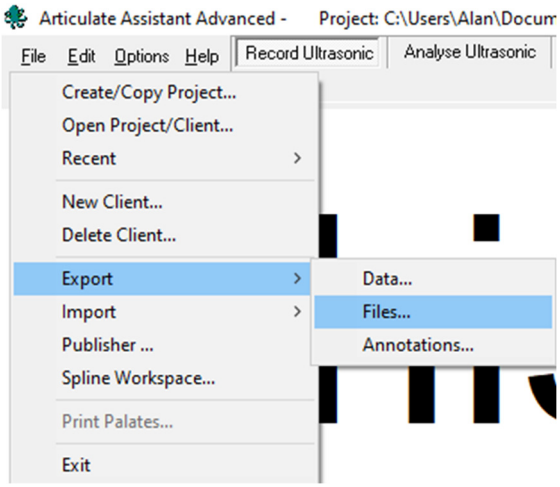
Export Files

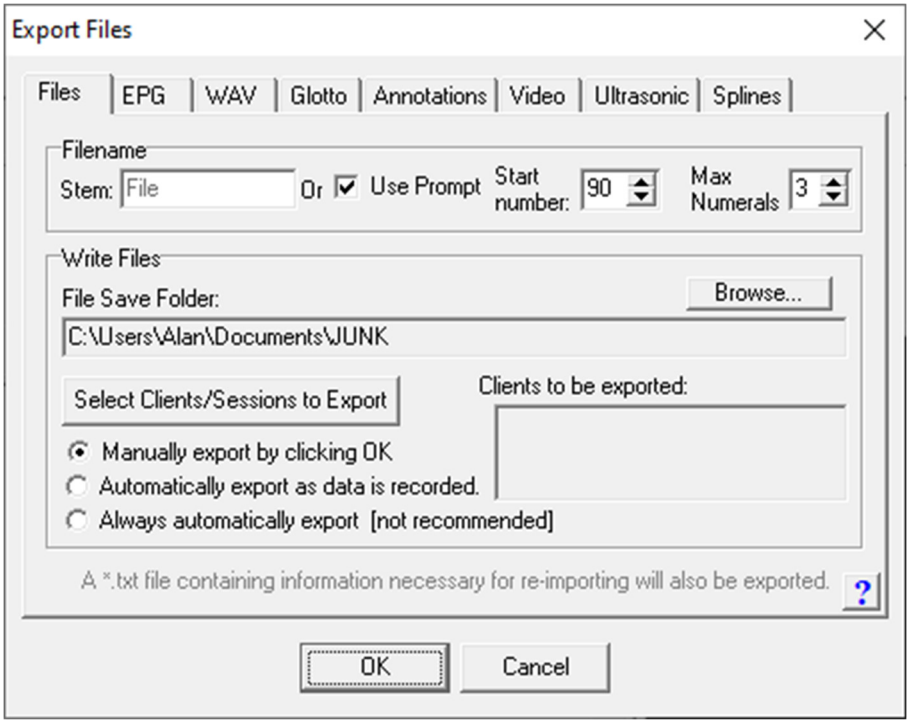
Contents

The purpose of the export files dialog is to allow data streams recorded in the project to be converted to file formats that may be read by other analysis applications such as Excel, “R”, Matlab, PRAAT etc. The Export Files dialog is designed to export entire recordings. To export labelled regions of recordings see Export Data. The following sections describe how file export works and the different types of data that can be exported. Files of most types can be imported back into AAA (see Import tutorial). To allow a file to be imported into the correct recording, a *.txt file is always exported along with selected data streams. The text file contains three pieces of data that together define the source recording

- Client name
- Date/time of recording
- Prompt text



Files dialog page



The File dialog defines:

- the naming format for the exported files,
- the destination folder where they are to be saved and
- the recordings to be exported.

