an entire concert in multiple MKV files (one song per file) and you already have FLAC files for each song.

Click: 'Merge Video and FLAC files' from the *Launcher* dialog. The following dialog appears:
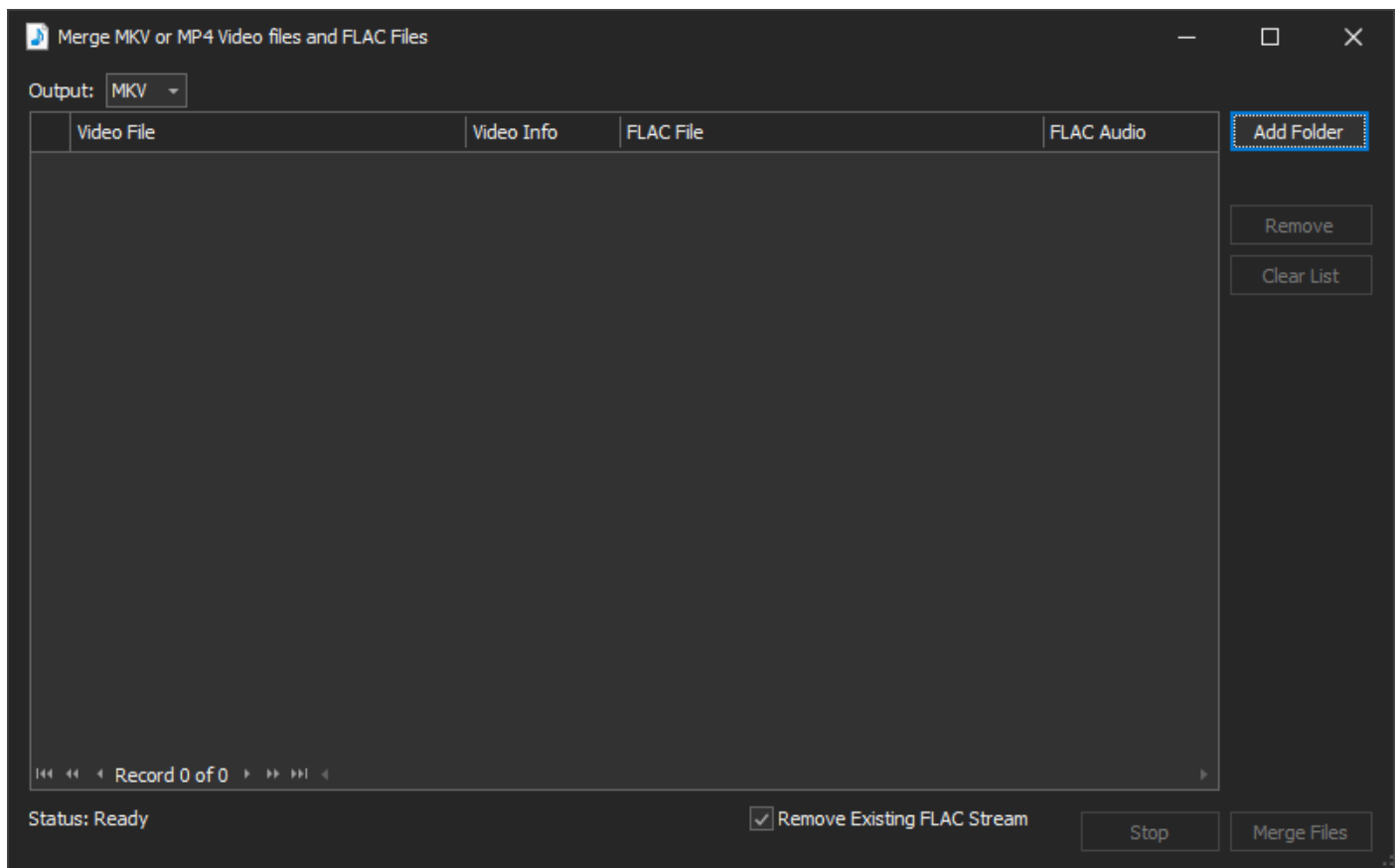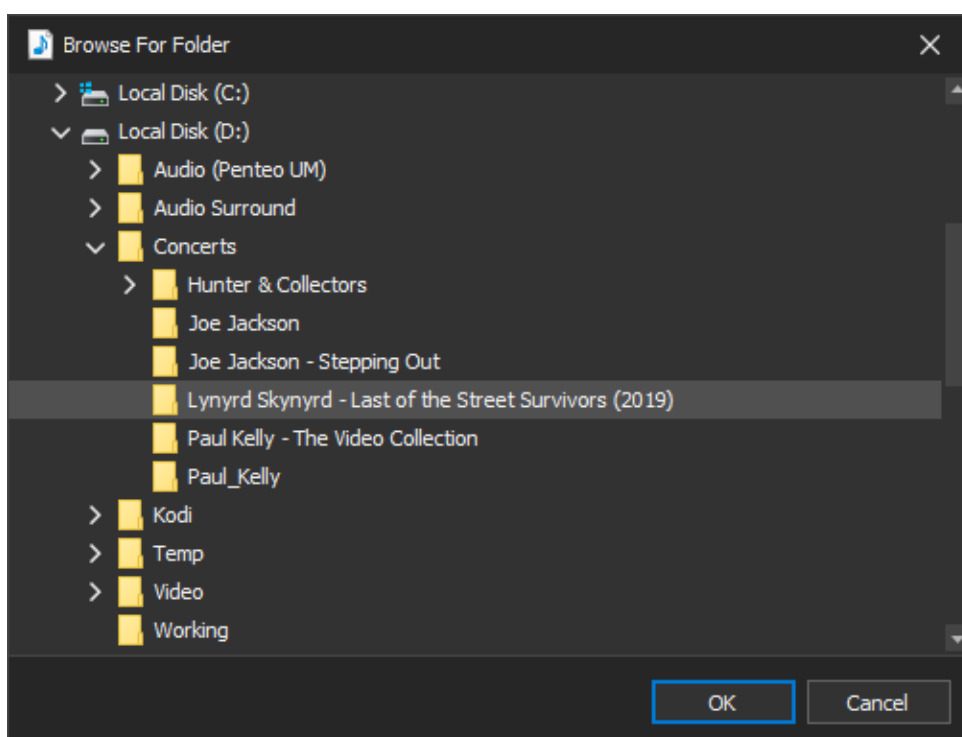
The tool assumes all you MKVs and FLACs are in the same folder.

Select the folder containing your Video and FLAC files to merge:

Click: Add Folder

This will pop up a Folder Selection browser:

Once selected, MMH scans the files in the folder and finds all the video files (in file name order) and matches each to a FLAC file in the same file (in FLAC file name order).

NOTE: There must be an equal number of video files and FLAC files in the selected folder. If not MMH will show an error dialog and you must add or remove video or FLAC files to correct the issue
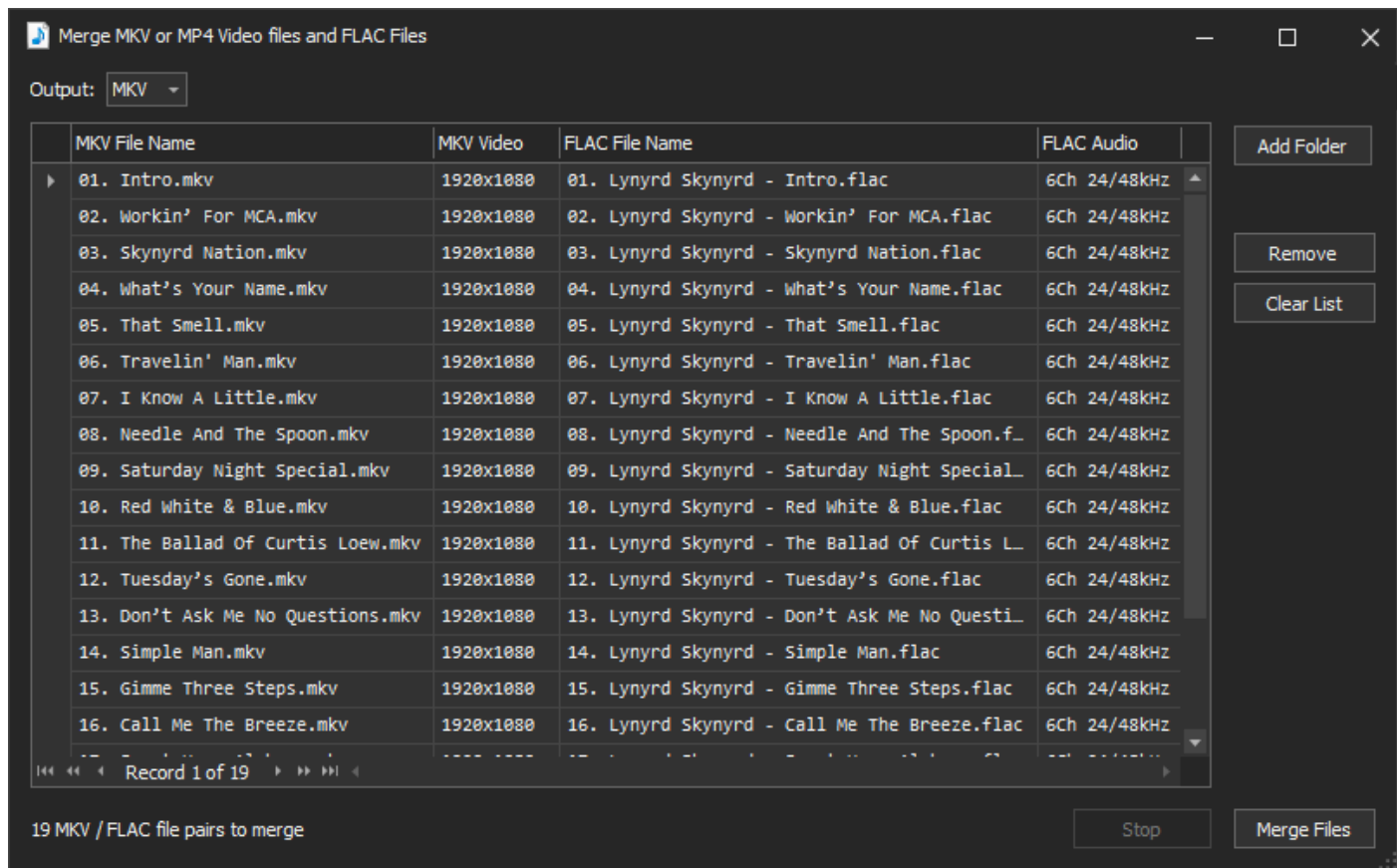
The dialog then displays the matching file names and shows the MKVs video resolution and the FLAC files audio information as shown above.

To merge the file pairs:
First select the 'Output' file type option at top left (either MKV or MP4) then:

Click: Merge Files

NOTE: Converting to MP4 is slower than converting to MKV.

MMH now merges each pair and makes the new FLAC audio stream the MKVs default audio stream (i.e. This is the audio stream that will be played back by default).

The original source MKV video and audio tracks remain unaltered. This tool just adds the FLAC stream and makes it the default stream. You can always playback the original audio stream(s) by selecting other streams during playback.

Remix Channel Layout:

Functionality:
This tool enables you to do the following remixing of channels within a multichannel interleaved FLAC or WAV file:
- Add new 'silent' channels to Quad (4 channel) files – Some AVRs & players do not play pure Quad files)
- Remix 7.1 to 5.1 (some releases are 7.1 only and users have only a 5.1 system)
- Remove a silent centre channel from 5 channel files (make a true quad 4.0 file)
- Remove channels 3 & 4 from a 6-channel file (Remove silent centre and LFE channels from 5.1 files)
- Invert Channel Phase for any channel(s) in a 6 channel (5.1 layout)
- Define your own Remix channel mapping and remix selected files:
  - Remap channel order
  - Downmix/remap between files with different number of channels or channel layouts (examples: map 7.1.4 to 5.1.4, 5.1 to stereo etc)

The Remix Channel Layout tool supports > 8 channels for WAV only, with most standard layouts supported from stereo to a maximum 24 channels (spatial mixes).

Remixing using this dialog uses the 'Output (Remixed) Option' you set at bottom of the dialog. You can set the pulldown list to either:

- **Overwrite**   This option overwrites your selected source files with updated files
- **Remix Folder (Under Source)**   This option auto creates a folder under the selected input files named 'Remixed', the remixed files will be created in that folder with same file names and tagging and the source files.
- **User Defined Folder**   This option requires a user to set selected an existing folder with the 'Output Folder' browse button. MMH will auto create a subfolder under the Output Folder with the same name as the source file's folder name, the remixed files will be created in that folder with same file names and tagging and the source files. (Typically, file folders are named with the album name).

IMPORTANT: If you do not want your selected source files to be overwritten you must choose anything but 'Overwrite'.

The **standard channel ordering** in a multichannel FLAC or WAV is always:
        Quad: LF, RF, SL, SR
        5.0:   LF, RF, C, SL, SR
        5.1:   LF, RF, C, LFE, SL, SR
        7.1:   LF, RF, C, LFE, BL, BR, SL, SR

If you are working with wav files intended for **Dolby Atmos channel based encoding** the Dolby Atmos Encoder uses these channel orders:
        16 channel (9.1.6): L, R, C, LFE, Ls, Rs, Lrs, Rrs, Lw, Rw, Lfh, Rfh, Ltm, Rtm, Lrh, Rrh
        12 channel (7.1.4): L, R, C, LFE, Ls, Rs, Lrs, Rrs, Lfh, Rfh, Lrh, Rrh
        10 channel (5.1.4): L, R, C, LFE, Ls, Rs, Lfh, Rfh, Lrh, Rrh)
        8 channel (5.1.2):): L, R, C, LFE, Ls, Rs, Lrh, Rrh)

NOTE: The Dolby Atmos bed 7.1 channel order swaps sides and rears compared to the 'standard' channel order above.

Remix Channel Layout dialog description:

Click 'Remix Channel Layout' from the *Launcher* dialog.
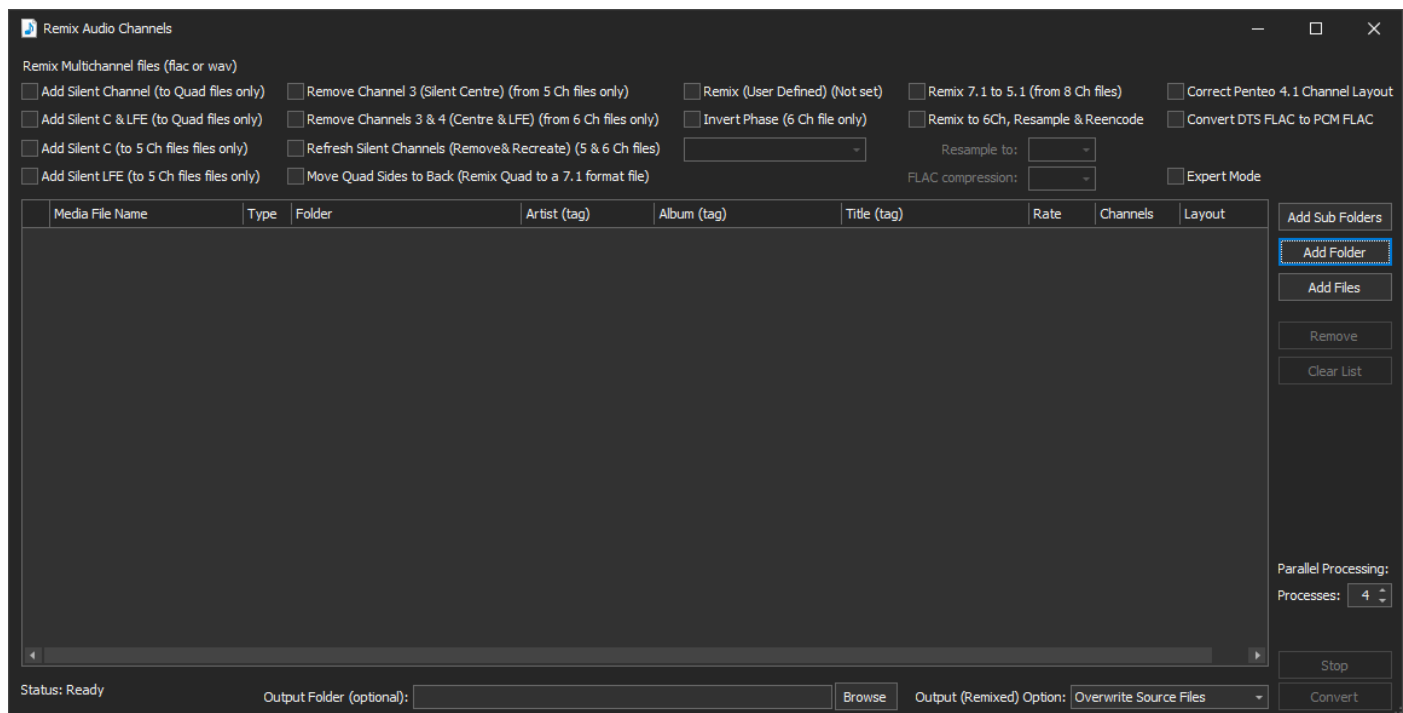
NOTE: You must select <u>one</u> of the predefined remix option checkboxes at top before selecting the source files. MMH will only load files that match the channels selected (e.g. 'Add Silent Channel to Quad' will only load the grid with 4 channel files, remix 7.1 to 5.1 will only load 8 channel files, etc). This is to stop a user from attempting to remix files of incorrect channels for the selected remix option.

To remix channels simply select one of the predefined remix options from the top checkboxes, then use one of the 'Add' buttons on right.

Adding Files to remix:
You can now either:
- 'Add Sub Folders' – This recursively adds all audio files in all sub-folders under selected folder
- 'Add Folder' - Adds all audio files in selected folder
- 'Add Files' - Adds selected file(s) as selected in the file dialog that pops up

MMH will add only files with the appropriate channel count as described earlier.

Concurrent File Processing:
MMH can process multiple files concurrently to enable faster batch processing. Users can set the Parallel Processing option to set the maximum number of concurrent files to process using the 'Processes' numeric input box.

Initially MMH looks at the number of processors on your PC and enters a recommended value. However, this is not the only system function in the decision. The other is the type and speed of your Output drive. Fast drives (SSDs) can easily handle 8 concurrent files but for slow USB hard drives (particularly USB 2.0) probably only support 2 concurrent files is recommended. Testing has shown USB 3.0 hard drives can do 4 ok. NVME SSD drives 16.

After setting 'Processes'

Select your predefined remix option:

'Remix, Resample and Reencode' (top right of main Remix dialog): You'll need to select the output sample rate and FLAC encoding compression level. If the source files are 4 channel or 5 channel this option automatically remixes to make a 5.1 compatible playback file with silent C and LFE (or Silent LFE) it was a 5.0 source file).

This tool was added for some QQ members who have car surround systems that can only play 5.1 formatted FLAC files at 48kHz and a FLAC Zero compression level.

'Correct Penteo 4.1 Layout': This option is used to fix Penteo upmixes that output a 5.1 file where the C channel contains the LFE and all subsequent channels are 'moved' to wrong channel order. This option inserts a silent C channel and moves all following channels to correct positions.

'Concert DTS FLAC to PCM FLAC': This option decodes DTS encoded streams embedded in a FLAC file to a true PCM/WAV FLAC file.

'Refresh Silent Channels': This option allows easy replacement to existing silent channels. Useful to correctly measure Dynamic Range (DR) for DSF and FLAC files originating from SACD sources where the 'silent channel(s)' have extremely low level noise that the Foobar2000 DR meter sees as a non-silent channel, causing DR calculation error.

'Move Quad Rears to Back': Added for a user that wanted to hear the Quad rear channels in his rear speakers in his 7.1 system (by default Quad rears are played in the side channels).

To process and remix the channels for all files in the grid:

Click: 'Convert'

To define your own Remix Channel Mapping:

In version 3.5.2 a new remix option was added to allow users to define their own temporary remix definition, for example swap front and rears in a quad file. This has been significantly updated in version 6.1 to support wavs > 8 channels.

Click on the checkbox [Remix (User Defined)]:

This immediately pops up the User Defined Remix channel mapping dialog:
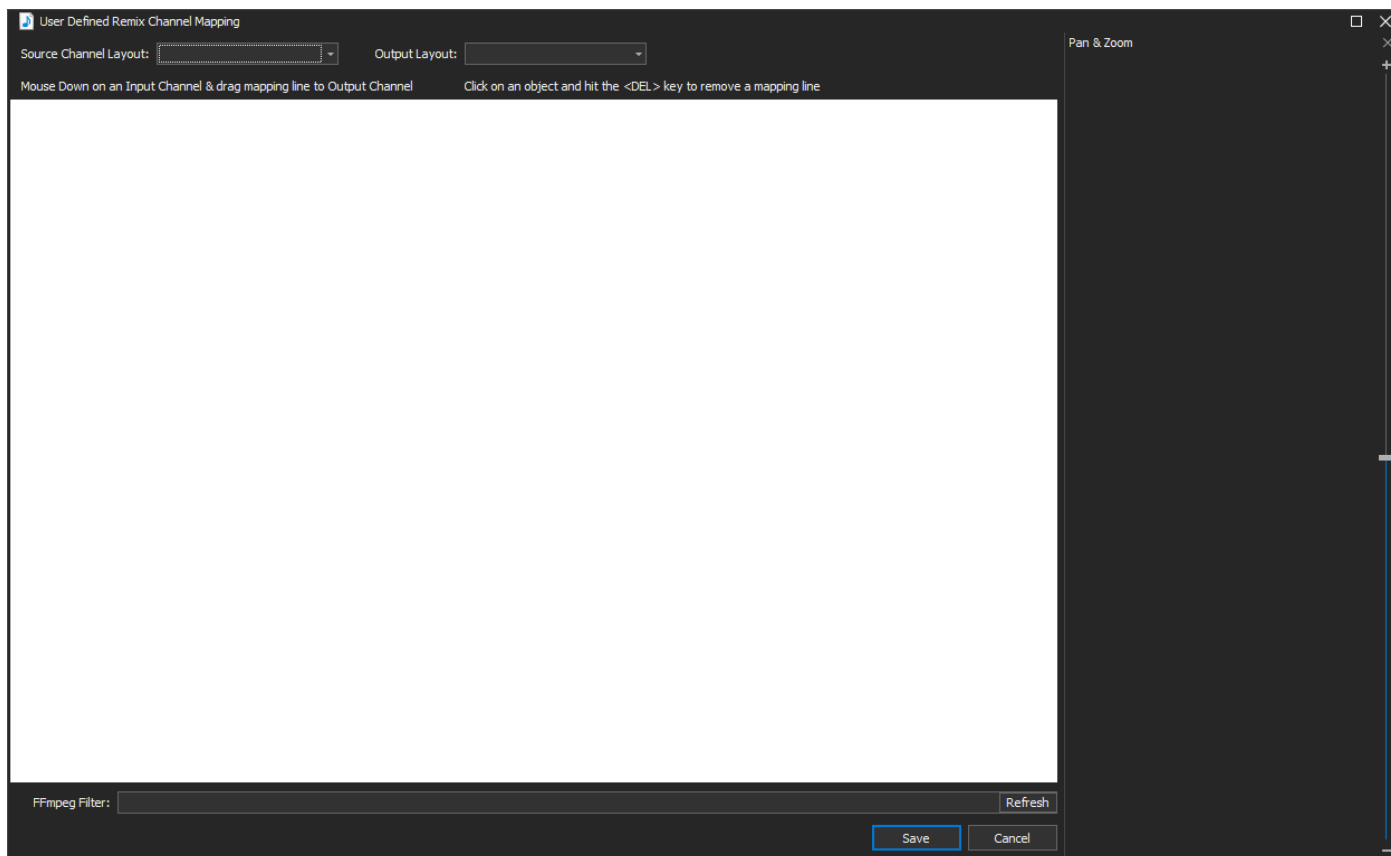
To define a mapping:

1. Select your Source Channel Layout from the first dropdown (the channels will be shown after selection)
2. Select your Output Layout from the Output Layout dropdown (the output channels will now be shown
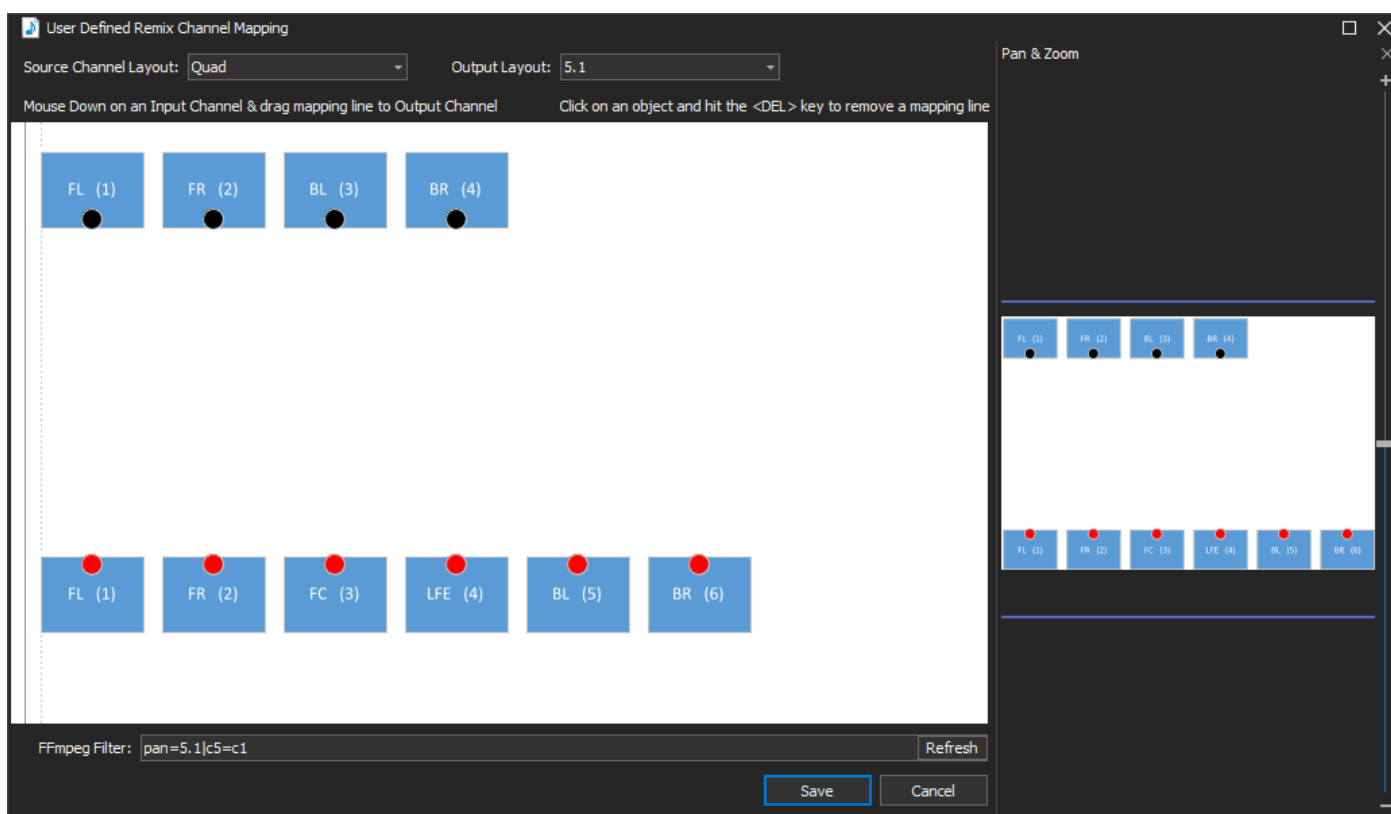
3. Add your new channel mappings by clicking an input channel and dragging the mouse to top the Output desired channel, release the mouse button.

