

Lockdown Learning: Cubase Elements

<https://youtube.com/c/musictechtuition>



<https://musictechtuition.com>



Darren Jones

Dear Reader

This chapter of my book ‘The Complete Guide to Music Technology’ has been released to help people spend their time productively during the 2020 COVID-19 health emergency.

It’s designed to help anyone who is doing the right thing and staying at home to get started using Cubase, by using the included synthesizers to start making music. A 30-day trial of Cubase Elements is available, and this chapter has been tailored to suit that version.

I hope you find this useful, and you can feel free to distribute it wherever you want. The content remains copyright of Darren Jones.

If you do want to support the creator of this chapter, then please consider buying the complete book from Amazon.

<https://tinyurl.com/cubasebookamazon>

I appreciate there is a delay in delivery at the moment due to the current situation, but it is a time when freelance creators like myself have seen their incomes vanish, so your support is even more valuable than ever.

I hope you find this chapter useful, and it starts you on a lifelong journey of creativity.

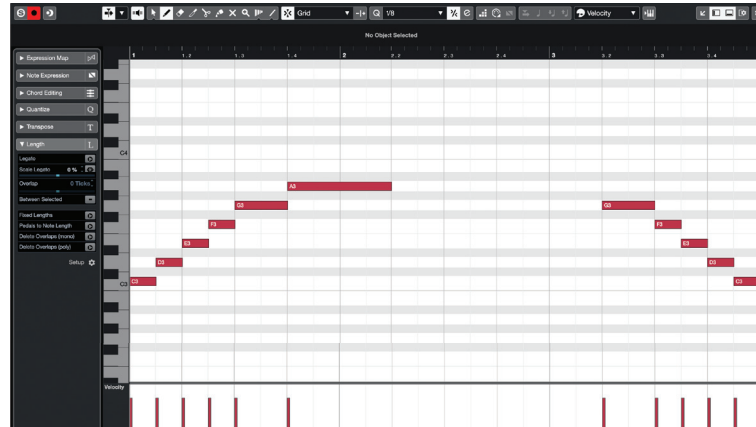
Many thanks

Darren Jones

www.musictechtuition.com

www.youtube.com/c/musictechtuition

Lockdown Learning: Sequencing



Cubase Elements 10.5 is music production software - often called a Digital Audio Workstation (DAW) - and one of its features is that it is a sequencer. This means it can record notes that you play on a keyboard, and then play them back through a synthesizer, allowing you to create compositions and hear what they sound like without using other musicians. Very complex pieces of music can be built up doing this as you can create one track at a time and re-record it until you are totally happy with it, all at your own pace. You don't need to be a good keyboard player to get good results, either (although having some keyboard skills is a big help). It's important to remember that it deals with MIDI (which will be covered fully later on), and that really means notes being played, usually on a keyboard, so you can change the sound of what you've recorded afterwards, but there are some limitations to how it will sound.

Getting Started

Firstly you will need to start your computer and any other items in your setup. The order of this will change depending on your specific equipment, but there is a good rule of thumb here:

Tip: The speakers should be the last thing you turn on, and the first thing that you turn off – this is to avoid any 'thumps' damaging them (or your ears) when you turn the equipment on. Usually the computer will be one of the first things to be turned on and the last to turn off. Once this is done, you can start Cubase.

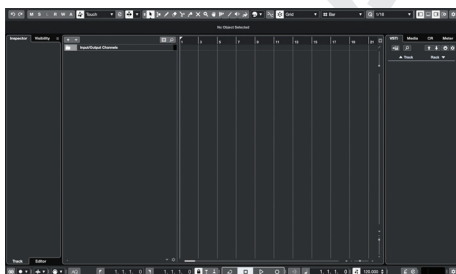


Once it loads (which can take some time as it's a large program), you will see a screen like the one on the left, it is the **Steinberg Hub** and it is there to allow you to pick from a number of templates, as well as tell Cubase where you want your project to be saved.

Tip: Whenever you use Cubase, it's important to make sure your files are where they should be – in some situations the computer is used by a number of people, and in addition it's really important to save each project in a separate folder – this means you will easily be able to back your work up later on.

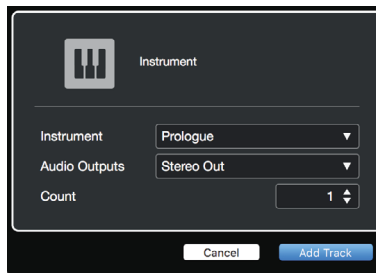
To create a new folder for your project, click in the area next to Project Folder at the bottom right of the Steinberg Hub window, and type the name of the folder you want to create, and then in the upper section click **More** and then pick **Empty**. Now click the **Create** button at the bottom and Cubase will make the folder and a new project.

Tip: Remember that USB flash drives and external hard drives are becoming increasingly affordable, and their cost is small compared to the amount of time that you would need to recreate any work if it was lost. Backing up your work is a necessity, as is regularly saving your work. Computers crash, particularly when running complex software such as sequencers, and hard drives fail. If you save regularly and back up often then you will not lose a great deal if the worst happens.

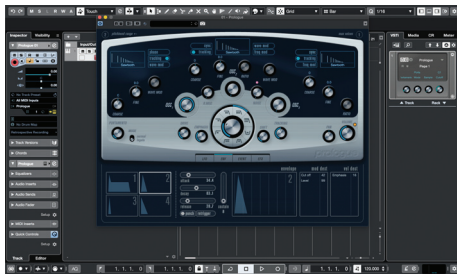


Here we see the main Cubase window, with the Transport Bar at the bottom. The transport bar is like the remote control for a video recorder, although it has more functions, the basic controls are the same, as we'll see later on. The central area is the project window. This is where all your tracks will be created and the majority of your work will be.

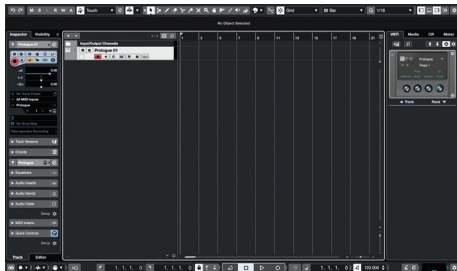
The first thing to do is to create a new track. Go to **Project > Add Track > Instrument**, and a new window will appear where you can select an Instrument.



Click where the window says **No VST Instrument** and a list will appear of the instruments your computer has available. Pick Prologue from the Synth folder (as it is available on all Cubase 10.5 systems), and click **Add Track**. You should now see a screen similar to the one shown below.



Here is the Cubase window, with Prologue located in the centre of the screen. While you will be editing the controls later on, at the moment we don't need to see Prologue, so close the window to reveal...



... the project window with Prologue track in it. On the left of the screen is the Inspector, showing details such as track name, inputs and settings. If the inspector isn't present...



... click this button to make it visible. It can also be enabled with **CTRL + ALT + L**.