Filename can be defined by index <stem><Start index>< max Numeral digits> or by prompt text <prompt><number>

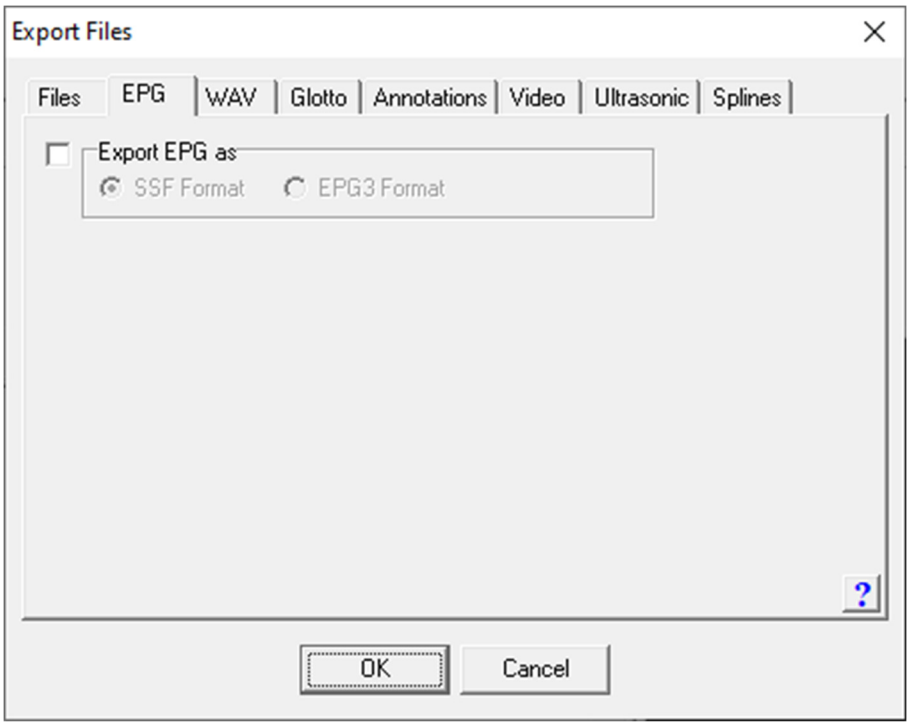
- **Stem** – This text will form the initial characters of every exported file
- **Use prompt** – Alternatively each file will be named using the prompt text with any illegal filename characters removed.

```
< (less than)
> (greater than)
```

```
: (colon – sometimes works, but is actually NTFS
Alternate Data Streams)
" (double quote)
/ (forward slash)
\ (backslash)
| (vertical bar or pipe)
? (question mark)
* (asterisk)
```

- **Start number.** – the stem is followed by a number starting at this index.
- **Max Numerals.** – Number of decimal places. E.g if 3 and start number = 5 then the first exported file name will be <stem>005.* or <prompt>005.*
- **File save folder.** – Full path of folder where exported files will be saved. This can be an external drive. Use the browse button to open a windows explorer dialog to find and select the folder on your computer.
- **Select clients/sessions to export.** – Opens the subdialog described in the Project Tutorial section *Copy recordings from one project to another* allowing whole sessions or individual files from the current client to be selected for export.
- **Manually export by clicking OK.** – the default and recommended way to export files by clicking the OK button in this Export files dialog.
- **Automatically export as data is recorded.**- If this option is set then the next time a recording is made then all the file formats checked in this dialog will be exported when the recording stops. This will slow down the recording process and so is not recommended. As it is not recommended, this option is reset to OFF when AAA is closed so that it is not active the next time AAA starts up.
- **Always automatically export (not recommended).** – disables the safety feature described above so that the next time AAA starts automatic export remains active.

EPG dialog page



The EPG dialog exports electropalatography data recorded by AAA consisting of 62 electrodes arranged in an 8x8 matrix.

