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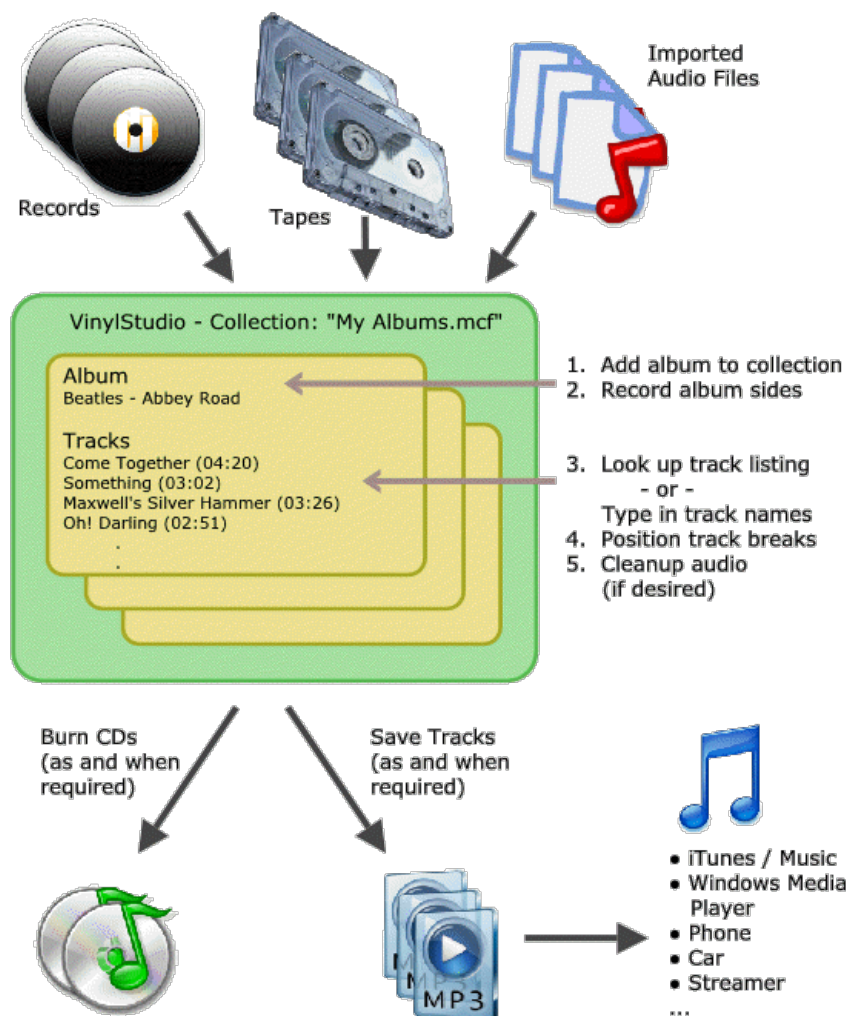
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## VinylStudio Quick Start Guide

In addition to the information in this guide, there are also some tutorial videos on our forum:

[www.alpinesoft.co.uk/forum/index.php?topic=725.0](http://www.alpinesoft.co.uk/forum/index.php?topic=725.0)

VinylStudio's view of the world looks like this:



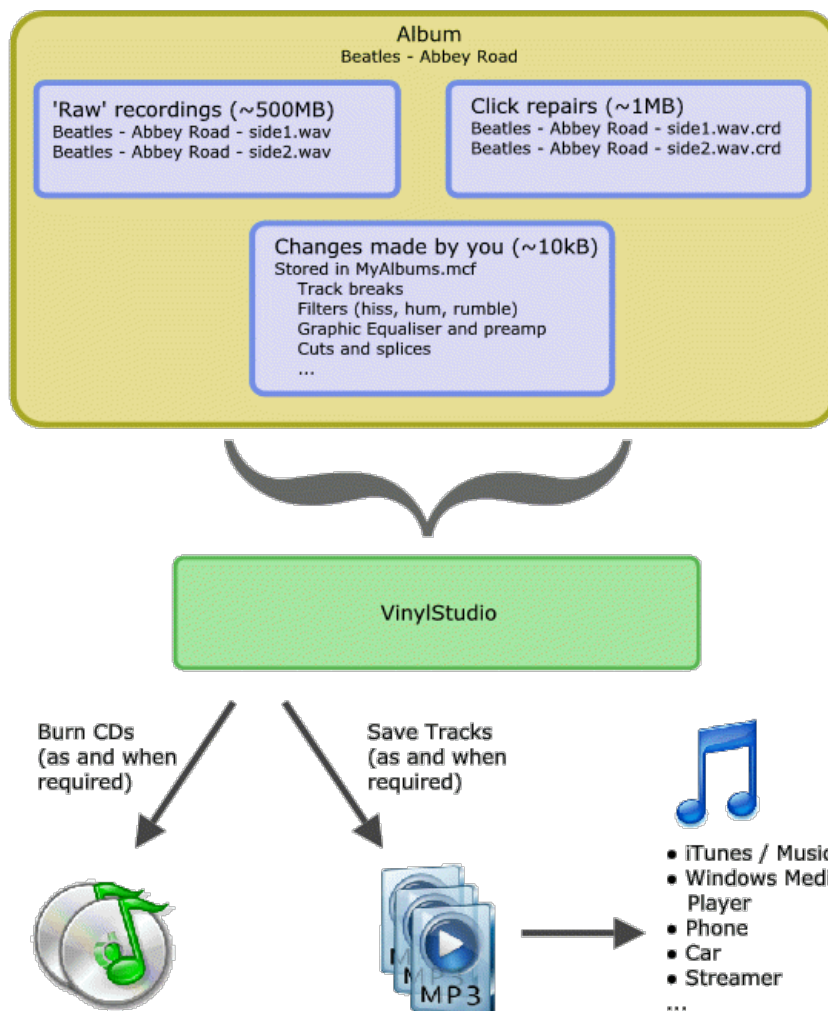
As you can see, VinylStudio organises your recordings in a **collection**. You don't need to open, edit and save audio files in the way you might be used to. The only time you might do this is when you import an existing recording into your collection. After that, you just select the file you want to work on from a dropdown list and VinylStudio will take care of the rest. You can create as many collections as you like, but you must create at least one. VinylStudio will prompt you to create a collection when it first starts up. You can create another one any time you need it via Menu -> File -> New Collection.

Within a collection, VinylStudio stores your recordings as a list of albums. These are recorded a side at a time and these recordings are then split up into individual tracks which can then be played on your PC, downloaded to an MP3 player or iPod, or burned to CD. You can also elect to remove clicks, hiss, hum and rumble before you save your tracks and there is also a graphic equaliser. VinylStudio can also digitise singles and the spoken word.

### **VinylStudio is not an Audio Editor**

It is important to realise that VinylStudio is not an audio editor. That is to say, it does not directly edit your recordings or any audio files you might have imported. Instead, VinylStudio is 'non-destructive'. Any changes you make within the program are stored separately and then 'overlayed' onto the original audio when you save your tracks or burn CDs. Consider VinylStudio as a decision-making tool, where you can change those decisions later if you choose. Your original recordings are never altered.

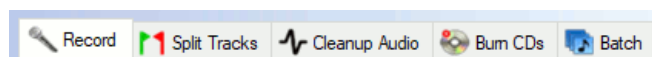
This, once you get to grips with it, is a big plus. You do not, for example, have to worry about keeping both original and cleanup-up copies of your recordings. It also means that if you change your mind about something (perhaps you overdid it with the hiss filter) you can go back into VinylStudio, make whatever changes you feel appropriate and then save your tracks again (or burn another CD).



## **VinylStudio Step-by-Step**

1. You first need to hook up your turntable or tape deck to your PC and check that it is working correctly. This is covered in more detail here. Don't miss the section entitled 'Testing your Setup' near the end. The golden rule is that you need to see the recording level indicators moving in time with the music (and not stuck on maximum, for example).

2. VinylStudio has five main working areas, which you select by clicking on the tabs at the top of the VinylStudio window:



3. To record an album, click on the **Record** tab (if necessary) which will take you to the Record window where you can enter the artist and title of the album you wish to record. Albums are recorded one complete side at a time and you should record both sides of the album before you proceed to the next step. Alternatively, if you have already recorded the album in another program, you can import an existing recording. You can also record singles, or other material with no track breaks.

4. While your album is recording, you can lookup or type in the album's track listing. With luck, you will be able to find a track listing on-line.

5. Once you have a recording to work with, you need to split it into tracks, which you do in the Split Tracks window. Please note that no additional files are created at this point (this happens later on). You are merely telling VinylStudio where the tracks begin and end. We recommend you start with an album you know well, as this makes the task a good deal easier.

6. You can also, if you wish, removes clicks, scratches, hiss and hum from your recordings. This step is optional, but often worthwhile. VinylStudio does not make any changes to your original recordings when you do this, so feel free to experiment. And if you decide, when listening to a CD you have made, that these features might be worth a try after all, you can always give them a whirl and then burn another CD. Declick your recording (if it needs it) before applying any of the other filters for best results.

7. When you are happy with the results of your work, you can burn CDs and/or save your tracks as individual, tagged files. These files can be played on any computer (using Windows Media Player or iTunes, typically) or copied to your iPod or MP3 player. VinylStudio for Macintosh can also save tracks in AAC (MP4) format.

## **A couple of things worth knowing**

Most actions in VinylStudio can be undone with the **Undo / Redo** buttons in the toolbar   (Ctrl+Z / Ctrl+Y).

VinylStudio can record to, and work with, files in a variety of formats. Uncompressed formats (such as WAV) provide the best performance and musical fidelity while a compressed format (such as MP3) is much more economical on disk space. See here for more information.

VinylStudio provides additional tools for keeping track of your collection as it grows. The are:

- album status - a value such as Recorded or Cleaned, which reminds you of the stage you have reached for each album you have recorded
- sort or filter the album list - to help you locate an album in your collection quickly and easily

## **Connecting up your Turntable or Tape Deck**

- Connecting a Turntable to your PC
- Recording Cassettes
- Recording Reel-to-Reel
- Hooking up your Computer's Speakers
- Testing your Setup
- Using a Laptop

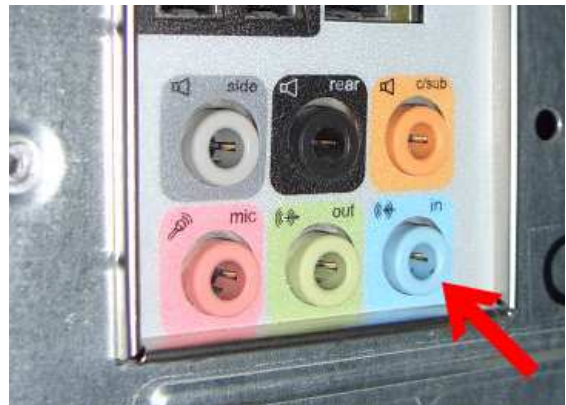
### **Connecting a Turntable to your PC**

To record vinyl albums (or 78s) you will need to hook up your record deck to your sound card or other input device. This can be achieved either by running a cable from your Hi-Fi, or by using a Phono Preamp (which you will have to purchase separately). You can also use a USB turntable or cassette deck if you have one.

In all cases, you can monitor what you are recording through your computer's speakers.

#### **If you are using a Hi-Fi**

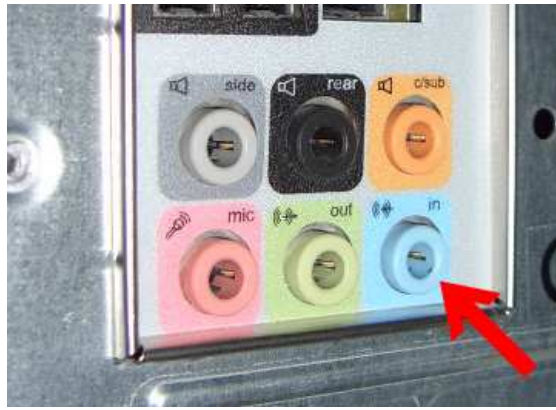
If your turntable is already connected to a Hi-Fi, there should be a phono socket on the back labeled REC OUT, or TAPE REC or similar (if you have a tape deck connected to your Hi-Fi, this socket will be in use, so you will need to disconnect it). Run a cable from this socket to the the line-in socket (usually colour-coded blue) on your sound card. The cable you need is a **3.5mm Jack to Twin Phono Lead**:



#### **If you are using a Phono Preamp**

If you are using a Phono Preamp, you will need a similar cable; run it from the output of the preamp to line-in on the sound card. Connect the flying leads from your turntable to the input of the preamp, and also connect the turntable's earth wire (if it has one) to the terminal on the preamp (if it has one).



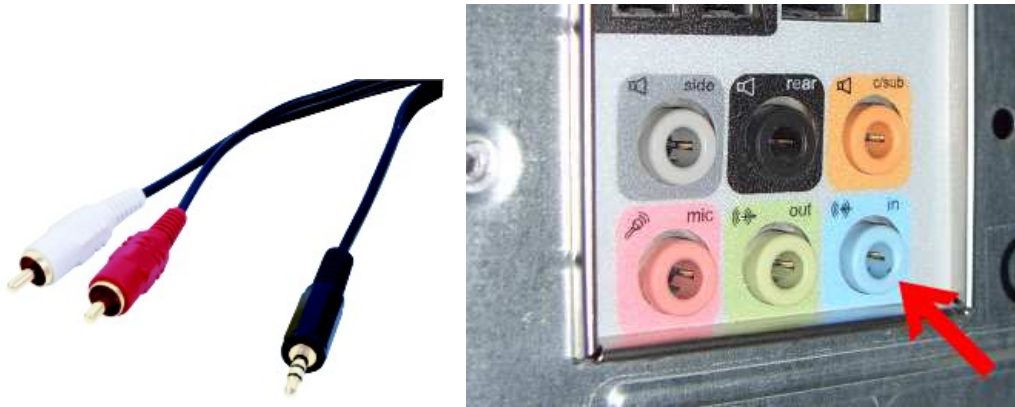


**If you are using a USB turntable or other USB device**

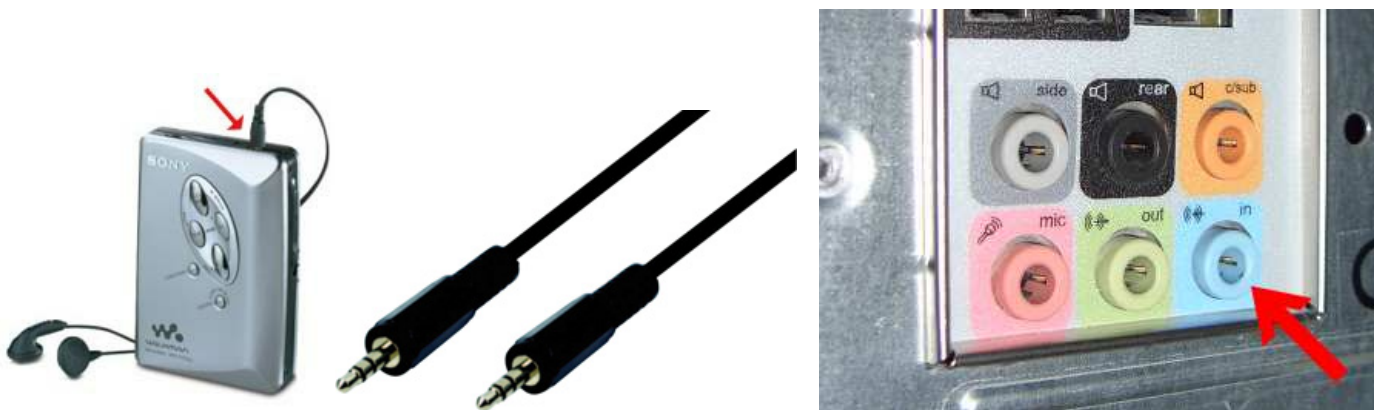
If you are using a USB turntable or other USB device, VinylStudio should recognise it the first time you plug it in to a USB port. If it does not, open the **Check Level** dialog and select your device (usually 'USB Audio CODEC') from the drop down list. Do not be put off by the fact that some USB devices identify themselves as a Microphone - they are lying.

**Recording Cassettes**

If you have a conventional cassette deck, you can run a cable like the one pictured above from the output sockets on your tape deck to the line-in socket on your sound card (normally colour coded blue).



Another, very simple way to record cassettes is to use a personal cassette player (Walkman) and run a cable from the headphone socket to the line-in socket on your sound card. This usually gives surprisingly good results. The cable you need has a 3.5mm / 1/8th inch male jack on each end and is not hard to obtain. Plug one end of the cable into the headphone jack on the tape player and the other into your PC.

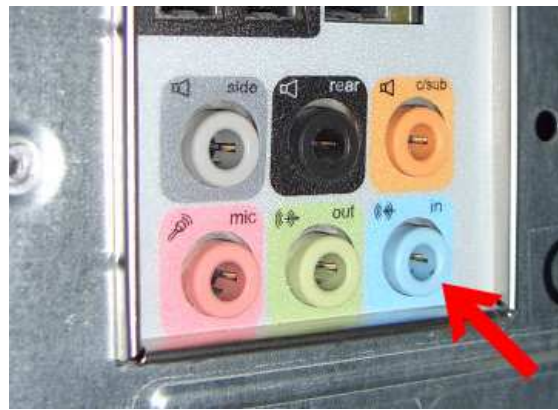


**If you are using a USB cassette deck or other USB device**

If you are using a USB cassette deck or other USB device, VinylStudio should recognise it the first time you plug it in to a USB port. If it does not, open the **Check Level** dialog and select your device (usually 'USB Audio CODEC') from the drop down list. Do not be put off by the fact that some USB devices identify themselves as a Microphone - they are lying.

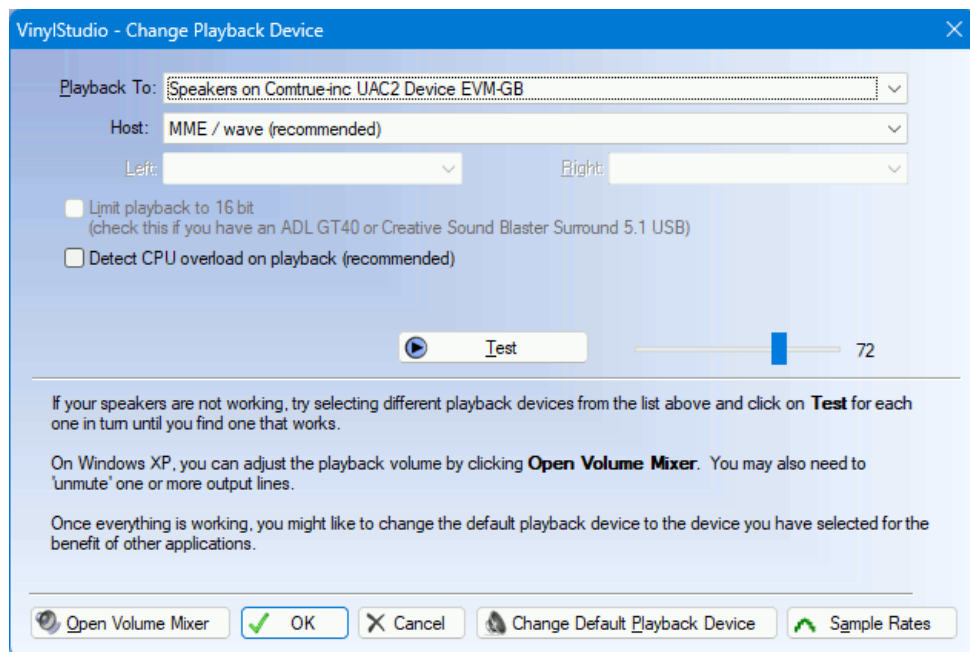
**Recording Reel-to-Reel**

The easiest solution here is to run a cable like the one pictured above from the output sockets on your tape deck to the line-in socket on your sound card (normally colour coded blue). Again, you can monitor what you are recording through your computer's speakers.



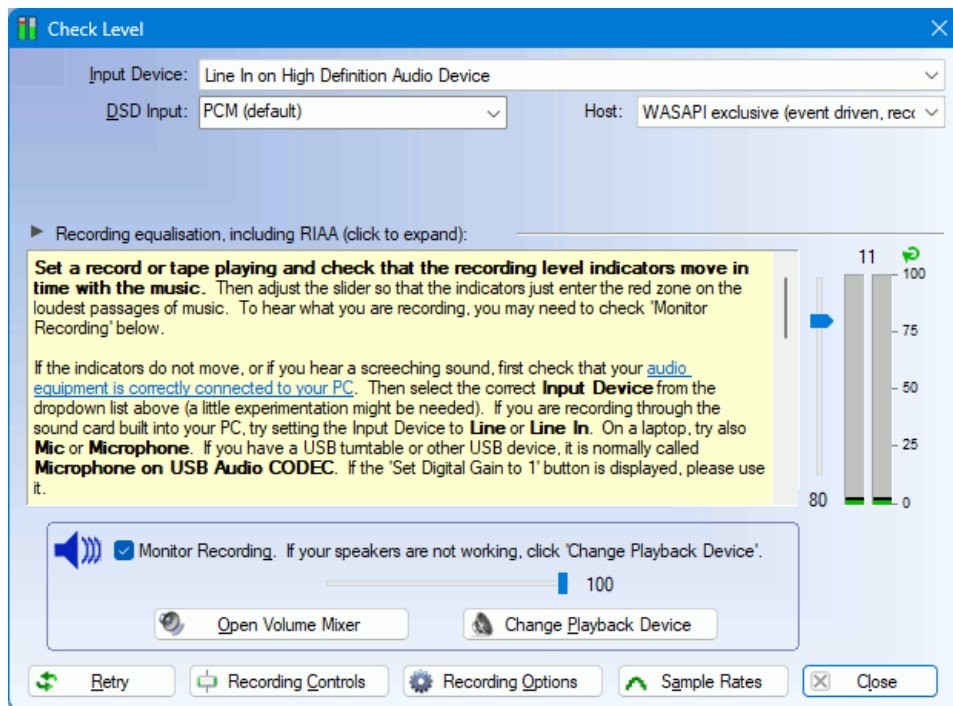
## Hooking up your Computers Speakers

Most PCs already have speakers attached so there should be no problem here, but some USB devices change the default playback device (to themselves) when they are plugged in for the first time which means that, in effect, your speakers stop working. If this happens to you, you can change the playback device VinylStudio uses from the **Change Playback Device** dialog under the **Options** menu. You can also reset the default playback device (as used by all other applications) by clicking on **Change Default Playback Device** in this dialog.



## Testing your Setup

To check that everything is correctly hooked up, start a record or tape playing, go to VinylStudio's Record Albums window and click on the **Check Level** button. You should then see the recording level indicators moving in time with the music:



If you check the 'Monitor Recording' box (or sometimes even if you don't), you should hear what you are recording played back through your computer's speakers.

If no sound is getting through, a bit of experimentation might be needed:

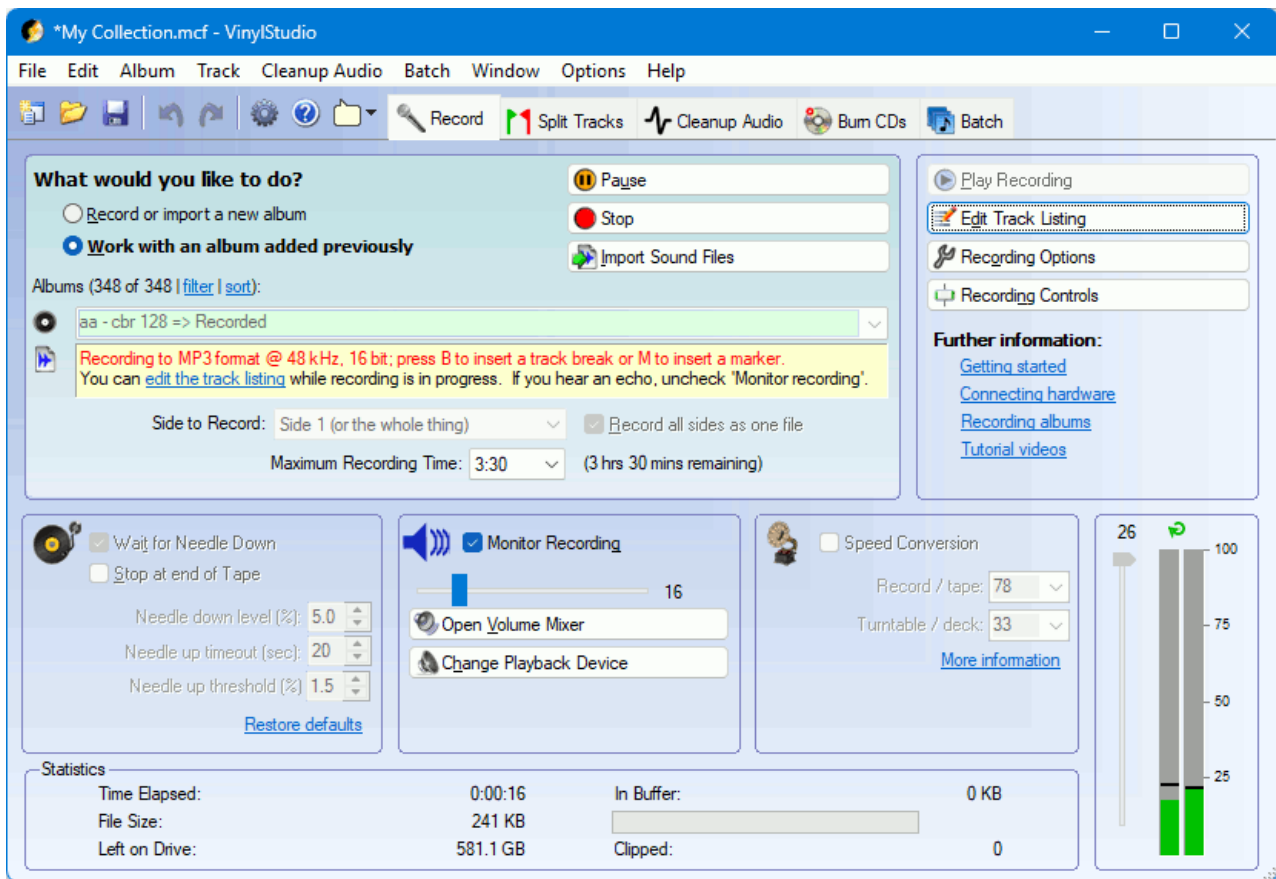
- double-check your connections
- try selecting a different Input Source in the dropdown box
- try selecting a different Sound Card in the dropdown box (XP only)
- check that the recording level slider is not set at zero

## **Using a Laptop**

Laptop computers are usually not suitable for recording audio as most only have a microphone input, which is mono. The easiest way to tell if this is the case is to make a short recording and listen to it on headphones. If you need one, you can buy a USB sound card, or a phono-preamp equipped with a USB connection such as the NAD PP4. If you are using a USB turntable, you should be OK.

Beware also cheap USB audio dongles (which are intended for use with microphones and therefore also mono) and cheap converter cables, which usually don't work. Buy a proper device instead.

## **Recording Albums**



The essential steps to record an album are as follows:

- ensure that your turntable (or tape deck) is hooked up correctly to your PC
- check that your setup is working
- set the record level
- set any desired recording options (file format, sample rate, etc); VinylStudio will remember these
- create an album (entering the artist and album title, etc)
- start recording

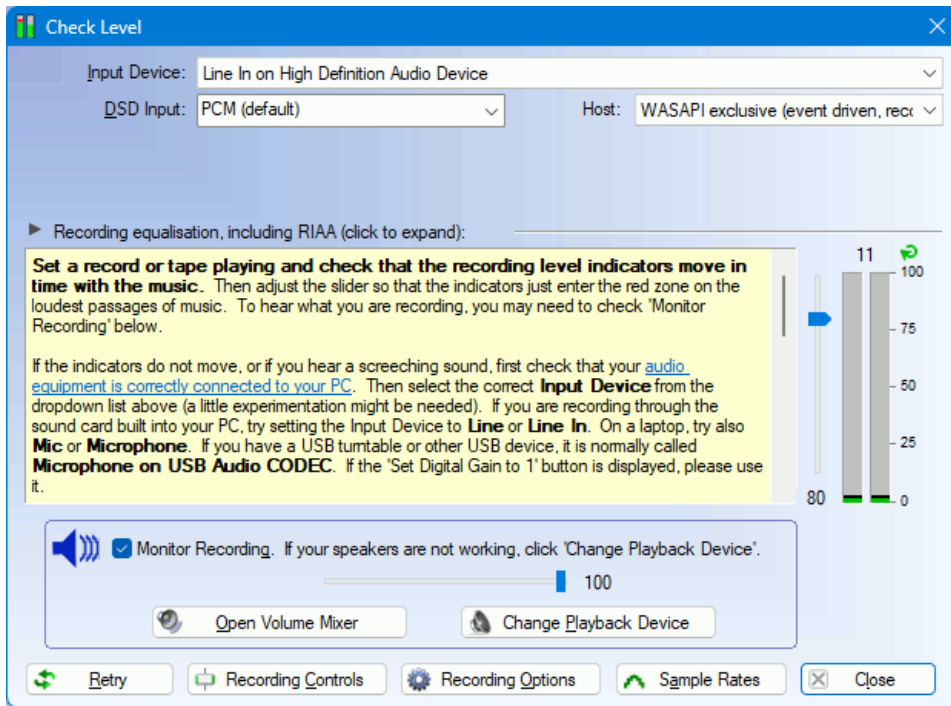
Depending on your preference, albums can be recorded as one single file or one side at a time, and, usually, VinylStudio will stop recording when your record deck lifts the needle at the end of the disk.

For more details, please refer to the following list:

- Setting the Record Level
- Setting the Recording Options
- Recording an LP
- While you are Recording
- Recording Side 2
- Recording from Tape
- Setting the Needle Down Level
- Recording Singles and 78s
- Speed Conversion
- Using Software Recording Equalisation (VinylStudio Pro only)
- Equalising 78s (VinylStudio Pro only)
- Using ASIO
- Loopback Recording (VinylStudio Pro only)
- Recording DSD (VinylStudio Pro only)
- Notes

### **Setting the Record Level**

Start the record or tape playing and then click on the **Check Level** button. If all is well, you should then see the recording level indicators moving in time with the music (you may need to select the correct input device in the dropdown boxes first time through):



While the album is still playing, adjust the recording level using the slider. The recording level indicators should just enter the yellow zone on the loudest sections of music. If the indicators flash completely red (or indicate 'CLIP'), you need to reduce the level.

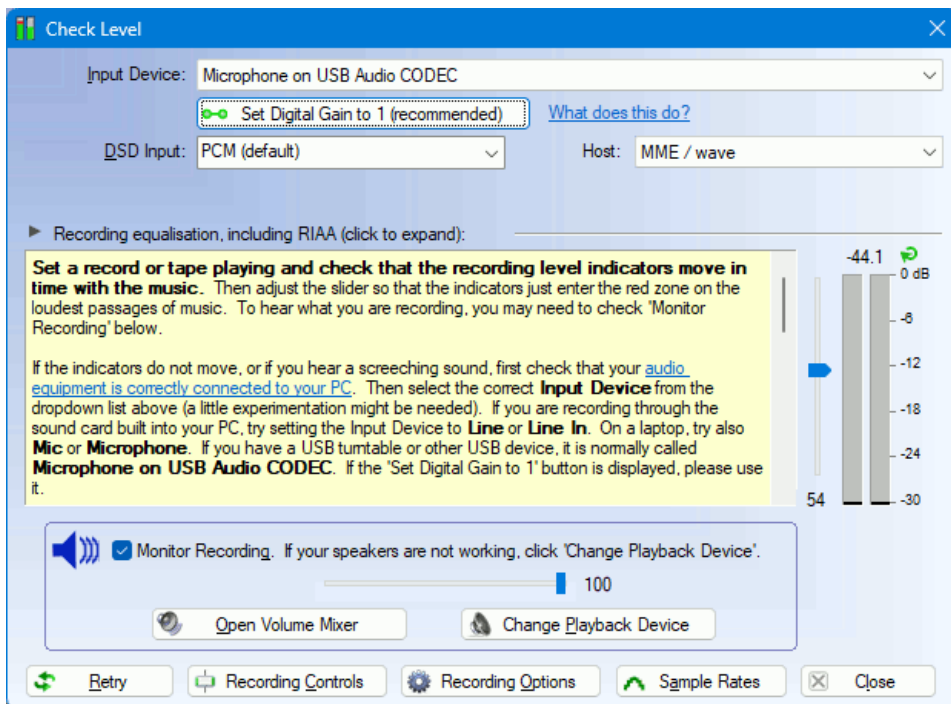
If you cannot get the recording indicators to move in time with the music, you will need to check that your turntable (or tape deck) is hooked up to your PC correctly. There are some details on how to do this here.

Leave **Host** set to 'WASAPI exclusive (polled)' unless you run into difficulties (it can occasionally be a bit temperamental), in which case please try one of the other options. WASAPI exclusive allows VinylStudio to control the sample rate and bit depth used by the hardware and is recommended for that reason. If you use one of the other options, you can do set in the Windows Settings app instead (set it to match what you have configured in VinylStudio).

The **Sample Rates** button will show you what sample rates and bit depths your hardware supports.

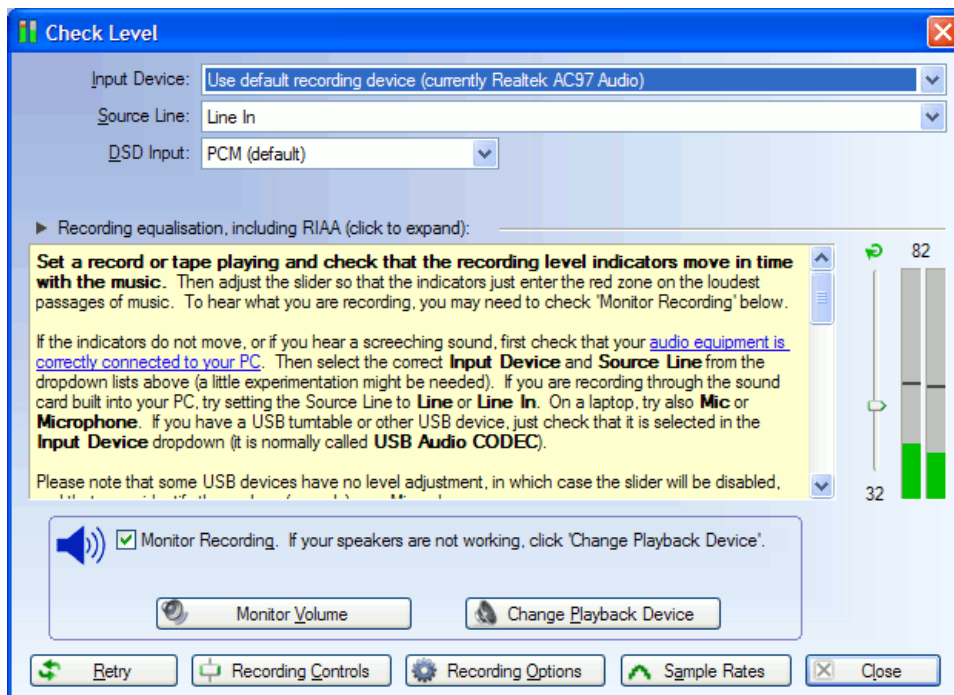
If you wish to record in **DSD format**, see also Recording DSD

If you have a **USB device**, the Check Level dialog might look like this:



In this case, you should use the 'Set Digital Gain to 1' button to set the recording level. This gives the best dynamic range and minimises the risk of clipping. The important thing to note is that the recording level on your USB audio device is not adjustable (except perhaps via a knob on the front of the unit). The slider just boosts or cuts the gain after the signal has been digitised, and either of these actions is undesirable. If you need to boost the playback level after recording, you will find the tools to do it in the Graphic Equaliser window.

**If you are using Windows XP**, the Check Level dialog looks a little different:



In this case, select your input device and source line from the Input Device dropdown and then proceed as above.

### **Why is The Recording Level Slider Disabled?**

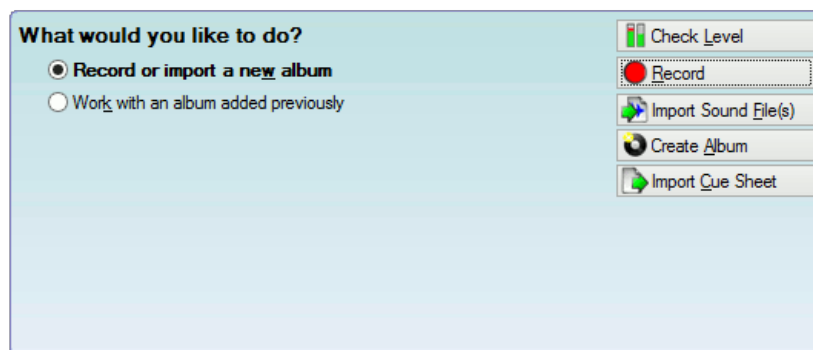
Some USB devices, for example Ion USB Turntables and the NAD PP4 phono pre-amp, have no software level adjustment. There is nothing VinylStudio can do about this as any clipping which occurs happens before the signal reaches the computer. Some devices a manual control on the unit itself, which can be a big help.

If this is a major bugbear for you, you might consider disconnecting the USB cable and running a cable from line out on the USB device (most USB devices have one) to line in on your computer's sound card instead (if it has one). VinylStudio's normal level control will then become available. The cable you need is a **3.5mm Jack to Twin Phono Lead** as pictured here.

If you need to boost the playback level after recording, you will find the tools to do it in the Graphic Equaliser window.

### **Recording an LP**

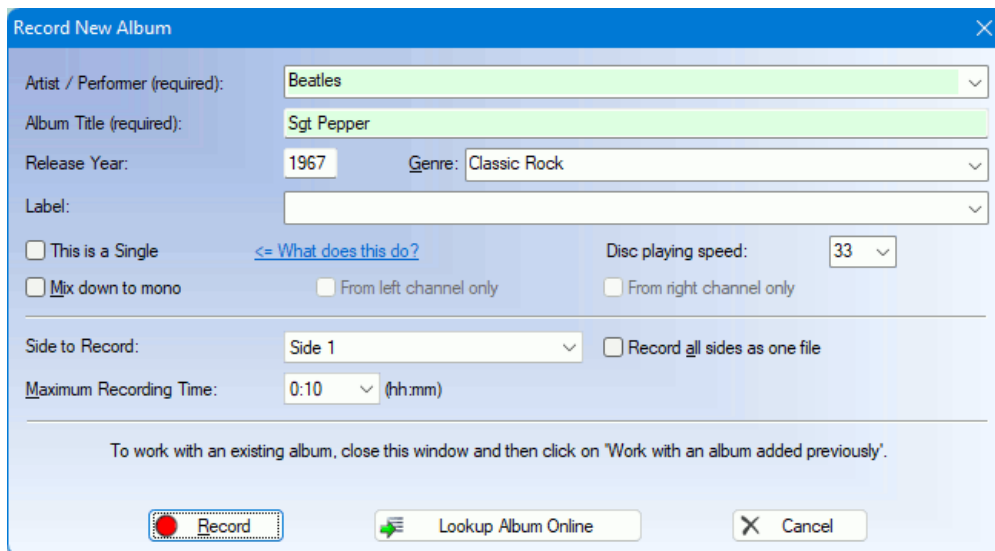
Once everything is connected and working, note the following area of the Record window:



To record an album:

- Lift the needle (important!).
- Close the Check Level window, if it is open.
- Ensure that 'Record or import a new album' is selected as shown above.
- Click Record.

The following dialog is then displayed (shown with some fields filled in):



To start recording:

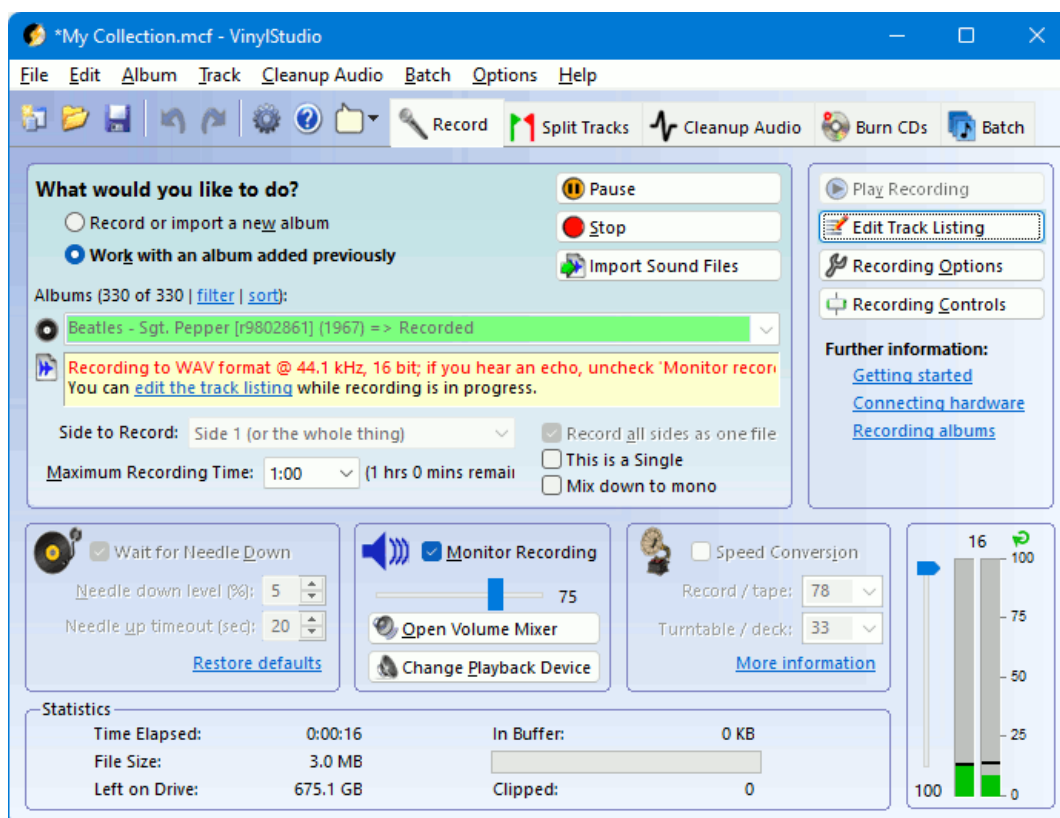
- Enter the album artist and title for this album (required) and any other relevant information.
- Click Record.
- When VinylStudio asks you to, lower the needle.

