



Composers' Desktop Project

CDP: Composers' Desktop Project Ltd. – A Social Enterprise
48 Ladysmith Road, Plymouth, Devon PL4 7NL England
Tel.: 01752 965086 cdpse9@gmail.com www.composersdesktop.com

CDP Installation Notes - PC

~ Installation of the CDP System on PC ~

The Installation

This installation of the complete CDP System for PC computers is contained in separate zip files, one for *Sound Loom* (which includes the software executables), one for the Documentation, and one for the *Soundshaper* GUI. All of these are downloaded *via* the CDP Download site. Other key sites are listed for your information.

The CDP Download site is <https://www.unstablesounds.net/cdp.html>

Robert Fraser's Download site is: <http://www.ensemble-software.net/dloads.html>

Trevor Wishart's Website is <http://www.trevorwishart.co.uk>

Richard Dobson's Website is <http://www.rwdobson.com>

The CDP Forum is: <https://www.unstablesounds.net/cdpforum>

Prepare

The installation procedure should follow a certain order, so please carry out the following steps carefully and in order.

If you already have *CDP-InstallationNotesPC.pdf* (this document) and *CDP-Check_Installation-PC.pdf* (so that you can familiarise yourself with where to find everything after installation), please read the Installation document first / print it out so that you will have all the installation steps to hand.

If you do not already have the Installation Documents, please DOWNLOAD ***InstallationDocsPC-MAC.zip***. The installation instructions for both PC and MAC are included in this zip file.

Step 1

Download ***SoundLoom1704_PC.zip***, e.g., to your **downloads** folder. – Having first created the directory **cdpr7** on the top level of C: (or any other drive of your choice), unzip to **cdpr7**. This places the folder **_cdp** inside **cdpr7**.

The folder **_cdp** contains the subdirectories and executable for *SoundLoom* (*soundloom.exe*, which is currently version 1.7.04, and as a backup, the previous version *soundloom1703.exe*). The subdirectory **_cdprogs** contains all of the CDP executable programs, currently Version 711 as well as the contents of the **SoundLoom Data Pack**. The reason to unzip to a top level folder is so that that paths will be as short

as possible; otherwise you may be unable to see the full filename of a soundfile when located at the end of a (long) path.

Step 2

Download *CDPR711documentationPC-MAC.zip*. Unzip this to **cdpr7**. You will now see the index to the Reference documentation, *index.html* in **\docs** and some other generally useful documents. The files for the complete CDP Reference Documentation are in **\docs\html**, and the various Tutorials for the CDP software are in **\docs\htmltuts**. There are a number of CDP demos in **_docs\demo** which form a useful introduction to the software. You will find a comprehensive listing of what these folders contain in *CDP-Check-Installation-PC.pdf*.

Robert Fraser's new **CDP Guide** is already installed: **\docs\guide\cdpguide.html**. Three additional tutorial workshops of a more advanced nature can be downloaded from the CDP Website, as well as the *NEW A Learning Manual for CDP* by Archer Endrich. In future, check Robert Fraser's Website for updates. The Reference Documentation can be accessed directly on his Website if you are online, using *Soundshaper* and have **Options->CDP Online Docs** ticked. **NB:** The **\doc** folder also has the file *Manualconfig.pdf*, which is only needed by MAC users.

Step 3

Download *SoundshaperFULL.zip*, the *Soundshaper* GUI by Robert Fraser. This link takes you direct to Robert Fraser's Website so you are sure of getting the latest version. Updates can later be downloaded from this site as well.

Unzip *SoundshaperFULL.zip* to **cdpr7** (this folder should come up as the default destination when you unzip); otherwise browse to your chosen destination.

This creates the folder **Soundshaper5** which contains four subdirectories, *bass.dll*, five ProcessGrid files and *Soundshaper5.exe* (Shortcut recommended). The **Soundshaper5\docs** folder contains various informative files about *Soundshaper* and how it works. It does *not* contain the *Soundshaper* Manual.

