CSC SHOW CONTROL v3.4

By CTR Electronics

Theatre and Live Sound Control Software

QUICK START GUIDE

http://www.ctrelectronics.co.uk/

Overview

CSC is a Theatrical and Live Sound Control software system for Windows XP/Vista/7/8/10.

It has been developed to aid the needs of theatre sound designers, engineers and operators, and anyone who requires some degree of playback and control functionality for a live production.

CSC has built in capability for the simultaneous playback of multiple wave files and automated fading, the sending of standard MIDI messages, MIDI Show Control support (1.0 spec), MIDI Machine Control support, Serial, Telnet and OSC network commands, as well as Ethernet tracking and backup facilities.

Shows can be edited offline on a laptop and transferred to a main computer system with ease saving valuable production time "in the space".

Written by theatre professionals, CSC presents the designer and operator alike – a person usually forgotten with other such software - with tools that are *really* needed in today's technologically changing theatrical world, and helps to solve many of the long term problems which have hindered control applications in the past.

The Workspace

All show design in CSC is performed within the modular workspace.

The workspace can be configured to show as many modules as are required for the show, and the visibility and placement of these is stored within the show file. If a module is used for programming, but then removed from the workspace, then data within the module is still executed, the windows are merely hidden from view.

The most important part of CSC is the cuelist and the use of individual cues to build up a show.

About Cues

In CSC, a "cue" is a point in time. For any cue, any number of events can occur, and they all have the one common factor that groups them together: they all happen at the same point in time and can all be fired from a single button push. No 2 or more cues can ever be executed at exactly the same point in time.

A cue can actually be thought of as a "workspace memory", so a list of 5 individual cues will be giving the user 5 individual memories, each one remembering the settings of each module within the workspace. On recall of the cue, any data within each module is also executed or transmitted.

A cue is shown to consist of a number, a description and a link element. Within CSC, all cues have a unique cue number. This number defines the order of which cues are drawn in the cuelist and recalled, and enables them to be uniquely identified so they may be linked to from other cues. There is a "default header cue" of cue number 0.00 which is always present and cannot be removed. This is the "home" state for the show, and defines the starting point of any show. Return to this point can be achieved at any time by selecting "Restart show" from the *Cue* menu, or by clicking the toolbar icon.

Cues are added sequentially and CSC will attempt to intelligently suggest the next cue number: by default a value of 1.00 is added from the previous cue, or the nearest next whole number is taken if there is a gap in the cuelist. This can be changed to any valid number within the range of bounding cues if required. There is a two decimal place depth to cues, therefore between 1.00 and 2.00, up to 99 additional cues could theoretically be inserted. Note therefore, that trying to insert a cue between 3.00 and 4.00 will give possible valid values of 2.01 – 3.99, but values such as 2.99 and 4.01 will be rejected.

Before Continuing…

The following quick start guide requires the use of 2 mono or stereo PCM wave files (*.wav) of 30 seconds or longer duration (although other file formats can be used by CSC – see User Guide for full list of compatible formats), and a computer with at least a primary sound device installed and working.

Getting Started

This guide will assume some basic knowledge of computer operations, and will teach the reader how to set up a simple cuelist, capable of playing back 2 audio files which overlap each other and then fading them out. It will also demonstrate how to add a simple MIDI command to one of the cues.

TASK 1: Adding and Fading a Wave File.

Step 1: Opening CSC

Launch CSC, and we are presented with a screen looking like the following:
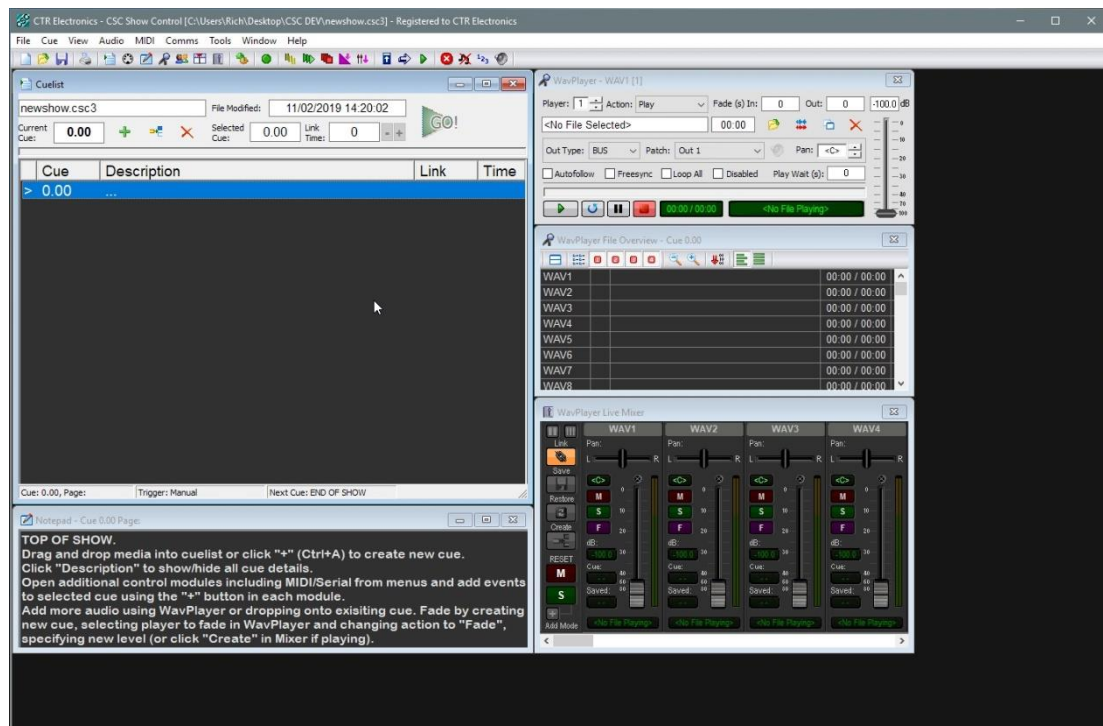
It shows a new workspace with a blank cuelist ready for programming. The default template also includes the notepad window, WavPlayer window, WavPlayer File Overview Window and the WavPlayer Live Mixer.
In this example we are going to make use of the audio features available in CSC.