Recording should then start. If it does not, see setting the needle down level below.

Notes:

- If you want VinylStudio to record all album sides as one file (which makes for somewhat easier audio cleanup), check the box. VinylStudio will then pause recording at the end of the album side so that you can turn the record over and resume recording.
- If you are recording a single (or other material with no track breaks) check the This is a Single box.
- If you want VinylStudio to save tracks for this album in mono, check **Mix down to mono**. You can also elect to copy just the left or right channel when your tracks are saved. Please note that the actual recording will still be made in stereo because the declicker works better.
- The recording level indicator can operate either in % (the default) or in dB. Click on the 'peak level' indicator above the recording level indicators to toggle between the two.
- If VinylStudio reports an error when you try to record, visit the Check Level dialog and check 'Limit playback to 16 bit'. Certain USB devices, notably the Furutech ADL GT40 and the Creative Sound Blaster Surround 5.1 USB, cannot simultaneously play back and record at higher sample rates and bit depths and therefore need this option set. On Windows Vista and later you should set the Default Format to 2 channel, 16 bit, 44100 Hz (CD Quality) in Control Panel -> Sound -> Playback -> Properties -> Advanced if you have one of these devices and 'Use WASAPI for playback' in the Change Playback Device dialog is not in effect for some reason.
- The information you enter here can be changed later in the via the **Edit Album Details** button in the Split Tracks window.

## While you are Recording



To listen to what you are recording, check the **Monitor Recording** box. The sound might be slightly choppy on low-end machines or if you run other applications while recording, but your recording is not affected. Uncheck this box if you hear an echo (again, your recording is not affected). Use the **Monitor Volume** button to change the monitor playback level - again this does not affect the recording in any way - and use the **Change Playback Device** button to select a different playback device if no sound is coming from your speakers.

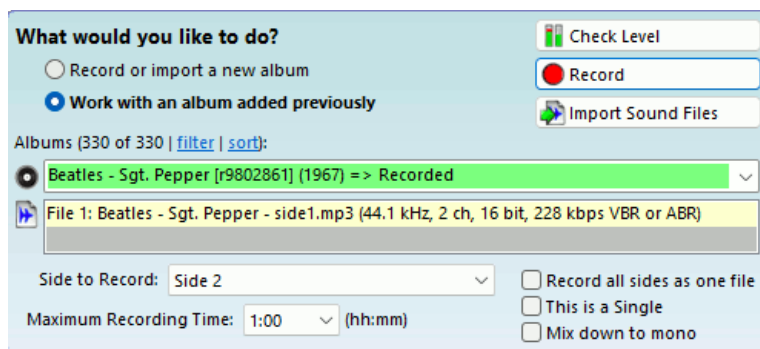
If your record deck lifts the needle or stops the turntable at the end of the record, recording will stop automatically. Alternatively, you can select a maximum recording time from the dropdown list.

If the 'clipped' counter starts to mount up while you are recording, consider reducing the recording level and re-recording as loud passages of your recording may sound distorted.

You can edit the track listing for the album you are recording it (or you can do this later - it's up to you). To do this, click on the **Edit Track Listing** button which will take you to the Split Tracks window. To return to the Record window at any time, click on the **Record** tab at the top of the window.

You can also insert a trackbreak while recording by pressing B, or a marker by pressing M. These will become visible when recording is complete. You can do this from both the Record and Split Tracks windows. Note that the B key works best if you delete any existing track breaks before you start recording.

## **Recording Side 2**



If you elected to record each album side separately (i.e. as a separate file), then to record side 2 (or 3 or 4) proceed as follows:

- Ensure that 'Work with an album added previously' is selected.
- Select the appropriate side from the drop-down box (side 2, usually).
- Click on **Record**.

You can first select the album you wish to record from the drop-down list if needs be and you might like to use Check Level to set the recording level (although two sides of the same LP don't usually vary that much).

## **Recording from Tape**

The best way to record from tape is to check the 'Stop at end of tape' box. VinylStudio will then stop recording when it detects silence at the end of the tape.

You might need to adjust the Needle Up Timeout and Needle Up Threshold settings to get the best results, especially if there is a lot of tape hiss.

## **Setting the Needle Down Level**

If you check the **Wait for Needle Down** box, VinylStudio will wait for you to lower the needle before it starts recording and, as long as your record deck has an automatic tone arm, it will stop recording automatically at the end of the record.

The default **Needle down level** setting of 5% works in the majority of cases, but you might need to adjust it if:

- a. VinylStudio does nothing when the needle hits the record surface, or:
- b. VinylStudio reports that 'the needle appears to be already down' when you click on the Record button

For case (a), start the record playing and use the Check Level button to ensure that the recording level indicators are moving in time with the music. If they are not, you need to sort the problem out before you can record anything.

For case (b), you can increase the **Needle Down Level** setting and try again, but the real problem might be that there is a high level of background noise (typically mains hum) and you might look into this first. Also, it is essential that you do not lower the needle until VinylStudio asks you to.

If VinylStudio stops recording between tracks, rather than at the end of the record or tape, try increasing the **Needle up timeout** setting.

As mentioned above, when recording tapes you may get better results if you uncheck the **Wait for Needle Down** box and set a maximum recording time instead.

## **Recording Singles and 78s**

The easiest way to record singles or 78s is to add each *side* of each single or 78 to your collection as a separate album and check the **This is a single** box in the Record window. VinylStudio will then:

- automatically add a track with the same name as the album title (which is generally what you want)
- save this track (by default) in a folder called **singles** when you save your tracks (i.e. all such tracks go in the same folder)

Thus, for example, if you wanted to record Elvis Costello's Watching the Detectives, you would:

1. Check the **This is a single** box in the Record window
2. Add an 'album' to your collection with album artist **Elvis Costello** and title **Watching the Detectives**; bear in mind that this album will consist of just the one track
3. Record the single (just the one side)
4. Tidy up the start and end markers for the track in the Split Tracks window window (to trim off the needle drop, lead in, lead out and needle lift)

This process is then repeated for the B side, and so on for your other singles until you have enough tracks recorded to burn a CD or save your tracks.

For EP's (remember those?), you can do the same thing and insert additional track breaks manually in the Split Tracks window.

### **Recording Other Material with no Track Breaks**

If you had, say, a tape of an interview with The Dalai Lama, the procedure is much the same as recording one side of a single or 78. Thus you would:

1. Check the **This is a single** box in the Record window
2. Add an album to your collection with album artist **Joe Bloggs** (that's you) and title **Interview with the Dalai Lama**
3. Record the tape
4. Tidy up the recording in the Split Tracks window window if you so wish; truncating the recording to remove any silence at the end will save you some disk space.
5. Burn the 'album' to CD (or save it as an audio file)

For more information on how singles tracks are named when they are saved, please refer to where are my files located?

### **Speed Conversion**

If you wish to record 78's on a turntable with no 78 RPM speed setting, check the **Speed Conversion** box and set the record and turntable speeds appropriately. We recommend recording 78's at 45 RPM (rather than 33), as this preserves more of the bass notes. You can also record 33's at 45 RPM to save time, but you will lose a little treble by doing so.

If you are using speed conversion when recording records, we recommend enabling recording equalisation in the Check Level dialog. This enables VinylStudio to compensate for the change in turntable speed (which affects the RIAA equalisation built into your phono preamp). See below for more details.

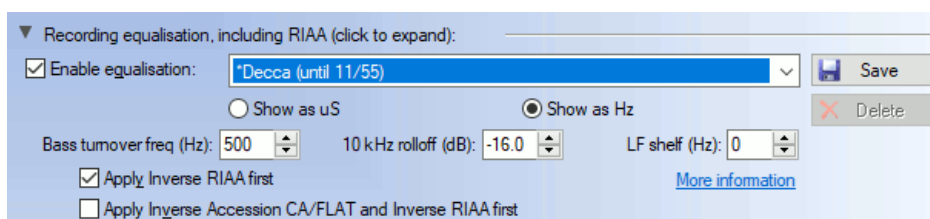
For tapes, type numbers in the boxes as shown in the following table:

Normal playing speed of tape	Running speed of tape deck	Set 'Tape' box to:	Set 'Deck' box to:
1 7/8 ips	3 3/4 ips	10	20
1 7/8 ips	7 1/2 ips	10	40
1 7/8 ips	15 ips	10	80
3 3/4 ips	1 7/8 ips	20	10
3 3/4 ips	7 1/2 ips	10	20
3 3/4 ips	15 ips	10	40
7 1/2 ips	1 7/8 ips	40	10
7 1/2 ips	3 3/4 ips	20	10
7 1/2 ips	15 ips	10	20
15 ips	1 7/8 ips	80	10
15 ips	3 3/4 ips	40	10
15 ips	7 1/2 ips	20	10

For best results, set the deck speed as close as possible to the tape speed. Faster deck speeds will save you time but cost you treble which the graphic equaliser can only partially correct. And also, please note that VinylStudio actually implements this feature by changing the sample rate of your recording device, so don't be surprised if the front panel display doesn't show what you're expecting.

### **Using Software Recording Equalisation**

([VinylStudio Pro](#) only).



VinylStudio has a software recording equalisation feature which can either be applied at record time or after recording is complete. You can use software equalisation effectively even when recording at 16 bits per sample (which you might want to do to conserve disk space) because VinylStudio will configure your recording device for 24 bit (assuming it supports it), thus avoiding any loss of dynamic range. Equalising at record time also has the advantage that you see the equalised signal in the waveform display.

Recording equalisation is enabled in the Check Level dialog. When you change this setting, the recording level will also change, so make sure this is correct before you start recording. For discs cut from 1954 onwards, the RIAA preset should generally be used. For earlier discs, VinylStudio comes with a large number of preset curves but selecting the right one can be a challenge. Try consulting the sleeve notes or plug in a decent set of headphones and adjust the parameters by ear. Increasing the bass turnover frequency will boost bass notes. Increasing the 10kHz rolloff value will cut treble. You can save your settings as a preset, and you can also enter time constant values if that is the information you have.

When using recording equalisation, use the 'flat' switch on your phono preamp if it has one. If it doesn't, check the 'Apply inverse RIAA first' box. You should use VinylStudio's recording equalisation if speed conversion is enabled, even if your preamp has no flat switch. The change in turntable speed will fool your preamp into applying the wrong curve and VinylStudio corrects this. For older 'acoustic' recordings which require no equalisation at all, just select 'Inverse RIAA' from the dropdown box if your phono preamp has no 'flat' switch.

If you are recording via a Graham Slee Accession preamp set to CA/FLAT, the procedure is slightly different. If you are recording a disc that uses standard RIAA equalisation, just select 'Inverse Accession CA/FLAT' from the dropdown. If, on the other hand, you are recording an older disc that requires a different equalisation curve, select that from the dropdown instead and check the 'Apply Inverse Accession CA/FLAT and Inverse RIAA first' box.

The equalisation curves built into VinylStudio were taken from the Audacity wiki, [http://wiki.audacityteam.org/wiki/78rpm\\_playback\\_curves](http://wiki.audacityteam.org/wiki/78rpm_playback_curves) and references therein, with much thanks. You can also enter the parameters yourself for certain curves by looking them up at Vinyl Engine: [www.vinylengine.com/cartridge\\_database\\_record\\_equalization.php](http://www.vinylengine.com/cartridge_database_record_equalization.php).

The Inverse Accession CA/FLAT curve is supplied courtesy of Graham Slee, see: [www.alpinesoft.co.uk/VinylStudio/accession\\_ca\\_flat.aspx](http://www.alpinesoft.co.uk/VinylStudio/accession_ca_flat.aspx).

## **Equalising 78s**

(VinylStudio Pro only).

To make the best use of VinylStudio's recording equalisation feature when recording 78s, proceed as follows:

1. Open VinylStudio's Check Level dialog.
2. Expand the 'Recording equalisation' section if necessary.
3. Make sure that 'Enable equalisation' is checked.
4. Select the equalisation curve you want to use for the disc you want to record from the dropdown (some experimentation may be necessary, if you don't know what it is).
5. Make sure that 'Apply Inverse RIAA first' is also checked (unless you have a 'flat' phono preamp).

VinylStudio will then apply the correct equalisation curve to your recording.

Alternatively, you can apply equalisation after recording in the Equalisation Curves window. This has the advantage that you can experiment with different curves to see what sounds right. Do this before saving your tracks.

## **Using ASIO**

If you wish to use an ASIO driver, open the Check Level dialog and select ASIO from the first dropdown list. You can then select your ASIO driver (there is normally only one) and mappings for the left and right channels (again, the defaults will normally do).

If you experience 'dropouts', try increasing the buffer size in the ASIO control panel. You may also find level controls in here. The appearance of the ASIO control panel varies from device to device.

You can also use ASIO as your playback device if desired. To do this, select 'Change Playback Device' from the Check Level dialog and select ASIO in the first dropdown list. Please note that if you are using ASIO4ALL, you will probably need to set it as both the recording and playback device.

## **Loopback Recording**

(VinylStudio Pro only).

From Windows Vista onwards, VinylStudio supports loopback recording - i.e. it can record whatever is playing through your computer's speakers. To enable this, just select 'Loopback' in the Input Device dropdown in the Check Level dialog.

Please note the following quirks when using loopback:

- The recording level is actually set by the playback volume slider in the app (e.g. Windows Media Player) that is playing the audio you want to record. The recording level slider in VinylStudio is therefore disabled.
- You cannot monitor your recording while using loopback, so keep your speakers turned on.
- VinylStudio can only record from the default playback device.
- VinylStudio will record any bings and bongs that your computer makes, so you might like to shut down (e.g.) your email program while you are recording.
- Loopback recording won't work if you are playing your audio via ASIO.

## **Recording DSD**

(VinylStudio Pro only).

If you have an ADC which supports DSD over PCM, VinylStudio can now record DSD files. To configure VinylStudio and your ADC to record DSD, proceed as follows:

1. Select DSD on the front panel of your ADC.

2. Open the Check Level dialog.
3. Select your device in the Input Device or ASIO Device dropdown. On Windows, ASIO is often the best choice.
4. Select your desired DSD sample rate in the 'DSD Input' dropdown.
5. You may also need to set the recording level slider to maximum. **Do this before selecting ASIO.**

On Windows Vista and later, if you are unable to use WASAPI for recording for some reason you can get away without it, but you must then set Windows' shared recording format in the Sound section of the Control panel as follows:

- DSD single rate: 176.4 kHz, 24 bits per sample, stereo
- DSD double rate: 352.8 kHz, 24 bits per sample, stereo

WASAPI is usually available (and functional) however.

Please note that DSD can only be recorded to DFF, DSF, WAV, AIFF and CAF files, and that you will need a fast computer (2-3GHz+) to work with them. Also, VinylStudio's editing features do not work with them, including:

- RIAA equalisation when recording
- declicking and patching
- filters (hiss, hum, rumble, graphic equaliser, normalisation and equalisation curves / FFT filter)
- fading tracks in and out
- mix down to mono

You can however use these features (except for the first one) if you save your tracks as PCM or when burning audio or data CDs or DVDs. However, VinylStudio also supports saving DSD recordings as DSD, which is a bit-transparent operation and ignores any edits you might have made. Sorry about that, but DSD is not an editable format, simple as that.

DFF, DSF, CAF and WAV64 have no practical limitations, and recording to DFF or DSF files is to be preferred as the files are 2/3 the size of the corresponding WAV, AIFF or CAF files.

### **Notes for Users of the PS Audio NuWave Phono Converter When Recording DSD**

There are currently some issues with this device which you need to be aware of to make successful DSD recordings. As a result, you must:

1. Select the PS Audio 'native' (not ASIO) driver in the 'Input Device' dropdown.
2. Set the recording level slider to maximum (**important!**).
3. Under Windows, then choose ASIO in the Input Device dropdown in the Check Level dialog and select the PS Audio ASIO driver in the 'ASIO Driver' dropdown if necessary.

There are severe issues with the PS Audio recording DSD on Windows XP which cause VinylStudio to misbehave or crash so please don't try it; this situation is unlikely to change.

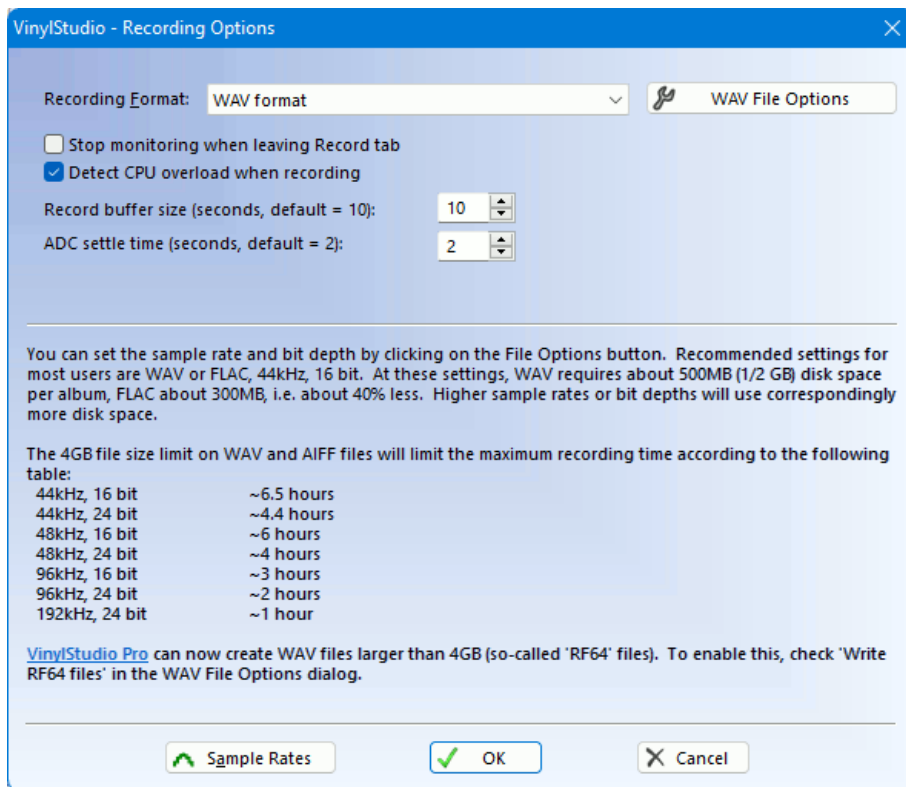
### **Notes**

If you wish to import an existing sound file (e.g. a recording made in another program), you will find details here.

If you are short of disk space, you might want to record to a compressed file format (such as MP3). More information can be found here.

VinylStudio automatically sets the album status to 'Recorded' when recording is complete (even if you have recorded only side 1).

### **Setting the Recording Options**



The file format and other options (e.g. sample rate, bit depth and suchlike) that VinylStudio uses when recording is set in the **Recording Options** dialog, which you can reach from the Record window, from the Check Level dialog, or via the **Options** menu.

We recommend recording to a lossless format, (such as WAV or AIFF) as this provides the best audio fidelity. You can also record to a lossless compressed format (FLAC or Apple Lossless), which will cut your disk space requirements by about 40% with no loss of sound quality.

If you are short of disk space, you might like to record to a lossy format, such as MP3 or OGG. The resulting files are much smaller - about 75MB per album rather than 500 - but your recordings might not sound as good (depends on your ears). All VinylStudio functions are available on all types of file, and there are also facilities to convert from one format to the other. To help you decide, you might like to make a couple of test recordings and compare them on headphones.

Please note that the format you save your tracks in need not be (and usually isn't) the same as the format used to make your recordings in the first place.

In this dialog:

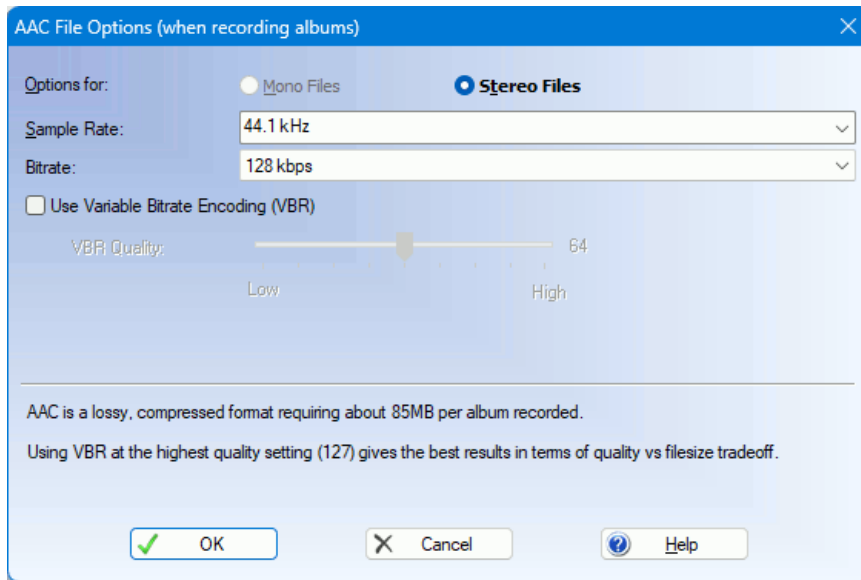
**Stop monitoring when leaving Record tab:** disables monitoring when you move to another tab. This can be useful if you want to work on another album while recording is in progress.

**Detect CPU overload when recording:** will stop recording and pop up an error message if VinylStudio can't keep up. Uncheck this box if you get spurious messages to this effect.

**Record buffer size:** sets the record buffer size (in seconds). The default (10 seconds) normally works fine but you can increase this (at the expense of higher memory consumption) if you find that the buffer overflows. This can happen when recording to a network drive, for example, because these can sometimes introduce delays.

**ADC settle time:** this is the time (in seconds) that VinylStudio will wait for before starting recording. Increase this if your ADC needs more time before you get a clean signal.

### **AAC (MP4) File Options**



These are the options you can specify when recording to AAC format. The same options are available (with the addition of 'As recorded') when you [import audio files](#), [save a copy of a recording](#) or use [batch format conversion](#) (VinylStudio Pro only).

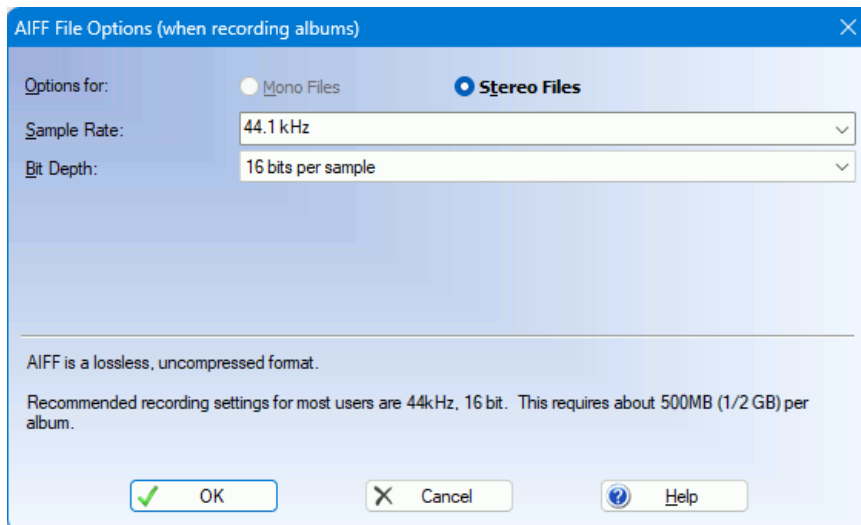
**Sample Rate:** The sample rate of the files that VinylStudio will create when recording. It will also attempt to set your ADC to this rate (or, if not, the closest available rate). AAC files support a maximum sample rate of 48kHz. We impose this limitation because iTunes cannot handle 96 kHz files. A future version of VinylStudio might relax this restriction.

**Bitrate:** 128 kbps is generally regarded as 'perceptually transparent', and will usually suffice. Higher bitrates result in larger files.

**Use Variable Bitrate Encoding (VBR):** This generally results in smaller file sizes for the same sound quality. Recommended.

**VBR Quality:** move the slider to the right for better sound quality (and larger files) when using VBR encoding.

### AIFF File Options

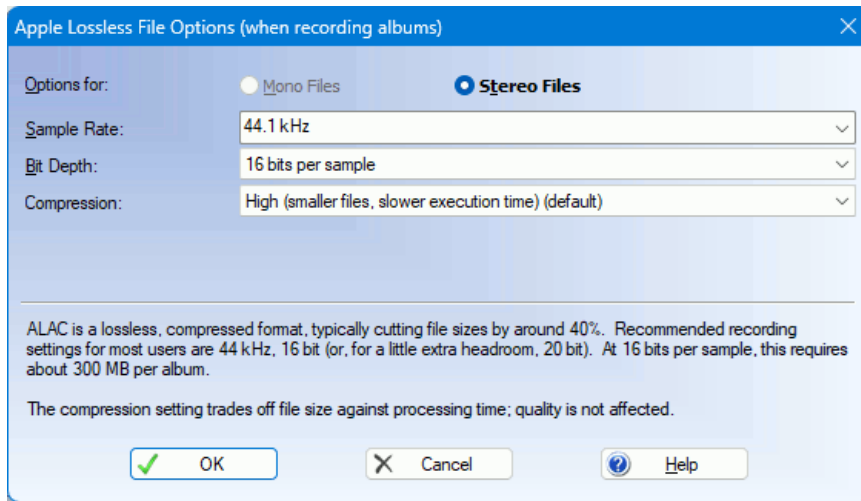


These are the options you can specify when recording to AIFF format. The same options are available (with the addition of 'As recorded') when you [import audio files](#), [save a copy of a recording](#) or use [batch format conversion](#) (VinylStudio Pro only).

**Sample Rate:** The sample rate of the files that VinylStudio will create when recording. It will also attempt to set your ADC to this rate (or, if not, the closest available rate).

**Bit Depth:** The bit depth (aka bits per sample) of the files that VinylStudio will create when recording. It will also attempt to set your ADC to match this (or the next highest available). 32 bit files have no real value as no known ADCs actually support this. We include it for completeness.

### Apple Lossless (ALAC) File Options



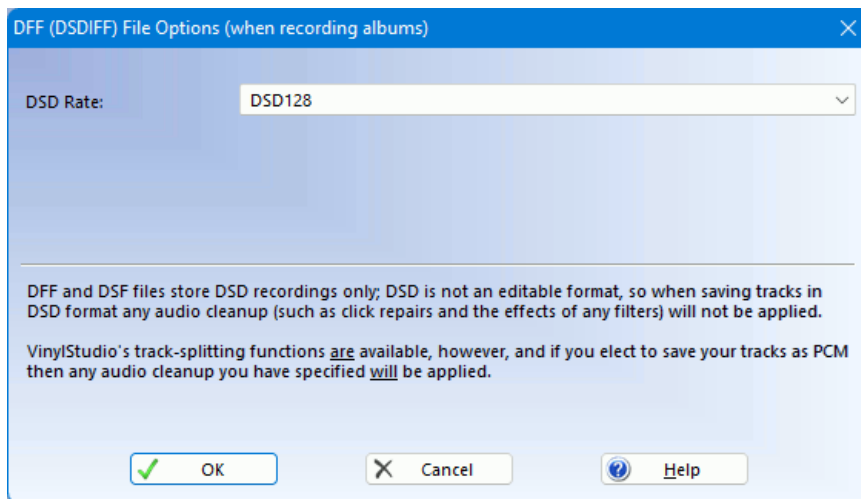
These are the options you can specify when recording to Apple Lossless format. The same options are available (with the addition of 'As recorded') when you [import audio files](#), [save a copy of a recording](#) or use [batch format conversion](#) (VinylStudio Pro only).

**Sample Rate:** The sample rate of the files that VinylStudio will create when recording. It will also attempt to set your ADC to this rate (or, if not, the closest available rate).

**Bit Depth:** The bit depth (aka bits per sample) of the files that VinylStudio will create when recording. It will also attempt to set your ADC to match this (or the next highest available). 32 bit files have no real value as no known ADCs actually support this. We include it for completeness.

**Compression:** Higher values give slightly smaller files at the expense of longer processing times. Because Apple Lossless files are lossless, this setting does not affect sound quality.

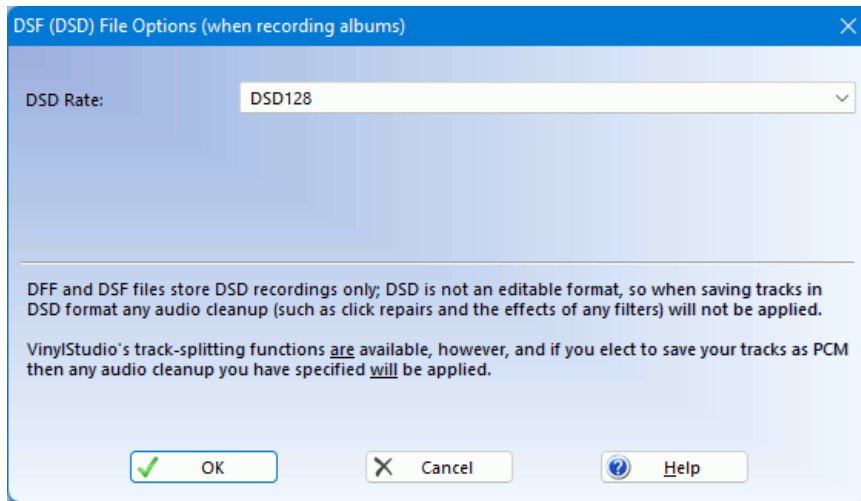
### **DFF File Options**



These are the options you can specify when recording to DFF format. The same options are available (although only 'As recorded' is supported, because DSD is a non-editable format) when you [import audio files](#), [save a copy of a recording](#) or use [batch format conversion](#) (VinylStudio Pro only).

**DSD Rate:** select the DSD rate you want to record at (up to the limit supported by your hardware). VinylStudio will normally set this automatically, based on what you select in the [Check Level dialog](#) dialog, and it is best to set it in there.

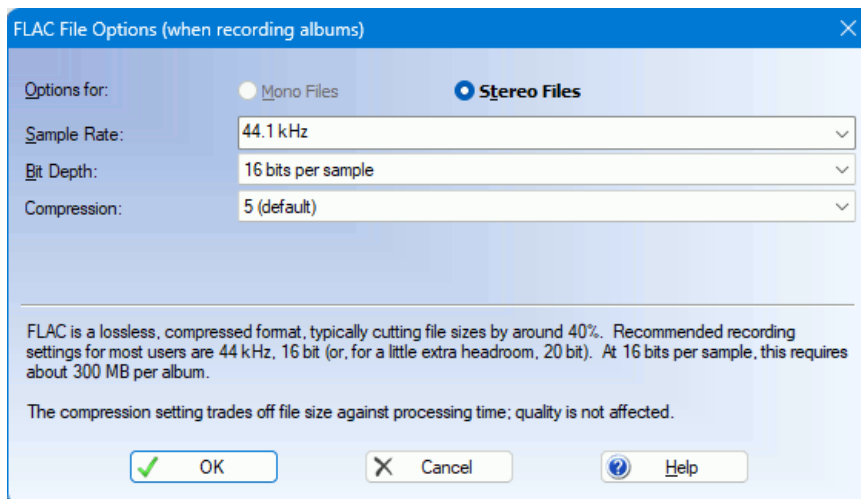
### **DSF File Options**



These are the options you can specify when recording to DSF format. The same options are available (although only 'As recorded' is supported, because DSD is a non-editable format) when you [import audio files](#), [save a copy of a recording](#) or use [batch format conversion](#) (VinylStudio Pro only).

**DSD Rate:** select the DSD rate you want to record at (up to the limit supported by your hardware). VinylStudio will normally set this automatically, based on what you select in the [Check Level dialog](#) dialog, and it is best to set it in there.

### **FLAC File Options**



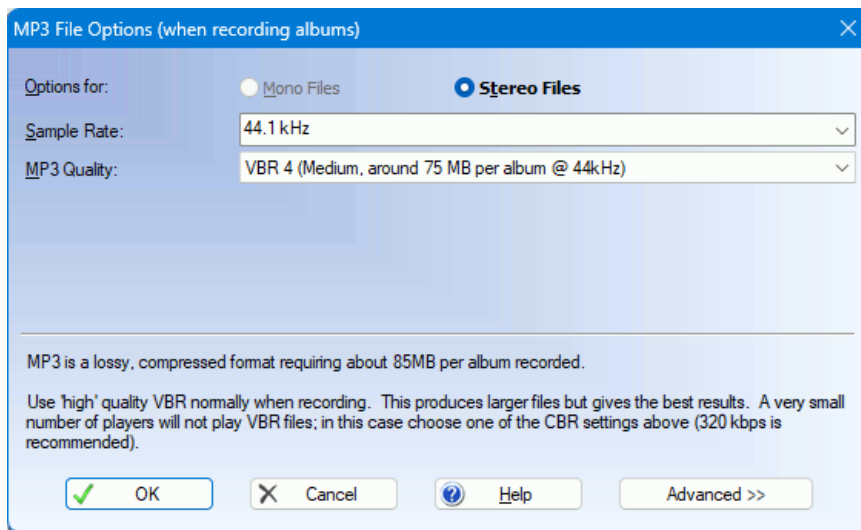
These are the options you can specify when recording to FLAC format. The same options are available (with the addition of 'As recorded') when you [import audio files](#), [save a copy of a recording](#) or use [batch format conversion](#) (VinylStudio Pro only).

**Sample Rate:** The sample rate of the files that VinylStudio will create when recording. It will also attempt to set your ADC to this rate (or, if not, the closest available rate). FLAC files support a maximum sample rate of 384kHz.

**Bit Depth:** The bit depth (aka bits per sample) of the files that VinylStudio will create when recording. It will also attempt to set your ADC to match this (or the next highest available). 32 bit files have no real value as no known ADCs actually support this. We include it for completeness.

**Compression:** Higher values give slightly smaller files at the expense of longer processing times. Because FLAC files are lossless, this setting does not affect sound quality.

### **MP3 File Options**

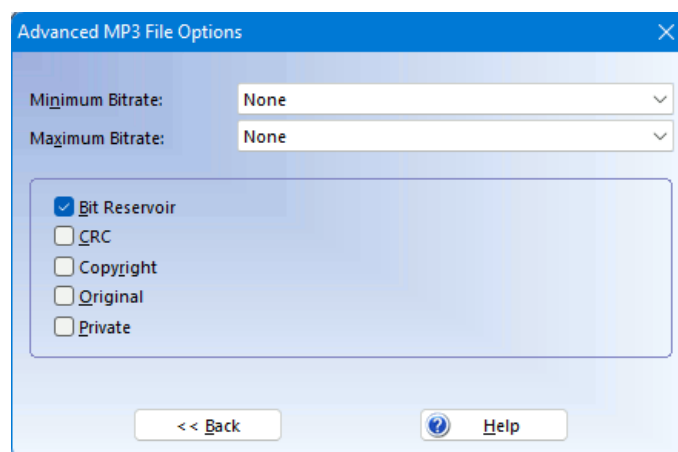


These are the options you can specify when recording to MP3 format. The same options are available (with the addition of 'As recorded') when you [import audio files](#), [save a copy of a recording](#) or use [batch format conversion](#) (VinylStudio Pro only).

**Sample Rate:** The sample rate of the files that VinylStudio will create when recording. It will also attempt to set your ADC to this rate (or, if not, the closest available rate). MP3 files support a maximum sample rate of 48kHz.

**MP3 Quality:** This allows you to trade off file size against sound quality. Variable Bit Rate (VBR) format files offer significant advantages over the Constant Bit Rate (CBR) format more commonly used, but a (very) few players have problems playing these. VBR High is recommended when recording as you want the best fidelity.

### Advanced MP3 File Options



**Minimum Bitrate:** Set the minimum bitrate to use when encoding VBR or ABR files. This is not normally necessary but a (very) few players have problems playing files containing low bitrate frames.

**Maximum Bitrate:** Set the maximum bitrate to use when encoding VBR or ABR files. This is not normally necessary or useful but can reduce file sizes with some types of music (e.g. heavy metal).

**Bit reservoir:** Enabling the bit reservoir improves recording quality somewhat, especially when generating CBR files. Recommended.

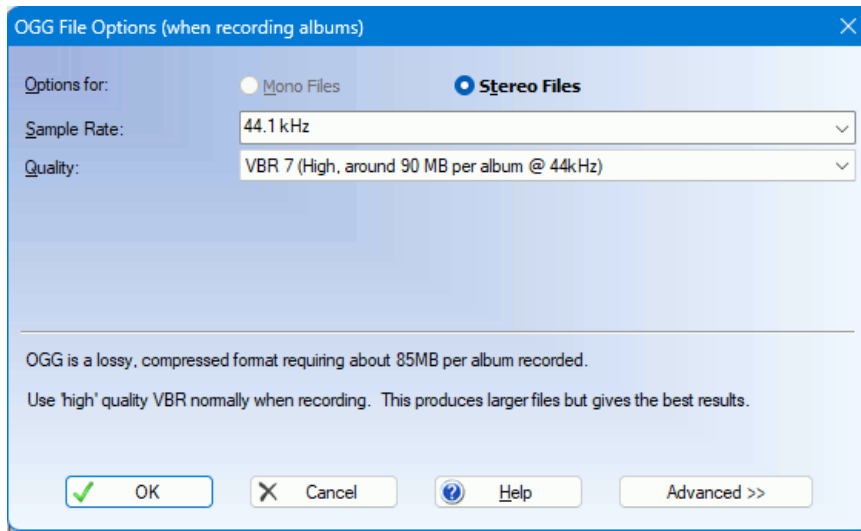
**CRC:** Include a checksum in every MP3 frame. This reduces encoding quality slightly and is not normally necessary (or useful).

**Copyright:** Set the 'copyright' flag in every MP3 frame. This has no other effect.

**Original:** Set the 'original' flag in every MP3 frame. This has no other effect.

**Private:** Set the 'private' flag in every MP3 frame. This has no other effect.

### OGG Vorbis File Options



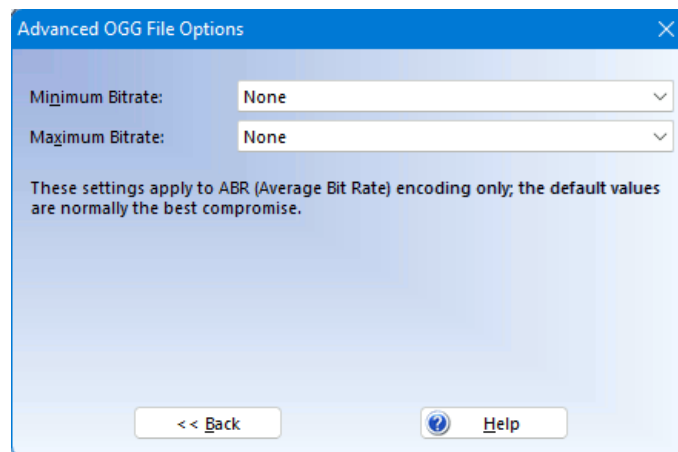
These are the options you can specify when recording to OGG format. The same options are available (with the addition of 'As recorded') when you [import audio files](#), [save a copy of a recording](#) or use [batch format conversion](#) (VinylStudio Pro only).

**Sample Rate:** The sample rate of the files that VinylStudio will create when recording. It will also attempt to set your ADC to this rate (or, if not, the closest available rate). OGG files support a maximum sample rate of 96kHz.

**Quality:** This allows you to trade off file size against sound quality. Variable Bit Rate (VBR) encoding offers better sound quality than Average Bit Rate (ABR) encoding for the same file size, and is recommended. VBR High is recommended when recording as you want, ideally, perfect fidelity and this setting comes close. VBR Low is generally a good compromise when saving tracks or burning CDs.

**Embed Album Art** (when saving tracks): as described for MP3 files.

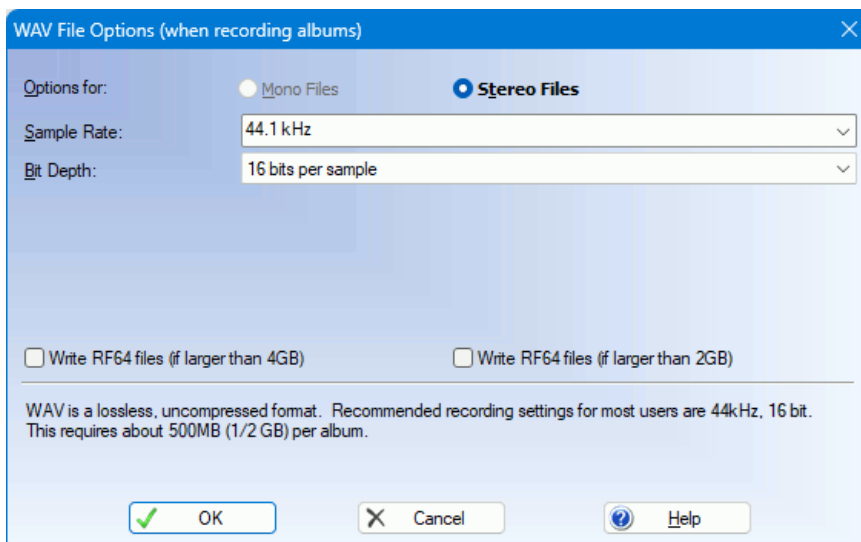
#### Advanced OGG File Options



**Minimum Bitrate:** Set the minimum bitrate to use when encoding ABR files. This is not normally necessary or useful.

**Maximum Bitrate:** Set the maximum bitrate to use when encoding ABR files.

#### WAV File Options



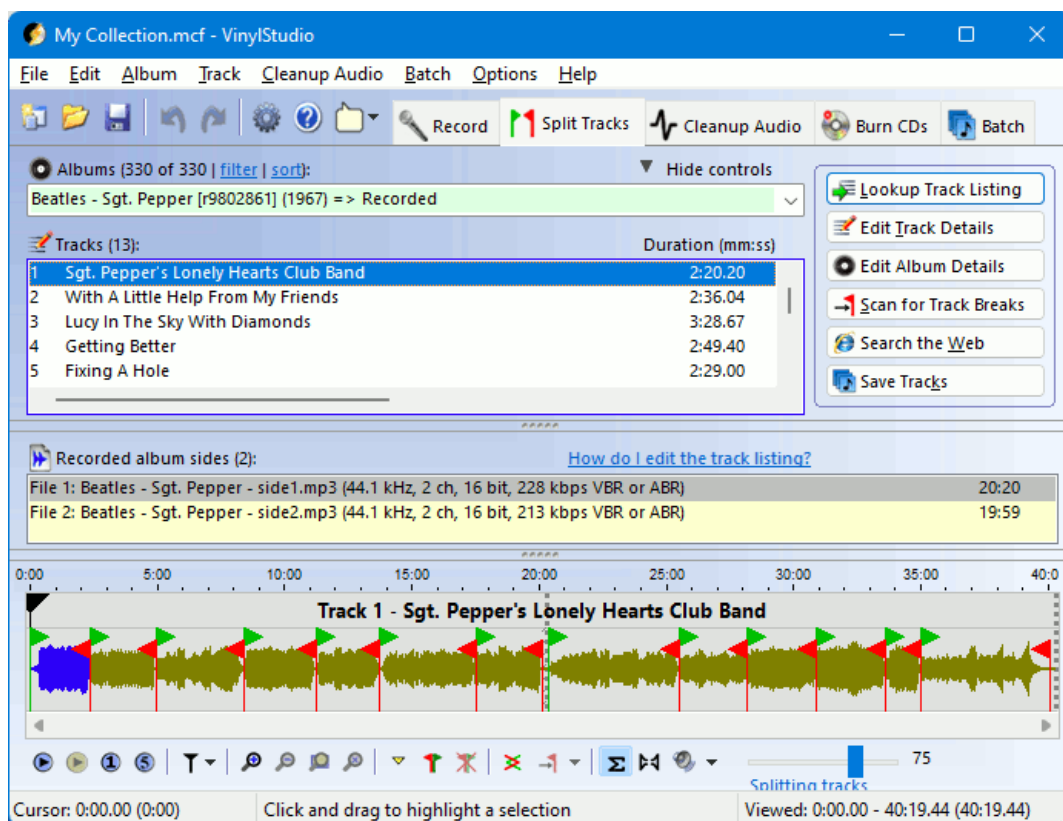
These are the options you can specify when recording to WAV format. The same options are available (with the addition of 'As recorded') when you [import audio files](#), [save a copy of a recording](#) or use [batch format conversion](#) (VinylStudio Pro only).