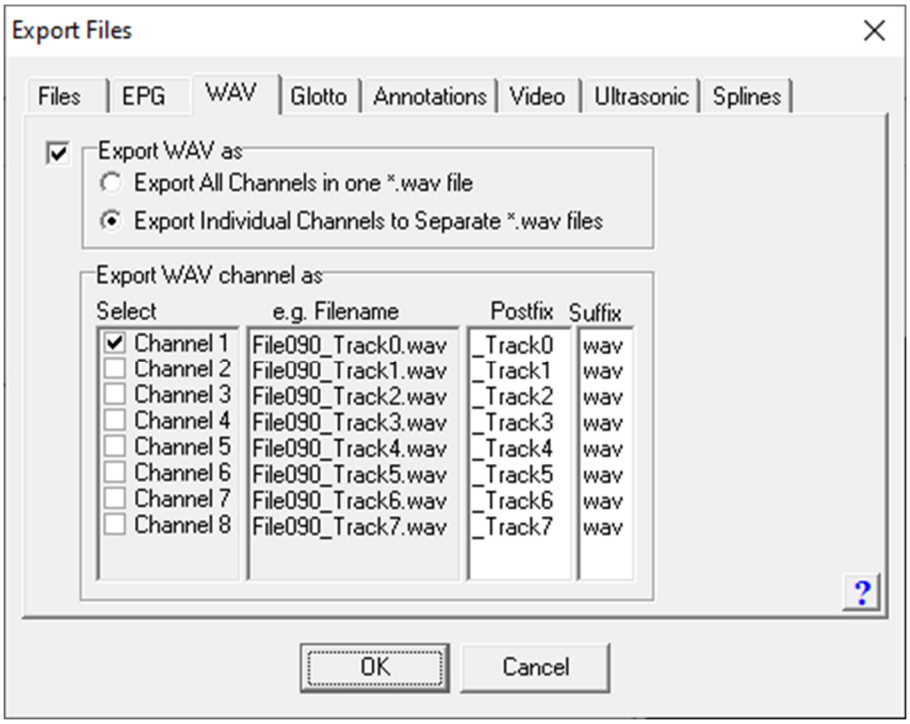
- **SSF format.** – Speech sound file, a format designed by Kiel university which comprises of binary data preceded by an ascii header that defines the frame rate and the number of bytes per frame as follows:

```
SSFF -- (c) SHLRC
Machine IBM-PC
Start_Time 0.0000
Record_Freq 100.0000
Column epg BYTE 8
```

- **EPG3 format.** - A raw binary with no header .

Reading EPG palates have 62 contacts which can be ON or OFF It is easy therefore to specify a single palate pattern by a set of 8 x 8 binary bits. These are coded and stored as 8 palate rows from posterior to anterior. Each row consists of 8 binary bits (1 byte).

WAV dialog page



The wav dialog exports the audio recording as a wav format file.

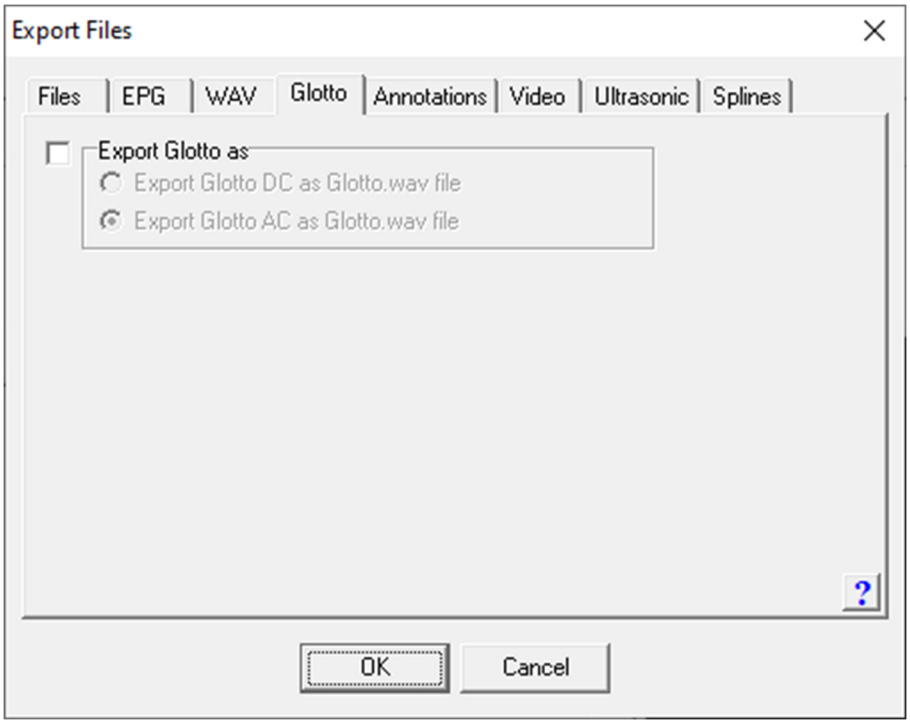
- Export all channels in one *.wav file – self explanatory. AAA may have up to 8 channels but more typically a recording will have 2 channels, a speech audio and a synchronisation

channel. More than two channels permits more synchronisation signals on separate channels.

- Export individual channels to separate *.wav files. – check as many channels as desired. The postfix can be edited if a different channel indicator is preferred.

