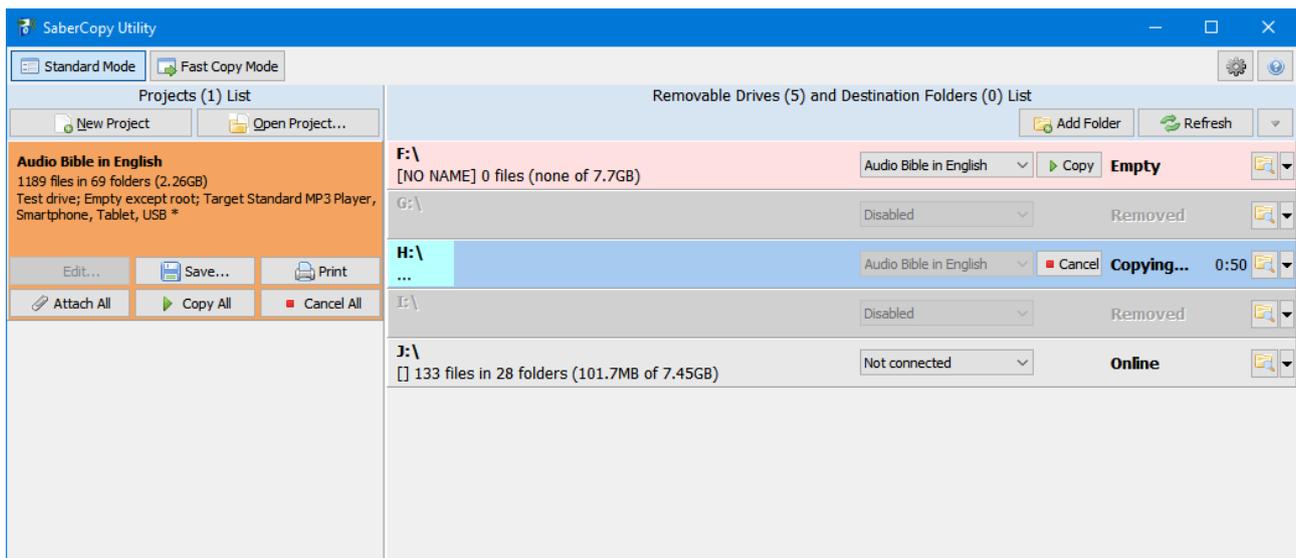# SaberCopy 4.6

Introduction

SaberCopy is designed for fast and simple copying of files and folder structures to removable drives such as USB memory sticks, SD or microSD memory cards, specialised audio devices such as the Saber hand wind digital player and Megavoice players, smart phones, and almost any other USB device. It can also copy to folders on fixed or network drives.

Copying can be done to many devices and destinations at the same time.

SaberCopy has several distinctive features:

- Audio announcements and/or end signals can be added to each device, either from existing audio fragments or generated automatically with the Text To Speech functions of Windows.

- Files can be arranged on the device according to the method it uses to determine playback sequence. This means writing to the device in order, and where necessary prefixing file and folder names with a sequence number, and/or stripping out the MP3 TITLE tag.

- Copying can be done to many devices simultaneously. The state of each device is clearly shown during the process, and all processes are independent of each other.

- In Fast Copy Mode, copying will commence automatically as soon as a device is plugged in. This speeds up the copying process when there are dozens or even hundreds of devices.

- Verification of the contents of devices can be customised, to emphasise speed or accuracy.

- Collections of files and copying options are defined in a SaberCopy Project file which can be saved for later reuse.

- Projects can be checked against rules for specific types of playback devices.

- A manifest of the contents of a project can be printed for users.

About The Saber

The Saber is a rugged audio player with a loud speaker and hand wind generator

While the Saber player inspired the initial development of this software, SaberCopy can handle any type of storage and playback device that can be connected to a computer.

About This Software

This software is Copyright (c) 2020 by Global Recordings Network Australia. All Rights Reserved.

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It is free for personal, educational and not-for-profit uses. It may be freely copied and distributed, provided it is copied intact with this file.

For inquiries about commercial use please email saber@globalrecordings.net.

System Requirements

This software requires Microsoft Windows or compatible operating system.

Most functions also work on Mac or Linux using the Wine emulator – see www.winehq.org.

Warranty

This software is provided as-is, with no warranty either express or implied as to its accuracy, usefulness, security, fitness for purpose or any other matter. No responsibility is taken by Global Recordings Network or MegaVoice or their partners for any loss of data or damage to the user's computer as a result of installing or using this software.

Support

Support for this product is provided on a best effort basis. Please email saber@globalrecordings.net.

To download the latest version of this software see globalrecordings.net/sabercopy.

For more information about the Saber player see globalrecordings.net/saber.

For more information about MegaVoice players see megavoice.com.

Using The Software

1. Run SaberCopy. The main window will be displayed. It will show all open Saber Projects on the left, and a list of currently attached removable drives on the right. The list of attached devices may also include card reader slots even though no card is actually inserted.
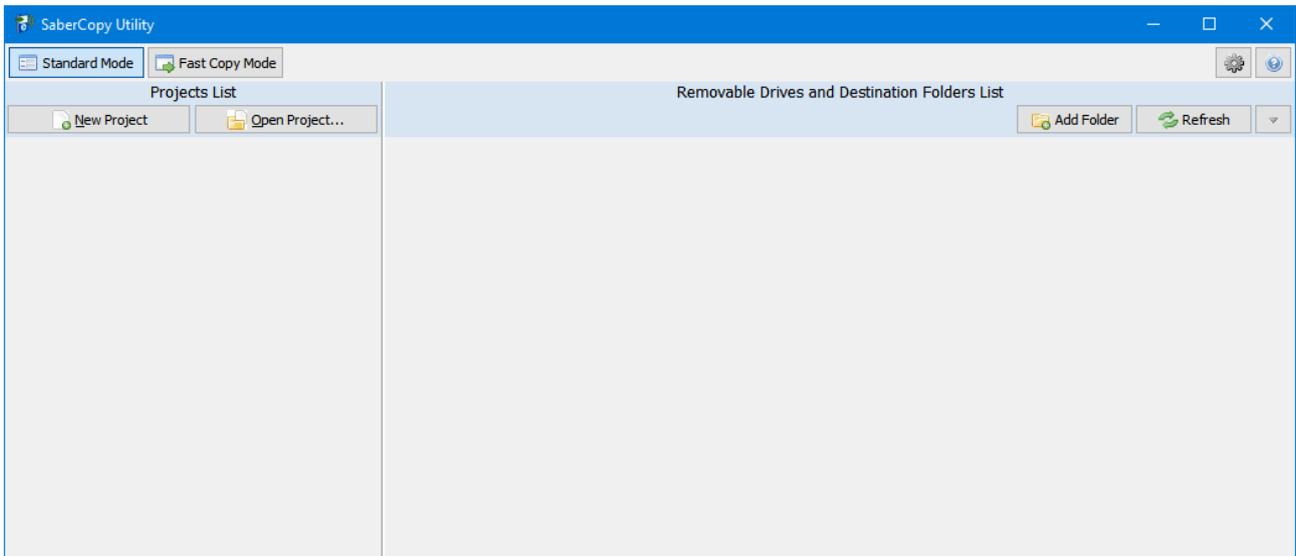