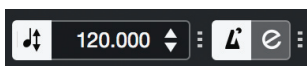
The Inspector is very important as it allows you to alter the volume and panning of a track (more of this later), and most importantly pick the sounds you wish to use. We will see how this works in a while, but firstly we will look at a few things we need before we get started.

The Transport

The transport (hit **F2** if you can't see it) allows us to control Cubase, making it play, stop, record, rewind and a host of other features. We won't cover them all here, but we will cover the basic controls that you need to get you sequencing.



The transport controls. The highlighted button is **STOP**, and to the right are **PLAY** and **RECORD**. The button on the left turns **CYCLE** on and off, allowing us to repeat a particular section - see page 12.



Tempo control, metronome and count-in. Here the tempo can be set (once the tempo track is turned off by clicking the button at the left), and the click can be turned on and off with the button to the left of the **e**.



Time readout. This can be in a number of formats, but bars and beats (at left) is probably the best setting.



Locators. As we'll see later on, the locators allow us to cycle round a section, to practice it or record several times. They can be set by double-clicking the numbers and typing a new value.



Input/Output activity. This shows MIDI in and out (left two meters) and audio input and outputs (stereo).

The Transport Bar in Cubase 10.5 is highly configurable - and would take several pages to describe all the available options - but suffice to say that you can turn sections on and off using the cog at the right hand side, and alter the appearance of each section by clicking the three dot menu to the right of each section.



Here we see the effect of this on the transport controls section. The first view is the default with just four controls present. The next mode adds buttons to move between markers, and the third mode adds fast forward and rewind controls.



The Metronome

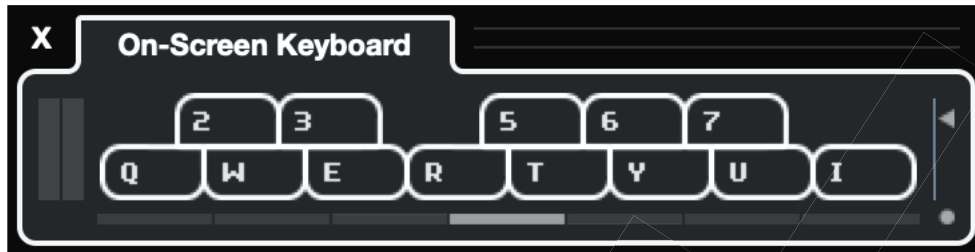
It is very important that when you play music into Cubase that it is in time with the metronome. Computers may work extremely quickly, but they do not have much intelligence, and as a result they need to be told things that we may take for granted. One of them is the tempo of a piece of music – Cubase can't really work that out, so to make life easy in the long run, you should play in time with the metronome. This is easily achieved, firstly by turning it on using the button above - it will turn white. Pressing **Play** on the transport bar should now mean you hear an indication of the tempo of the piece.

Changing Tempo

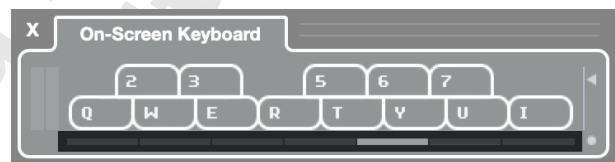
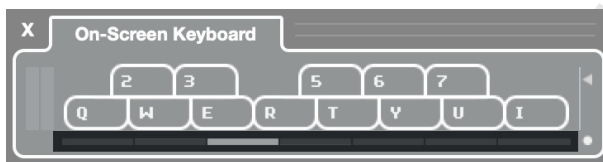
If you want to change the speed, make sure that the tempo track is turned off click the button above on the transport bar so that it is dark grey, and then enter the tempo that you want by double-clicking it and typing the speed you want. You may need to experiment to find the right speed, and remember that you can always change the speed of what you've recorded after you've done it. This has an important benefit if you're finding a part difficult - you can record difficult parts slowly to make them easier to play, then return the tempo to normal afterwards.

The on-screen Keyboard

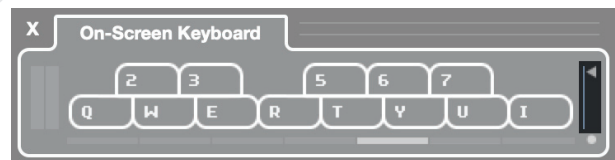
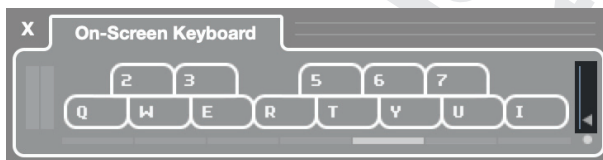
If you don't have a MIDI (music) keyboard attached to your computer, it's easy to think that you won't be able to play music - that you'll just have to edit it to create it. This isn't true, however, as Cubase comes with an On-Screen Keyboard. This can be activated using **ALT + K** and you will see a window like the one below:



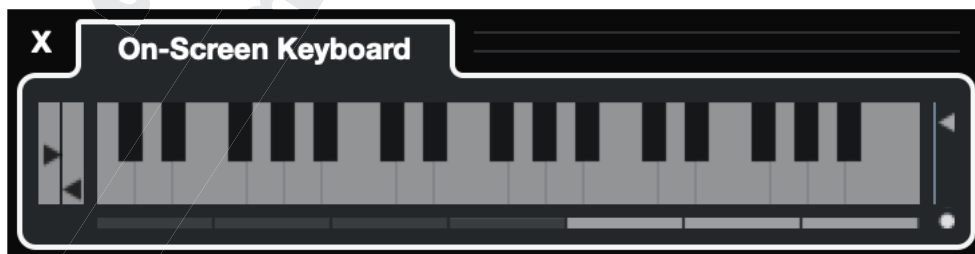
The letters on the keyboard equate to one octave of musical keyboard - Q will play a C, W a D, and 3 a D#, etc. Don't worry if you don't know the notes, just have a play and listen to the sounds you are generating. While it is not as easy as using a hardware music keyboard, if you don't have one, it's a good substitute. The 7 grey boxes under the notes (one will be lighter grey than the others) shows which octave you are in, which can be changed using the cursor keys (← and →):



The slider on the right-hand side controls the velocity - this is how 'hard' the keys were hit, and some synths will change sound depending on this, so you may want to experiment with the slider as you press keys to see what sound works best.



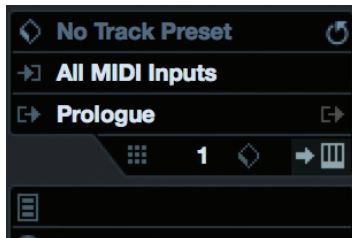
It's possible to use the on-screen keyboard in a multi-octave mode by clicking the circle at the bottom right. This changes the appearance as shown ...



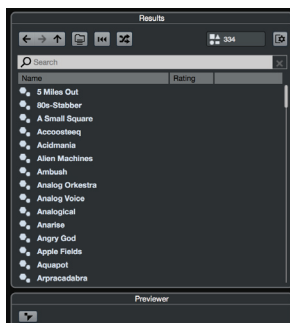
... and allows playing of a few more notes (up to an E, pressing the **P** key), allowing a bit more musical flexibility. It's also possible to use the mouse to create pitch bend (smooth changes between notes) and modulation (vibrato, a rapid change in pitch) by clicking and dragging up / down or left / right on a note. This can be a little tricky, but with practice can allow you to create these techniques more quickly than manual editing.