**Sample Rate:** The sample rate of the files that VinylStudio will create when recording. It will also attempt to set your ADC to this rate (or, if not, the closest available rate).

**Bit Depth:** The bit depth (aka bits per sample) of the files that VinylStudio will create when recording. It will also attempt to set your ADC to match this (or the next highest available). 32 bit files have no real value as no known ADCs actually support this. We include it for completeness.

**Write RF64 files (if larger than 4GB):** If you check this box, VinylStudio can write WAV files larger than 4GB (so-called RF64 files). Not all players can read these files, but if none of your files are larger than 4GB in size then this is unlikely to be a problem because VinylStudio will write out regular WAV files with a small padding chunk. The 2GB box can be useful for players which can only handle 2GB WAV files (although this is very rare these days). Please note: this requires [VinylStudio Pro](#).

## Splitting Tracks



In the **Split Tracks** window, you can:

- Enter track listings
- Split your Recordings into Tracks
- Work in the Waveform Display ('Listen While you Work')
- Do Various Things Using the Toolbar
- Edit Album Details (Title, Artist, Release Year, etc.), and Import Album Art
- Save your Tracks, one File per Track
- Scan for Track Breaks
- Fade Tracks In and Out
- Enter Your Own Custom Tags

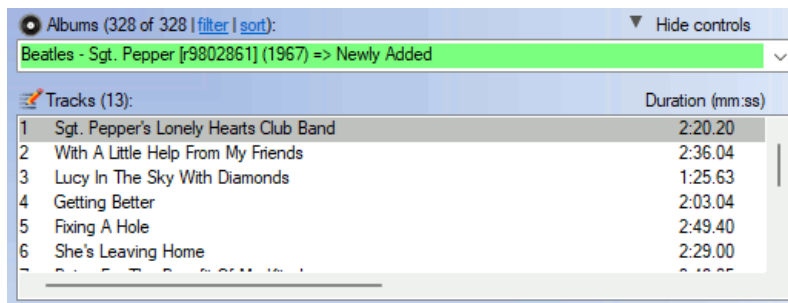
You can also edit an album title and/or artist, by selecting the album from the drop-down box, right-clicking on it and selecting **Edit Album Details**.

### **Entering, Editing or Importing a Track Listing**


**Please note:** There is a video tutorial about this on YouTube, see: <https://www.youtube.com/watch?v=CJ5poE8eAac>.

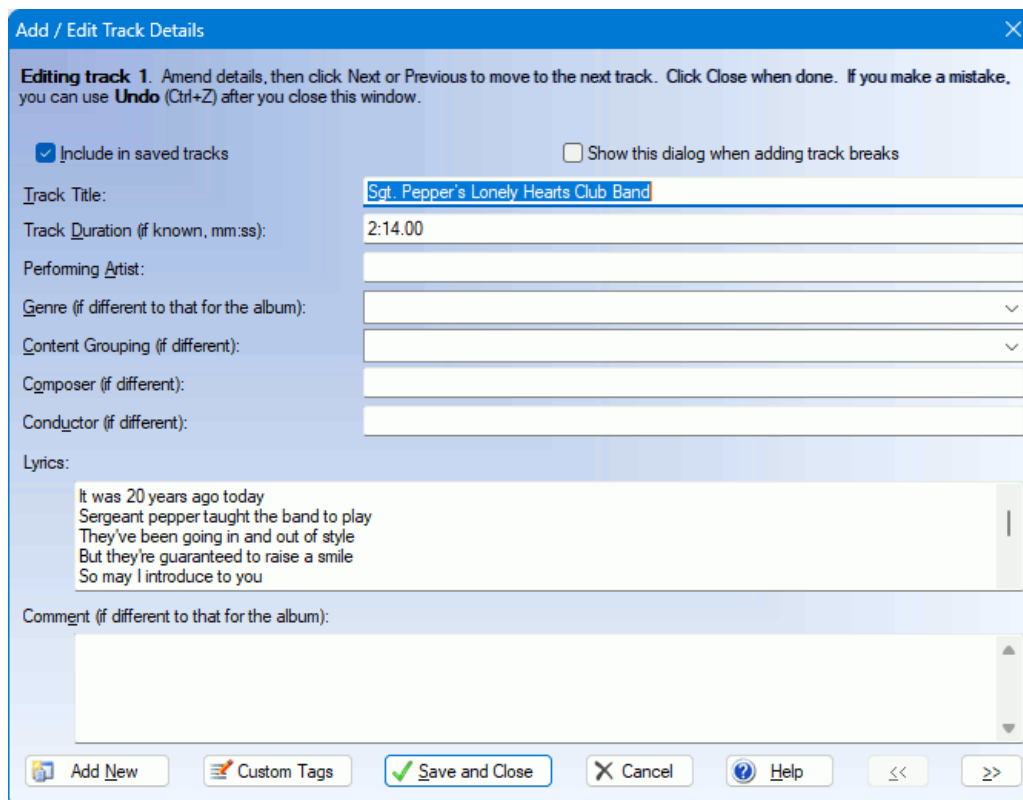
It is worth doing this first as it makes splitting the recording into tracks much easier subsequently. You can do this while recording is in progress.

The first thing to try is VinylStudio's Lookup Track Listing feature. With luck, this will find a track listing which matches, or closely matches, your album. Most of the online databases also include track times, in which case VinylStudio will create track breaks for you in more or less the right places. If not, or if the retrieved listing is inaccurate, read on.



There are a number of tools in the **Split Tracks** window to edit an incorrect or incomplete listing, or to enter one from scratch:

- **To enter new tracks**, click on the last entry in the list. This opens a new window where you can enter the track title, the duration (if you have it) and the track artist (do this for compilation albums only). To enter further tracks, click **Add Another**.
- **To edit the details for an existing track**, double-click on it (or click on it and press F2). Again, this opens a new window and if you make a mistake in this window, close it and use Undo  (Ctrl+Z).
- **To move a track in the list**, click on it and drag it to the desired position. To preserve your existing track breaks when moving or deleting a track, hold down the **Alt** key while you are moving it.
- **To delete a track**, click on it and press Del.
- For more options, right-click on an item in the list.



New tracks are always added at the end of the list; you can drag them to the correct position in the list subsequently, if necessary. If you have the track times to hand (on the LP sleeve, say, or on the disc itself), it is worth typing them in, especially for classical music, as VinylStudio will then create track breaks for you in more or less the right places. You should avoid using the same name (e.g. Allegro) for different tracks in the same album as this can cause problems with Windows Media Player, iTunes, and other music players.

**To import a track listing from a file**, select Import Track Listing from the Album menu. Each line of the file should contain a track name followed by an optional track time in brackets, e.g.:

**Yellow Submarine (2:47)**

For compilation albums, follow the track artist by a hyphen with a space on either side, e.g.:

**Beatles - Yellow Submarine (2:47)**

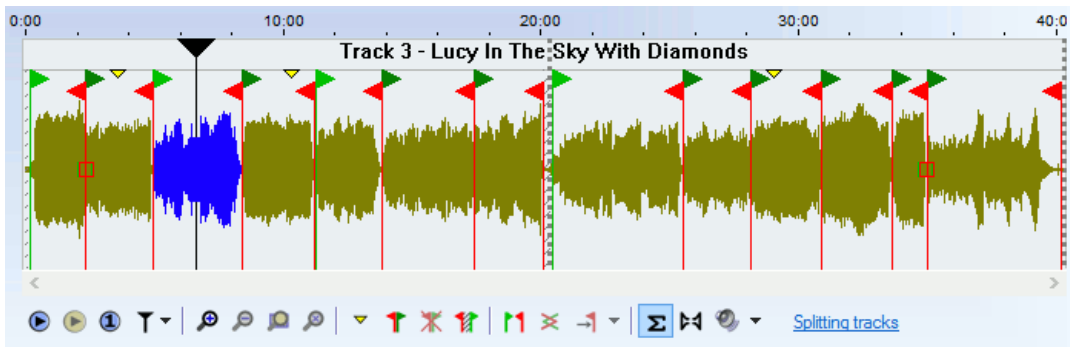
If a track name contains a hyphen, you can either omit the spaces round the hyphen or type it as two hyphens, e.g.:

**When I'm Sixty--Four**

## **Splitting Your Recordings into Tracks**

If you have entered (or been able to lookup) reasonably accurate track times as described above, you are already most of the way there as VinylStudio will have inserted trackbreak markers for you and you will just need to position them accurately in the gaps between the tracks as described below. If not, you can try your luck with VinylStudio's Scan for Track Breaks feature. You will need to wait for recording to complete first, of course, and results can vary depending on the nature of the music.

Whatever stage you are at in the track-splitting process, you can insert and / or adjust track breaks manually in the **waveform display** using the controls in the toolbar beneath it. Here is an example, with a few track breaks already defined:



To **insert a trackbreak**, drag the cursor (click on the ▼) to the gap between the tracks and click on the **Insert Trackbreak** button ↑; you can also add a trackbreak by double-clicking anywhere in the waveform display. To split the current track when inserting a trackbreak, press and hold the **Alt key**.

To **adjust the position of a trackbreak**, click on and drag the trackbreak marker in question. Zoom in for greater precision, using the scroll wheel on your mouse or the + and - keys. Move the cursor to the area of interest first - VinylStudio centres this in the display when you zoom in.

To **delete a trackbreak**, click on the relevant marker and then click on the **Delete Trackbreak** button ✂. To merge the two tracks either side of the trackbreak you are deleting, press and hold the **Alt key**.

To **eliminate the gap between tracks**, position the trackbreak at the end of the first track (zooming in as necessary) then click on and drag the green start marker while holding down the **shift key**. VinylStudio (usually) automatically eliminates the dead air at the end of the LP side (and marks it with a grey cross-hatch). If you wish to add a fixed period of silence between each track, you can do this in the [Settings dialog](#).

To **move track breaks as a group**, hold down the **Alt key** while dragging. This is useful when you have retrieved a track listing from one of the online databases and the tracks on side 2 are all a little out of kilter.

To **move quickly from track to track while zoomed in**, click on a track in the track listing.

To **fade a track in or out**, use the Adjust Faders dialog or hold down the **Alt key** and drag the little square boxes that then appear.

### **Using the Waveform Display (Listen While you Work)**

It is well worth learning how the waveform display works (and the toolbar beneath it) to get the best out of VinylStudio.

To position the cursor (the vertical black line in the waveform display), click anywhere in the waveform display or click on the ▼ and drag it to where you want it to be. VinylStudio uses the cursor to center the display when you zoom in, and moves the cursor along the display when the track is playing. While playing in anchor mode, clicking in the waveform display positions the anchor point (displayed as a greyed-out cursor) rather than the cursor itself. To position the cursor, shift-click.

To zoom in an out, use the various zoom buttons in the toolbar listed above, the scroll wheel on your mouse or the + and - keys. Move the cursor to the area of interest first - VinylStudio centres this in the display when you zoom in.













To manipulate the track break markers, see above.

A number of functions are also available by right-clicking in the waveform display.

### **Using the Toolbar**

The toolbar beneath the waveform display provides a number of tools to help you split your recordings into tracks quickly and efficiently. Shortcut keys are shown in brackets:

▶ (space bar)	Starts playing from the current cursor position. Click in the waveform display first to position the cursor if necessary.
■	Stops playing. In <b>anchor mode</b> , the cursor will return to the anchor point (which is displayed as a greyed-out cursor while playing) unless you hold down the shift key. To switch between anchor mode and classic mode, use the 'cursor options' button ▾.
⏸ (#)	Pauses / resumes playback. This button is only displayed in anchor mode.
<	Jump to the beginning of the selection (if there is one) or the recording. This is a shortcut key rather than a button. Press it twice if necessary. While playing in anchor mode, hold down the shift key to move the anchor point rather than the cursor.
>	Jump to the end of the selection (if there is one) or the recording.
(	Move backwards by one disc rotation period. Use this when manually repairing scratches that run across the disc. You can change the rotation period for the current album in the Edit Album Details dialog.
)	Move forwards by one disc rotation period.
▶ (S)	Plays the current selection (shown highlighted in yellow in the waveform display). Shift-click to play in a continuous loop. To define a selection, click and drag in the waveform display. To clear the current selection, press <b>Esc</b> .
⊙ (G)	Plays a few seconds either side of the current cursor position or track break. Stop playback before using this function.
▾	Displays a dropdown offering a choice of various cursor options, including whether the display pans to follow the cursor when it moves off the right-hand edge of the screen while playing.
▶	Stop playing at the next end-of-track marker.

 (+)	Zoom in, centering the display at the current cursor position. Click in the waveform display first to position the cursor to the area of interest if necessary. You can also zoom in and out with the scroll wheel.
 (-)	Zoom out.
 (Z)	Zoom in (or out) so that the current selection exactly fills the window.
 (A)	Zoom all the way out (so that the entire recording is visible).
 (M)	Insert a yellow marker at the current cursor position. This lets you mark a particular spot that you might want to come back to later. To delete a marker, click on it and press D.
 (B or double click)	Insert a trackbreak at the current cursor position. You can do this while the recording is playing if you wish, which can be handy for live albums. You can also insert a trackbreak by double-clicking anywhere in the waveform display. To split the current track when inserting a trackbreak, press and hold the <b>Alt key</b> .
 (Del)	Delete the trackbreak under the cursor. Click on the trackbreak you want to delete first. To merge the two tracks either side of the trackbreak you are deleting, press and hold the <b>Alt key</b> .
 (F)	Adjust the faders for the trackbreak under the cursor. This lets you set up a 'cross-fade' between one track and the next. Click on a trackbreak first. You can also adjust faders by holding down the <b>Alt key</b> and dragging the little square boxes that then appear.
 (C)	Determines whether you hear corrected or uncorrected (i.e. the original, as recorded) audio when you click <b>Play</b> . Corrections, such as scanning for clicks and removing tape hiss, are applied in the Cleanup Audio window.
	Turns off audio in the left or right-hand channel (so that you can listen to just one).
	Opens the Windows mixer applet, which allows you to adjust the playback volume. You can also change the current playback device by clicking on the down-arrow.
J	Jump back one second. Shift+J jumps back 10 seconds.
P	Jump to the previous track break.
N	Jump to the next track break.
? or /	Announce what track or track break the cursor is on (Mac only, turn on VoiceOver).
[	Nudge the current track break marker to the left. Press and hold the control key to nudge in larger amounts.
]	Nudge the current track break marker to the right. Hold down the shift key to nudge the start of track marker only.
 (T)	Zoom the waveform display to encompass the current track.
` (back quote)	Switch to the Cleanup Audio window (toggle).
1	Scrub backwards (hold key down). You can set the scrubbing speed in the Cursor Options menu.
2	Scrub forwards.
5	Play through all the track breaks, one at a time, starting from the current cursor position.
6	Remember the current zoom level and cursor position.
7	Return to the zoom level saved above.
8	Return to the cursor position saved above.
9 or ( / 0 or )	Go forwards or backwards one rotation of the record, approximately. Useful for repairing long scratches manually.

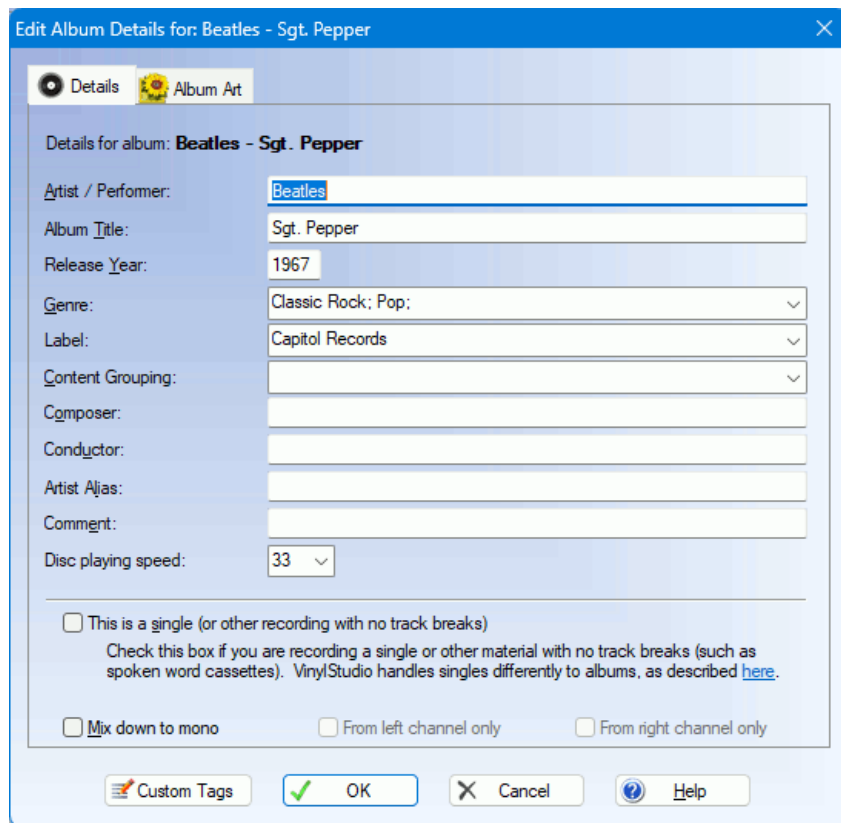
In addition, you can use the arrow keys as follows:

- Left / right arrow: scroll the waveform display left and right.
- Shift-left / right arrow: nudge the cursor left and right in small increments.
- Ctrl-Shift-left / right arrow: nudge the cursor left and right in larger increments.

**TIP:** it's worth learning the shortcut keys for the functions you use most; it can save a lot of time if you have a lot of albums to process. The shortcut key for a particular toolbar button is also displayed when you hover over it with the mouse.

### **Editing Album Details and Importing Album Art**

You can **edit the various bits of information** that VinylStudio stores for an current album by clicking on the **Edit Album Details** button (or by selecting Edit Album Details from the Album menu):



You can enter whatever information you have to hand in this dialog. Any information you enter will be stored (as tags) in the files you generate when you save your tracks. For more information on recording singles, click [here](#).

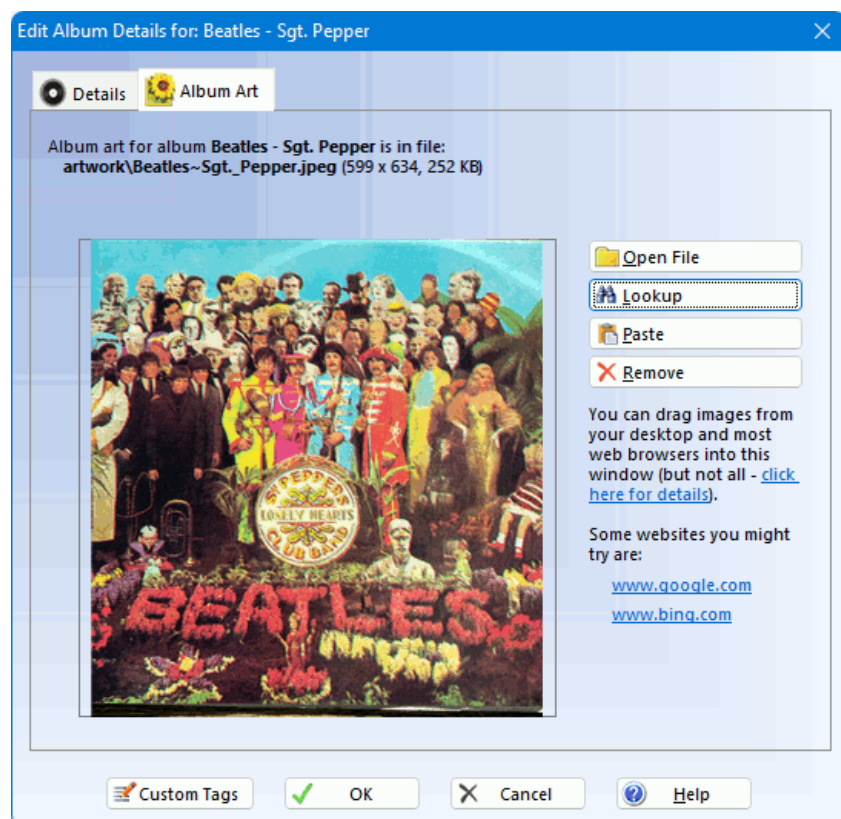
Information on what the **This is a single** checkbox does, can be found [here](#).

**Mix down to mono** specifies that the tracks for this album will be saved in mono rather than stereo. Some people prefer this for mono material and it can save some disk space, especially when saving in uncompressed formats.

**From left channel only / From right channel only:** when mixing down to mono, checking one of these boxes will take audio from that channel only. This can be useful when there is noise in the other channel.

**Album art** can be imported from files on your hard disk or looked up over the internet. You can also drag and drop images from most web browsers or from Explorer, or you can use Copy and Paste.

To import from an existing file, click **Open File** and navigate to the file on your hard disk. VinylStudio will embed the image in any files it generates for this album when saving tracks and it will scale it down if necessary to keep the embedded image down to a reasonable size. You can control VinylStudio's exact behaviour in this regard in the [Settings dialog](#).



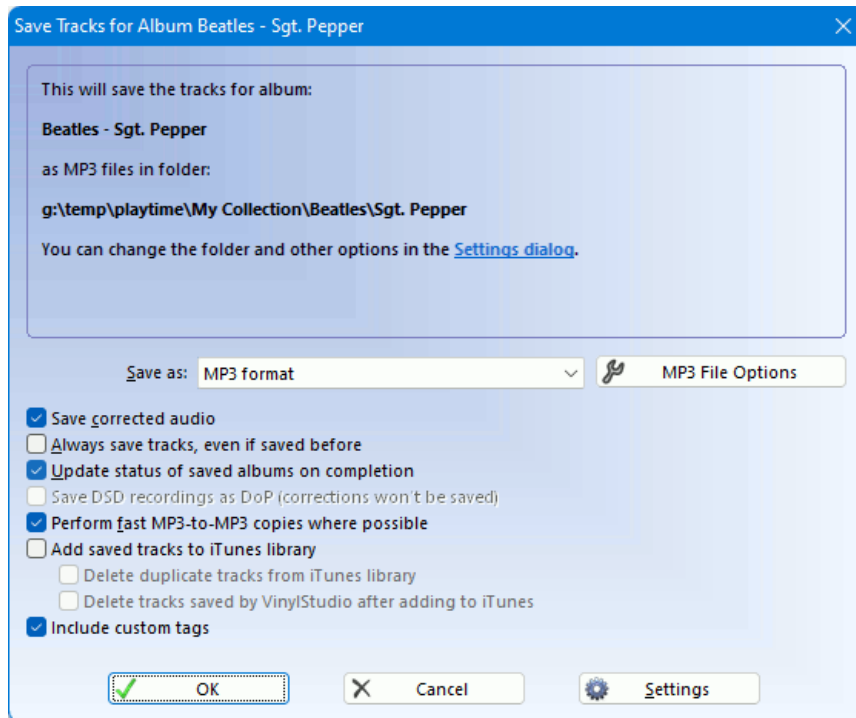
Not all web browsers support drag and drop for images. We have tested the following:

<b>Chrome</b>	Supported.
<b>Edge</b>	Supported.
<b>Firefox</b>	Supported.
<b>Opera</b>	Supported.
<b>Safari</b>	Supported.
<b>Internet Explorer</b>	Supported for certain images only (specifically, those that do not link to another page or image).

Where a browser does not support drag and drop, save the image as a file and then open that file via the **Open File** button, or use Copy and Paste.

## Saving your Tracks

Once you have positioned all your track breaks and entered all the track details (a lot of which is automated if you can find your album in one of the online databases that VinylStudio supports) then click on **Save Tracks** in this window to save your tracks:



Select the file type you want to save to and any relevant options (such as the level of compression for MP3 files, for example) and then kick the process off. VinylStudio will then save your tracks and log the results. If all is well, the resulting files should be ready for use. If not, the log will tell you what went wrong and you can correct it and try again.

You can also save individual tracks by selecting **Save Track As** from the **Track** menu. This lets you try out the effect of the audio cleanup tools in the trial version.

VinylStudio can save your tracks in a variety of file formats, depending on what you need. These can then be played in Windows Media Player, iTunes, and other music players, or copied out to an MP3 player or memory stick. AAC and Apple Lossless are the file formats favoured by iTunes (although MP3 also works). Windows Media Player prefers WMA or MP3. Please note that you can (and usually do) save your tracks in any format, regardless of the format you recorded to.

If you record to DSD format, you can save your tracks as either DSD or PCM, depending on the file format you choose. If you save as DSD, any audio cleanup you have applied (including declipping) will be ignored.

The available options are as follows (not all of these options are displayed for all file types):

- **Save corrected audio:** apply any audio cleanup work you have done (including scanning for clicks) to your saved tracks. If you uncheck this box, the original recorded audio will be saved verbatim.
- **Always save tracks, even if saved before:** VinylStudio normally only saves a track if it hasn't been saved before (unless it has changed). Check this box to force VinylStudio to save all tracks regardless.
- **Update status of saved albums on completion:** If you check this box, VinylStudio will update the status of the album or albums being saved to help you keep track of your work.
- **Save DSD recordings as DoP:** This box is only relevant if saving a DSD recording, so most users can ignore it. It's also not relevant when saving a DSD recording to a DSD-only format (i.e. DFF, DSF), but if you are saving a DSD recording to an uncompressed format like WAV, you can check this box to tell VinylStudio to save your tracks as DSD over PCM (DoP). This is a specialised option and very few people will ever need it. Most people will want to leave this box unchecked, in order to save as PCM.
- **Perform fast MP3-to-MP3 copies where possible:** This box only applies when saving tracks in MP3 format from an MP3 original. Depending on what audio cleanup work you have done, checking it can speed things up and avoid the need to transcode the audio, which in turn improves the sound quality.
- **Add saved tracks to iTunes library:** Check this box to have VinylStudio automatically add the tracks it saves to iTunes (requires VinylStudio Pro).
- **Delete duplicate tracks from iTunes library:** Check this box to ensure that there is only one version of the tracks saved in your

iTunes library (any duplicates will be deleted).

- **Delete tracks saved by VinylStudio after adding to iTunes:** If you check this box, VinylStudio will delete the tracks it saves after it has added them to iTunes. This avoids ending up with two copies and thus saves disk space.
- **Include custom tags:** If you check this box, VinylStudio will include any custom tags you have defined in the custom tags editor in your saved tracks. Whether or not you want it to will probably depend on the file format you are saving to.

By default, saved tracks are saved in the following folder:

```
Music
  <Name of your collection>
```

You can change this in the [Settings dialog](#), and you will also find tools in there to change the way your saved files are named.

[VinylStudio Pro](#) can also save tracks for several albums at a time. You do this in the Batch window.

## Adding Saved Tracks to iTunes

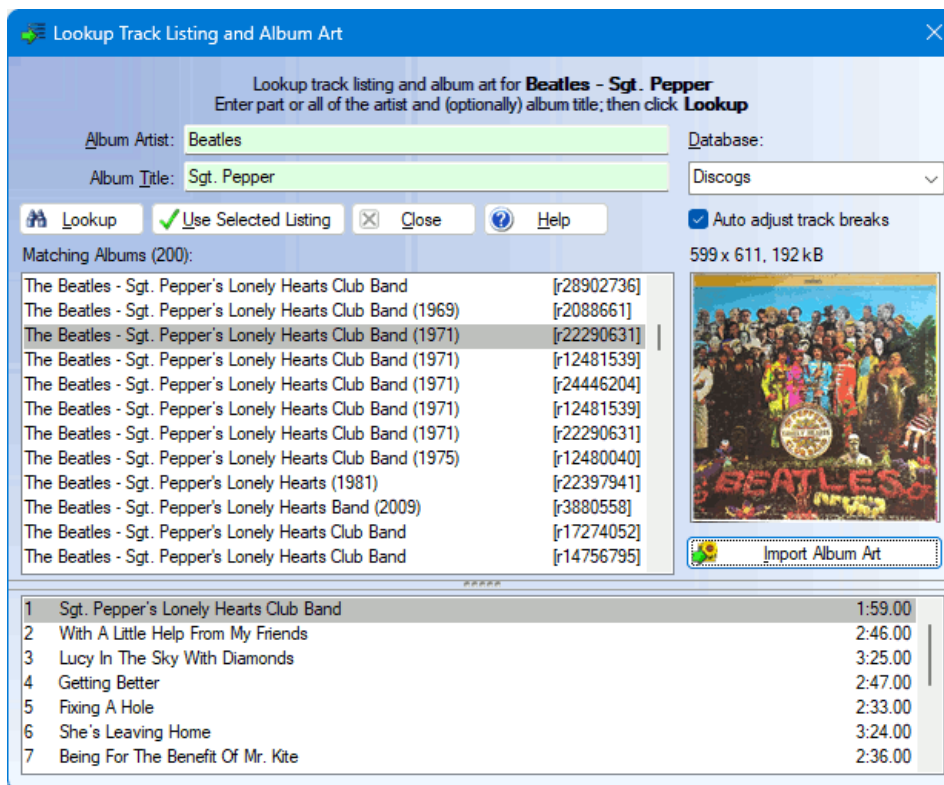
([VinylStudio Pro](#) only).

VinylStudio does this by default, if iTunes is installed. If you prefer it not to, uncheck 'Add saved tracks to iTunes library' in the above dialog. If the process stalls, check whether iTunes is displaying some kind of popup.

You might consider configuring iTunes to not copy tracks into its media folder when they are added to the library. This can save a lot of disk space. You can set this option in the 'Advanced' section of the iTunes Preferences window. Alternatively, use VinylStudio's 'Delete tracks saved by VinylStudio after adding to iTunes' option. Don't use both together!

## Lookup Track Listings and Album Art

VinylStudio can look up track listings for many LPs over the Internet. To do this, click on the **Split Tracks** tab, select the album from the dropdown list if necessary and then click **Lookup Track Listing**. This will popup the following window:



With luck, you will be able to retrieve a full track listing from one or other of the available databases by clicking **Lookup**. If so, select the best match and then click **Use Selected Listing**.

If you can't find a match, try simplifying the artist or album title - just a few keywords will often do. Alternatively, you can try a different database. Music Brainz seems to have the best balance between coverage and 'noise', but the other databases are worth a try for more obscure material.

For Discogs, you can also enter the catalog number (without spaces or punctuation) in the Album Artist field, preceded by a #, e.g. #74321589412. Leave the album title blank. You can broaden your search by starting the album artist with a + sign, e.g. +Billy Joel. This can be useful if a search returns no hits. You can also search by Discogs release ID this way, or by enclosing it in square brackets, e.g. [r499497].

Because some entries are for CDs rather than vinyl albums, track listings are sometimes in the wrong order or may contain extra tracks. You can edit an incorrect or incomplete listing as follows:

- to edit a track name, click on it and press **F2**; you can also edit the track time in this way
- to move a track in the list, click on it and drag it to the correct position in the list
- to delete a track, click on it and press **Del**
- to add tracks, type them in at the end of the list; you can then drag them to the correct position in the list if necessary
- for more options, right-click in the list

You can also edit the track listing subsequently in the Split Tracks window. Doing it there has the advantage that you can Undo (Ctrl+Z) and Redo (Ctrl+Y) any changes you make. If the retrieved listing does not contain track times (or if they are inaccurate), it is worth typing them in if you have them to hand, especially for classical music. VinylStudio will then position trackbreak markers for you in roughly the right places.

### Auto Adjust Track Breaks

If you check **Auto adjust track breaks** then VinylStudio will attempt to align the track breaks with the gaps in the music. Alternatively, you can do this later in the Split Tracks window (Scan For Track Breaks -> Adjust).

### Lookup Album Art

VinylStudio can download album art from the Discogs and Music Brainz databases. This is then embedded in the files generated when VinylStudio saves your tracks (but not for WAV files).

To retrieve album art from one of the online databases, lookup the album in the same way as described above. Then click **Fetch Album Art** to see the cover as a thumbnail, at which point the button changes to **Import Album Art**. Click this in turn to download the album cover and store it as a file in your recordings folder. Note that you can download album art from one looked-up album and use the track listing from another, even if they come from a different databases. Coverage in Music Brainz is currently rather patchy.

You can also import album art from a file on your hard disk. To do this, select Edit Album Details from the Album menu and click on the 'Album Art' tab. You can also drag album art from most browsers to this tab, or use Copy and Paste.

Some other sites you might try for downloading album art are:

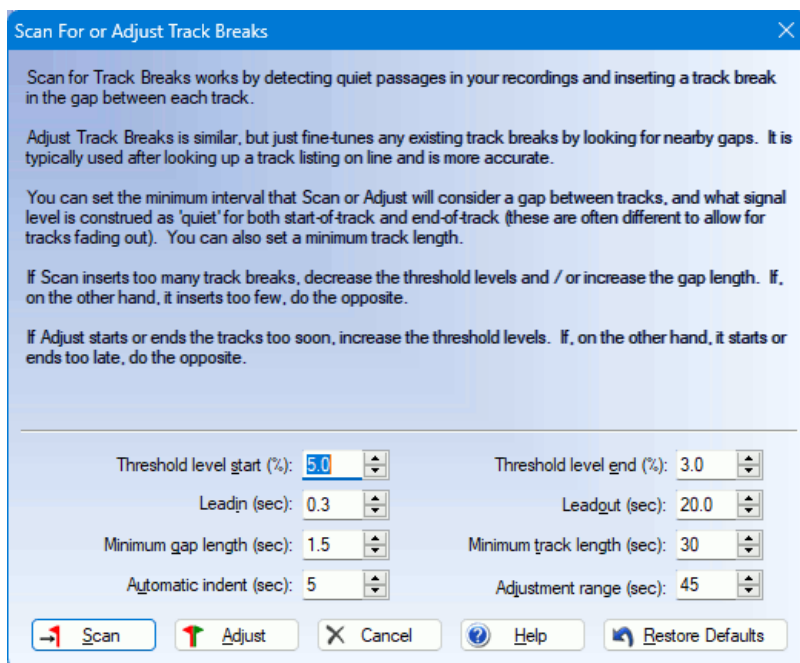
- www.albumart.org
- images.google.com

If you use these sites, you will have to save the image to your hard disk and then import it into VinylStudio in the Edit Album Details dialog (or drag the image across from your browser).

### → Scan for Track Breaks

Once you have recorded an album (both sides), you can scan it for track breaks. This can be useful when Lookup Track Listing has failed to find a match or when no track times are available.

VinylStudio can also adjust your existing track breaks (including those found by Lookup Track Listing) if these are not in quite the right place. This is more accurate than scanning from scratch, and you can also insert track breaks manually.



To scan for track breaks from scratch, go to the Split Tracks window, click **Scan for Track Breaks**, and then **Scan**.

To adjust your existing track breaks to fit the gaps in the music, go to the Split Tracks window, click **Scan for Track Breaks**, and then **Adjust**.

Results will vary depending on the type of the music.

You can also adjust your track breaks by moving them manually (it helps to zoom in for greater precision), and if you don't like the results you get, use Undo (Ctrl+Z) and then try adjusting the scan settings to better suit what you are scanning.

Settings you can change are:

**Threshold level start:** the minimum sound level that VinylStudio will interpret as the start of a track.

**Threshold level end:** the maximum sound level that VinylStudio will interpret as the end of a track.

**Leadin:** increasing this will move the green start-of-track markers further to the left (if there is room).

**Leadout:** increasing this will move the red start-of-track markers further to the right (if there is room).

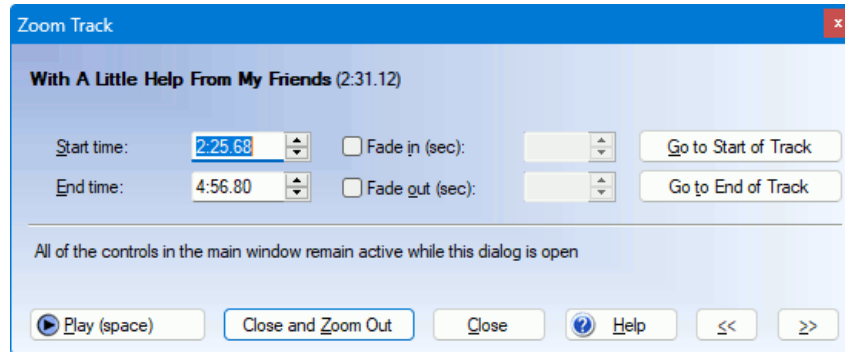
**Minimum gap length:** the smallest section of silence (or near silence) that VinylStudio will interpret as a gap between tracks. Gaps shorter than this are ignored.

**Minimum track length:** any tracks detected that are shorter than this are ignored.

**Automatic indent:** VinylStudio will automatically advance the first green start-of-track marker by this amount at the start of each album side before scanning.

**Adjustment range:** When adjusting existing track breaks, VinylStudio will look this far either side of the current position of each track break for a gap in the music.

## **Zoom Track Dialog**

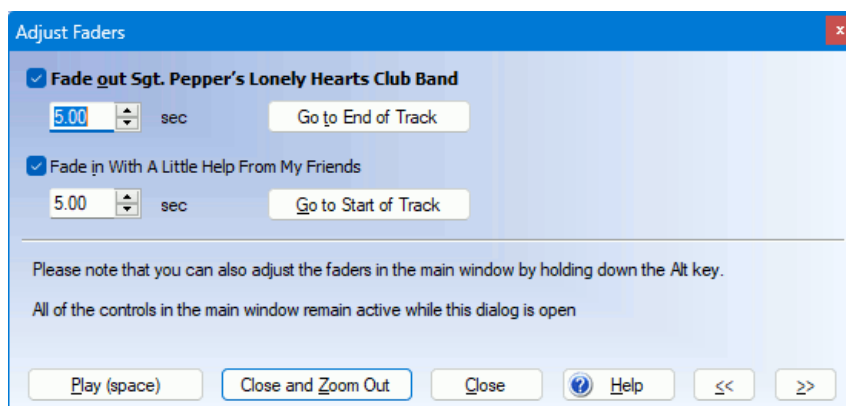


This dialog is displayed when you click on the **Zoom Track** button, and it allows you to focus on the current track. You can continue to work in the waveform display while this dialog is open but the trackbreak markers for the other tracks are disabled. You can fade the track in and out by clicking the appropriate checkbox, and you can adjust the start and end time of the track precisely in the dialog itself.

Use the **>>** and **<<** buttons to jump to the next or previous track respectively.

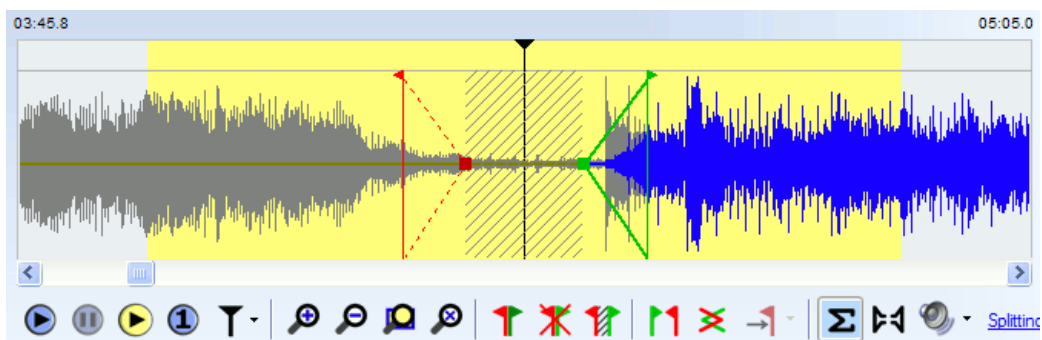
To start playing from one of the track break markers, click on **Goto Start (or End) of Track** and then click **Play**. To jump to any position in the track (even when the track is playing), click anywhere in the waveform display.

## **Adjust Faders Dialog**



This dialog is displayed when you click on the **Adjust Faders** button (you will need to click on a trackbreak first) and allows you to focus on a single trackbreak to fade the tracks in and out (or, rather, out and in). You can continue to work in the waveform display while this dialog is open, but all other trackbreak markers are disabled.

The currently selected track is shown highlighted in blue, and parts of the waveform which have been faded out (which will include all preceding and subsequent tracks) are shown greyed-out and will not play until you select them (which you can do by clicking on them after closing this dialog).



Once you have turned on fade-in or fade-out for a particular track, you can adjust the fade-in or fade-out points by dragging the markers in the waveform display; the Adjust Faders dialog does not need to be open to do this. To start playing from a marker, click on (but do not drag) the marker. To jump to any position in the track (even when the track is playing), click anywhere in the waveform

display.