2. Create a Saber Project by clicking on the [New Project] button. The Project Details window will be shown.
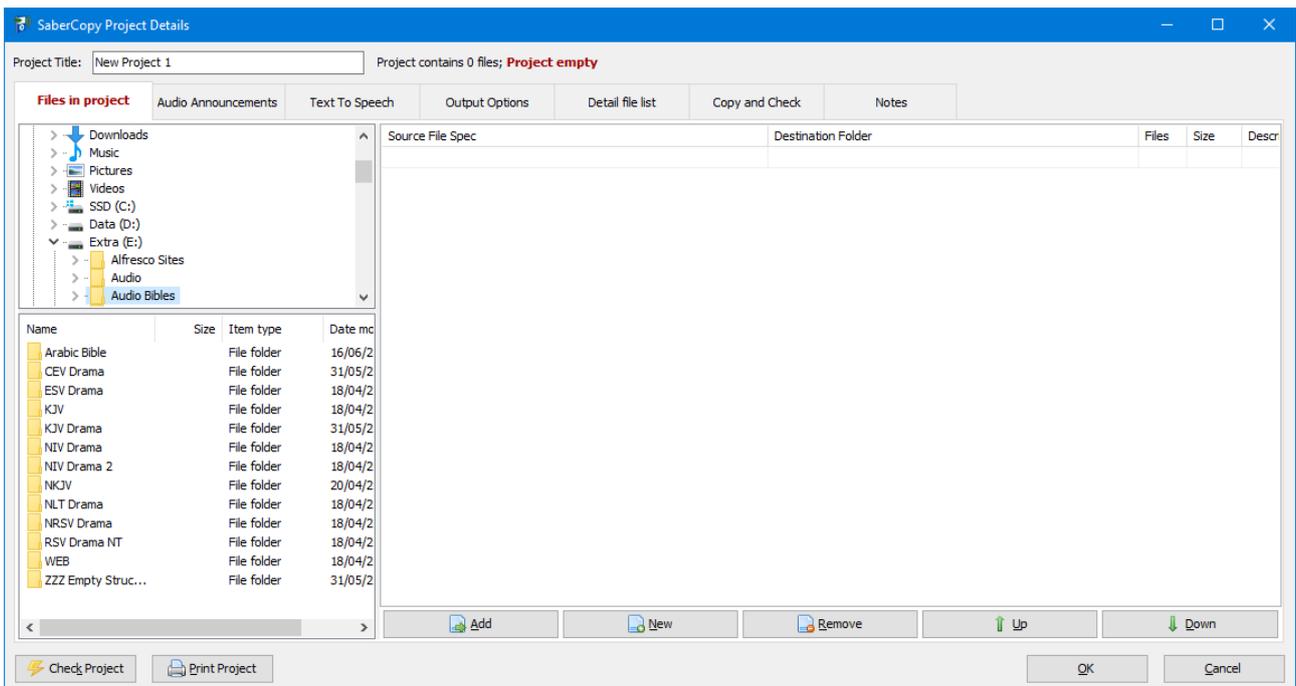
3. In the Project Details window, drag folders or files across from the folder tree or file list on the left, to the target list on the right. Folders and files are always added to the end of the target list, regardless of where on the target list they are dropped. Use the Up and Down buttons to change the sequence of the target list.
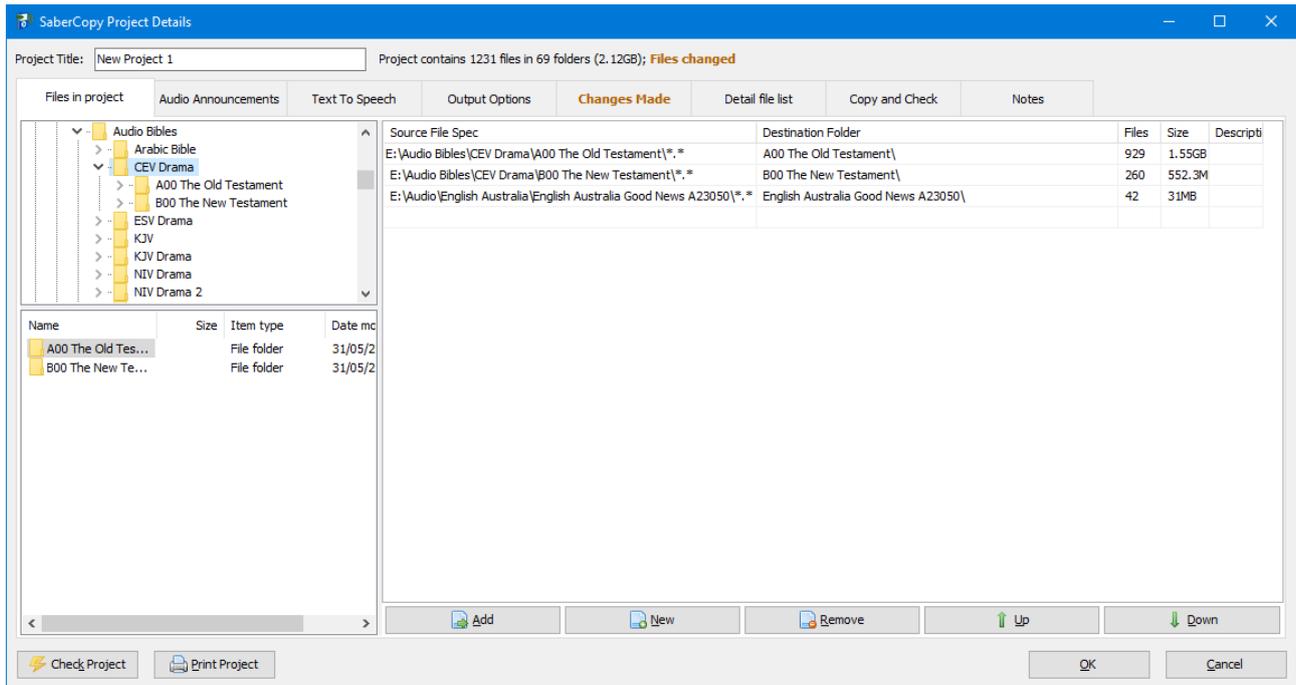
4. Click on the **Audio Announcements** tab to specify if additional audio files are to be copied for each folder and/or for each track.
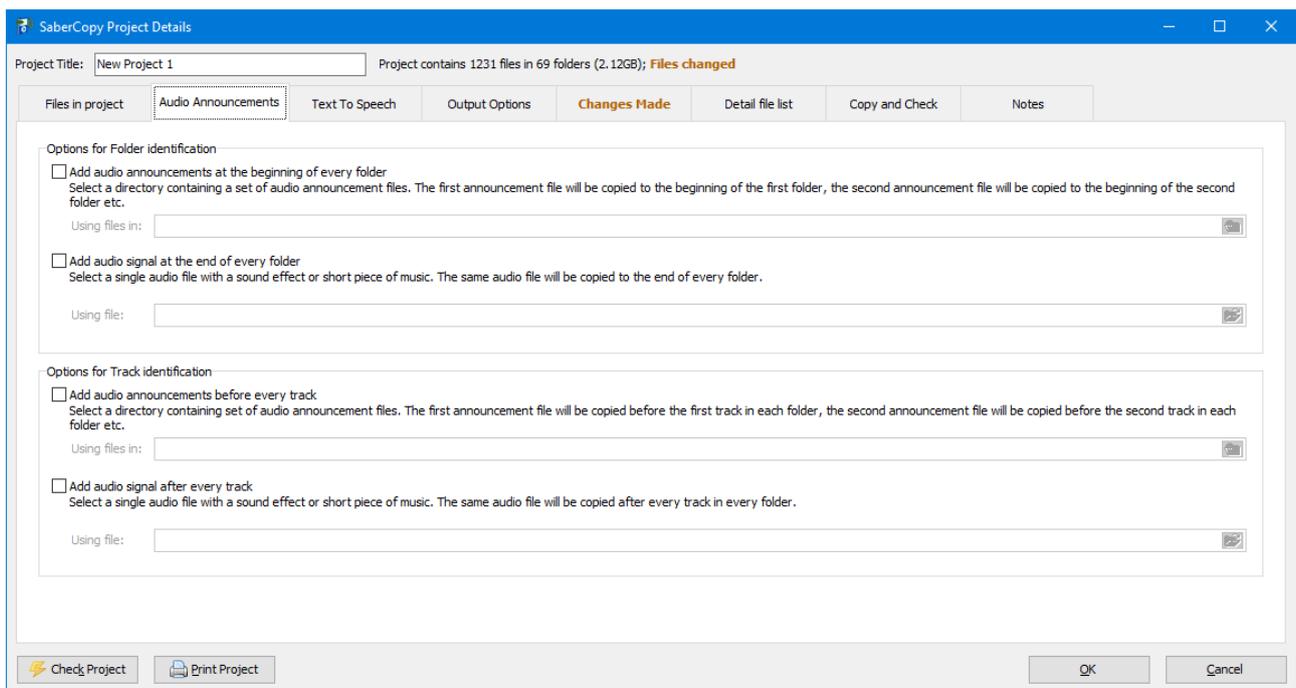
5. Click on the **Text To Speech** tab to generate addition voice tracks to speak out the names of the project, folders, files, and/or the contents of '.speak' text files.
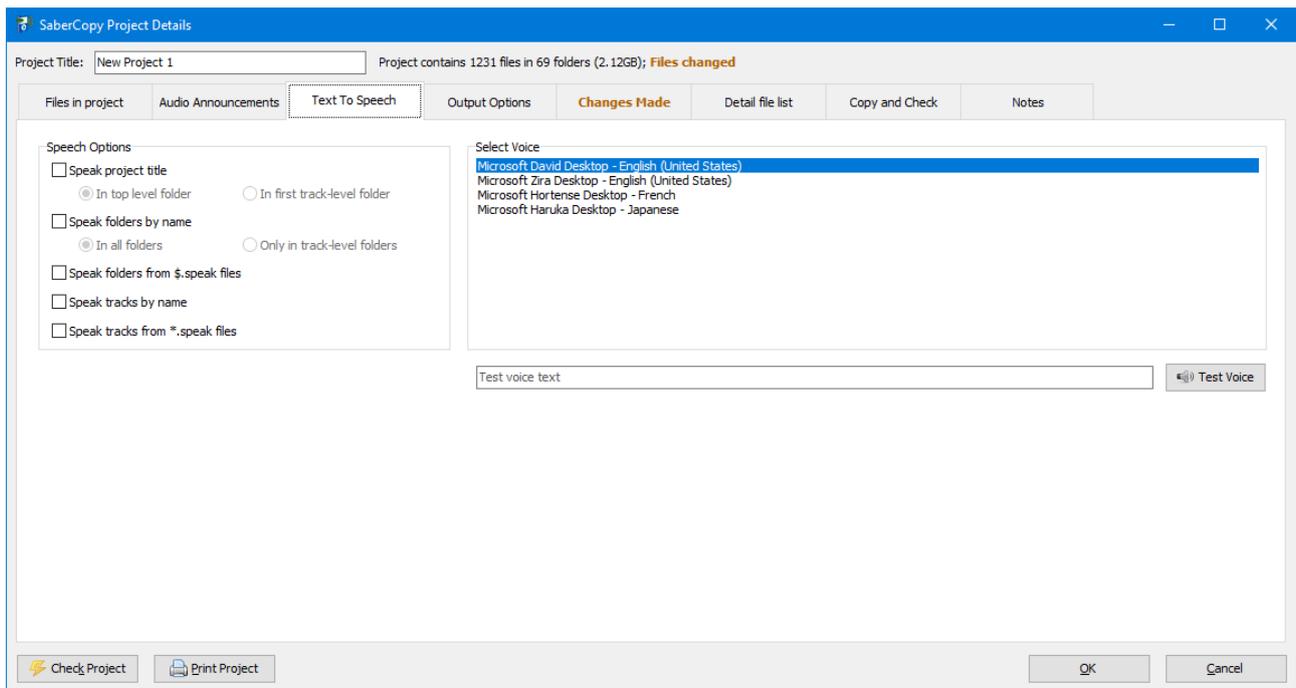
6. Click on the **Output Options** tab to select the type of device you are copying to, or select custom options about how to perform the copy.
