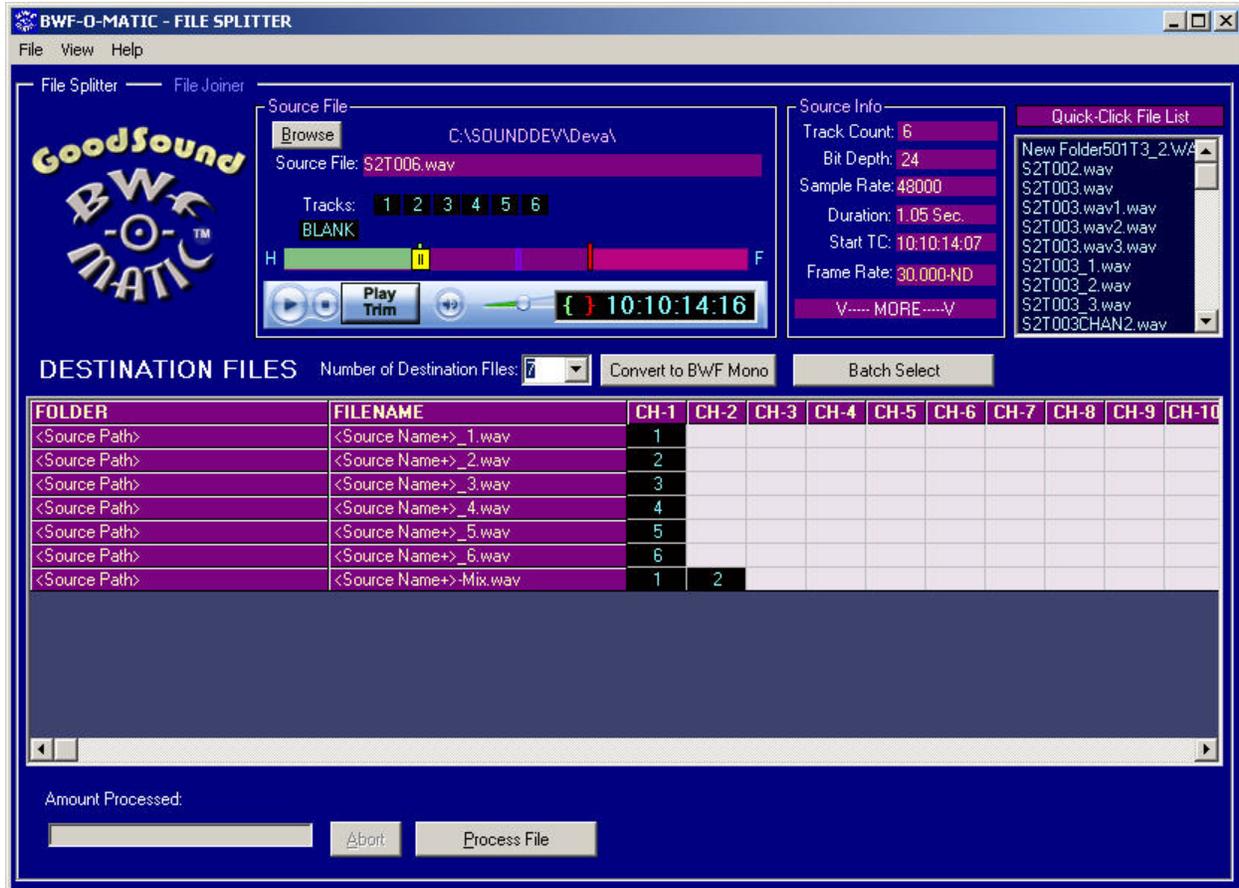


BWF-O-MATIC™

Operation Instructions

Version 1.6 and later

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Program Function:

BWF-O-Matic is a program designed to non-destructively slice and dice Broadcast Wav Files while maintaining all the metadata and Time Code from the original file. The program works primarily on a single Source File which can be Mono or Poly from 1 to 24 Tracks. It creates any number of destination files in any number of destination folders with any number of tracks (up to 24) in any number of arrangements. It also will allow you to trim a broadcast wave file so the resulting destination files contain only a portion of the source file. There is also a Batch Mode for operating on a number of source files from a batch list. This is useful for splitting BWF Poly Files into BWF-Mono Tracks or for Pulling a 2-track stereo mix out of an 8 Track Poly file. You can also create new files with different track arrangements or blank certain tracks while others are maintained. In the "File Joiner" mode, BWF-O-Matic can be used to interleave or join several BWF Mono files into a single BWF Poly file. Also Handles can be added to files for required lead-in time that was not part of the original recording. In the "Join End to End" Mode, several short files can be strung together in sequence creating a compilation in a single output file

Whenever possible, BWF-O-Matic will always retain all proprietary chunks from the main file and will adjust the Time Code stamp when the file is trimmed or Handle are added so perfect

sync is always maintained. BWF-O-Matic works with any uncompressed PCM Broadcast Wave File (or standard PCM Wav file) from any of the various Recorder or Workstation manufacturers. It cannot be used with MPEG compressed files.

You can think of it as kind of a digital dubber that can create either single or multiple copies of the source file with any of the source tracks mapped to any number and any position of the output tracks. It can also be used to split long files into shorter more manageable sizes or to Join several tracks of a BWF Mono File group into a single BWF poly file with custom track arrangement.

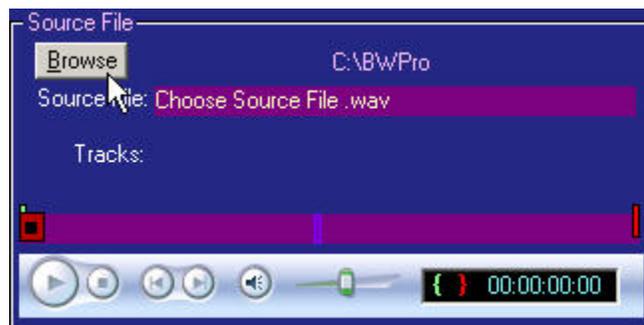
Normal Procedure - File Splitter (Single Source File):

Normal procedure for working on a single file at a time consists of the following Steps:

1. Choose the source file to be split or copied.
2. Choose the number of destination files to create
3. Assign tracks from the Source file to the Destination Files
4. Assign Folders and Filenames for the Destination Files
5. Set any Trim In-points or Out-Points in the Source File
6. Click the "Process File" button to start the process.

Choose The Source File:

In the Source file box, click on the "Browse" button and navigate to the folder and filename that you want to use as your source file. (See illustration at right)



Once you make a selection the Quick Click File List Box at the right of the screen will show any other WAV or BWF files in the same folder as the one you selected. You can easily change your selection by just clicking on another file in the Quick Click List. You can audition your file by clicking the "Play" button in the player control shown above. The file should begin playing and the Green Tracker should traverse the purple Bar to indicate your position in the file as it plays. You can click anywhere in the purple bar with the mouse to instantly move to any position in the file. Use the Right Mouse button to click on the bar to set the Left-Right Balance for tracks 1&2 of your file. All tracks greater than 2 will probably be heard equally on both Left and Right outputs. The Small TC window in the Media Player control shows you the Time Code from the file as it plays. If the file has no Time Stamp, the TC counter will show elapsed time from the beginning of the file.

Setup Destination Files:

Next step is to setup the number and location of the Destination files. If you are just going to create BWF Mono files from a BWF-Poly Multi-Track Source you can simply click on the button marked: "Convert to BWF Mono". This will automatically create 1 Destination or output

file for each Track in the source file. It will automatically create the Destination filenames and auto-assign the track assignments for each output file.

If you don't want to simply create Mono files from a Poly, you can manually configure your Destination files to whatever suits your application. First you choose the number of files by selecting a number from the drop-down box (or typing in a number into that box)

After choosing the number of destination files, 1 or more destination files will be added to the grid with the Default folder assignment and the default file name that consists of the <Source Name+> an underscore character and a number that represents the output file number. Output file naming based on the Source File name is necessary to allow batch processing of multiple source files to allow for creation of unique destination filenames for each file processed.