Picking a sound

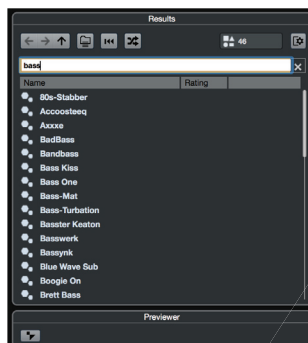
Many synthesizers provide a wide range of sounds (referred to as patches) and these should cover most eventualities – there are usually over a hundred on a basic synth, and on some there can be thousands. However, picking them can be a little difficult as there are so many to choose from, but the Inspector makes it easier.



Here is the inspector, with the Prologue in the track. The black area at the bottom (above **No Drum Map**) is where the patch name will appear when one is selected, so click there...



... and the patch list appears. Here you can list all the sounds that the synth has, and there are many (334, as shown at the top right). If you want to explore, feel free to do so, you can scroll through the list and click once on a sound and you will be able to hear it played using your MIDI keyboard – you may find a sound that inspires you or takes your compositions in new directions.



There are so many sounds that it's hard to find the right one quickly. If you click where it says **Search Results** and enter a word (or part of one) then it will only show you sounds that are relevant to that – both in their names and also their categories/description, so if you enter bass (as seen here) then you should get bass sounds, even if their name doesn't make that obvious. Not all instruments have descriptions in their patches, however.

Naming Tracks and Parts

It's important to name each track – at first it's easy to know what's what as you may only have one or two tracks. When your piece develops, you may end up with many tracks, and knowing instantly what each one is will help. To name it, double click where the track says **Prologue 01** and name it appropriately – melody, bass, chords or whatever you want to call it.

The Info Line

If you have the Info Line present (if it isn't, click the icon above right and select it from the menu that appears), then you can name the parts you create as well, avoiding confusion if you have musically different parts. It can also be of benefit to use the colour palette to colour parts, providing an instant visual clue when a part is different from its neighbours.





Toolbar and Transport Setup

There is a great deal of information that can be present on screen in Cubase, and both the toolbar and transport bar area have too many options to fit on most screens. As a result, you will need to be familiar with getting the tools you need on screen. This is done using the cog icon which allows the setup of the toolbar or transport to be altered. If a tool, icon or menu is mentioned in this book and you can't see it, then click the cog and turn that section on. You may need to turn other sections off to see the desired section in full - particularly in the case of the transport bar (where some sections can be expanded in size, as seen on page 5).

Making a recording

Cubase will record whatever you play on the keyboard. To do this, select a track (if you only have one it will already be selected, this is shown by it being lighter than the others), and look to see that the red 'record enable' button is lit up on the track itself – it should be as soon as you select the track, but it's possible for it to be turned off. This button doesn't mean that the track is recording straight away, but it means that when you press record it will record on this track. Next, we need to tell Cubase to give us a count-in (normally this is 2 bars). This is done by activating the **Count-in** button, near the metronome button– it looks like this:



If you can't see the count-in button, press the three dots to the right until you can see it. Now make sure Cubase is at the start of the song, and hit **Record**. Cubase will give you a 2 bar count-in, and then start recording. Play something on the keyboard, and you should see it appear as you're recording. Once you're happy, press **Stop**. Go back to the beginning of the piece (pressing **<** on the keyboard next to **M** will do this, although a good way to remember it is to think of the **<** pointing back to the start of the project) and press play to hear what you recorded.

If you're not happy with the recording, then often the best thing to do is to delete it and start again – unless there is some unique part of it that you think you could never reproduce, the best thing to do is to start again, as this will improve your keyboard skills quite quickly if they need to be improved, and mean that in the future you can sequence things with much more speed and accuracy.

Tip: To delete a part, select it (left-click it) and then hit **Backspace** on the computer keyboard.

To record again, just repeat the steps above.

Snap

Snap is extremely important. Without it, it would be very difficult to make parts in the project window which were exactly the right length, whether it's bars or beats we are after. What snap does is makes sure that any movements you make and any edits you do are constrained to a grid, which minimizes the room for errors. Whenever you're making any changes in the project window, make sure that snap is turned on, and initially make sure that it's set to **Bar**. The settings for Snap are found at the top of the project window, and the correct ones are shown below:

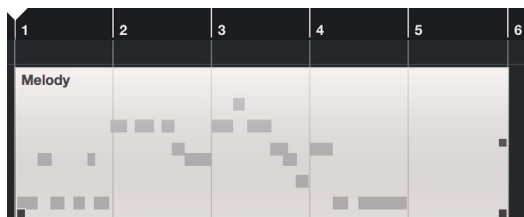


The button at the left turns snap on or off. Next to it is an area that shows the current setting (which is set to Grid). The size of the grid is set by the next two boxes - the first is currently set to Bar (which we want). Ignore the 1/16 section for the time being – this only applies if the middle menu is set to **Use Quantize**, which you will need later on.

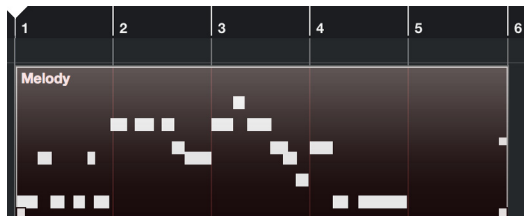
Later on, as your sequencing develops, you will find times when you don't want to use snap, or you want it set to different values. But initially it's best to stick with it set to a grid of bars, as this leaves the least room for problems!

Trimming a part to size

When creating a song, it's often made up of smaller 'building blocks' – these could be a verse, chorus or other section of a song that you wish to repeat. When you originally record them, they might end up being too long, for instance if you didn't hit stop right on the end of a bar, you may well end up with a bar of silence. This can be easily trimmed away – just hover your mouse over the part in question, and it will have small 'handles' at the bottom corners – one for the start and one for the end.

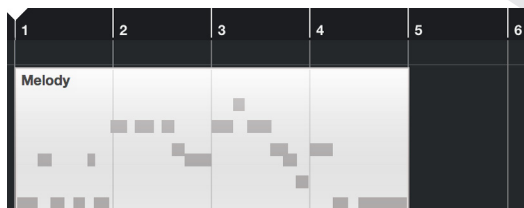


Here we see the part, with a bar of silence at the end. At the bottom corners there are 'handles' which you can click and drag to size the part.



If the part has been selected, it will look like this - dark with the 'handles' being lighter.

In either case, you can click and drag the end one to the left...



... to produce a part of the correct length. Note that if you do this to an area which has notes in it, they will not be played, but they are not lost – you can extend the part again using this technique and they will re-appear.

Make sure snap is turned on when doing this, or the timing of your part will suffer.