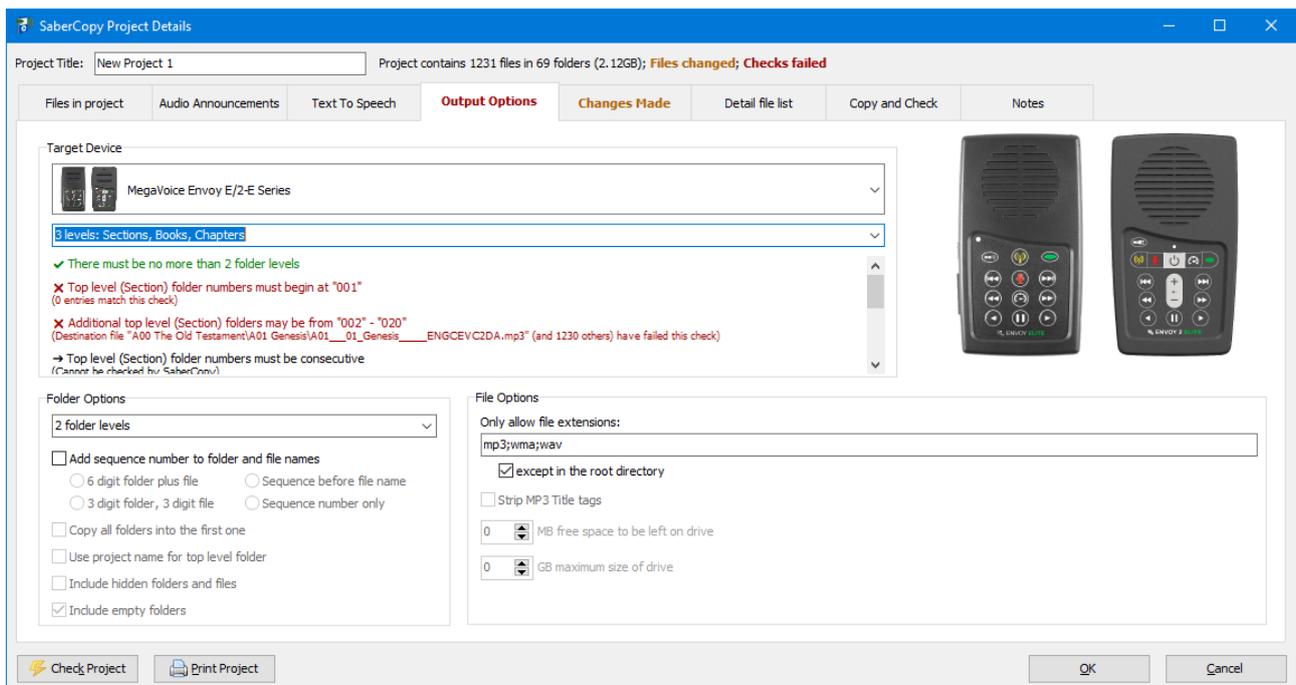
7. Click on the **Changes Made** tab, if present, to see any additions or omissions from the file list, and alterations to folder and file names.
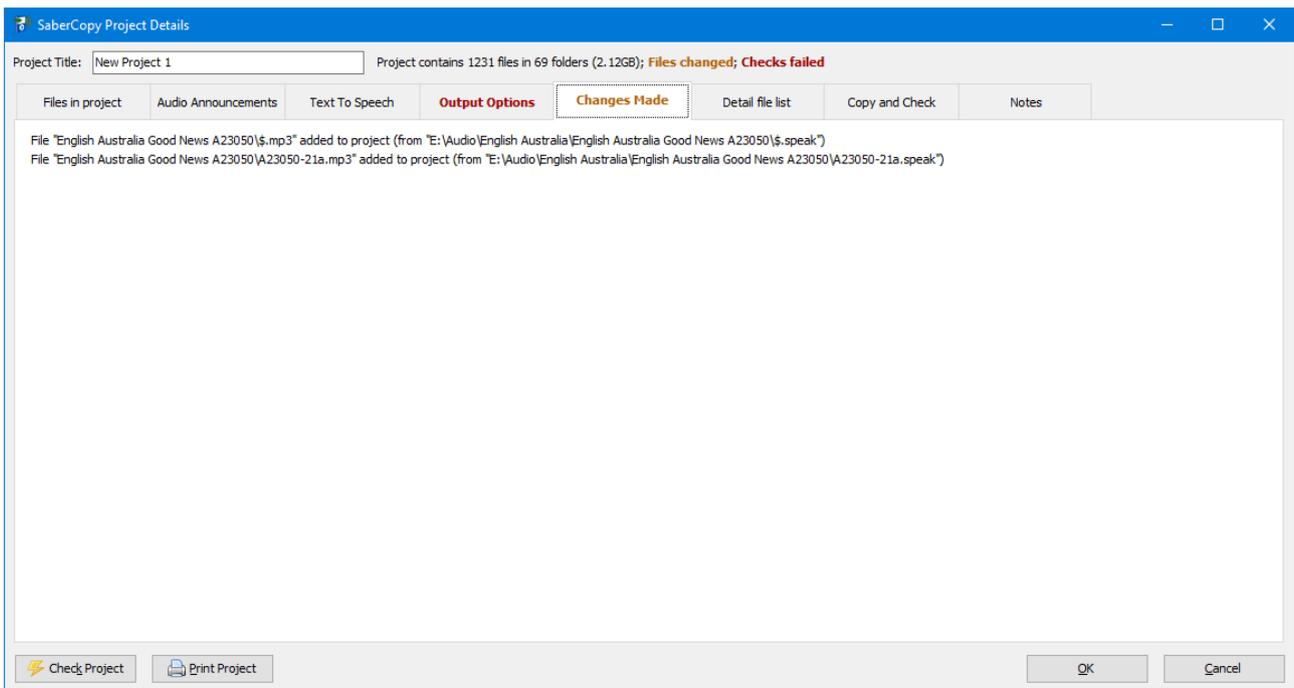
8. Click on the **Detail File List** tab to see all the folders and files files that are included in the project, and any error or warning messages for each one. Double click on any file to open or play it.
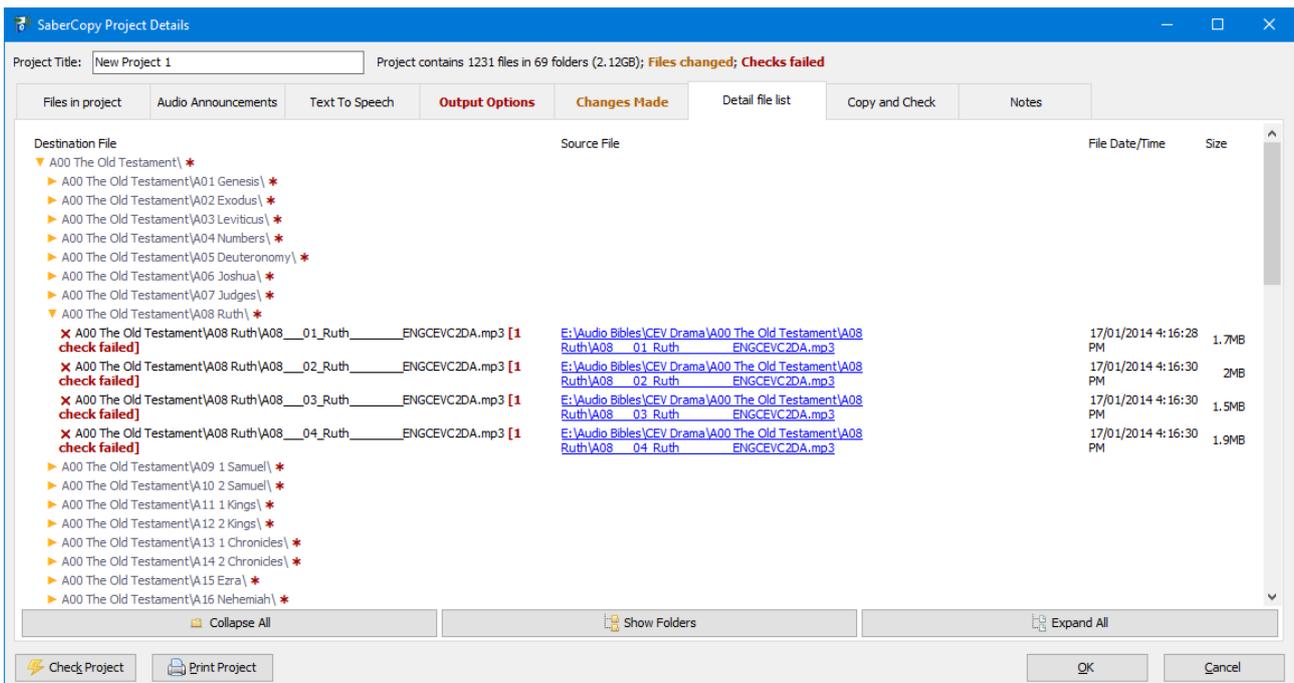
9. Click on the **Copy and Check** tab to define whether to delete or overwrite existing content, set the filesystem, add a drive label, or test the drive or the finished result.
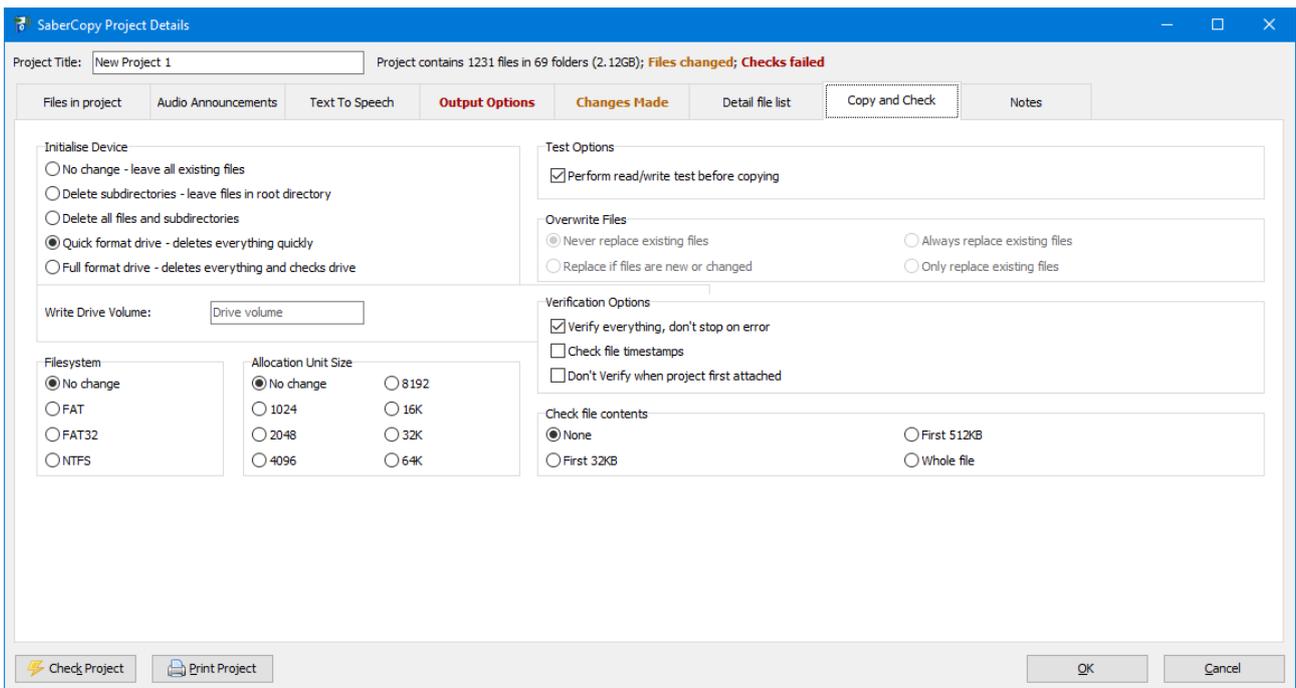
10. Click on the Notes tab to record any other miscellaneous information about the project, such as it's purpose or other requirements. These things have no bearing on how the project is copied.
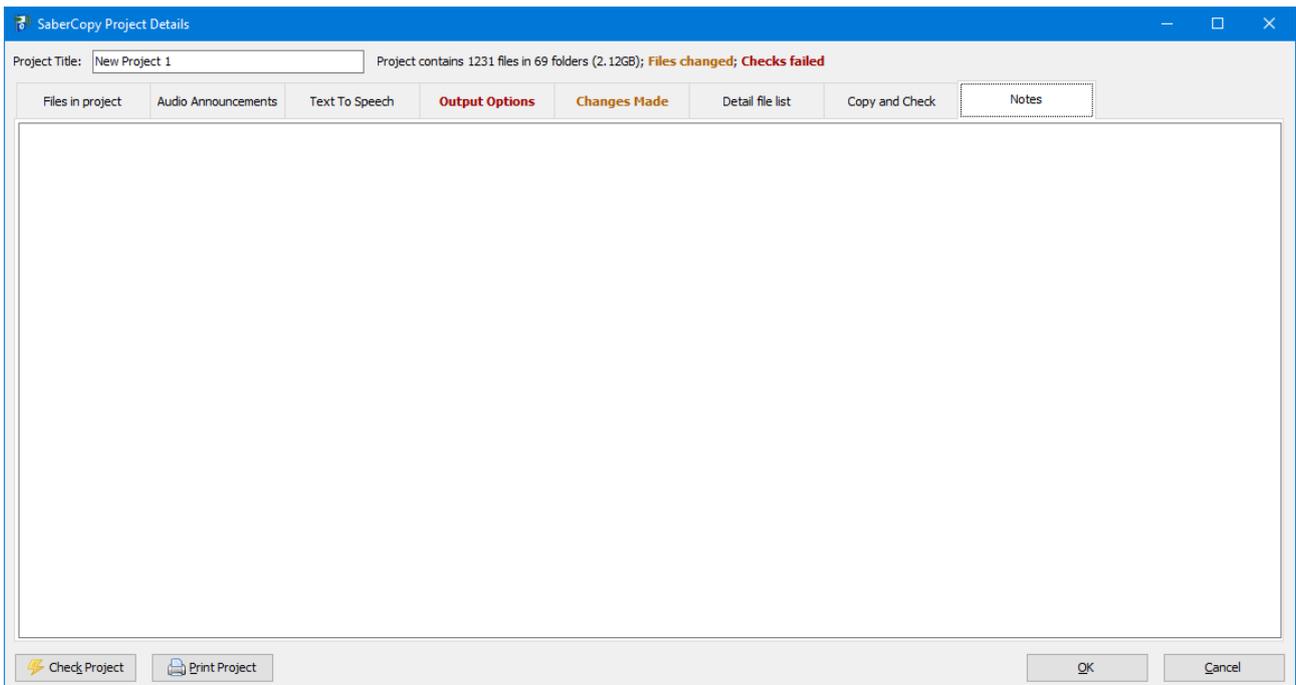
11. Enter a meaningful Project Title.