The >> and << buttons provide a convenient way to jump to the next or previous trackbreak respectively.

To start playing from one of the track break markers, click on **Goto Start (or End) of Track** and then click **Play**. To jump to any position in the track (even when the track is playing), click anywhere in the waveform display.

If you hear faint clicks with the faders enabled, enable the rumble filter in the Filter Settings dialog.

### Custom Tags Editor

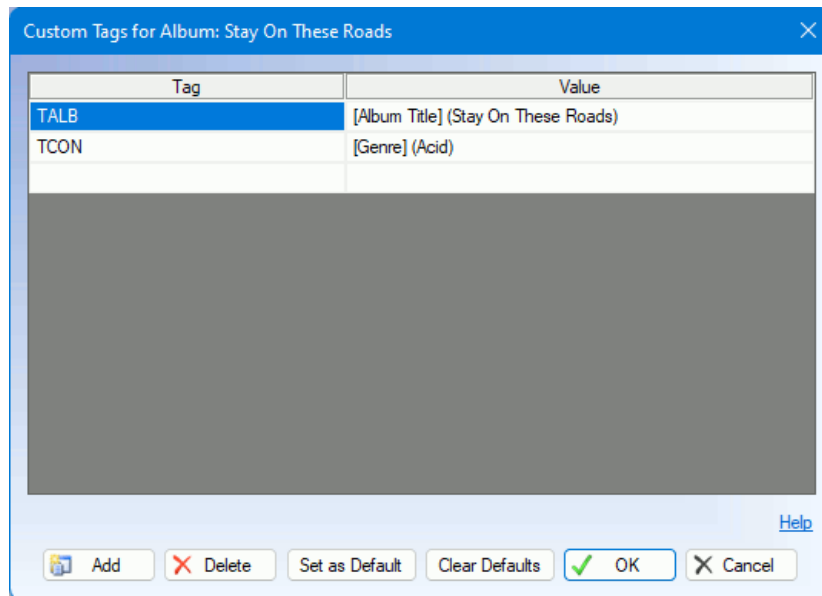
The custom tags editor allows you to create whatever tags you like, both at the album level and the track level (a tag created at the track level takes precedence over the same tag created at the album level, if any). You can open it from the Edit Album Details or [Edit Track Details](#) dialogs.

Use this editor to add tags that VinylStudio doesn't directly support or to keep track of your work. Please note that not all players display all tags for all file types. You can also specify values for tags that VinylStudio would normally generate automatically. If you do this, your custom tag(s) take precedence.

You can use the following keys to navigate in the grid:

<b>Arrow keys</b>	Move up / down / left / right between cells.
<b>Tab / Shift-Tab</b>	Move forwards or backwards one cell.
<b>Ctrl+down arrow</b>	Drop down the list (even if not editing the cell).
<b>Ctrl+Tab</b>	Tab from the grid to the buttons.
<b>Ctrl+Enter</b>	Close the grid, accepting any changes you have made.

Click the 'Set as Default' button to have VinylStudio store a set of custom tags to be applied automatically to any albums created henceforth. To clear any defaults previously defined, click 'Clear Defaults' (although this will not affect any existing albums).



You can specify the following keywords in the value field:

<b>[Date Recorded]</b>	The date this album was recorded, in the form dd-Mmm-yyyy (e.g. 01-Jan-2021).
<b>[Time Recorded]</b>	The time this album was recorded, in the form hh:mm (24 hour clock, e.g. 21:30).

You can also use any of the keywords listed under Controlling How Split-Up Tracks are Stored Using Custom Strings or select values from the dropdown list, and you can specify a line break by entering a vertical bar character (|) (or by pasting in multi-line text).

Here is a list of tags that VinylStudio normally generates automatically; you can also select these from the dropdown list. You can override these here. For a full list, please refer to the ID3 specification (or if that link is broken, try [here](#)).

#### ID3 tags (as used in MP3, AIFF, WAV and DSF files):

COMM	Comment
GRP1	Grouping (iTunes only)
MVIN	Movement No. / Movement Total (e.g. 1 / 4, iTunes only)
MVNM	Movement (iTunes only)
TALB	Album title
TCOM	Composer
TCON	Genre
TENC	Encoder (normally written as 'VinylStudio')
TIT1	Content grouping
TIT2	Track title

TPE1	Artist (for the track, if any, else for the album)
TPE2	Album artist
TPE3	Conductor
TPUB	Label ('publisher')
TRCK	Track number
TSOP	Artist alias
TYER	Release year (yyyy)
USLT	Unsynchronised lyrics (please note that VinylStudio does not support synchronised lyrics)

**MP4 / M4A tags (as used in AAC and Apple Lossless files):**

@alb	Album title
@ART	Track artist
@cmt	Comment
@day	Release year (yyyy)
@gen	Genre
@grp	Content grouping
@lyr	Lyrics
@nam	Track title
@too	Creator (normally written as 'VinylStudio')
@wrt	Composer / conductor (composite)
@mvi	Movement No. (e.g. 1, iTunes only)
@mvc	Movement Total (e.g. 4, iTunes only)
@mvn	Movement (iTunes only)
@wrk	Work (iTunes only)
aART	Album artist
cpil	This is a compilation album

**Vorbis tags (as used in Ogg and Flac files):**

ALBUM	Album title
ALBUMARTIST	Album artist
ARTIST	Track artist
COMMENT	Comment
COMPOSER	Composer
CONDUCTOR	Conductor
CONTACT	Contact
DATE	Release year (yyyy)
GENRE	Genre
GROUPING	Content grouping
LOCATION	Collection name
LYRICS	Lyrics
ORGANIZATION	Label
TITLE	Track title
TRACKNUMBER	Track number (1..)

**DFF tags:**

DIAR	Album / track artist (composite)
DITI	Track title

**WMA tags:**

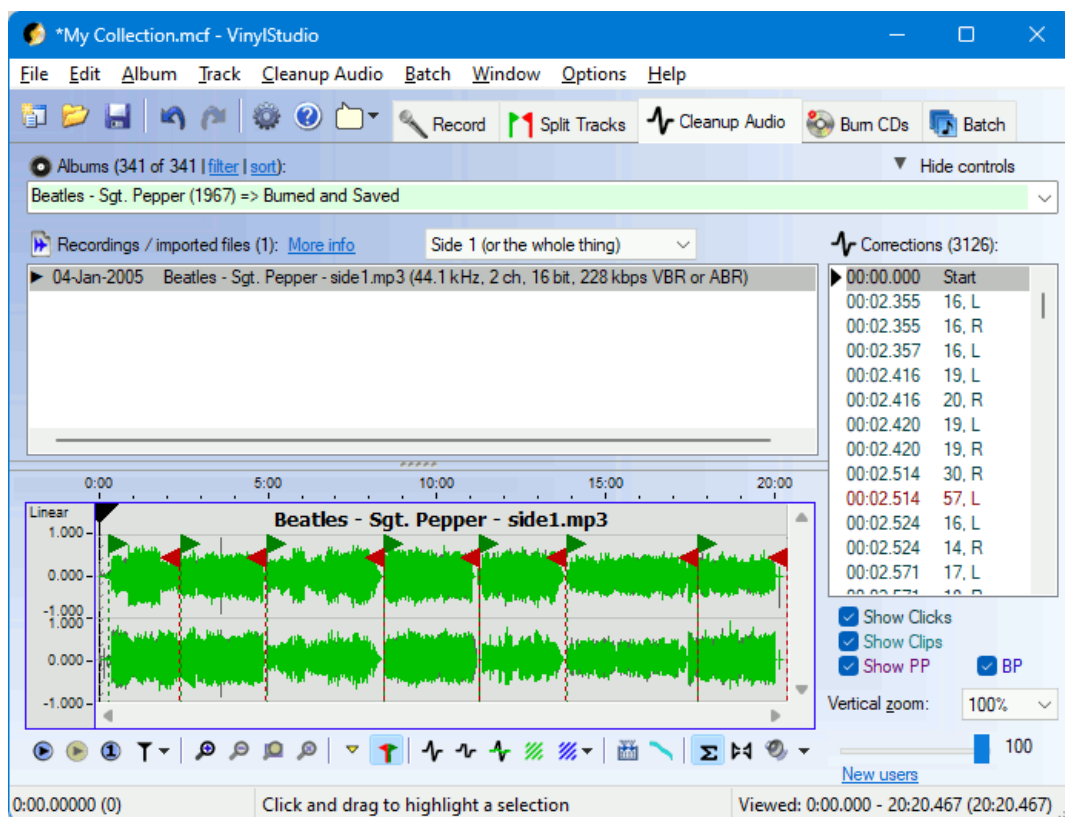
Author	Album or track artist
Description	Comment

Title	Track title
WM/AlbumArtist	Album artist
WM/AlbumTitle	Album title
WM/Composer	Composer
WM/Conductor	Conductor
WM/ContentGroupDescription	Content grouping
WM/Genre	Genre
WM/Lyrics	Lyrics
WM/Publisher	Label ('publisher')Genre
WM/ToolName	Creator (normally written as 'VinyIStudio')
WM/TrackNumber	Track number (1..)
WM/Year	Release year (yyyy)

**RIFF INFO tags (for WAV files, not widely supported, not in dropdown):**

CODE	Creator (normally written as 'VinyIStudio')
COMM	Comment
DIRC	Collection name
iaar	Album artist
IART	Track artist
ICMS	Label
ICMT	Comment
ICRD	Release year (yyyy)
IDST	Label
IENC	Creator (normally written as 'VinyIStudio')
IENG	Composer
IGNR	Genre
IMUS	Composer
INAM	Track title
IPRD	Album title
IPRT	Track number (1..)
ISBJ	Album artist
ISFT	Creator (normally written as 'VinyIStudio')
ISRF	Content grouping
ITCH	Conductor
itrk	Track number (1.., used by Media Monkey)
TRCK	Track number (1..)

**🔊 Cleanup Audio**



The Cleanup Audio window lets you remove clicks, scratches, tape hiss from your recordings and more. You don't need to save working copies of your files as you edit them - VinylStudio keeps track of your changes and applies them as and when needed (to any CD's you burn or tracks you save) whilst keeping your original recordings intact. This can save a lot of disk space, and, coupled with extensive Undo and Redo facilities, makes VinylStudio a productive and forgiving working environment. VinylStudio's audio cleanup features are not just a toy; used correctly, they can achieve excellent results, even on badly damaged recordings.

In the Cleanup Audio window, you can:

- Remove clicks, pops and scratches from your recordings.
- Filter out hiss, hum and rumble.
- Equalise your recordings.
- Remove unwanted sections of audio ('cut and splice').
- Patch bad scratches and dropouts.
- Repair severe clicks and scratches manually (VinylStudio Pro only).
- Work in the Waveform Display ('Listen While you Work').
- Switch to Spectral View (VinylStudio Pro only).
- Display a Frequency Analysis of your recording (VinylStudio Pro only).
- Do Various Things Using the Toolbar.

Follow any of the links above for more information.

The Cleanup Audio window also offers a number of 'housekeeping' tools, which let you:

- Convert your recordings between MP3 and WAV formats.
- Save working copies of your cleaned up files for editing outside VinylStudio.
- Import files recorded or edited outside VinylStudio.
- Delete unwanted files.

Again, follow any of these links for details.

Please note that if you have VinylStudio Lite, the audio cleanup features can only be used on a trial basis. Specifically, you cannot burn cleaned up audio to CD or to saved tracks. To upgrade, select 'Upgrade to Full Version' from the Help menu.

## For New Users

There are a lot of things you can do in the Cleanup Audio window and it's easy to get lost at first, so for new users, we recommend that you proceed as follows:

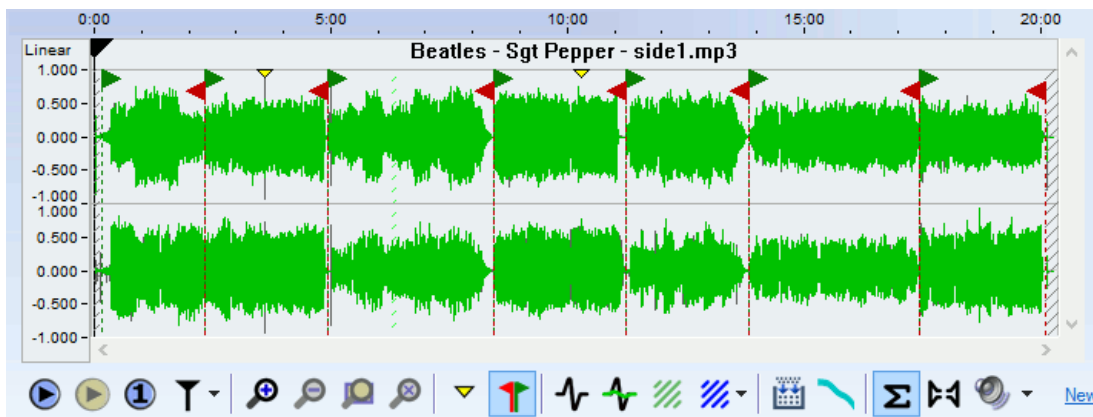
- first split your recording into tracks, if you have not done so already; this helps you find your way around your recording later on
- then, if it is a vinyl (or shellac) recording, or a tape made from one, scan it for clicks
- if it is a tape recording, or a noisy 78, apply the hiss filter; if not, you probably don't need to bother
- finally, use the graphic equaliser if you feel you need to adjust the tone, especially for recordings made from cassette tape
- repeat for side 2, if recorded separately

It is also worth spending a few minutes familiarising yourself with the operation of the waveform display and associated toolbar as described in the sections below.

As you become more proficient, it is worth exploring the available filter settings in more depth as there is a lot you can do with them. In particular, the rumble filter should be applied to all vinyl recordings and the hum filter can make a big difference in certain cases.

## Using the Waveform Display (Listen While you Work)

Unlike the Split Tracks window, which works on the album as a whole, the Cleanup Audio window works on one album side at a time. The display shows the audio signal both before and after any click repairs have been applied (one signal is superimposed on the other). The original signal is shown in green and repaired clicks are shown in grey:



Most of VinylStudio's functions work with the current **selection**. To define a selection (which is shown shown in yellow), click and drag in the waveform display. You can subsequently adjust the either edge of the selection by clicking on it and dragging. To clear the selection, press **Esc**.

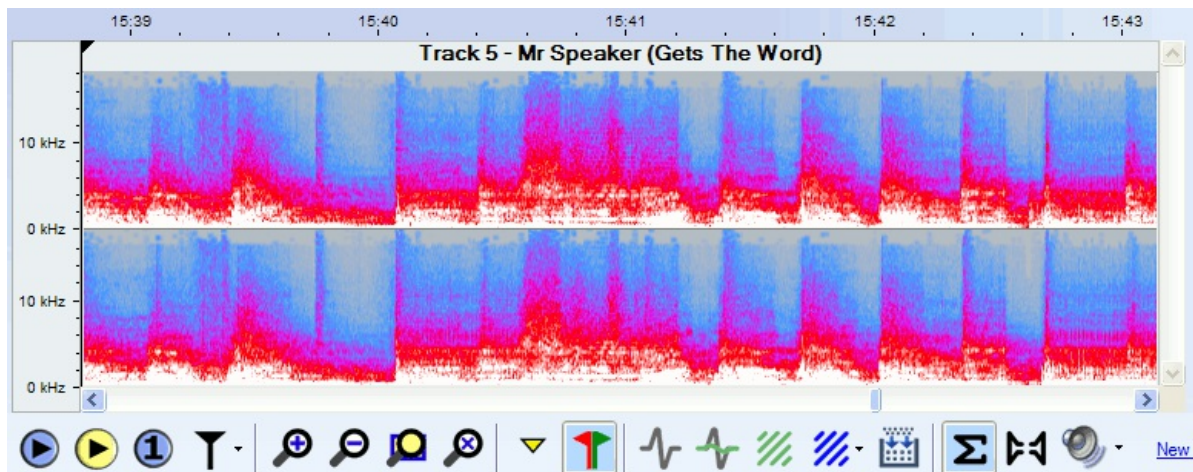
Positioning the cursor and zooming in and out work in the same way as in the Split Tracks window but it is worth repeating that, when you zoom in, VinylStudio uses the current cursor position to centre the display (so you should position the cursor near the area of interest before you zoom in). The waveform display is more fine-grained than the one in the Split Tracks window, and you can zoom right in to see the individual samples if you wish.

A number of functions are also available by right-clicking in the waveform display.

## Spectral View

(VinylStudio Pro only).

Spectral View shows the way that the frequencies are distributed in the audio stream. It can be useful for locating hard-to-find clicks which tend to show up as spikes in the display when zoomed in enough. To best see such clicks, adjust the viewing window to span about 5 seconds of audio. Note that corrected clicks are hidden in the spectral view when corrected audio is being displayed (press C to toggle).



The colours in the display represent signal power at the frequency given by the Y coordinate. The colours are:

Grey	Minimum
Blue	Low
Red	Medium
White	High

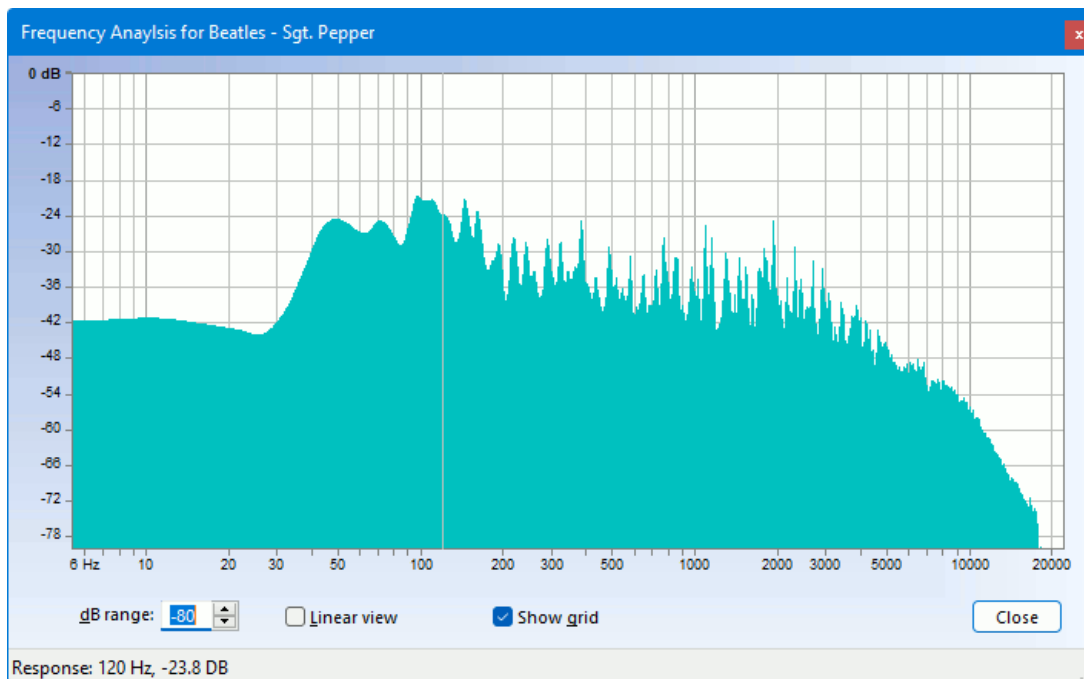
You can adjust spectral view options (FFT size and maximum frequency displayed) via the Options menu. To switch between Spectral View and the regular waveform display, press V or use the Cleanup Audio or right-click menu.

You need a reasonably fast PC to use spectral view effectively. The display speeds up as you zoom in. Switch back to the normal waveform display (V) when zooming out for better performance.

## Frequency Analysis

(VinylStudio Pro only).

VinylStudio can display a frequency analysis of part or all of your recording which can help you decide how to build an FFT filter to filter out unwanted noise:













Select 'Perform Frequency Analysis' from the Cleanup Audio window to display the Frequency Analysis window. selecting the section of audio you are interested in first. Read off unwanted peaks in the display by moving the cursor over them and use this information to construct an FFT filter in the Equalisation curves window.

### Using the Toolbar

The buttons in the toolbar have the following functions (shortcut keys are shown in brackets):

	(space bar)	Starts playing from the current cursor position. Click in the waveform display first to position the cursor if necessary.
		Stops playing. In <b>anchor mode</b> , the cursor will return to the anchor point (which is displayed as a greyed-out cursor while playing) unless you hold down the shift key. To switch between anchor mode and classic mode, use the 'cursor options' button
	(#)	Pauses / resumes playback. This button is only displayed in anchor mode.
<		Jump to the beginning of the selection (if there is one) or the recording. This is a shortcut key rather than a button. Press it twice if necessary. While playing in anchor mode, hold down the shift key to move the anchor point rather than the cursor.
>		Jump to the end of the selection (if there is one) or the recording.
)		Move forwards by one disc rotation period.
(		Move backwards by one disc rotation period. Use this when manually repairing scratches that run across the disc. You can change the rotation period for the current album in the Edit Album Details dialog.
]		Move the cursor to the next yellow marker.
[		Move the cursor to the previous yellow marker.
}		Move the cursor to the next click.
{		Move the cursor to the previous click.
	(S)	Plays the current selection (shown highlighted in yellow in the waveform display). Shift-click to play in a continuous loop. To define a selection, click and drag in the waveform display.
	(G)	Plays a brief snatch of music spanning 1 second either side of the current cursor position.
		Displays a dropdown offering a choice of various cursor options, including whether the display pans to follow the cursor when it moves off the right-hand edge of the screen while playing.
		Stop playing at the next end-of-track marker.
	(+)	Zoom in, centering the display at the current cursor position. Click in the waveform display first to position the cursor to the area of interest if necessary. You can also zoom in and out with the scroll wheel.
	(-)	Zoom out.
	(Z)	Zoom in (or out) so that the current selection exactly fills the window.
	(A)	Zoom all the way out (so that the entire recording is visible).
	(M)	Insert a yellow marker at the current cursor position. This lets you mark a particular spot that you might want to come back to later. To delete a marker, click on it and press D. Markers also appear in the corrections list, and you can select a marker by clicking on it in the list.
		Show / hide track breaks (toggle).
		Scan the recording (or current selection, if any) for clicks. To define a selection (highlighted in yellow), click and drag


 (U)	in the waveform display.
 (L)	Scan the recording (or current selection, if any) for clicks. To define a selection (highlighted in yellow), click and drag in the waveform display.
 (R)	Insert a click repair at the cursor position manually. Use this if VinylStudio has failed to find the click by scanning. Click in the left or right-hand channel first to determine where the repair will go.  To adjust the width of a repair, zoom in on it and drag either edge. You can also do this by pressing <b>Shift+R</b> , which allows you to enter the width of the repair before VinylStudio inserts it. To select an existing repair, click on it in the corrections list list.
 (P)	Patch the current selection. Use this to repair damaged areas, such as scratches or dropouts, which are too wide for VinylStudio's click repair capabilities. To select a patch, click on it in the corrections list list.
 (X)	Cut out the current selection, and cross fade the edges of the cut with the surrounding audio. To select a cut, click on it in the corrections list list.
 (F)	Opens the filter settings dialog, which allows you to filter out tape hiss, hum and rumble, and includes a graphic equaliser.
 (E)	Opens the Equalisation curves (FFT filters) dialog, which allows you to apply precise equalisation or filtering, including RIAA and other recording equalisation curves.
 (C)	Determines whether you hear corrected or uncorrected (i.e. the original, as recorded) audio when you click <b>Play</b> . Corrections, such as scanning for clicks and removing tape hiss, are applied in the Cleanup Audio window.
	Turns off audio in the left or right-hand channel (so that you can listen to just one).
	Opens the Windows mixer applet, which allows you to adjust the playback volume.
` (back quote)	Switch to the Split Tracks window (toggle).
J	Jump back one second. Shift+J jumps back 10 seconds.
V	Switch to and from Spectral View (toggle).
6	Remember the current zoom level and cursor position.
7	Return to the zoom level and saved above.
8	Return to the cursor position saved above.
9 (or 0)	Go forwards (or backwards) one rotation of the record, approximately. Useful for repairing long scratches manually.
' (single quote)	Reset the peak level indicator (when the Filter Settings or Equalisation Curves window is open). This also works in the Record and Check Level windows.

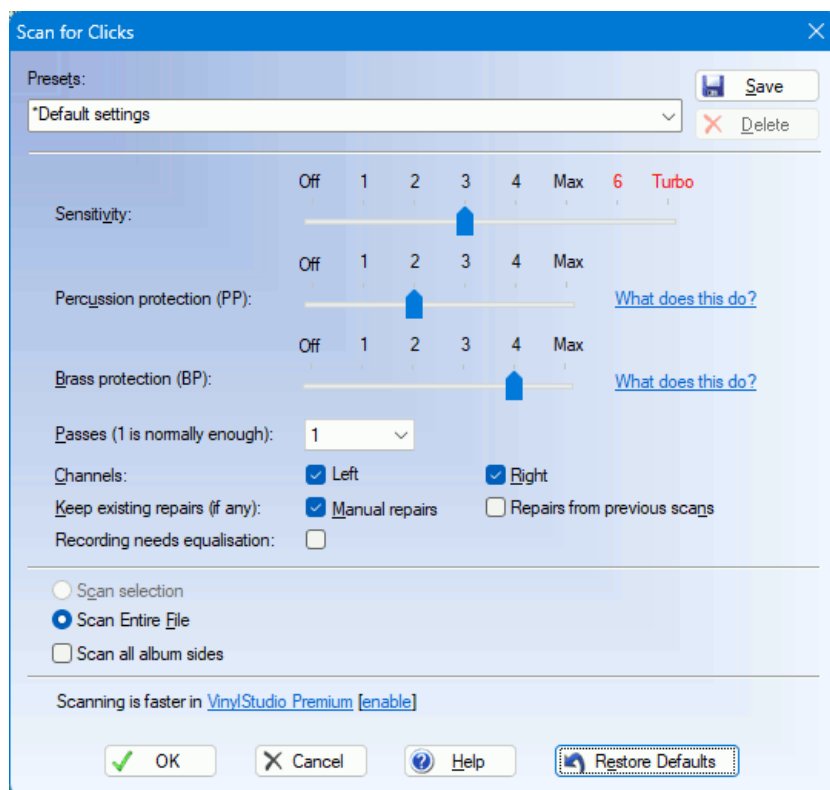
In addition, you can use the arrow keys as follows:

- Left / right arrow: scroll the waveform display left and right.
- Shift-left / right arrow: move the cursor left and right in small increments.
- Ctrl-Shift-left / right arrow: move the cursor left and right in larger increments.

### **Cleanup Audio - Scan for Clicks**

VinylStudio is capable of finding and fixing most of the clicks and scratches in your recordings automatically. That said, click repair is not an exact science, and some form of manual intervention is sometimes needed to get the best results, especially if your recordings have a lot of heavy clicks or, in particular, scratches. It is important to listen to the results, and using headphones helps a lot.

To scan your recording, click on the **Cleanup Audio** tab if necessary and then click on the **Scan for Clicks** button  in the lower toolbar. This displays the following dialog:




You can either scan the entire file, or make a selection first (by clicking and dragging in the waveform display) and then scan (or re-scan) just that.

There are four main settings which affect the operation of the click detector (you will be prompted for these each time you initiate a scan):

- Sensitivity (levels 1-5 + 'turbo', default=3)
- Percussion protection (PP, levels 1-5, default=2)
- Brass protection (BP, on or off, default=on)
- Number of passes (1-4, default=1); one pass is usually adequate

The "Default settings" preset is recommended for first-time users or for material which you have not scanned before, and represents a good compromise between finding as many clicks as possible and preserving the quality of the original audio. Use the 'turbo' settings (6 and 7) with care as these can cause distortion and take longer to complete the scan. They are intended for use on difficult material with a large high-frequency content, such as modern jazz.

For more information on how and when to adjust VinylStudio's click repair settings, refer to the [Tips for Removing Clicks](#) page.


Depending on its condition, scanning an LP side takes around 1 minute on a reasonably fast computer; less on modern hardware. Once the scan is complete, you can listen to the results and compare them with the original, uncorrected version by clicking on the  button in the toolbar. All changes are non-destructive - they are stored in a separate file and your original recording is not changed - and you can **undo** the scan (Ctrl+Z) if you don't like the results.

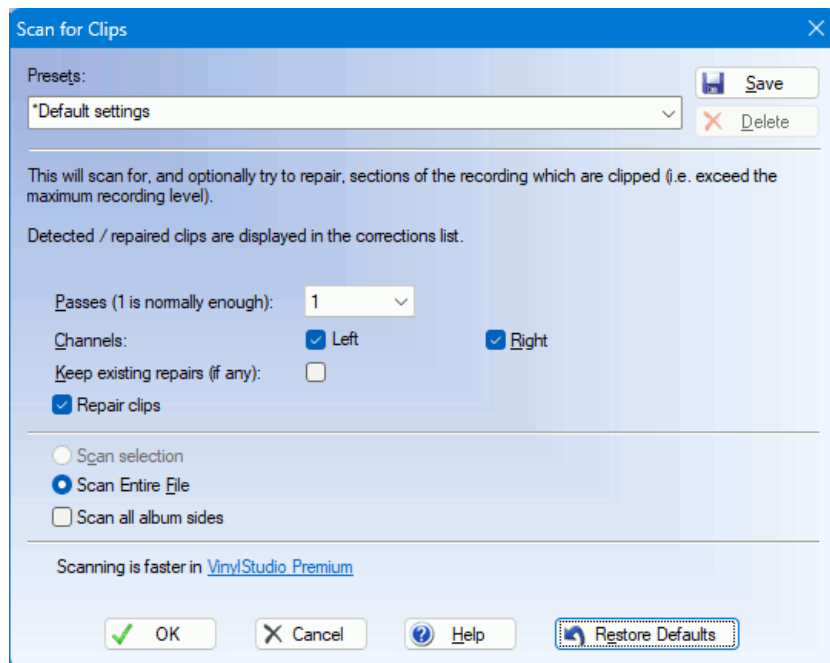
When scanning fails to find a click or impairs the quality of the music, you can rescan the offending area with different settings, or, if necessary, repair the click manually. For more information on how to get the best out of your vinyl, refer to the [Tips for Removing Clicks](#) page.

**Note:** if (and only if) you recorded with a 'flat' phono preamp, or if you applied only inverse RIAA equalisation at record time, you should check the 'Recording needs equalisation' box. This will greatly improve the accuracy of VinylStudio's click scanner. Do not check this box if you are recording an old 'acoustic' disc (i.e. one which requires no equalisation in the first place). In that case, just apply inverse RIAA at record time if you cannot defeat the RIAA equalisation built into your phono preamp and scan for clicks using the default settings.


## **Cleanup Audio - Scan for Clips**

VinylStudio is capable of finding and fixing any clips in your recordings automatically. This works well for light clipping only. Although severe clips can be repaired, it doesn't usually help much.

To scan your recording, click on the **Cleanup Audio** tab if necessary and then click on the **Scan for Clips** button  in the lower toolbar. This displays the following dialog:



You can either scan the entire file, or make a selection first (by clicking and dragging in the waveform display) and then scan (or re-scan) just that. The "Default settings" preset is what most people want.


Depending on the amount of clipping, scanning an LP side takes around 1 minute on a reasonably fast computer; less on modern hardware. Once the scan is complete, you can listen to the results and compare them with the original, uncorrected version by clicking on the  button in the toolbar. All changes are non-destructive - they are stored in a separate file and your original recording is not changed - and you can **undo** the scan (Ctrl+Z) if you don't like the results.

## **Cleanup Audio - Filters**

VinylStudio has a complete set of filters to help you cleanup your recordings and to adjust the tonal balance. You can filter out hum, hiss (and other forms of noise) and rumble, and there is also a graphic equaliser with a normalisation facility. Filtering can be applied to an entire LP side, to individual tracks or even specific sections of music within a track.

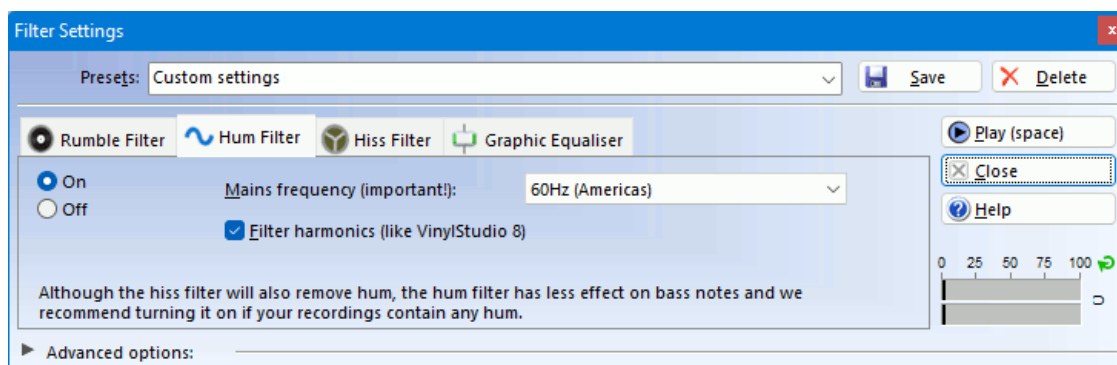
You will hear the effects of your filters immediately while working in VinylStudio, but no changes are made to your original recordings. Instead, VinylStudio applies filtering 'on the fly' as and when needed - i.e. when you save your tracks, when you burn a CD or DVD, or when you save a copy of your original recording with corrections enabled.

Please note that the effect of any filters being applied is not shown in the waveform display. If you want to see what your audio looks like after filtering, you can save a copy of your recording from the File History List.

To apply or adjust the filters for the currently selected album side, click on the **Filters** button  in the lower toolbar. This displays the Filter Settings dialog shown below. All of the controls in the main window remain active while this dialog is open.

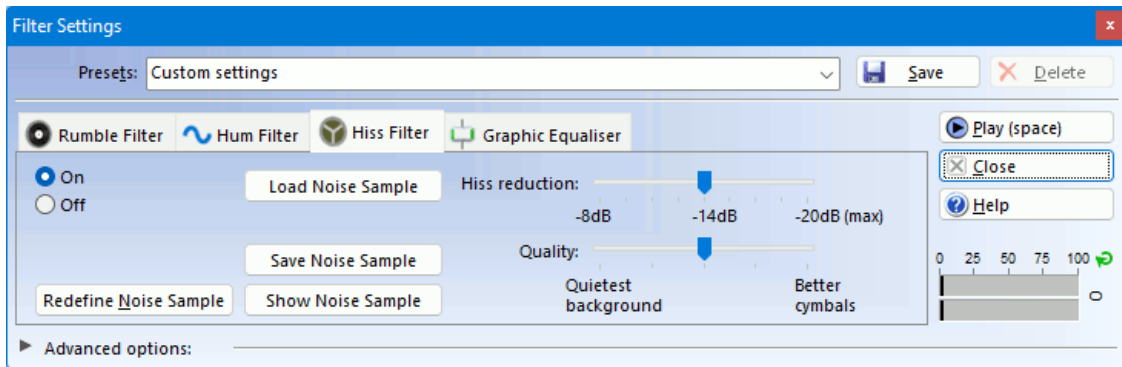
### **Hum Filter**

Filtering is normally applied to an entire album side at a time, so we will cover that first. To adjust the Hum filter, click on the **Hum Filter** tab:



For the hum filter, the only thing you need to specify, other than whether to turn it on or not, is the mains frequency in your household (or, to be precise, the mains frequency in the household where the recording was made); this is 50Hz in the UK, Europe, Australia and China, and 60Hz in the Americas (in Japan it varies by region). Recordings made from vinyl often contain a certain amount of hum, so if yours are affected in this way try turning this on while listening to a quiet passage on headphones. If hum filtering seems to ineffectively, try changing the mains frequency.

### **Hiss Filter**



The hiss filter is useful both for tapes and for other recordings with a high level of background noise such as 78's or badly worn vinyl recordings. We do not recommend applying it to vinyl recordings in good condition however as it is a subtractive process and can introduce a certain amount of distortion. But feel free to experiment - you can always turn it off again.

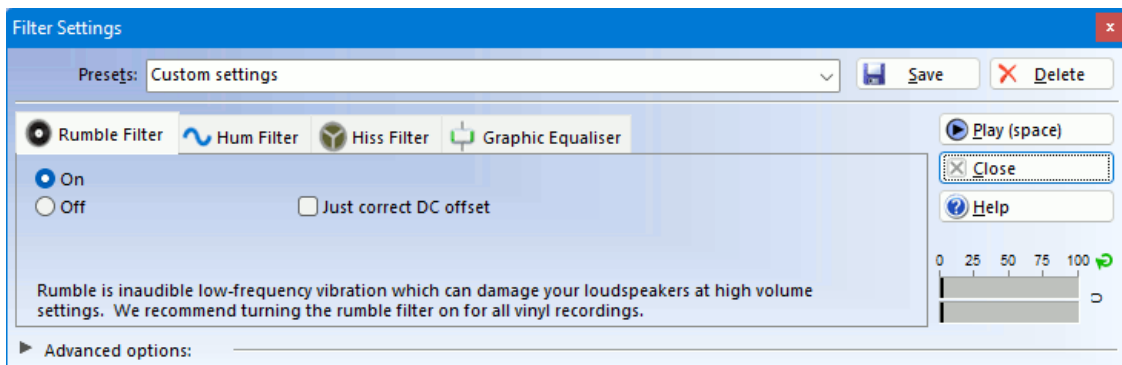
For the hiss filter to function properly, VinylStudio needs you to define a **Noise sample** - a short section of the recording (1 second or so) containing background noise (NOT complete silence) and nothing else. You will be prompted to do this the first time you turn the hiss filter on, and you do so by selecting a suitable section (by clicking and dragging in the waveform display). If you get this wrong, the results can either (a) sound very strange or (b) not be filtered at all so if you think this has happened to you, click on **Redefine Noise Sample** and try again.

You can also load a noise sample from a previously saved file. This is useful if you have a recording where there is no place to define a noise sample in the normal way. Use this feature with care - inaccurate noise samples give poor results. You can also view a spectral analysis of the currently defined noise sample via **Show Noise Sample**.

The two sliders determine how much filtering is applied; we suggest you experiment with these while listening to a quiet passage on headphones. Don't be tempted to remove every last trace of hiss as this can make things sound rather artificial.

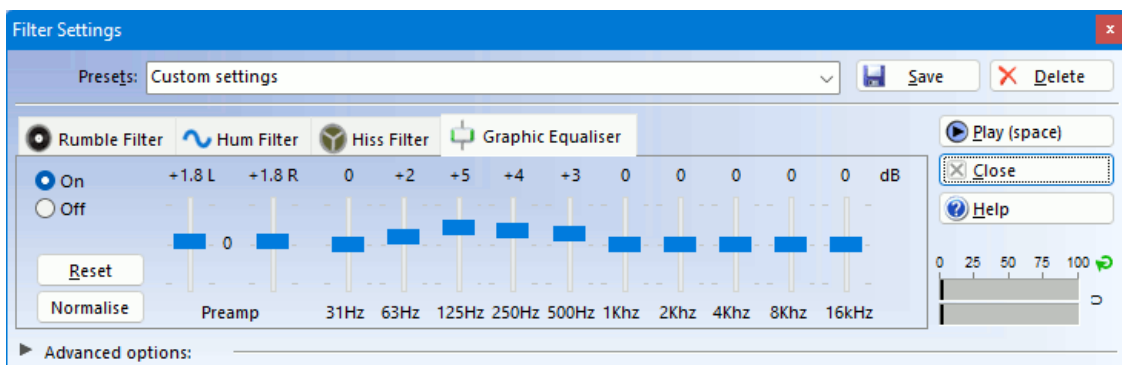
Hiss filtering works best after you have declicked your recording.

### Rumble Filter



The rumble filter is a simple on / off affair. Turn it on to filter out potentially damaging low frequency noise often present on vinyl recordings (especially in the leadin) or introduced by turntable bearings. High levels of rumble can sometimes cause a faint click at the beginning and end of tracks and can also cause the hiss filter to introduce faint clicking sounds into the music. Turning the rumble filter on will eliminate this. The rumble filter also performs DC-offset correction.

### Graphic Equaliser

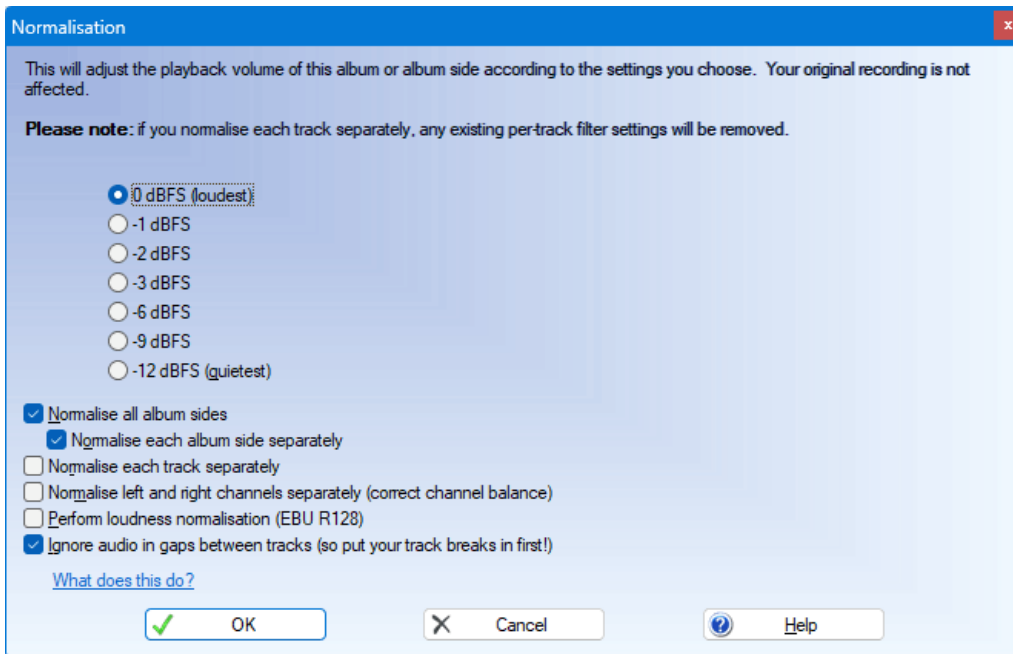


Use the graphic equaliser to, for example, boost the treble on recordings made from cassette tapes which can often sound rather dull. Changes are applied in real time so you can adjust the sound until you get the results you want.