Adding another track

To add another track, you can do so in the way you did before – go to **Project > Add Track > Instrument**. It is important to experiment with the different Instruments you have on your system, which can create a wide range of sounds.

Adding Drums

Drums are an important part of many styles of music, so adding them is often needed. To do this, create an instrument track as shown above, but this time you will pick **Groove Agent SE** from the Instrument menu. Now, using the patch selector (as shown on page 8) pick the Dry Standard Kit (remember you can search for it with the keyword 'drum'). This means that instead of playing notes, the keyboard will play drum sounds – on most keyboards/synths you will find that the C note to the left of the keyboard will be a bass drum, with snare above it on D and E, toms above that, while the hi-hats will be on F#, G# and A#. Learning what sounds are where will take some time (experiment to find which sounds are where), but the basic parts of the drum kit are found on the left-hand end of the keyboard. As before, recording drums is just like recording any other MIDI, although the playing may be more complex if you're trying to play a full kit's worth at once.

Adding more notes to a part

If you have problems playing all of a drum track at once, then there are a number of ways to do it. The first way is to record 'on top' of the first part you have recorded. Simply go back to the beginning of the track, and then record again on the same track – the notes you've already played will be played back to you, and you'll create a new part on top of the original one; Cubase will show the part with diagonal lines on it to show you that there is more than one part in that location, and once you're happy with the second part you have made, you can select the 'glue' from the toolbar at the top and glue the top part to the bottom – you'll now see a part with both sets of notes in (see diagrams below). Once you're finished working with the glue, you can return to the arrow tool, either by using the toolbar, or right-clicking on the white area of the project window and selecting it from the pop-up menu.



Here we see the initial part that has been recorded. Cubase is set to record from the start on the same track, and we see below....



... that the notes get recorded and seem to be in the same part, but the part has a diagonal pattern on it - this shows that there is another part below this one. Both still play, even though they are on top of each other. If we want them to be one part, we select the glue from the toolbar above, and click on the part, leading to...



.... a final part which has the notes of both parts.

Picking which tracks play

Cubase has two important buttons which will let you hear the tracks you want, and stop others from playing.

Mute

Mute will stop any track that has it turned on from playing. Click on the button so that it is selected in yellow, and play your track back - the track will not be heard. You can do this for as many tracks as you want. To un-mute them, either click the mute button on the track, or you can clear all mutes with the clear mutes button which is in the toolbar at the top of the window.

If you want to mute a track you have selected (i.e. it is in white in the list) then press **M** on the keyboard.

Solo

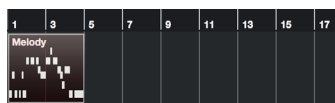
Solo will mute all tracks other than the one(s) you have soloed (press **S**). This makes it quick and easy to hear a track you want to hear in isolation. You can solo multiple tracks if you want, and each one is toggled by clicking the solo button on the track in question. CTRL clicking a Solo button will mute any other already soloed tracks. As with mute, there is a clear all solo button in the toolbar at the top of the window.

Creating an arrangement

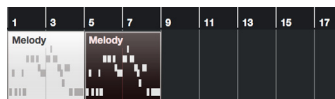
Usually, a song will consist of several parts, some of which will be repeated. This can be done quickly and simply in Cubase. Firstly, create the parts that you want to use for the song – you can do this on several tracks, using different instruments, but for clarity the diagrams below will only show one track.

The first thing to realise is that you can move any part to a new location by clicking and dragging it there. When you do so, make sure you have snap turned on, as then your part will be in time. You can also drag a part to a new track to make it play on a different sound – sometimes this happens accidentally.

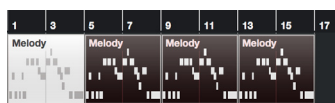
However, often copies of the original parts are needed, to make the piece larger – repeating sections of an entire song, or copying a bar from one place to another. There are a few ways to do this, as seen below.



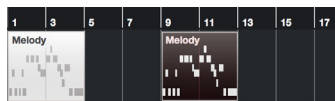
Here we see the original part, 4 bars from bar 1 to bar 5. For each step below, the first part has to be selected.



Edit > Functions > Duplicate. A single copy is made, directly after the original part.



Edit > Functions > Repeat. A new dialogue box appears, asking for the number of copies – here 3 was entered. Useful for creating many copies.



Holding down **ALT** while dragging the part to a new location will create a copy – this is useful when a copy doesn't need to be directly after the original.

Using these simple techniques allows a song's structure to be built up quickly and easily.

Practicing a section

When a part is simple to play, then it can often be done with little practice. But sometimes it's necessary to repeat a section so you can practice or work out what you want to play. Here's where the locators come in. Cubase has two main locators, left and right. They can be used to create a cycle which Cubase will repeat until you tell it otherwise. To do this, firstly we need to set the left and right locators. This can be done in a number of ways:

- 1** – Double-click the area on the transport bar where the current value of the locator is, and enter a new value. For bar 5, just hit **5** and **Enter** on the keyboard.
- 2** – You can **CTRL-click** on the ruler (showing the bars across the top of the project window's white area) to set the left locator, and **ALT-click** to set the right locator. This needs accurate mouse placement, though.
- 3** – If you have a part or parts that you want to cycle round, select them and then hit **P** on the keyboard.

All of these will set the locators, and once you have done this, you can activate **Cycle** on the transport bar (the button to the left of stop – it will turn blue when it's on), and Cubase will cycle round the contents between the two locators. You can now practice the section that you wish to record or create until you get it right.

Cycle Recording

While cycling to play a section and practice it is useful, it is also useful sometimes to record while in

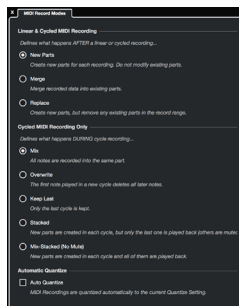
cycle mode. This gives a number of different options, including recording several different versions of the same part, or to add notes to the part as you go. We will look at three of the available options.

Adding notes to a part

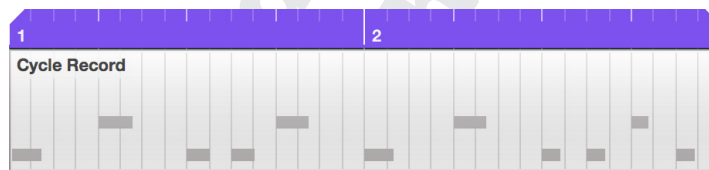
A common need is to add notes to a part. While we have seen this being used when recording without Cycle mode, in cycle mode it is possible too. The first thing is to ensure that the MIDI Record Mode is set to Mix, by clicking the button below:



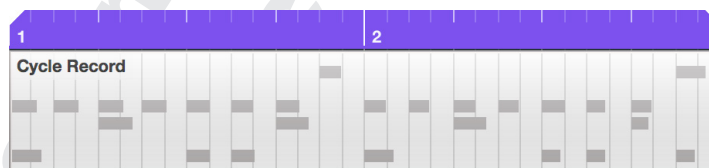
Clicking here will summon the MIDI Record Modes menu:



Now, with the locators set, a part can be played. Each time round the cycle, the notes you play will be added to the previous notes - they will not overwrite them. This is a quick way of building up a drum part, as seen here. The first time round the cycle, the bass and snare drums were played:



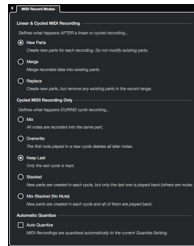
The next time round the hi-hats were added:



You can cycle round as many times as you like, and whenever you add a note it will become part of the recording.