12. Click [OK] on the Project Details window when complete. This will return you to the main window. The project will be shown in the Projects List on the left side of the window.
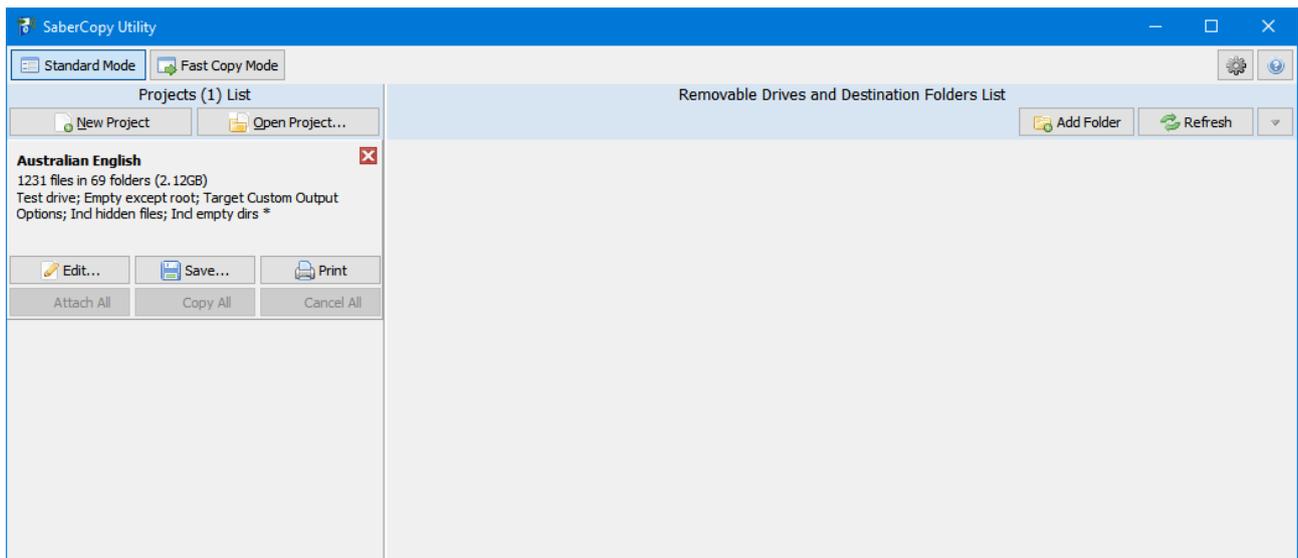
13. Attach one or more devices to your computer. The devices will be shown in the Removable Drives and Destination Folders List on the right side of the window. Note that the Saber and some MegaVoice players will show up as two separate drives: one for the internal memory and one for the SD card reader.
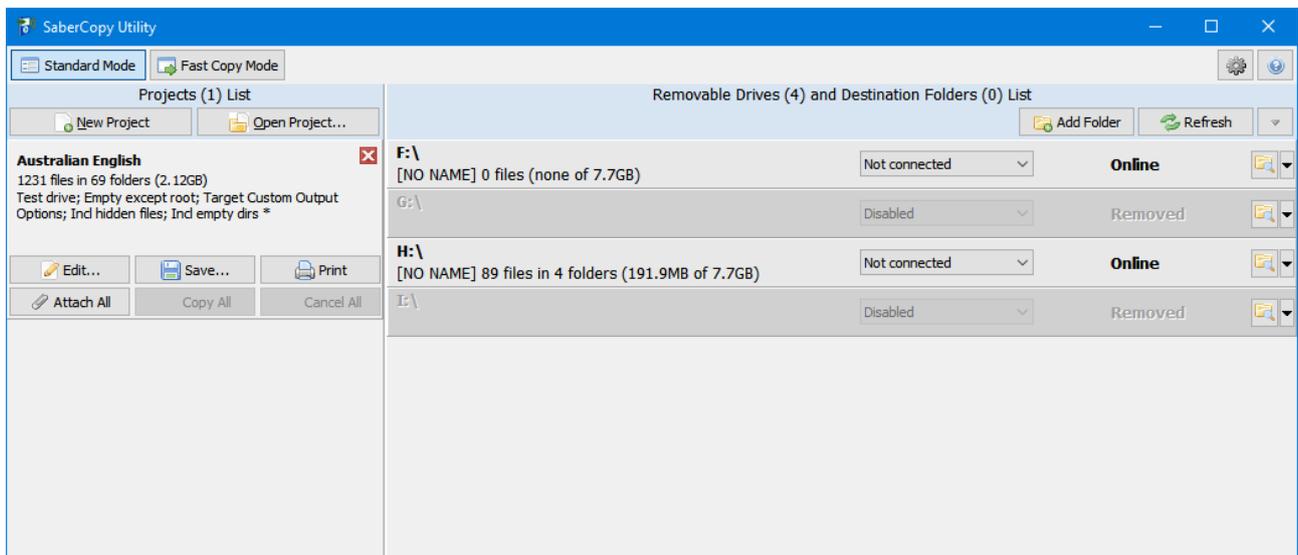
14. Connect projects to specific drives using the drop-down list on each drive, or you can drag and drop a project onto a drive, or a drive onto a project to connect them. Use the drop-down list to disable specific drives that you do not want to copy to or modify in any way. Drives that are connected to projects will automatically be checked to determine whether the files on the drive match the files in the project.
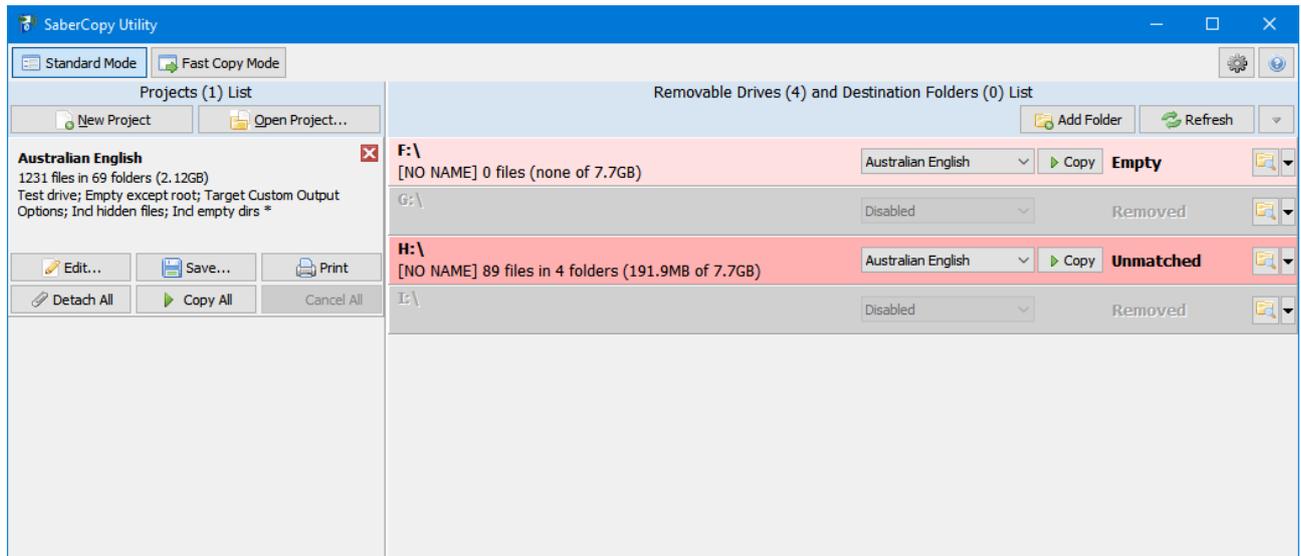
15. Once each drive is connected to the appropriate project, click on the [Copy All] button on the project, or the [Copy] button on each drive, to begin the copying process.
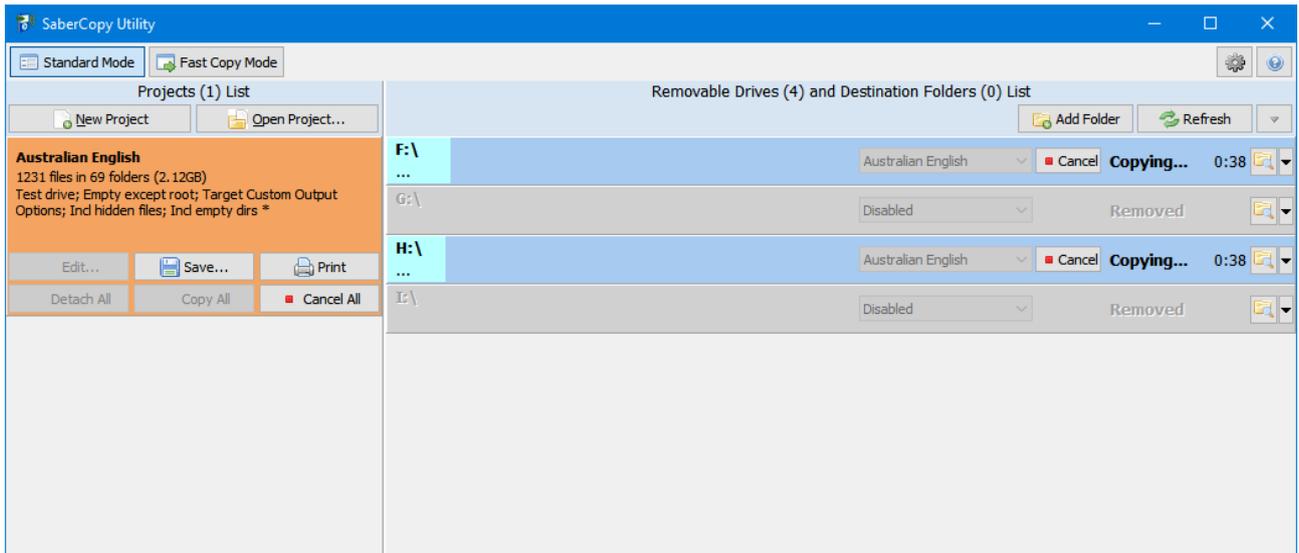
16. When copying is complete, the drive is again automatically checked to see if the files on the drive match the files in the project.
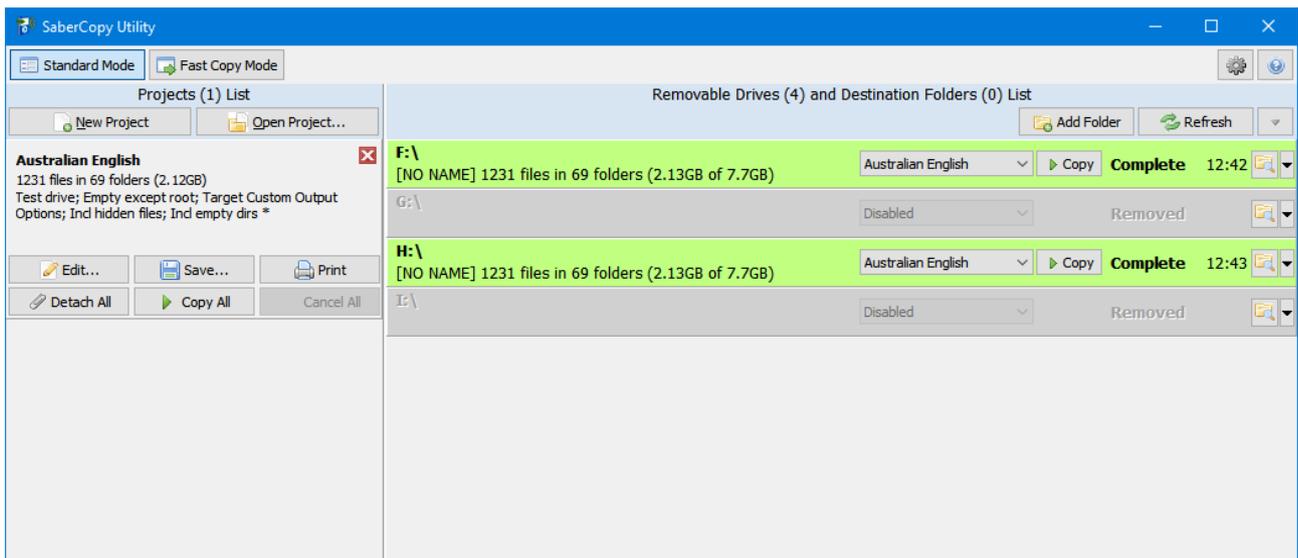
17. Remove the drive(s) and insert other drives to repeat the process.

