

## How to get started making audio for the web



The following information has been prepared in order to try and offer helpful and constructive advice but nothing can substitute for ensuring for yourself that you are operating sensibly, obeying all the manufacturers instructions and consulting with all the responsible bodies including your own Health and Safety officials. Neither SchoolsRadio.com nor any of its officers can be held responsible for any eventualities following this advice.



## Contents:

### 1. Introduction

Making audio programmes is simple and easy. This 'Getting Started' guide will take you through the basic process step by step. No specialist equipment is needed only basic knowledge, creativity and enthusiasm.

### 2. What you will need

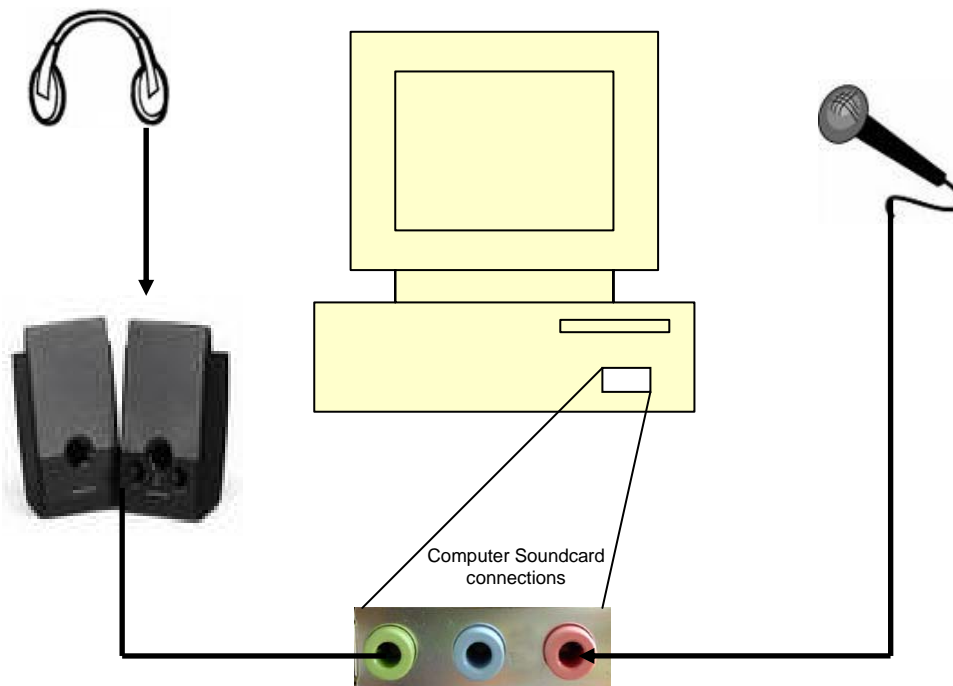
The minimum you will need to start recording an audio programme for the web is the following:-

- **A PC or Mac computer with a soundcard installed that has a microphone input and headphone output.**
  - Most PCs sold in the last few years will have the necessary facilities as standard.
- **A pair of headphones**
  - Headphones are essential and will be used to listen to the audio as it is being recorded. A pair of 'closed' headphones costing around £30 will be perfectly adequate. Closed headphones, as opposed to open headphones, reduce the amount of sound that escapes from the headphones and lessens the possibility of feedback into the recording microphone. The headphones will need to be plugged into the loudspeaker's headphone socket. This will mute the loudspeakers whilst the headphones are plugged in. You will need to ensure that you have the correct plug on your headphones, usually a 3.5mm jack plug. Adapters are available if required.
- **A microphone**
  - A microphone costing less than £30 is likely to provide a poor quality recording and is a false economy.
- **A pair of loudspeakers connected to the computer.**
  - Loudspeakers are not essential, assuming you have headphones, but will allow others to share and experience the audio production process. As with microphones and headphones, the more you spend the better the quality. Aim to spend a minimum of around £20 for a pair of PC speakers. You need to ensure that they are powered speakers (i.e. they have their own built in amplifier) and that they have a headphone socket on the front of one of the speakers.
- **Audio editing software**
  - The tutorials within this document were completed using the Audacity audio editing software which is available free of charge from <http://audacity.sourceforge.net/>. There are many other audio editing packages available and the majority work in a similar fashion to Audacity.
- **An internet connection**
- **A web site which can host audio files.**