To do this, the relevant modules in the workspace should have already been loaded by the default template. For now, ensure that expanded cuelist mode is off. This can be checked by navigating to *View -> Expanded Cuelist View* and making sure this is unchecked.

Step 2: Creating a simple Workspace

If you are using a computer without the default settings installed or are not using the default template, the workspace may look different to the above so opening

the required modules will be necessary. To do this, first, navigate to the *Audio -> WavPlayer* menu and select it to show the WavPlayer module.
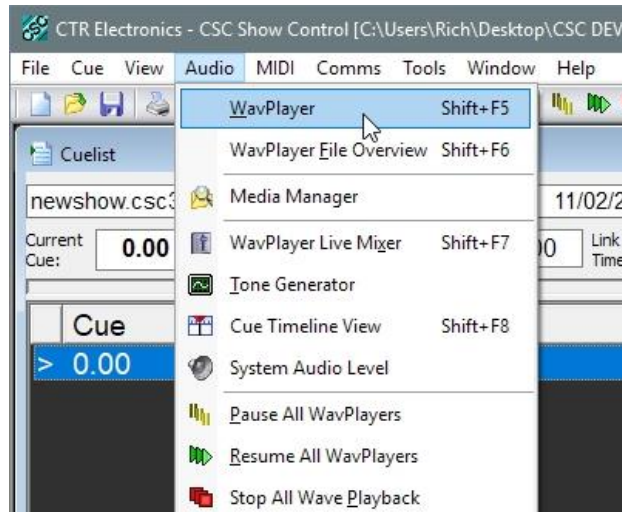
This is the front end to the 64 audio players provided by CSC. The player of interest can be selected by using the player +/- buttons, or alternatively use the WavPlayer Files module as we will see later.

Navigate to the *Audio -> WavPlayer File Overview* menu and select it to show the WavPlayer File Overview module.

By default, this window shows the status of all the 64 players in a scrollable grid. This window can be customized to fit the size and shape of the workspace by dragging and resizing. There are also many ways to customise this window including changing the font size and grouping players together but for now we will use it in the default state.
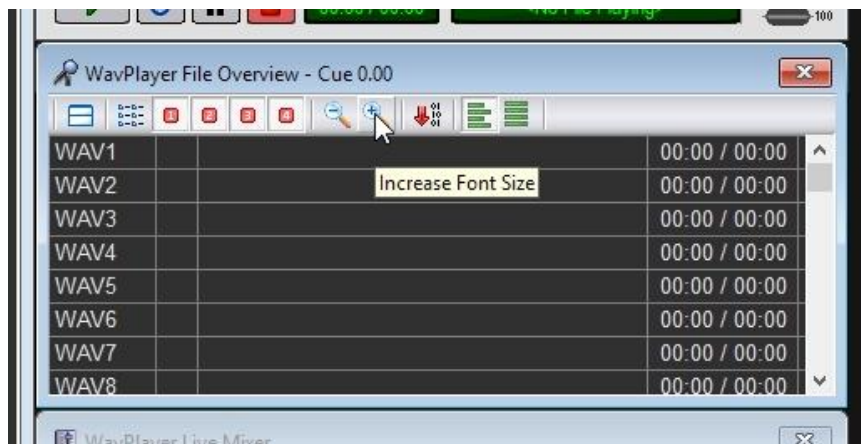
By clicking on any of the player rows in this window, the WavPlayer will switch to show the corresponding player.

So we now have a workspace set up with a cuelist, the WavPlayer, and the WavPlayer File Overview window – all 3 of which we will be using – and with

the WavPlayer Live Mixer window and notepad also loaded if you are using the default template.
Your workspace should look like the first picture.

Step 3: Adding a Cue

In order to program anything it is necessary to add some cues. Nothing can be added to the default 0.00 cue – this is used as a starting "home" position for the cuelist and should contain no data other than Notepad entries about the show (For Notepad info, see User Guide).

There are numerous ways to add a cue to the list, but for now use the keyboard shortcut <CTRL> + <A>.
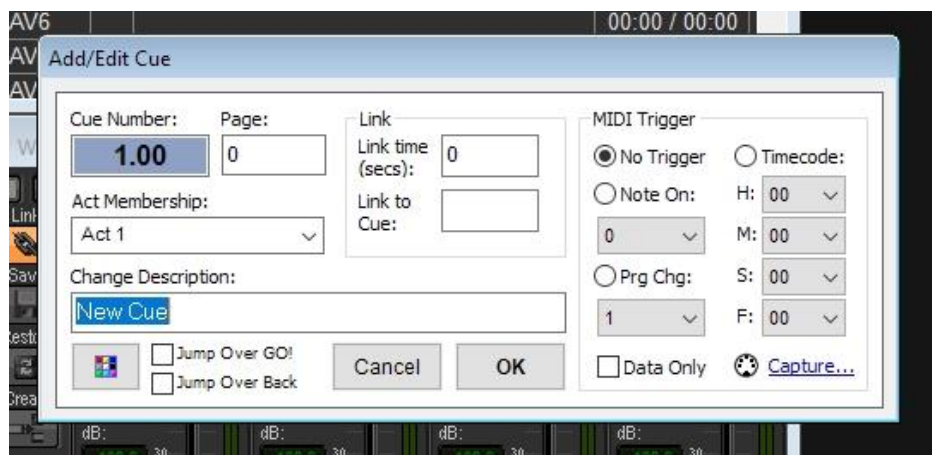
We are presented with the Add/Edit Cue dialogue window. A suggested cue number of 1.00 is shown, and the default name "New Cue" is entered in the description box. Change this name to read "Play File 1", and press <ENTER> or click OK.