SaberCopy Projects

A SaberCopy Project defines a collection of files and folders to copy, and the options that are to be used in the copying and verification process. Projects can be saved and reused. Depending on the Mode of operation, multiple Projects may be active at the same time.

SaberCopy Projects define a list of folders and/or individual files, and the name of the directory to which they are to be copied on the destination device.
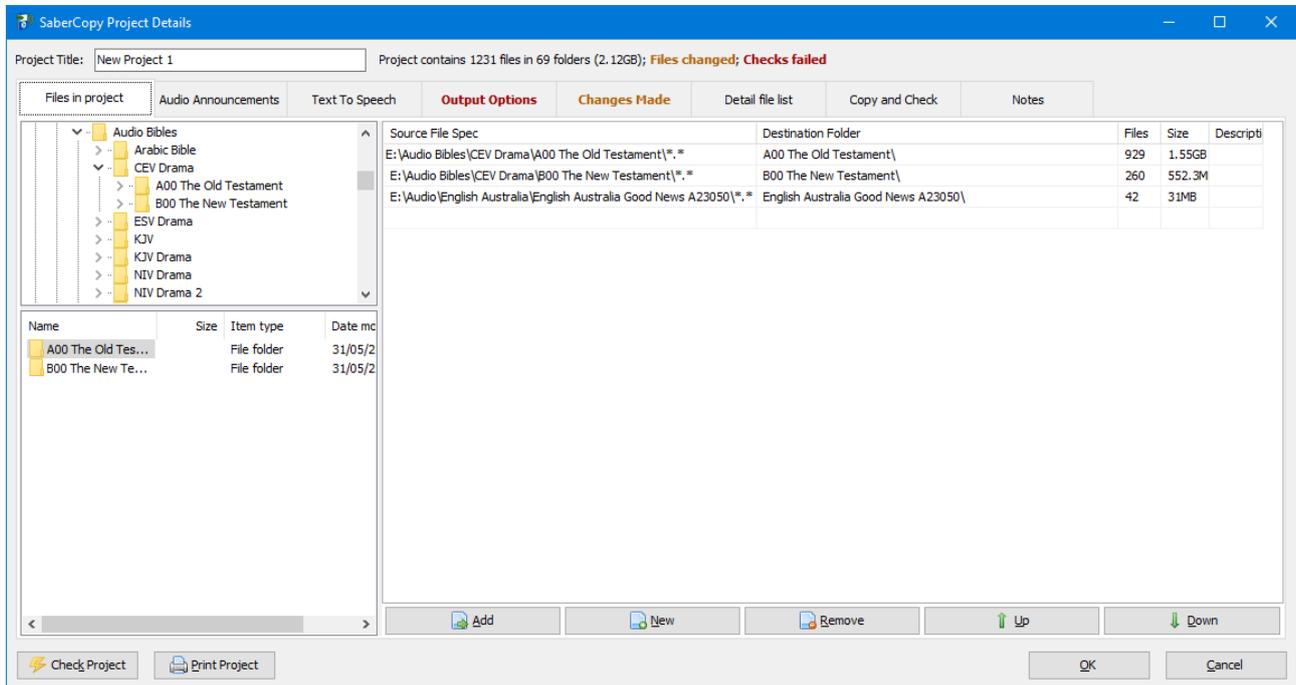
SaberCopy Project definitions are stored in files with a ".saber" file extension.

Project Options

There are a number of options that control the copying process for a project.