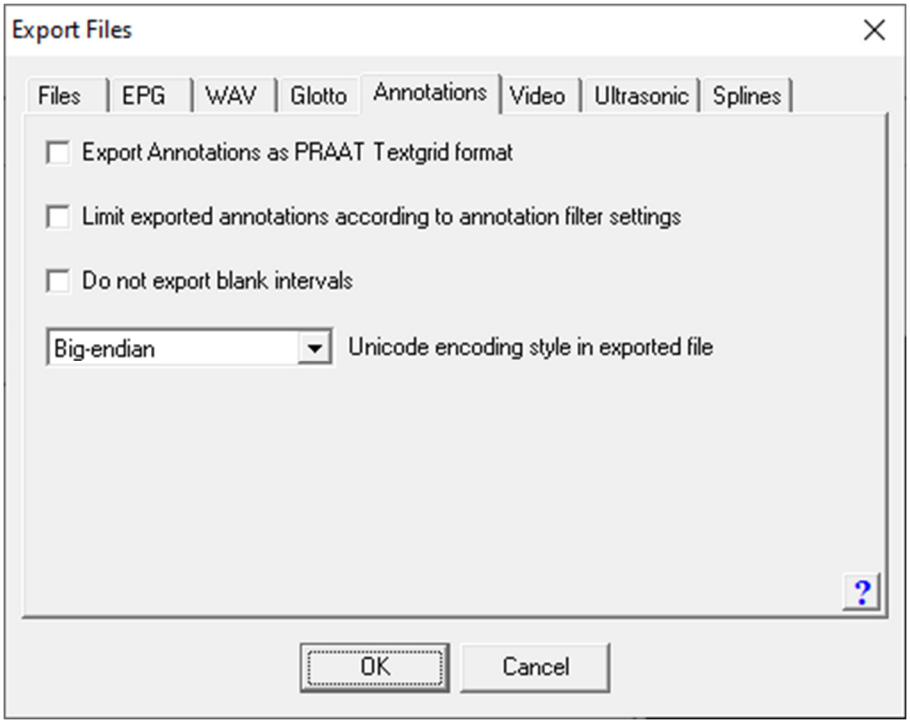
The dialog does not permit selected channels to be combined in a single wav file.

Glotto dialog page



Dialog for exporting data from a prototype ElectroPhotoGlottoGraph (ePGG). This product is unique in measuring the slow glottal opening and closing gesture as well as fast vocal fold action. This device is not yet in production.

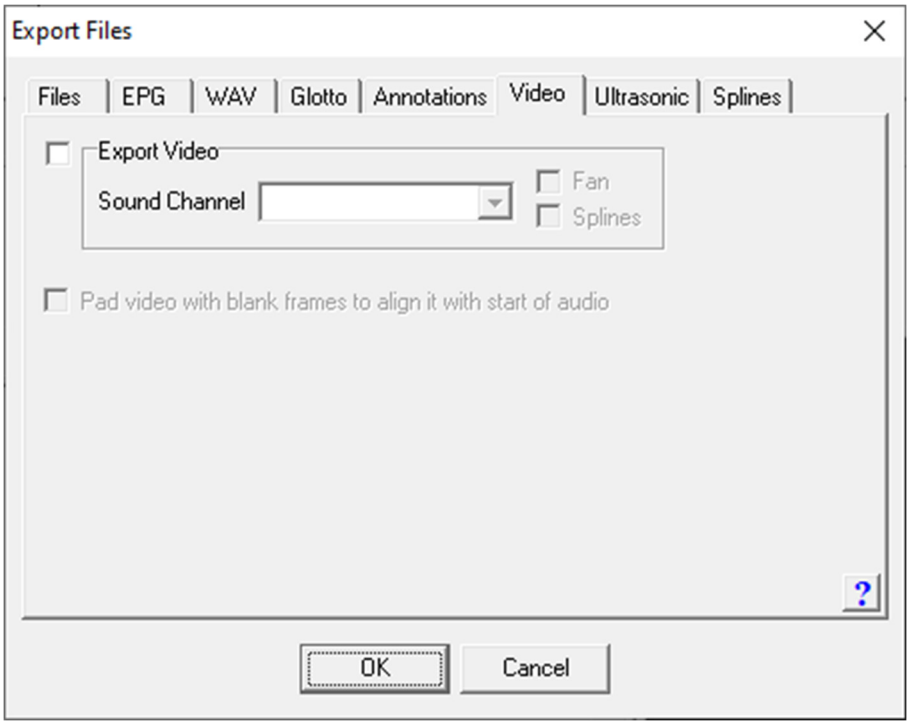
Annotations dialog page



The annotations dialog exports PRAAT textgrid files. After exporting they can be loaded into PRAAT (along with a wav file exported using the WAV dialog page) or they can be imported into a copy of the same project being worked on by a collaborator.