The preamp setting can be used to boost quiet signals, but be careful not to set this too high - if the VU meters turn completely red while playing a loud section you need to turn this down. You can also use VinylStudio's Normalisation feature to set these automatically. To move a slider individually, hold down the shift key.

### Normalisation

To normalise a recording, click **Normalise**. This displays a dialog to let you choose the desired final volume level and other options:



Like all the audio cleanup tools, VinylStudio's normalisation procedure is non-destructive - i.e. no changes are made to the recorded file. Instead, the results are applied when you burn CDs or save your tracks. You can also normalise albums in 'batch' mode in the Batch window.

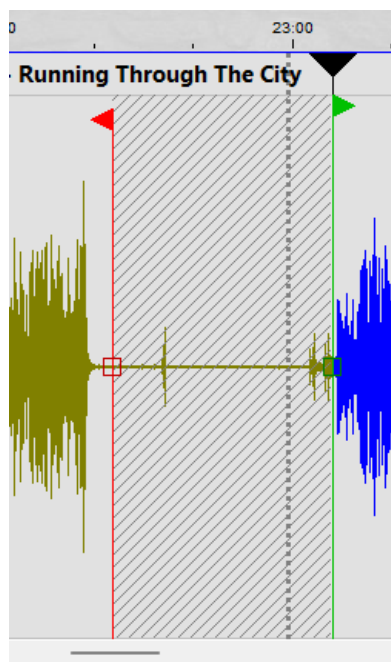
Please note that, like all the filters, the results are not shown in the waveform display; if you want to see how it will look, save a copy of your recording (right click on the file and select Save a Copy). The effects of any filters in effect are included in VinylStudio's calculations when you run the normalisation procedure however, so do this after all other audio cleanup tasks have been completed.

If you wish to normalise all recorded sides for the album in a single operation, check **Normalise all album sides** before normalising. VinylStudio can then either normalise each side separately (the default), or adjust all sides by the same amount (which will be governed by the loudest album side). You can also elect to normalise each track separately.

If you have **VinylStudio Pro**, you can use **loudness normalisation**, rather than normalising by peak amplitude. This uses the EBU R128 algorithm to estimate the loudness of the audio and applies the appropriate gain.

Please note that loudness normalisation can cause clipping. VinylStudio displays the peak amplitude after normalisation completes and if this is excessive, normalise again at a lower level.

If you have **VinylStudio Pro**, you can turn on VinylStudio's '**smart normalisation**' feature. This ignores audio in the gaps between tracks (as well as before the start of the first track and after the end of the last) and, in particular, can be used to prevent the sound of the needle drop and lift from affecting the results.

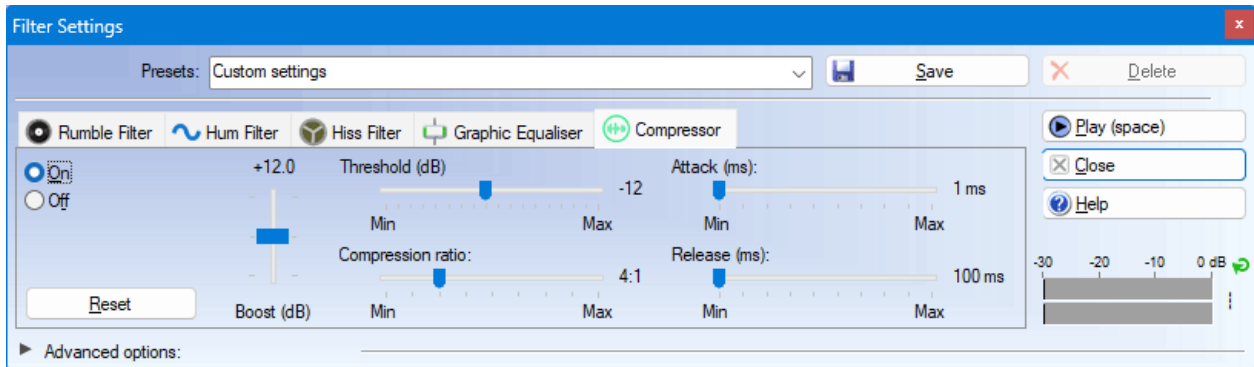


For this to work properly, you need to position the track break markers correctly before you perform the normalisation step. Specifically, make sure that you position the first green start-of-track marker past the initial needle drop, and the last red end-of-track marker before the final needle lift. You also need to elide the needle lift and subsequent drop between album sides, again by positioning the track break markers on either side appropriately. You can do this by ensuring that the red marker is positioned before the needle lift and then dragging the following green marker past the needle drop, like so:

Playing the audio as you work will help you get this right.

## Compressor

If you have [VinylStudio Pro](#), you can **compress** your recordings to level out the volume of your saved tracks. The compressor boosts quieter passages of audio to give your saved tracks a consistent volume level, and this can help match audio files acquired from other sources. Like all VinylStudio's audio cleanup tools the compressor is non-destructive, but please note that you might have to accept some clipping to get the playback level you want. Let your ears be the guide and adjust the settings to reduce the output level if necessary.



The controls work as follows:

- **Boost:** An initial boost which is applied to the recording to give the compressor some headroom before compression is applied. 12dB is a good starting point.
- **Threshold:** The threshold, in dB, above which the compressor starts to attenuate the signal. Higher values result in more volume, at the risk of some clipping.
- **Compression ratio:** The compression ratio applied once the audio reached the threshold level. Higher values result in more aggressive compression.
- **Attack:** The attack time, in milliseconds. The default setting usually works well, but you can always experiment.
- **Release:** The release time, in milliseconds. The default setting usually works well.

There is a good explanation of how audio compressors work here:

<https://www.musicguymixing.com/compressor-ratio-explained>

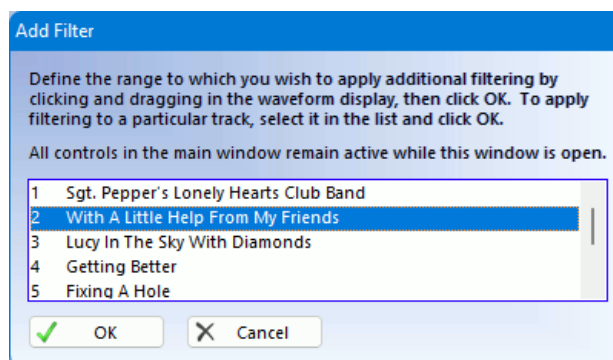
## Presets

You can save frequently used filter settings as a **preset**. To do this, adjust the filter settings as desired and then click **Save**. Presets are named and a few predefined ones (marked with an asterisk) are provided for the more common situations you might encounter. The '78 recorded at 45RPM' preset attempts to correct inaccuracies in equalisation caused by recording at the wrong speed, but vintage records use varying equalisation schemes anyway so trust your ears and be prepared to experiment.

To apply the same settings as you used previously, select **Last settings used**.

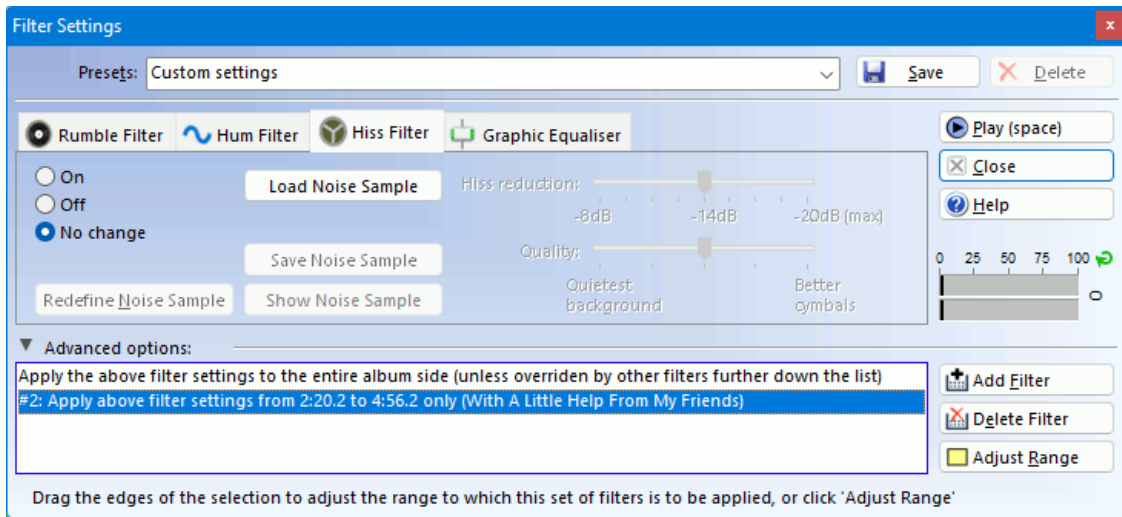
## Filtering Individual Tracks (or any other section of music)

VinylStudio can apply any set of filters to any section of music within an LP side. You might want to boost the bass on a particular track, for example. To do something like this, click on **Advanced options** and then on the **Add Filter** button to add a new set of filters. This displays the following dialog:



While this dialog is open, you can either define a selection by clicking and dragging in the waveform display or you can select a track from the list and click **Select Track**. Either way, the new set of filters will be applied to the range you specify.

After you close the Add Filter dialog, the Filter Settings dialog should look something like this:



You will notice that a second entry has appeared in the list (#2) showing the section of music to which this set of filters is to be applied. Adding a new set of filters in this way allows any filter (hum, hiss, rumble and equaliser) to be adjusted in whatever way you choose for the section of music specified.

You can add as many sets of filters as you like in this way and for each type of filter you can say whether you want to turn it on, turn it off, or keep the existing settings (i.e. 'unchanged from the above'). This provides a lot of flexibility - more than you need probably - but it does let you say things like 'boost the treble on the entire recording except for tracks X, Y and Z'.

Note that filters don't 'add up' - that is to say, for example, adding a second hiss filter does not perform double the amount of filtering. Where the ranges of two or more filters overlap, the last one in the list takes precedence.

## Cleanup Audio - Equalisation Curves (FFT Filters)

(VinylStudio Pro only).

Starting with version 8.5, VinylStudio can apply FFT (Fourier transform)-based equalisation curves / filters to your recordings. All filters are applied in real time - What you Hear is What you Get - and no changes are made to your original recordings. Instead, VinylStudio applies filtering 'on the fly' as and when needed (when burning a CD, for example). Filtering can be applied to an entire LP side, to individual tracks or even specific sections of music within a track. You can also apply more than one Equalisation Curve / Filter at a time.

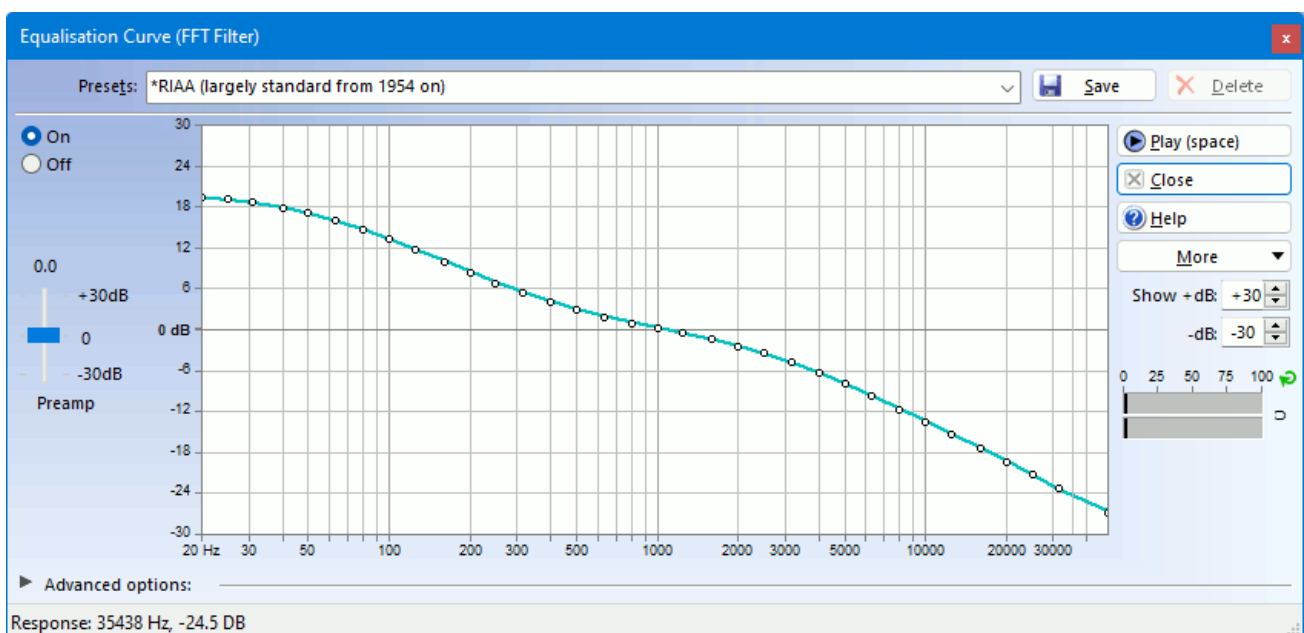
An implementation detail that might be of interest is that FFT-based filtering and hiss filtering are carried out by the same piece of code, thus halving CPU-time requirements (and FFT-induced artefacts) when both features are enabled at the same time. It also doesn't matter how many curves you define. VinylStudio does them all together and applies them just once.

To apply or adjust equalisation curves / filters for the currently selected album side, click on the **Equalisation curves** button in the lower toolbar. This displays the dialog shown below (note that all of the controls in the main window remain active while this dialog is open).

Please note that the effect of any filters being applied is not shown in the waveform display. If you want to see what your audio looks like after filtering, you can save a copy of your recording from the File History List.

### Applying a Single Filter

To apply just one filter, click on the 'On' button or select a preset: from the dropdown list:



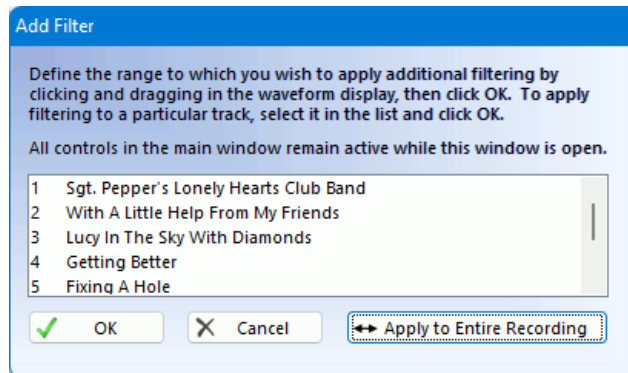
To edit the curve, click and drag any 'node' (circle), click outside any node to insert a new one, or drag a node out of the window to delete it. If you make a mistake, use Undo (Ctrl+Z) or Redo Ctrl+Y). See also under the 'More' button for additional options.

You can constrain dragging to the vertical axis by holding down the Shift key, or to the horizontal axis by holding down the Control key.

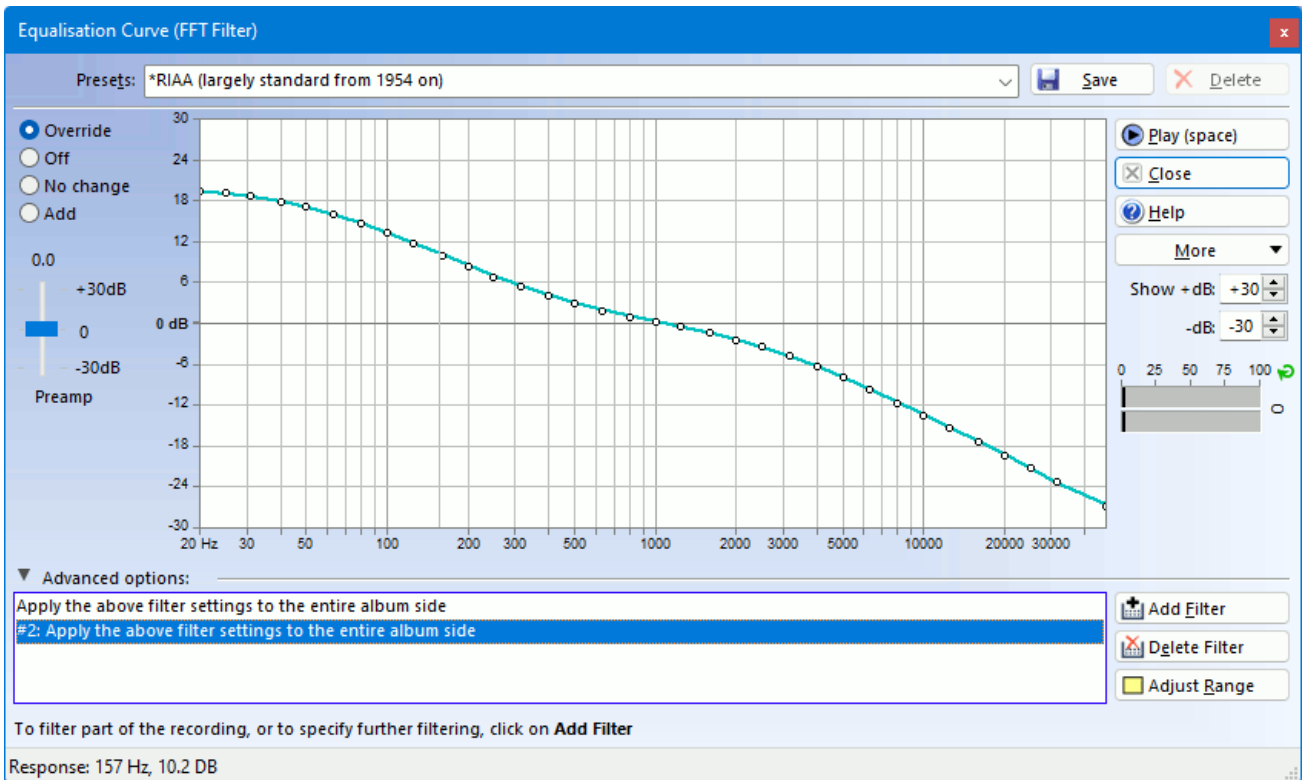
You can save your work as a preset at any time by clicking 'Save Preset', but VinylStudio will apply your changes to the current recording (and remember what they are) whether you do that or not.

### Applying More than One Filter at a Time

VinylStudio can apply several filters to the same recording, the result being the cumulative effect of all the filters specified. To do this, click on **Advanced options** and then on the **Add Filter** button to add a new filter. This displays the following dialog:



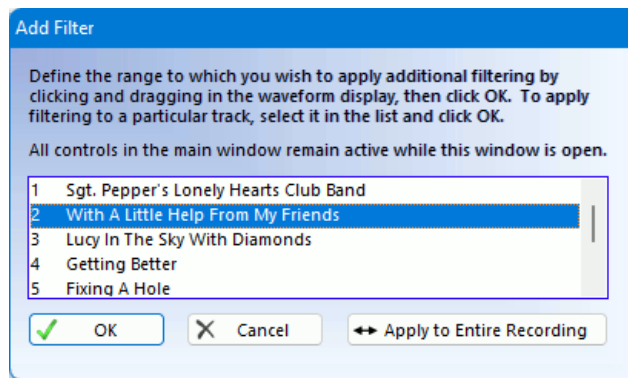
Unless you only want to apply filtering to (say) a particular track, click 'Apply to Entire Recording'. The result should look something like this:



You will notice that a second entry has appeared in the list (#2), representing the newly added filter. You can then edit the curve or select a preset as above and the result will be added to the first filter you defined (unless you turn it off in which case it has no effect at all). There is no limit to the number of filters you can add in this way, although it is uncommon to define more than a couple.

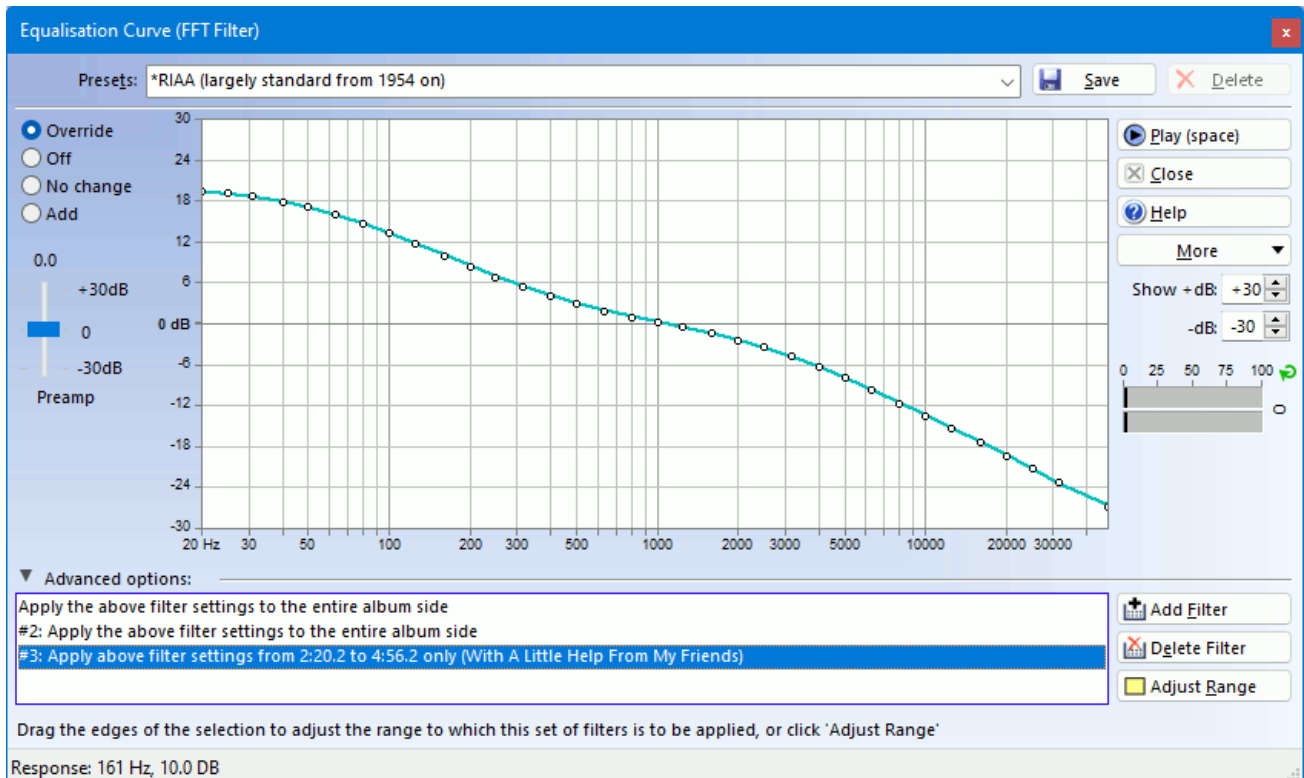
### Filtering Individual Tracks (or any other section of music)

VinylStudio can apply a filter to any section of music within an LP side. You might want to boost the bass on a particular track, for example. To do something like this, click on **Advanced options** and then on the **Add Filter** button to add a new set of filters. This displays the same dialog as previously, but you use it differently:



While this dialog is open, you can either define a selection by clicking and dragging in the waveform display or you can select a track from the list and click **Select Track**. Either way, the new filter will be applied to the range you specify.

After you close the Add Filter dialog, the screen should look something like this:



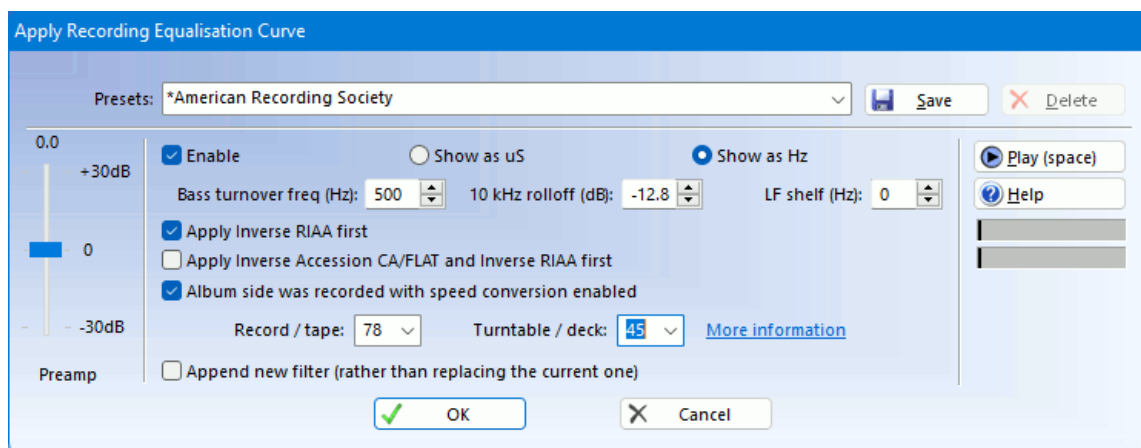
This time, the newly added entry (#3) only applies to the section of music you selected and there are more radio buttons to choose from. These buttons allow precise control over how the filter is applied as follows:

- **Override:** the newly added filter replaces any filters above it in the list for the section of music in question (i.e. preceding filters are ignored).
- **Off:** all filtering is turned off for the section of music in question.
- **No change:** the newly added filter has no effect at all.
- **Append:** the newly added filter is added to any previous filters defined (i.e. their effect is cumulative).

You can add as many filters as you like in this way and for each one you can say whether you want to turn it on, turn everything off, keep the existing settings (i.e. 'unchanged from the above') or add to the existing filters. This provides a lot of flexibility - more than you need probably - but it does let you say things like 'boost the treble on the entire recording except for tracks X, Y and Z'.

### **Applying Recording Equalisation**

If your phono preamp has a 'flat' switch, if you are recording discs cut before 1954, or if you recorded with speed conversion enabled, you can apply recording equalisation to correct the tonal balance of your recording. If you simply want to apply RIAA equalisation, use the RIAA preset. For anything more complex, select 'Apply Recording Equalisation' under the 'More' button, which will display the following dialog:

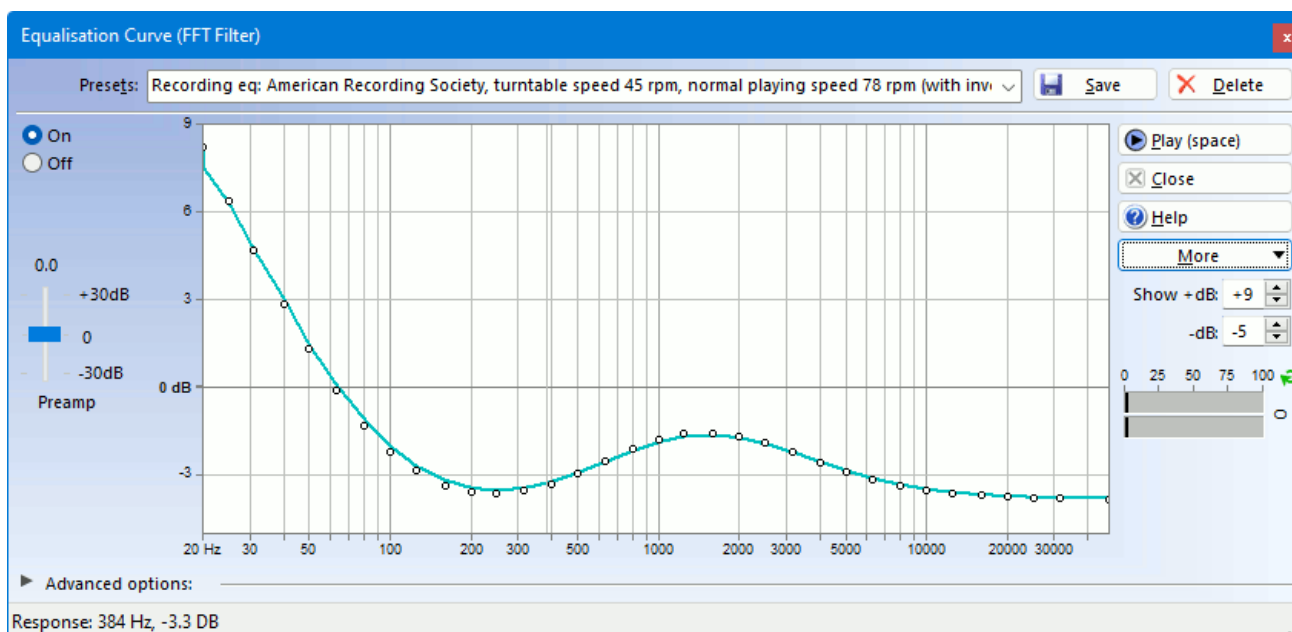


For discs cut from 1954 onwards, the RIAA preset should generally be used. For earlier discs, VinylStudio comes with a large number of preset curves but selecting the right one can be a challenge. Try consulting the sleeve notes or plug in a decent set of headphones and adjust the parameters by ear. Increasing the bass turnover frequency will boost bass notes. Increasing the 10kHz rolloff value will cut treble. You can save your settings as a preset, and you can also enter time constant values if that is the information you have. Either way VinylStudio will remember your settings and apply the correct curve to the recording.

When using recording equalisation, use the 'flat' switch on your phono preamp if it has one. If it doesn't, check the 'Apply inverse RIAA first' box. If you recorded with speed conversion enabled, it is important to tell VinylStudio so that it calculates the correct inverse curve. VinylStudio will generally remember this for you but older versions of VinylStudio didn't so you will need to set it here.

If you are recording via a Graham Slee Accession preamp set to CA/FLAT, the procedure is slightly different. If you are recording a disc that uses standard RIAA equalisation, just select 'Inverse Accession CA/FLAT' from the dropdown. If, on the other hand, you are recording an older disc that requires a different equalisation curve, select that from the dropdown instead and check the 'Apply Inverse Accession CA/FLAT and Inverse RIAA first' box.

Once you quit this dialog, VinylStudio will add a (possibly composite) curve to your recording, and it is this that does the actual work:



Please note that you can also apply recording equalisation at record time, which can improve the dynamic range of your recordings if recording at 16 bits per sample and also has the advantage that the waveform display shows the correctly equalised signal. This is our recommendation.



The equalisation curves built into VinylStudio were taken from the Audacity wiki, [http://wiki.audacityteam.org/wiki/78rpm\\_playback\\_curves](http://wiki.audacityteam.org/wiki/78rpm_playback_curves) and references therein, with much thanks. You can also enter the parameters yourself for certain curves by looking them up at Vinyl Engine: [www.vinylengine.com/cartridge\\_database\\_record\\_equalization.php](http://www.vinylengine.com/cartridge_database_record_equalization.php).

The Inverse Accession CA/FLAT curve is supplied courtesy of Graham Slee, see: [www.alpinesoft.co.uk/VinylStudio/accession\\_ca\\_flat.aspx](http://www.alpinesoft.co.uk/VinylStudio/accession_ca_flat.aspx).

### Importing and Exporting Audacity Equalisation Curves

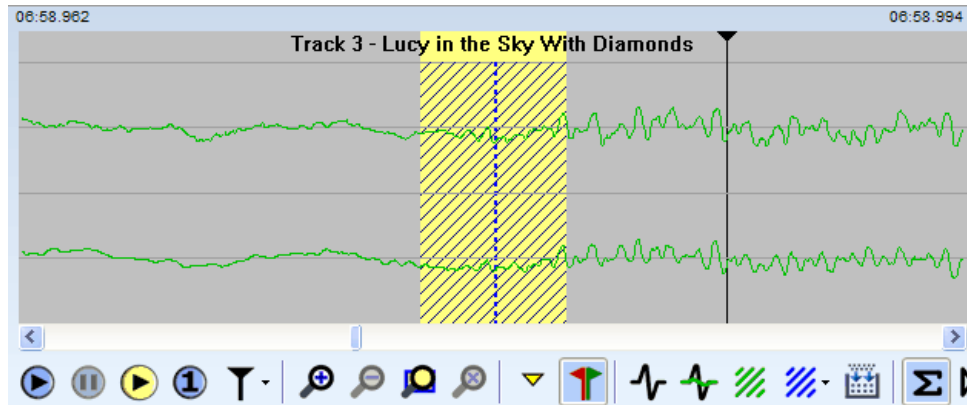
You can import and export curves from / to a file that Audacity 2.x can understand by selecting **Import / Export Audacity Curves** from the menu under the More button. This can also be used to move equalisation curves / filters between machines (including Macs and PCs).

### /// Cleanup Audio - Cut and Splice

To cut out an unwanted section of audio, select it (by clicking and dragging) and then click on the **Cut and Splice** button  in the toolbar beneath the waveform display in the Cleanup Audio window. If you don't like what you hear, select **Undo**  (Ctrl+Z), adjust the edges of the selection and try again.


VinylStudio cross-fades the sound on either side of the cut to make the cut less obvious. Select your desired **splice length** *before* you make your cut. Use 'splice length short' if, as is common, you are cutting out very short sections such as bad scratches.

Cuts are shown in the waveform display as a **vertical blue dotted line** which, as you zoom in, becomes a cross-hatch showing the cross-faded area:



To **delete a cut**, right-click on it in the corrections list and then select **Delete Cut**. You can also delete a cut by selecting it in the list and pressing **Del**. If you zoom in sufficiently, you can also select a cut by clicking on it in the waveform display.

Please note that you don't need to use cut-and-splice to eliminate gaps between tracks. And nor should you - just shift-click on the green start-of-track marker in the Split Tracks window and drag it to the right. But if you do want to cut out a section of audio while you are in the Split Tracks window, proceed as follows:

1. Select the section of audio you want to cut out.
2. Click on the Cleanup Audio tab.
3. Click on the cut-and-splice button  in the toolbar beneath the waveform display.
4. Listen to your results.
5. Return to the Split Tracks window.

The key to this is that VinylStudio preserves your selection and cursor position when switching between windows.


### **Truncating Overly Long Recordings**

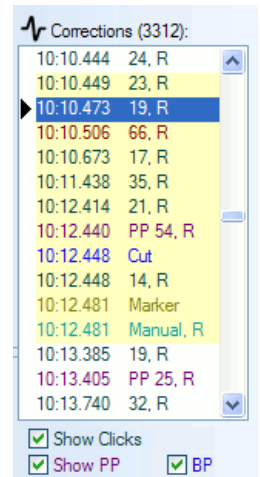
If your recording has a long period of silence at the end, as many do, you can save some disk space by truncating it. To do this, right-click on the waveform display at the appropriate point and then select **Truncate Recording at Cursor**. Please note that this operation cannot be undone.

### **Cleanup Audio - The Corrections List**

The Corrections List lists all the clicks, and potential clicks, found by scanning the album side. It also lists any cuts you may have made, any markers you have inserted, any click repairs inserted or adjusted manually and any patches you may have made.

Each entry in the list has a time stamp and then, for clicks or would-be clicks, the click width (in samples at 44100 samples per second) and the channel (Left or Right). In addition:

- Click repairs are **coloured cyan**.
- Potential clicks which have been identified as probable percussion bursts (and hence ignored) are marked **PP**, and **coloured purple**.
- Potential clicks which have been identified as probable horn blasts and the like are marked **BP**, and **coloured blue** (not shown in this example).
- Clicks inserted or adjusted manually are marked **Manual**, and **shown in light cyan**.
- Patches are **shown in green** (not shown in this example)
- Click repairs wider than 50 samples can be a cause for concern and are **coloured red**.
- Cuts are also **coloured blue**.
- Markers inserted by the user are **coloured dark yellow**.
- Corrections falling within the current selection are shown with a pale yellow background.
- The current cursor position in the waveform display is shown by this symbol: 



The checkboxes below the list control what is displayed. Note that, to select a click repair in the waveform display, **Show Clicks** must be checked.

To select a correction from the list, click on it and then zoom in using the mouse wheel, the + and - keys or the zoom buttons in the toolbar. You can also use the corrections list to delete a correction - right-click in the list for more information.

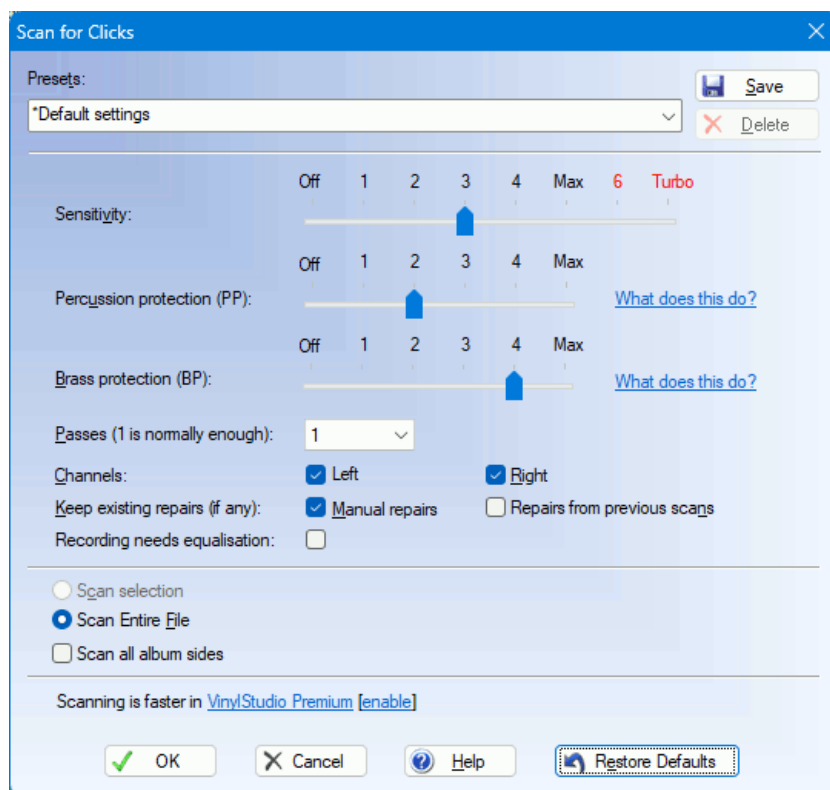
**TIP:** to select a range of corrections, click on the first in the list and then shift-click on the last.

### **Cleanup Audio - Tips for Removing Clicks**

To get the best out of VinylStudio's click repair tools, especially on badly damaged recordings, you have to be prepared to put a bit of time in. On the plus side, VinylStudio provides powerful tools which, when correctly applied, can give excellent results. Also, because your original recordings are not changed by the repair process, you can always come back later, have another go at the affected area(s) and then burn a new CD.

Automated click repair is always a compromise between **false negatives** and **false positives**. False negatives are, of course, undetected clicks and scratches, while false positives cause unnecessary and potentially harmful changes to the original waveform. VinylStudio's default settings aim primarily to do no damage to the sound quality of your original recordings. While this catches the majority of clicks, it inevitably means that some slip through undetected; with a bit of manual intervention, these can be removed too.

VinylStudio provides a number of presets designed to work with differing types of source material but it is worth learning more about how to use the settings themselves if you want to get the best out of your vinyl (or shellac).



VinylStudio's primary setting is **sensitivity**. We recommend that you perform your initial scan with the default settings and then focus in on any problem areas. It is unlikely, but not impossible, that sound quality will be adversely affected at these settings. If it is, you can rescan the affected section at reduced sensitivity or, if appropriate, increase the percussion protection setting; ensure also that brass protection is enabled. It is more likely however that a few clicks will remain. Rescanning an affected region with a higher sensitivity setting usually gets rid of any residual clicks, but with an increased risk of introducing distortion or other artifacts into the sound.

Be particularly careful when using the 'turbo' settings as these can cause distortion and take longer to complete the scan. They are intended for use on difficult material with a large high-frequency content, such as modern jazz, but as VinylStudio has an **undo** facility we encourage you to experiment. The turbo settings are often best used just to scan particularly badly affected areas ('Scan selection').

VinylStudio has three other settings which affect the click repair process:

- Percussion protection (PP)
- Brass protection (BP)
- Number of passes

Percussion protection helps prevent the 'dulling' of percussion sounds that declipping can cause, especially at higher sensitivity settings. The problem is that percussion bursts, especially the initial 'thwack', look a lot like clicks and therefore VinylStudio wants to fix them. The downside of having Percussion Protection enabled is that, on occasion, it prevents a legitimate click (or, more likely, a 'scrunch' comprised of several clicks close together) from being repaired. If you think this might be happening to you, you can either re-scan the affected area with percussion protection turned down or you can refer to the corrections list to see if percussion protection is operating in the region in question (if you select the region first, it will be highlighted in the corrections list with a yellow background). For an example of percussion protection in action, click [here](#).

Brass protection prevents distortion of brass and horn instruments by the declipping process, again principally at higher sensitivity settings. In severe cases, this can be quite unpleasant, and mainly affects sounds with a buzzing or rasping quality like trombones, saxophones, trumpets and some synth sounds (and even, occasionally, gravelly vocals). Low frequencies are generally affected most. Brass protection usually detects sounds such as these and temporarily reduces the sensitivity of the click detector to protect them. However, like percussion protection, this can let the odd click through and the same recommendations apply. We do not advise turning off either setting routinely, however.

The **number of passes** controls the number of times VinylStudio scans the source material. One pass is usually enough, but if a recording is in very bad condition (particularly if it is badly scuffed) you might find that a second pass helps. You can achieve the same effect by scanning again with the 'Keep existing scanned repairs' box checked.

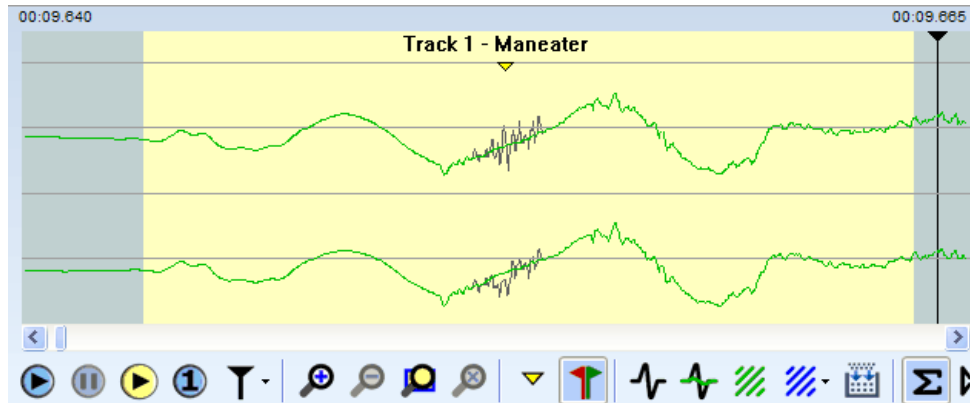
You can also repair or adjust clicks manually. While this might sound like a tedious procedure, it is sometimes the only way of eliminating a particularly severe click. Like other declipping software, VinylStudio sometimes fails to detect something which is (a) annoyingly loud and (b) usually obvious (fortunately) in the waveform display as a large spike. Finding and repairing such a click manually is quick and easy. Please refer to the manual click repair help page for more details.