If you give a destination file a discrete filename (not based on the Source name), batch processing will be problematic because for each source file processed, the destination files will be saved to the same filename, overwriting the previous file created in the batch. See section below on Output Filenames.

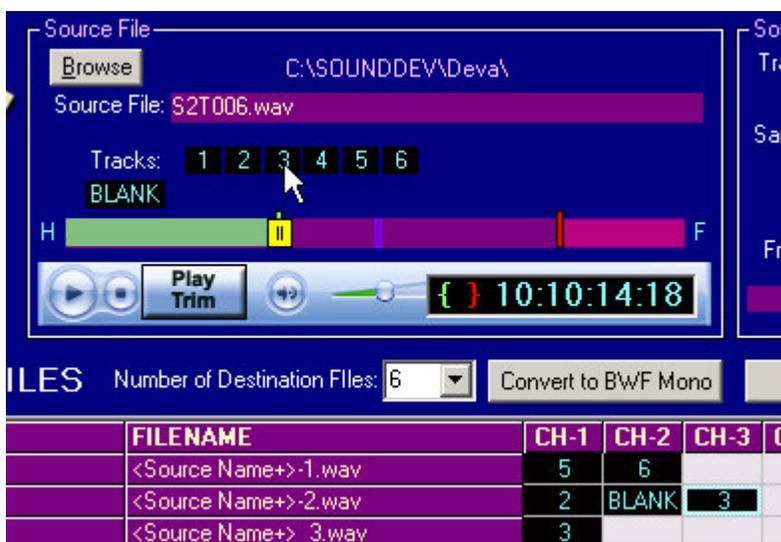


Track Assignments:

Next you need to assign which tracks from the source will appear on each Channel in each destination file. You make assignments by clicking on a cell under each channel box (CH-1 etc.) for each track you want to output in the destination file and then clicking on the track number in the Source File Window that you want to assign to that Channel. (See figure below). It will enter that track Number from the source file into the selected channel position in the grid and move to the next channel in that Destination file.

CHOOSING TRACK ASSIGNMENTS

You can choose any number of tracks in any order from the Source file or "BLANK" if you want the track to exist in the destination files but be blank. You can use this method to rearrange the tracks from the Source file to the Destination file or to blank out a track from the source file and keep the same number of Channels and track assignments in the Destination file. Or you could create a 2 track poly file with tracks 5 and 6 from the Source

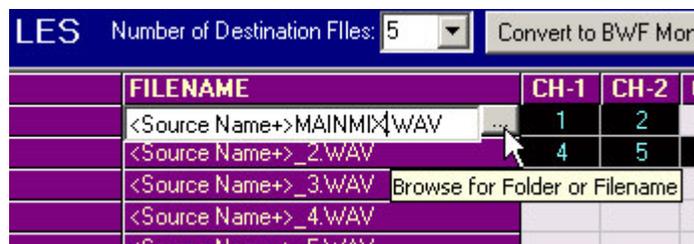


file as channels 1 and 2 of the destination file. There will be a track created in each destination file for each track assigned from the source.

Warning: You must assign at least 1 track from the source file (or blank) otherwise the destination file will have no tracks in it. Track assignments must be successive with no empty cells between channel assignments. If you want to create a 4 track BWF poly file from your 2 track Source you must assign either 1, 2, or Blank to each channel (1-4) in the Destination file. You can assign the same source track to more than 1 channel in a destination file if you wish.