The latest *Soundshaper* Manual at the time of writing has been revised for *Soundshaper5.09* (October 2021) and is included in the CDP Documentation download. After unzipping the CDP Documentation, you will find the *Soundshaper* Manual in **cdpr7\docs\Soundshaper**; the index is *MANUAL.html*. This Manual is normally accessed from the *Soundshaper* GUI. You should occasionally check Robert Fraser's Website for Manual updates.

YOUR INSTALLATION IS COMPLETE. THE REST OF THIS DOCUMENT PROVIDES INFORMATION TO HELP YOU UNDERSTAND THE CDP SYSTEM AND GET STARTED.

About Configuring *Soundshaper*

For your immediate information, you should know that *Soundshaper* comes with a default configuration: *Soundshaper.cfg*. This should work as is if you have installed to the standard CDP setup with the root directory as C:\CDPR7.

If you need to customise the *Soundshaper* settings for your personal use, you can do this *via* the **Options -> Settings** buttons in *Soundshaper*. A synopsis of the basic information is provided in the section below

titled 'About the Path to the Programs' (pp.4-6). A complete description of how to do this is available in the *Soundshaper Manual* -> **OTHER PAGES** -> **Settings**.

The essential paths that enable *Soundshaper* to find programs and documentation are:

- For the CDP programs: **C:\CDPR7_cdp\cdprogs** (the drive and name of the root directory can be different, but need to populate the various fields of the configuration file.)
- For the Help documentation (both CDP Reference and the *Soundshaper Manual*): **C:\CDPR7\DOCS**

(Help is accessed via the **Help** button on *Soundshapers* main navigation bar.)

Overview of the System

After you unpack your downloads, this is an overview of what you should see:

\cdpr7 folder created in your home directory, inside which will be:

_cdp and its subfolders. This is the main CDP environment, with the CDP executables in '_cdprogs' and the required *SoundLoom* files in the other folders.

\docs containing

The **CDP Welcome 2020**, and backup copies of the **Installation Notes** and **Check_Installation** pdfs. /docs also contains **index.html**, the link to the Reference Documentation, **SLguide-basic.pdf**, an introduction to the operation of *Soundloom*, and **twSoundLoomGuide.pdf** - Trevor Wishart's comprehensive guide to the CDP System as run from his *Sound Loom* GUI. There is also some information about Release 6 and Release 7 programs. **Manualconfig.pdf** relates to MAC systems.

See **CDP-Check_Installation-PC.pdf** for a full run-down on the contents of the various folders. This has been prepared both as a way to check if your installation 'looks right' and as a way to see at a glance what the CDP System contains.

There are two new documents that may be of great use to those exploring the CDP software for the first time or seeking to gain additional fluency. These are *CDPguide* by Robert Fraser and *A Learning Manual for CDP* by Archer Endrich. The former is included in the CDP Documentation download and the latter can be downloaded from the CDP Website (ca 360+ Mb as it has many sound examples).

About the Path to the Programs

Your CDP paths are very likely to be set up properly already. This section is provided for your information so that you can understand what's going on behind the scenes and know how to create customised settings.

Again, I recommend installing on the top level of C: (or another Drive). Thus the path to the CDP programs will begin **C:\cdpr7\...** However, you can **place and name** the main CDP folder as you wish — just make sure that the correct path is set as described below.

PATHS 1. THE PATH FOR *SOUNDLOOM*

For the *Soundloom* GUI the location of the CDP executables is automatically set to

C:\cdpr7_cdp_cdprogs

If you need to change this, for example if your CDP root directory has a different name or location, you are best advised to do this from within *SoundLoom*:

System State (top right corner) -> **SYSTEM SETTINGS 2** -> **SET DIRECTORY for CDP PROGRAMS**

If absolutely necessary, you can edit *execloc.cdp* – **cdpr7_cdp_cdpenv\execloc.cdp**

PATHS 2. THE PATH FOR COMMAND LINE USE

You may choose to run the CDP programs from the Command Line Interpreter ('CLI'). This is especially powerful if using batch files, but is also useful to check the operation of a program independently of the GUIs. The Command Line Interpreter on PC is **cmd.exe**, which can be found in **C:\Windows\System32**. A desktop shortcut is recommended OR put a copy of **cmd.exe** in the folder where you will be working so that it will be active in that directory.