Audio Announcements:
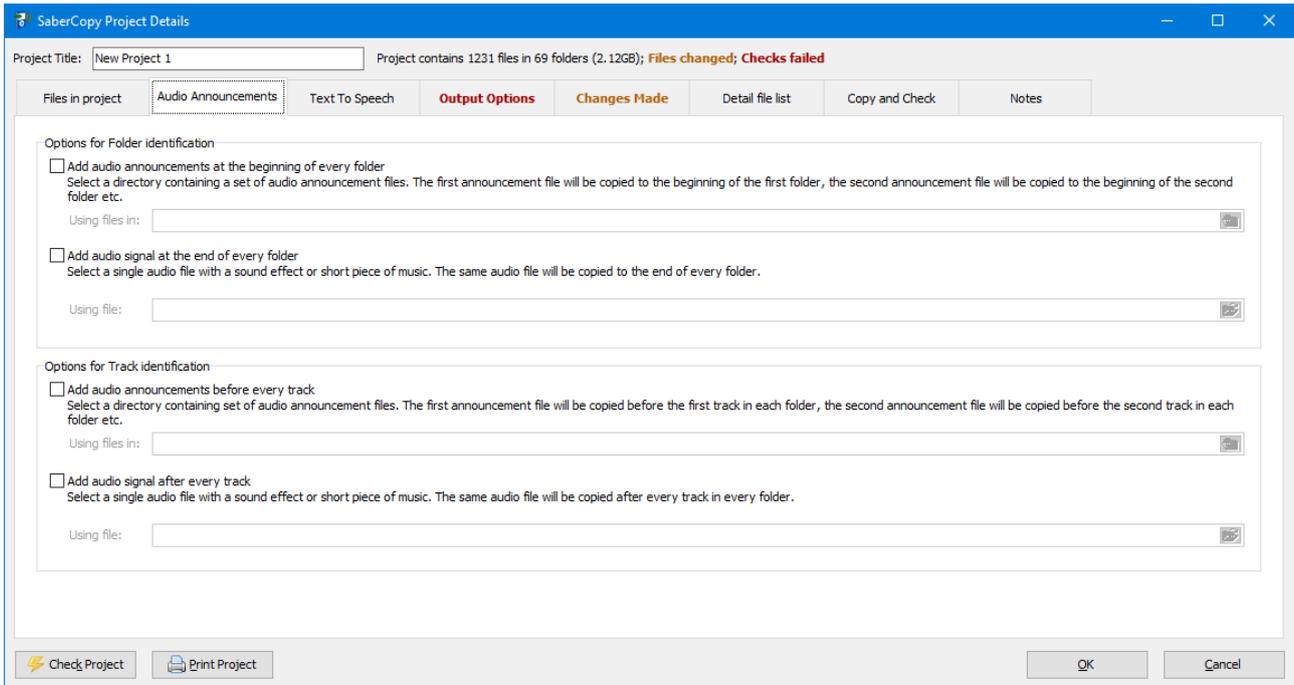
- **Add audio announcement at the beginning of every folder**: If selected, then a folder can be specified which contains a series of audio announcements. The series would normally be something in the form of a count, or other identifications which will help the listener on an audio device uniquely identify the beginning of each new folder.

- **Add audio signal at the end of every folder**: If selected, then a file can be specified which contains an audio signal or short piece of music. This file will be something which will help the listener on an audio device uniquely identify the end of each folder.

- **Add audio announcements before every track**: If selected, then a folder can be specified which contains a series of audio announcements. The series would normally be something in the form of a count, or other identifications which will help the listener on an audio device uniquely identify the beginning of each new track.

- **Add audio signal after every track**: If selected, then a file can be specified which contains an audio signal or short piece of music. This file will be something which will help the listener on an audio device uniquely identify the end of every track.

  Sample announcements and audio signals can be found in the "Announcements" subdirectory where SaberCopy is installed (usually "C:\Program Files\SaberCopy\").

Text To Speech
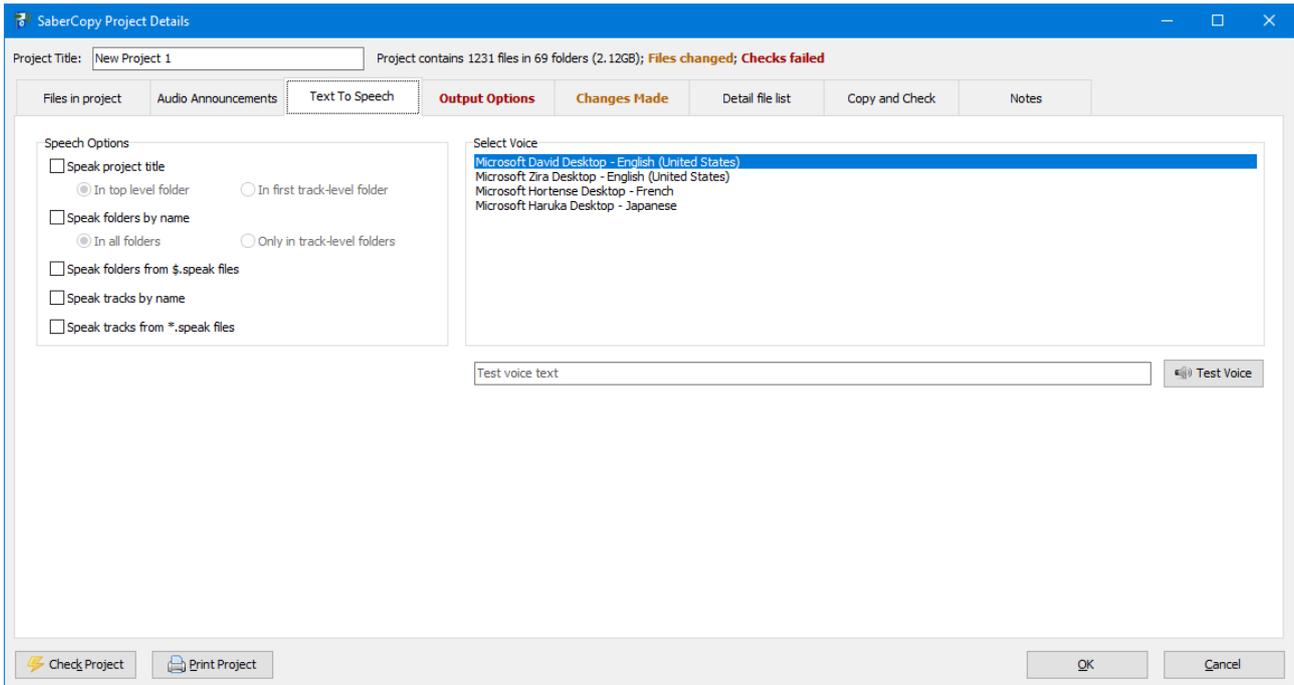
- **Speech Options**
  - **Speak project title**: Create an additional track at the start of the first folder which says the name of the project.
    - **In top level folder**: put the speech file in the first directory, one level below the root, eg

      "*\Language1\my project title.mp3*"
    - **In first track-level folder**: put the speech file in the first subdirectory at the lowest level below the root, eg

      "*\Language1\Book1\Chapter1\my project title.mp3*"
  - **Speak folders by name**: Create an additional track at the start of each folder which says the name of the folder.
    - **In all folders**: put speech files in every output folder in the project, eg

      "*\Language1\language1.mp3*"

      "*\Language1\Book1\book1.mp3*"

      "*\Language1\Book1\Chapter1\chapter 1.mp3*"
    - **Only in track-level folders**: put speech files only in the lowest level folders, eg

      "*\Language1\Book1\Chapter1\chapter1.mp3*"
  - **Speak folders from $.speak files**: Create an additional track at the start of each folder which says the contents of the text file called "$.speak". For example, if you want to say "The Good News in Arabic" then create a text file containing those words, rename it to "$.speak", and put it into the folder where that content is. "$.speak" files can be put into any or every folder in the project.
  - **Speak tracks by name**: Create an additional track before each existing track which says the name of the track file.

- **Speak tracks from *.speak files**: Create an additional track before any existing track which says the contents of the text file called by the same name as the track but with file extension ".speak". There could be ".speak" files for every track, or just every few tracks to provide group or section titles.

- **Select Voice**: Choose the voice to be used in creating all the speech tracks. The list shows all voices currently installed on your computer. Additional voices can be installed through the Language options on Windows Control Panel (steps depend on the version of Windows).

- **Test Voice**: Enter some text to try out any of the currently installed voices. If no text is entered then the name of the voice itself will be spoken.

Output Options
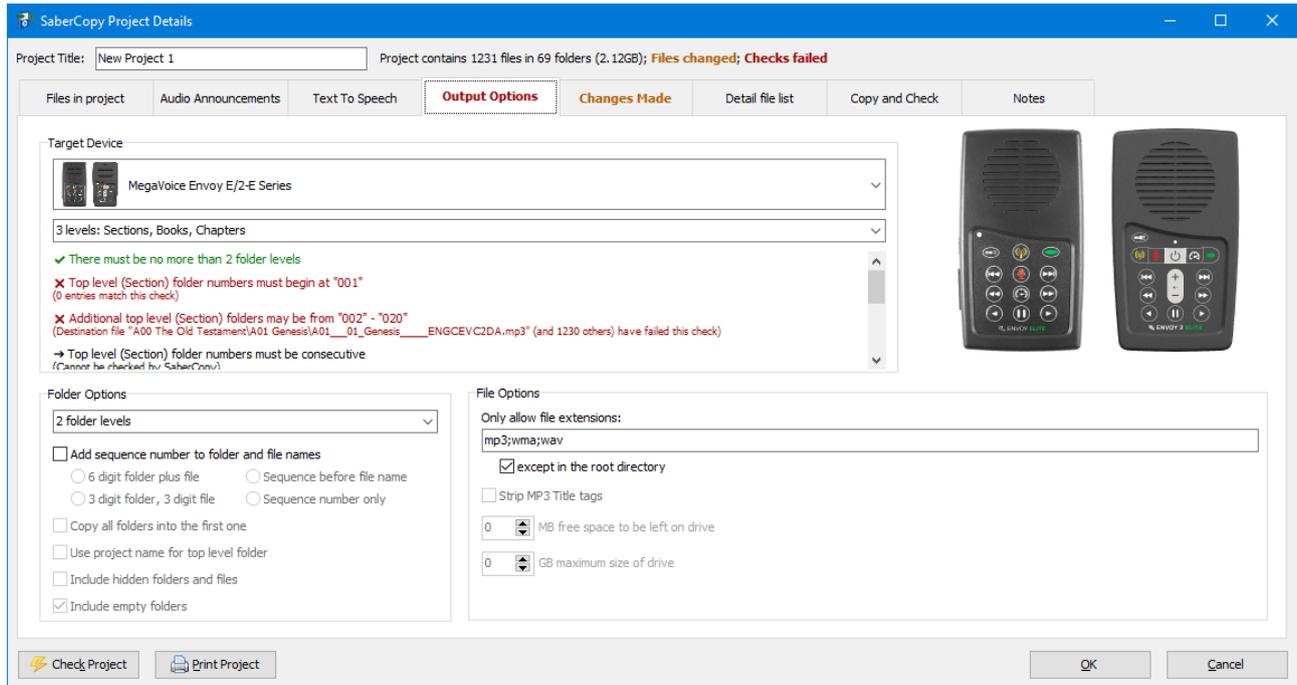
- **Target Device**: Select the specific type of device to automatically enable all the appropriate options for that device. Otherwise select *"Custom Output Options"* to select any of the following Custom Options individually.