Keeping only the last version

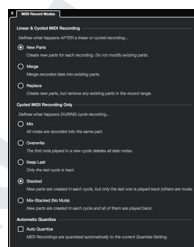
If you want to keep only the last version you record, this is easily done. Set the MIDI Record Mode to **Keep Last**:



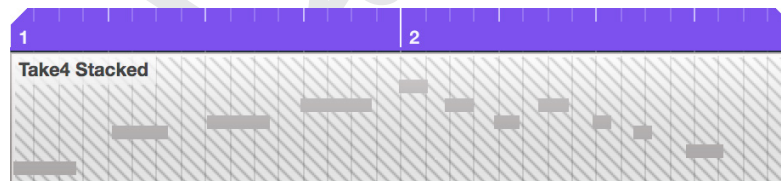
Now proceed as in the previous section; when you stop, only the last version you did will be left. This can be useful when you are trying to get a part right, and will stop as soon as you have done that. Often if you keep starting and stopping to record, it can stop you from getting in the feel of things, so having Cubase cycle round until you get it correct can save time.

Recording different versions

Sometimes, you may want to keep recording while you play different versions of that section, and then decide later which version you want to keep. To do this, set the MIDI Record Mode to **Stacked**, from the right-hand side of the pop-up menu on the Transport Bar.

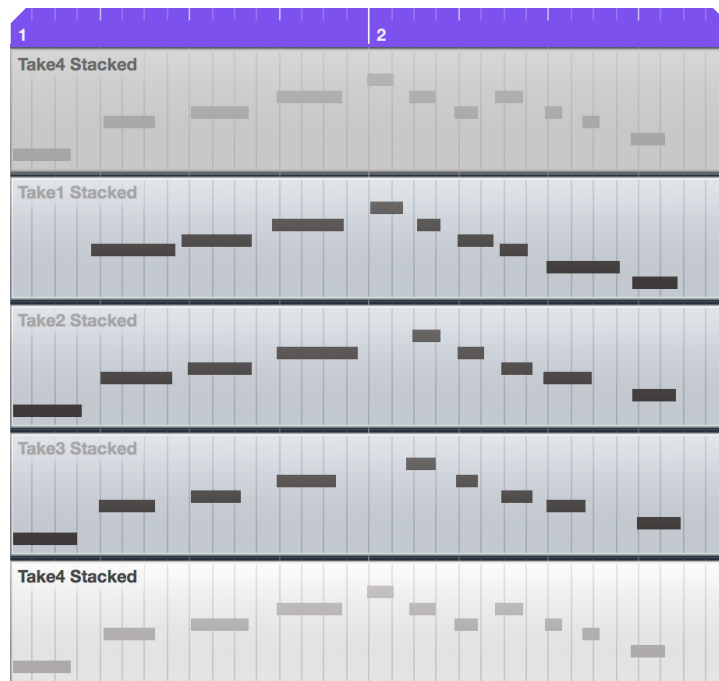


As you record with cycle turned on, you will see each part recorded, and it may look as if the other versions have been lost (much as in the previous section) - here is the result after four cycles.

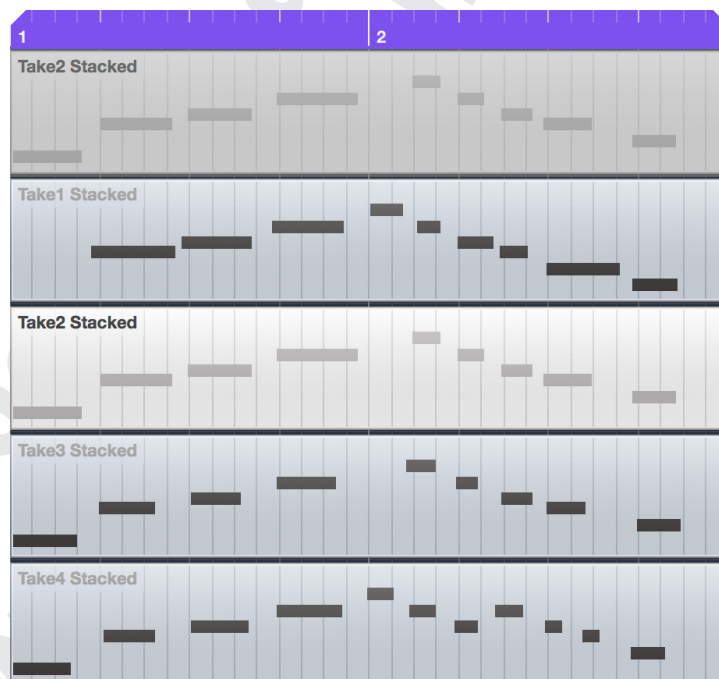


Note that the part says Take 4 - this was on the fourth repeat. If we play the track back, we get the fourth version that was played. However, the others are still present. Clicking the **Show Lanes** button will reveal the previous 3 Laps.





At present, Lap 4 is the version that is heard. If you want to hear another one, you can use the Mute tool to mute one of the lanes, and then again to allow another one to play (see page 25 for the Mute tool). Note that if you change the lane which is active, the note display on the track changes to reflect the part that will be played - here Lap 2 has been chosen, and the track part reflects this both in name and note content.



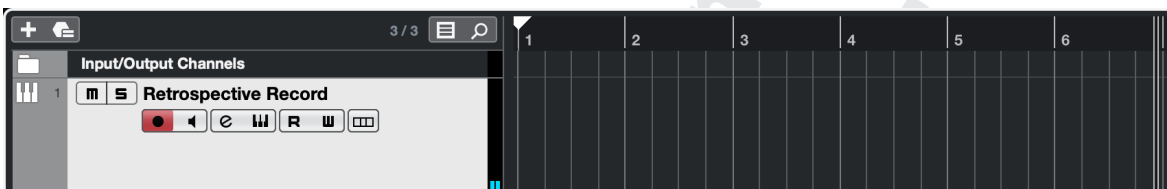
If you want to return the track back to being viewed normally (without lanes), then click the Show Lanes button again.