To get the Command Line interpreter to find the CDP executables *from any location*, add the path to the CDP executables to the PC System Path. The System Path is accessed via the **Control Panel: System -> advanced system settings -> environment variables -> system variables** (edit to add the CDP path according to your CDP setup).

- **Pre Windows 10** – the path should be added to the existing path (ensure that there is a semicolon after the previous item), start with the Drive name and place a semicolon at the end of the CDP path: for example, **C:\cdpr7_cdp_cdprogs;**
- **Windows 10** – the various path items are placed on separate lines, starting with the Drive name, but omitting the semicolon at the end. Right-click the Windows icon (bottom left) and go to **System -> Advanced system settings -> Environment variables -> System variables**.

Setting the **wav** sound extension in the '**User variables for owner**' section of PC environment variables is no longer needed for Release 7.1 and above (the current installation is actually 7.11). For your information 'just in case', the variable is '**CDP_SOUND_EXT**' and the value is '**wav**'.

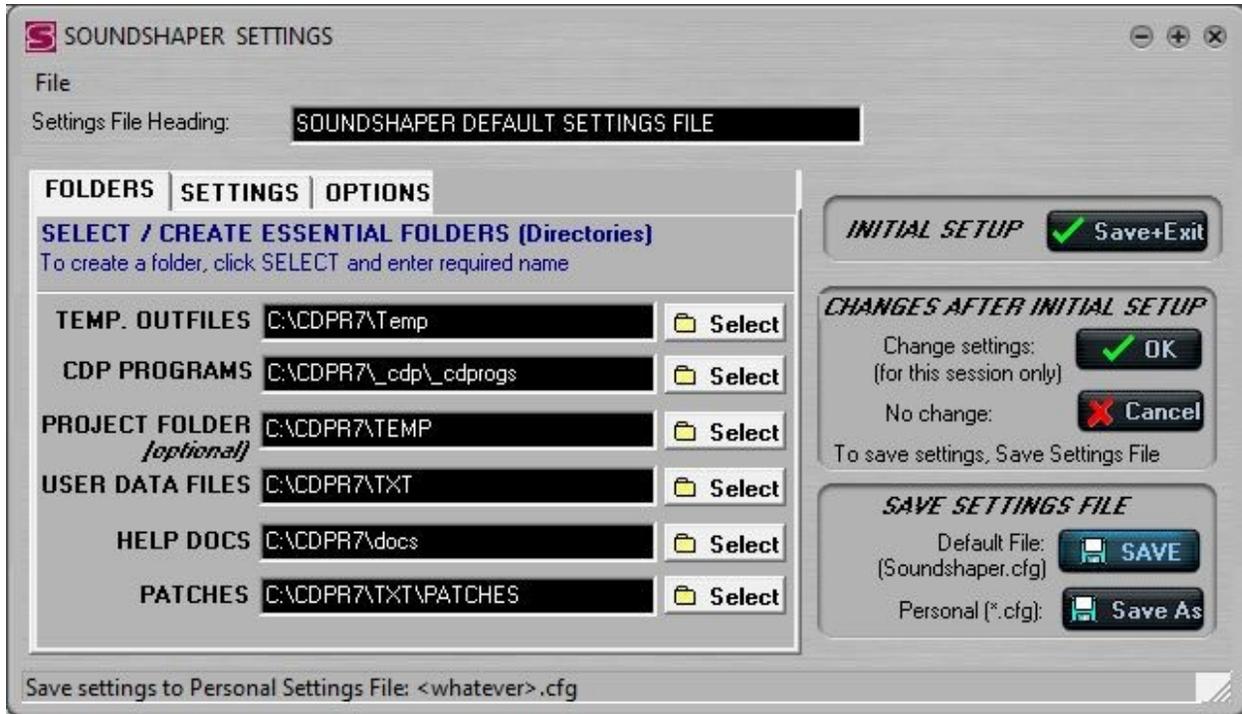
Having the CDP path set in the PC system like this gives you complete control.