The cuelist will now show a new cue, 1.00, called "Play File 1".

This cue should be highlighted, if not, click on it once in the cuelist.

Note how cue 0.00 still has the "**>**" symbol by it. This is showing that the current "show running position" is cue 0.00. Simply clicking on a cue to select it does not change the show position, it merely selects the cue and changes the modules in the workspace to show details for that cue. This is great for editing shows but should be remembered when trying to navigate the cuelist at speed.

This mode of operation can be changed, however, see *User Guide* for mode information.
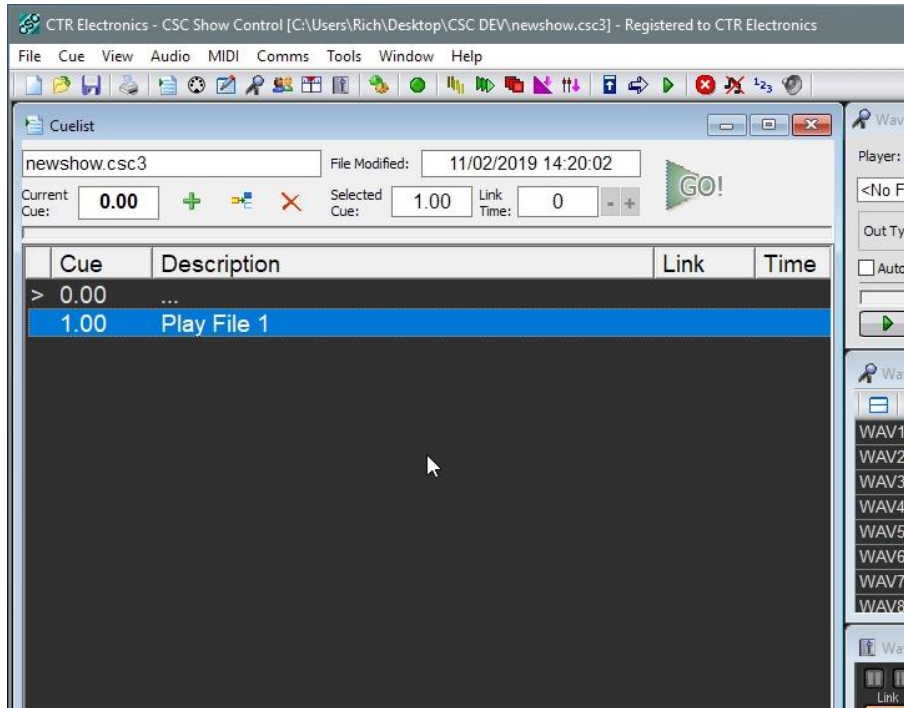
You will also notice that the WavPlayer module shows a Player number. The picture below shows that we are working on Player 1 for cue 1.00.

More on player numbers later.

STEP 4: Adding a Wave File

To add an audio file to a cue, we need to attach a file to a player and set the action to "**Play**". **Play** is selected by default, and when there is no wave file loaded to the player, it is seen as an "empty player".

For this example we are going to add a file to Player 1, so ensure that Player 1 is the selected Player in the top left corner.

Click "Open" (the open icon shown and circled below) and a standard file dialogue box is shown. Browse the file system for a suitable audio file, of at least 30 seconds duration, select it and click Open.

You can also drag and drop a file from Windows Explorer directly onto the filename text box (which by default shows <No File Selected>), or drag and drop from Windows Explorer onto an empty player row on the WavPlayer File Overview window.

CSC will perform a quick check on the file to make sure it is a valid file which the program can read, and if successful, the file name will then be displayed in the selected file box. Holding the cursor over this box at any time will show the full location of the file. If the file was of a non-WAV file format, CSC will prompt to convert and import the file – the first time this is done a suitable import location will need to be selected to save the converted file. Note that CSC is capable of playing many different file formats although WAV is recommended as the most efficient.

Now that we have loaded a file to the Player, we can set the required volume level of the file and its stereo pan/balance position. Click the play button at the bottom of the window and the file will start playing. Its progress is tracked by the bar near the bottom of the Player, and this bar can be used to seek through the wave file to locate a certain point in the file. With the file playing, set a desired playback level and pan position.

It should also be noticed that the WavPlayer File Overview window now shows a filename on Player 1, and a green progress bar will move in sync with the WavPlayer.

That's it! A wave file has now been added to cue 1.00 and its level and pan position set.

Whenever cue 1.00 is fired, that file will begin to play. The other 63 players will do nothing since they have the default "play" action selected, but no file to play, so they are considered empty.
Editing the level or changing the file is easily done at any time by selecting cue 1.00 in the list and making the change. Removing the file altogether can be done by clicking on the 'X' icon.