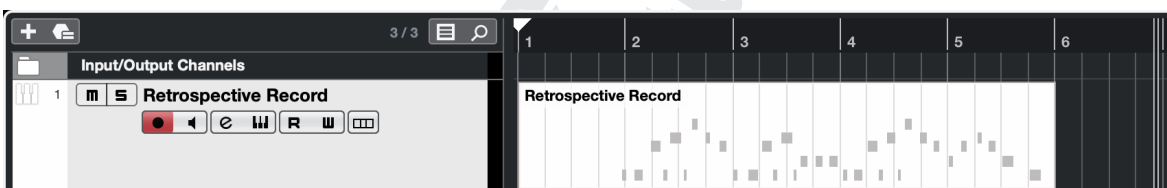
Retrospective Record

There will be many times when you will play an idea that you think worked well, but you weren't recording it - and sometimes it can be difficult to remember exactly what you did. In the past, this would have been gone forever, but Cubase has a feature called retrospective record which essentially means Cubase is always recording MIDI input. This means all you need to do is press the retrospective record button and the events will be put onto the currently-selected track.

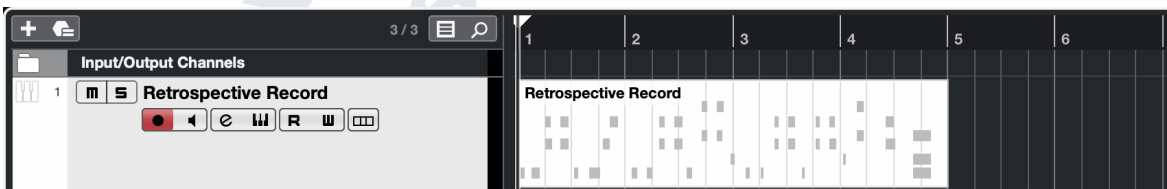
Here's an example - while it is difficult to see something that hasn't happened in a screen shot, you can try this yourself to get a chance to see how useful retrospective record can be. The setup is simple - a single instrument track in a project. Play was pressed (but NOT record!) and a MIDI keyboard was played for a few bars of melody. After hitting stop, this was the result:



No MIDI data has been recorded to the track. However, pressing the retrospective record button will make Cubase behave as if record had been pressed:



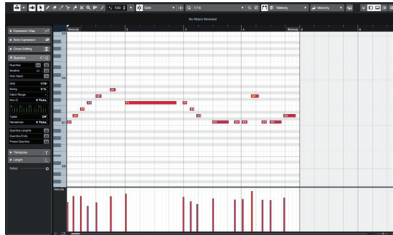
The MIDI data can now be edited as normal - it is now a normal MIDI part. Retrospective record has another trick up its sleeve - you don't even need to have pressed Play - if you have just been playing MIDI while Cubase has been in Stop mode, it will still record. Again, starting from a blank track, but not pressing play, MIDI notes were played on a keyboard. Pressing retrospective record this time once more generated a recording:



Clearly the timing of this may be off (as there was no metronome to play along with), but it can still be invaluable to capture those inspirational moments that come along every now and then.

Editing

One of the most powerful reasons to use a computer for creating music is that you can alter what you've played after the event – you can change the sound that something is played back on, and you can also alter the notes that you've played. Simple editing will save you hours of work – while it is always a good idea to try to improve your keyboard skills and play something in real time, there will always be times when you will need to edit what you have played. To open the editor, double-click a part you have recorded. This will open the 'key editor', which is like the paper roll from a player piano.



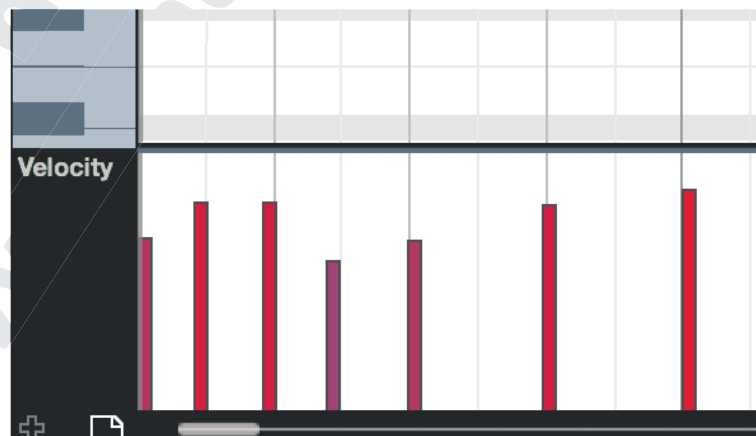
Here we see the key editor, with time running from left to right, and the notes going up the left-hand side of the screen, from low to high. The notes of the part are represented as rectangles, and the colours show how hard the note was hit (called Velocity in MIDI terminology), from blue to red (soft to hard).

The first editing is quite simple. As we've seen in the project window, each note can be moved to a new location, and again it is controlled using snap – this will make the notes 'stick' to a grid, and we can set the size of the grid.



Listen to the part you've created, and work out the grid that it should fit to – if it has only one note per beat (quarter notes/crotchets), then set the snap to $\frac{1}{4}$. If it has two even notes per beat (eighth notes/quavers) then set it to $\frac{1}{8}$, etc. Once you have done this, you can move the notes to the 'correct' location by clicking and dragging them – note that the position that you click on the note is crucial – if you click at the beginning or end you drag the note out. If they are all fairly close and you have set the snap setting correctly, then hit Q on the computer keyboard for 'quantize' – this will move each note to the nearest 'correct' grid position; this may or may not work well depending firstly on if you've chosen the correct snap setting, and secondly if you've played it accurately! It's not unusual to have to correct some notes by hand, but quantizing can save a lot of manual work. If there are any notes that you don't want, you can select them and hit **Delete**.

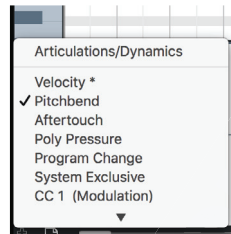
You can also edit the velocity of the notes that you have played (i.e. how hard you played them – for most synths this translates into the volume of the notes being played). This is done in the "controller lane" at the bottom of the window, as seen here:



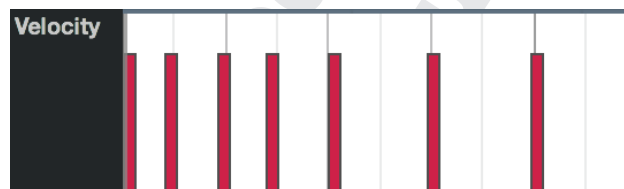
If there is no controller lane, click on the plus at the bottom of the editor area and one will appear.



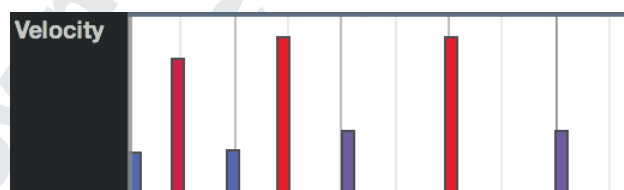
If the controller lane is not displaying velocity, click on the triangle that appears on the current controller name to bring up the pop-up menu, and pick Velocity from it.