Here is an example of Quad channels being remapped by swapping front and rears and adding 2 new silent channels for C and LFE to convert to 5.1 formatted files:
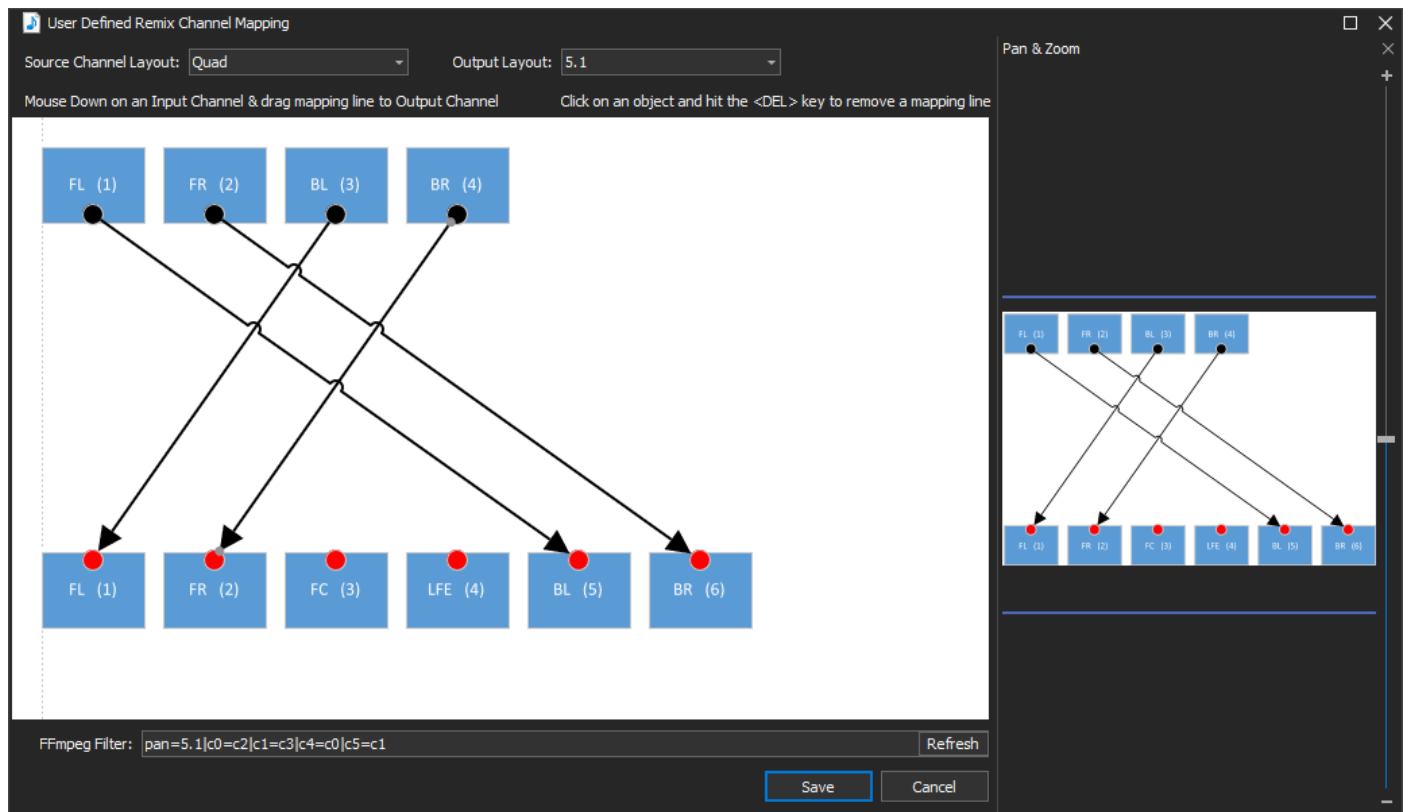
NOTE: MMH uses ffmpeg to remix the channels. As you build your mapping MMH displays the ffmpeg 'pan' audio filter command-line and shows it in a text box at bottom of the dialog. You can manually edit this text. The text definition always overides to diagram. So effectively the diagram is just a visual aid to create the pan filter commandline. MMH passes this audio pan filter to Ffmpeg to make batch remixes for selected files in the main MMH Channel Remix tool dialog. Ffmeg channel IDs are zero based (i.e. The first channel ID is c0)

Ffmpeg audio pan filter info here:
https://ffmpeg.org/ffmpeg-filters.html#pan-1

If an output channel is not mapped to an input channel it will created as a silent channel in the output file.

Users can delete a mapping line by clicking on the line and hitting the DEL key.

To save your definition click the [Save] button. This returns you to the original Remix dialog and now you can go ahead and select the Quad files or folders containing Quad files to remix (in this example).

The main dialog only accepts input files that match the Source Channel count as defined in the User Defined mix definition (example: Source above is Quad, MMH only allows input files with 4 channels).

Advanced Channel Mixing Definitions:

MMH (and ffmpeg) also support advanced channel mixing options:

Mixing multiple Source Channels into a single Output Channel:
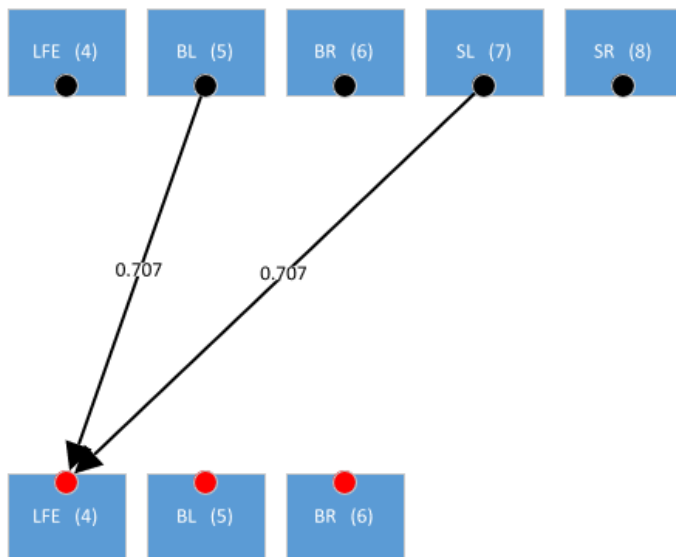
The above example mixes the side and rear left surround channels of a 7.1 file to LFE of a 5.1 file (the figure only shows the last few channels in the diagram). The ffmpeg pan filter will show the channel mix as:
$c3=0.707*c4+0.707*c5$

Applying Channel Gain to any channel map:

When multiple source channels are mapped to a single Output channel, a channel gain factor is auto applied and shown as a numeric value in the mapping line (0.707 in above = 1/ root 2) this ensures the output channel in the 5.1 mix has same volume as the two input channels played together in the 7.1 file.

Users can edit the gain of any channel map my clicking the gain text and entering a gain value, if there is already a gain value, or simply clicking on the centre of any mapping line and entering a value. Values > 1 increase gain, < 1 reduce gain.

If 3 source channels are mapped to a single channel the default gain is 0.577 (= 1 / root 3)

Channel Delay:

Functionality:

This tool enables you to do the following:
- Align/Delay channels within existing FLAC, WAV or DSF multichannel files (with 6 channels only)
- Work with single files or with multiples in batch mode

Channel Delay dialogue description:

Click 'Channel Delay' from the *Launcher* dialog.

This displays the Channel Delay dialog:
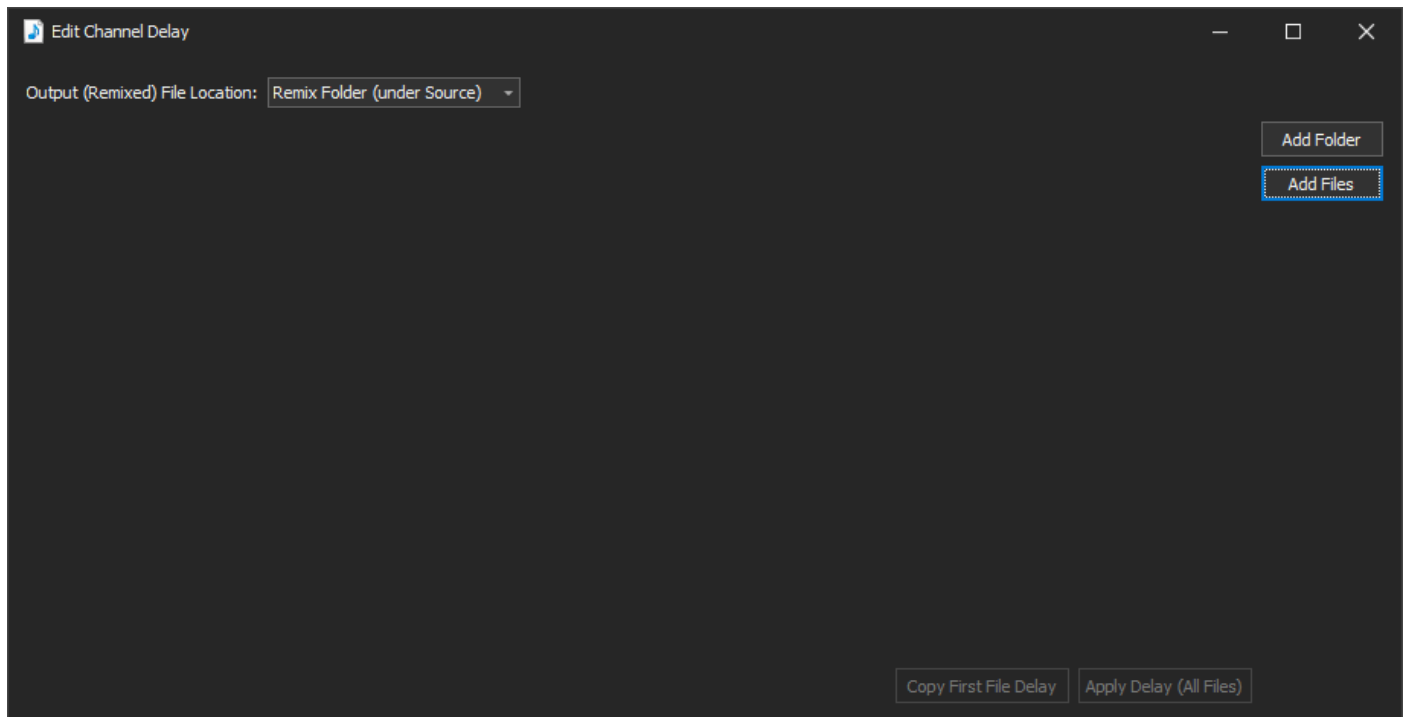
NOTE: When the Channel Delay tool is used for the first time the 'Output File Location' will be empty. You should set the pulldown list to 'Remix Folder (Under Source)' if you do not want the selected source files to be overwritten. This option auto created a folder under the selected input files named 'Remixed', the updated files will be created in that folder with same file names and tagging and the input files.

Adding Files to Apply Channel Delay/Alignment:

You can now either:
- 'Add Folder' - Adds all audio files in selected folder (FLAC, WAV and DSF)
- 'Add Files' - Adds selected file(s) as selected in the file dialog that pops up

Example when selecting 'Add Files' a file dialog opens as shown below:

Simply navigate to the folder(s) containing the files you wish to edit, then select

NOTE: You can select multiple files with Windows standard CTRL-A (All files), CTRL-Click (multiple) and SHIFT-Click (a range). Click 'Open' to complete.
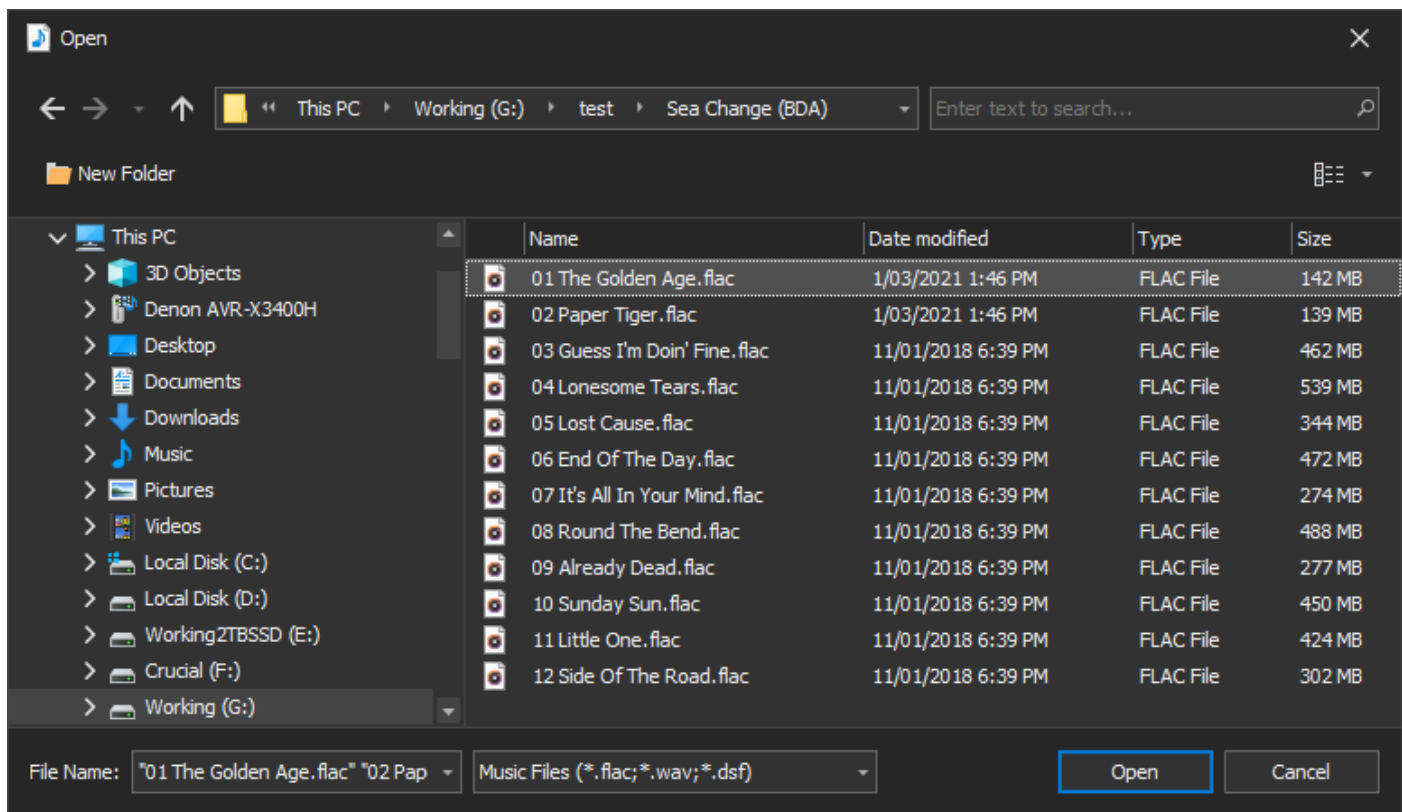
MMH loads each file into its Channel Delay view:
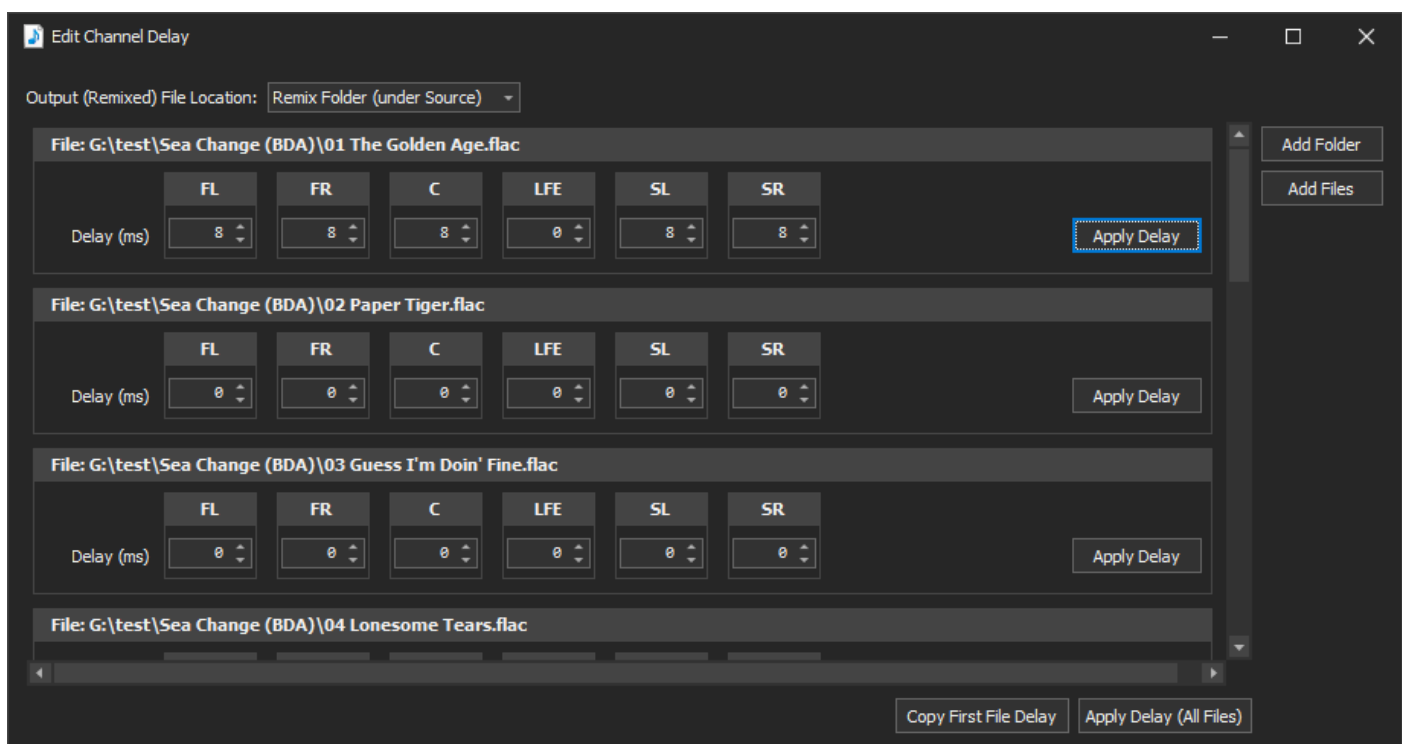
NOTE: This dialog expects all values to be milliseconds (ms)

IMPORTANT CONCEPT: Since this code cannot predict the future when reading an audio file you can ONLY define a channel DELAY. Therefore, if you want to fix a channel that is already delayed you must delay all other channels to match the said channel. Example: The Beck Sea Change BDA has the LFE channel delayed by 8ms, so to fix we entered 8ms as the delay for all other channels to fix the first FLAC file (above)

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Each file is shown within its own Channel Group. You can edit the Delay by just entering a number or my using the value increment button (on right of each Delay numeric entry)

You can change the Delay for any number of channels. Files with all channels set to 0 are ignored (no changes are made).

Copying Delay settings: You can copy the Delay values from each channel in the first file in the list to all other files be clicking: [Copy First File Delay] button. This feature makes it easier to apply the same Delay adjustments to all the files in an album (files in same folder).

Example after copying the previous figures Delay shown here:
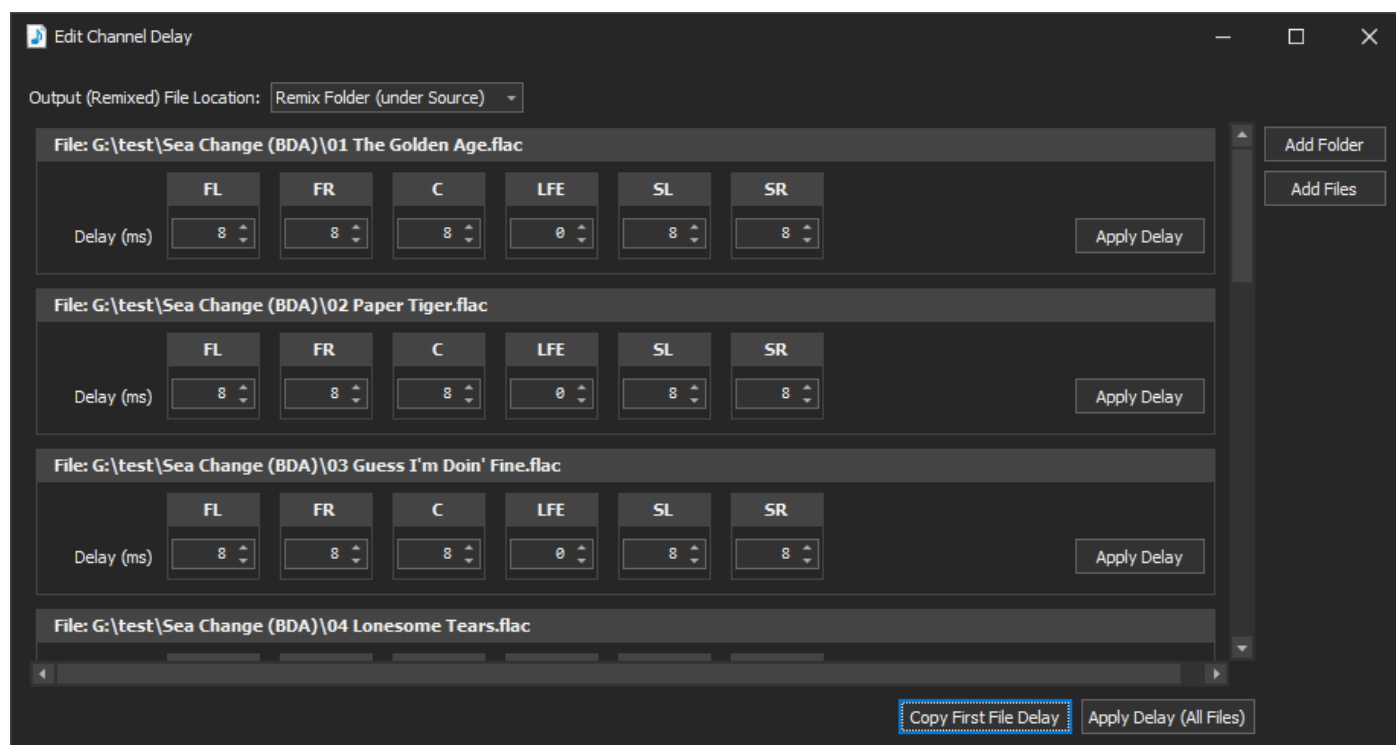
Applying Delay:

To Save the files with updated Channel Delay either:

For an individual file: Click [Apply Delay] on the right of the file's channel grid

For All the files in the list: Click [Apply Delay (All Files)] at the very bottom of this dialog

NOTE: Depending on your Output File Location input files are either overwritten (updated) or written to new files in a new folder created below the Source files named 'Remixed'.