### 3. Getting Going

#### a. Connecting it all up

The diagram below shows how to connect the equipment:-



*Figure 1. Connecting it all up*

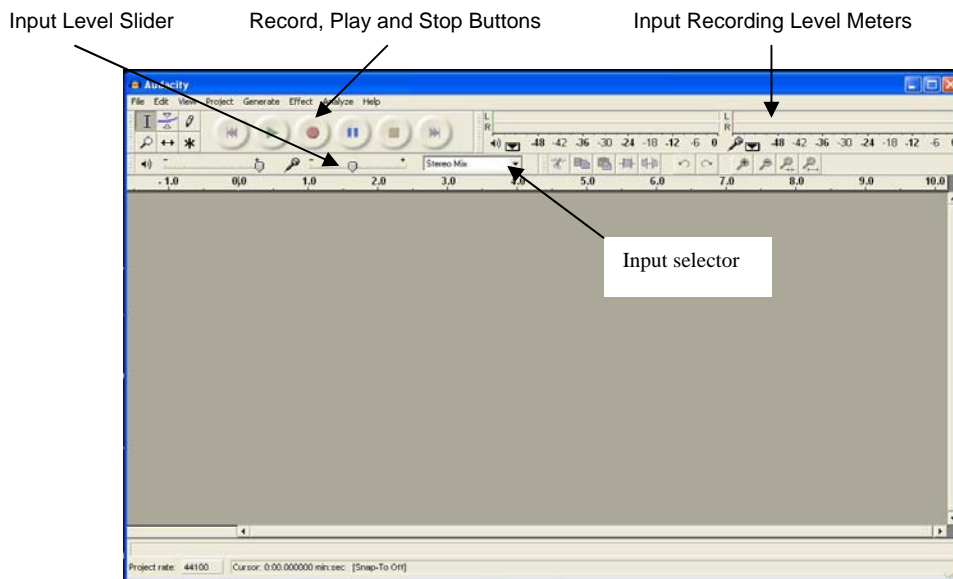
Should the PC not have coloured connectors then the microphone input usually has a symbol which shows an arrow going into a circle and the loudspeaker output has an arrow pointing out of a circle. The blue socket is for 'line' level inputs, e.g. the output of an MP3 or mixing desk.

#### b. A first recording

With everything connected as shown above, and Audacity (or similar) running you are ready to make your first recording.

Using the headphones (making sure the volume is turned down quite low until you know how loud the input is going to be) select the 'Microphone' input from the Audacity input selector.

Press the 'Record' button and you should be able to see, and hear, the output of the microphone. The level of the recorded sound is shown on the meters. Adjust the input slider so that the levels in the meters peak around the -6, if the levels hit the 0 level then the sound will be distorted, see Figure 2.



*Figure 2. Audacity basic record functions*

When the presenter has finished speaking press the Stop button. By using the Play, Stop, Fast Forward and Rewind buttons you can listen to what has been recorded.

Assuming you are happy with your first 'take' then save your work (select 'Save Project As' from the File menu) and then you can:-

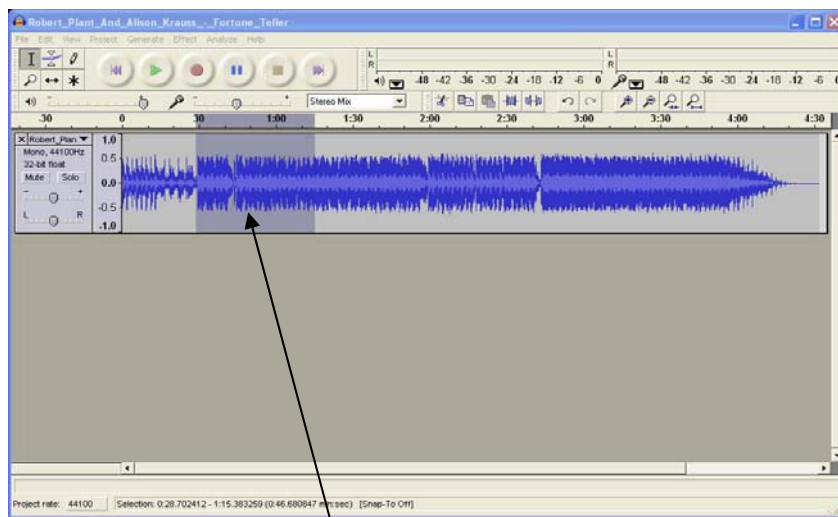
- Record some more audio.
- Delete this audio and start again.
- Edit this audio, taking out any coughs or pauses etc, to generate the final audio file.
- Export the audio from Audacity in either WAV or MP3 format ready to upload to the web.