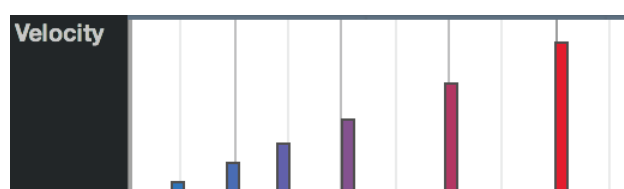
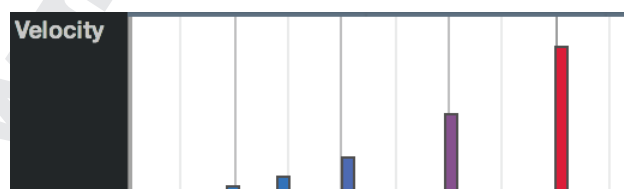
You can pick a variety of parameters to edit with the pop-up menu on the left of the lane, but Velocity is what we're after at the moment. You should see coloured bars which represent the velocities of each note that you have played – by default, they will be short and blue for lightly-played notes, tall and red for notes that were played loudly, and in-between for others. You can see that in this example, they are all the same velocity (100 in this case, from a range of 1-127).



To edit the velocities, you can move the selection tool over the velocity area - note that it turns into a pencil when you move there. You can now click and drag the note velocities to the desired levels, and you should hear the effect of doing so.



You can also use the line tool in a variety of modes (see page 26), which will allow you to alter the velocities in a number of different ways.



Once you're finished in the editor, hit **Enter** and you'll be back to the project window.

Non-Keyboard player tips

If you are not already a competent keyboard player then you may find sequencing quite frustrating or difficult – particularly if you are trying to sequence something that already exists. There are a number of things you can do to help your situation:

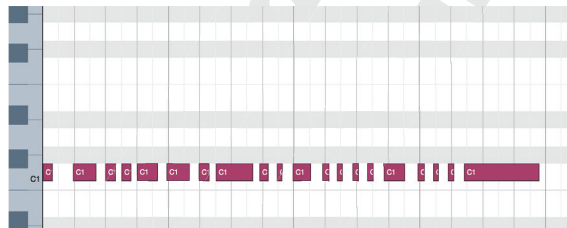
Keyboard Skills – improving these will pay the largest dividends. If you can learn basic keyboard technique it will enable you to translate your ideas into parts a lot more quickly. Knowing where the notes are on the keyboard is important, as is being able to play simple chords. If you can gain some independence between your two hands then this will make matters even better, particularly when you start to program drum parts in real time.

Slowing things down

Often a complex part will be difficult to play at the correct speed, and one way round this is to slow Cubase down, and then play the part at a lower (achievable) speed – see page 6 – and you can then put Cubase back to the original speed.

Recording rhythm then changing the pitch

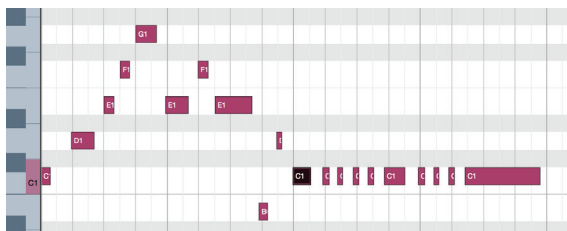
This is a useful skill when you know what you want to play but can't do it quickly enough (or it's too complex to get). Firstly, pick a note that fits OK with whatever backing you have, and then record the correct rhythm of the piece, but all played at the same pitch – this should be doable for just about everyone. Below we see the rhythm of our melody has been recorded, all on a single note.



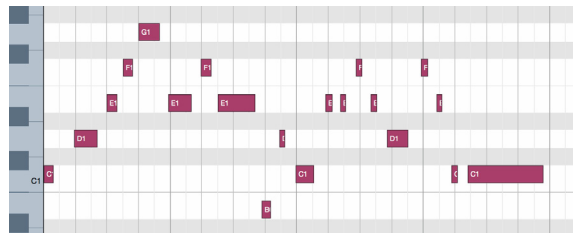
The next step is to correct the pitches of the notes that you've played in. You can do this by editing each one, but it can be laborious. If you know what notes you need to play (which is often the case with a melody which you know or that's written down) then open the part you have just recorded in the key editor. Select the first note of the melody, and then click the MIDI Input button at the top. This enables input from the MIDI keyboard. You will see there are three buttons with notes on to the right of this. Make sure the ones with the arrows are turned off - this will mean only the pitch of the note is being altered as you press keys on your keyboard. The correct setting is shown below.



You can now play the correct pitches in, one at a time, and Cubase will alter the pitch of the current note, and move to the next one. In this way anyone who can't read music quickly can input a rhythmically accurate version and then change the pitches quickly - below is the part with half the notes replaced.



Below is the completed melody. Don't forget to turn MIDI Input off after completing the task, as otherwise you may accidentally alter a part without realising.



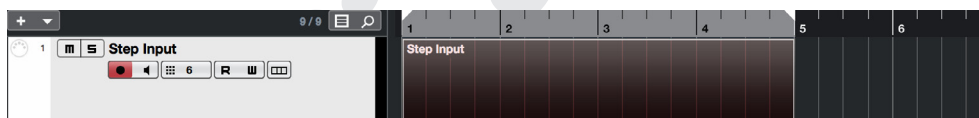
Step Input

There is another way to record MIDI data in Cubase, and instead of being in real-time (like the recordings we have already seen), it is done in what is called 'step time'. This means that there is no clock or timing running, instead Cubase will move forward in time each time you play a note, and you can wait as long as you like between them. This removes the need to play notes in quick succession, which can often be useful for those first using the keyboard, or when sequencing parts which are too difficult to play at a reasonable speed. It also opens up some more creative possibilities as well.

To use Step Input, firstly create a new, empty part. This can be done in a number of ways, either selecting the pencil tool in the project window and clicking and dragging to draw the part:



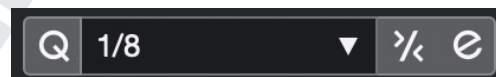
Or if you have your locators set you can double-click between them on the appropriate track.



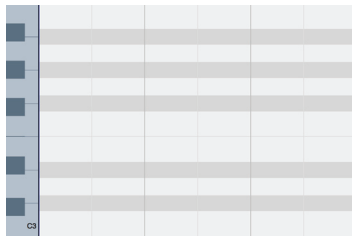
Once you have your part, double-click it to open it in the editor. You will now need to turn Step Input on, using the icon located towards the top of the editor. (you may need to enable **Step/MIDI input** by clicking the cog in the top right of the editor window)



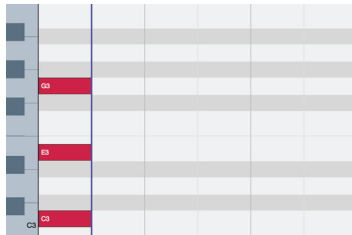
Next, set the step size. This is done by altering the quantize value at the top of the editor, seen here set to 1/8.