Channel Split & Merge:

Functionality:

This tool enables you to do the following:
- Split existing FLAC or WAV files into mono channel wav files (batch process)
- Merge existing mono WAV files and create a new multichannel FLAC file

This tool has two tabs in its tool dialog. One for Split and one for Merge

Split defaults to exporting all the source file channels. You can select just a subset of channels

Split Files tab description:

Click 'Channel Split & Merge' from the *Launcher* dialog.

This displays the default view with the Split tab showing:
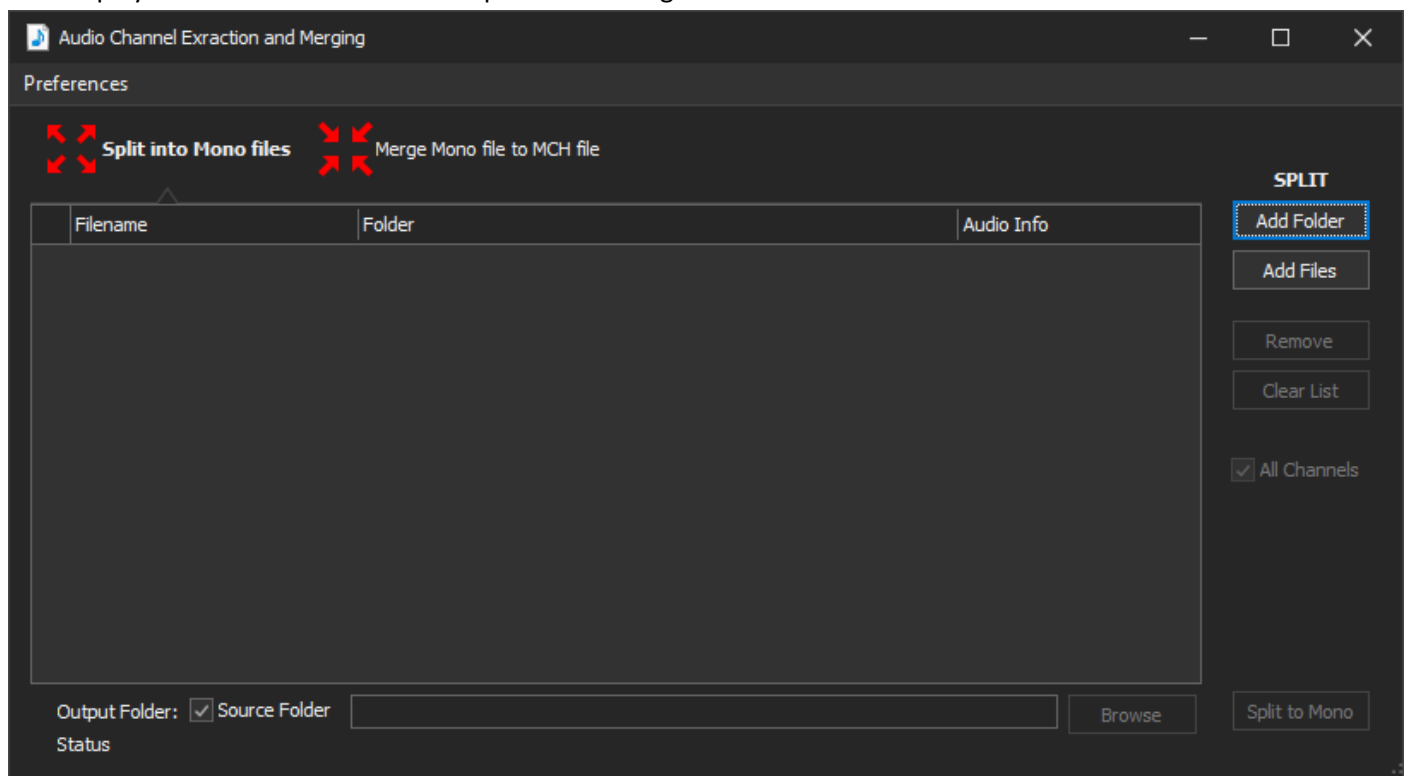
To help users to recognise the current mode, MMH shows the active tool name in Bold and the mode is shown above the Add Folder button (see above).

To load you source files into the Split tool:

Click: Add folder or Add Files.

NOTE: Add Folder loads all FLAC or WAVs in the Folder browser dialog. Add Files loads the selected files chosen from the Files browser dialog (you can select multiple files with Windows standard CTRL-A, CTRL-Click and SHIFT-Click)

In this example Add Folder has been selected:
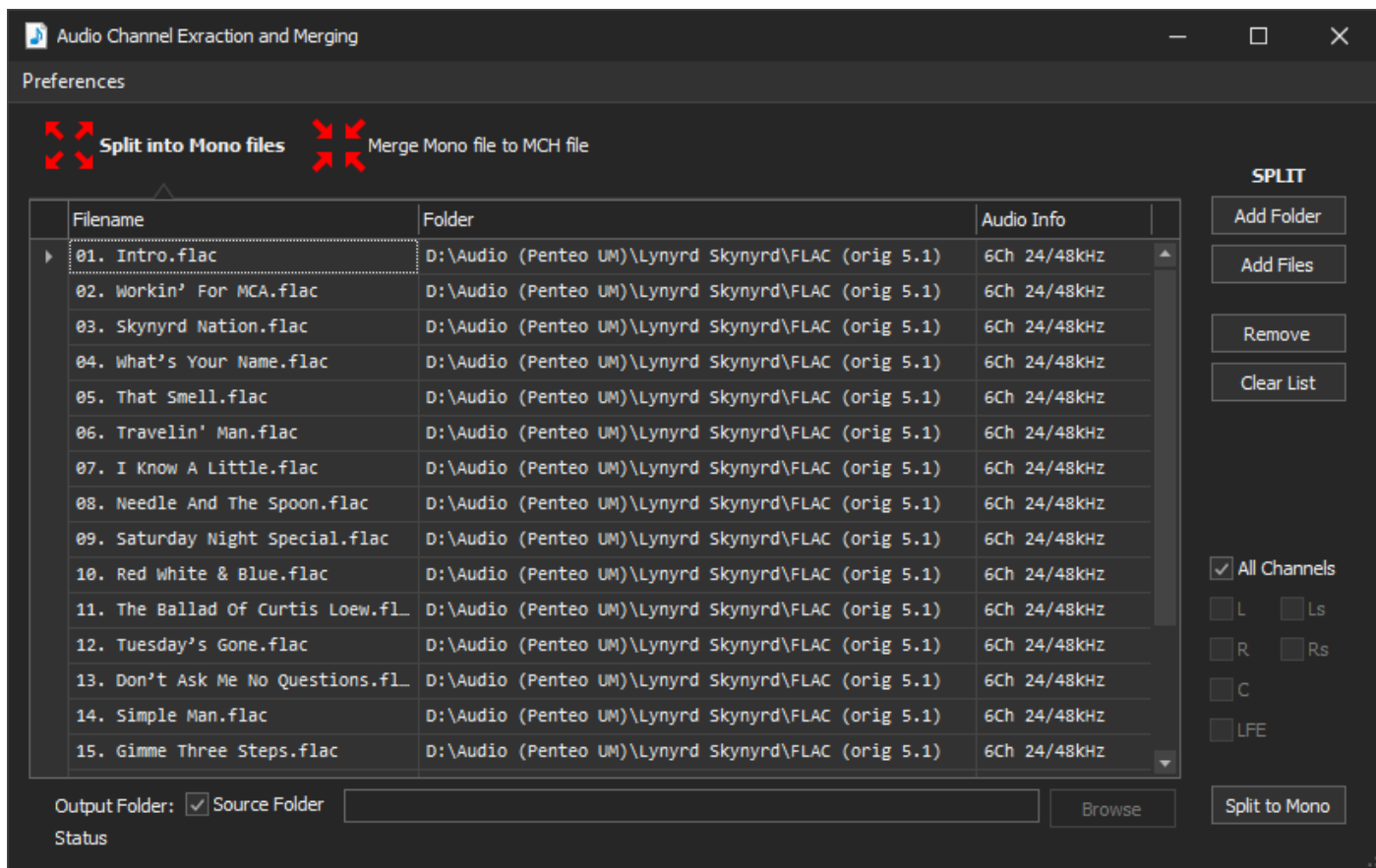
The file info is displayed.

Output Folder: By default, the Output folder is the same as the input folder. You can output the mono wavs to any folder by deselecting the 'Source Folder' checkbox at bottom, then clicking the Browse button to select an existing folder as the output folder.

Output Channels: By default, the Output Channels is 'All Channels'. If you want to restrict the output mono files to specific channels only, disable the 'All Channels' checkbox and then select the desired channel output channels:
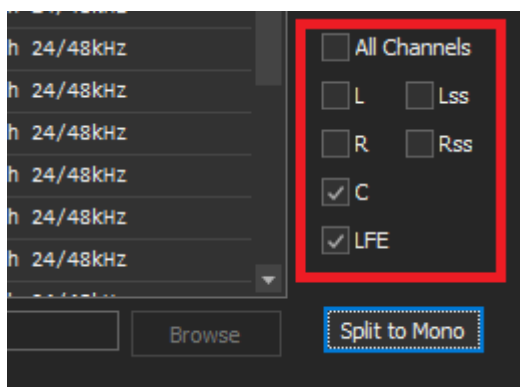
To export the mono files:

Click: Split to Mono

MMH processes each source file creating multiple mono wav files based on your Output Folder and Output Channels selections. Each mono file is created with the same name as each source file with a suffix added based on the channel name. Example: Source File name: XXXX.flac Center mono file: XXXX.C.wav

Merge Files tab description:

Click 'Channel Split & Merge' from the *Launcher* dialog.

This displays the default view with the Split tab showing, to view the Merge tab, click 'Merge Mono files to MCH file', the view changes to the Merge tab:
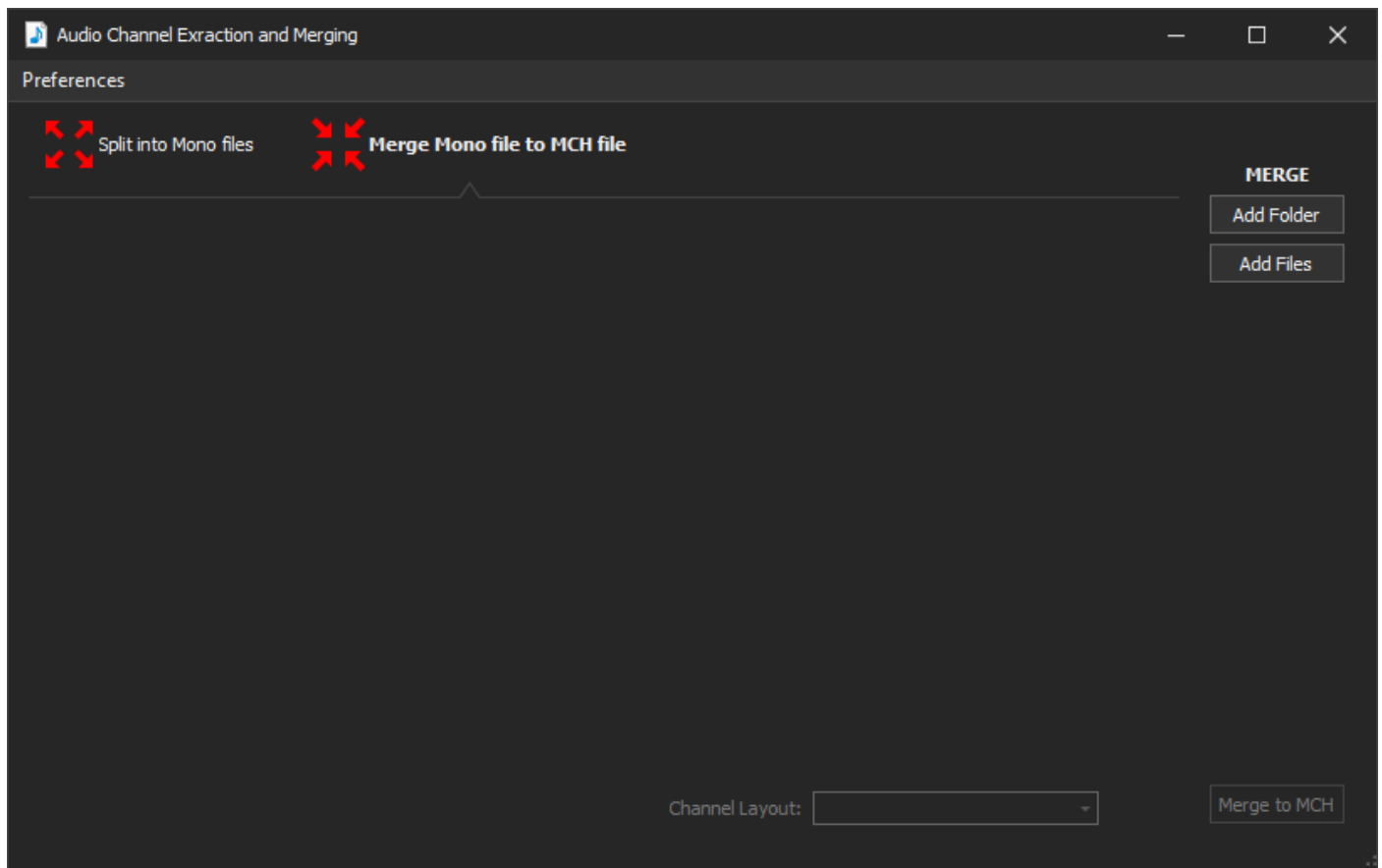
To load your source mono files into the Merge tool:

Click: Add folder or Add Files.

NOTE: Add Folder loads all FLAC or WAVs in the Folder browser dialog. Add Files loads the selected files chosen from the Files browser dialog (you can select multiple files with Windows standard CTRL-A, CTRL-Click and SHIFT-Click)

In this example Add Folder has been selected:

NOTE: MMH automatically works out which mono files should be grouped based on the file name prefix (without the channel name suffix) and works out the channel mapping based on the file name channel suffix
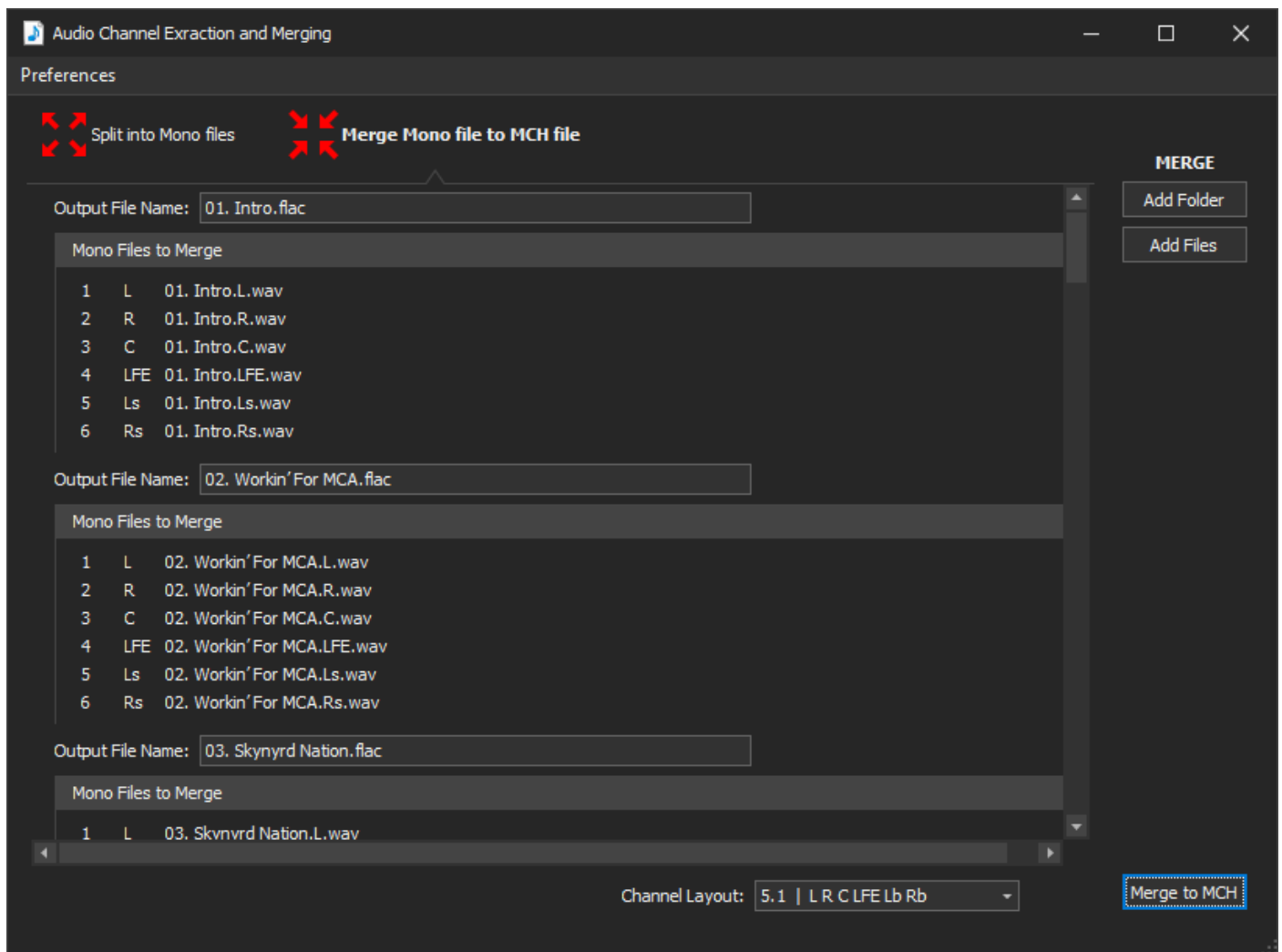
MMH will work out the channel layout based on the number of mono channel files. There are slightly different Quad and 5.1 channel layouts (the surround channels can be mapped to sides or rears). You can choose between these two options in the Channel Layout selection dropdown list at the bottom.

My testing, using Kodi and a Denon AVR shows there's no difference in how these two options affect playback, but it may be worthwhile seeing if your system plays these the same (only if you have a 7.1 setup I think).

To merge the mono files into new multichannel FLACs:

Click: Merge to MCH

The FLAC files are created in the same folder as the source mono wav files.

Resample Audio Files:

Functionality:
This tool enables you to do the following:
- Resample Audio (e.g. Resample 96kHz to 48kHz, Resample 48kHz to 96kHz etc)
- Resample Audio (e.g. 16 bit to 24bit) (or a combination or sample rate and bit depth)
- Supports FLAC and WAV files (mono, stereo and multichannel)
- Supports batch and recursive resampling of multiple files/folders

Resampling using this dialog uses the 'Output (Resampled) Option' you set at bottom. You can set the pulldown list to either:

- **Overwrite**   This option overwrites your selected source files with updated files
- **Remix Folder (Under Source)**   This option auto creates a folder under the selected input files named 'Remixed', the resampled files will be created in that folder with same file names and tagging and the source files.
- **User Defined Folder**   This option requires a user to set selected an existing folder with the 'Output Folder' browse button. MMH will auto create a subfolder under the Output Folder with the same name as the source file's folder name, the resampled files will be created in that folder with same file names and tagging and the source files. (Typically, file folders are named as the album name).

if you do not want the selected source files to be overwritten you must choose any Output option but 'Overwrite'.

Resample Files dialog description:
Click 'Resample' from the *Launcher* dialog.

This displays the Resample Files dialog:
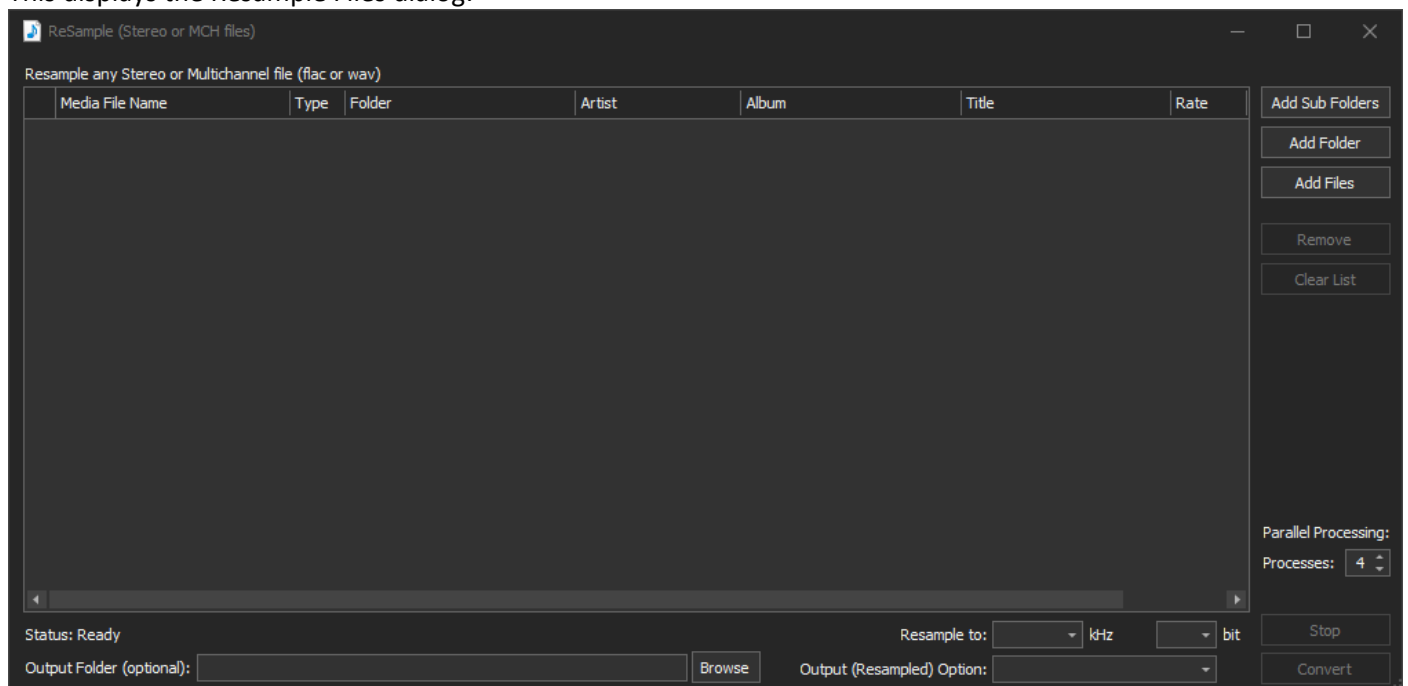
Adding Files to resample:
You can use the command buttons on the right:

Add Sub Folders   Recursively adds all supported audio files in all folders under the selected folder
Add Folder   Adds all supported audio files in the selected folder
Add Files   Adds selected file(s)

To Resample audio simply select the 'Resample to' rate from the dropdown list (at bottom) and bit depth if you want it changed. If bit depth is not set, then bit depth is not changed during resampling.

If down-sampling to 16-bit MMH uses dither (Triangular probability density function). This tool uses Sox.

Concurrent File Processing:
MMH can process multiple files concurrently to enable faster batch processing. Users can set the Parallel Processing option to set the maximum number of concurrent files to process using the 'Processes' numeric input box.

Initially MMH looks at the number of processors on your PC and enters a recommended value. However, this is not the only system function in the decision. The other is the type and speed of your Output drive. Fast drives (SSDs) can easily handle 8 concurrent files but for slow USB hard drives (particularly USB 2.0) probably only support 2 concurrent files is recommended. Testing has shown USB 3.0 hard drives can do 4 ok. NVME SSD drives 16.

After setting 'Processes'

To process and resample all files in the grid:

Click: 'Convert'

MMH will process all selected files in the grid based on the option chosen.