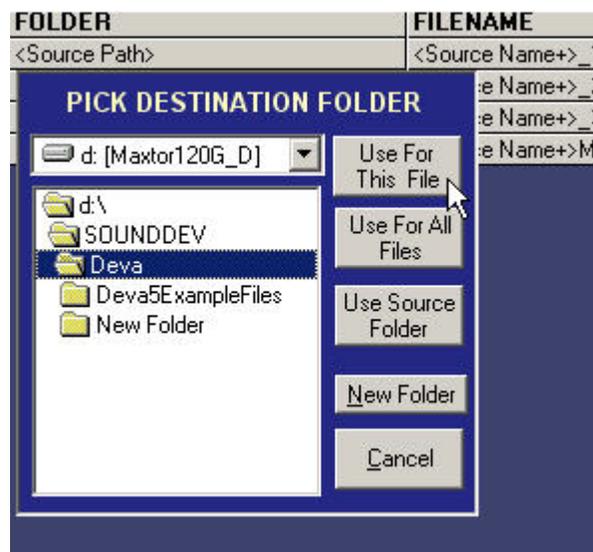
Output Filenames

You can change the destination filenames to anything you wish, by right-clicking in the filename or folder column and either typing in the new filename or path or clicking on the mini-browse button "...".



If you are batch processing a number of files you need to have the program assign a Destination filename that is based on the Source Filename plus some additional info to designate the contents of the new file. In the above example the destination filename for the 4th file will take the root of the source file (without its extension) add "MAINMIX.wav" to create the destination filename. The underscore character followed by a Number("_1") usually indicates a BWF Mono file that contains a single track from the Poly Source.

If you right-click in the folder column, you will be offered the ability to either edit the Destination path or browse to an existing folder or create a new one.



Once you browse to a folder you can then make a choice from the buttons down the right side of the dialogue box.

Use for this File. Assigns the output folder to just the current file in the destination list.

Use for All Files: assigns the selected folder to all Destination Files in the list.

Use Source Folder: Enters "<Source Path>" in the current file indicating that the destination file will be placed in the same folder as the source file.

New Folder: prompts you to enter a new folder name that will be created and placed in whatever folder is currently selected.

Trimming the Source File:

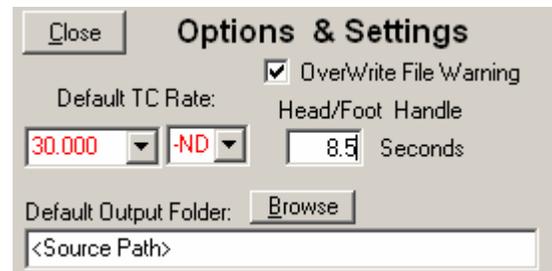
If you wish, you can copy the tracks as they are from the source file or you can apply a trim so the destination files will only contain a portion of the source file. To trim the file, play it back in the built in player and click the Green "{" marker to set the In-Point or the Red "}" to set the Out-Point on the file. A green Bar will indicate the portion of the file from the Start to the Trim In point that will be omitted when creating the destination file. Use the cursor keys (left and right) to move 1 frame in either direction to fine-tune your trim points. (Pressing shift with the left and right arrows moves 1 second in either direction) The "Play Trim" button appears and you can preview your output file by clicking on this button. The file will play just the trimmed section to preview what the destination file will sound like.



You can also set a Trim Out mark in the file where you want the file to stop short of the normal end. Just Click on the Red "}" mark by the TC clock to set the Trim Out point to any position in the file past the Trim In point. Once again you can use the Play Trim button to preview the resulting trimmed file Double-clicking on the Trim in button or Trim Out button will reset the respective trim point to the beginning and end of the file.

Adding Head and Foot Handles

You can add any length of blank lead-in to a file or a blank lead-out at the end of the clip or file. To add blank space to the head or foot of the file first open the options menu and enter the length of the handle in seconds. Time code, if present, will be adjusted in the resulting Output file so sync is maintained for any sound in the file or trimmed clip.



After you set the length of the Head/Foot Handles in the Options Menu, you enable them by double-clicking on the "H" at the left of the tracker bar to add the header (the "H" lights green indicating it is turned on). Double click again to turn it off. Double-Click on the "F" at the end of the tracker bar to enable the Footer Handle. If you hover the mouse cursor over the "H" or "F" you can check the amount of time that is set in the tool tip that pops up.(see example at right) If turned off (not lit up) the Head and/or Foot handles will not be added.