### c. Editing the audio

Once the audio is captured you can edit the recording to produce the desired final file.

You may want to unplug the headphones and use the loudspeakers for this stage.

To remove unwanted sections of the recording (e.g. coughing) simply highlight the unwanted section of the waveform using the mouse and then press Delete, as you would in a word processor when deleting a word, see Figure 3.



Selected audio ready for deletion

*Figure 3. Audacity basic editing*

Once you have the basic 'clean' voice you may wish to add other recordings or sound effects. Audacity allows you to Import audio files and record new audio files, both selected from the Project menu option. Individual tracks can then be edited and moved in time relative to one another in order to build up the completed project.

### d. Tips for a good recording

Hold the microphone approximately 5cm away from the subject mouth. This will ensure that the effects of the room, e.g. the reverberation you would find in a sports hall, and extraneous noises are kept to a minimum.

Don't blow into a microphone to test if it is working, this can damage the microphone. Test the recording levels by speaking as you would during the recording.



#### **4. Getting more adventurous**

##### **a. Multiple microphones**

Using one microphone can be rather limiting, especially if you want to record multiple subjects, or audio inputs, at the same time, e.g. drama or a radio station studio situation. You could record each subject individually and edit them together in Audacity or you could invest in an audio mixing desk and have more than one microphone.

Mixing desks come in all shapes, sizes and budgets and your choice will be dependant on the intended use. It is recommended that you seek some expert guidance before investing as the wrong choice at this stage could limit your creativity.

##### **b. On location recording**

Recording audio away from your main production computer is perfectly possible, e.g. interviewing subjects at Sports Day. Many MP3 players and mobile phones have the ability to record audio and most of these have in-built microphones.

Once back at the main production computer the audio can be loaded into the computer as a file (via a USB cable) and then imported into Audacity or played into Audacity, as audio, via the computers 'Line In' socket ( the blue socket in Figure 1), selecting the relevant input from Audacity's input selector. The audio can then be edited as described earlier.

#### **5. Uploading to the Web**

Once you are happy with your work you need to convert it from the Audacity project format to a file format that can be used on the web, e.g. .WAV or .mp3.

For WAV files it is simply a case of selecting the 'Export as WAV' from the file menu and providing a file name and location.

To export as an MP3 file Audacity requires an additional piece of software. The instructions for installing the MP3 export software can be found here:-

[http://audacityteam.org/wiki/index.php?title=Lame\\_Installation](http://audacityteam.org/wiki/index.php?title=Lame_Installation)

Once you have your file in the required format it can be uploaded to your chosen web site. There are many web sites that are designed to share audio and, before uploading, it is recommended that you follow any relevant local guidelines.



## 6. Rights and Regulations

Just because you own a CD or have legally downloaded a music track does not mean that you can include its content in your programme. The copyright still belongs to recording artists, the composer, lyricist and musicians. Equally if you want to record the performances of your school choir or the sixth form heavy metal band you will have to ensure that you have the appropriate permissions. You can find out a whole lot more from [www.ppluk.com](http://www.ppluk.com) and [www.prs.co.uk](http://www.prs.co.uk).

Also remember that you are not allowed to broadcast untruths about other people or organisations and if you damage their reputation then you might have to pay damages.

There are no restrictions on uploading to the Internet, that is why we recommend this as a first step. However if you want to start broadcasting using a transmitter then you will need a licence. You can get more information from [www.ofcom.org.uk](http://www.ofcom.org.uk).

## 7. Health and Safety

*Headphone volume levels* - Far too many DJs suffer from significant loss of hearing in later life. This is entirely unnecessary but stems from playing music too loudly through headphones. It will be worth talking to your local Health and Safety officer about this issue. You may decide that the installation of equipment designed to limit headphone volume may be an appropriate course of action, see section 8 for further information.

## 8. Other Useful Information

Audacity User Manual can be found at:-

<http://audacity.sourceforge.net/help/audacity-manual-1.2.pdf>

Hints and tips for using Audacity can be found here:-

<http://audacityteam.org/wiki/index.php?title=Tips>

Headphone volume limiting equipment can be found at:-

<http://www.canford.co.uk/Browse/4616.aspx>

<http://www.tonywoolf.co.uk/hp-limiters.htm>

[http://www.glensound.co.uk/Headphone\\_Amps.htm](http://www.glensound.co.uk/Headphone_Amps.htm)