## 🔊 Cleanup Audio - Percussion Protection

**Percussion protection** helps prevent the 'dulling' of percussion sounds that declipping can cause, especially at higher sensitivity settings. This happens when VinylStudio concludes (wrongly) that the sharp 'attack' sound of a piece of percussion is a click. This

problem is not unique to VinylStudio - other click repair programs are affected in the same way.

Percussion which has been affected in this way usually shows up in the corrections list as a large number of wide clicks (coloured red), especially in loud passages of music. And not only percussion is affected: here is a section of bass guitar, scanned with percussion protection turned off:



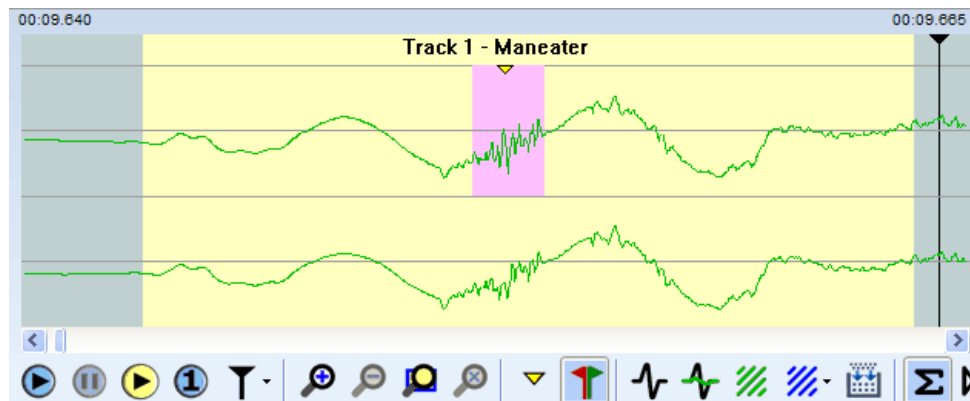
As you can see, the corrected (green) trace is missing a lot of the detail present in the original (gray) trace. The result is a dulling of the sound, often unnoticeable but not always. Here's what it sounds like (to hear the difference clearly, you may need to use headphones):

Original: [Click here to play audio](#)

Dulled: [Click here to play audio](#)

Although we have had to compress these sound samples to reduce the filesize, you can still hear that the 'attack' sound of the bass player's fingers plucking the strings has been lost, which is a shame. If you encounter this kind of problem, you can re-scan the affected area with a higher percussion protection setting, reduce the sensitivity or, if the music is click-free in that area, just use the **Remove Corrections** option to remove all repairs made by VinylStudio. If you have the patience, you can even delete individual repairs.

In many cases however, percussion protection does its job. Here is a screenshot of the above example with percussion protection enabled:



And as a result, the original sound is restored: [Click here to play audio](#)

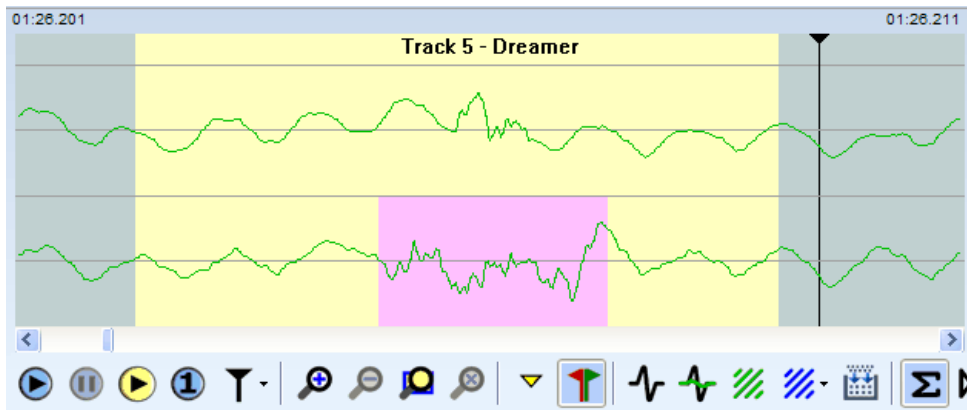
### **When to turn Percussion Protection Up**

The default Percussion Protection setting is set fairly low to avoid clicks from slipping through. If your recording is in reasonable condition, you can probably benefit by using a higher setting than the default. If you are prepared to put some time in, first try the maximum setting as this gives the best sound quality, but be prepared for the odd click to slip through. When this happens, rescan just the affected area at a lower setting. And you can always use 'undo', of course. Preserving the quality of the music while putting up with the occasional click is sometimes the best compromise.

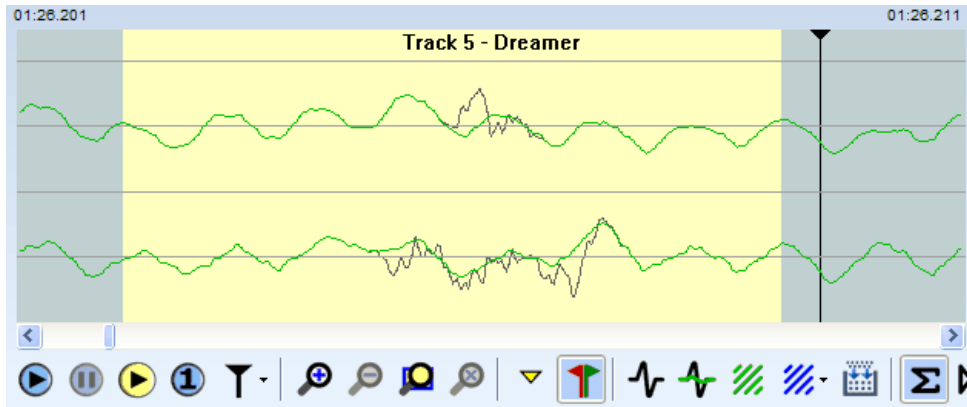
The corrections list can help you identify sections of music where percussion protection is active (or not).

### **When to turn Percussion Protection Off**

Percussion protection works less well on recordings with a lot of 'scrunches' (i.e. short bursts of clicks in rapid sequence) or scuffs as these look a lot like percussion and can therefore escape detection, so if you are attempting to restore a scratchy old 78 you will probably get better results with percussion protection turned down or turned off. Here is an example where percussion protection has got it wrong (we deliberately used a higher than normal setting to provoke this):

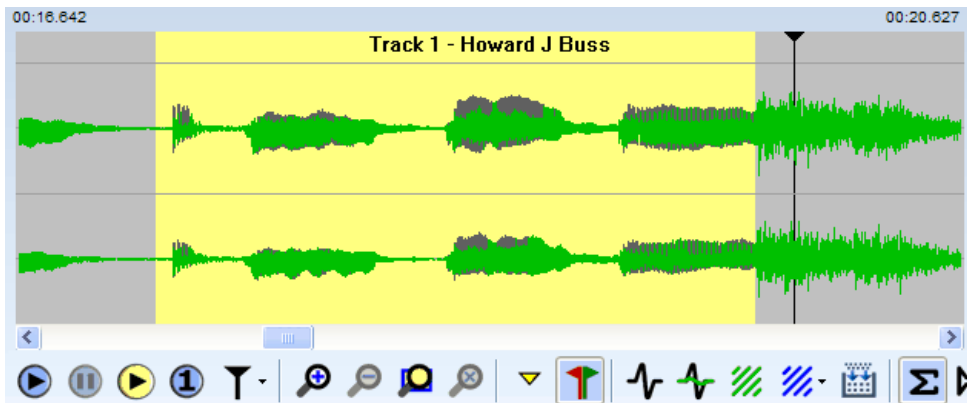


Although the waveform looks like a piece of percussion, it is in fact a scuff on the record surface. In this case, the problem can be resolved by scanning with percussion protection turned to a lower setting:



### Cleanup Audio - Brass Protection

**Brass protection** prevents distortion of brass and horn instruments that can be introduced by the declipping process, principally at higher sensitivity settings. This problem (which is not unique to VinylStudio) can, in severe cases, be quite noticeable as the following example shows. Notice the grey areas in the waveform display, which indicate a large number of click repairs in the regions affected (it's not normally this bad - we scanned this sample at maximum sensitivity with brass protection turned off to highlight the effect):

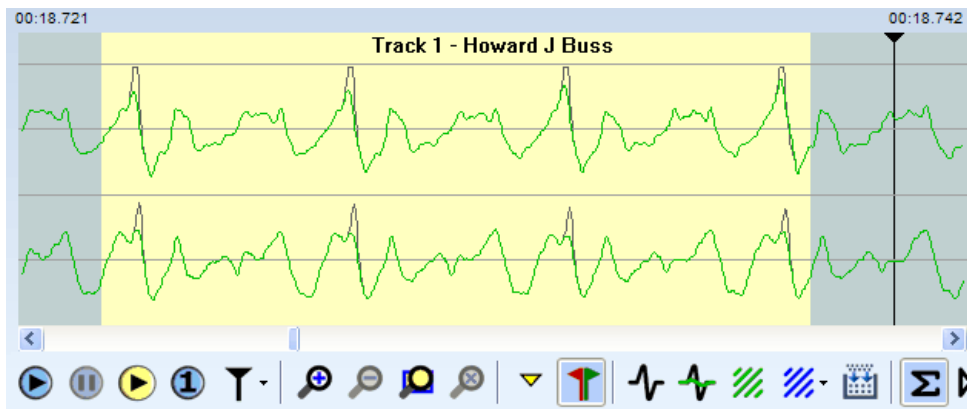


The result sounds like this (the difference is clearer on headphones):

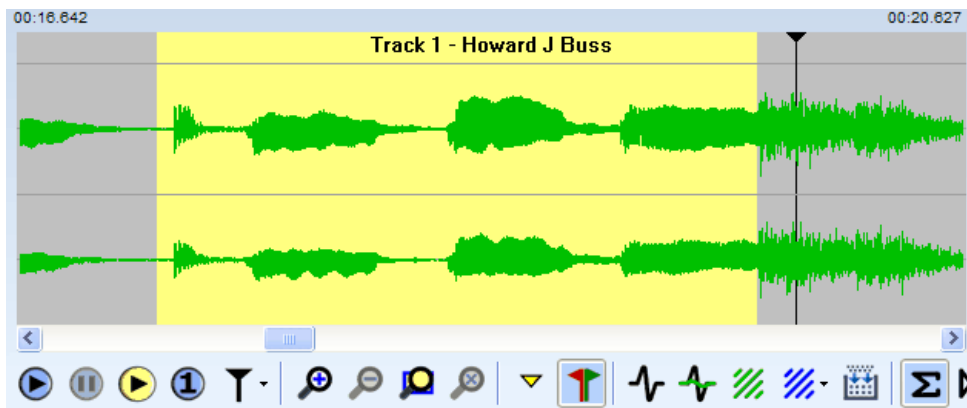
Original: [Click here to play audio](#)

Distored: [Click here to play audio](#)

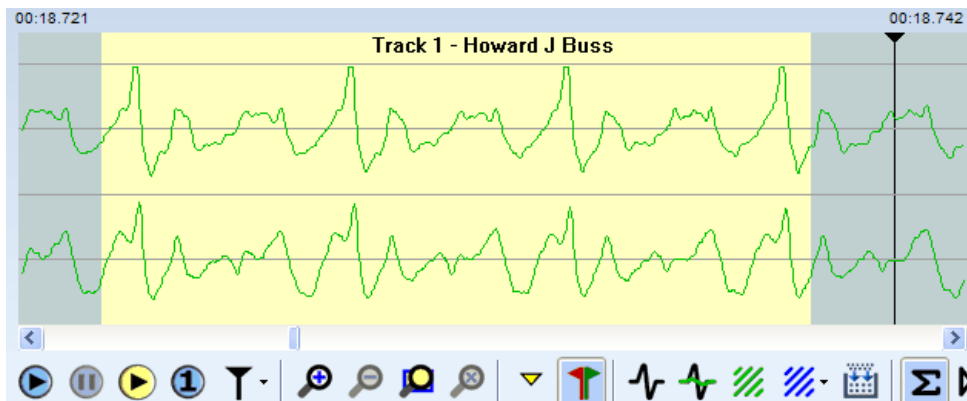
If we zoom in, we can see what is going on (just to remind you, the green trace is the corrected waveform and the grey trace is the original):



As you can see, the 'spikey' nature of the waveform has fooled the click detector which has therefore made undesirable changes to the music - it doesn't look like much, but then it doesn't take much to be audible. VinylStudio's unique brass protection feature is designed to combat this problem by reducing the sensitivity of the click detector in passages of music such as this. Here is the same file scanned with brass protection enabled at the default setting (4):



And in closeup, you can see that the original waveform has been restored (or, rather, left unchanged):



And as a result, the distortion is eliminated: [Click here to play audio](#)

Brass protection becomes somewhat less effective as the sensitivity is increased, so if a section of your music does sound distorted, or if there are a lot of solid grey areas on the waveform display, try scanning the affected section at reduced sensitivity (although, it should be noted, some forms of distortion present in the original recording can actually be eliminated by scanning at *higher* sensitivity, so don't be afraid to experiment).


### **When to Turn Brass Protection Down**

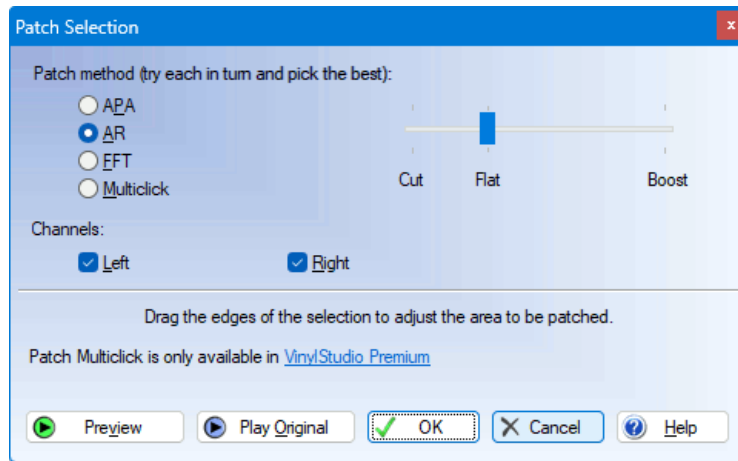
Brass Protection can sometimes cause clicks to be missed. You can check this using the Corrections List, and if you think this is happening to you then scan again with a lower setting or even turn it off completely.

### **/// Cleanup Audio - Patching Bad Scratches and Dropouts**

([VinylStudio Pro](#) only).

If your recordings contain scratches or dropouts which are too wide for VinylStudio's click repair capabilities, you can use the **Patch** command instead. This can patch upto 1/4 second (250ms) of audio by reconstructing the damaged section from the music on either side of it.

To patch a section of music in this way, first select it (by clicking and dragging in the waveform display) and then click on the **Patch selection** button  in the toolbar beneath the waveform display in the Cleanup Audio window. This displays the Patch dialog:



Click on **Preview** to hear how the patched section will sound, or on **Play Original** to hear the original, unpatched version. You can try the various patch methods in turn to see what sounds best, although APA is usually a good bet. You can also adjust the selection by dragging either edge to select the damaged area precisely, then click **OK** to apply the patch permanently or **Cancel** to discard it.

Note that all of the controls in the toolbar are active while the Patch dialog is open, and that you can undo a patch after you close this dialog if you decide you don't like it.

To **delete a patch**, right-click on it in the corrections list and then select **Delete Patch**. You can also delete a patch by selecting it in the list and pressing **Del**

You cannot adjust the width of a patch directly, but if you first delete it you can then adjust the selection and repatch it. Alternatively, just place another patch over the top.

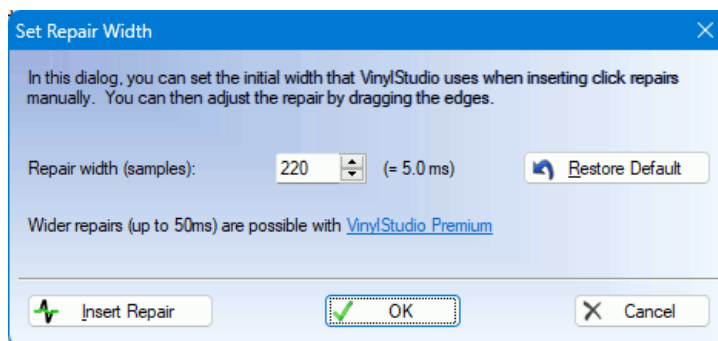
Please note that 'Patch Multiclick' is available in [VinylStudio Premium](#) only.

## **Cleanup Audio - Repairing Clicks Manually**



([VinylStudio Pro](#) only).

If VinylStudio fails to find a particularly irritating click, first try selecting the offending section of music (by clicking and dragging in the waveform display) and then scan it with more aggressive settings. This usually does the trick, but if it doesn't, you can repair the click manually.


Manual repairs can be fairly wide - up to 10 ms (or up to 50 ms in [VinylStudio Premium](#)) - but if you need a wider repair (for a bad scratch or scuff mark, say), try using patch instead. You can set the default repair width in the Set Repair Width dialog:

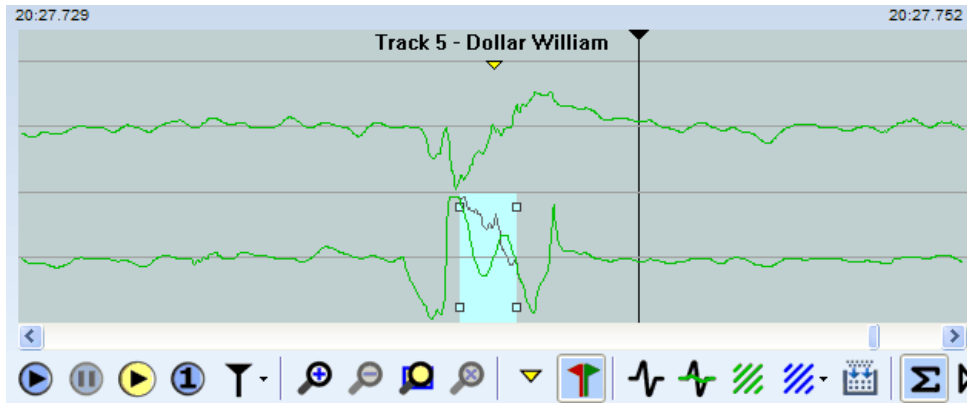


You can access this dialog by pressing **Shift-R**

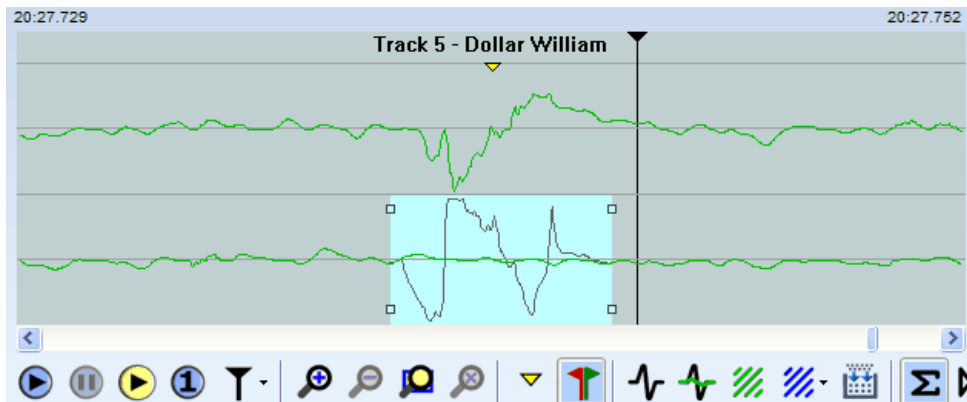
The hardest part of the job is locating the click (although this gets easier with practise). Really bad clicks and scratches (which can be hard for the software to detect, surprisingly) are usually visible in the waveform display as a large spike. To find them, define a selection encompassing the offending section of music as closely as possible, then zoom in on it  and play the selection , watching the cursor and listening carefully (wearing headphones helps a lot). Zoom in again, if need be, and repeat the procedure. When you are zoomed in close enough, most big clicks usually become clearly visible, like this:



Once the click is located repairing it is easy. Click on the click (so to speak), zoom in until the background of the display lights up (refining the cursor position as necessary along the way) and then click on the **Insert Manual Repair** button . You will then see something like this:



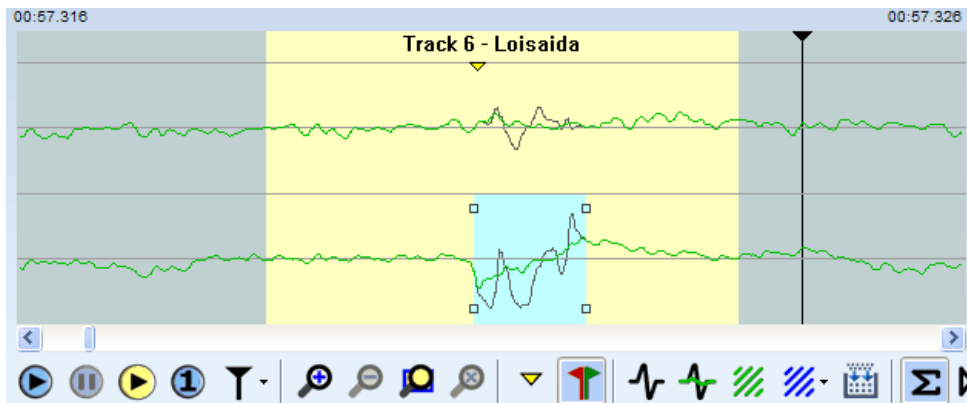
Notice how different (and massive) the click looks in closeup - its unusually broad shape is why it was not detected by scanning. Note also you repair each channel separately. To finish up, drag the edges of the repair to completely cover the damaged area, making sure that the repair is wide enough:



Et voila! The resulting repair is usually completely inaudible, but if not there may be another one close by so zoom out a little and have a more careful look. Ensure also that you have repaired both channels if, as is common, the click affects both.

You can **adjust the width of an automatic repair** in the same way. This can be useful if, as occasionally happens, VinylStudio has not removed the click entirely. To select a repair, you can click (or double-click) on it in the corrections list or zoom in close and click on it in the waveform display. In either case, make sure that the **Show Clicks** box is checked, and again you do this for each channel separately.

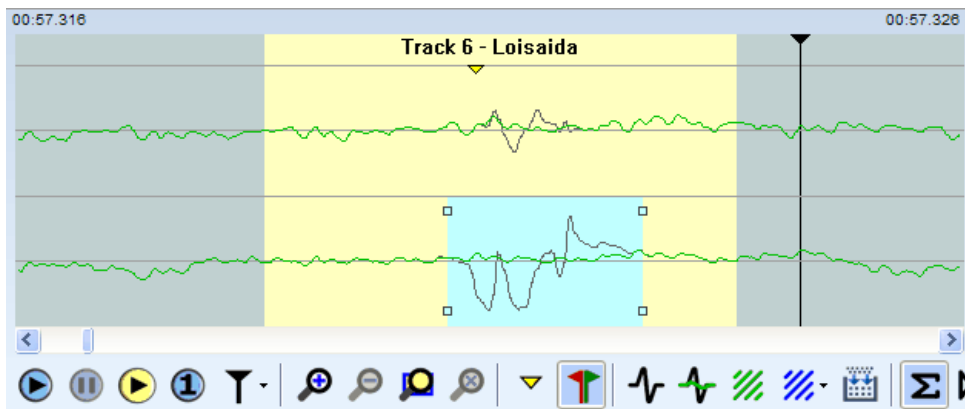
Here is an example of a click that has been located automatically but only partially repaired:



Close, but no cigar. Although the situation is considerably improved, you can still hear it:

Original: [Click here to play audio](#)  
Automatic (partial) repair: [Click here to play audio](#)

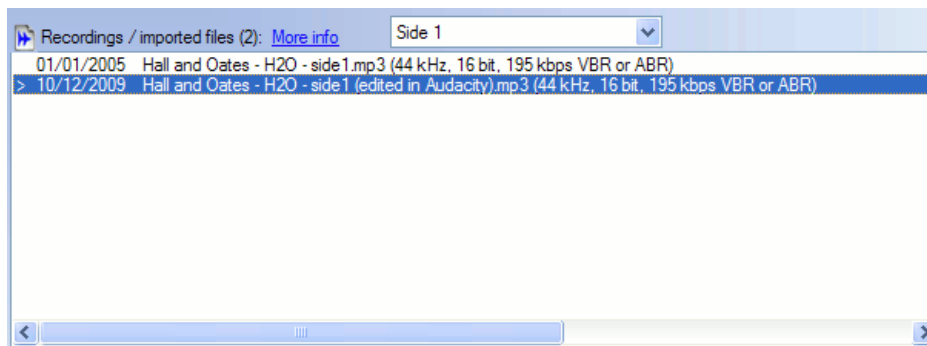
To remedy matters, drag the edges of the repair to completely remove the bump in the waveform. You don't need to be shy about this - make sure the repair is wide enough to completely remove the click:



The final result is a perfect repair: [Click here to play audio](#)

## **Importing, Exporting and Converting Files - The File History List**

The File History List in the Cleanup Audio window shows all working versions of the currently selected album side, in date order (most recent last). It is intended mainly for users who wish to import existing files or edit their recordings outside VinylStudio. Otherwise, it is not normally necessary to save copies of your files as you work because VinylStudio applies all changes 'on the fly' as and when needed. But if you want to work on a file in another program, and you want that program to use any changes made inside VinylStudio, then you will need to save or export a copy first.



To **import an existing sound file**, right-click in the File History List and select **Import Sound File**. You can elect to leave the file where it is, or to copy or move it into VinylStudio's recordings folder. Note that this only works if you have created an album in the Record window. See [Importing Existing Recordings](#) for some additional information.

To **save a copy of a recorded album side**, right-click in the File History List and select **Save a Copy**. You can either save a copy in VinylStudio's recording folder or to another folder of your choice. If you want to save a copy VinylStudio's recording folder you have to stick to VinylStudio's file naming conventions as described below.

You can also convert recordings from one file format to another, rename or delete saved copies, and, if desired, use the **Set as Default** menu option to determine which files is used when saving tracks and burning specify that CDs should be burned from something other than the most recently saved version (as indicated by a '>' symbol in the list). All of these options are available by right-clicking in the list.

You can also convert recordings from one file format to another, rename or delete saved copies, and, if desired, use the **Set as Default** menu option to determine which files should be used when saving tracks and burning CDs (as indicated by a '>' symbol in the list). All of these options are available by right-clicking in the list.

### **Editing Files Outside VinylStudio**

To export a file for editing in another program, we recommend saving a copy in WAV format, as this is the format that most such editors are designed to use. Then, when you subsequently edit the file in (say) Audacity, you can simply overwrite it. You may need to shut down VinylStudio (or select another album from the dropdown list) before you can save the file.

If you save a copy to another folder, you can use whatever filename you like. This is probably the easiest (or at least the most familiar) option for most users.

Alternatively, you can save working copies in VinylStudio's recordings folder. When you do this, VinylStudio requires you to use its own naming conventions; you will be prompted for a suffix which is appended to the name of the original file, so that the saved copy might be called, for example:

Elton\_John~Greatest\_Hits~side1\_<b>copy</b>.wav

Please note the squiggles and underscores used in the actual filename.

If you want to make a second copy of such a file outside VinylStudio (or, indeed, a copy of the original recording), you can do so by saving the file with a new suffix, e.g.

Elton\_John~Greatest\_Hits~side1-**edited-in-Audacity**.wav

Then, provided that you stick to the naming convention that VinylStudio understands, VinylStudio will pick up the latest file when you select **Check for Changes** from the **Album** menu.

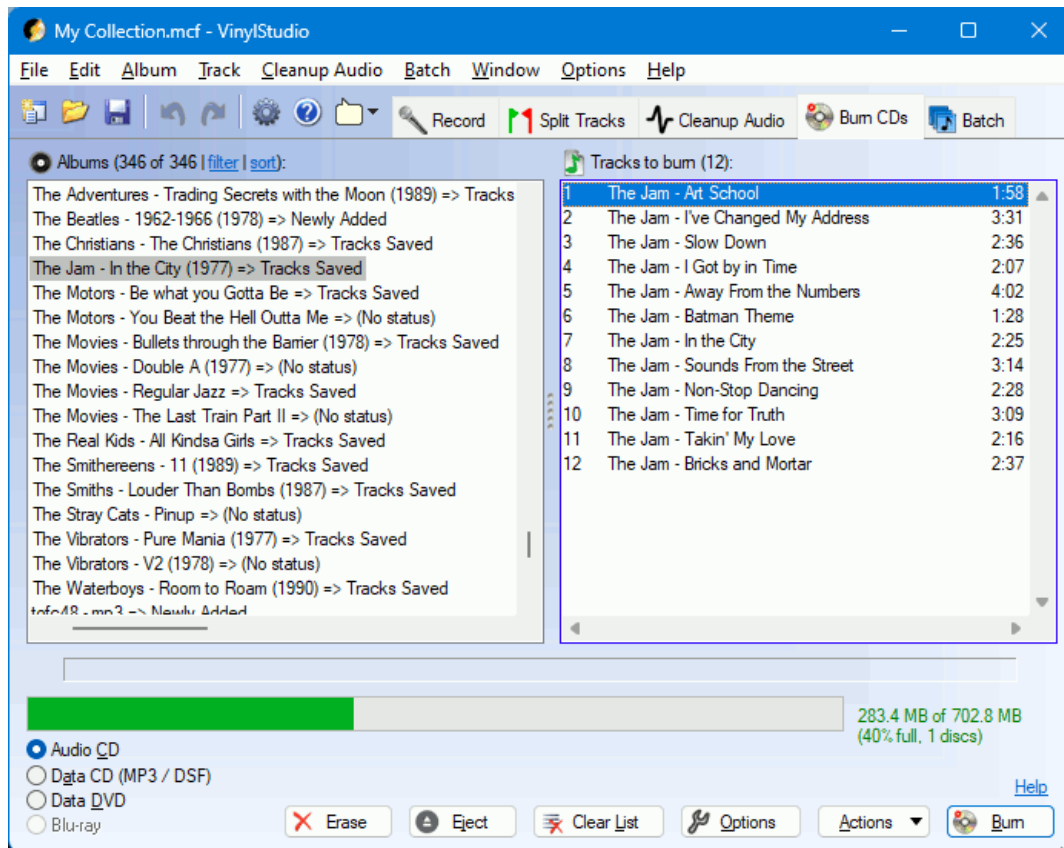
For reference, the **naming convention** that VinylStudio uses for recorded album sides is:

Artist~Album\_title~side1<optional suffix>.wav (or .mp3)

Artist~Album\_title~side2<optional suffix>.wav  
etc.

If you use an **external encoder** to generate MP3 files, we recommend using Variable Bit Rate (VBR) encoding as this gives the best quality for the minimum file size. Most MP3 encoders include such an option, and will do so by default if you specify different minimum and maximum bitrates for the encoded files.

## **Burn CDs / DVDs / Blu-ray Discs**



In the Burn CDs window, you can burn both Audio CDs and MP3 or other data CDs or DVDs. [VinylStudio Pro](#) can also burn Blu-ray discs. The procedure is:

1. Select **Audio CD**, **Data CD**, **Data DVD** or **Blu-ray**, as desired.
2. Drag albums or individual tracks from the left-hand pane to the right-hand pane (the 'burn list'). You can also select albums or tracks with the keyboard and then press **Alt+right arrow**.
3. Click **Burn**.

Audio CDs will play on any CD player and can accommodate about an hour's worth of music. MP3 CDs can store roughly 7 hours of music but will work only on players specifically designed to play them. Data CDs burned using other file formats usually need to be played on specialist players; the amount of music you can fit on depends on the file format and compression options used.

To **locate an album quickly**, click anywhere in the left-hand pane and then type in the first few characters of the artist's name. You can also select more than one item at a time (albums and/ or tracks) by clicking while holding down the Ctrl key, and you can select a range of items by clicking on the first, then hold down the shift key and click on the last.

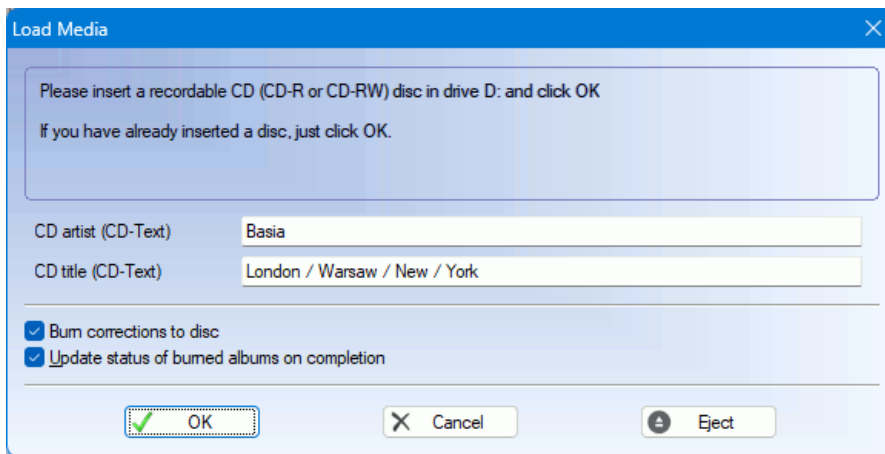
To **delete tracks from the burn list**, select one or more tracks and then right-click on any one of them. You can also move tracks within the list (providing the selection is a single block) by clicking and dragging. Again, to select more than one track hold down the Ctrl key, and to select a range of tracks, click on the first and then shift-click on the last.

VinylStudio displays the total size of the tracks in the burn list and the amount of free space on the disc in the disc. If the total size of the tracks in the burn list exceeds the free space on the disc, the display will turn **yellow**; you will only be able to burn the disc if you erase it or insert a new, blank disk.

If the tracks exceed the capacity of the disc, the display turns **red**; you will not be able to burn a disc until you remove some tracks from the burn list or insert higher capacity media. If no media is inserted, or if VinylStudio cannot determine its capacity, the available space is shown in black (best guess); you can tell VinylStudio which size of media you are using in Burning Options dialog.

### **Burning an Audio CD**

When you click **Burn**, VinylStudio will display the following dialog:



Checking **Burn corrections to disc** tells VinylStudio to include any audio cleanup work you have done on the disc. This is normally what you want.

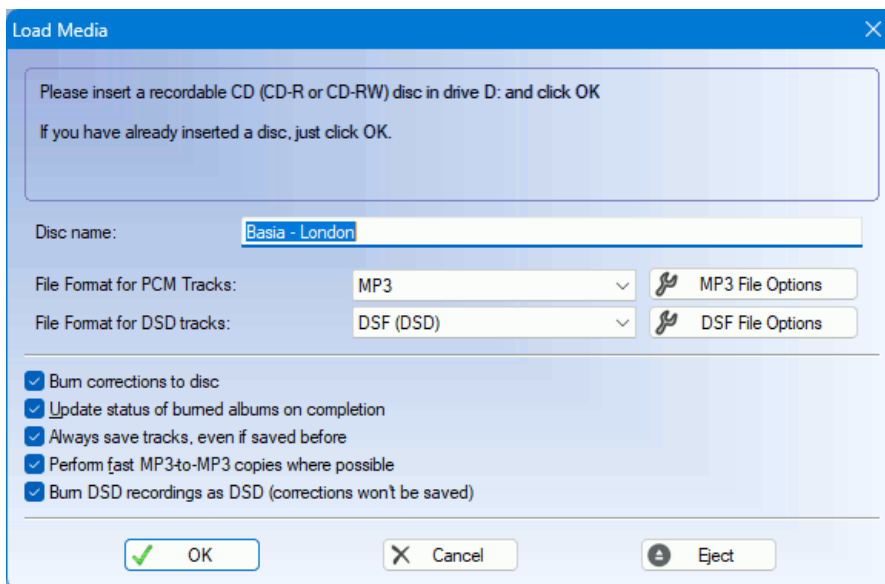
If you check **Update status of burned albums on completion**, VinylStudio will automatically change the status of the album or albums burned to 'Burned to CD' (or 'Burned and Saved') when the burn completes. You can use this to keep track of your work.

If you have enabled **CD-Text** in the Burning Options dialog (and your drive supports it), you can edit the CD-Text fields as desired. VinylStudio attempts to display sensible defaults. Otherwise, these fields will be disabled.

If you wish to **change or eliminate the usual 2 second gap between tracks**, you can do so in the Burning Options dialog, but please be aware that not all CD players can play such discs properly.

### **Burning a Data CD / DVD / Blu-Ray Disc**

When you click **Burn**, VinylStudio will display the following dialog:



VinylStudio can burn data discs in a variety of file formats. You can change that here or in the Burning Options dialog. Whichever way you do it, select the desired file format from the dropdown and click on the File Options button to change compression and encoding options.

Checking **Burn corrections to disc** tells VinylStudio to include any audio cleanup work you have done on the disc. This is normally what you want.

If you check **Update status of burned albums on completion**, VinylStudio will automatically change the status of the album or albums burned to 'Burned to CD' (or 'Burned and Saved') when the burn completes. You can use this to keep track of your work.

VinylStudio normally only saves a track if it hasn't been saved before (unless it has changed). Checking **Always save tracks, even if saved before** forces VinylStudio to save all tracks before starting the burn, regardless.

**Perform fast MP3-to-MP3 copies where possible** only applies when burning tracks in MP3 format from an MP3 original. Depending on what audio cleanup work you have done, checking it can speed things up and avoid the need to transcode the audio, which in turn improves the sound quality.

Checking **Burn DSD recordings as DSD** tells VinylStudio to burn DSD recordings in DSD format (as DSF files, in this example). Otherwise, they will be burned as PCM (i.e. MP3 files, in this example). If burning as DSD, any audio cleanup work you have done will be ignored. If burning as PCM, it will be applied in the usual way.

Please note that if you are using VinylStudio Lite you will not be able to burn data discs. To upgrade, select **Upgrade to Full Version** from the Help menu.

### **Saving the Tracks in the Burn List as Audio Files (requires [VinylStudio Premium](#))**

There is now an option to do this under the **Actions** button. The tracks in the burn list will be saved to the folder you specify.

## **Notes**

If you encounter problems burning, first clean the lens of your drive. You can buy a lens cleaning disc from Amazon for a few \$. Ensure also that there are no other CPU-intensive applications (such as games) running. If the problem persists, you might find it helpful to reduce the Write Speed in the **Burning Options** dialog. If these steps do not rectify matters, please contact AlpineSoft technical support for advice.

If you wish to print a **CD cover or label**, you can export a track listing to a file in a format that most CD cover editors can read. Please note that this feature is available in [VinylStudio Pro](#) only. For more information, click here.

You can do other things, such as recording or editing another album, while burning is in progress.

## **Burning Multiple Discs in a Single Operation**

[VinylStudio Pro](#) now supports burning multiple discs in a single operation.

To make use of this feature, simply drag the tracks you want to burn across to the right-hand pane and click Burn. VinylStudio will then offer you an option to burn multiple discs and will prompt you for new blanks as required.

## **Burning Multi-Session Discs**

VinylStudio supports burning multi-session data discs. This allows you to add tracks to a disc you burned previously, provided that it is not already full. This only works for data CDs, not audio CDs. Once you have burned an audio CD, that's it.

When you are adding tracks to a disc you have burned previously, VinylStudio might report that there is not enough space to fit on all the new tracks when you click **Burn**. You can avoid this problem by putting the disc in the drive before you start dragging tracks across to the burn list. It takes a few seconds for VinylStudio to notice that you have inserted a disc but it will then display an updated 'percentage full' figure (possibly now greater than 100%) which allows for the space already used. Make sure that this figure is below 100% (by deleting tracks from the burn list if necessary) before trying to burn.

Please note that if you burn the same track twice, it will appear on the disc twice (with different sequence numbers). Note also that multi-session discs burned on the Macintosh cannot be read by Windows, or by most domestic CD or DVD players.

## **Why do my CDs (and Other Discs) not Play in my Player?**

One reason is that you might have burned an MP3 or other data CD. Some older CD players will only play audio CDs.

Another reason might be your choice of media. Try using 74 minute / 650MB blanks rather than the more common 80 minute / 700MB variety. The smaller capacity discs are more compatible with older CD players because they have a wider 'groove'. You will probably have to get them by mail order.

Please note also that rewriteable CDs (CD-RW's) are less reflective than commercial CDs and may not play (or may not play reliably) in some players. The same is true for DVDs and Blu-ray discs.

## **Why is There no Track Listing Displayed in Windows Media Player?**

VinylStudio can write track listings to Audio CDs ('CD-Text'), but Windows Media Player does not read this information. There is no known workaround for this, so it is better to burn a data disc instead.

Please note also that track names on audio CDs are truncated at 31 characters. This is a limitation of the burning engine we use (StarBurn) and cannot be changed, sorry.

## **Why is There no Track Listing Displayed in iTunes?**

iTunes does not read the CD-Text information that VinylStudio writes to audio CDs. There is no known workaround for this, so it is better to burn a data disc instead or use a different player. Most other Windows apps that can play audio CDs seem to support CD-Text (including those that are freeware, such as MusicBee, foobar2000 and MediaMonkey).

## **➡ Export CD Track Listing**

([VinylStudio Pro](#) only).

If you would like to print a CD cover or label for CDs burned in VinylStudio, you will need to purchase a third-party editing program such as CD-Cover Editor or Easy Cover Design Pro or the CD Cover designer included in the Nero Burning Rom suite. All of these programs (and most others of a similar nature) can import a track listing from a suitably formatted file, and VinylStudio can create such a file from the tracks present in the burn list (i.e. the tracks you have most recently burnt, are burning, or are about to burn to CD).