Note: Blank Head and Foot handles are added to all the destination files and will precede any Trim In point. This is useful for building music playback files where you may need time at the head or tail of the file so the file can be playing with time code running so a slate can be shot prior to the music down-beat.

TIP: Hotkeys Active during file playback:

"P" Key = Play Trim

"I" Key = Mark Trim-In

"O" Key= Mark Trim-Out

"S" Key= Stop Playback and reset to Beginning of file

"Space Bar"= toggle Play / Pause of source file

"C" Key = Cue up to Trim In Point

"E" Key = Move To Trim Out Point

"Home" = Move to Head of file

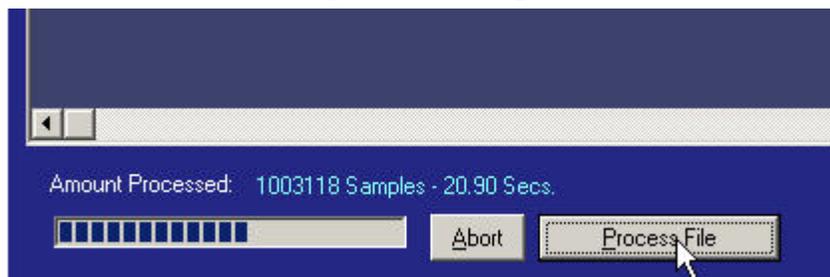
"End" = Move to End of File

(if Hot-Keys are not functioning, Click on the BWF-O-Matic Logo to restore Hot Key Control to your file playback)

Once you have assigned or edited all the paths and filenames for the Destination Files and selected any trimming you may want on the source file, you can now proceed to the next step which will be Processing the file.

Processing the File:

To process the split, simply click on the Button below the Destination File Grid labeled: "Process File". The Process will begin and the output files will be created and the material from the source



file will be sequentially copied to all the destination files. You will see a Progress report that shows the number of Samples processed and the amount of running time in the Source file that has been

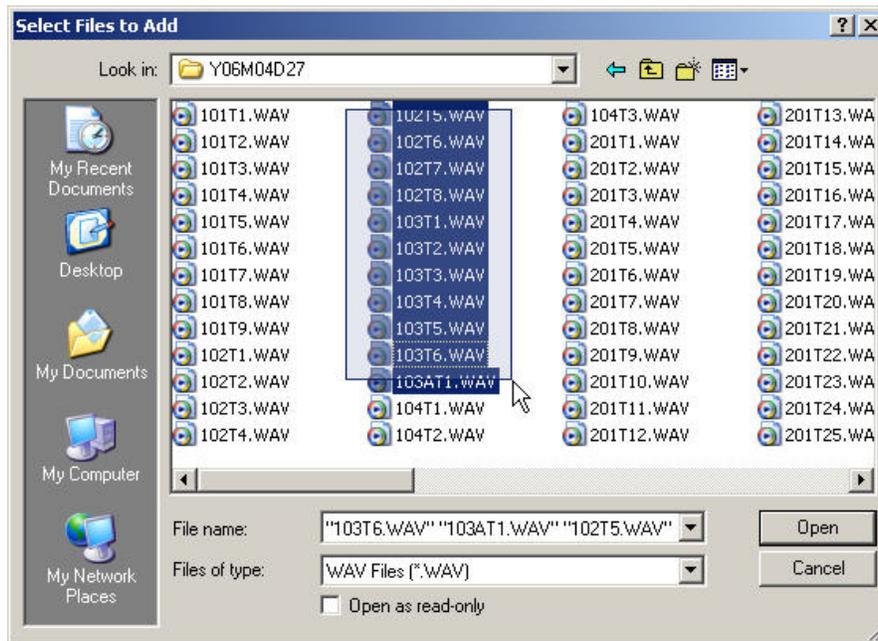
processed.(in seconds) If you press the Abort Button, Processing stops at the next sample and all the Destination Files are closed and updated so they will be perfectly playable up to the point you pressed "Abort". If you want to start again you should erase the files created by the first attempt or press OK when prompted that the file exists and the program will delete them when you try to run the process again with the same output filenames.