Step 5: Testing the Cue

We can now test the cue is functioning by recalling it using the cuelist. Click anywhere inside the cuelist window to make it the active window, and then press the <SPACE> key. The "**>**" marker in the cuelist now jumps to cue 1.00, the cue becomes highlighted, and the file starts playing.

Pressing <ESC> will stop the playback. Selecting the appropriate Player and clicking the Player's Stop button will also stop playback.

STEP 6: Adding a Fade

We will now add a second cue to fade the audio file out.

Firstly, add a second cue to the cuelist by using the keyboard shortcut <CTRL> + <A>. Title this cue "Fade File 1", and click OK.

A second cue is now shown in the list, and if it is not already highlighted, click once on the cue. The WavPlayer window should now be showing Cue 2.00 for Player 1. Note how this player is now "empty". In order to fade the file from the previous cue, we are not so concerned with what is actually on the player, but simply the fact we want to fade that player to a new volume and pan setting, from its current settings, over a period of time.

In order to do this we change the Action from "**Play**" to "**Fade**" in the dropdown box.

Notice how – FADE: 5s – appears in the Overview window.
Now that we have set the player to fade mode, we need to tell it where to fade to and over what period of time. You will see that after selecting the 'Fade' action the player has picked up the previous level set on cue 1.00.

In this example we wish to fade the sound out to silence. This is achieved by telling the player to fade to -100dB so move the volume slider to -100dB. In the **Fade (s) In** text box, enter 10. This is telling the player to change its volume to -100dB over a period of 10 seconds. Note that by moving the slider fully to -

100dB, the file playing on player 1 will also be stopped when the fade completes. If this is not desired, leave the fader one notch above -100dB.

Fading In: Note how the **Fade (s) In** text box is enabled even when "**Play**" is selected. This enables a "fade-up" time to be entered when playing a file, and represents the time taken for the file to fade from -100dB (silence) up to the selected volume setting during a "Play" command. Pan position is unaffected during this process.

What we have now done is set up 2 cues: one which tells Player 1 to start playing a wave file at a volume and pan setting of our choice. The second cue tells the same player to fade to a new volume and pan setting of our choice, over the period of time specified. If there was nothing playing on player 1 when we instructed the fade, nothing would happen.

STEP 7: Testing the cue sequence

Click anywhere on the cuelist again to select it.

Press <F5> to take us back to the header cue 0.00.

Press <SPACE> to fire the first cue.

Wait a few moments and then press <SPACE> again. Player 1 will begin fading over 10 seconds, and at the end of the fade the audio file we started on cue 1.00 should be faded to silence, and will have stopped playing. The progress was also shown on the overview window.

The fade can be stopped at any time by pressing <ESC> or using the toolbar icons (see *Users Guide*). Sending the fade cue again will restart the 10sec fade, but from the level and pan settings the last fade reached.

So we have now added an audio file to the cuelist and created a second cue to fade out the file.

Editing the fade time is a simple case of changing the **Fade (s) In** box entry.

So far we have been viewing the cuelist in "Normal" mode. There is also a specially enhanced mode, called "Expanded View", which displays all elements of each cue. This can be seen by navigating to *View -> Expanded Cue List View* and selecting it. This mode is great when designing a show.

Here we can see more detail of what is happening with player 1, named "WAV1" in each cue. This name can be changed in *Audio -> Audio Setup* to something more meaningful if necessary.
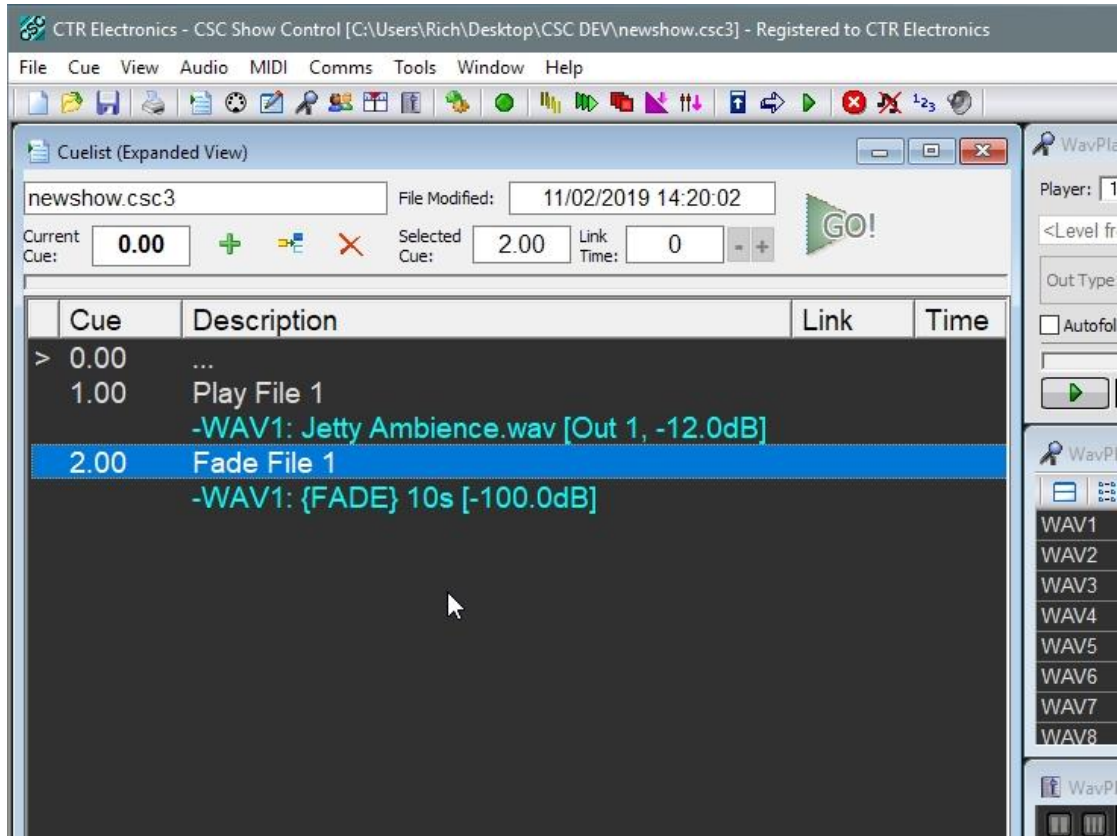
TASK 2: Adding a Second File as the first File starts Fading.