- **Target Structure**: Some devices allow alternate file and folder structures, for example in the number of folder levels allowed. If available, select the Structure from the drop

- **Rules**: The criteria for each type of device is shown below the device selector. Some criteria are coloured green or red to show whether the current files and options in the project satisfy each rule. If the rule cannot be automatically verified by SaberCopy, or it is just an information message, then the criteria is shown in black.

- **Folder Options**

  - **Folder Levels**: Determines the maximum number of nested levels of directories on the output device. Directory levels in excess of the number selected are collapsed down to the requisite number.

    - **0 folders, all files in root**: all files go into the root of the target device, eg

      "*/Lang1/Section1/Book1/Chapter1/*" becomes just "*/*"

    - **1 folder level**: target folders are collapsed into a single level of directories, recommended for copying MP3 music collections to CDs or MP3 players, eg

      "*/Lang1/Section1/Book1/Chapter1/*" becomes "*/Lang1 Section1 Book1 Chapter1/*"

    - **2 folder levels**: target folders are collapsed to at most two levels of directories, eg

      "*/Lang1/Section1/Book1/Chapter1/*" becomes "*/Lang1 Section1 Book1/Chapter1/*"

    - **3 folder levels**: target folders are collapsed to at most three levels of directories, eg

      "*/Lang1/Section1/Book1/Chapter1/*" becomes "*/Lang1 Section1/Book1/Chapter1/*"

    - **Any folder levels**: target folders are left as is, regardless of levels of directories, eg

      "*/Lang1/Section1/Book1/Chapter1/*" becomes "*/Lang1/Section1/Book1/Chapter1/*"

- **Add sequence number to folder and file names**: If selected, folder and file names are prefixed or replaced with a three or six digit number to ensure the order of files on the destination drive is preserved, even if it sorts only on short file names.

- **Copy all folders into the first one**: If selected, all files are placed in the directory specified in the first Destination Folder on the *Files in project* tab.

- **Use project name for top level folder**: If selected, prepend the title of the project as the top level and parent directory of all other directories in the project.

- **Include hidden folders and files**: If selected, files marked as hidden, and any files in folders marked as hidden, will also be copied. *Note that even if this is not selected, hidden files are still counted during verification.*

- **Include empty folders**: If selected, subdirectories that contain no files or folders will also be copied. *Note that even if this is not selected, empty directories are still counted during verification.*

- **File Options**

  - **Only allow file extensions**: If not blank, then only files of these extensions will be copied to the destination drive. Separate multiple extensions with semicolons, commas or spaces. The extensions can be entered with or without a leading full stop.

    - **Except in the root directory**: If checked, the any files can be put in the root directory regardless of their extension.

  - **Strip MP3 Title tags**: If selected, then the Title ID3 tag is blanked out in the copy of the file on the destination drive. The original file is not changed.

  - **Free space to be left on drive**: If non-zero, then a warning will be given if this number of MB will not be left free on the destination drive.

  - **Maximum size of drive**: If non-zero, then an error will be shown if the destination drive is larger than this value.

Rules are automatically checked whenever changes are made to the file list or options, but the check can be done manually at any time using the **Check Project** button at the bottom of the window.

Copy and Check
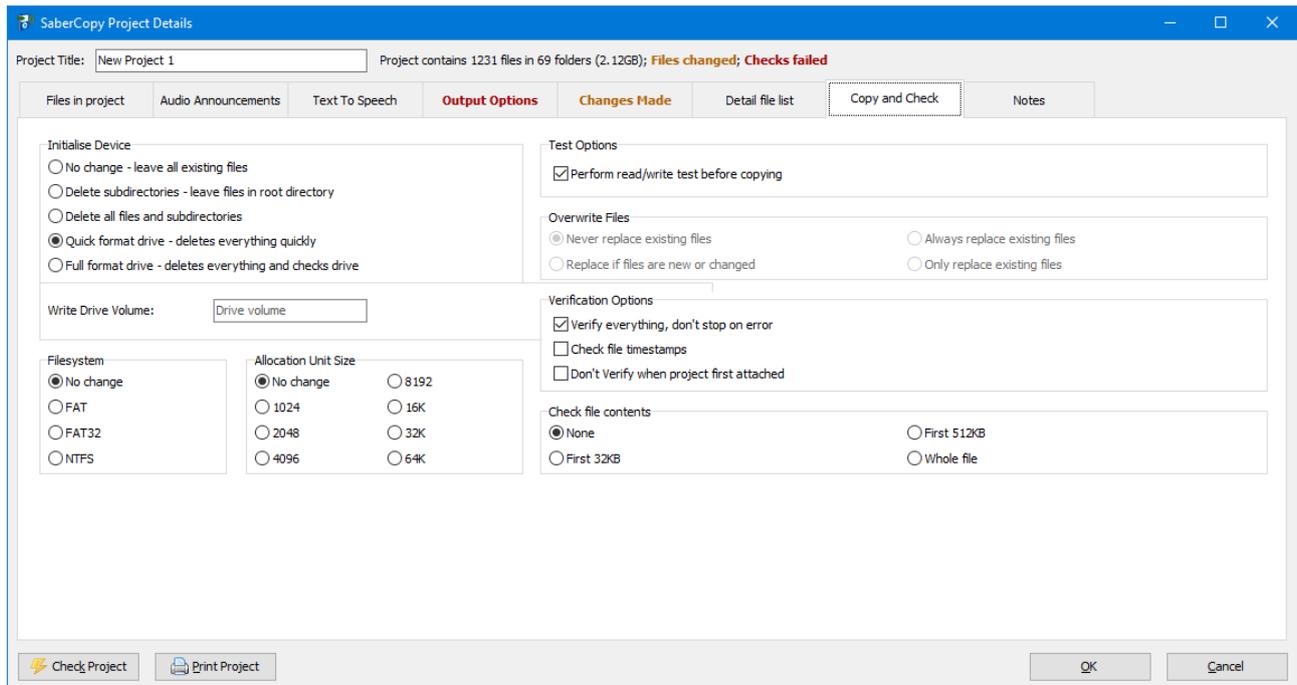
- **Initialise Device**

  - **No change**: Leaves all existing content in place, except for files that may be overwritten by the project.

  - **Delete subdirectories**: Removes all non-system folders from the device, but leaves any files that are in the root directory. This is useful when copying to devices which have software and/or documentation preloaded into the root directory.

  - **Delete all**: Removes all non-system folders and all files, including those in the root directory.

  - **Quick format**: Performs a quick format on the drive, which is usually much faster than deleting files and folder individually but accomplishes the same thing.

  - **Full format**: Performs a full format on the drive, which checks the whole drive for bad sectors. This may take a significant amount of time, particularly on large devices.

  - *NOTE: In Standard Mode a warning is given before deleting file. If the Copy All function is used, then the warning is given only once, rather than for every device.*

  - *In Fast Copy Mode NO WARNING is given before deleting files.*

- **Write Drive Volume**: If entered, the device volume label will be set to this value.

- **Filesystem**: If quick format or full format are selected, this allows the filesystem to be changed. Options are FAT, FAT32 and NTFS. Note that FAT is only suitable for smaller devices, and NTFS may not be suitable for many devices. If in doubt, select No Change.

- **Allocation unit size**: If quick format or full format are selected, this allows the allocation unit size to be changed. This value determines the minimum amount of space that any one file will take. Options range from 1K to 64K. Larger values may enable large files to be read from the device faster, but will waste more space on the drive. If in doubt, select No Change.

- **Test Options**
  - **Perform read/write test before copying**: If selected a simple copy/verify/erase operation is performed on each drive prior to copying, to ensure it is functioning normally and not read-only. This test is not destructive of any data already on the device. If the Read/Write test fails, no further copying will be done to that device.
- **Overwrite Files**
  - **Never replace existing files**: the file will only be copied if there is not already a file with the same path on the target device.
  - **Replace if files are new or changed**: the file will be copied if there is not already a file with the same path on the target device, or if such a that file does not meet the criteria defined in **Verification Options** and **Check File Contents**.
  - **Always replace existing files**: the file will always be copied whether it already exists on the target device or not.
  - **Only replace existing files**: the file will only be copied if it already exists on the target device.
- **Verification Options**
  - **Verify everything**: If selected then the whole project is checked, the verification does not stop after the first mismatch.
  - **Don't Verify when project first attached**: If selected then the verification is only performed after copying, not when the drive is initially attached to a project.
  - **Check file timestamps**: If selected then the verification checks whether file timestamps of source and target are within 2 seconds of each other.
  - **Check file contents**: If selected then some or all of the actual content of the file is checked to make sure they are identical. Options are 32KB, 512KB and Whole file.
  - *NOTE: File size is always checked, regardless of the other verification settings.*
- **Check File Contents**
  - **None**: the contents of the files on the target device are not compared at all with the source files in the project. This is the fastest verification.
  - **First 32KB**: the first 32KB of each file on the target device is compared with the source files in the project.
  - **First 512KB**: the first 512KB of each file on the target device is compared with the source files in the project.
  - **Whole file**: the whole of every file on the target device is compared with the source files in the project. This is the slowest but most thorough verification.
  - *Note: the hash algorithm used in this comparison is defined in the Application Settings.*

Operating Modes

There are two modes of operation

1. **Standard Mode** allows multiple Projects to be open at once. Each Project may be manually linked to one or more destination drives. Copying of the files in each Project is initiated at the click of a button, and a prompt is given before any files are removed from the destination drive. This mode is ideal for ad hoc copying tasks, and for when different content is to be copied to different drives.