Channel Volume:

This tool is typically used to change the channel balance in multichannel files to permanently change the perceived surround effect. For example, many surround releases have reduced volume in rears or LFE channel is low/high etc. Balancing channel gain (volume) can drastically improve the perceived surround effect on many releases.

Channel Volume shows each channel's Peak and RMS levels and can display a media file's waveform in the MMH Waveform dialog. All files can be played in both the Channel Volume dialog and the Waveform dialog, either all channels or selected channels: single channels (mono) or groups of front or rear channels for multichannel files.

Functionality:

This tool enables you to do the following:
- View channel audio statistics related to volume (Peak and RMS levels) for most media files
- Change Channel Gain (Volume) for channels (in a FLAC or WAV files only)
- Supports mono, stereo & multichannel files (with up to 8 channels for FLAC & 12 channels for WAV)
- Playing all channels or selected channels only
- View Dynamic Range (DR) metered data (calculates DR from various audio and video files)
- Saves a DR file with optional Channel Audio Stats if an Album folder is loaded (use 'Add Folder')
- Update individual files or all files loaded in a batch for channel Gain values entered
- Auto calculate gain required to set C, LFE and surround channels relative to Fronts
- Apply Peak Limiting (implemented as a 'Soft Limiter' with compression of loudest peaks)
- Apply Normalisation
- Load and update single or multiple files, or all files in a selected folder (e.g. an album's music files)
- View multichannel wave forms, including playback of all or selected channels
- Supports DR and waveform viewing for: FLAC, WAV, M4A, DSF, MKA, MP4 and MKV files (only Default Audio stream from MKV files if more than 1 audio stream)

Channel Volume dialog description:

The Channel Volumes tool can be opened from the MMH Launcher dialog or from the Penteo Update tool dialog.

When the Channel Volumes tool is started from the Launcher this dialog pops up:
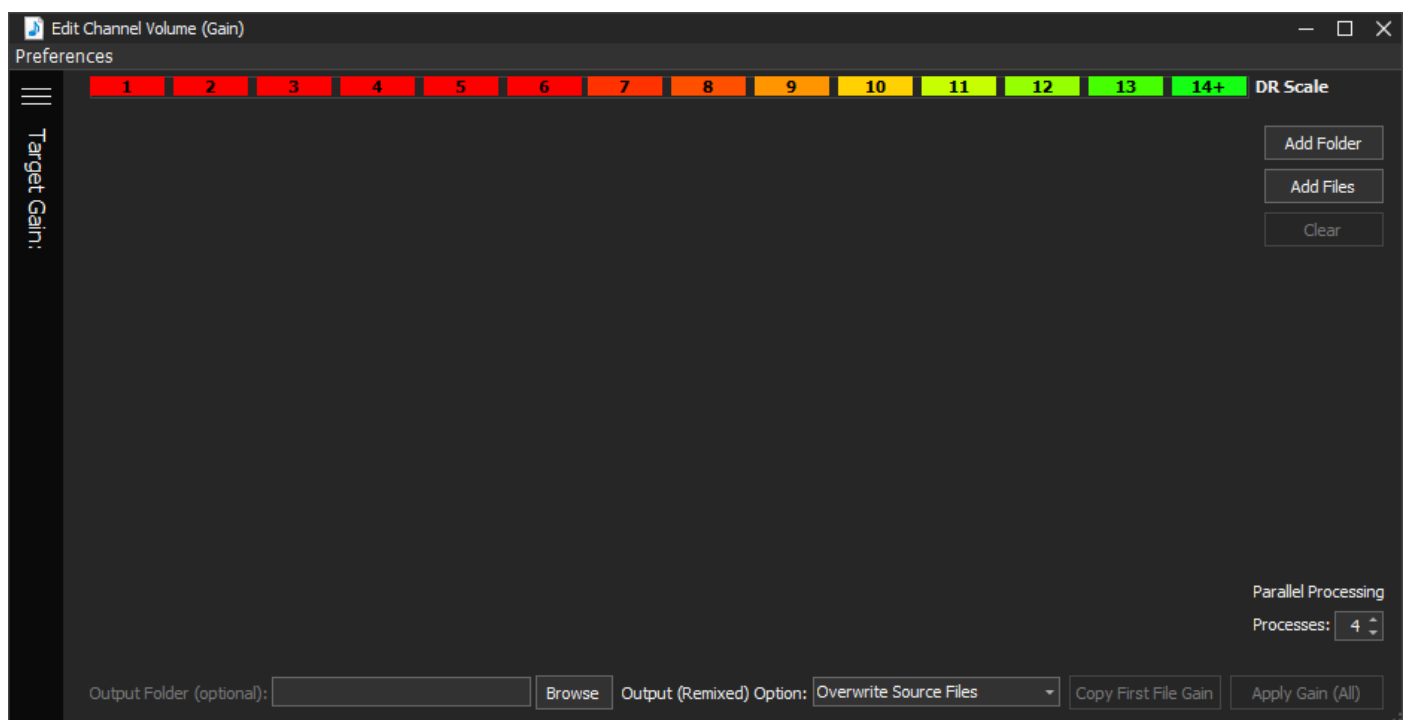
NOTE: When the Channel Volumes tool is used for the first time the 'Output File Location' will be empty. You should set the pulldown list to 'Remix Folder (Under Source)' if you do not want the selected source files to be overwritten. This option auto creates a folder under the selected input files named 'Remixed', the updated files will be created in that folder with same file names and tagging as the input files.

To select your working files: Either:

Click: [**Add Folder**] button to select all the supported media files in the selected folder (multiple folder selection is supported)

Or

Click: [**Add Files**] button to select individual files (HINT: you can use the CTRL key and SHIFT keys to select multiple)

A dialog will pop-up allowing selection of a folder(s) or file(s).

Once selected, all files in a folder or each file selected is loaded into the Channel Volumes dialog after audio data is read from each file (Peak, RMS and Dynamic Range – The DR is colour coded based on the loudness war databases recommended range: https://dr.loudness-war.info/). If all the files loaded are from the same Source album folder, MMH also displays the album folder's files average overall DR (shown at bottom right) – double click on this to view the DR report file created.

NOTE: MMH calculates the track DR by averaging the DR for each channel but ignoring channels with near silent Peaks. This eliminates incorrect DR calculations where channels are abnormally quiet (do not impact listening) or 'silent' channels with low level hum or 'silent' channels with 'spikes' (e.g. SACD/DSF converted to PCM)

Each file's channel volume statistics are displayed (grouped by file). The file name is shown in the file control header.

NOTE: If you load many files this dialog allows you to scroll up/down to view all the file's volume statistics by using the scroll on right of the statistics data). When loading multiple files, a progress bar will appear during processing.

To change a channel's volume, either enter a new value in the channel Gain text box or click the up/down button in the text box to increase/decrease the Gain value in 0.5db increments.

NOTE: Increasing volume is a positive Gain value, decreasing volume is a negative Gain value. All values are relative to a Peak value of 0db. (zero is the maximum level of for channels)

You can change the Gain for any number of channels. Files with all channels Gain set to 0db are ignored when changes are Applied (no changes made to the file).

Copying Gain settings: Users copy the Gain values from the first file in the list to all other files be clicking: [Copy First File Gain] button. This feature makes it easier to apply the same Gain adjustments to all the files in an album (files in same folder), example increase the two surround channel volumes by 3.0db and/or increase LFE by 3.0db etc.

Applying Gain (Saving volume changes to file):

Set the 'Output (Remixed) Option' at bottom of the dialog prior to Saving edited gain (volume to output files. You can set the pulldown list to either:

- **Overwrite**   This option overwrites your selected source files with updated files
- **Remix Folder (Under Source)**   This option auto creates a folder under the selected input files folder named 'Remixed', the resampled files will be created in that folder with same file names and tagging and the source files.
- **User Defined Folder**   This option requires a user to set selected an existing folder with the 'Output Folder' browse button. MMH will auto create a subfolder under the Output Folder with the same name as the source file's folder name, the resampled files will be created in that folder with same file names and tagging and the source files. (Typically, file folders are named as the album name).

if you do not want the selected source files to be overwritten you must choose anything but 'Overwrite'.

To Save the files with updated volumes (gain) either:

For an individual file: Click **[Apply Gain]** on the right of the file's statistics data.

For All the files in the list: Click **[Apply Gain (All Files)]** at the bottom of the dialog.

NOTE: If the 'Overwrite' output option is used, MMH will update the file's volume statistics after the new Gain has been applied. The stats are updated just after the file is saved.

NOTE: A *double-click* action on a file Channel Volume control's 'Gain (db)' label will reset all channel gains in that file control to zero. (Just the gain value in the control, not in the file).

Concurrent File Processing:
MMH can process multiple files concurrently to enable faster batch processing. Users can set the Parallel Processing option to set the maximum number of concurrent files to process using the 'Processes' numeric input box.

Initially MMH looks at the number of processors on your PC and enters a recommended value. However, this is not the only system function in the decision. The other is the type and speed of your Output drive. Fast drives (SSDs) can easily handle 8 concurrent files but for slow USB hard drives (particularly USB 2.0) probably only support 2 concurrent files is recommended. Testing has shown USB 3.0 hard drives can do 4 ok. NVME SSD drives 16.

The Channel Player:

At the right of each file control there is a Channel Player control. This allows playback and viewing waveforms:

The four buttons, from left to right:

- **Play**   Plays all channels
- **Play by Group** This is a dropdown list of channel groups: All, Front (stereo), Fronts (all), Rears only
- **Stop**   Stops playback
- **Waveforms**   Opens the MMH Waveforms viewer dialog

Any time after a file is added to this dialog users can play a file by clicking the 'Play' button. This plays from the start of the file.

Users can play a 'channel group' (e.g. Fronts only or Rears only) by selecting an option from the 'Play by Group' button.
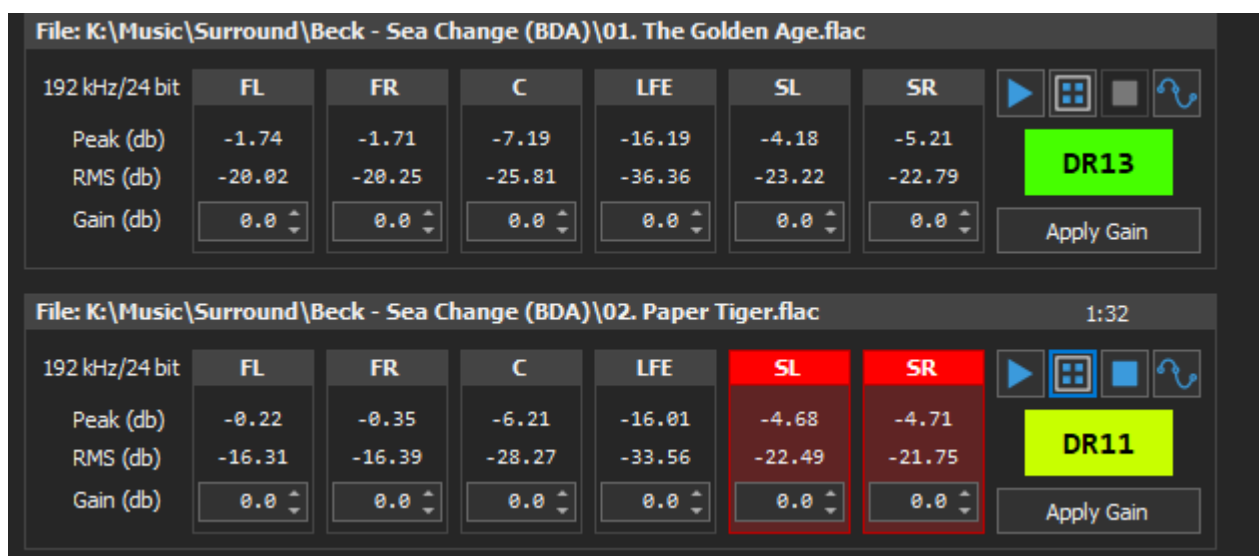
NOTE: Users can play a single (isolated) channel by *double-clicking* on a channel name (e.g. FR)

If the player is not playing, any single channel or channel group play action will play from the current play time. If the player is stopped, single and group playback is from the start of the file.

If a user has not yet created a new mix file, any 'Play' will playback the source file. If a user has created a new mixed file (not Overwriting the source), MMH will pop up a dialog asking if it should play the new mixed file or the original source file. This gives users the option to easily play and compare the original vs the new mix with volumes gains applied.

A *double-click* on the DR value will display the file's DR details.

The channel volume control playing will highlight the channels currently playing back. The next figure shows a file after playing the 'Rears only' group:

Automatic Target Gain Calculation:

Users may wish to set a Target Gain for Front, Centre, LFE and/or Rear channels. To do this, after input files are loaded, select the Target Gain menu at top left (3 horizontal lines icon) and simply enter target Gain values in the Target Gain numeric boxes in the Target Gain side panel, then click: 'Calculate Target Gain'.

NOTE: MMH calculates the gain required to change RMS volumes of each channel *relative to the front channel volumes*.

In the example below LFE is set to -10db so MMH calculates the gain required to change LFE to -10db below the current Front channel volume. For Rears MMH calculates the gain required to make the surrounds -3db below Front channels.

The next screen shot shows Target Gain entered for LFE and Rears after 'Calculate Target Gain' showing MMH has entered Gain values for each Target channel to achieve the Target Gain settings:
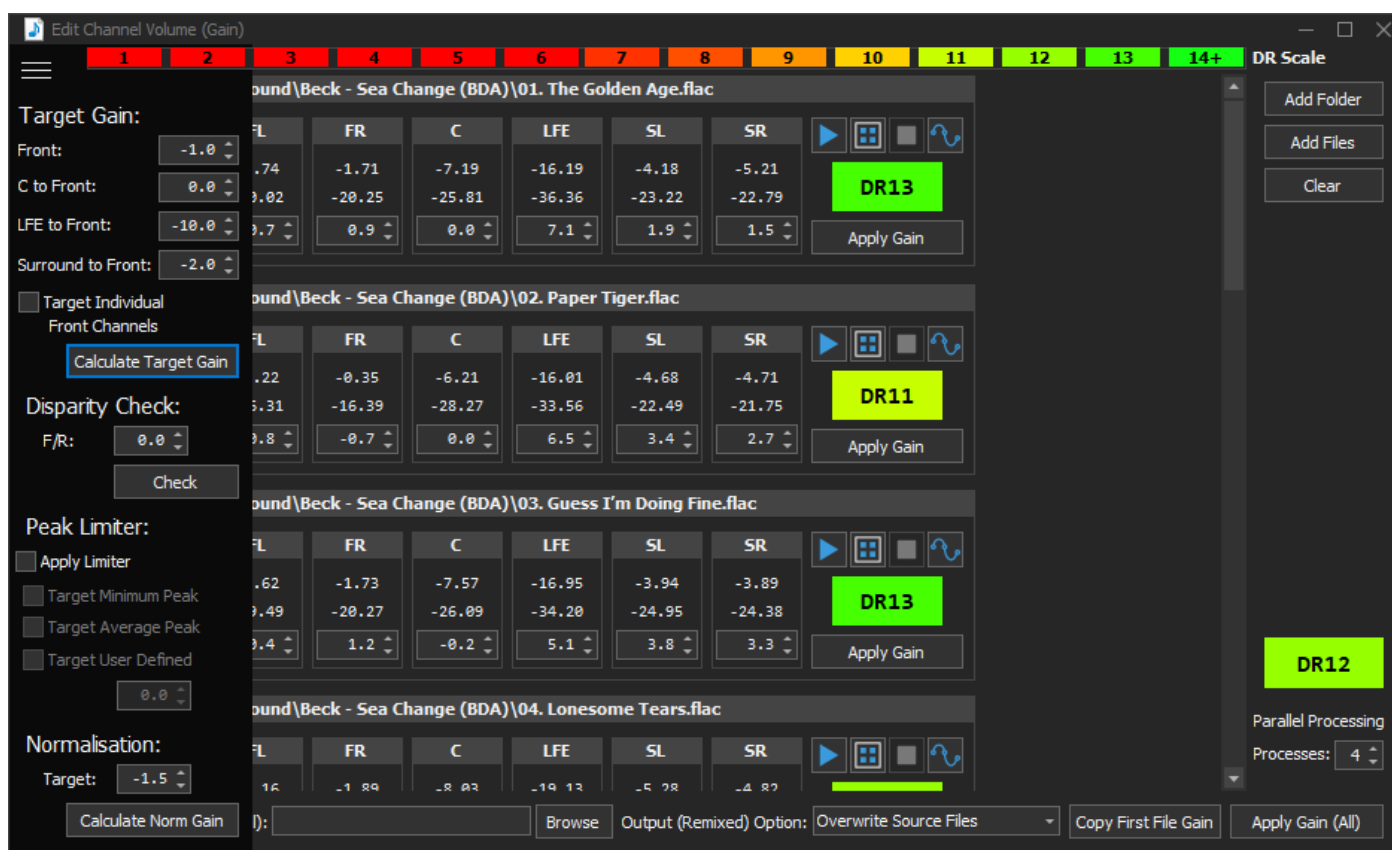
If the Target Front gain is set to 0db front gain is not changed (except MMH balances to L & R to be same RMS volume). If Target Front gain is set to any value other than 0db MMH first calculates Front gain required to set Front L & R to that absolute Peak value, then calculates the other channels relative to the new Front volumes using the RMS values. MMH attempts to match RMS values in these calculations but always ensures Peak values are not clipped (i.e. Peaks are < 0db).

For channel groups Front (FR and FL) and Rears (Sr, SR; and BL, BR if 7.1) MMH uses the RMS in the calculation and applies balance gain to all channels in the channel group. Users can increase/decrease gain manually on a channel-by-channel basis at any time.

Option: 'Target Individual Front Channels'

The checkbox 'Target Individual Front Channels' lets users choose to have Target volumes for Front channels to be same (volume is Left and Right matched) the default with option unchecked. With this option rear channels will be

the same (volume matched). With this option checked, the original L & R front volume difference is maintained, and rears are targeted: SL to FL and SR to Front Right, so volumes more closely match the original source volumes. If the fronts are not same, then rears are not same.

When checked (on) MMH leaves the original Front channel volume difference (if any) and then uses the front left RMS volume as the Target RMS for all rear left channels (1 for 5.1, 2 for 7.1) and front right RMS volume as the Target RMS for all rear right channels. It uses the average front RMS volume as RMS Target for C and LFE channels.

NOTE: To maintain volume difference between album tracks it is recommended that user do not set a Front Target Gain (leave at 0db) as setting a Front Target would change all track Fronts to same RMS value which is probably not what the original artist/mixing engineer intended.

NOTE: Target Gain Calculation does not change any gain in a file, it only sets the Gain value in the dialog. 'Apply' must be used to update/save volume in each file.

Channel Volume Disparity Checking:

Many surround music enthusiasts like to set rear channels at -3db compared to fronts across many albums to ensure the surround balance between albums is consistent. MMH has a Front/Rear Disparity Check where users can set value (db) and MMH will compare FR with SR and FL with SL RMS values and highlight any surround channels that are greater than the entered value.

To run the Front/Rear Volume Disparity Checker:

First select the Target Gain menu (3 horizontal lines icon) at top left and enter a value in the Disparity Check F/R numeric box on side panel of this dialog.

Click: 'Check'

If the RMS Volume difference between Front and Rear channels is greater than the value entered MMH highlights the rear channel as shown in next screen shot:

Users can then enter and Apply gain to correct this volume if desired.

Peak Limiter:

The Channel Volume tool also has a Peak Limiter implemented with a soft peak compressor. In all processing the LFE channel is ignored.

The default Peak Limiter uses the minimum channel peak value as its target loudness, so all channels (except LFE) will have their peaks soft compressed to match the minimum channel's peak value

The optional Average target uses the average peak values for all channels (except LFE) and reduces channels with peaks above the average to the average prior to the limiter being applied.

The third option is for the limiter to use a User Defined peak value as its target peak.

To use the Peak Limiter simply select the 'Peak Limiter' option and one of its 3 sub-options.

Normalisation:

MMH 6.1.2 added a new Normalisation option. Set a Target first and MMH will for each file find the loudest channel (Peak) and calculate the maximum gain it can apply for the loudest channel to hit the Normalisation Target, then it updates all channel gains with that gain value. This effectively would increase the volume of all channels in the file leaving the channel volume balance identical to the source file.

Viewing Multichannel Wave forms:

At any time after a file has been loaded into the MMH Channel Volume tool users can view the file's wave forms my simply clicking on 'View Waveform' for a file. This processes the detailed audio sample data and then displays in a new dialog:
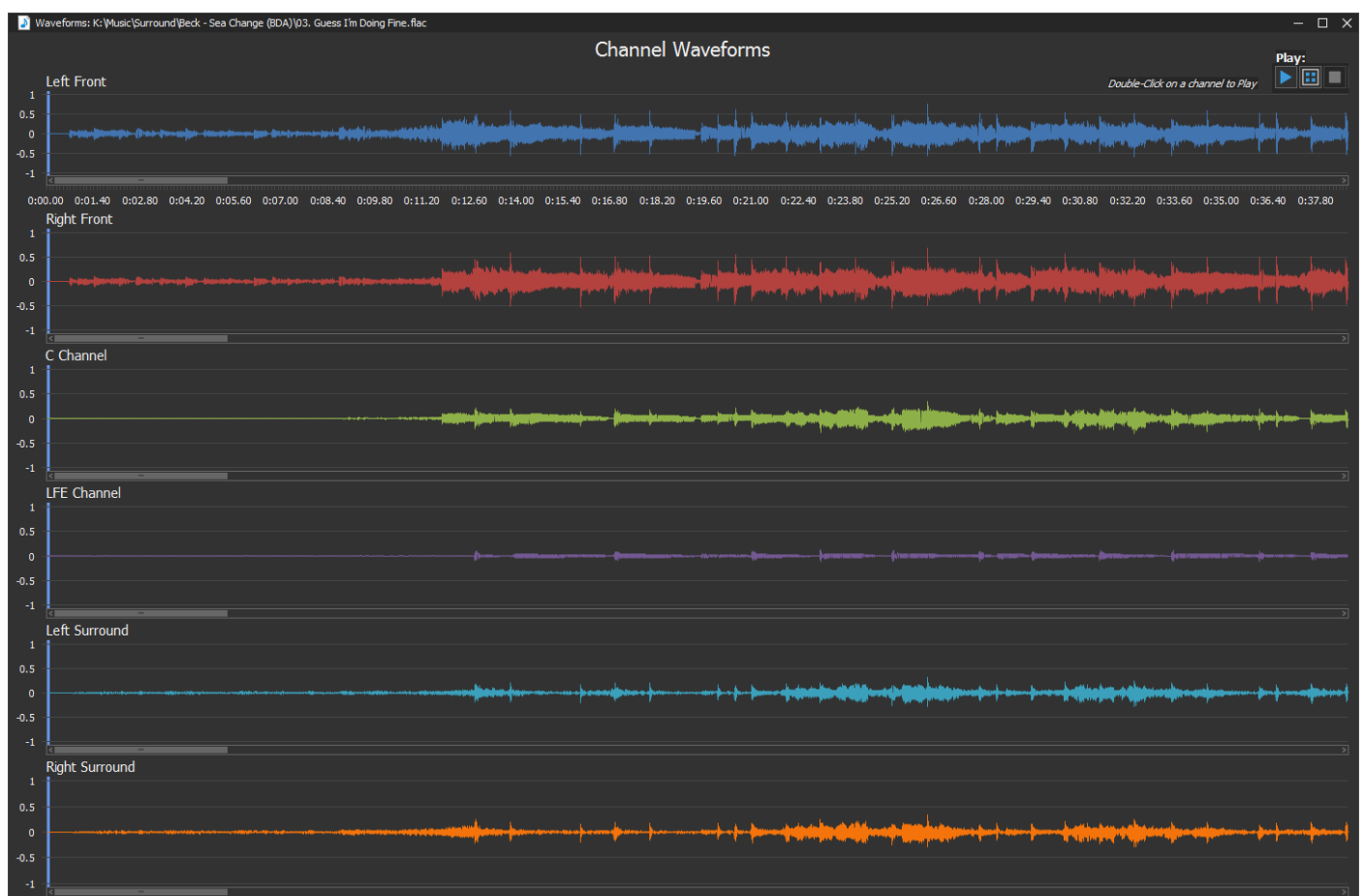
To zoom:

Click on a channel and use your mouse wheel

Or Hold 'CTRL' key and then press either '+' or '-' key

The Waveform Channel Player:

At the right of each file control there is a Channel Player control. This allows playback and viewing waveforms:

The three buttons, from left to right:

- **Play** Plays all channels
- **Play by Group** This is a dropdown list of channel groups: All, Front (stereo), Fronts (all), Rears only
- **Stop** Stops playback

Any time after a file is added to this dialog users can play a file by clicking the 'Play' button. This plays from the start of the file.

Users can play a 'channel group' (e.g. Fronts only or Rears only) by selecting an option from the 'Play by Group' button.