Batch Processing:

You can process a single file or perform the same processing on multiple files by creating a batch list of files to use as the source. To put BWF-O-Matic in Batch mode press the button labeled: "Batch Select". The Quick Click File Select Box will be replaced by a "Files to Process Box" with a button beneath it marked "Add Files". Clicking on the "Add Files" button brings up a file selection dialog box that lets you navigate to any drive or



directory and select 1 or more files to be added to the list. You can choose files from several different directory folders to be added to the list. Use the "Ctrl-Click" method to choose multiple files in a single directory or drag the mouse cursor down the list to include a series of files in the same folder (See figure below). Once the files are added to the "Files to Process" list you can click on them to examine their metadata, track count etc. or audition them by pressing the play button. To remove any file from the list, select its filename in the purple box and press the "Delete" key on the keyboard. That file will be removed and remaining files will be moved up in the list.



Selecting Multiple Files to Add to the Batch Process

Once the list is to your liking, press the button at the bottom of the screen marked "Process Batch". The files will be processed and their progress will be monitored on a file by file basis. The progress bar and status show the processing on the current files indicated in the batch list. As each source file completes processing a beep is heard and the selection moves to the next file in the list until all files are processed or the "Abort" Button is pressed.

While it is possible, use caution when selecting to "Trim" the source files to less than full length when in batch mode. The resulting files will all be trimmed to start with the same amount removed from the beginning of each file. The same running length of the trim (regardless of the file length) with the Trim Out-point happening xx seconds after the In-point selected. All files in the batch list must have enough sound to cover the trim. An example of where batch Trim could be used would be to cut off the first 6 seconds of pre-roll on each file.

The Source files also must have enough tracks to match the track assignments made in the destination file list. In other words if you wanted to batch process a bunch of 8 track files and create a 2 track file with track 7 in channel 1 and Track 8 in Channel 2, then all your source files in the batch list must have at least 8 tracks. They can have more, but not less than the highest track number assigned to an output file otherwise an error will be generated. The source list is Validated prior to starting the processing. However the files are not checked to see if they have enough sound to cover a specific trim.

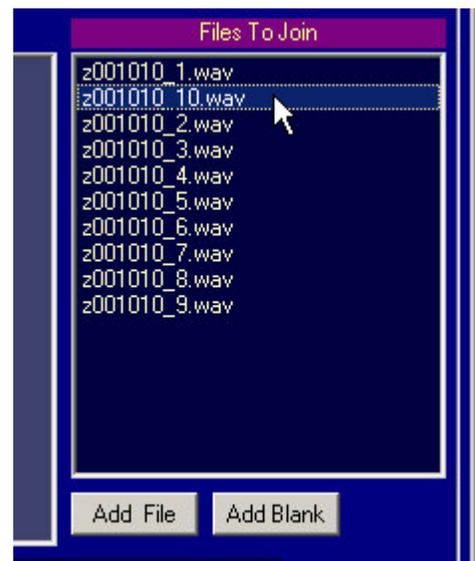
File Joiner

BWF-O-Matic can also be used to Join or Interleave BWF Mono Tracks into a single BWF Poly File. To place BWF-O-Matic in Join Mode you can either Choose " File Joiner" from the top File menu, or simply click on the "File Joiner" tab above the logo. This will put the program in Join Tracks mode. The Grid Label will change from "Destination Files" to "Source Tracks". It is here that you will build your list of BWF-Mono track files to join into a single BWF Poly File.