PATHS 3. THE PATH FOR *SOUNDSHAPER* (and some notes about how I (AE) use the system)

The *Soundshaper* GUI has an environment settings file; The Default is *Soundshaper.cfg*. If you have the older **.evt** configuration files, you can just change the **.evt** to **.cfg** and it can be used with Version 5.07 and beyond. If you are updating from a previous version, *Soundshaper* will automatically update your old Default **.evt** file to a **.cfg**. You can also create additional customised **.cfg** files (see below), these files can be any name plus (as of Version 5.07) a **.cfg** extension, but retain the Default *Soundshaper.cfg* because *Soundshaper* will always read this Default file first to ensure that certain settings are in place. You can then select your own customised **.cfg** file.

When you first open *Soundshaper* you will be asked about where your programs are etc — all to do with setting paths. When you finish answering these questions, the Default configuration file will be updated accordingly. (You may or may not have changed the paths.) Then click on the **INITIAL SETUP Save+Exit** button.

Here is a screen of the Default *Soundshaper.cfg* provided with the download as set up when the main directory is **\cdpr7**.



[SShDefaultcfg.jpg]

Here is what the various entries mean:

- **TEMP. OUTFILES** **C:\cdpr7\TEMP** - where the soundfiles that you create are placed. You can go to Open a soundfile and it will be there, showing that both infiles and outfiles will be in TEMP if your Project Folder is also TEMP.
- **CDP PROGRAMS** - **C:\cdpr7_cdp_cdprogs** - the all-important path to the CDP executables
- **PROJECT FOLDER** **C:\cdpr7\TEMP** - set as the current working directory
- **USER DATA FILES** **C:\cdpr7\TXT** - *Soundshaper*-created text files are placed in variously named sub-folders of TXT. These folders are not empty; they already have files for default values. When you create a supplementary breakpoint or textfile within *Soundshaper* for a particular process, *Soundshaper* saves it to a sub-folder of **\txt** with that process name. For example, a TEXTURE note data file will go to **\txt\texture** and you will be able to find it there. In this way *Soundshaper* assembles all the supplementary files you have created for a particular process.