To do this, click on the **Export Track Listing** button in the burn CDs window and follow the on-screen instructions. If in doubt, export an M3U file as most programs can read these. Then import the file VinylStudio creates into your CD cover editing program as follows:

**CD-cover Editor** (which imports M3U files):

- right-click anywhere on your design
- select 'Insert Object', and then 'Tracklist'
- click on the 'Import from Playlist' button
- select the file you exported from VinylStudio

**Easy Cover Design Pro** (which also imports M3U files):

- click on 'Edit Tracks' in the toolbar on the left-hand side of the screen
- click on the 'Import Playlist' button
- select the file you exported from VinylStudio

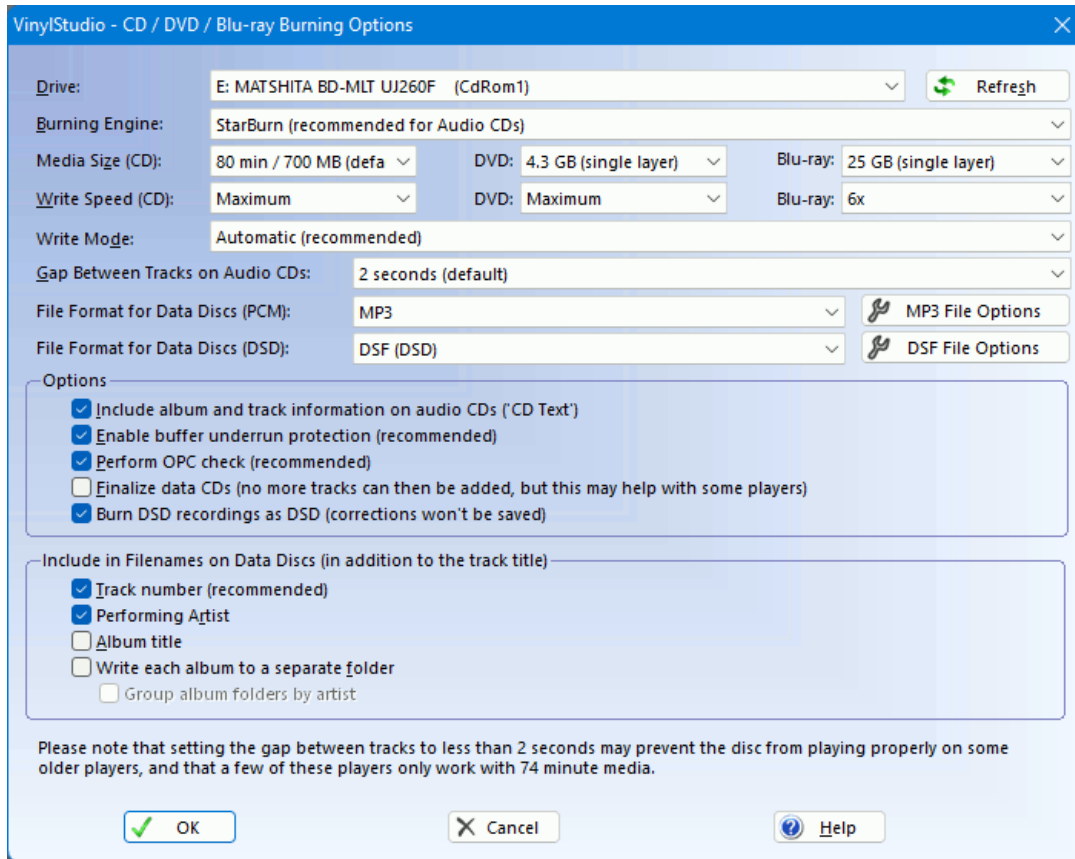
**Nero Cover Designer** (which imports CDC files):

- click 'Data' in the menu bar and select 'Document Data' from the dropdown menu
- click on 'Disk 1'
- click on the 'Import Data' button
- select the file you exported from VinylStudio
- click OK

The only mainstream CD cover editor we know of that cannot import a track listing in this way is AudioLabel. Track information is automatically included on MP3 CDs and, most CD cover editors (including AudioLabel) can read this information.

## **CD / DVD / Blu-ray Burning Options**

To access the burn settings dialog, select **CD / DVD / Blu-ray Burning Options** from the Options menu, or click on the Options button in the Burn CDs window:



Please note that Blu-ray discs are supported in [VinylStudio Pro](#) only.

**Drive:** selects your burner. There will normally be only one, unless perhaps you also have an external drive.

**Burning Engine** can be used to select IMAPI if StarBurn fails for any reason. StarBurn is recommended for Audio CDs because it can burn CD-Text, whereas IMAPiv2.0 is better for data discs. IMAPiv1.0 has limited functionality and is not recommended.

**Media Size:** can be used to specify the size of media you are using. Alternatively, insert blank media into your drive before you start dragging tracks across to the burn list. VinylStudio will then calculate the available space automatically.

**Write Speed:** allows you to reduce the write speed. This is normally unnecessary, but with some burners, discs written at lower speeds can be played on a wider variety of players.

**Write Mode:** allows you to force VinylStudio to use a particular write mode when burning audio CDs. VinylStudio normally selects the best method for your particular drive automatically but it can be useful to be able to override this setting for certain drives. The Disk-at-once methods produce the most compatible discs, and you must select Disk-at-once Raw PW (or Automatic) to include CD-Text on audio CDs.

**Gap between tracks on audio CDs:** this is normally 2 seconds but you might like to experiment with 'gapless' CDs if you are recording live albums. Please note however that not all players can play such CDs reliably.

**File Format for Data Discs (PCM):** select the file format (e.g. MP3) when burning tracks as PCM (which is what most users will be doing). To change compression and encoding options, click on the File Options button.

**File Format for Data Discs (DSD):** select the file format (e.g. DSF) when burning tracks as DSD ([VinylStudio Pro](#) only).

**Include album and track information on audio CDs:** writing this information (as CD-Text) to audio CDs is normally safe enough but many older CD players (and some media player apps, such as Windows Media Player and iTunes) do not display it.

**Enable buffer underrun protection** and **Perform OPC check** should both normally be enabled. These options are provided in case using these features causes problems with your particular drive.

**Finalize Data CDs:** should normally be left unchecked, but a few players will only play finalized discs. You cannot add any further tracks to a finalized disc, even if it is not full.

Checking **Burn DSD recordings as DSD** tells VinylStudio to burn DSD recordings in DSD format (as DSF files, in this example). Otherwise, they will be burned as PCM (i.e. MP3 files, in this example). If burning as DSD, any audio cleanup work you have done will be ignored. If burning as PCM, it will be applied in the usual way.

#### Include in Filenames on Data Discs:

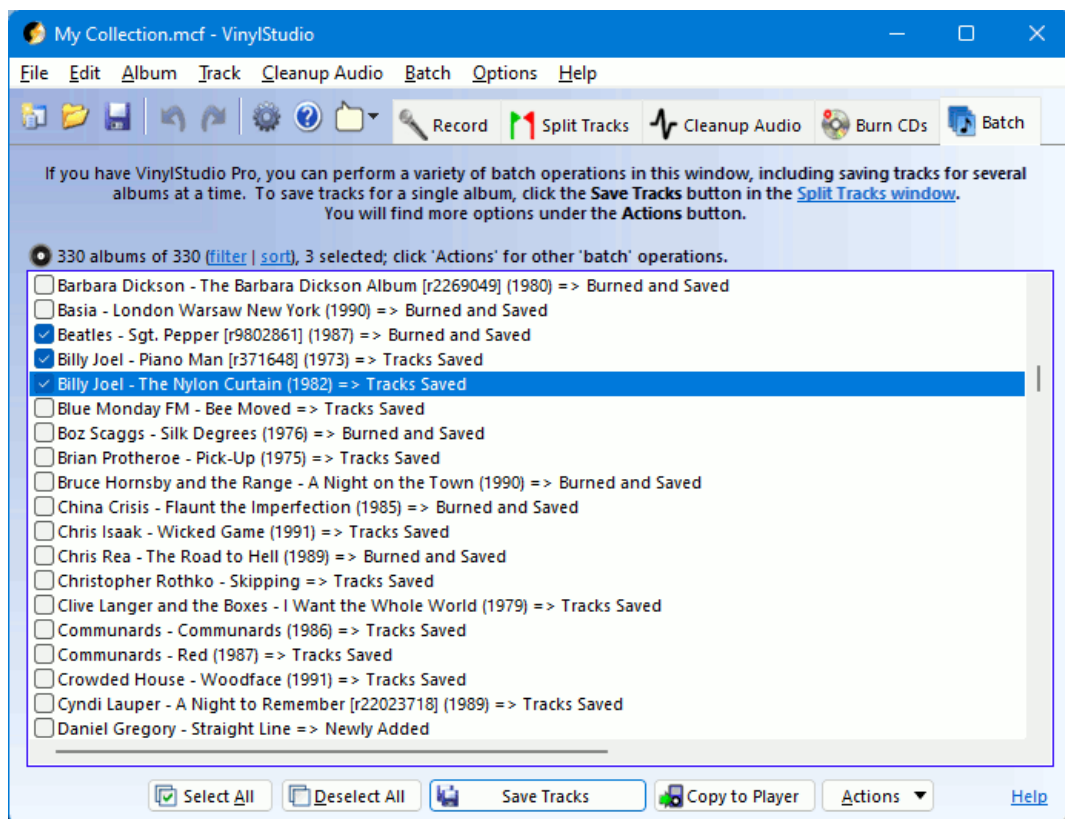
- **Track number:** ensures that the files on the disc remain in the order that the tracks appear in the burn list; if you uncheck this box, they will appear in alphabetical order.
- **Performing Artist:** names files on the disc in the form Artist - Track Title.
- **Album Title:** names files on the disc in the form Artist - Album Title - Track Title, rather than just Artist - Track Title.
- **Write each Album to a separate folder** (VinylStudio Pro only): creates a separate folder for each album written to the disc. This can be useful for players that can only handle a limited number of files in each folder or to keep the disc organised.
- **Group album folders by artist:** creates, in addition to the above, a separate folder for each artist.

## **Batch Operations**

(VinylStudio Pro only).

Clicking on the **Batch** tab will take you to the Batch window. In this window, you can:

- Save tracks for several albums at a time
- Copy your saved tracks to an External Device
- Playing your saved tracks in Windows Media Player
- Generate cue sheets for several albums at a time
- Declick several albums at a time
- Normalise several albums at a time
- Copy recordings
- Apply filter settings and equalisation curves to several albums at a time
- Swap channels for several albums at a time
- Delete multiple albums or album components from your collection
- Change the status of several albums at a time
- Apply custom tags to several albums at a time
- Move or copy albums between collections
- Print part or all of your collection
- Export part or all of your collection to a file



### **Saving Tracks (Batch)**

VinylStudio Pro can save tracks for several albums at a time. Select the albums you want to save and then click on the **Save Tracks** button. The process may take a while, although VinylStudio will skip any tracks that have been saved before (unless they have changed) if you ask it to.

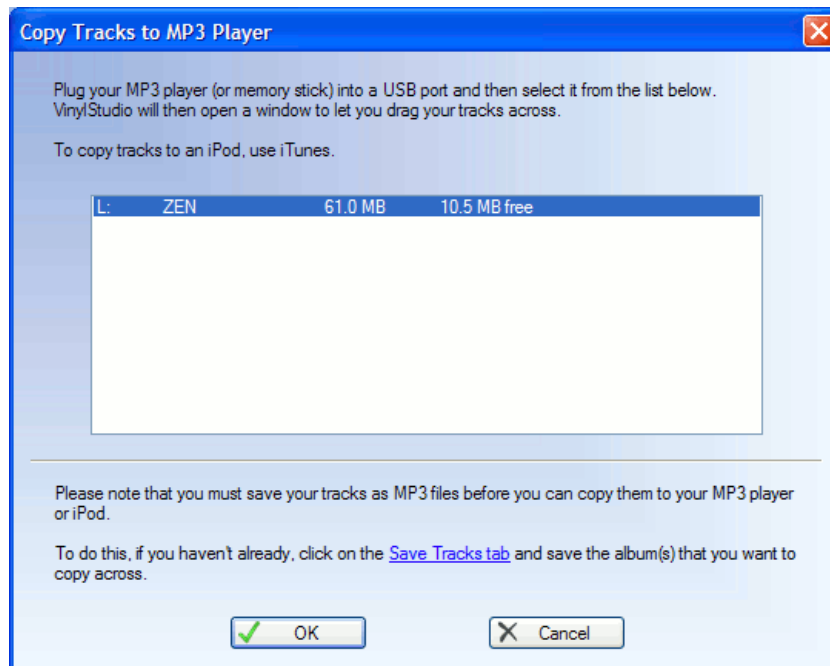
For more information, please refer to the main Save Tracks topic (which you can also use in VinylStudio Standard).

**Tip:** to select several albums at once, click on the first (make sure it is ticked) and then shift-click on the last.

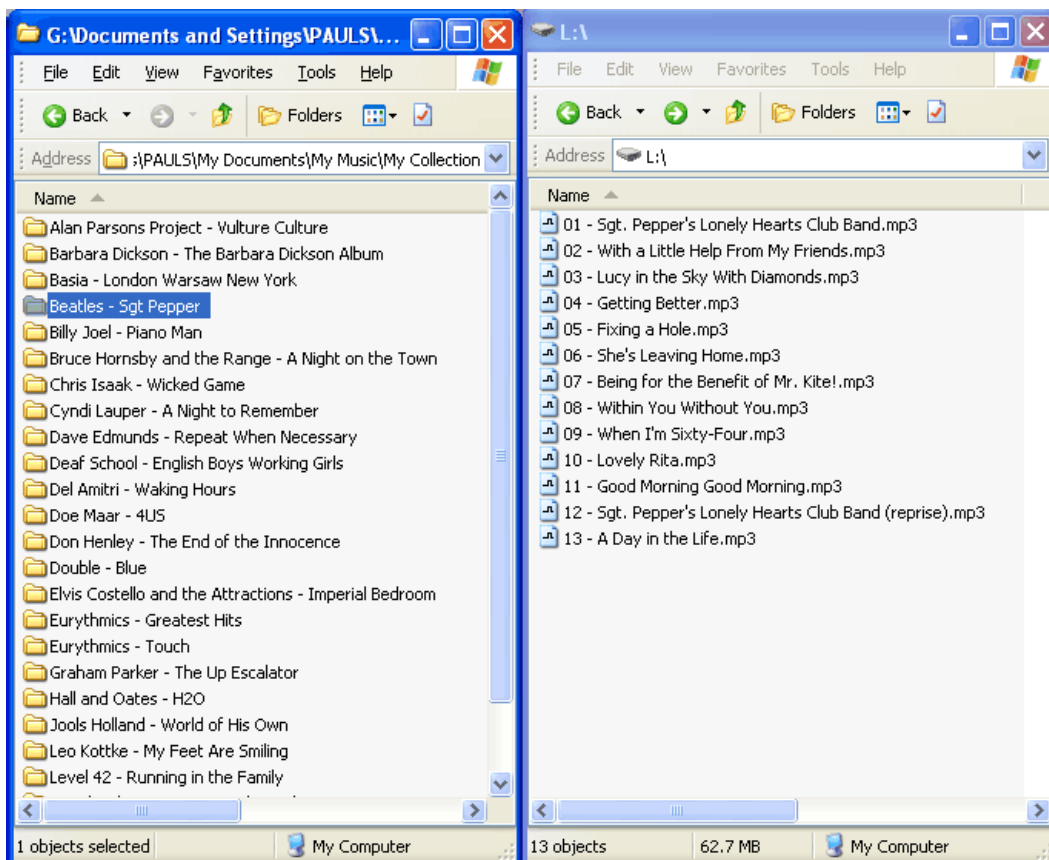
### **Copy your saved tracks to an External Device**

To **copy tracks to an iPod, iPad or iPhone**, use iTunes. You will need to save your tracks first as described above.

To **copy tracks to (for example) an MP3 player or memory stick**, first save them as described above. Then plug your MP3 player (or memory stick) into a USB port and click on the **Copy to Player** button. VinylStudio then displays the following dialog:



VinylStudio displays a list of drive letters which it thinks might be MP3 players or memory sticks. Select the one you want from the list and VinylStudio will then open two File Explorer windows side-by-side, with your saved tracks on the left and your MP3 player on the right. You can then drag and drop files from one to the other in the usual way:



When dragging files across, be careful not to create too many folders on your MP3 player. Many players have a fairly low limit (10 or so) on the number of folders they can handle.

If you want to know how much space is left on your external device, right-click in an empty part of the right-hand pane and select **Properties**.

To **copy tracks to an Android device**, connect it to your computer via USB and enable 'using USB for file transfer' on the phone itself.

### **Playing Saved Tracks in Windows Media Player**

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There are two approaches to this: you can either have VinylStudio generate playlists, one per album, or you can import the MP3 files you have generated into Media Player's library directly.

To **create playlists**, select the **Create Playlists for Windows Media Player** option from the File menu. VinylStudio will then generate a playlist for each album in your collection and store them in the following folder:

```
Music
  <Name of your collection>
    Playlists
```

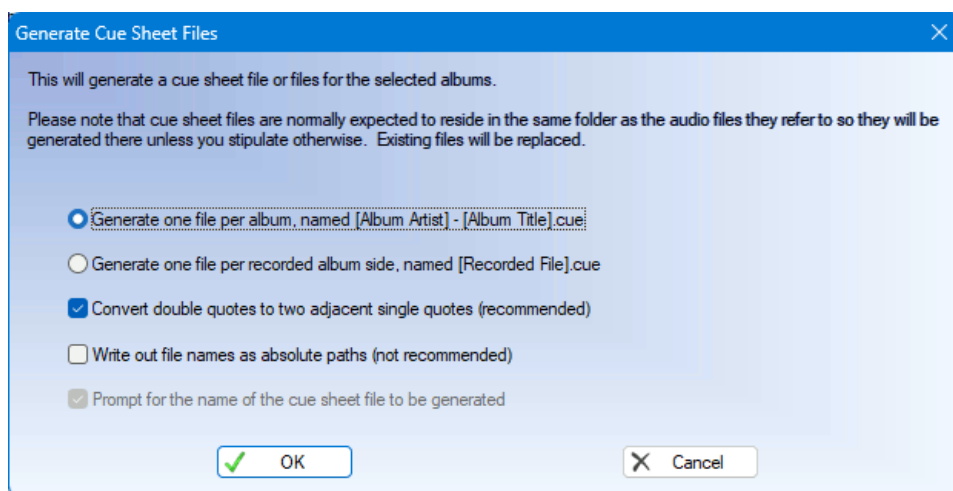
(You can change this folder from the **Settings** dialog under the Options menu).

You can then open or import these playlists into Media Player in the usual way. They have the advantage of maintaining the identity of the albums in your collection.

To **import your MP3 files directly into Media Player's library** (which is the more common approach), click on Media Player's **Library** tab, and then on **Add to Library**. Alternatively, you can tell Media Player to monitor your **Music** folder. Then, all MP3 files that VinylStudio (or any other program) generates in that folder - or any folder below it - will be added to the library automatically. This is the default for Media Player 12 and later. To see what folders Media Player 12 is monitoring, click on **Organise**, and then **Manage Libraries - Music**.

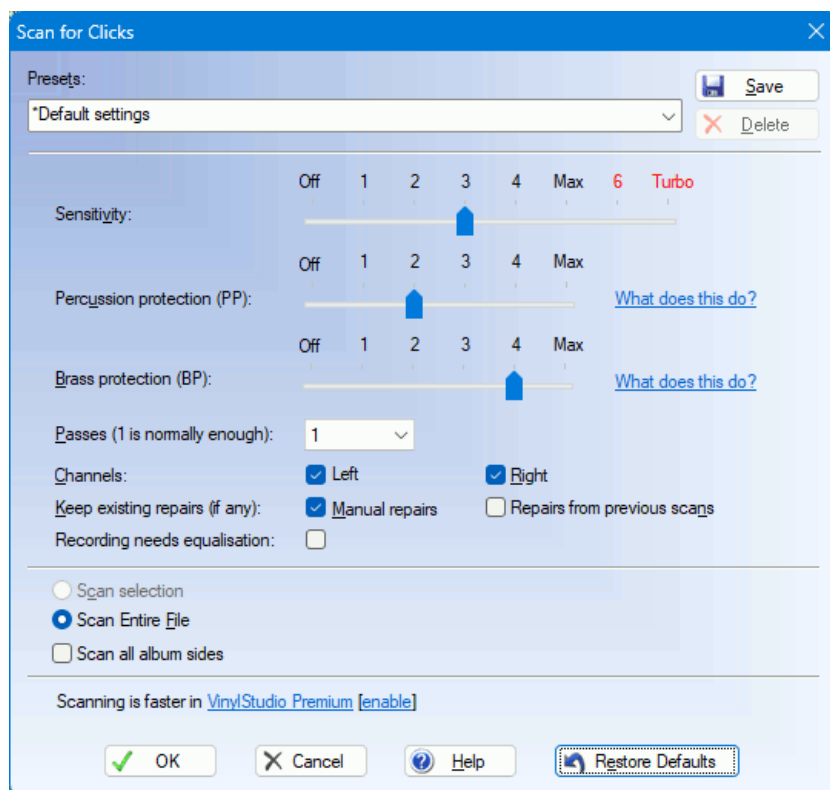
### **Generate Cue Sheets (Batch)**

This will generate cue sheet files for each album selected in the list. These will be written to the same folder as the recorded files they refer to as that is the way cue sheets work. Any existing files will be overwritten.



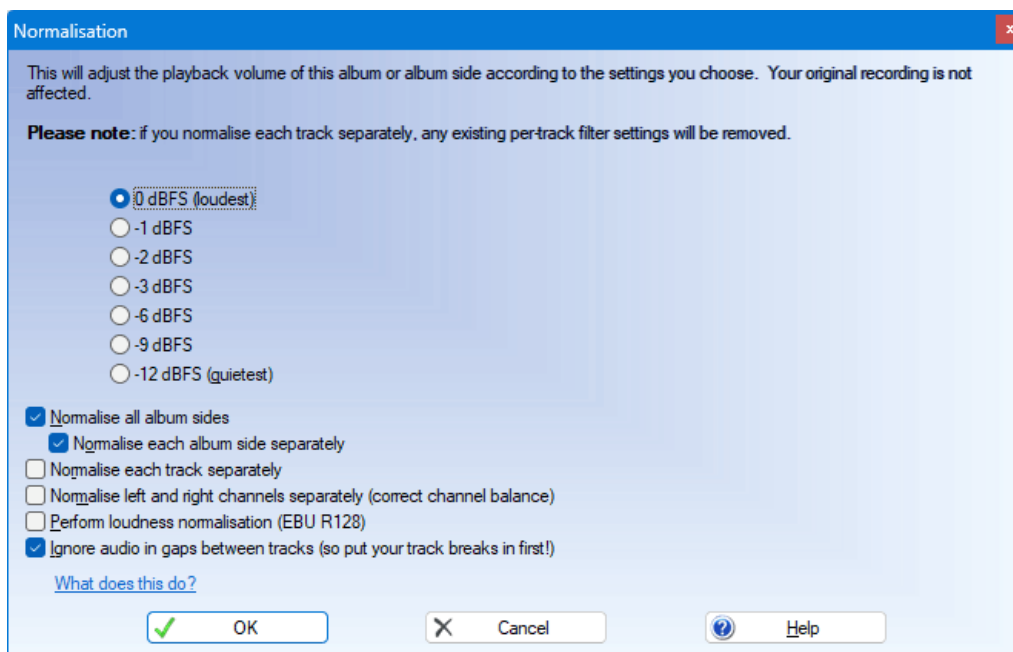
### **Batch Declick**

To declick some or all of your albums in a single operation, select the ones of interest in the list and then select **Scan Selected Albums for Clicks** from the menu under the **Actions** button. You will be prompted for the scan settings to be used and then VinylStudio will perform the scan. For more information on what the various scan settings do, please refer to the Scan for Clicks help topic. Each album side takes about 1 minute on a modern computer.



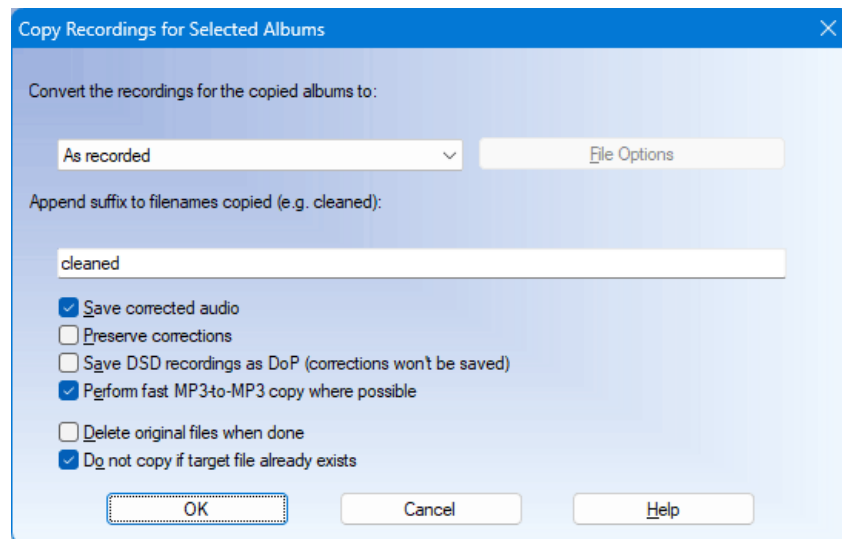
## Batch Normalisation

To normalise some or all of your albums in a single operation, select the ones of interest in the list and then select **Normalise Selected Albums** from the menu under the **Actions** button. You will be prompted for the volume level to be used and then VinylStudio will set to work with no further manual intervention required. Processing time varies depending on what filters you have selected for the albums in question. The Hiss filter is particularly CPU-intensive.



## Batch Copy Recordings

VinylStudio can copy the recordings for the selected albums so that, for example, you can save a cleaned up copy to export as a CUE sheet.

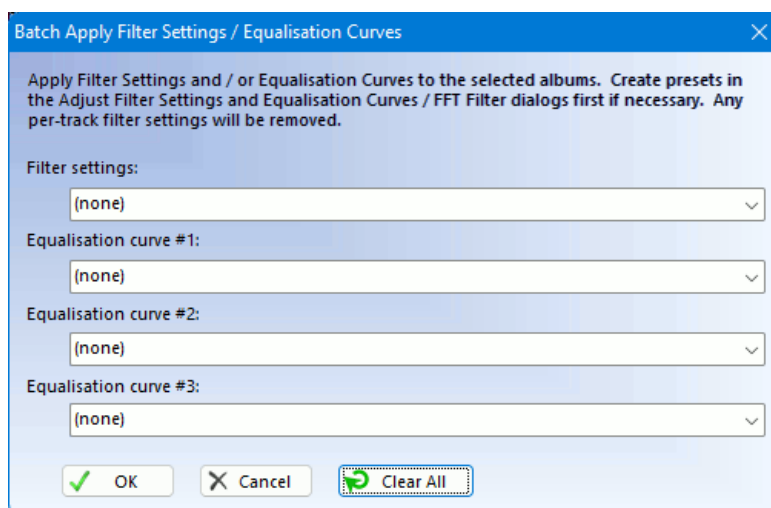


There are options to:

- Change the file format, if so desired.
- Save or preserve corrections (save corrections will give you cleaned up files).
- Save DSD as either DoP or PCM.
- Delete the original files after copying (use with care!)

### **Apply Filter Settings and Equalisation Curves (Batch)**

To apply filter settings or equalisation curves to multiple albums at a time, select them in the list and then select **Apply Filter Settings and Equalisation Curves to Selected Albums** from the menu under the **Actions** button. Then select what you want from the dialog that is then displayed.



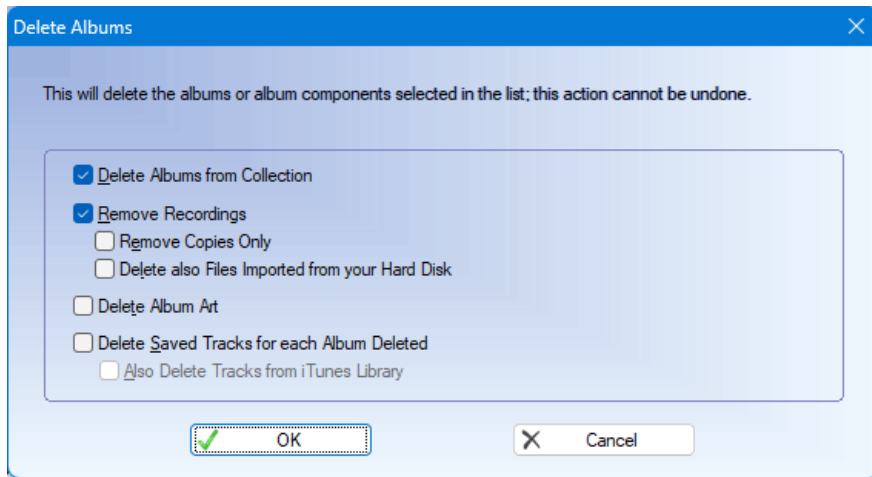
### **Swap Channels (Batch)**

To swap channels for multiple albums at a time, select them in the list and then select **Swap Channels for Selected Albums** from the menu under the **Actions** button. Changes will be applied when you save your tracks.

You can also swap channels for a single album or album side from the **Album** and **Cleanup Audio** menus respectively ([VinylStudio Pro](#) only).

### **Deleting Multiple Albums or Album Components**

To delete multiple albums at a time from your collection, select them in the list and then select **Delete Selected Albums or Album Components** from the menu under the **Actions** button.

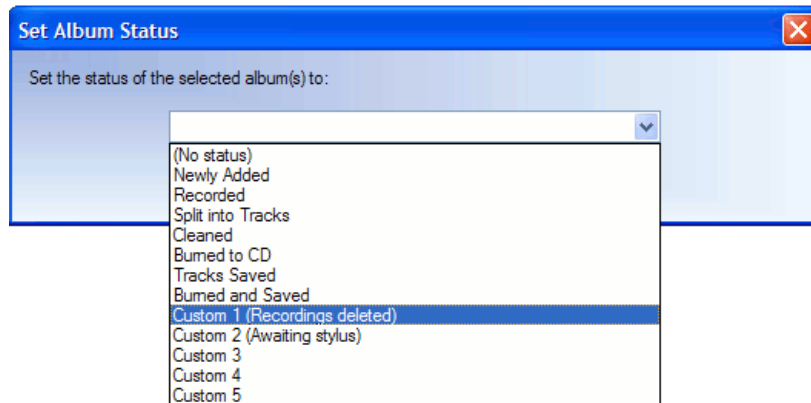


In addition to deleting the albums themselves, you can elect to just delete certain components, such as your 'raw' recordings, while retaining the albums in your collection as a reminder of what you have done. If you are exporting tracks to iTunes, there is some mileage in deleting the tracks saved by VinylStudio, as these are duplicates of the copies stored in the library.

If you have plenty of disk space, consider keeping your albums and recordings around. That way, you can always save your tracks again (if you need them in another format, for example).

### **Set Album Status (Batch)**

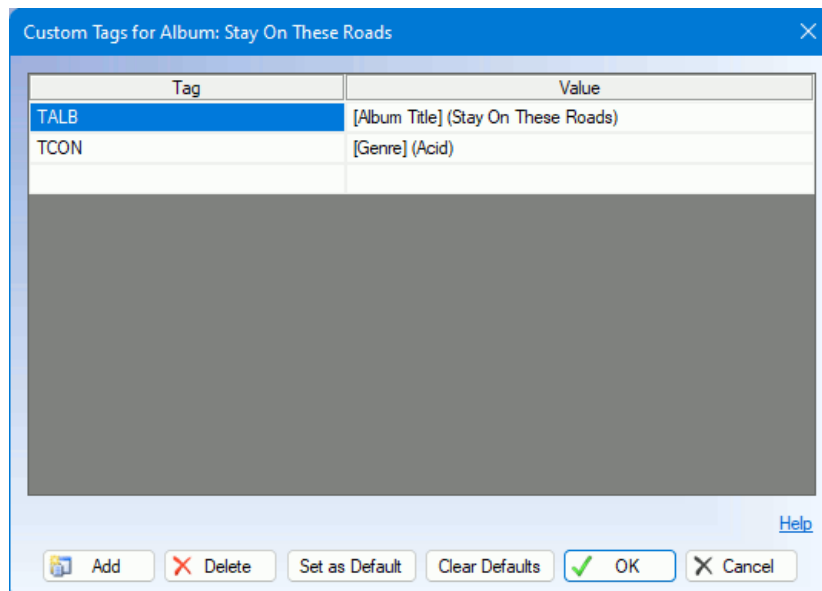
You can use the album status to keep track of the stage you have reached working on a particular album or albums. To change the status of multiple albums at a time from your collection, select them in the list and then select **Set Status of Selected Albums** from the menu under the **Actions** button.



VinylStudio supports upto 5 'custom' status settings which you can use for whatever purpose you choose. You can give these names of your own by selecting 'Set Custom Album Status Names' from the Options menu.

### **Apply Custom Tags (Batch)**

This will display the Custom Tags editor, where you can enter custom tags and values to be applied to the albums selected in the list. Any existing custom tags will be replaced.



## **Move or Copy Albums Between Collections**

This option can be used to merge two or more collections. To move albums from collection A to collection B, proceed as follows:

1. Open collection A (Menu -> File -> Open Collection, or Menu -> File -> Recent Collections).
2. Go to the 'Batch' window.
3. Select the desired albums in the list (or use 'Select All').
4. Under the Actions button, select 'Move or Copy Selected Albums to Another Collection'.
5. Navigate to collection B and select your desired options.
6. Confirm that you want to proceed.

VinylStudio will then take care of the rest.

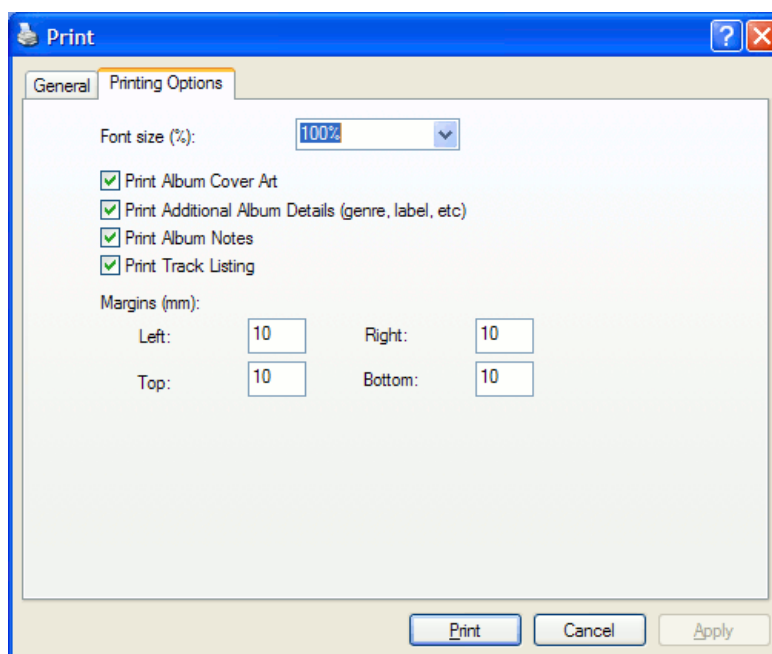
Options available at step 5 are:

- Copy albums, rather than moving them.
- Link to existing recordings, rather than copying them (if the copy option is selected). This, in effect, shares the recordings between the two collections.
- Delete saved tracks for albums moved or copied. You can then save them again (to a new location, potentially) from the destination collection.

Generally, moving albums is what you want.

## **Printing Part or All of your Collection**

To print part or all of your collection, select the desired albums in the list (or use 'Select All') and then select **Print Selected Albums** from the menu under the **Actions** button. You can control exactly what is printed in the 'Printing Options' tab.



## **Exporting Part or All of your Collection to a File**

To export part or all of your collection to a file, select the desired albums in the list (or use 'Select All') and then select **Export Selected Albums** from the menu under the **Actions** button. You can export albums in CSV format, RTF format, or as a text file. Only metadata (e.g. album and track titles) is exported and not the audio itself.

## **Importing and Exporting Files**

### **Importing Existing Recordings**

You can import recordings that you have made outside VinylStudio into your collection. To do so, proceed as follows:

- Click on the **Record** tab.
- Click on 'Record or import a new album'.
- Click on 'Import Sound File(s)'.



- Then:
- A list of sound files is displayed and you can select one or more to be imported.
  - You will then be prompted for the album artist and title (required), after which you can import the file or files you selected from the list.

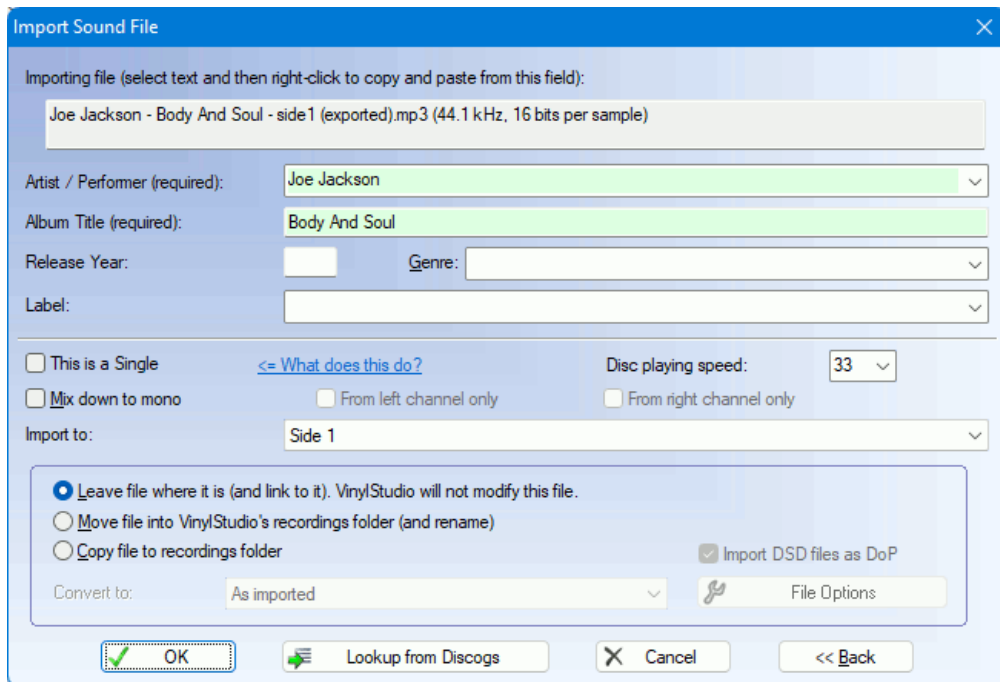
If you wish to import additional sound files for an existing album, click on **Work with an existing album**, then select the album from the dropdown list and click on **Import Sound File(s)**. You can also import files via the File History List in the Cleanup Audio window, where you can see which files have been imported or recorded previously for a particular album side.

The files you select will, at your option, either be left where they are or copied or moved into VinylStudio's recordings folder. VinylStudio can import a variety of recording formats.

If you wish to re-import a file that you have edited outside VinylStudio, please refer to the File History List help topic. You can also use the File History List to convert between recording formats.

### Importing Just One File

If you only selected a single file to import, then the following dialog is displayed:



If you elect to copy the file you are importing, you can convert it to another format at this point. Just select it from the dropdown and then specify any desired options via the **File Options** button.

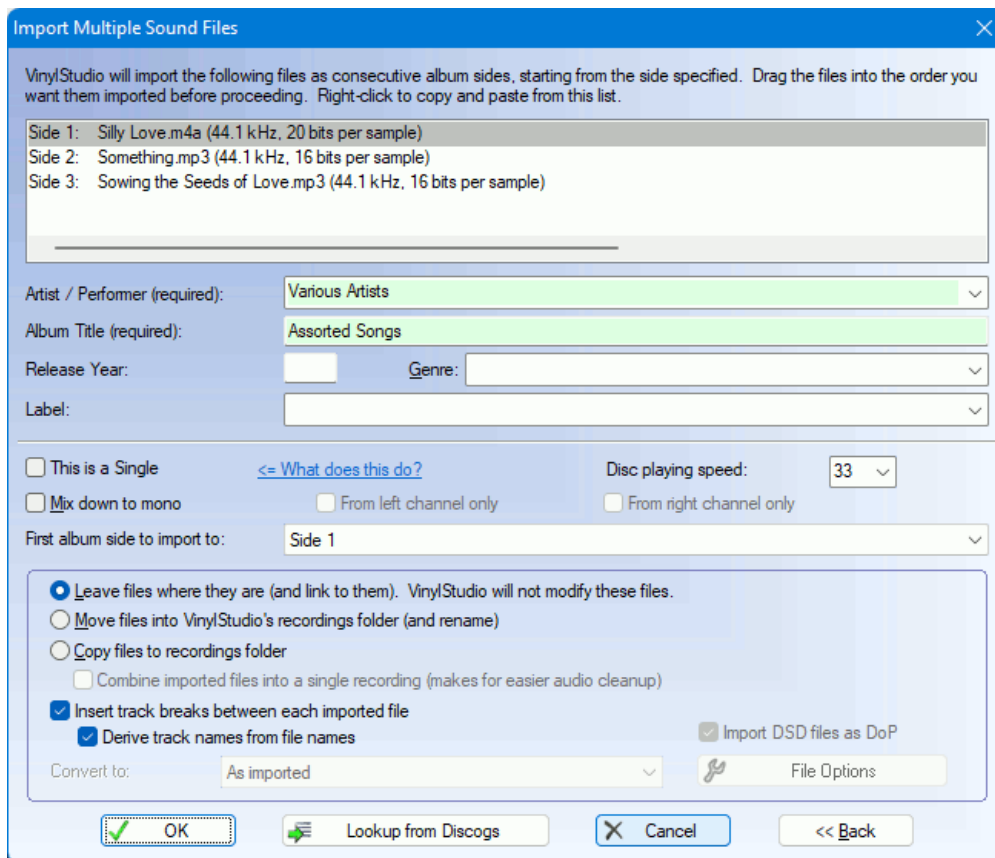
Album artist and title are required. The other details are optional.

### Importing Multiple Files

([VinylStudio Pro](#) only).

[VinylStudio Pro](#) can import several files in one go for any particular album. This is especially useful where the files are individual tracks, rather than whole album sides. VinylStudio can insert track breaks between the files for you and automatically name the tracks from the file names.