We will now add a second wave file to begin playing as the first file starts fading out. This requires the use of a second WavPlayer. If we re-used Player 1 it would stop the current file playing and start the new file playing but we want the two files to overlay each other.

In the cuelist, highlight cue 2.00. This is the cue (point in time) at which we want the second file to start playing.

Now select Player 2 in the WavPlayer, either by using the up/down buttons in the top left corner of the module, or clicking on the Player 2 row in the Overview window.

The player will now change to the default action of "Play" as there is currently nothing stored for this cue.

Now that we are looking at an empty player we **could** use the same process as before: clicking Open, select a new wave file to play, and set the required volume and pan positions again.

However, let's try another way of adding files directly from Windows Explorer. Try dragging a sound file from a folder and dropping it directly onto the "Fade File 1" cue entry. This will add the file to the first available player for that cue – in this case, Player 2. If Player 2 is not the Player we wanted it is possible to use drag and drop on the WavPlayer File Overview window to move the file to a new Player. In our case, Player 2 is just fine.
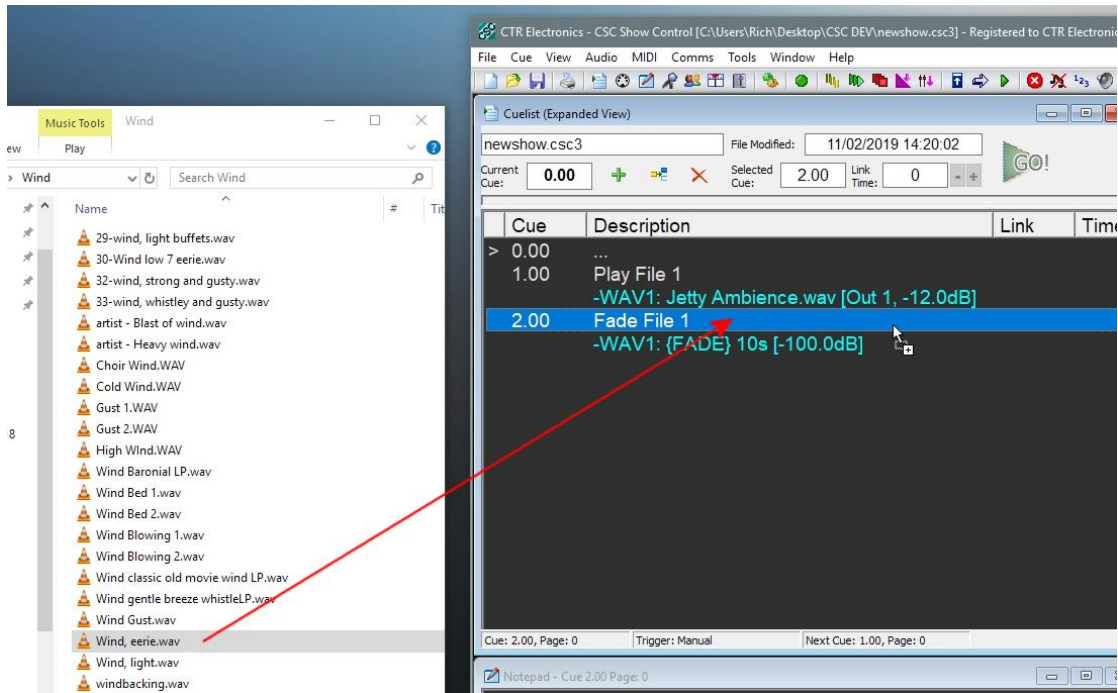
The Overview window for cue 2.00 should now show the Fade on Player 1, and the new wave file for player 2, as below.
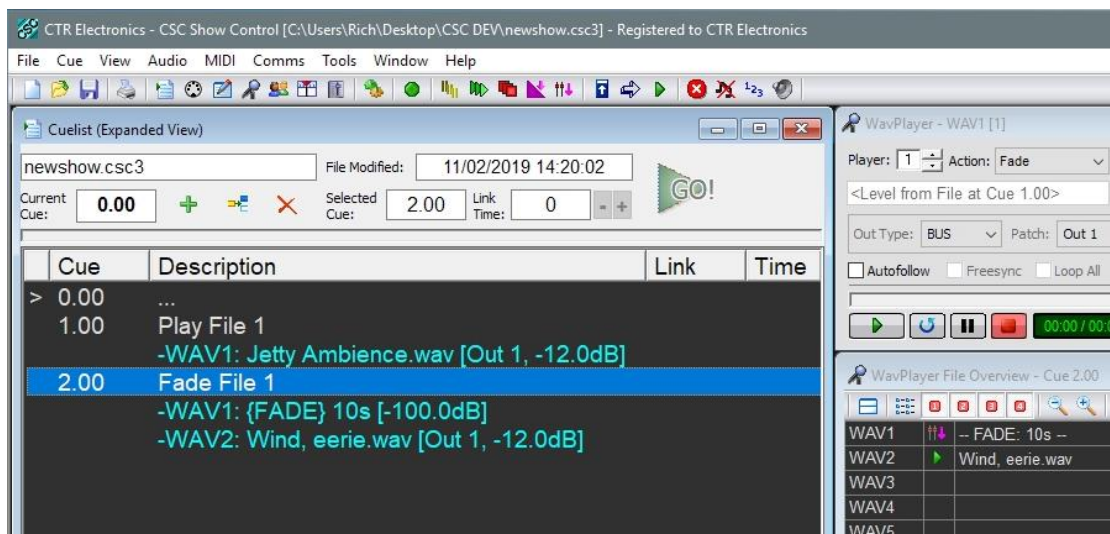
Test the cuelist by pressing <F5> (return to top of cuelist) and then running the two cues as before. On firing cue 2.00, we see how Player 1 starts fading out, and Player 2 starts playing the new file.