- **Export Annotations as PRAAT textgrid format**. – If not checked then annotations are exported in a legacy AAA format with file extension *.ann. This is less versatile and is not recommended.
- **Limit exported annotations according to annotation filter settings.** – If unchecked then all annotations associated with a recording are exported. If checked then the dialog obeys the current filter dialogue settings and exports only the annotations determined by those settings.
- **Do not export blank intervals.** – PRAAT segment tiers assign unlabelled temporal regions a segment with no label. AAA in contrast allows temporal regions to have no annotation. If the intended use of the exported textgrid is to import into a copy of the same project then check this box to avoid lots of annotations with no label.
- **Unicode encoding style in exported file –** Unicode is encoded in two bytes. The expected order of those bytes may depend on the computer operating system. The default for Windows is big-endian.

Video dialog page

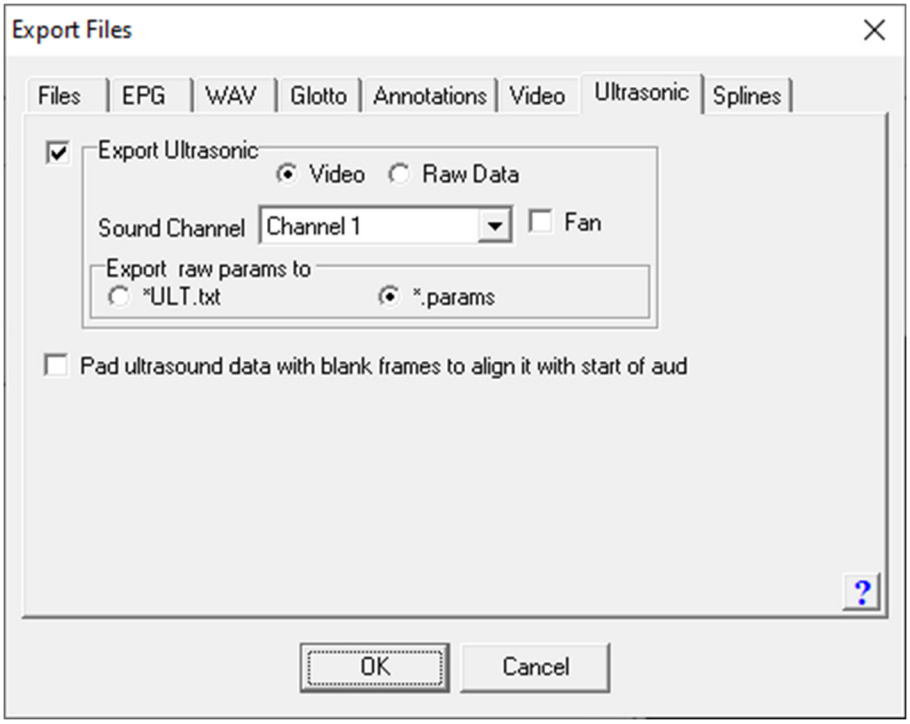


The Video dialog exports the video stream (e.g. lip camera) in AAA as *.avi. When exporting video sub-dialogs will pop up allowing the video resolution to be specified and the codec to be specified. These options appear once. Thereafter, for all the recordings selected for export, the videos will be created using those selected options. See **Make Movie Tutorial** for more details on exporting videos and limitations in setting output resolution.