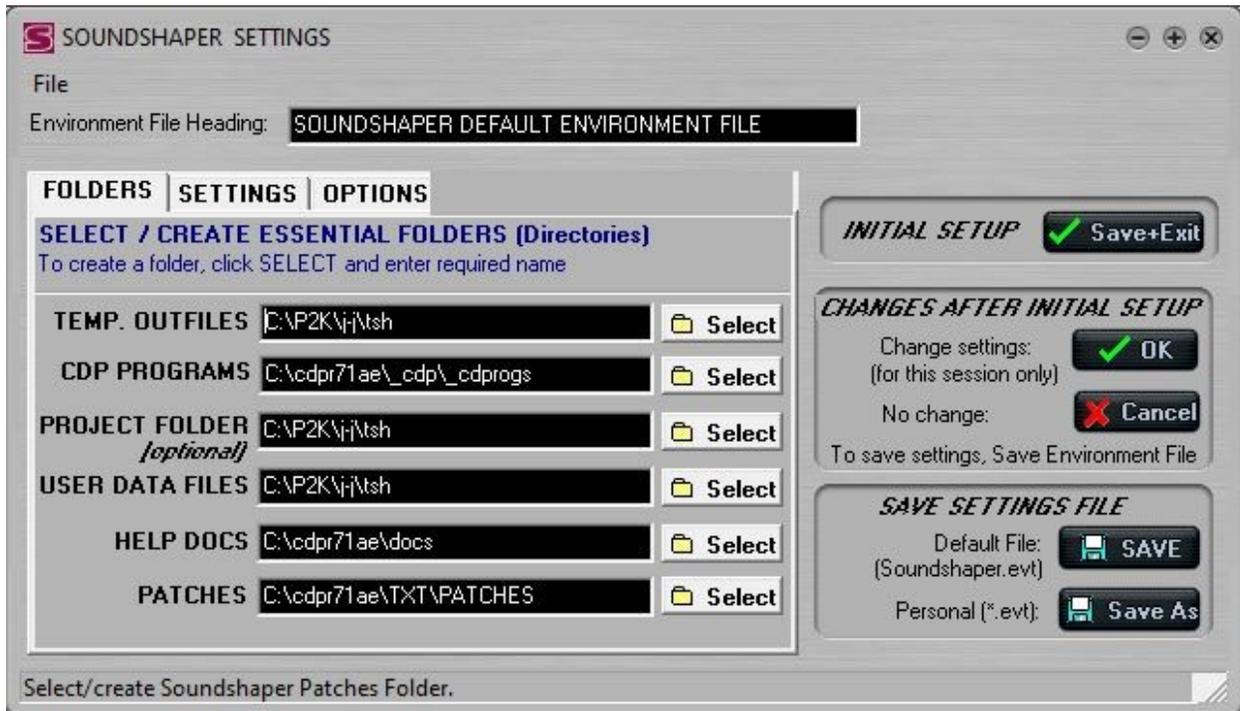
- **HELP DOCS** C:\cdpr7\docs – This will enable access to both the CDP Reference Documentation and the *Soundshaper Manual from within Soundshaper* Go to the *Soundshaper Help* button (top right on the main navigation bar).
- **PATCHES** C:\cdpr7\TXT\PATCHES - these are processes as run on the *Soundshaper* Grid and are saved with the name of the source sound and the parameter values used. They are the *Soundshaper* equivalent of command line batch files.

The Personal (customised) configuration files option

The configuration file can be accessed in *Soundshaper* via the **Options>Settings** menu item; you will notice that at the bottom of the dialogue there is a **Save As** button for '**Personal.cfg**'. This means that you can create your own versions of the configuration file for special purposes. It is my (Archer) practice to create a number of Personal configuration files when I'm working on a major project, e.g., one for source soundfiles and their initial transformations, one for the transformations of particularly important source files, one for mixes, etc. I set the TEMP OUTFILES, PROJECT FOLDER and USER DATA FILES to my current project working directory and name soundfiles and related data files *with the same root* so that I can easily relate them and recall them for future editing. But that's just one way of handling this very adaptable environment.

Hint: You can make the list of available configuration files come up when you open *Soundshaper* by going to **Options > Settings** , and then select the **OPTIONS** tab and tick **Alternative Settings**.

Below is a screen of a customised configuration file. This one is for processing the 'tsh' source sound (a 3' x 6' thunder sheet). I set *Soundshaper* to the **\j-j\tsh** folder to that I could easily load and save soundfiles related to the transformations of tsh.wav (a thundersheet source file). I use lots of different configuration files when working on a big project and copy final versions of sounds to a **\mix** folder for mixing.



[SShArcherTshCFG.jpg]

Hint: Because CDP uses a number of different types of file, each with their own extension, it is very useful to have *file extensions visible* on your PC so that you can tell at a glance what type of file you are looking at. To show file extensions, go to **Tools -> Folder Options -> View** tab and ensure that 'Hide extensions for known file types' is *not* ticked. (There is a list of the various CDP file extensions at the end of the *CDP Desk Reference* in **C:\cdpr7\docs\DeskReference**.)

I tend to prepare my supplementary breakpoint and text files with a text editor beforehand and then open them in a *Soundshaper* process dialogue. This way they stay inside my chosen directory. It might be more usual to create them within the GUI, in which case they are normally stored in the subdirectories of \TXT. It is best to start with *Soundshaper's* way of doing things, and perhaps work with a method such as mine later, if it seems appropriate. A quick way of creating a text or breakpoint file is to write one line, then highlight it and save it to the clipboard, duplicate it (Control-V paste) and then edit the duplicates. This can save a lot of typing. Thoughtfully designed breakpoint and text files greatly enhance results.