If we wish to delay the start of Player 2 we can enter a value into the "**Play Wait (s)**" box or use the timeline window to graphically edit this value (not covered in this tutorial – see User Guide).
Alternatively we can move the Play command to a new cue and use a link time as discussed below.

TASK 3: Inserting a MIDI Command Send before Cue 2.00, and Auto-Linking the Cues.

In the final exercise of this guide, we will look at how to insert a cue into the list, and attach a MIDI Program Change command to our cuelist.
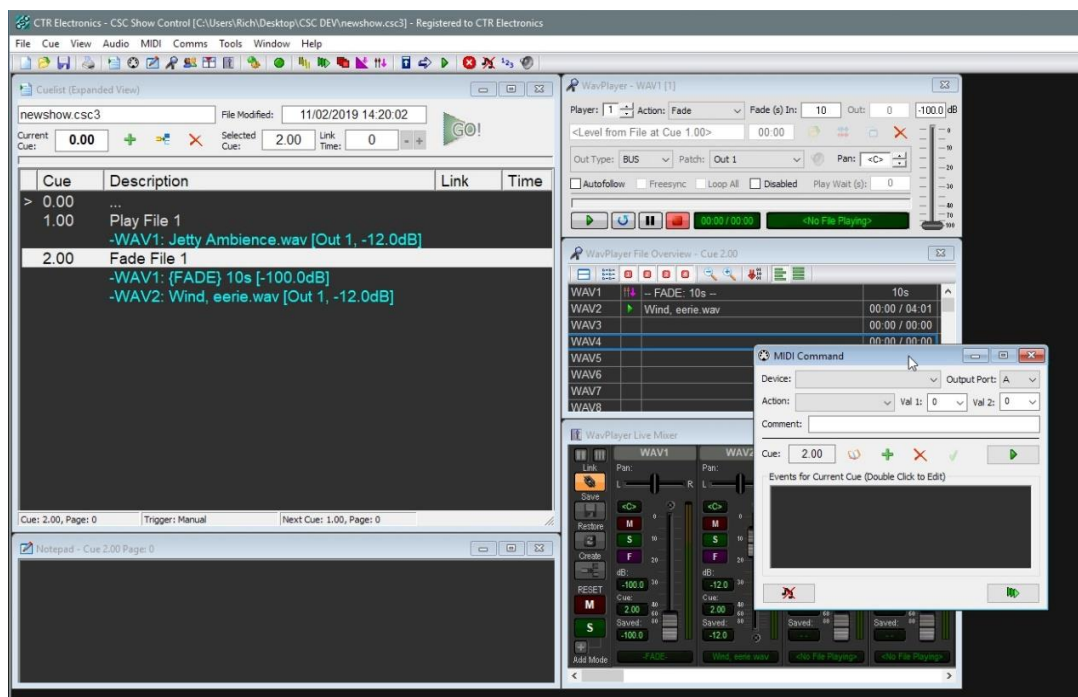
Note that for this example we are simply concentrated on the cuelist principles and not the actual MIDI data, so we are not concerned with setting up the MIDI port or actually connecting a MIDI compatible piece of equipment.

STEP 1: Adding the MIDI Command module to the Workspace

In order to send MIDI commands, we need access to the MIDI command module.

Navigate to *MIDI -> MIDI Command* and select it.

We are now shown the MIDI Command module. Drag this into a free area in the workspace.

STEP 2: Inserting a cue in the cuelist

In this example, we wish to send a MIDI program Change command, possibly to change the state on mixing console, after the first file has begun playing, but before the second file and the fade start.

So far we have used the Add cue command. Add can only add cues at the end of the cue stack. In this case however, we wish to insert a cue within the stack, so we need to use the Insert command.

CSC inserts cues *after* the currently highlighted cue. In order to add a cue between cues 1.00 and 2.00, we will therefore need to highlight cue 1.00 in the cuelist, and use the keyboard shortcut <CTRL> + <I>.