NOTE: Users can play a single (isolated) channel by *double-clicking* on a channel waveform (e.g. FR)

If the player is not playing, any single channel or channel group play action will play from the current play time. If the player is stopped, single and group playback is from the start of the file.

Users can *double click* during playback to move the play position to the selected time.

Channel Volume tool Preferences:

The Channel Volume dialog's toolbar menu 'Preferences' pops up the Preferences dialog:
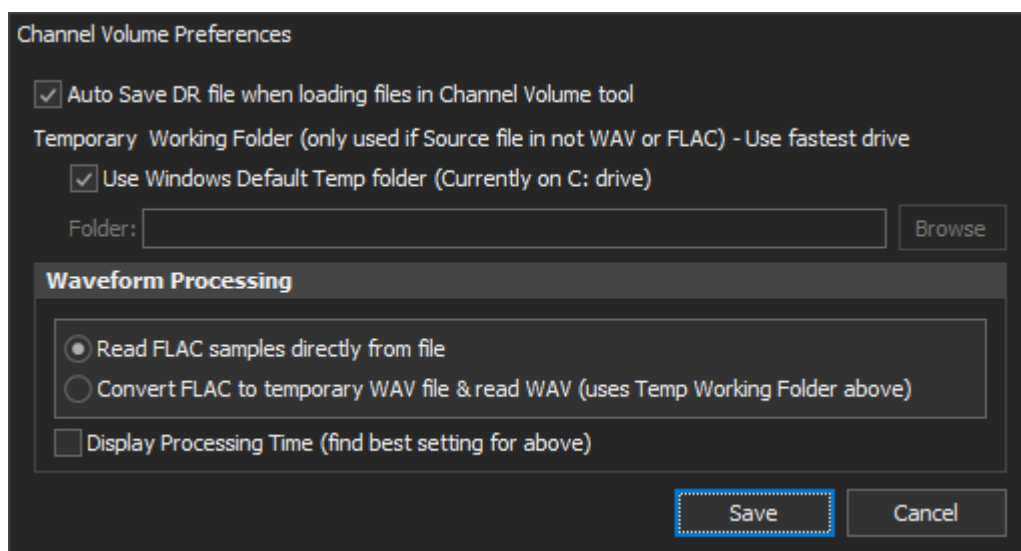
The preference options are:

Auto Save DR file when loading files in Channel Volume tool:
If enabled the Volume Channel tool will save a DR file for the file's folder containing DR data.

Temporary Working Folder:

Enables users to set the MMH temp folder (defaults to the Windows Default temp folder. Some users can improve performance by setting this to their fastest drives (e.g. SATA SSD drive, NVME SSD drive or even a USB 3.1+ SSD drive). If 'Use Windows Default' is disabled, MMH allows users to select any folder on their PC to use as the MMH temp folder.

Waveform Processing:

These options have been added for users to set based on their specific PC hardware configuration (96/24 FLAC files are best to test these options):

Read FLAC samples directly from file:
For most users this option gives best performance (fastest).

Convert FLAC to temporary WAV file & read WAV (uses MMH Temp Working Folder above):
For some users with fast SSD drives set as the MMH Temp folder, this may provide better performance.

Display Processing Time (find best setting for above):
With this option enabled, MMH will time each waveform creation and report the time elapsed. This allows users to easily test the Waveform Processing options with MMH Temp folder options combinations for same source FLAC file, to find best settings. In normal operation this option should be disabled.

Join or Split Audio:

Functionality:
This tool enables you to do the following:
- Merge separate FLAC & WAV files into a single file
- Create a CUE file from the original of individual files (storing tags and durations)
- Create a CUE file from a single large FLAC file and detect track start times by Silence between tracks.
- Edit the original durations.
- Split a FLAC from the CUE file
- Or just Use the large new FLAC with all tracks and the new CUE to enjoy playback from the CUE

This tool can be used to change the original track start times and is useful to correct some discs that have been converted to FLAC with incorrect track start times (e.g. from a BDA or DVD with incorrect chapters times)

Merge or Split Audio dialog description:
Click 'Merge or Split Audio' from the *Launcher* dialog.

This displays the Merge or Split Audio dialog:
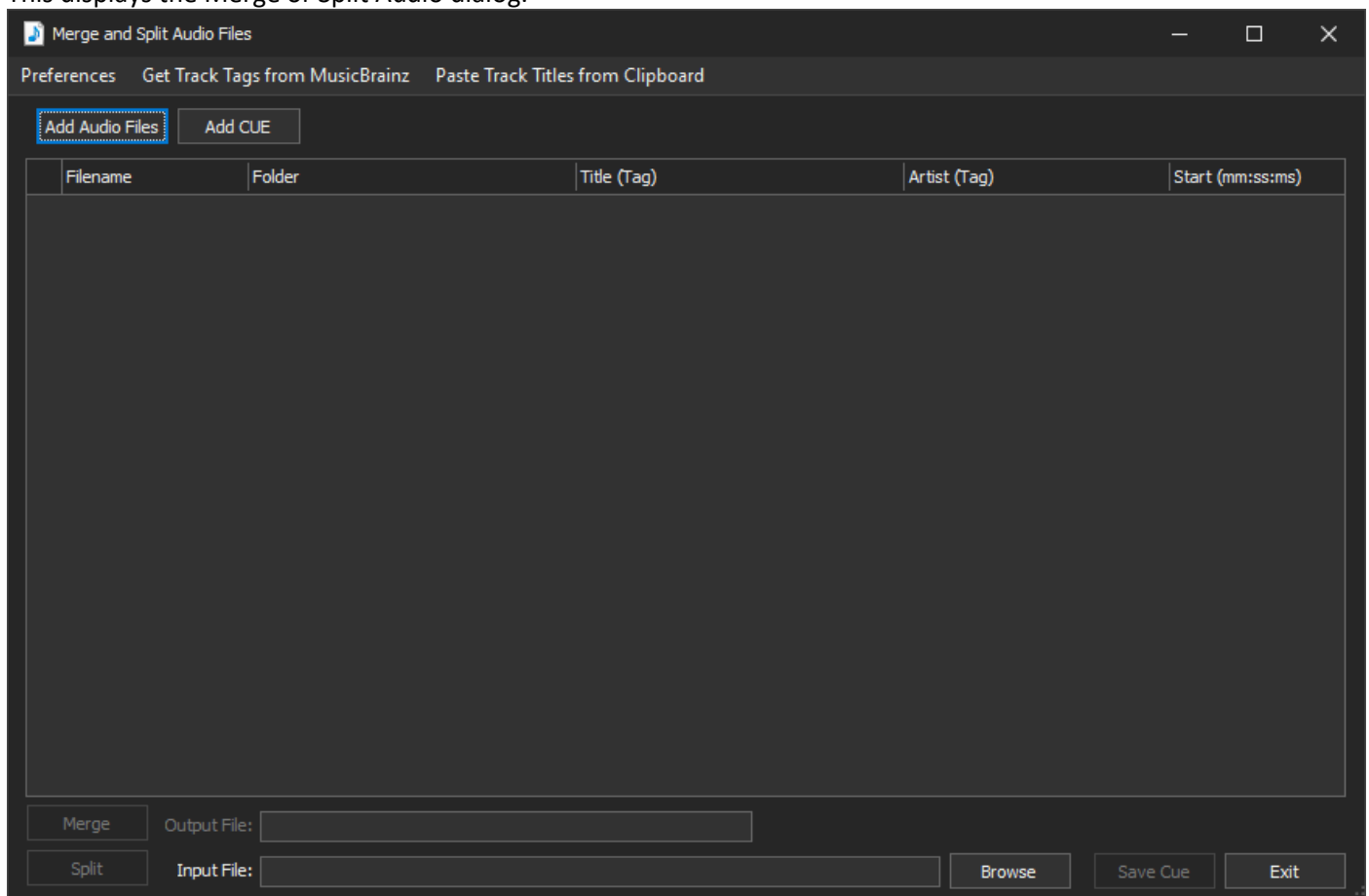
Adding FLAC Files to Merge:

Click: Add FLAC Files

A file open dialog opens, navigate, and select FLAC files to merge. You can use the standard windows multiselect options such as hold the 'CTRL' key while selecting to add each selected file or hold 'SHIFT' to select a range of files.

MMH will add the selected files as shown next:
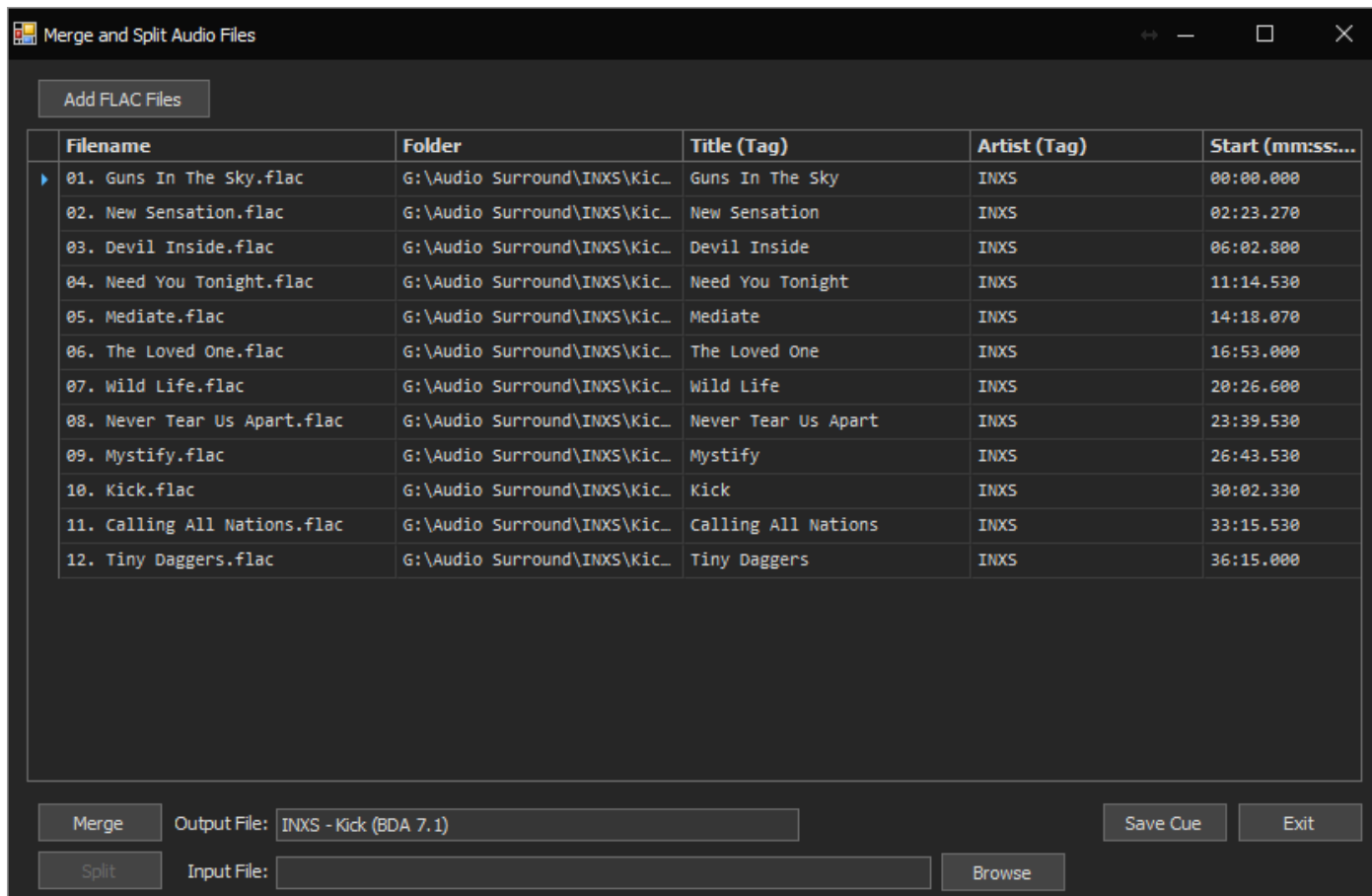
You may edit the Start time values to adjust the start of any of the tracks in the CUE file.

HINT: When entering Start times in the grid cell you can use the space bar to move to next time field (e.g. When entering minutes hit space to move to seconds etc)

NOTE: Most of the existing FLAC file track tags are stored during the addition of files to this dialog and will be reused when the merged FLAC file is later Split back into individual FLACs.

To Merge all the files in the list:

Firstly, ensure the Output File name has a valid value. MMH will attempt automatically add a name based on the tags it finds in the files added.

Click: Merge

MMH will process all files into a single large FLAC and the save a new CUE file with same name as the FLAC file with tracks (and Start times) in the grid at time of the merge.

NOTE: You can, of course, open the new CUE, once Saved (and the merged FLAC) in audio programs such as Foobar2000 and test the tracks. You can also manually edit the CUE MMH created to adjust start times or basic tag info. (Foobar2000 can also split back to individual FLAC files from the CUE and you can also edit a CUE with a text editor such as NotePad)

To Split a Merged FLAC file:
Once the merge is completed the Split command button is enabled and once clicked will go ahead and cut the FLAC into tracks based on the values in the grid a 'Split'. The new FLAC files are re-tagged with their original tags including adding album art (if either a 'folder.jpg' or 'cover.jpg' file exists in the working folder).

To Split a large FLAC file from a CUE:

Load the CUE file using the Add CUE command button at top of the dialog. MMH will load the CUE tracks into the grid enabling users to modify the CUE track start times. Use the Split button at bottom to split the CUE into individual files at the Start times listed in the grid.

Create a CUE from an existing large FLAC or WAV file:

MMH can attempt to create a CUE file from a large single FLAC or WAV file, typically from an LP conversion where all the tracks are in a single file.

MMH uses ffmpeg's Silence Detection filter which is reasonably accurate but can (of course) detect a quiet or short silent piece within a song as a start/end silence. So, users should check these Silence results with a listening test at the start times returned.

There are two user preferences to help the silence detection filter for various input files. In the toolbar Preferences menu, there is:

- **Silence Duration (s)**: This is a minimum time in seconds Silence is considered a track break time (default is 1.2 seconds)
- **Silence Noise Level (- db):** This is the maximum noise level considered to be silence (default is -42db).
- **Silence Interval (s):** This is the time between possible track silence segments (default is 6 seconds).

For the default settings MMH will create a Track Start time for every 1.2 second duration of less than -42db sound level, but not within 6 seconds of the previous Silence found (of 1.2 seconds at less than -42db)

To load a single file into the dialog and get MMH to find the track start times with Silence, use the 'Browse' button at bottom foe the Input File. After selecting the file, MMH immediately scans the entire file for Silence and loads the Start times into the grid:
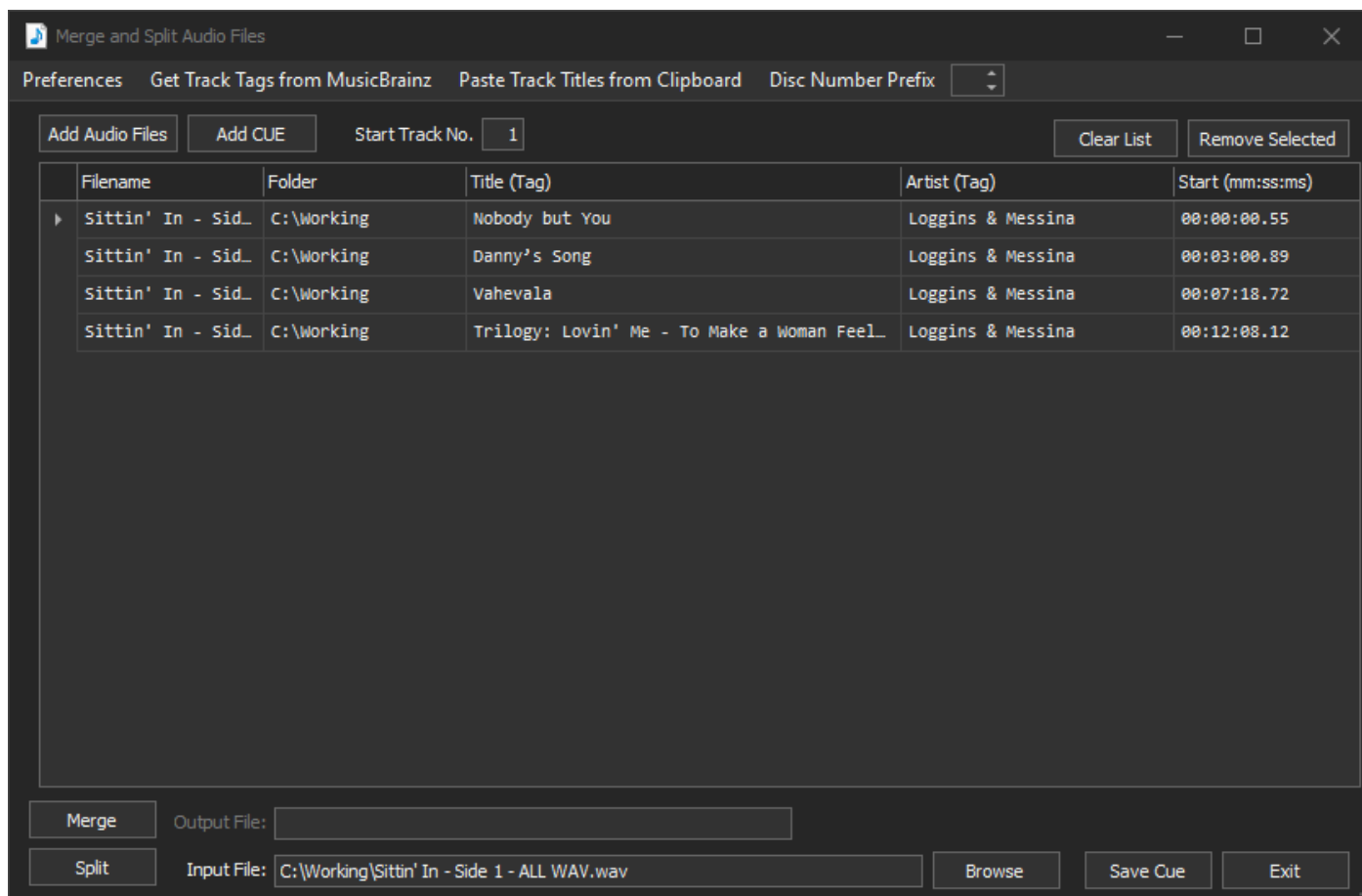
MMH always discards the last silence that may occur after the last track.

A recommended workflow would be to use 'Save CUE' to create a CUE file from the silence, then play the CUE in an application like Foobar2000to test the start times. In this example there are two that are incorrect (the album has 12 tracks). Click on an incorrect row and click; 'Remove Selected' button at top to remove the current row.

MMH creates a Start Time at the time midway between the Silence found start and end times.

You can edit the Start Times in the grid at any time and then 'Save CUE' to test an updated CUE.

Ideally you want your CUE to have correct track names. Use the 'Get Track Tags from Musicbrainz' to find the release and track names online. Or use the 'Paste Track Titles from Clipboard' to copy all the tracks from a Discogs release page into the grid. See other sections in this documentation that provides examples of copy and pasting Discogs track lists into MMH and using MMH's Track List editor.

MMH uses the grid contents to name the CUE entries.

Here is the Preference dialog with Silence settings:
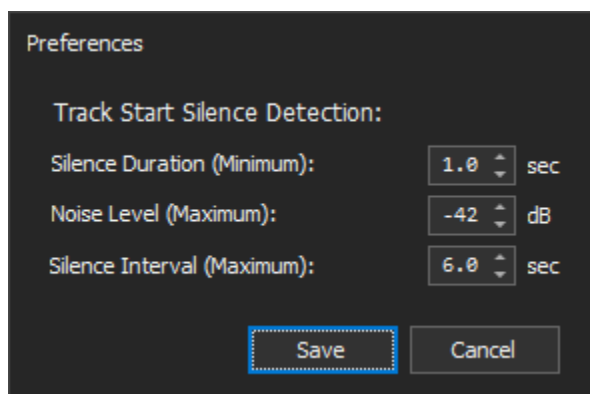
MMH provides two text boxes to help users rename and tag tracks of a single album ripped to two long FLAC or WAV files:

Disc Number in Toolbar on top right:
If Disc Number is not empty, then MMH will prefix Split file names with the disc number: (example: 1.01. First File name.wav)

Start Track No. above grid near centre top:
Split File names and Track No. tags will start generation at this number. Default is 1. For Side two you would use the appropriate number based on LP layout (if side 1 has 4 tracks, for side 2 users should set the Start Track No. to 5)

Batch Audio Tools:

Functionality:
This tool enables you to do the following (**for FLAC, WAV and DSF files only**) by scanning all FLAC files from a selected Source (parent) folder recursively all sub-folder:

- **Analyze ReplayGain**:
  - Report current ReplayGain tags embedded in flac files.
  - Process each folder as an 'Album' and calculate Track Gain and Album Gain (BS 1770)
  - Save Track Gain and Album Gain tags (from previous step) to selected files.
- **Analyze Album Cover Art**:
  - Report whether files contain embedded cover art and/or if cover art image files exist.
  - Save cover art to selected flac files (add new or updates existing embedded art)
- **Check Disc Art and Dynamic Range**:
  - Report whether folders contain discart.png image files
  - Display DR values if a DR files has been saved by Foobar2000 in album folders
- **Check Files for MusicBrainz tags:**
  - Displays Musicbrainz tags for: AlbumArtistID, AlbumID and ReleaseGRoupID
- **Check for Silent Channels:**
  - Displays the Number of Channels and any Silent Channels found in multichannel files (this is quite a slow process as MMH must read all files audio data.

The Analyze ReplayGain is useful if you use Replay Gain as it can very easily find any files where Replay Gain has not been applied.

The Analyze Album Cover Art is useful if to easily find files without embedded art and can automate the re-tagging (embedding) of covers for all files in an album folder if it finds an image file named: folder.jpg or cover.jpg.

Batch Audio Tools Audio dialog description:
Click 'Batch Audio Tools (flac)' from the *Launcher* dialog.

This displays the Batch Audio Tools dialog:
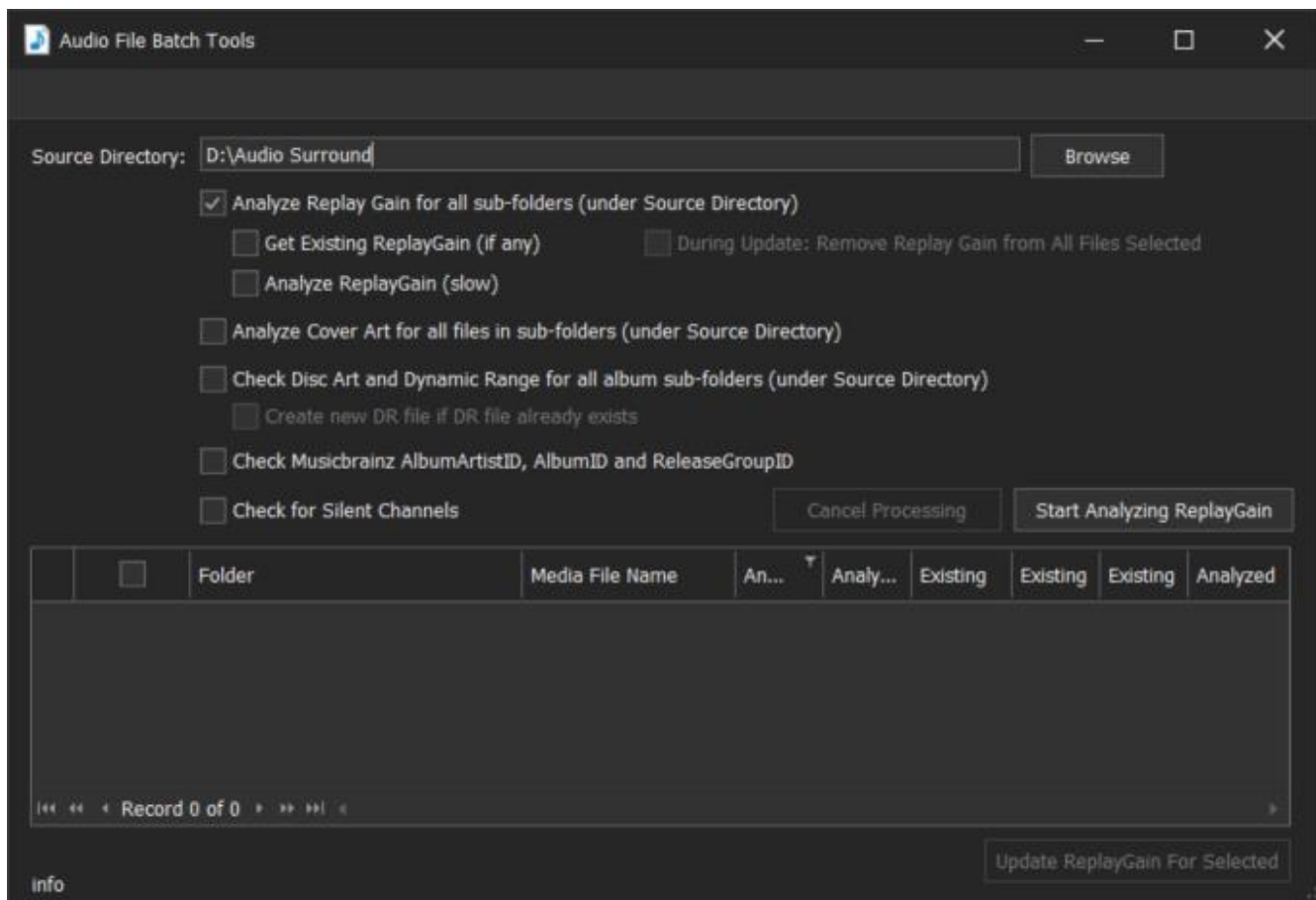
HINT: On first run all option and commands are disabled until a user selects a 'Source Directory' from the 'Browse' command button. Once this tool has been used it 'remembers' the last state including Source Directory.