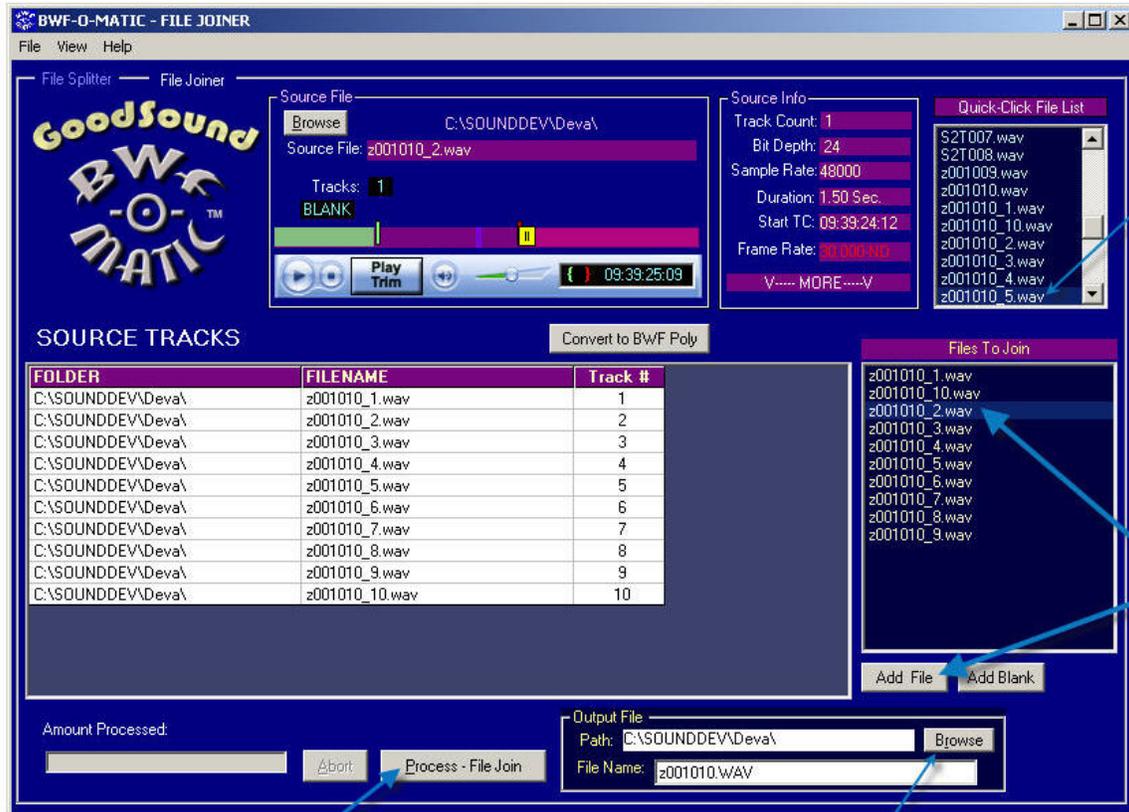
To choose which files are to be included, first click on the Browse button in the source file window. Navigate to the folder where your mono files are stored. BWF mono Files are indicated by a filename containing an underscore character followed by a track Number. Like "S121T003_3.wav" This would be Track 3 of file "S121T003.wav". When you click on any track of a multi-track BWF-Mono Series the box labeled "Files to Join" will fill with all Track files related to the key file you chose. (See Below): If you click on the button above the grid labeled "Convert to BWF-Poly", all the files listed in the "Files to Join" list box will be added to the Source Tracks list in the order that they appear in the Files to Join box. That is the quickest way to choose all the tracks.

If you want to create a custom track layout of the Poly Output file by selecting just the track files you want to include in the order that they will be added to the Poly file. The first Track in the List is the Key Track and it will carry all of its metadata to the Poly file. You can add files to the lineup by double-clicking on any file in the " Files to Join" list box. Single click on any file in the "Files to Join" list to show it's information in the source File and Source Info windows.; You can then audition the selected file in the player to determine the contents of each mono track. You can add blank tracks by clicking on the "Add Blank" button. These tracks will serve as track place holders if you want to assign specific tracks to specific channel and you don't have enough files to fill the track count.