***Soundshaper* Upgrades and Updates**

You may want to check at various times whether there are any Upgrades or Updates for the *Soundshaper* GUI. To do this, please go to <http://www.ensemble-software.net/dloads.html> and follow the instructions provided. This is likely to be updated more regularly than the CDP Downloads page. I hope that this document and **CDP-Check_Installation-PC.pdf** will have made you sufficiently comfortable with the CDP setup so that you will easily be able to place the new files in their proper locations. The same is true of *Soundloom* and any documentation updates that might come through. You are recommended first to rename your existing *Soundshaper* and or *Soundloom* GUI before putting in the new one, so that you will have a fall-back.

Some Hints for Getting Started

This section is provided for overall user orientation, to help you get started.

Optional ways to run the CDP software / key manuals

The CDP Software can be run *via* the *Soundshaper* GUI, the *Soundloom* GUI, or the Command Line Interpreter (**cmd.exe** as above). For the CDP Reference Documentation, create a Shortcut for **C:\cdpr7\docs\index.html**.

The manual for *Soundshaper* is *MANUAL.html*, which is located in **cdpr7\docs\Soundshaper**. The manual for *Soundloom* is *Sndloom.htm* which is located in **\cdpr7\docs\html**.

For *Soundloom* you are recommended to start with my *SLguide-basic.pdf* located in **\cdpr7\docs** — this explains the basic operation of the three panels and gives worked examples for both the Time and Spectral Domains. Also see *twSoundLoomGuide.pdf*, which is about using the CDP software from within *Soundloom*, a comprehensive document written by Trevor Wishart.

The *Soundloom* GUI executable is located in _c_{dp} and the *Soundshaper* GUI executable is located in \ **Soundshaper5**, both of which are inside the main folder, \c_{dpr7}. Both are run by double-clicking on the filename: *soundloom.exe* (in c_{dpr7}_c_{dp}) and *Soundshaper.exe* (in \c_{dpr7}\Soundshaper5).

Desktop Shortcuts

You are recommended to make a Desktop Shortcut for the GUI(s) as well as for the CDP Reference Documentation. The file for the shortcut to the Reference Documentation is \c_{dpr7}\docs\index.html. This is the HTML 5 documentation revised by Robert Fraser. Also note \c_{dpr7}\docs\DeskReference. This folder contains the files for the CDP Desk Reference, a landscape document which lists all the programs, types of input file needed, their modes and a brief description of each mode. I find that I use this all the time, partly to check details, and partly just to browse it when I'm looking for which program might achieve some desired goal.

Robert Fraser's new *CDP Guide* (it is in a folder in \c_{dpr7}\docs or downloadable from his Website) offers a comprehensive list of all the CDP processes, with concise descriptions. It can be used *via* its HTML links and there are also **pdf** versions of the files that can be printed out. This and the *Desk Reference* are for me absolutely essential aids to finding transformation processes appropriate for a composition objective.

Time Domain / Spectral Domain

Soundshaper uses a standard PC menu structure, so you can check it out by clicking on the menu items. Note that the Time-Domain programs (*amplitude* and *time* sample data) and Spectral-Domain programs (*amplitude* and *frequency* data) are under separate menu items. It is important to remember that Time-Domain programs take a soundfile (**.wav**) as input, either stereo or mono depending on the program, and the Spectral Domain programs take an analysis file (**.ana**) as input, and this analysis file needs to be made from a mono soundfile (using PVOC).

Note that *Soundshaper* has an in-built AUTO-CONVERT function so that the correct file format will be used for a given process (i.e., you can provide a **.wav Stereo** file for a Spectral Domain process that requires a **.ana Mono** input, and *Soundshaper* will sort it out automatically. Even so, it is good to know which type of file is needed, for example, should you are using *Soundloom* or the Command Line.