Once a Source Directory is selected you need to choose one of the Analyze option. By default, MMH selects the first, 'Analyze ReplayGain for all sub-folders':
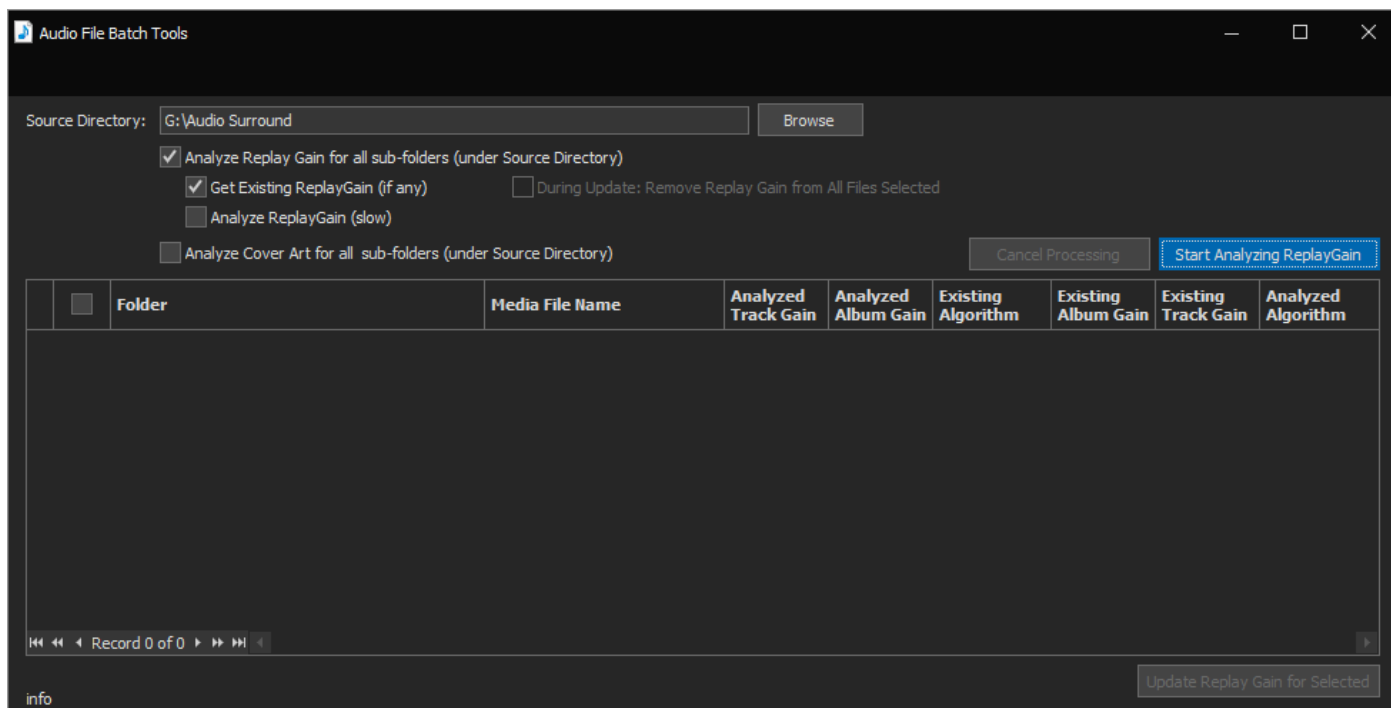
ReplayGain:

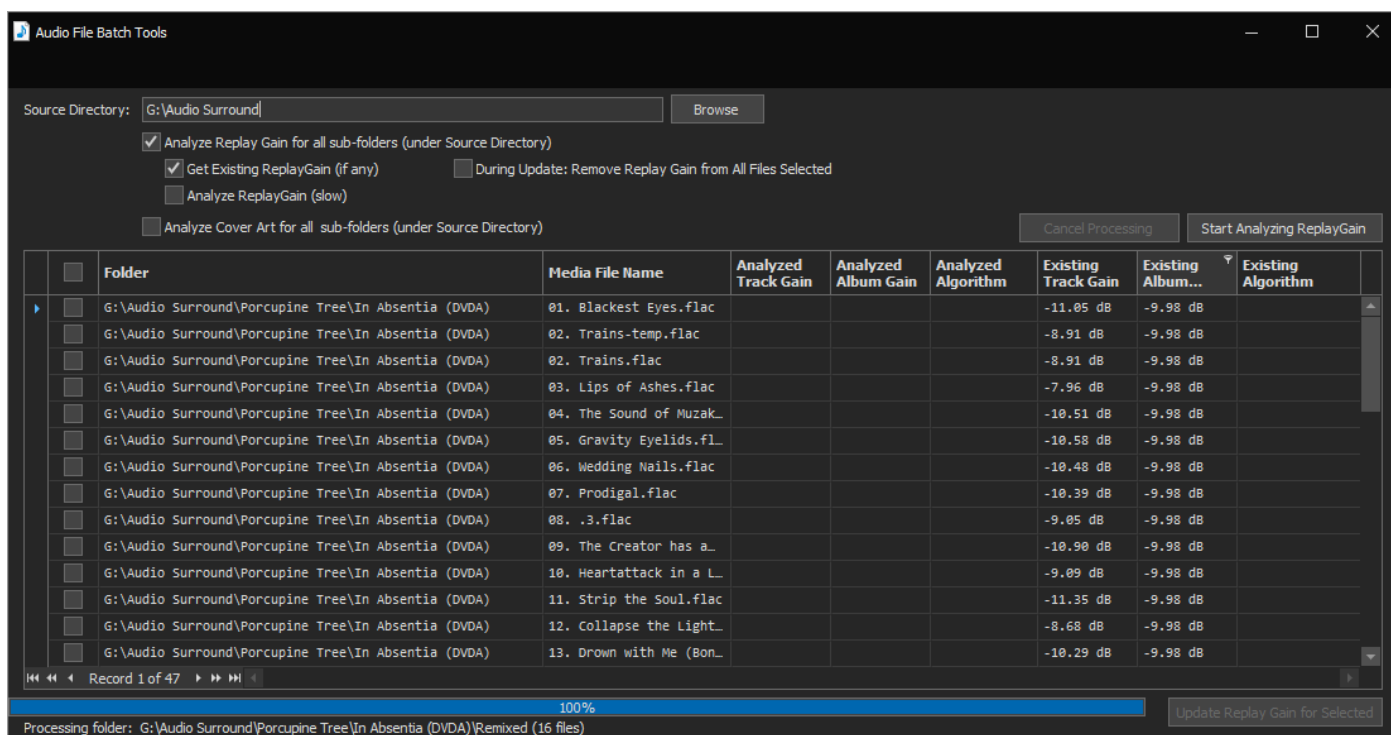### To View existing ReplayGain tags:
Ensure you select the Source Directory
Select: 'Analyze ReplayGain for all sub-folders' option
Select: 'Get Existing ReplayGain'

Click: [Start Analyzing ReplayGain]

MMH processes each folder recursively and loads the flac file replaygain data:

To Analyze ReplayGain:
Select: 'Analyze ReplayGain (slow)'
Click: [Start Analyzing ReplayGain]

MMH processes each folder as an Album and loads the calculated Track and Album replaygain using the ITU-R BS1770 algorithm. This is quite a slow process as each file is processed with a two phase gated measurement of the mean loudness as described by ITU-R BS.1770

Once the Analyzed Track and Album Gains are loaded into the grid you can use the [Update Replay for Selected] command (bottom right) to save the Analyzed replaygain tags to each selected file. You must select the files first.

To Update ReplayGain tags:

After you have completed 'Analyzed Replay Gain'

Select the files to update using the checkbox column on left

Click: [Update ReplayGain for Selected]

MMH goes ahead and saves the Analyzed replaygain tags to each selected file

HINT: You can use the column filters (in each columns header when you hover your mouse over the column header) to display only certain files. For example: Only specific folders (Albums) or files without existing replaygain data)

HINT: You can select every file in the grid by checking the checkbox in the select column's header

NOTE: MMH does not alter any audio stream content. The only change to any file is to add replaygain tags with gain data. These replaygain tags can be read by many playback software and devices.

HINT: You can remove replaygain tags from any selected files by checking the 'During Update: Remove Replay Gain' option prior to running 'Update Replay Gain'.

To View existing Cover Art tags:

Ensure you select the Source Directory
Select: 'Analyze Cover for all sub-folders' option
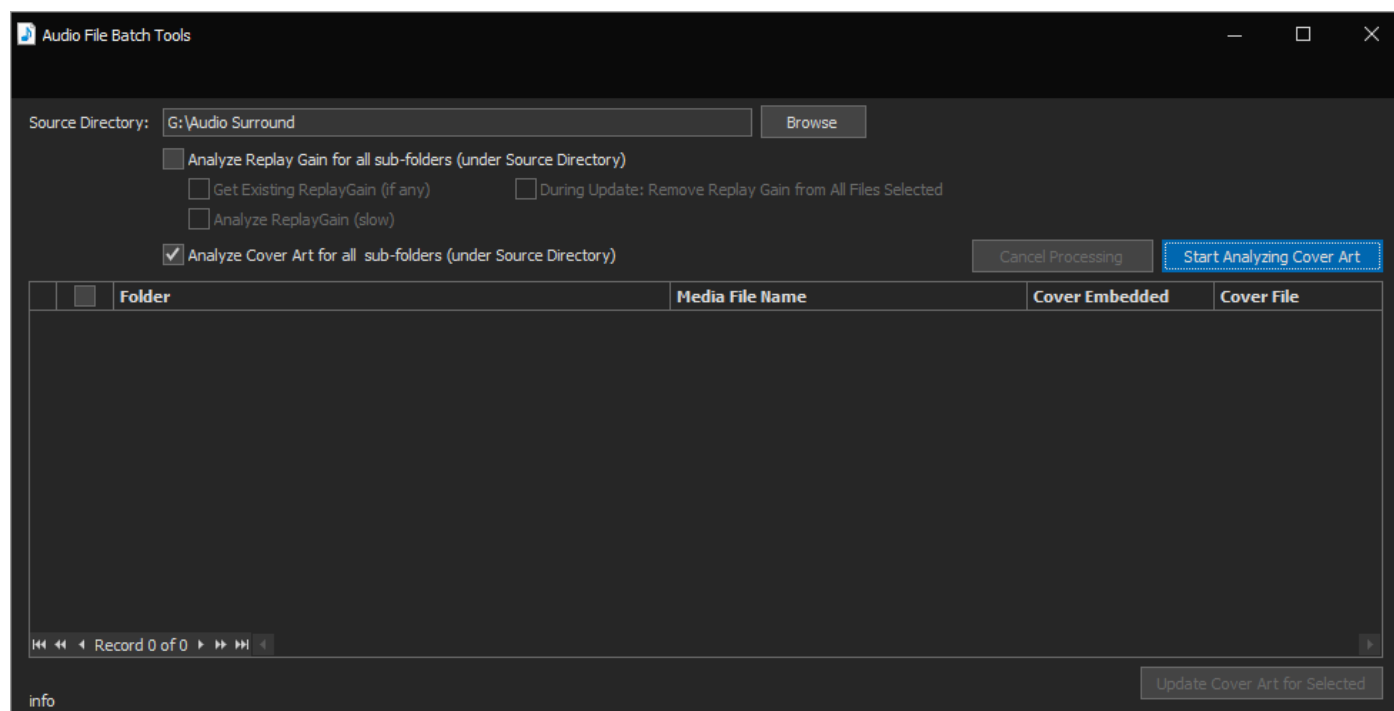
Click: [Start Analyzing Cover Art]

MMH processes each folder recursively and loads the flac file cover art data: Whether the file contains embedded cover art and whether the file's folder contains a cover art image file (either folder.jpg or cover.jpg):
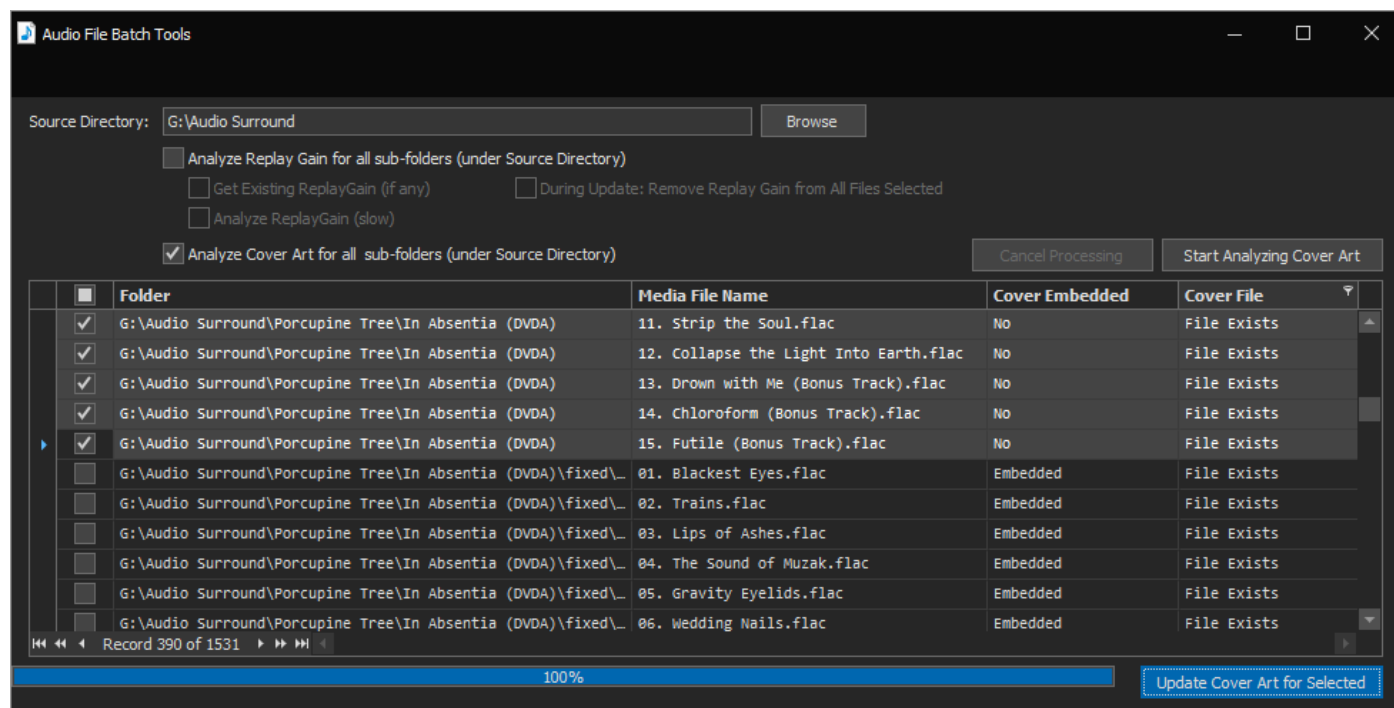
To Update Embedded Cover Art:

NOTE: To update embedded art a Cover File must exist in the file's album folder

After you have loaded files using the previous command:

Select the files to update using the checkbox column on left.

Click: [Update Cover Art for Selected]

MMH goes ahead and saves the cover art image to each selected file

HINT: You can use the column filters (in each columns header when you hover your mouse over the column header) to display only certain files. For example: Only specific folders (Albums) or files without embedded cover art)

HINT: You can select every file in the grid by checking the checkbox in the select column's header

Here's the Audo Batch Tool after running the MusicBrainz ID tool:

To View or Calculate DR for Album folder:

Select the option and MMH will recursively find each album sub-folder and calculate DR and display in the grid and/or creating a DR file for each folder with DR data for each track (and channel if the MMH preference is set)

Update Penteo (& SpecWeb) files:

Functionality:
This tool enables you to do the following:
- Automatically copy tags from stereo input files to MCH upmixed files that are located in same folder
- Download and Tag Album cover artwork from fanart.tv website
- Automatically locates Album Cover Art and Discart already on your PC or Server (NAS) and reuse
- Automatically Remix Quad FLAC files to 5.0 or 5.1 compatible formatted files (AVR compatible)
- Automatically Delete stereo files in source folders (at completion of above)

Why is this Tool in MMH?:
I created this tool for use with my Penteo Upmixes (but it can be used for SpecWeb and other upmixers).

With Penteo, a user is recommended to use WAV files as the input. It creates multichannel FLAC output.

All my stereo files are stored tagged FLAC files, Penteo output files are untagged FLAC files. Wouldn't it be nice to copy the tags from the input files to the output files instead of manually tagging the new output files?

So now, we have this tool that not only copies the tags but can also locate artwork from folders containing the same album anywhere on your PC or network (folders must contain Artist and Album Name), and/or it can locate art on fanart.tv, remix and delete the input waves, leaving the working folders with completed Penteo Upmixed, tagged files.

HINT: I use Foobar2000 to convert my existing stereo FLACs into stereo WAVs. The WAV files retain the original tags from the FLACs. I can also set Foobar to create the WAVs in a folder structure of: ARTIST\ALBUM. So I cam easily select a dozen or more stereo albums in Foobar and batch convert ALL to new folders as wavs ibn literally a few seconds. Selecting Folders in Foobar allows me to select MULTIPLE albums in a few clicks.

NOTE: As of MMH version 4.0.13 this tool works with any tagged stereo input files (no longer restricted to WAV) and can work with any taggable MCH file created by Penteo (wav, FLAC etc)

Rules/Requirements for the tool to work as designed:
For the tool to work as designed:

1. All input files **must be stereo** - wav format is recommended by Penteo but FLAC is also supported)
2. All input files must be tagged
3. The Penteo output files must MCH (> stereo) and in a taggable format (wav, FLAC, etc)
4. The input (wavs) and output (FLACs) must be in the same (album) folder

NOTE: Reaper has a Batch Mode that can be setup to do 3 and 4 above.

5. The tool can recursively load all the music folders that conform to the above rules into the tool's grid (showing basic info)
7. After loading your upmix folder(s) (The tool checks for valid files and shows any issues stopping the process on that album folder)
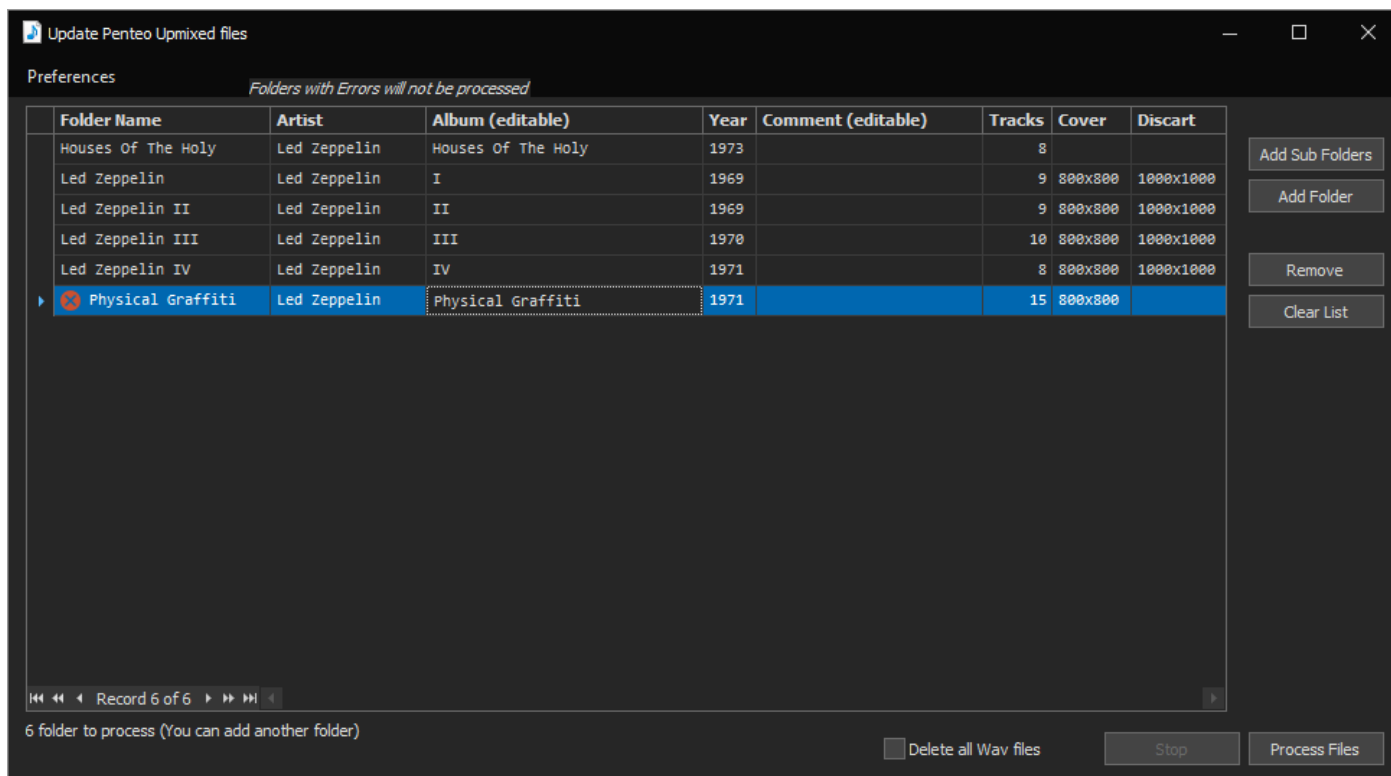
8. User can edit two tags for each album: Comments and Album name. These update FLAC (output) tags.

Clicking 'Process Files' does the following

- For each input wav file in each album folder:
--- Copies the tags from stereo file to corresponding MCH file (by file order, name your files so the sort by filename)
--- Tags album cover art (if a file 'folder.jpg' or 'cover.jpg' exists in the album folder) into the MCH file
--- Renames the MCH file based on user preferences ('Title' or 'Artist - Title' both with track prefix)
--- Checks if MCH is 4 channel (quad) file and if so, remixes added silent channel(s) based on a user preferences

Each Penteo upmixed file is Tagged, renamed etc and ready for use.

The tool also has a recursive 'Delete Stereo files' command to clean up all the input files, leaving the album folders with just the MCH files and album art.