You can join mono files from different source recordings as long as they are the same sample rate and bit depth as the first file in the list. The resulting joined file will only be as long as the shortest file in the group being joined. You can use this method to add a LTC time Code Track to a music or playback track.

Custom File Joining



(1.)
Choose
New Key
File By
Clicking In
Quick Click
Box

(2.)
Use Buttons
or Double
Click to Add
Tracks to
Output File

(4.) Click Button to
Start File Join
Process

(3.) Use Browse Button to
Change Path or Filename
for Output File

A destination Filename will be automatically created in the Output File window that is based on the root filename of the individual track files. (without the track suffix). You can edit this name to be anything you wish or click the Browse button to change folders or create a new folder for the path.. If you add an incorrect track you can easily remove it from the source tracks list by selecting that row then pressing the Delete key. The selected row will be removed and the remaining files in the list will be moved up and re-numbered.

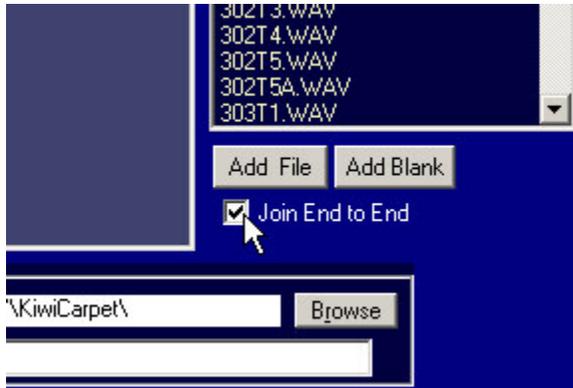
As with the file Splitter, you can choose to join a trimmed section from a larger file. Set a Trim In and or Trim Out point in the Source File Window. Use the player to choose your Trim In and Trim Out points Only the trimmed selection will be joined from each mono track file in the Source Tracks List..

Because of all the choices necessary to setup a File Join, there is not currently a Batch mode for the file joining process..

Head and Foot blank space can be added to joined files as well. (see above section on Adding Head/Foot Handles)

Joining Files End to End (Sequential)

There is a second mode for joining wav or bwf files. You put BWF-O-Matic in the Sequential mode by clicking on the check box labeled "Join End to End" Below the files to Join List box.. This mode may be useful to join several shorter files together into a single longer file to send to Transcription or when recording live performances where you have to Stop the recording for act changes etc. Then you can re-combine the individual files into a single longer file that contains all the smaller parts. All files joined in this fashion must match in Track count, Bit Depth and Sample Rate. This function may be useful since there is no functioning "Pause" button active during recording on most file based production Recorders. Cue markers are inserted in the Output file that mark the start of each of the original source files.



When placed in End to End (or Sequential) mode you can string together several mono or poly files in sequence creating a new file that contains all the files in the order shown in the list. When the box is checked, the "Files to Join" List shows all wav or bwf files in the folder.(not just the bwf Mono files which are shown when the checkbox is un-checked)

The first file added to the list determines the track count, bit depth and sample rate as well as all the broadcast wave metadata and Time code for the output file. All files in the list must match the format and track count of the first file in the list. Add the files to the list in the order you want them to appear in the output file. If you click on the Add Blank button a blank space will be entered in the list causing a silent space between files. The length of this Blank period is determined by the setting in the Options Menu for Head /Footer Handle. Enter a value in Seconds for the blank periods used.

NOTE: if the files in the list are Broadcast Wave Files, the resulting Output file will contain all the source files and the Time Code will reflect the start time of the first file in the list. Sync will NOT be maintained beyond the segment from the first file in the list. The output file only includes the Bext Chunk, Format chunk, and Data Chunk from the original first file in the list. Since the remaining files in the list are added to the running TC from the first file their original TC (if any) is lost. A new Cue Chunk is created for the compiled Output file that contains markers that point to the start of each source file in the new file. So you can quickly jump from one cut to the next when playing the compiled output file in BWF-Widget Pro.