Secondary inputs

When getting used to *Soundshaper*, check out loading a sound or analysis file and using the Grid. Some CDP programs require two input soundfiles. *Soundshaper* will prompt you to select a second file, as required. Further details are given in the *Soundshaper* Manual. 'Two inputs' is a topic covered thoroughly in *A Learning Manual for CDP*.

Sound Loom is designed as an 'intelligent' interface. Among other things, this means that it 'knows' what inputs should be present to run a given process. If they are not all present in CHOSEN FILES, that process remains greyed out. If this happens when you expect to run a process, double-check the inputs required by looking in the Desk Reference or the HTML Reference Documentation — to do this you may need to figure out the program/process name in these documents that matches the *Sound Loom* name, as

they aren't necessarily the same. *Sound Loom* names tend to be more descriptive. There ought to be a list of all the process names in *Sound Loom* and their corresponding CDP Reference File (= Command line) names, but it hasn't been done yet.

***Soundshaper* markers**

Soundshaper enables loop points to be set on the graphic display of the soundfile. Select **PLAY FROM Loop start** to the left of the soundfile display and **PROCESS At Loop Point(s)** to the right. Use the Left Mouse Button for the left side and Right Mouse Button for the right side of the portion to be isolated. The loop points can be moved with a click and drag with the appropriate button. If **Get Loops** is then clicked, markers are set at these time points and you can go straight to **Edit/Mix->EDIT->Cut(extract)** to turn that loop into a separate soundfile.

I myself find the *Soundshaper* 'markers' very useful when I want to fine-tune the marker time points using my ears. Select **PLAY FROM L to R Marker** to the left of the soundfile display and **PROCESS At Marker(s)** to the right. You can then enter time points (in seconds only—no minutes!) in the 'Play pt.' boxes (Play From and To) to audition parts of a soundfile. If the purpose of this is to excise that portion, when you go to **Edit/Mix->EDIT->Cut(extract)** the cut points will have been already set by the markers. This portion is saved as a soundfile which you name, so it is good way to cut up a soundfile into useful portions *using both eyes and ears* to judge the cut points.

Input soundfile not recognised

One problem that you may encounter is CDP not recognising an input soundfile when it has been made by some other software. This can be caused by non-standard anomalies in the wav header of the soundfile made by this other software. **The problem can be rectified** by making a CDP copy of this program with CDP's COPYSEFX (by Richard Dobson). This can be run from the Command Line (**copysefx infile.wav outfile.wav** and see Usage for the various options), or *via Soundshaper (Edit/Mix -> SF UTILS -> Copy/Convert ('COPYSEFX'))*. COPYSEFX is not available in a *Soundloom* menu. CDP programs retain whatever type the infile is. Note that the CDP software does not handle mp3 files — these can be converted with a sound editor such as *Audacity*.)

Supplementary Observations

You are now ready to go deeper. You can run the CDP System from the *Soundshaper* GUI, the *Soundloom* GUI or via the Command Line Interpreter, as noted above.

Getting started with *Sound Loom*

For the *Soundloom* GUI, you are recommended to start with Archer Endrich's *SLguide-basic.pdf* which introduces you to its layout and operation, and has two exercises to work through to get you started, one for the Time Domain (sound files) and one for the Spectral Domain (analysis files). **You will find *SLguide-basic.pdf* in the top level of \docs**. Another tutorial I have prepared for new users is *tut12step.htm*, which is found in `\cdpr7\docs\htmltuts\tut12step\`.

Trevor Wishart's *twSoundLoomGuide.pdf* is also in the top level of **/docs**. It provides a comprehensive overview of the CDP System as approached via *Soundloom*.

Note that you can **Play** a sound or analysis file in a Process's parameter dialogue. When it does this, it is playing a temporary file ('cdptest0'). If you are not satisfied with it, you can alter the parameters and run again. The resulting sound or analysis file is not stored on your computer until you **Save As**. In *Soundloom*, when the output is an analysis file I tend to put 'ana' (for 'analysis') in the root name to ensure that in future I know it is an analysis file.

Working directory

It would be a good idea to create **your own working directory** and put one or two mono soundfiles in it, e.g., using your initials or a project name as its name. This was implied in the above in the section about Paths.