This Penteo Tagging Tool also allows:

- *Double-Click* on 'Cover Art' or 'Disc Art' cell in the grid opens the tool's Find Album Art dialog and displays any artwork already in the album folder (see later in the section)
- *Double-Click* on any other cell in the grid open the album folder in Windows Explorer (easy access)

Examples:

Here's one of the album folders after a Penteo UM: (upmixed FLAC files are untagged - wavs are the input files). This is before the MMH Penteo tagging tool has been used:

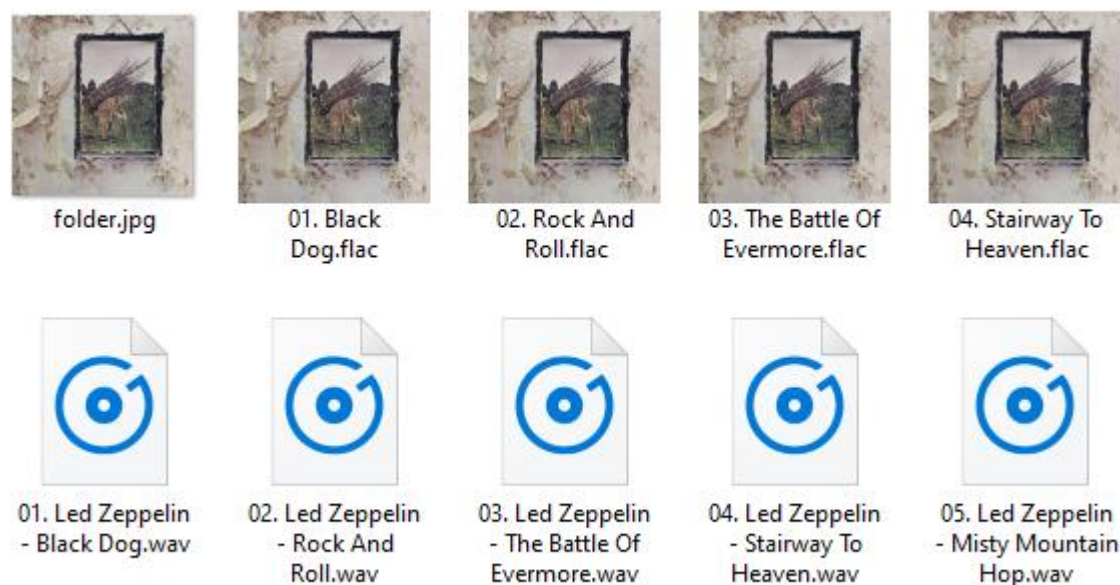| Name	#	Title	Contributing artists	Album
- 01. Led Zeppelin - Black Dog.flac				
- 02. Led Zeppelin - Rock And Roll.flac				
- 03. Led Zeppelin - The Battle Of Evermore.flac				
- 04. Led Zeppelin - Stairway To Heaven.flac				
- 05. Led Zeppelin - Misty Mountain Hop.flac				
- 06. Led Zeppelin - Four Sticks.flac				
- 07. Led Zeppelin - Going To California.flac				
- 08. Led Zeppelin - When The Levee Breaks.flac				
01. Led Zeppelin - Black Dog.wav	1	Black Dog	Led Zeppelin	IV (RI)
02. Led Zeppelin - Rock And Roll.wav	2	Rock And Roll	Led Zeppelin	IV (RI)
03. Led Zeppelin - The Battle Of Evermore.wav	3	The Battle Of Evermore	Led Zeppelin	IV (RI)
04. Led Zeppelin - Stairway To Heaven.wav	4	Stairway To Heaven	Led Zeppelin	IV (RI)
05. Led Zeppelin - Misty Mountain Hop.wav	5	Misty Mountain Hop	Led Zeppelin	IV (RI)
06. Led Zeppelin - Four Sticks.wav	6	Four Sticks	Led Zeppelin	IV (RI)
07. Led Zeppelin - Going To California.wav	7	Going To California	Led Zeppelin	IV (RI)
08. Led Zeppelin - When The Levee Breaks.wav	8	When The Levee Breaks	Led Zeppelin	IV (RI)
discart.png				
folder.jpg				

Here's the same folder after running the new Penteo Tool: (FLACS are tagged and renamed)

Name	#	Title	Contributing artists	Album
discart.png				
folder.jpg				
01. Black Dog.flac	1	Black Dog	Led Zeppelin	IV
02. Rock And Roll.flac	2	Rock And Roll	Led Zeppelin	IV
03. The Battle Of Evermore.flac	3	The Battle Of Evermore	Led Zeppelin	IV
04. Stairway To Heaven.flac	4	Stairway To Heaven	Led Zeppelin	IV
05. Misty Mountain Hop.flac	5	Misty Mountain Hop	Led Zeppelin	IV
06. Four Sticks.flac	6	Four Sticks	Led Zeppelin	IV
07. Going To California.flac	7	Going To California	Led Zeppelin	IV
08. When The Levee Breaks.flac	8	When The Levee Breaks	Led Zeppelin	IV
01. Led Zeppelin - Black Dog.wav	1	Black Dog	Led Zeppelin	IV (RI)
02. Led Zeppelin - Rock And Roll.wav	2	Rock And Roll	Led Zeppelin	IV (RI)
03. Led Zeppelin - The Battle Of Evermore.wav	3	The Battle Of Evermore	Led Zeppelin	IV (RI)
04. Led Zeppelin - Stairway To Heaven.wav	4	Stairway To Heaven	Led Zeppelin	IV (RI)
05. Led Zeppelin - Misty Mountain Hop.wav	5	Misty Mountain Hop	Led Zeppelin	IV (RI)
06. Led Zeppelin - Four Sticks.wav	6	Four Sticks	Led Zeppelin	IV (RI)
07. Led Zeppelin - Going To California.wav	7	Going To California	Led Zeppelin	IV (RI)
08. Led Zeppelin - When The Levee Breaks.wav	8	When The Levee Breaks	Led Zeppelin	IV (RI)

In this example all the files from the 5 'good' album folders were processed in only a few seconds (on an SSD drive with a fast modern 8 core PC)

Here's another view of the folder showing cover art has been tagged in the FLACs:

| folder.jpg | 01. Black Dog.flac | 02. Rock And Roll.flac | 03. The Battle Of Evermore.flac | 04. Stairway To Heaven.flac |

| 01. Led Zeppelin - Black Dog.wav | 02. Led Zeppelin - Rock And Roll.wav | 03. Led Zeppelin - The Battle Of Evermore.wav | 04. Led Zeppelin - Stairway To Heaven.wav | 05. Led Zeppelin - Misty Mountain Hop.wav |

Here's information on an error found during selection of folders to process. Hover mouse over error icon and you see the problem:

Folder Name	Artist	Album (editable)
Houses Of The Holy	Led Zeppelin	Houses Of The Holy
Led Zeppelin	Led Zeppelin	I
Led Zeppelin II	Led Zeppelin	II
Led Zeppelin III	Led Zeppelin	III
Led Zeppelin IV	Led Zeppelin	IV
❌ Physical Graffiti	Led Zeppelin	IV

❌ No output Penteo FLACs exist (There are 15 wavs)

Penteo Tagging Tool Preferences:

Here's the user preferences dialog:
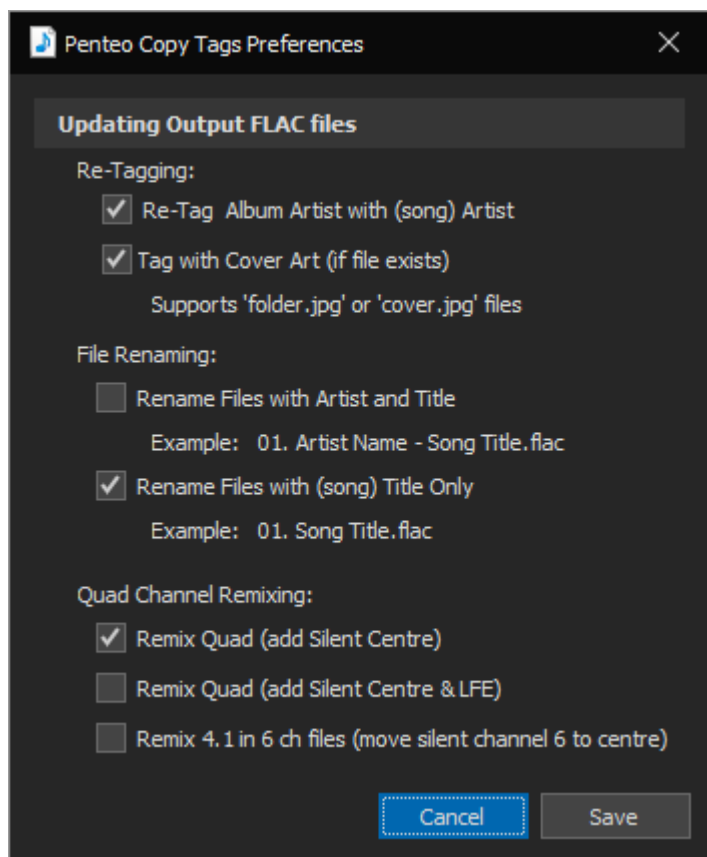
The Re-Tagging:

These options affect what tagging will be done

File Renaming:

There are two options for how files will be renamed

Quad Channel Remixing:

These options deal with how quad mixes need to be remixed for compatibility with some AVRs

The first two options only are used on 4 channel files. Option 1 is adding a silent centre channel while the 2nd option adds both a silent C and LFE channels.

The 3rd option only works with a 6 channel file. This resolves remixing Penteo 4.1 upmixes when they are created with Reaper as a 6 channel file. Since channels are in the incorrect order you need to remix to the correct 5.1 channel order, moving the channel to the Centre position and moving others that follow.

WARNING: Selecting this option will destroy 'normal' 6 channel files created with Penteo's 5.1 upmix option. DO NOT use this option unless you are sure the folders you select are in fact Penteo 4.1 files in a 6 Channel file.

Finding Album Cover Art and Disc Art:

MMH supports searching the Fanart.tv website image database for users to find and download album art images for both album cover and disc artwork. MMH can also be used to do Smart/Fuzzy Search for album art on your PC or network (including NAS and external drives) to locate art you may already have.

To do an artwork search:

In the Penteo Tagging Tool main grid (after loading album folders): *Double-click* the Cover Art or Disc Art cell

This will pop out the MMH Album artwork finder dialog.

When the dialog first opens it immediately displays any artwork in the current album's folder (the album you double-clicked on)

To Search for artwork on the Fanart.tv website:

Enter the correct Artist and Album Names in the text boxes at top right (these are prefilled in some circumstances)

Click: 'Scrape Fanart.tv website'

MMH will search the website and return all cover and disc art found for the release selected:
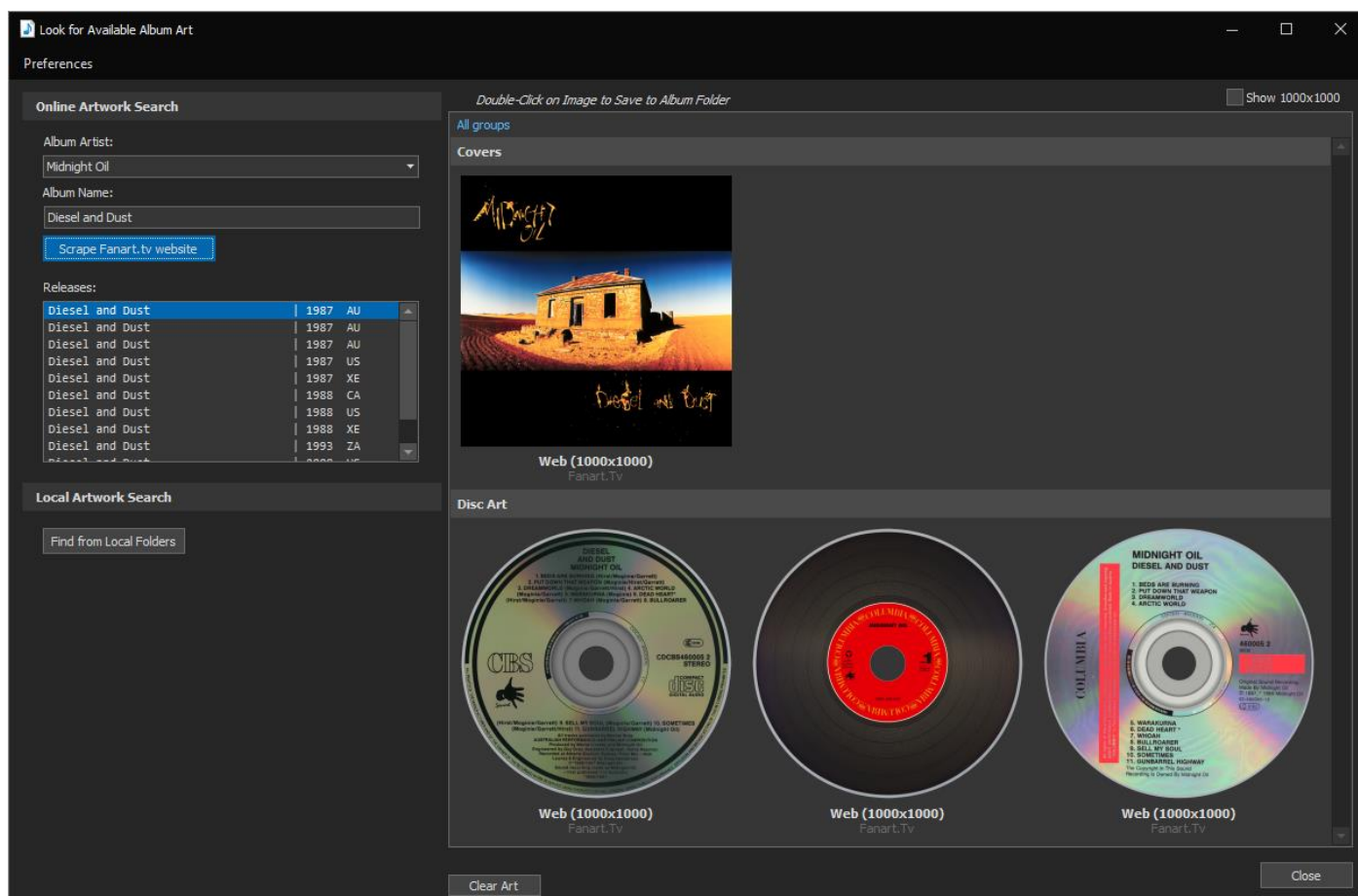
To search your local drives (PC connected drives, Server/NAS, External drives etc):

(You must first use the Preferences Dialog – top left menu) to set up the Root folders. MMH will recursively search through every sub-folder under each Root to locate artwork, after that:

Enter the correct Artist and Album Names in the text boxes at top left (these are prefilled in some circumstances)

Click: 'Find from Local Folders'

Smart/Fuzzy Search for album art on your PC or network (including NAS and external drives):
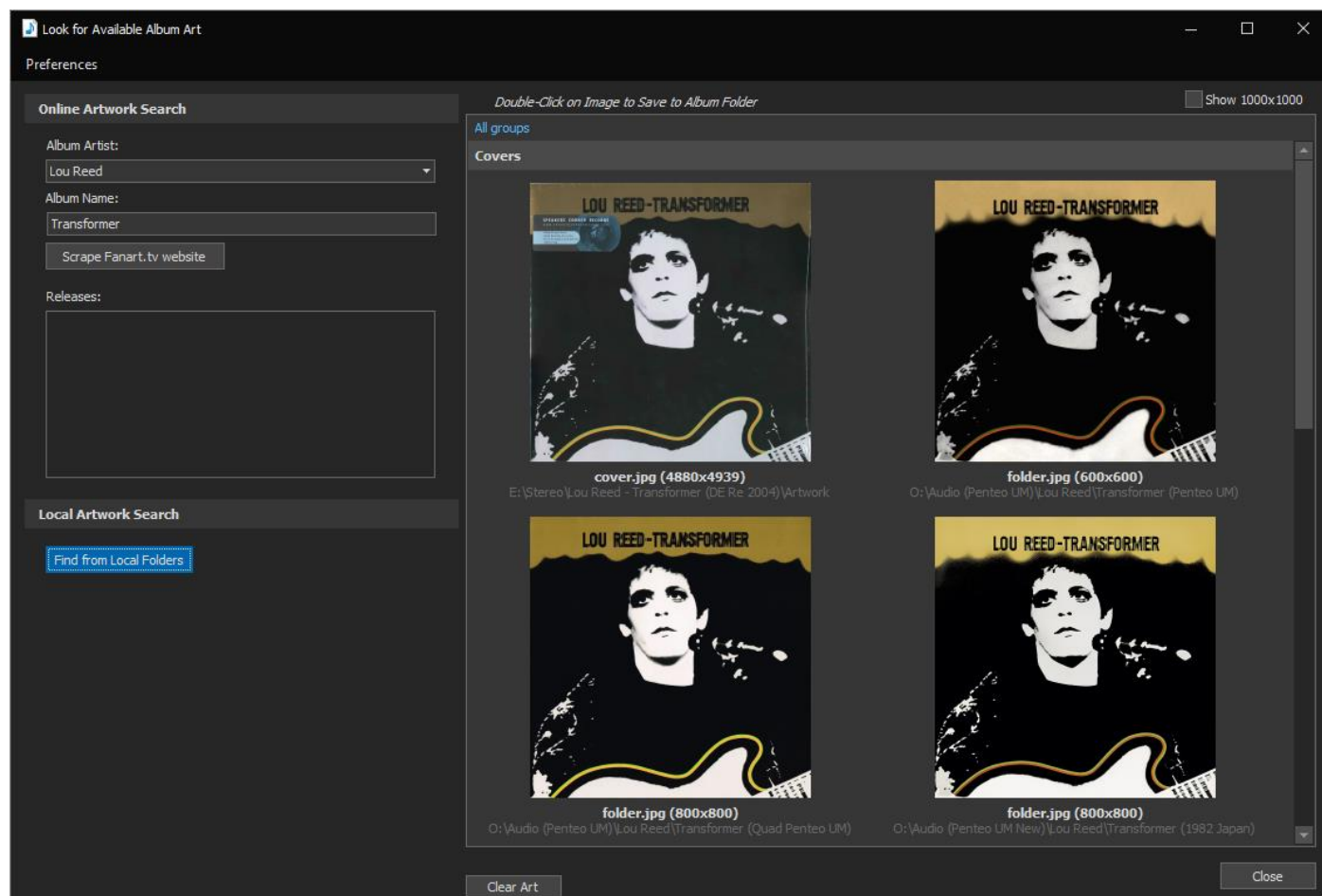
To save any of the album art images to the album folder, simply double-click on the image. If its cover art, it will be tagged to the FLAC when the files are processed.

Album Artwork Search Preferences:
To setup the Smart Search go into the Artwork Search Preferences dialog and add all the root music folders that may contain album art for other versions of the same album on your PC, in the Local Folders to Search list.

You can also enter the names of the Cover Art and Disc Art files you have used previously in the File Names section:
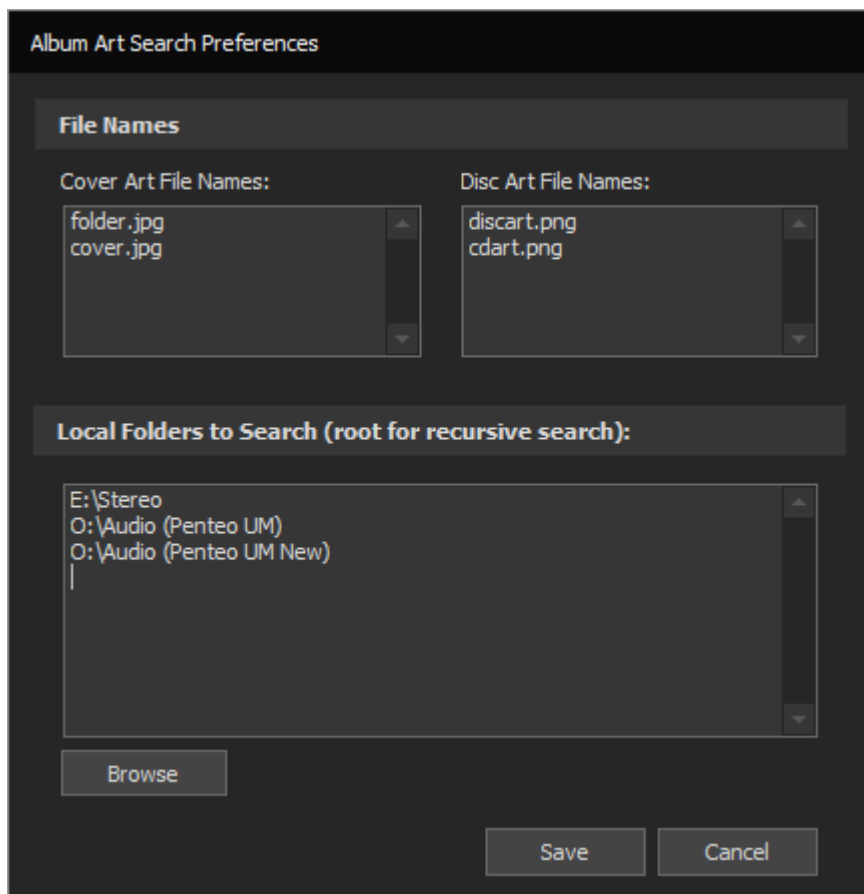
In the screenshot above there are 3 possible folders that could have album art for new Penteo upmixes:

1. The original Stereo root folder with all my original stereo FLAC albums (all tagged and with album art)
2. The Penteo UM folder where I keep all my completed upmixes for playback (I often redo some again, so the artwork will be there already)
3. My new Penteo UM testing folder. This is where I put all my UMs to listen to, sometimes maybe two or three of same album from different sources or different upmix settings.

For this to work. MMH looks recursively searches through every sub-folder in every user set Root folder for a Full Folder Path that contains both the ARTIST and ALBUM names (as entered in the Find Artwork dialog).

Examples that will be found for the ARTIST: **Midnight Oil** ALBUM: **Diesel And Dust** (The search is not case sensitive)
E:\stereo**Midnight Oil\Diesel and Dust**\folder.jpg
E:\stereo**Midnight Oil\Diesel and Dust** (1990)\folder.jpg
O:\Audio (Penteo UM)\old mixes**Midnight Oil** - **Diesel and Dust** (From CD)\folder.jpg

MMH Atmos Helper:

Functionality:

The MMH Atmos Helper tool has two functions:

1. Tools to help prepare and/or encode multichannel interleaved wavs to Dolby Atmos.
2. A tool to decode existing Atmos streams to multichannel WAV (interleaved or mono files)

Atmos Encoding tools:

This tool enables users to create Dolby Atmos Master File Sets from multichannel (mch) interleaved WAV files to create channel based Atmos mixes encoded with the Dolby Media Encoder or Dolby Encoder Engine.

NOTE: A user must have a Dolby Encoder software license to encode files to Dolby Atmos. However, this Helper tool can create Dolby Atmos Master File Sets without any Dolby software, Atmos Renderer or DAW (Digital Audio Workstation) software for encoding by a 3rd party or on a PC with an Dolby encoder license.

Input mch files can contain any number of supported channels:

- 8 (5.1.2)
- 10 (5.1.4)
- 12 (7.1.4)
- 16 (9.1.6)

For correct channel mapping by Dolby Atmos Encoders, the interleaved WAV file channel order must be in this corresponding order:

> 16 channel (9.1.6): L, R, C, LFE, Ls, Rs, Lrs, Rrs, Lw, Rw, Lfh, Rfh, Ltm, Rtm, Lrh, Rrh
> 12 channel (7.1.4): L, R, C, LFE, Ls, Rs, Lrs, Rrs, Lfh, Rfh, Lrh, Rrh
> 10 channel (5.1.4): L, R, C, LFE, Ls, Rs, Lfh, Rfh, Lrh, Rrh)
> 8 channel   (5.1.2): L, R, C, LFE, Ls, Rs, Ltm, Rtm)

NOTE: The Dolby Atmos bed 7.1 channel order used in 9.1.6 and 7.1.4 swaps sides and rears compared to the 'standard' channel order used by other common multichannel interleaved files. Users can remix channel order using the MMH Channel Remix tool.

Dolby Atmos Master File Sets created by this MMH Atmos Helper tool can be encoded in lossless TrueHD or lossy Dolby Digital Plus format (typically used for streaming Atmos). Currently without Master File Sets the Dolby Media Encoder (DME) cannot encode interleaved WAV files to TrueHD, only to Dolby Digital Plus at 768kbps. With Master File Sets a user can encode to TrueHD (lossless) and/or Dolby Digital Plus at up to 1664kbps.

If a user has a Dolby Encoder license and the encoder is installed on the same PC as MMH, the MMH Atmos Helper can also batch encode multiple files to create MLP/ MP4 files (and optionally: MKV, M4A and/or MP4 files).

Atmos Decoding tools:

This tool enables users to decode existing Atmos streams to multichannel WAV (interleaved or mono files).

NOTE: A user must have the Dolby Reference Player software installed to decode Dolby Atmos files to wav.

The MMH Atmos Decoder tool supports decoding from Atmos streams (TrueHD or Dolby Digital Plus JOC) contained in the following file containers:

MLP, EAC3, MKV, MKA, MP4 and M4A

MMH Atmos Helper dialog description:

When the Atmos Helper is opened this is the initial dialog:

NOTE: The 'Decode Atmos' button at top right is disabled if the users PC does not have the Dolby Reference Player software installed.

To create Atmos master File Sets, first select the Source Channel Layout from the first dropdown.

Once the layout is selected add a folder containing your source wavs or add multiple files using either of the two buttons: Add Folder or Add Files.

NOTE: MMH checks the channel count is each file and ensure that matches to channel count implied by the Source Channel Layout selected. All files in a single batch must containing same number of channels matching the Source Layout (e.g. 7.1.4 = 12 channels).

Once files are loaded into the grid, click: 'Create Atmos Files' button to create the Atmos Master File Set.

NOTE: 'Channel based' Dolby Atmos uses fixed channel positions. To create 'Objects' (that can be positioned anywhere in 3D space, including movement) users will need to author using DAW (Digital Audio Workstation) software. But channel based Atmos is still very effective and easy to create for non-pro (enthusiast) for use at home. This is equivalent to traditional multichannel quad, 5.1 and 7.1 mixers produced prior to recent spatial music formats.