Dialog options include:

- **Sound channel** <Allows a single audio channel to be added to the image sequence when creating the video> **Typical value = the audio channel recording the speech signal.**
- **Fan** <If fan splines have been applied to the recording then the associated fan grid can be superimposed on the image> **Typical value = unchecked.**
- **Splines** < Superimposes any visible splines onto the exported video> **Typical value = unchecked**
- **IMPORTANT: CHECK THIS OPTION. Pad ultrasound data with blank frames to align it with the start of audio** < This option is essential to offset the ultrasound images from the start of the audio using the alignment determined by the synchronisation process applied within AAA. If not checked, the image sequence will start at the same time as the audio.> **Typical value = checked.**

Ultrasonic dialog page



Ultrasonic data is not video data. It is recorded and stored within AAA as 2D matrix of scanline vectors each with a number elements which correspond the time at which the ultrasound echo was received. The value of each element 0-256 represents the strength of the echo for each time element. Associated parametric data specifying the depth setting, the number of scanlines, the number of elements, the radius of the convex probe and the angle between each scanline is also recorded and stored. With this information it is possible to construct an image based on the raw scanline matrix.

Raw data

The ultrasonic dialog page offers the option of exporting the **raw data** matrix along with the associated parameters **(*.param**) that allow the data to be reconstructed as an image. This form of ultrasound data is often preferred by engineers for machine learning as it is more compact and does not include the interpolated data values that are added when generating an image. The *.param file contains the following information:

- NumVectors <number of scanlines. This will vary if the field of view setting is reduced from 100%> Typical value for 100% field of view = 64
- PixPerVector <number of elements (aka pixels or time points) in each scanline.> Typical value = 946
- ZeroOffset < distance from the origin of the convex probe to the first scanline element measured in number of elements> Typical value for 210.
- BitsPerPixel < number of bits assigned to each element to specify the echo strength (pixel brightness.> Typical value = 8 (0-255 brightness levels)
- Angle (angle measured in radians between each scanline used to reconstruct an image.>Typical value = 0.028
- Kind < Specifies if the data was recorded by an Ultrasonix (0) ultrasound system or a Telemed (1) system.> Typical value = 1

- PixelsPerMm < Scaling defines how many scanline elements correspond to one millimetre.> Typical value = 10.511.
- FramesPerSec < frame rate > Typical value = 81.543
- TimeInSecsOfFirstFrame < Offset in seconds of the time of the first ultrasound frame from the start of the audio recording> Typical value = 1.00327.

The *ULT.txt option includes the same information as the *.param option but in an earlier proprietary format. The param file format is the most widely accepted format and should be used.

When exporting in raw ultrasonic format, the audio channel, fan checkbox and Pad ultrasound data with blank frames are ignored. The exported files are:

- *.ULT <raw ultrasound data in binary format>
- *.param <parameters as described above>
- *.txt < text file with client, date/time of recording and recording prompt, together specifying the recording from which the data was exported.

Video

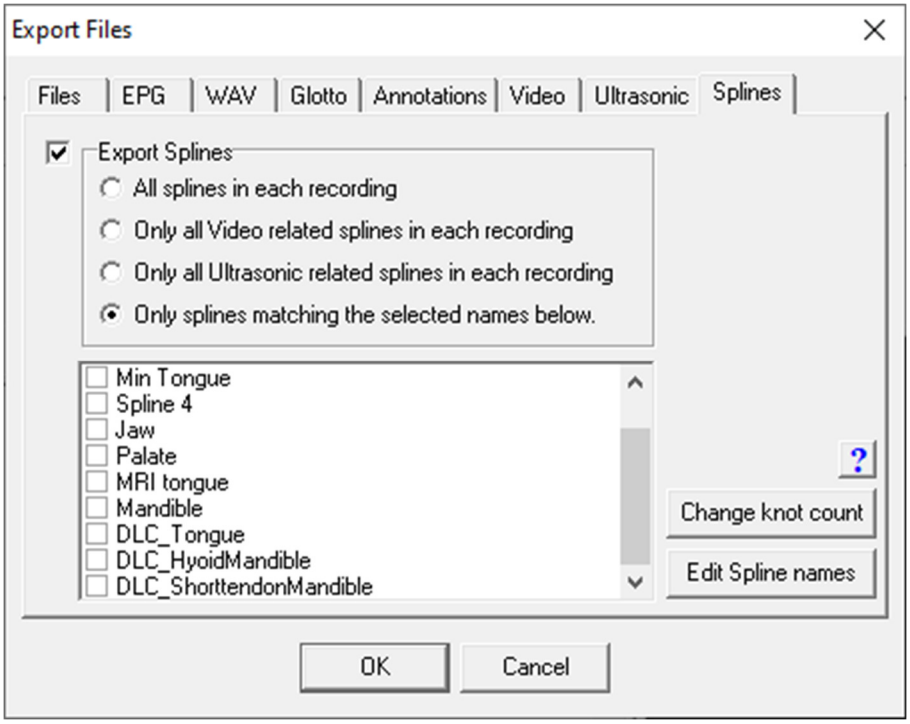
Users may wish to analyse ultrasonic data in other software that expects ultrasound in a video format. The **Video** option allows, if necessary, all the ultrasonic recordings in one project to be exported as video with a single click. This opteration takes longer that exporting the raw data as each frame needs to be converted into an image. Options include:

- **Sound channel** <Allows a single audio channel to be added to the image sequence when creating the video> Typical value = the audio channel recording the speech signal.
- **Fan** <If fan splines have been applied to the recording then the associated fan grid can be superimposed on the image> Typical value = unchecked.
- **Pad ultrasound data with blank frames to align it with the start of audio** < This option is essential to offset the ultrasound images from the start of the audio using the alignment determined by the synchronisation process applied within AAA. If not checked, the image sequence will start at the same time as the audio.> Typical value = checked.

See Export data if only labelled sections of files are required.

If more than one audio channel is required, use the WAV tab to export more audio channels as wav files.

Splines dialog page



The Splines dialog is not intended to export splines as Euclidean or Polar co-ordinates. See Error! Reference source not found. and **Spline Workspace** for means to do that. The Splines dialog exports tongue contours in a proprietary text format intended to permit, if necessary, for the spline to be imported back into AAA. This is useful if two people are working on separate copies of the same project and one wants to have the splines without compromising other work that they have done, such as labelling. The format is as follows:

2DSplineKeyframes <Type of Spline which may be Fan Spline or 2D spline>
ssUltrasonic <type of data steam that the splines were derived from and should be imported back into, which may be ultrasonic or video>
100327
Spline2D
DLC_Tongue <Spline name>
<text end>
Rulerp1x <scaling ruler consisting of a start point (RulerP1) and an endpoint (RulerP2)
0.500 <co-ordinates defined by
Rulerp1y
0.000
Rulerp2x
0.500
Rulerp2y
0.647
Rulerlen <length of ruler in mm>
109.979
Color <colour of the spline>
193
LineStyle <Linestyle (solid, dotted dashed etc) used to draw the spline in AAA>
0
LineWidth <width of the line used to draw the spline in AAA>

3
Points
11 <Number of spline control points.>
0.36884880 < x-co-ordinate of 1st control point (aka knot)>
0.21795702<y co-ordinate of 1st control point (aka knot)
100 <confidence on scale of 0-100 that the point is accurately estimated>
0.38196936 <2nd control point>
0.29921082
100
0.40625018 <3rd control point>
0.37896824
100
0.44555146 <etc>
0.45498317
100
0.50085509
0.52352208
100
0.58252007
0.53801638
100
0.66429871
0.49736014
100
0.69371825
0.47163340
100
0.72137231
0.44719329
100
0.75626290
0.43669757
100
0.78702390 <11th control point>
0.41837409
100

Dialog options allow for selection of splines according to various criteria.
There are also options to:

- **Change the knot count** <increase or decrease the number of control points using interpolation. This option has no obvious advantage> Typical (recommended) value = leave unchanged.
- **Edit Spline names** < This actually allows new spline names to be added to a list of spline names. It does not allow existing spline names to be changed. If the list of splines shown in the dialog does not contain spline names you expect to see then edit spline names allows you to refresh that list. See elsewhere in the user guide for a fuller description of Spline Name list> Typical value = Leave unused.

Examples of how to use Export Files

Exporting Wav files for annotation in PRAAT and re-importing those annotations.

1. In the files dialog, select the recordings to be annotated in PRAAT
2. In the wav dialog export the audio. All audio channels can be exported in one file but it does mean that during playback a buzz will be heard if there is a sync signal on channel 2. Alternatively export the channel with the speech audio only.
3. If the recordings already have annotations in AAA these can be exported using the annotations dialog if the intention is to modify them.
4. Create and save a textgrid file in PRAAT. The textgrid MUST have the same stem as the *.txt file that was exported by default with the wav file from AAA and must be saved to the same folder as the *.txt file.
5. Use the Import | textgrid dialog to import the textgrid back into AAA.

Exporting Ultrasonic data as video or raw format for processing in other software.

This is covered in the section above on the Ultrasonic dialog.

Prompts Recordings Window