To import multiple files, Ctrl-click or Shift-click on the files when they are displayed in the list. The following dialog is then displayed:



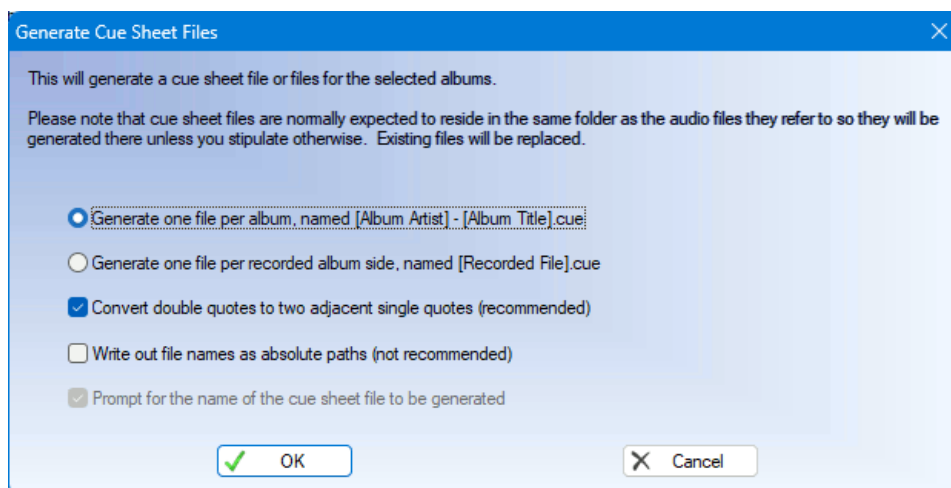
Again, you can convert to a different format (as described above), and again, album artist and title are required. You can also combine the files you are importing into a single file if desired, and if the files are not in the right order, you can drag them around in the list before you proceed.

### **Importing and Exporting Cue Sheets**

(VinylStudio Pro only).

VinylStudio Pro can import albums from cue sheets. Just click **Import Cue Sheet** and select the file or files you wish to import. The rest is automatic.

It is also possible to generate cue sheets for some or all of the albums in your collection. To generate a cue sheet (or sheets) for a single album, select **Generate cue sheets** from the **Album** menu. You can generate cue sheets for several albums at a time in the **Batch** window. Cue sheets will be written to the same folder as the recorded files they refer to as that is the way they work, and any existing files will be overwritten.



### **Importing Collections from Discogs**

(VinylStudio Pro only)

You can import collections from Discogs saved in XML, CSV or ZIP format. This will create the albums in the file, with a complete track listing for each, in VinylStudio. To do this, first export your collection from Discogs in XML format to a file somewhere on your hard disk. Then:

1. Select 'Import Discogs Collection' from VinylStudio's File menu.
2. Navigate to the file you wish to import and click Open.
3. Select the albums you wish to import.
4. Click Import.

If the Discogs collection contains track durations, VinylStudio will insert track breaks in roughly the right place. It will also import album notes and cover art, if present.

## Where are my Files Located?

This help page covers the following topics

- Where are my Saved Tracks Stored?
- Controlling How Saved Tracks are Named Using Custom Strings
- How Singles Tracks are Named
- Where are my Recordings Located?
- What Files does VinylStudio Actually Create?
- Archiving your Recordings

## Where are my Saved Tracks Stored?

When you save your tracks, they are normally stored in the following folder:

```
Music
  <Name of your collection>
```

You can change this folder in VinylStudio's [Settings dialog](#), and you can also browse the folder from within this dialog.

VinylStudio offers considerable flexibility in how tracks are stored within this folder. By default, albums are grouped in folders by album artist, like this:

```
Music
  <Name of your collection>
    The Beatles
      The White Album
        01 - Back in the USSR.mp3
        02 - Dear Prudence.mp3
        ...
```

You can select (or change) this behaviour using the dropdown in VinylStudio's [Settings dialog](#). There are separate settings for albums and singles.

## Controlling How Saved Tracks are Named Using Custom Strings

Advanced users, or those who are interested in what is going on, might like to peruse or enter custom strings into the [Settings dialog](#) to determine exactly where your split-up tracks are stored. These gives you a high degree of control over where the saved tracks end up. That said, the preset values in the dropdown lists normally suffice, and option 2 (group tracks by album artist) is recommended for both albums and singles.

To do this, you use **keywords** to tell VinylStudio how you want your tracks to be named and grouped into folders. When saving each track, VinylStudio replaces these with the album title, track title or whatever, as appropriate. The following keywords are available:

<b>[Album Artist]</b>	The album artist, e.g. <b>The Beatles</b> . For compilations, we recommend you add the album to your collection under 'Various Artists' and enter the artist separately for each track. For singles, add the album to your collection under the name of the performing artist, or perhaps (for a sampler EP) again 'Various Artists'.
<b>[Album Side]</b>	The album side on which the track appears, starting from 1.
<b>[Album Title]</b>	The album title, e.g. <b>The White album</b> . For singles, this is not normally used when saving tracks but you will need to enter something when you add the album to your collection, perhaps the name of the 'A' side, that you will recognise later.
<b>[Track Number]</b>	This is the track number on the album, starting from 1. This is useful for preserving the order that the tracks appear in on the original album. We recommend omitting this keyword for singles.
<b>[Track Title]</b>	The title of the track, e.g. <b>Back in the USSR</b> . All tracks must have a title and this keyword is mandatory.
<b>[Track Artist]</b>	The track artist, if there is one. If not, this keyword is ignored. For this keyword to work properly, you should only enter track artist information for compilation albums / EPs.
<b>[Performing Artist]</b>	This is (in descending order of priority), the track artist, if any, the performing artist, if any, or, failing that, the album artist. Useful for singles or for grouping all your tracks by performing artist (if you don't care which album they came from).
<b>[Sort Artist]</b>	This is the sort artist, if any, or, failing that, the album artist. You can use the sort artist for any purpose you like, it has no special meaning to VinylStudio.
<b>[Genre]</b>	The genre you have assigned to the album, if any.
<b>[Composer]</b>	The composer you have assigned to the album or track, if any.
<b>[Conductor]</b>	The conductor you have assigned to the album or track, if any.
<b>[Artist Alias]</b>	The artist alias you have assigned to the album or track, if any. You can use this to enter the album or track artist in an alternative form, e.g. 'John, Elton', which you can then use in the filename of your saved tracks. For files that use ID3 tags (WAV, AIFF, DSF) this is placed in TSOP ('performer sort order') tag. For other file formats, there is no tag for this.
<b>[Lyrics]</b>	The lyrics you have assigned to track, if any. Works only at the track level (i.e. there is no corresponding field for the album itself).
<b>[Comment]</b>	The comment you have assigned to the album or track, if any. Use this for anything you like.
<b>[Year]</b>	The release year of this album, if any.
<b>[Label]</b>	The 'Label' field in the Edit Album Details dialog.
<b>[Grouping]</b>	The 'Content Grouping' field in the Edit Album Details or Edit Track Details dialog.

<b>[File Type]</b>	The file type (e.g. MP3, OGG).
<b>[Discogs Release Number]</b>	The Discogs release number (as looked up from their database), if any.

Inserting a backslash (\) specifies a folder rather than a file name. Thus for example:

```
[Album Artist] - [Track Title]
```

might result in a file called, **The Beatles - Back in the USSR.mp3**, whereas:

```
[Album Artist] \ [Track Title]
```

might generate a folder called **The Beatles** containing a file called **Back in the USSR.mp3**, like this:

```
Music
  The Beatles
    Back in the USSR.mp3
```

### How Singles Tracks are Named

By default, all singles tracks and spoken word material (i.e. those albums where you have told VinylStudio 'This is a single') are grouped in folders by album artist, like this:

```
Music
  <Name of your collection>
    Elton John
      Elton John - Goodbye Yellow Brick Road
      ...
    Elvis Costello
      Watching the Detectives
      ...
    Joe Bloggs
      Interview with the Dalai Lama
      Interview with the Pope
      ...
  ...
```

Again, you can select (or change) this behaviour in VinylStudio's [Settings dialog](#) by clicking on the 'For singles' radio button. Note that, by default, the album title entered is not used when naming the files. It is however included in the files as a tag.

See also: Recording Singles and 78s.

### Where are my Recordings Located?

It is useful to know where your 'raw' recordings are located if you want to back them up or if you would like to move them elsewhere (typically to an external hard drive). By default, VinylStudio stores your recordings in the following folder structure:

```
Recordings
  <Name of your collection>.mcf          -- a file
  <Name of your collection>            -- a folder
    Elton_John~Best_of~side1.wav
    Elton_John~Best_of~side2.wav
    ...
```

Any album art you have downloaded in VinylStudio is also stored in your collection folder (in a sub-folder called artwork).

You can tell VinylStudio where to store your collection when you initially create it and you can open a File Explorer window to display the contents of your recordings folder from within the [Settings dialog](#).

Your collection (.MCF) file stores information about your collection (such as album and track titles), rather than the recordings themselves. MCF files are precious and we recommend you back them up regularly. They are not very large.

If you want to move a collection from one place to another, it is important to maintain the relationship between the MCF file (e.g. **My Collection.mcf**) and the folder containing your recordings (e.g. **My Collection**). The golden rule is that both of these must reside in the same parent folder and must both have the same name.

### What Files does VinylStudio Actually Create?

In addition to your split-up tracks (which are generated on demand), VinylStudio creates, for example, the following files when you record an album (these are the 'raw' recordings of the album):

```
Elton_John~Best_Of~side1.wav (or .aiff, etc)
Elton_John~Best_Of~side2.wav (or .aiff, etc)
...
```

When you scan an album for clicks, the following files are created in addition (these files contain your click repairs; take care not to lose them!):

```
Elton_John~Best_Of~side1.wav.crd (or .aiff.crd, etc)
Elton_John~Best_Of~side2.wav.crd (or .aiff.crd, etc)
...
```

Any album art you have downloaded in VinylStudio will be stored in a folder called artwork located in your recordings folder, e.g.:

```
artwork
  Elton_John~Best_Of.jpg
```

Artwork from other sources is left in whatever folder you saved it in when you acquired it. VinylStudio does not alter or delete these files.

Finally, some files used internally are created in folder vsfiles. VinylStudio can regenerate these automatically so you don't need to back them up (although regenerating the waveform display is rather slow for DSD recordings, so you might like to keep them in that instance):

Elton\_John~Best\_Of~side1.wav.wfd (or .aiff.wfd, etc)  
Elton\_John~Best\_Of~side1.wav.wfo (or .aiff.wfo, etc)  
Elton\_John~Best\_Of~side1.wav.wfs (or .aiff.wfs, etc)  
Elton\_John~Best\_Of~side1.wav.wft (or .aiff.wft, etc)  
...

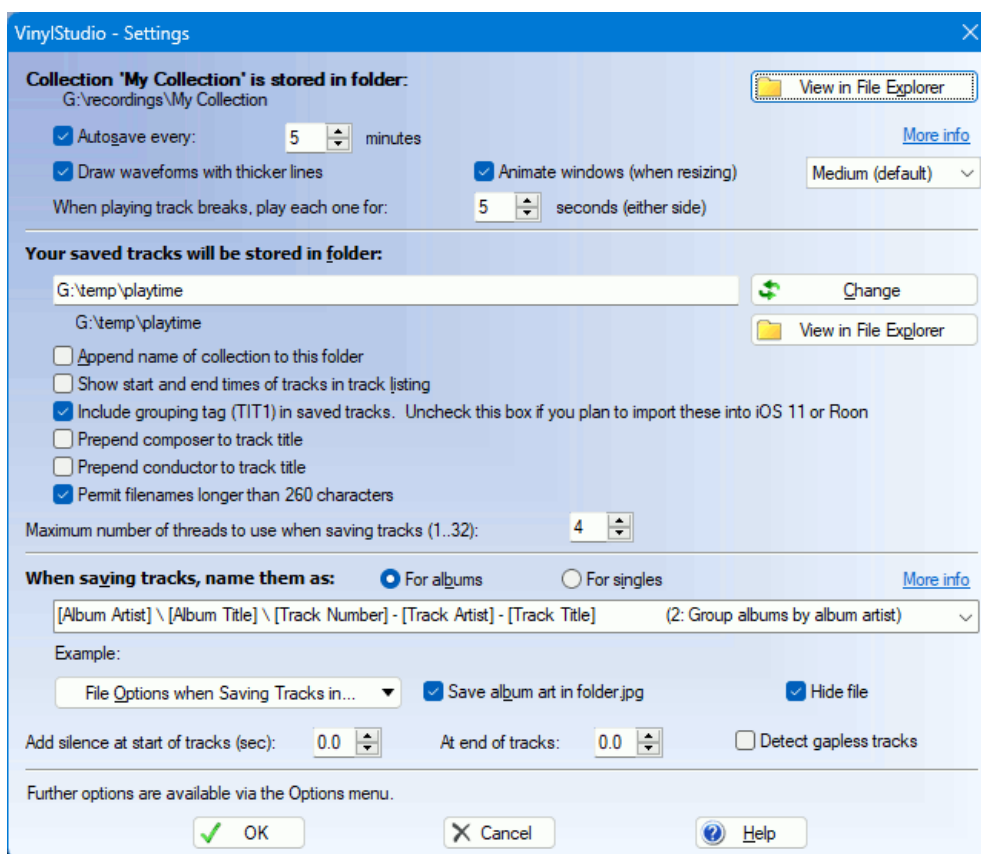
## Archiving your Recordings

You may want to archive some of your recordings to save disk space. You can achieve this by making copies of the recorded WAV (or AIFF, etc) files and the CRD files containing your click repairs as described above. You can then use the 'Remove Recordings' option in the Album menu to delete the original files from your hard disk. It is worth retaining the album itself in your collection as this will allow you to restore the recordings and CRD files at a later date should you wish to work on that album again. If you delete the album from your collection completely, track names and trackbreak information (and any filter settings used) will be lost. Trackbreak information and the like is stored in your MCF (collection) file.

Note that deleting your recordings will also delete the CRD files containing your click repairs, so you should archive those first too. It will also delete the 'waveform' files but VinylStudio can regenerate these automatically so there is no need to back them up (and we recommend that you don't bother).

## Configuring VinylStudio Settings

VinylStudio's Settings dialog gives you a lot of control over where your split-up tracks are stored and how they are named, as well as one or two other things. You can access this dialog via the **Options** menu. You will also find additional, more specialised options under this menu.



Checking the **Autosave** box tells VinylStudio to save your work every few minutes automatically (recommended). When it does this, VinylStudio saves your album and track listings and suchlike in something called an MCF file. We refer to this as your collection file, although your collection also includes your recordings and album art.

**Draw waveforms with thicker lines** applies to the Cleanup Audio window and can make the waveform display easier to read on some monitors.

**Animate windows** performs a simple window animation when moving from one window to another, to help you keep your focus.

**When playing track breaks, play each one for:** applies to the Split Tracks window, and sets the amount of audio that VinylStudio plays either side of each track break when you click the 'Play Track Breaks' button in the toolbar beneath the waveform display.

The **folder in which your split up tracks are stored** defaults to your Music folder, but you can change this here if you wish. By default, VinylStudio creates a folder beneath here with the same name as your collection but you can override this if you wish by unchecking the box.

**Show start and end times of tracks in track listing** affects the list of track names in the Split Tracks window. It is usual to leave this box unchecked to cut down on visual noise.

**Include grouping tag in saved tracks** should be left unchecked in the circumstances shown. Bugs in iOS and Roon cause trouble if you check this box.

**Prepend composer to track title** can be useful for classical music, since some players do not display the composer tag that VinylStudio puts in your saved tracks. **Prepend conductor to track title** can be useful for the same reason.

**Permit filenames longer than 260 characters** is supported on Windows 10 and later, and can be useful if you have very long track titles or deeply nested folders. Please be aware though that not all programs can read these files.

**The way in which your saved tracks are named** can also be configured in a very flexible way. Choose an entry from the dropdown list (recommended) or if you want more control over where the files are stored you can type in a custom string. Please note that albums and singles each have their own separate setting; use the radio buttons to select the item of interest. Changing the setting for albums will make a corresponding change to the setting for singles, as that is generally what is wanted. If not, change the setting for singles subsequently.

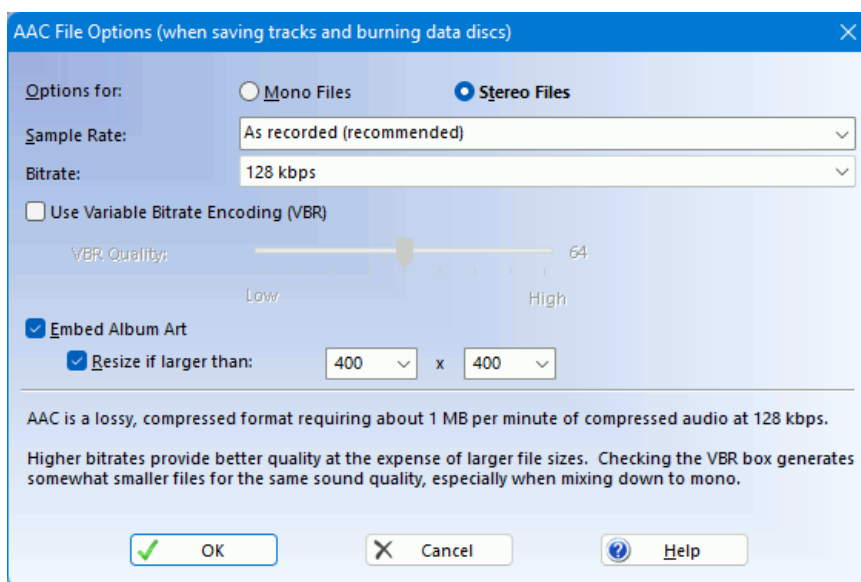
**File Options** for the various file types that VinylStudio supports are listed below in alphabetical order. You can select the file type to configure from the dropdown list which is displayed when you click on the button.

Check **Save album art in folder.jpg** if you want VinylStudio to copy album art to file folder.jpg when saving tracks. Some media players recognise this file and will display it when the track is played and Explorer will show it as a folder icon. Note that this option only makes sense if each album is saved to a separate folder.

**Add Silence:** use these fields to add silence at the start and / or end of saved tracks. If you set these fields, you should eliminate the existing gaps between tracks in the Split Tracks window, possibly fading the tracks in and out if there is a lot of background noise.

**Detect gapless tracks:** if you check this box, VinylStudio will not insert silence across a trackbreak which has no gap between the tracks.

## **AAC (MP4) File Options**



These are the options you can specify when [saving tracks](#) or [burning data discs](#) in AAC format. You can specify separate options for tracks saved in mono ('[mix down to mono](#)') and stereo.

**Sample Rate:** 'As recorded' is recommended, but you can specify something else if you have a reason to. AAC files support a maximum sample rate of 48kHz. We impose this limitation because iTunes cannot handle 96 kHz files.

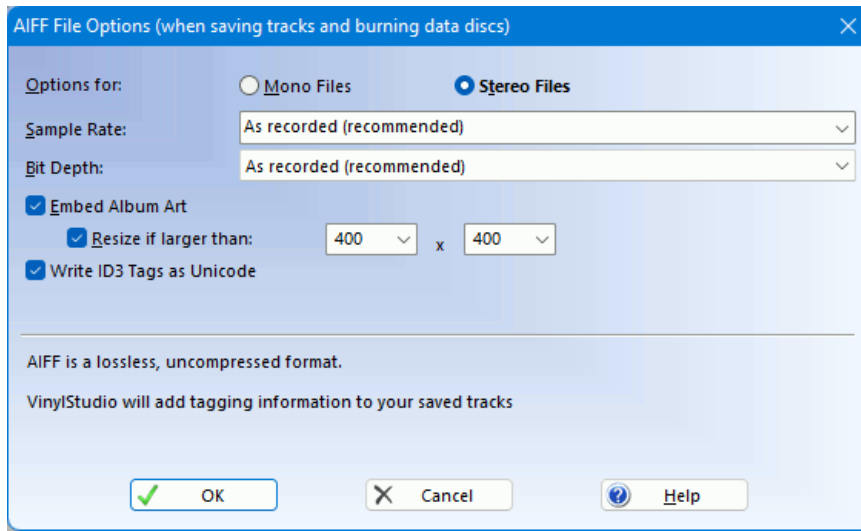
**Bitrate:** 128 kbps is generally regarded as 'perceptually transparent', and will usually suffice. Higher bitrates result in larger files.

**Use Variable Bitrate Encoding (VBR):** This generally results in smaller file sizes for the same sound quality. Recommended.

**VBR Quality:** move the slider to the right for better sound quality (and larger files) when using VBR encoding.

**Embed Album Art:** as described for [MP3 files](#).

## **AIFF File Options**



These are the options you can specify when [saving tracks](#) or [burning data discs](#) in AIFF format. You can specify separate options for tracks saved in mono ('[mix down to mono](#)') and stereo.

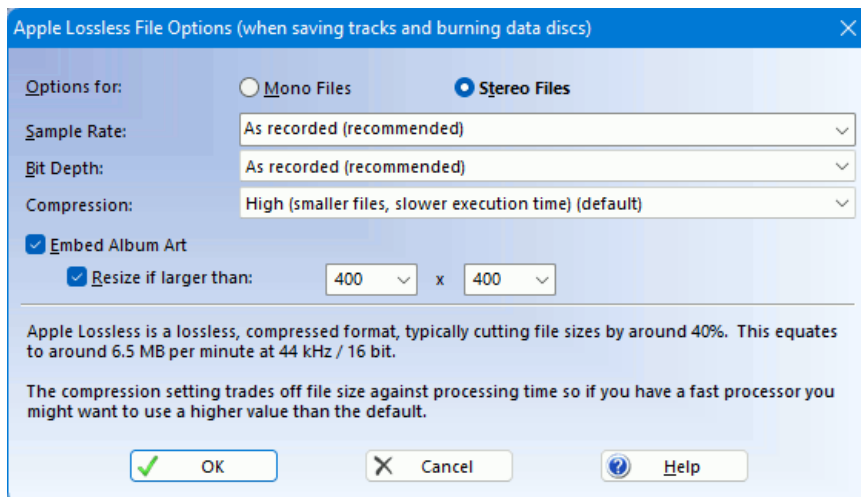
**Sample Rate:** 'As recorded' is recommended, but you can specify something else if you have a reason to.

**Bit Depth:** Again, 'As recorded' is recommended, but reducing the bit depth will reduce file size and that can be useful.

**Embed Album Art:** as described for [MP3 files](#).

**Write ID3 Tags as Unicode:** Use Unicode when writing out the ID3 tags. This gives better results for languages other than English but may be incompatible with some players.

### **Apple Lossless (ALAC) File Options**



These are the options you can specify when [saving tracks](#) or [burning data discs](#) in Apple Lossless format. You can specify separate options for tracks saved in mono ('[mix down to mono](#)') and stereo.

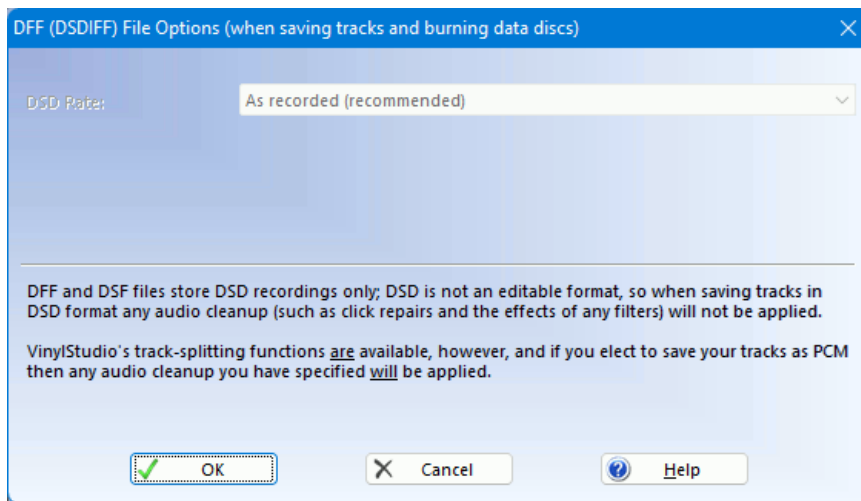
**Sample Rate:** 'As recorded' is recommended, but you can specify something else if you have a reason to.

**Bit Depth:** Again, 'As recorded' is recommended, but reducing the bit depth will reduce file size and that can be useful.

**Compression:** Higher values give slightly smaller files at the expense of longer processing times. Because Apple Lossless files are lossless, this setting does not affect sound quality.

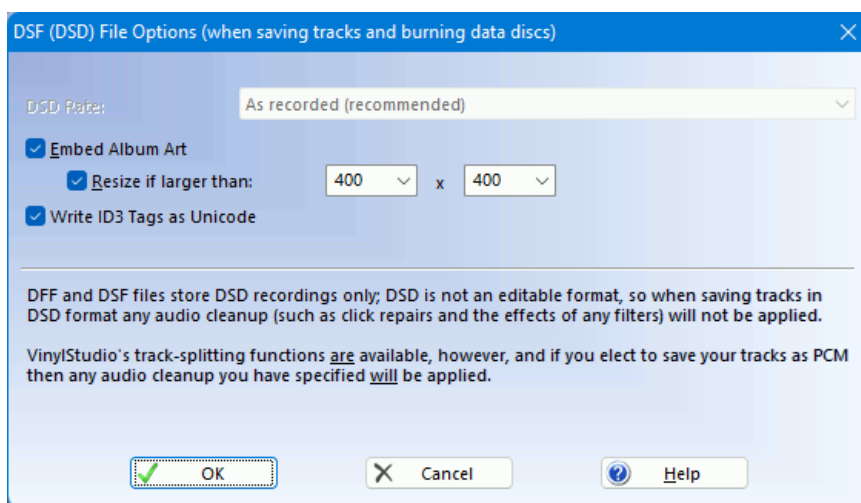
**Embed Album Art:** as described for [MP3 files](#).

### **DFF File Options**



There are no configurable options when saving or burning in DFF format. You get what you get.

### **DSF File Options**

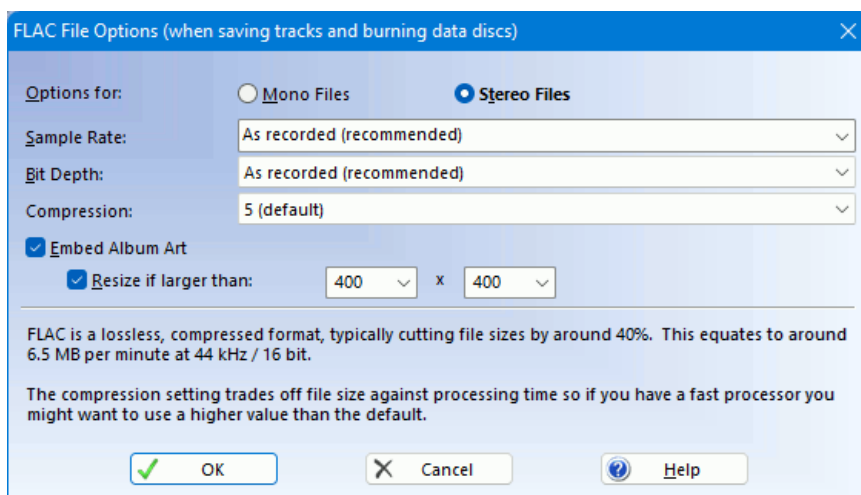


These are the options you can specify when [saving tracks](#) or [burning data discs](#) in DSF format. You can specify separate options for tracks saved in mono ('mix down to mono') and stereo.

**Embed Album Art:** as described for [MP3 files](#).

**Write ID3 Tags as Unicode:** Use Unicode when writing out the ID3 tags. This gives better results for languages other than English but may be incompatible with some players.

### **FLAC File Options**



These are the options you can specify when [saving tracks](#) or [burning data discs](#) in FLAC format. You can specify separate options for tracks saved in mono ('mix down to mono') and stereo.

**Sample Rate:** 'As recorded' is recommended, but you can specify something else if you have a reason to. FLAC files support a maximum

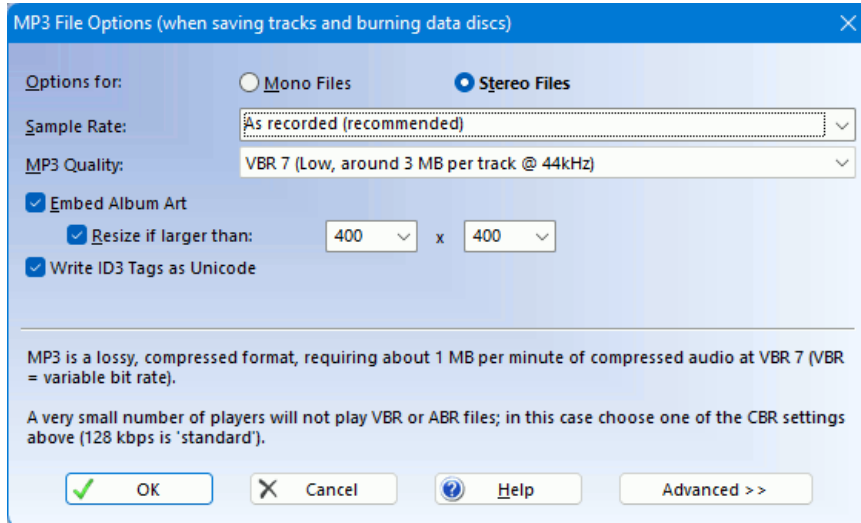
sample rate of 384kHz.

**Bit Depth:** Again, 'As recorded' is recommended, but reducing the bit depth will reduce file size and that can be useful.

**Compression:** Higher values give slightly smaller files at the expense of longer processing times. Because FLAC files are lossless, this setting does not affect sound quality.

**Embed Album Art:** as described for [MP3 files](#).

## MP3 File Options



These are the options you can specify when [saving tracks](#) or [burning data discs](#) in MP3 format. You can specify separate options for tracks saved in mono ('mix down to mono') and stereo.

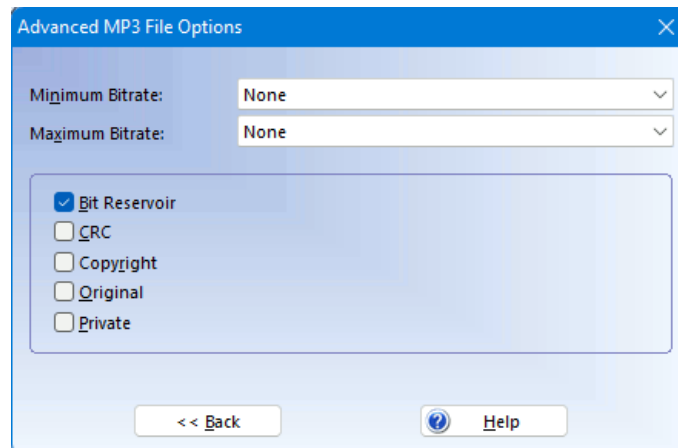
**Sample Rate:** 'As recorded' is recommended, but you can specify something else if you have a reason to. MP3 files support a maximum sample rate of 48kHz.

**MP3 Quality:** This allows you to trade off file size against sound quality. Variable Bit Rate (VBR) format files offer significant advantages over the Constant Bit Rate (CBR) format more commonly used, but a (very) few players have problems playing these. VBR Low is generally a reasonable compromise here, in terms of sound quality vs file size, although use a higher setting if you have space on your device.

**Embed Album Art:** If you have looked up or imported album art for the album you are working on, VinylStudio can embed this in the files it generates when saving tracks. Most players are fine with this but a few may object, so you can disable it by unchecking the box. VinylStudio can also resize the image it stores in the file and it is generally wise to tell VinylStudio to limit the resolution to around 400 x 400 pixels. This does not change the original artwork file in any way.

**Write ID3 Tags as Unicode:** Use Unicode when writing out the ID3 tags. This gives better results for languages other than English but may be incompatible with some players.

## Advanced MP3 File Options



**Minimum Bitrate:** Set the minimum bitrate to use when encoding VBR or ABR files. This is not normally necessary but a (very) few players have problems playing files containing low bitrate frames.

**Maximum Bitrate:** Set the maximum bitrate to use when encoding VBR or ABR files. This is not normally necessary or useful but can reduce file sizes with some types of music (e.g. heavy metal).

**Bit reservoir:** Enabling the bit reservoir improves recording quality somewhat, especially when generating CBR files. Recommended.

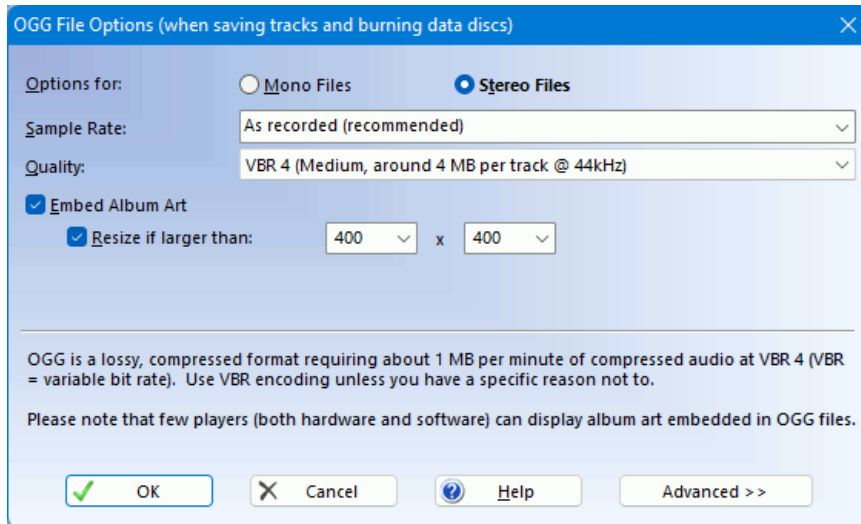
**CRC:** Include a checksum in every MP3 frame. This reduces encoding quality slightly and is not normally necessary (or useful).

**Copyright:** Set the 'copyright' flag in every MP3 frame. This has no other effect.

**Original:** Set the 'original' flag in every MP3 frame. This has no other effect.

**Private:** Set the 'private' flag in every MP3 frame. This has no other effect.

## OGG Vorbis File Options



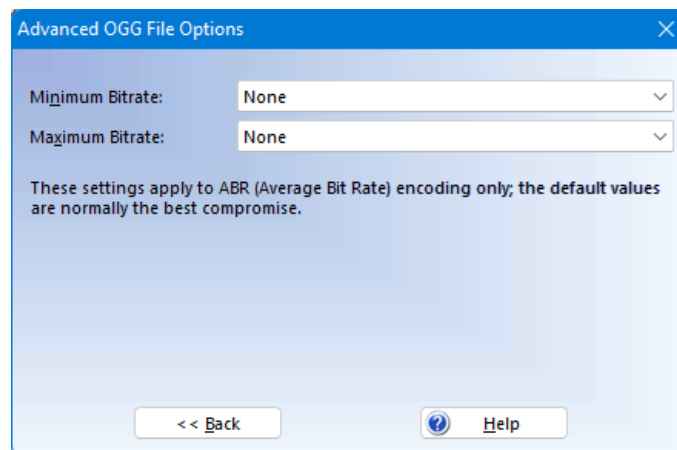
These are the options you can specify when [saving tracks](#) or [burning data discs](#) in OGG format. You can specify separate options for tracks saved in mono ('[mix down to mono](#)') and stereo.

**Sample Rate:** 'As recorded' is recommended, but you can specify something else if you have a reason to. OGG files support a maximum sample rate of 96kHz.

**Quality:** This allows you to trade off file size against sound quality. Variable Bit Rate (VBR) encoding offers better sound quality than Average Bit Rate (ABR) encoding for the same file size, and is recommended. VBR High is recommended when recording as you want, ideally, perfect fidelity and this setting comes close. VBR Low is generally a good compromise when saving tracks or burning CDs.

**Embed Album Art:** as described for [MP3 files](#).

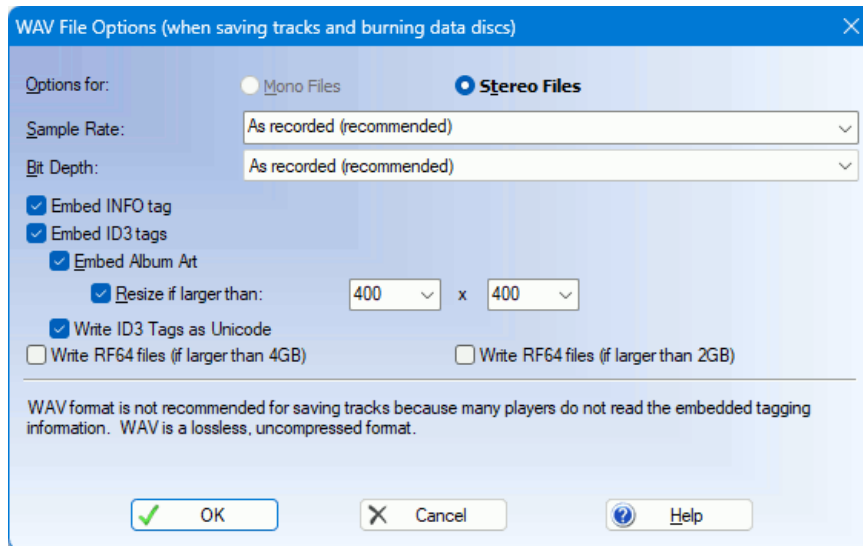
## Advanced OGG File Options



**Minimum Bitrate:** Set the minimum bitrate to use when encoding ABR files. This is not normally necessary or useful.

**Maximum Bitrate:** Set the maximum bitrate to use when encoding ABR files.

## WAV File Options



These are the options you can specify when recording to, converting to, or saving tracks in WAV format. When saving tracks you can specify a separate set of options for tracks saved in mono and stereo. Not all players can read the tagging information or album art that VinylStudio puts in WAV files, and not all players can play RF64 files.

**Sample Rate:** When recording, 44kHz is recommended as this provides the best results when burning CDs and is generally more than adequate for digitising records and tapes. When saving tracks, sample rate 'as recorded' is normally what you want but VinylStudio can convert your saved tracks to a different sample rate if desired. Lower sample rates give smaller file sizes but you will lose some treble. Converting to higher sample rates generally serves no useful purpose.

To record DSD, select DSD standard rate (strongly recommended) or DSD 2x double rate, although VinylStudio will normally set this automatically.

If you have an ADC capable of supporting DSD over PCM and you wish to record in DSD format, select DSD in this dropdown.

**Bit Depth:** The number of bits per sample in the output file. 16 bits per sample is normal. Higher bit depths generate larger files and take longer to process but give a wider dynamic range if you have a 20 or 24 bit sound card or other audio device.

**Embed INFO tag:** Embed tagging information as an INFO tag. Not many players read this tag and it cannot include album art.

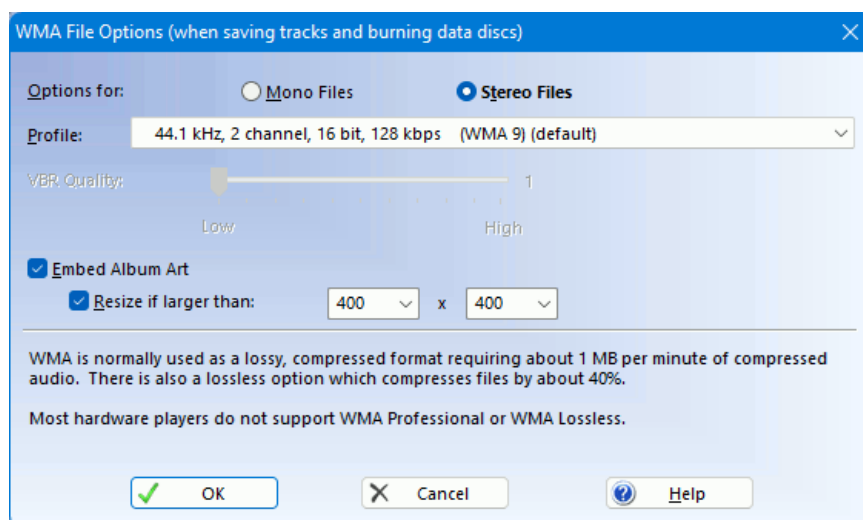
**Embed ID3 tags:** Embed tagging information as ID3 tags. This can include album art.

**Embed Album Art:** as described for [MP3 files](#).

**Write ID3 Tags as Unicode:** Use Unicode when writing out the ID3 tags. This gives better results for languages other than English but may be incompatible with some players.

**Write RF64 files (if larger than 4GB):** If you check this box, VinylStudio can write WAV files larger than 4GB (so-called RF64 files). Not all players can read these files, but if none of your files are larger than 4GB in size then this is unlikely to be a problem because VinylStudio will write out regular WAV files with a small padding chunk. The 2GB box can be useful for players which can only handle 2GB WAV files (although this is very rare these days). Please note: this requires [VinylStudio Pro](#).

## WMA File Options



These are the options you can specify when [saving tracks](#) or [burning data discs](#) in WMA format. You can specify separate options for tracks saved in mono ('mix down to mono') and stereo.

**Profile:** A dropdown list of what the available codecs installed on your machine can do. Note that most budget hardware players do not support WMA Professional or WMA Lossless.

**VBR Quality:** Move the slider to the right for better sound quality (and larger files) when using VBR encoding.

**Embed Album Art:** as described for [MP3 files](#).

## **Miscellaneous**

### **Limitations in VinylStudio Lite**

VinylStudio Lite is intended to record, split tracks and burn audio CDs. The audio cleanup tools are functional but you will not be able to burn corrected (i.e. cleaned up) audio to CD.

The following other features are also unavailable:

- saving tracks as audio files
- burning MP3 CDs
- burning DVDs
- exporting track listings (for creating CD covers)
- recording to FLAC, CAF or Apple Lossless format
- 'batch' functions

To do these things you must upgrade to either VinylStudio Standard or [VinylStudio Pro](#), which you can do from VinylStudio's Help menu.

The version of VinylStudio Lite supplied with the NAD PP-3 or PP-4 can only record from those devices via the USB port. If this causes you a problem, please get in touch. It can, however, export track listings for creating CD covers.

### **Purchasing and Registering VinylStudio**

VinylStudio is shareware, and you can download a trial copy from [www.alpinesoft.co.uk/VinylStudio](http://www.alpinesoft.co.uk/VinylStudio). The trial copy will record a maximum of 5 albums. You can obtain a license key which unlocks the software for a modest fee by selecting **Register** from the **Help** menu within VinylStudio.

### **Support and Feedback**

If you encounter a problem with VinylStudio, or if you have any comments or suggestions, you can get in touch with us by selecting **Support and Feedback** from the **Help** menu within VinylStudio, or you can contact us through our website.