We are presented with the Add/Edit dialogue, and a suggested cue number of 1.10 is shown. This number can be changed anywhere between 1.01 and 1.99, but for now will we will use the suggested 1.10.
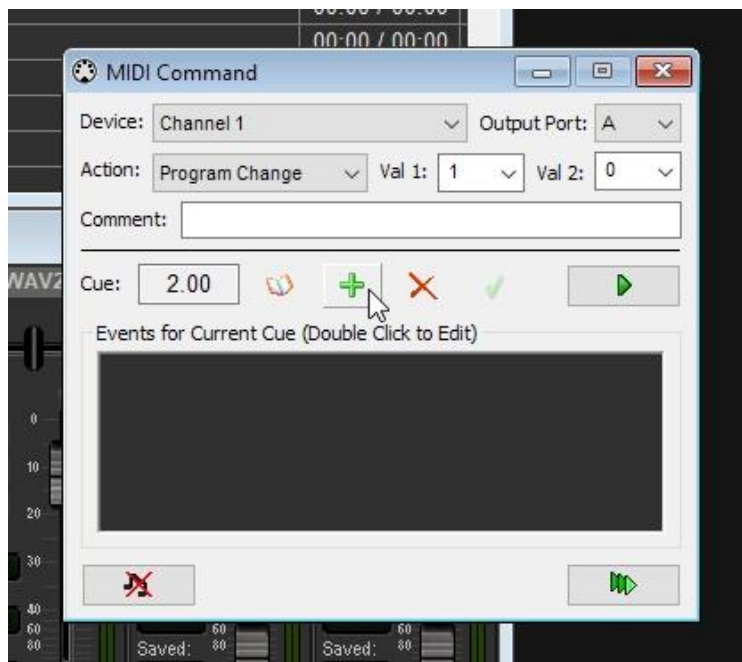
Title the cue "MIDI Send" and click OK.

There should now be 3 cues in the list.

STEP 3: Adding a MIDI Command to the cue

Highlight cue 1.10 in the cuelist and verify that the MIDI command module shows cue 1.10 also.

Select the following options in the MIDI command module using the dropdown boxes so the module looks as follows:

Now click the Add (+) button as indicated above.

We can see how the program change is now added to the events list for the current cue. For full details on the use of the MIDI command module, see the *User Guide*.

The MIDI command has now been added to cue 1.10.

STEP 4: Auto-linking the Cues

To complete this task, we will now automatically link all 3 cues together, so that they are started from a single button press.

Each cue can have a "link to" and "link time" element associated with it.

In this example we need to link cue 1.00 -> cue 1.10 -> cue 2.00.

In the cuelist window, double click on cue 1.00.

We are once again presented with the add/edit dialogue window. In the "link time" box, enter "10". We can now optionally specify a cue number to link to. In this example though we can just link to the next cue, so leave the "link to" box empty, and click OK. A blank cue number in this box will always mean 'next cue in the list'.

Note also that link times can be entered either as seconds, eg. 320 or in the format XmY, where X is minutes, followed by an "m" followed by seconds, eg, 5m20.
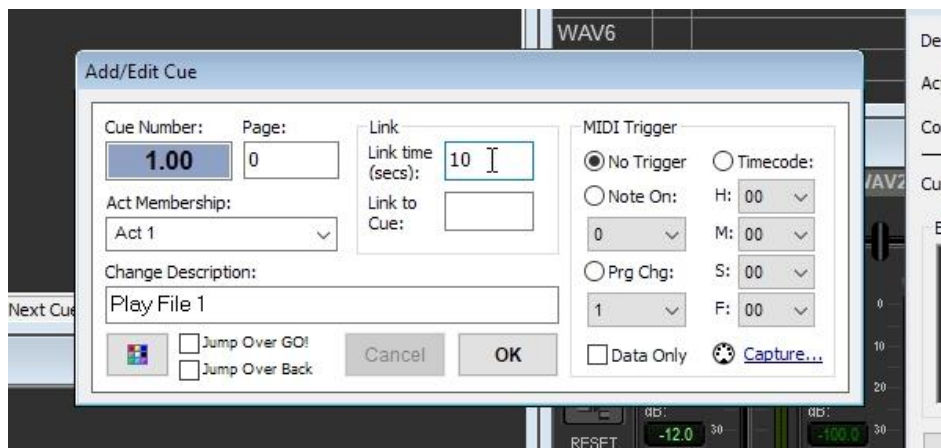
Note how "NEXT" appears in the link column of the cuelist, and the time "10s" is shown in the link time box at the top of the cuelist whenever cue 1.00 is highlighted.
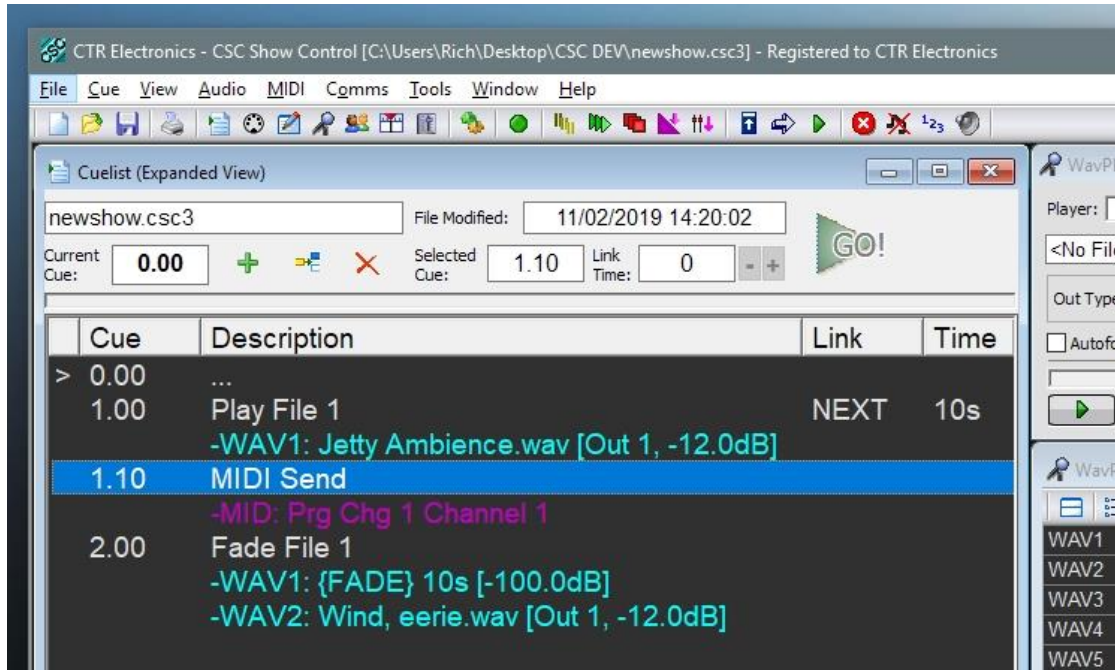
Now do the same thing for cue 1.10, entering a link time of 5, and leaving the "link to" box empty again. Click OK and exit the dialogue box.