- If using *Soundshaper*, working directory has been explained above in the section about Paths. Having set this up in the cfg file (Default or Personal), open a soundfile and select a process from the Sounds menu.
- If using *Soundloom*, create a directory (folder) on your computer, then in *Soundloom* use **Find Any Directory** to select your directory (NB: click on **Select**, not **Open**), then **Grab** a file and **Use on Workspace** as explained in *slguide-basic.pdf*.
- If using the **command line**, **cd** to the directory you want to use. Enter **dirs** (a CDP utility) to get a listing of the soundfiles in your directory. If the list is displayed, your CDP system is working properly. Then try a simple command such as **modify speed 2 yoursoundfileIN.wav processedsoundfileOUT.wav -12** to lower the sound by an octave.
- Listen to it with **pvplay processoundfileOUT.wav**. The wav extension is required with **pvplay**, and hearing the lowered sound will confirm that CDP sound transformation processing is up and running. **Pvplay -i** will play a sound or analysis file immediately, without user intervention.

CDP processing programs retain whatever type the infile is, unless it is a program that changes the properties or number of channels. Note that the CDP software does not handle **mp3** files — these can be converted with a sound editor such as *Audacity*.

Reference Documentation

It is best if **Online CDP Help** in the **Options** menu of *Soundshaper* is ticked. Also, make a Desktop Shortcut to **cdpr7\docx\index.html**. The Reference Documentation shows the command line usage for the CDP programs and the correct name for the program for command line use. The two GUIs are often a bit more descriptive in their names, and there can be some difficulty in connecting the Reference Documentation with the menu item. *Soundshaper* helps with this by naming the actual program used in the bottom right hand corner of the parameters window dialogue.

Formats of supplementary files

A shortcut is also recommended for the file *filestxt.htm* (in **cdpr7\docs\html**), which illustrates the formats for all the different supplementary text files that the CDP programs use — *the real power of the system lies in being able to tweak fine detail*. Use **'Index within this file'** to see the index of files that are illustrated. The formats for files used by some new programs have yet to be included. You can also

access this document from the Main Page of the Reference Documentation: **EXPLAIN -> CHARTS -> File Formats** (in the Left panel) *or* **CDP FILES AND CODES** (in the Main panel).

Multi-Channel Toolkit

If you will be working with multi-channel soundfiles (2+ channels), Richard Dobson has contributed the *Multi-Channel Toolkit* for CDP. This handles a number of specialised tasks relating to multi-channel (including Ambisonic) soundfiles. These programs are present in the main CDP Distribution and referenced in the documentation. See the **M-C TOOLKIT** link in the left panel of the Main index. Richard's own document is *Toolkit.pdf* and contains some diagrams not in our HTML documentation. You will find this in `\docs\html`. His Website link is: <http://www.rwdobson.com/mctools.html>. As this is a specialised package, you are invited to donate to his running costs.

Demos

Note the three sets of demonstrations in `\cdpr7\docs\demo`. They will help you get much deeper into sound transformation processing more quickly as they show the operation of the software in considerable detail.

Tutorial Workshops (for download)

As you get more familiar with using the CDP System, you may want to delve deeper *via* three major Workshop tutorials. These can be downloaded from the CDP Website and placed anywhere on your hard disk.: <https://www.composersdesktop.com/Tutorials>.

CDPWorkshop1 - 170 + worked examples in 9 program groups with a playlist

CDPWorkshop2 - in-depth study of the TEXTURE Set

CDPWorkshop3 - about transposition and shifting, especially the advanced possibilities in COMBINE, with additional information about the use of the **-p** and **-f** flags when extracting formants.

NEW: *A Learning Manual for CDP* by Archer Endrich: 33 separate documents about 5 topics, with many sound examples. It draws upon my experience as a CDP user, covering basic operation, processes that I have found especially useful, and explanations of some things that can be a bit tricky.

[Archer Endrich & Robert Fraser - 16 October 2021]