2. **Fast Copy Mode** allows only one Project to be open. The Project is automatically linked to every removable drive (except drives that are disabled), and copying commences automatically as soon as any drive is attached to the computer. *IMPORTANT NOTE: No prompts are given before overwriting data on the destination drive.* This mode is ideal for fastest possible copying of the same content to dozens or even hundreds of drives.

The program defaults to Standard Mode each time it is run. It also reverts to Standard Mode if the application is minimised or deactivated, such as when another application is brought to the front, or if a drive of a very different size is attached. Device sizes that cause Fast Copy Mode to be ended are those that are less than half or more than double the size of others, or if they are more than 128GB. All these measures are designed to minimise the risk of accidentally erasing drives that were not intended to be touched.

Device Management

By default, SaberCopy will only copy to removable drives attached to your computer. For your protection, it cannot change any data on fixed drives or network drives unless you specifically use the Add Folder function to add them to the destination device list.

SaberCopy can only write to optical disks that are already formatted with the Universal Disk Format, which is supported by Windows Vista and later versions.

Each Project can be attached to one or more removable drives, but each drive can only be attached to one Project. This prevents multiple copying operations from competing with each other. It does allow different content to be copied to different drives at the same time.

Drives can be completely disabled so that they cannot be attached to any Project. This may be used to prevent inadvertently changing or deleting files from removable hard drives or other specific devices you do not wish to change. This option is particularly important when using Fast Copy Mode. Disabled drives are remembered next time SaberCopy is run.

Device Types

The list of device types that are shown on the Output Options tab is defined in a control file called SaberCopy.ctl in the Programs folder. This is a basic INI file.

The list of devices, and their attributes, can be overridden by putting one or more custom control files in the ProgramData folder. These are also INI files and can be editing with any basic text editor such as Notepad. A sample custom file is provided there in a file called SaberCopy-Sample.ctl.

For more information see the instructions and simple set of examples in SaberCopy.ctl and SaberCopy-Sample.ctl.

Notes

- SaberCopy may not always recognise when a device is inserted or removed from your computer. In particular, SD cards are not always detected when inserted or removed from the Saber player or SD card reader. In this case, press the [Refresh] button (F5) to refresh the list of devices available.

- SaberCopy does not handle multiple open projects that have the same Project Title. If there are more than one project with the same Title, then only the first such project can be connected to any removable drives.

- When selecting whole folders in the project, individual files will be copied in lexical or alphabetic order. This means that, for example, "*10.mp3*" will sort before "*2.mp3*", and "*69.mp3*" will sort before "*7.mp3*". This may not be the same as the order they are shown in Windows Explorer.

- Folders and files that are marked as System are always ignored on both source and target devices. They are never counted, copied or included in the verification.

- File paths from source devices can be any length allowable by that device, however total length of paths on target devices are subject to the Windows MAX_PATH setting and must be under 260 characters.

- If you have selected Text To Speech options that relate to every track, then it may take a significant amount of time to generate all the extra speech tracks whenever the project is first loaded, or if a different voice option is selected.

- If you are copying to Saber players, then it may be advisable to also select the option to keep files in the root directory. This is because the Saber is normally delivered with SaberCopy and other documentation in the root directory.

- If you are copying a lot of MP3 files that have Title tags which need to be removed, and you need to copy to many players, then it will speed up the process to first make a copy of the MP3 files with the Title tags stripped out, and then use these to copy to the Saber players, This saves SaberCopy from having to remove the Title tags every time each file is copied.

- SaberCopy cannot strip Title tags from WMA files. If you want to copy these types of files, you need to strip these tags out first using other audio file editing software.

- It is possible in some low-battery situations on the Saber player for individual files or even the whole file system to be corrupted. In this case, use one of the Format options in the SaberCopy project to reformat the drive and copy the audio content back onto the device.

- Devices that have a secondary SD or MicroSD card slot may show shot slot as a disabled or absent drive. Whether these drives are shown or hidden can be specified in the Application Settings dialog.

- When changing the hash method in Application Settings, the new setting can only be applied to projects that are not currently processing. For any other open project, wait until processing is complete, then close and reopen, or Edit and Okay, to make them adopt the new hash method.

- Some computers cannot handle many drives being formatted at the same time. SaberCopy therefore throttles this by default to a maximum of two concurrent formats. However this can be changed in Application Settings. The method of formatting can also be selected there.

- Debug Mode will show more information in the main log, and will save it to disk more often. This can be useful for troubleshooting. Debug Mode can be enabled in the Application Settings dialog.

What's New in Version 4.6

- Additional rule types and options to check projects at folder or file level, to check the relationships between files, to check that folder or file names are sequential, and to check maximum and minimum file and folder counts, depending on device type.
- Some performance improvement in checking projects.
- Detail list includes individual folder and file counts.
- Progress bar better reflects file sizes, and also includes the verification stage.
- Processing can be cancelled in the middle of large file copies.

What's New in Version 4.5

- Overwrite file options to determine what happens to existing files on the target drive
- Summary of all drive states at top of drive list.
- Progress bar continues for Verification stage.
- Additional formatting in player rule descriptions.
- Removed redundant "MegaVoice OFF signal" option.
- Facilitate custom branded versions of SaberCopy.

What's New in Version 4.4

- User interface works much better with screen reader software.
- More content on the screen can be copied to the clipboard.
- More tooltip hints and keyboard shortcuts.
- Added focus indicators to the currently selected project and drive.
- File Spec list includes counts and sizes of audio announcements.
- New Description field to store additional information about each every File Spec.
- Improvements to tabbing around in the Detail File List.
- Empty folders in the Detail File List are italicised.
- New Notes tab to store miscellaneous information about a project.
- New application setting to control how many links in Detail File List are clickable.
- New application setting to enable different hash types for faster or slower verification.
- Print now includes the full project hierarchy.
- Improvements to print layout sizing.

What's New in Version 4.3

- Allow multiple alternate file and folder structures and options for some player types.
- Folders can be sequenced up to three levels deep.
- Files in the root directory can be sequenced.
- The Detail File List shows the directory tree structure, and any errors for each file.
- Various improvements to checking of player type rules.
- Improved handling of duplicate files.
- Copy progress shown in Taskbar icon
- Additional narrow format for printing player content.
- Other user interface improvements.

What's New in Version 4.2

• Additional checking of projects against the capabilities of various device types.
• List of changes made in terms of any files added, moved or omitted from the project.
• Control files can be customised to add, remove or change attributes of specific devices.
• Deprecated device types can be hidden.
• Check of files on device not in project.
• Unique log files are stored for each run of SaberCopy.
• Log files can be saved on each target device.
• Better handle various failures during file copying.
• Many other user interface improvements.

What's New in Version 4

• Greater support for multi-level folders.
• More text-to-speech options.
• Support for mounted drives, allowing connection to more than 26 drives.
• Multiple folders can be selected in one dialog to add to project.
• Add Folder function supports UNC paths.
• Source paths can be entered relative to the location of the project file itself.
• Source paths are not limited to the 260 character MAX_PATH setting in Windows
• Improved use of mouse wheel for scrolling.
• New check to ensure source and destination paths don't overlap.
• Option to add project name as top level folder.
• Improved handling of invalid characters in folder names and volume names.
• Improved resizing of columns in file lists.
• Tool tips to see long paths that won't fit on screen.
• Hidden drives are omitted from drive counts.
• New Application Settings dialog.
• Improved exception handling.
• Many other user interface adjustments and improvements.

What's New in Version 3

• Create audio announcements from text for folders and tracks.
• New Device Type option to create output customised for multiple types of players.
• Specific support for Megavoice Story Teller SP and LP.
• Option to set a removable drive as a Master to copy from.
• Add folders from fixed drives as target devices.
• Scrollable lists of projects and devices.
• Tooltip shows details of each device filesystem, size and usage.
• New Attach All and Cancel All buttons.
• Single warning when deleting content from multiple drives using Copy All.
• Option to override content deletion for a specific drive.
• Set the drive label of the target drive.

- Navigate through Windows .lnk files in project browser.
- Options to format the drive, and set filesystem and/or allocation unit size.
- Options to include or exclude hidden files and empty directories.
- Option to copy only specific file extensions.
- Option to set maximum size of destination device.
- Verification includes file size, and optionally also file timestamp and/or content.
- Detail file list that shows all files eligible to be copied.
- Copy processing time displayed for each device.
- Message log for each process to show what has been done, and any errors or warnings.
- Option to print the destination folder list to a full size page.

What's New in Version 2

- Gather file/folder collections and options into a single Saber Project file.
- Specify multiple source folders, without having to copy them to a temporary directory.
- Sort files and folders within the Saber project, without requiring them to be renamed.
- Copy different projects to different drives at the same time.
- Limited ability to merge new files onto a drive with existing content.
- Faster copying of MP3 files which have no Title tag to remove.
- Delete Title tags from MP3 files with Unicode file names.
- Option to format removable drive.
- Prompt (in Standard Mode) before deleting all files from a removable drive.
- Option to not delete files in the root directory of the removable drive.
- Option to enforce single level folders, or recurs into more levels.
- Option to reserve free space on the removable drive.
- Options to add audio identification announcements before and after folders and tracks.
- Inclusion of sample audio identification announcements and sound effects.
- Print a manifest of destination folder names and file counts for a project.
- Automatically delete information about every Saber player from the Windows registry.