If we want to send the MIDI command as near in time to cue 2.00 as possible, then enter a link time of 0.1 secs, but if this was the desired case, it would have made more sense to include the command with cue 2.00 from the outset, without the need for inserting a new cue.

We can remove a link at any time by simply deleting the link time. Try this by double clicking cue 1.10, and removing the link time again. The link column will now clear in the cuelist.

STEP 5: Test the cue linking.

Once again, ensure the cuelist is the active window and press <F5>.

Start the first cue by pressing <SPACE> The first part of the cuelist should now run on its own using the auto link, the fade out can be triggered at any time with a second press of the <SPACE> key.

The progress bar at the top of the cuelist shows the link progress, and the link time window counts down to 0.

Note that the link can be stopped at any time by pressing <ESC>, and a manual cue used to continue the cuelist running order. Pressing <ESC> executes a STOP command 'tree' – depending on what is currently happening it can do something different: 1) Stop an active link 2) Stop an active fade or if neither of these are happening will 3) Stop all audio. This allows many actions to be performed using one STOP button in a show, but to guarantee a complete stop of everything 3 presses may be required. See the *User Guide* for more information on this.
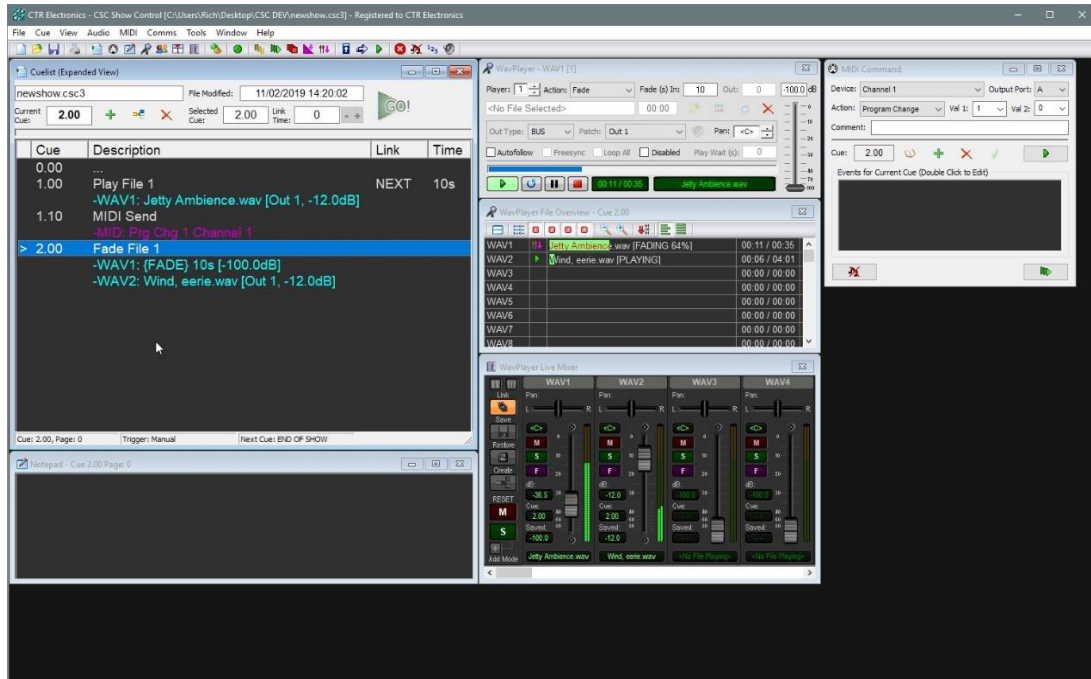
You will also see the WavPlayer Live Mixer faders moving during fades with live audio VU levels displayed in each Players channel. These faders can be moved in real-time and the levels will automatically be saved back to the cues rather than having to adjust Player levels by finding their original cues and adjusting the volume slider. See *User Guide* for more information on the powerful Live Mixer.

Conclusion

We have now seen a few of CSCs features at a quick glance, and shown the basics of putting together cues and sequences of cues.

There are many many more features to be found in the program, and the reader is suggested to familiarise themselves with these by studying the *User Guide* which details each module and program operation in detail.

Please note the functions <SPACE> and <ESC> used to control the cuelist are only operable when the cuelist has focus. If there is to be a lot of editing done during a show run, the use of the function keys or external trigger boxes is suggested to provide consistent operation.

A detailed description of the various key shortcuts and cuelist operations can be found in the User Guide, although these can be seen at a glance by selecting the "Cue" menu in CSC and looking at the titles.

Check for updated versions of this documentation at www.ctrelectronics.co.uk.

NOTES