Encoding to Atmos with MMH Atmos Helper:

If a user has a Dolby Encoder license and either Dolby Media Encoder (DMC) or Dolby Encoder Engine (DEE) installed, selecting the 'Use Dolby Encoder Engine (Only if installed)' checkbox to set up an encode and create both Master File Sets and Atmos Encode jobs in batch mode using parallel threads to do concurrent encodes (faster). MMH will use up to 4 processors on your CPU (but never more than half the available number of processors).
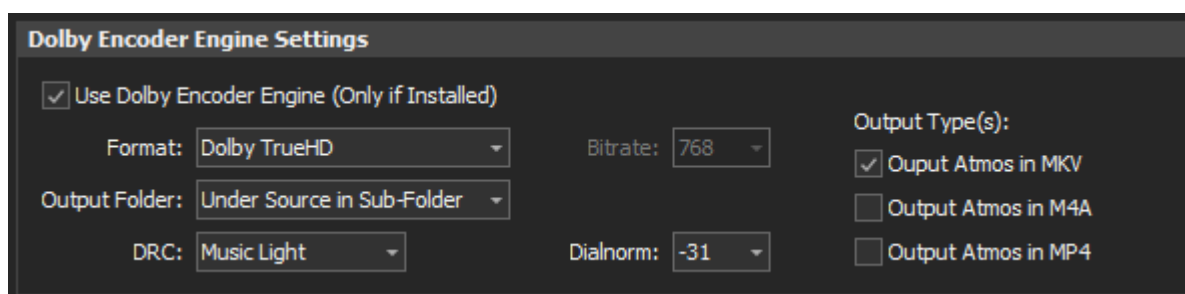
The first time a user selects the 'Use Dolby Encoder' checkbox MMH will pop up a dialog box to select the Dolby Encoder Engine executable (dee.exe). The DEE executable is installed with DEE and with DME. The default program folder if DME is installed is:

C:\Program Files\Dolby Media Encoder\resources\dee

Once selected, MMH stores that folder and will not ask again (unless the folder is renamed, deleted uninstalled etc). On selection MMH also checks if the dee license file (.lic file) is in the same folder, if not then you will be reminded to copy your license file to that folder. Without the license file in the dee folder MMH cannot use dee to encode.

Once the initial setup of DEE program location is completed:

Encoder Settings:

With the Settings enabled, a user can change the default settings above:

Format: Dolby TrueHD, Dolby Digital Plus (Blu-ray) or Dolby Digital Plus (Online)

                     Lossless, higher bitrate DDP or Streaming bitrate DDP

Bitrate: This dropdown is only available for DDP encodes (You must select a bitrate for DDP)

                     Dolby Digital Plus (Blu-ray) can encode up to 1664 kbps. Dolby Digital Plus (online) can encode up to 768 kbps

Output Folder: Output is always related to the files input folder (choose one option)

DRC: Dynamic Range Compression: These are the standard Dolby presets (use Music Light for music)

Dialnorm: (Custom dialnorm) - '-31` is recommended for music, but users can choose from -31 to -1db
(off = 0 No Dialnorm is applied, this leads to quieter encodes)

Output Type(s): Select any (or all) of the outputs required. After DEE has encoded each input file, MMH will convert the encoded output to the selected file formats (always an Atmos stream within the selected container).

To Run the Encode Process:

Click: Create Atmos Files

MMH will initially create Atmos Master File Sets for each input file, then it opens the MMH Encoder Job Queue dialog to process all the files and encode using DEE. The Job Queue will start automatically:
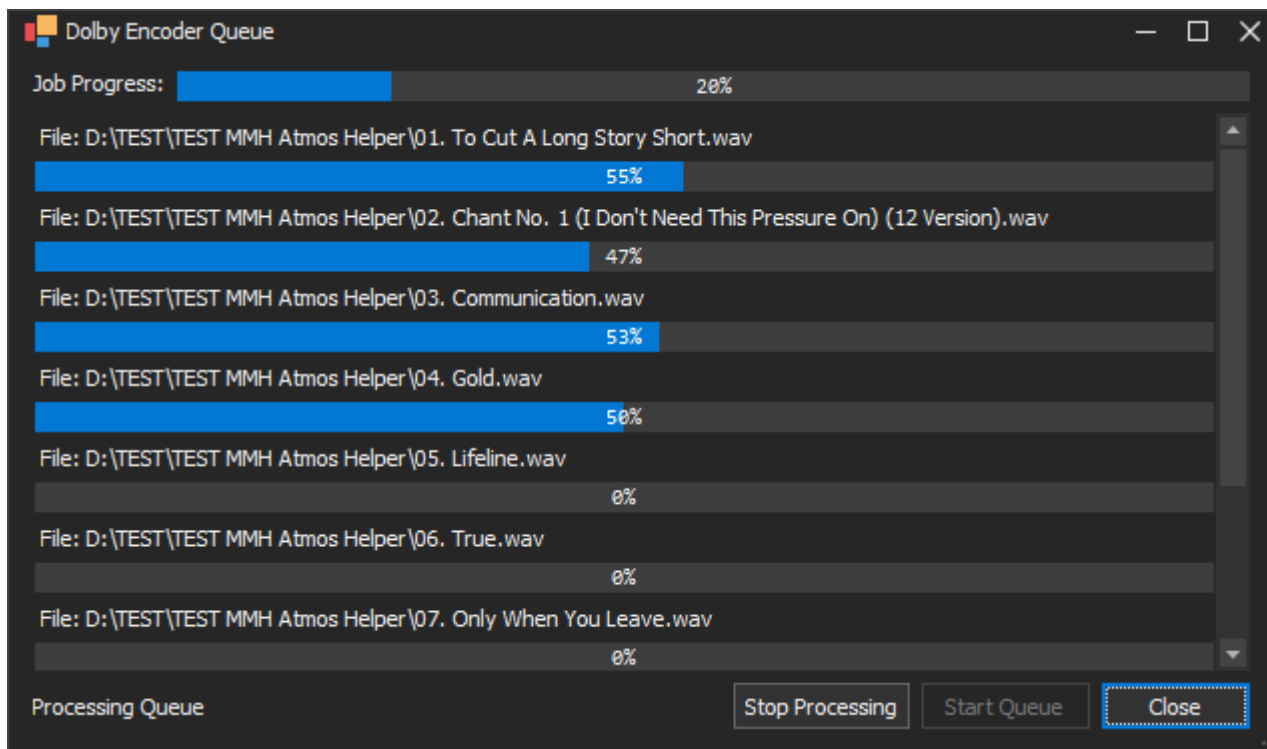
The files are encoded using parallel processing (above shows 4 concurrent encodes). On completion the output files are created in the user's Output sub-folder.

IMPORTANT: Some additional code may run for each Atmos encode. Please wait until each progress bar reached 100% before closing the queue dialog.

Decoding Atmos to multichannel wavs with MMH Atmos Helper:

If a user has the Dolby Reference Player software installed on same PC as MMH, clicking the 'Decode Atmos' command button at top right of the MMH Atmos Helper main dialog pops up the MMH Atmos Decoder dialog:

To decode an Atmos stream to wav, first select the files(s) to decode using the button:

Use either of the two Add buttons at top left:

Add Folder(s):   Adds all supported media files in the selected folder(s) (supports multiple folder selection)

Add File(s):   Adds the selected media files supported from files selected in the File browser

Use the file selection dialog that is displayed to navigate to the folder containing the files(s) to decode. The selection dialogs support standard Win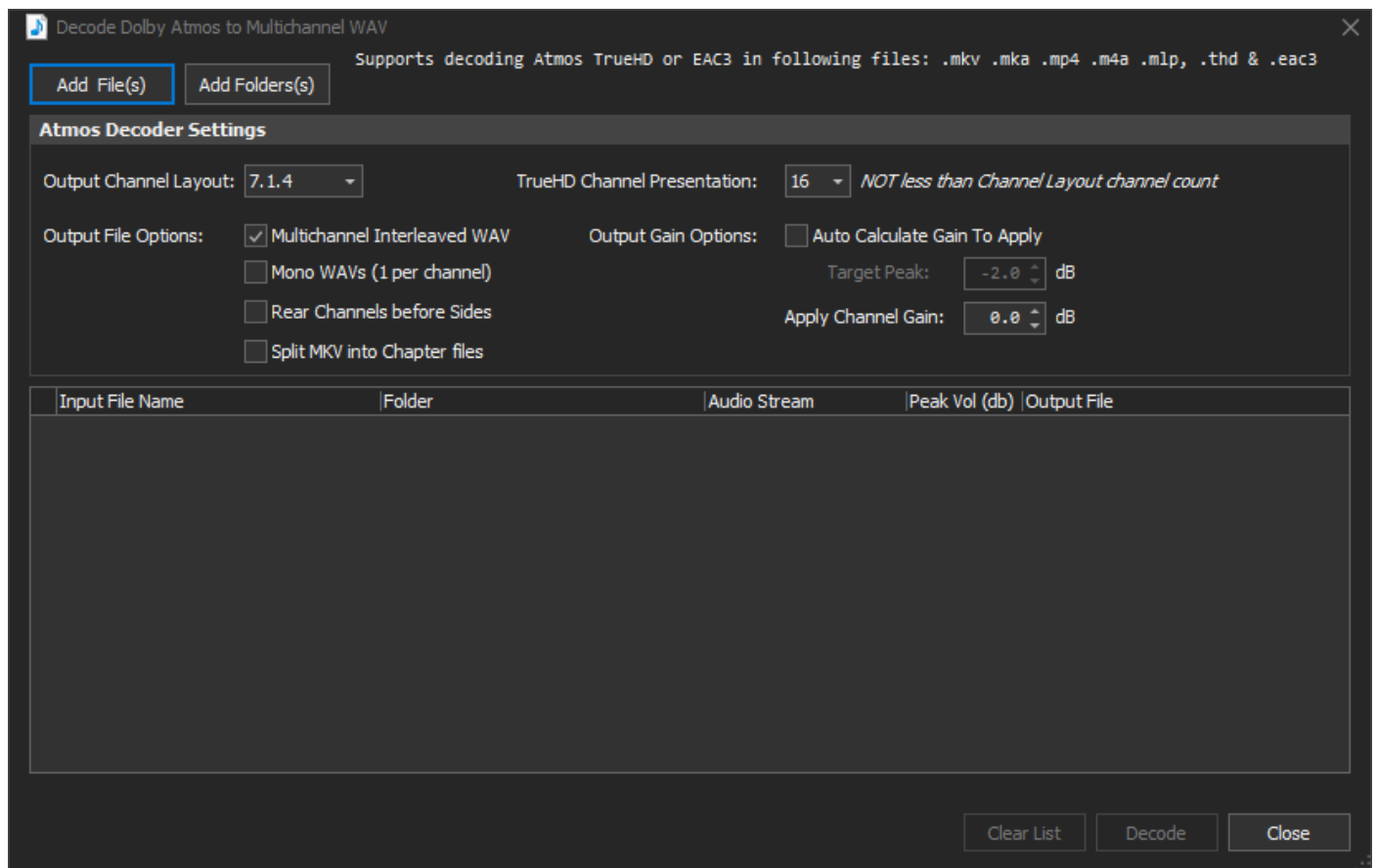dows multiple selections: CTRL+A (selected all files), Click then CTRL+Click to add additional file or folders and Click then CTRL+SHIFT to select the range of files or folders.

NOTE: Users can also drag & drop files from the Windows File Explorer onto the grid

All files are pre-processed. Only those files containing an Atmos stream (TrueHD or Dolby Digital Plus eac3) will be loaded into the decoder file list. If a file contains 1 Atmos stream it is auto selected by MMH, otherwise a dialog will allow a user to select one of multipole Atmos streams.

HINT: The Atmos decoder often fails to recognise an Atmos stream if a user attempts to decode Atmos from a split MKV or MKA file. It is recommended users decode the entire MKV or MKA file prior to splitting into individual (split) mkvs/mkas.

A user can add multiple Atmos files and folders containing Atmos files to d batch decoding. Due to the high processing load required files are always decoded one at a time (not in parallel).

Final Output wavs are created in the same folder as each source file processed.

To start the decode process, simply set the Decoder Settings (described below) as click: 'Decode'

Decoder Settings:

Output Channel Layout: The Dolby Atmos Decoder will remix the Atmos stream to the Channel Layout selected.

TrueHD Channel Presentation: Sets they way the DRP decoder sees the TrueHD. It must be set to 16 to decode channel layouts with > 8 channels. It cannot be set to less than the number of channels required in the Output Channel Layout above (e.g 5.1.4 requires 10 channels, therefore TrueHD Channel Presentation must be set to 16).

Output File Option: Select one of the output file options: Multichannel Interleaved WAV or Mono WAVS (1 per channel). If Interleaved Wav is selected the channel order is same as shown Functionality section for the MMH Atmos Helper tool above.

Rear Channels before Sides: Without this set MMH will decode in the Dolby channel order (sides then rears). Dolby ordering should be used if you intend on re-encoding back to Atmos. Rear Channels Before Sides should be used if you intend playing back the decoded wavs in a player that uses the channel order to play.

Split MKVs in Chapter files: If a source MKV file has > 2 chapters, checking this option will split the decoded multichannel interleaved wav file at the chapter times in the source mkv.

Output Gain Option:

Auto Calculate Gain to Apply: Use this option along with a 'Target Peak' dB setting to get MMH to read the maximum Peak Volume of all decoded files from each folder, then auto calculate the gain required so that the Maximum Peak will be the Target Peak dB. MMH will then increase all channels in all files by that same gain. All files will remain at same relative volume. This is desired when decoding multiple tracks if an album.

The Peak measurement looks at all channels in the decoded wavs.

Apply Channel Gain: If 'Auto Calculate Gain…' is NOT set, this value (if Gain setting <> 0), after the Atmos stream is decoded MMH will apply this value to increase/decrease the volume of all channels in the output WAV file. This can be helpful as some Atmos encodes are quiet. The gain value is dB. Entering 3 increases the volume by +3dB.

Only one of the Output Gain Options above is ever applied and is controlled by the 'Auto Calculate Gain to Apply'.

If the input file is an Atmos MKV or MKA with chapters, MMH will decode the entire MKV file to a single wav, then will split the wav into individual Chapter files using the chapter times in the input MKV file.

The Atmos Decoding process takes quite a while, large MKV files (e.g a 2 hr concert) can take many minutes. Be patient. Small Dolby Digital Plus files can be decoded very quickly.

The actual Atmos decode pops up a window with progress.

Using the option 'Auto Calculate Gain to Apply' adds an extra step to the process, measuring the output wav channel peak volume. This gives the best decoded gain results.

MPEG-H Decoder:

Functionality:

The MMH MPEG-H Audio Decoder tool is a user interface to the Fraunhofer open-source command-line *mpeghdec** decoder and allows batch decoding of MPEG-H 3D Audio in MP4 or M4A files to WAV (or to FLAC if 8 or less channels). Output files are always multichannel interleaved. (* see License at end of this section)
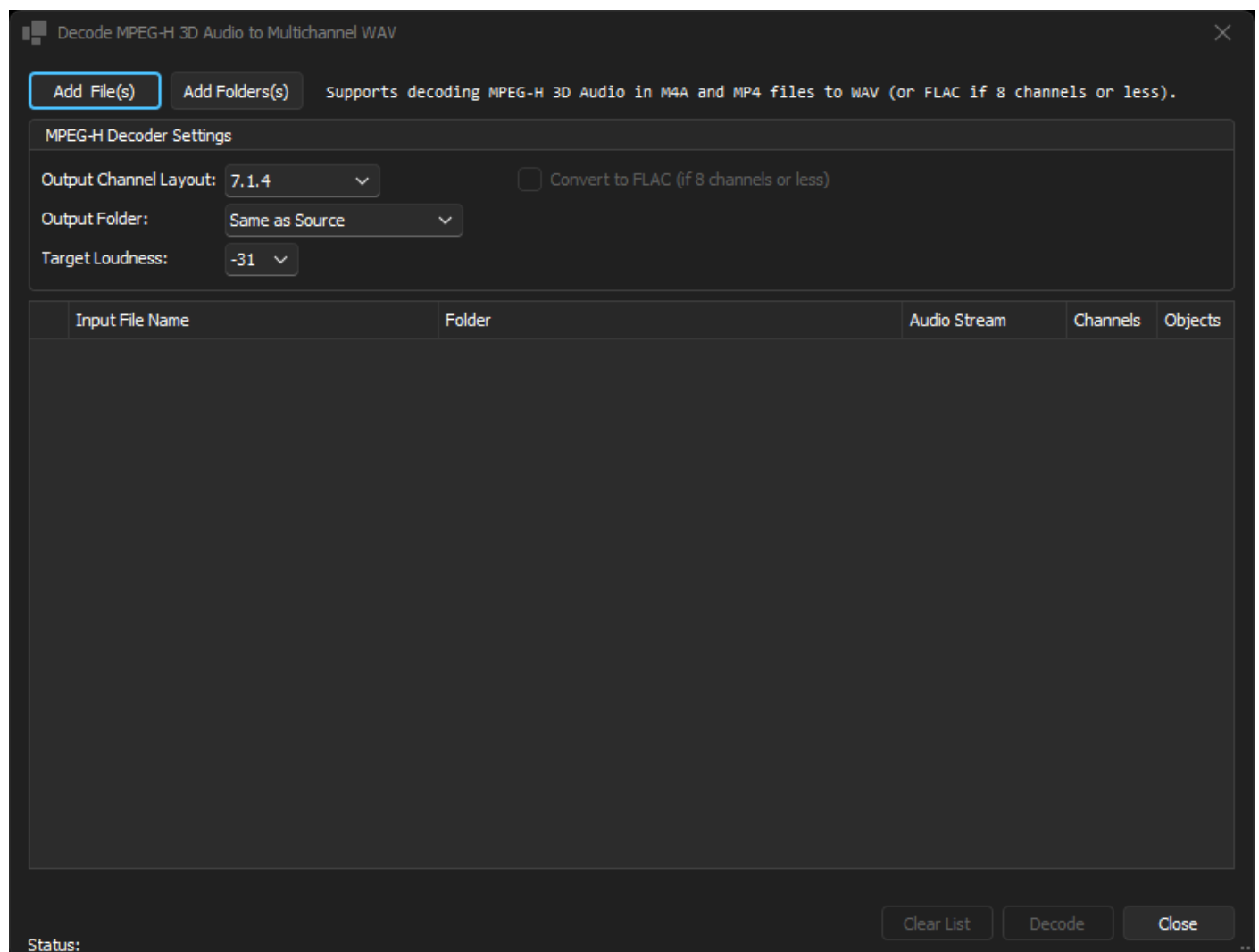
Users can decode to the following channel layouts:

- Quad
- Quad (in a 5.1 formatted file with silent channels)
- 5.1
- 7.1
- 5.1.4
- 7.1.4
- 22.2

The input files are decoded using parallel processing (up to 4 concurrent files) using a similar queue in the MMH Atmos Helper Encoding tool.

MPEG-H Decoder tool description:

When the MPEG-H Decoder tool is opened this is the initial dialog:

To decode an MP4 or M4A file containing an MPEG-H Audio stream to wav, first select the files(s) to decode using e either of the two Add buttons at top left:

Add Folder(s):   Adds all supported media files in the selected folder(s) (supports multiple folder selection)

Add File(s):   Adds the selected media files supported from files selected in the File browser

Use the file selection dialog that is displayed to navigate to the folder containing the files(s) to decode. The selection dialogs support standard Windows multiple selections: CTRL+A (selected all files), Click then CTRL+Click to add additional file or folders and Click then CTRL+SHIFT to select the range of files or folders.

NOTE: Users can also drag & drop files from the Windows File Explorer onto the grid

All files are pre-processed. Only those files containing an MPEG-H Audio stream will be loaded into the decoder file list. The Number of Channels and Number of Objects is displayed for each file. 'Objects' is the important information (see later).

A user can add multiple files and folders containing MPEG-H Audio files for batch decoding. Files are always decoded concurrently/in parallel based on the number of logical processors in your PC's CPU, but limited to 4 max).

Before proceeding with decoding a user must select:

Output Channel Layout:
If the MPEG-H's Object Count is < 9 users should decode to appropriate Channel Layout. For example, 4 objects is a Quad mix, 6 is a 5.1 mix etc. If a user selects a Channel Layout with 8 or less channels an optional 'Convert to FLAC' checkbox is enabled. Selecting this checkbox ensures that each file in converted to FLAC after decoding.

Output Folder Location:
Final Output files are created in the same folder as each source file processed or in a sub-folder under the Source files named after the Channel Layout selected in the decode (e.g. a folder named '7.1.4' if 7.1.4 is selected).

Target Loudness:
This sets the Loudness (audio) compression to be used in the decode:
-31 is equivalent to applying no compression and recommended for listening with AVR based system
-24 is equivalent to a target of -24 LUFS (moderate loudness compression)
-16 (the loudest) for listening on mobile devices where the dynamic range of audio playback is restricted.

All the files loaded in the same decode session will use the settings chosen for that session. If you want to decode to 5.1 and 5.1.4 you must run two decodes with those files/settings.

NOTE: MMH always uses the mpeghdec DRC (Dynamic Range Control) default setting of 'None'. This disables DRC for the decode, except for the case that DRC processing is necessary to prevent signal clipping.

To Decode simple set the settings and click:

[Decode]

MMH will load the files into its Decoder Queue dialog and auto-start the batch process.

Software License for The Fraunhofer FDK MPEG-H Software (mpeghdec)

1. INTRODUCTION

The "Fraunhofer FDK MPEG-H Software" is software that implements the ISO/MPEG MPEG-H 3D Audio standard for digital audio or related system features. Patent licenses for necessary patent claims for the Fraunhofer FDK MPEG-H Software (including those of Fraunhofer), for the use in commercial products and services, may be obtained from the respective patent owners individually and/or from Via LA (www.via-la.com).

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Appendix:

.NET 7 Desktop Runtime x64

Download **Microsoft .NET 7 Desktop runtime** (if not already installed) – Search for '**Microsoft .NET 7 Desktop Runtime x64'** or click on the link below:
https://dotnet.microsoft.com/download/dotnet/7.0

Look for the **'.NET Desktop Runtime 7.x.x'** and install the Windows x64 version. Once installed the Windows Update service will keep it up to date.

Integrated Audio and Video Player in MMH:

A few MMH tools have a 'Play' button to test play a selected file in each tool. By default, MMH uses a basic player with no playback controls. If users wish to use a player with playback controls, please download and install the MVPNet player at this URL:

https://reva.blob.core.windows.net/mmh5/MPVInstaller.msi

When the MVPNet player is installed MMH will automatically use it for all playback from MMH

A Note on Music Concert Folders & File naming:

If your music concerts discs are split into individual songs files it is much easier to play specific songs and add specific songs to Playlists etc.

Kodi (and other media players) will show the concert song files and allow users to navigate to them through either their inbuilt file browsers or from their Library views or tablet & smart phone apps (for Kodi remote apps). However, Kodi also requires additional metadata about each music video file stored as XML in an NFO file.

MMH will create the NFO files for Kodi or XML sidecar XML files for JRiver automatically if Concerts are stored as per Kodi's folder requirements below.

Kodi expects Music Videos to be stored in a folder structure like this:

(Root Concert Folder)\ARTIST - CONCERT NAME

Example:
F:\Concerts\David Gilmour - Remember That Night

Please note the dash '-' character between the Artist and Concert/Video Name

For MMH Root Concert Folders can be on any drive accessible from your Windows PC including NAS/Servers.

IMPORTANT: This application (MMH) expects all Music Video/Concert Folder names formatted as:
ARTIST - CONCERT NAME or **ARTIST - CONCERT NAME (YEAR)**

MMH will also add the Year to NFO or XML files if your concert folder name ends in a bracketed year:
Artist - Concert (Year)

HINT: To allow Kodi to load the concerts just add the Root Concert Folder as a Video Source (Music Video) and set the scrape options to 'nfo only'

Inside the Concert folder will be your media content:
- One or more Music Video files (MKV, M2TS, VOB, MP4, AVI, TS etc)
- For each Music Video File, one NFO file with same name as Video file (e.g First.mkv and First.nfo) or one XML file for JRiver (depending on preference settings)
- Folder.jpg: The concert poster art/cover art image
- Fanart.jpg : Artist Fanart/background image

Music Media Helper will create the NFO (or XML), Folder and Fanart jpg files and split a single Concert Video into separate chapters and provides tools to rename the concert chapters with the song titles. (The images scraped from TMDB).

NOTE: When MMH creates NFO or XML files in a convert/video folder it also creates a file named: Concert.nfo. This file is used to hold data about the concert for future NFO or XML updates (i.e. MMH just reads the Concert.nfo to get this data). You should also copy Concert.nfo to your final media folder, along with media and NFO or XML files.