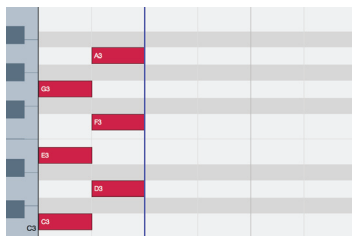
Finally, you will need to set the step input location - where you want the first note you play to appear. Usually it will be at the beginning of bar 1. You can change it by pressing the left and right cursor keys on your keyboard - you should see a blue line showing where it is (it becomes yellow when it coincides with Cubase's play position line). You can also set it by clicking in the main section of the editor window (where the notes appear).



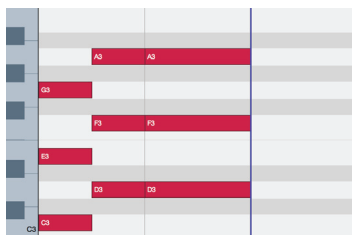
Here is the empty part, with the step input line on the left - it is in yellow as the play position line is there too, so difficult to see. However, Cubase is ready to take the next note or chord played, and when you do so and release it...



...two things happen: Firstly, the note or chord that you played has been created in perfect time - it starts precisely where the input location was set, and it is exactly the length you set. Secondly, the blue step input line will have moved on to the next grid division, ready...



... for the next one. Once it is played and released, the same thing happens again - the 'perfect' chord/note is created with the right start and end points, and the step input line moves another division forward.



Note that it's possible to change the quantize value without leaving step mode - the next chord/note you play will be input with the value you have set (here it was changed from 1/8 to 1/4).

Note that when you are using Step Input, once you press a key on the MIDI keyboard, you can press more keys to make a chord, and it is only when you release them all that the input is actually taken, so you don't have to hit all the notes at the same time. As with MIDI note input above, ensure you turn Step Input off when you have finished, or you can enter notes without realising it!

Saving your work

This is the most important thing you can do! Make sure that you save your work regularly. It is an unfortunate fact of life that computers crash sometimes. Cubase is a very complex piece of software – we've just scratched the surface of it here – and sometimes it crashes. Whenever you've done something that you like, save your work! It's quickly done by pressing **CTRL+S**, and it can save you hours of time if something goes wrong. You can also set Cubase to auto-save by going to **Edit > Preferences > General** and ticking **Auto Save** – it's really easy to forget to save work in the middle of a sequencing session, so this is a good idea. If you need to back your work up, then see page 44 for how to do this.

The toolbar

At the top of the project window and editors in Cubase you will see the toolbar.



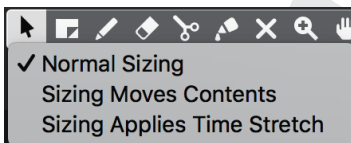
This allows you to select different tools, making the mouse cursor perform different tasks. We will now look at the tools that are available to you, and some of their uses.

The Selection Tool

(Press 1)



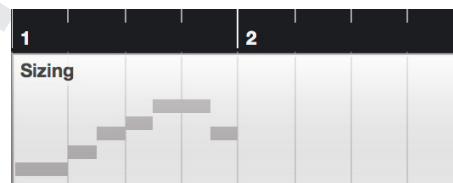
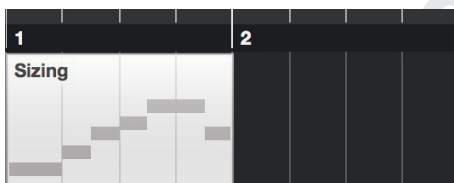
This is the default mode - the arrow that you have already been using - where you can click and drag a part to a new location, and use the sizing handles that appear to alter the length of parts. This is the mode you will use more than any other, and it can be accessed by pressing **1** on the main keyboard. If you click and hold on the tool on the toolbar, a pop-up menu appears:



This allows the selection of different modes for the tool, which alter what happens when you re-size an event. Note that pressing **1** repeatedly will cycle through these modes.

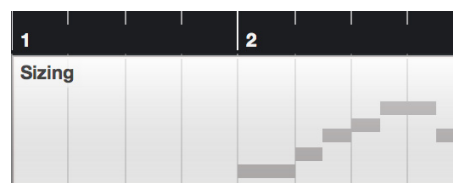
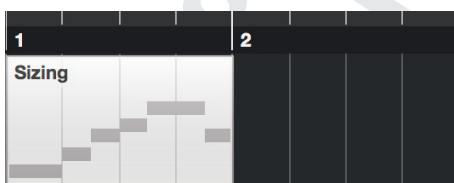
Normal Sizing

As we have already seen, it is possible to click and drag a start or end handle, and change the length of a part. This is the default mode.



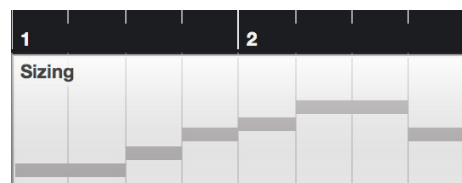
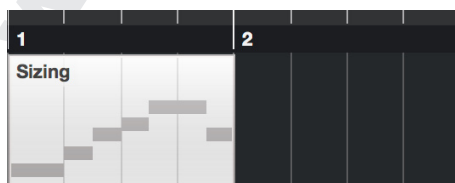
Sizing moves contents

In this mode when you re-size a part, the contents will move when you do so. Here is an example to show that in action.



Sizing applies Time Stretch

In this mode, when you re-size a part, the contents will be stretched or squeezed according to the change in length that you apply. Here is an example to show that in action.



The Range Selection Tool

(Press 2)



The Range Selection Tool lets you click and drag to select an area across a number of tracks, and then move the contents of the area you have outlined to a new location by clicking and dragging. It can be useful for making large changes to a sequence without having to spend a long time separating all the parts that you want by using the scissors (see the next section for the scissor tool). Here we see a sequence which has had an area selected by clicking and dragging.



Once the area has been selected, hover the mouse over it - it will turn into a hand and now the area can be moved by clicking and dragging.



Combine Selection Tools

(Press ALT + SHIFT + 1)



It is possible to use both the selection and range selection tool by clicking the button to the left of the selection tool. In this mode, range selection works in the top half of a track, and selection in the bottom half. It can save on mouse mileage, and make for a faster, more productive workflow once you have mastered its intricacies.

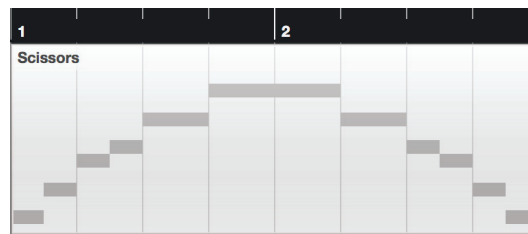
However, it can be frustrating to use at first as you need to be accurate when working in the project window, and it may well be something that is best left turned off while you master the use of each tool individually.

The Scissors

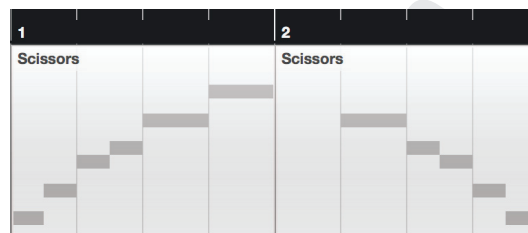
(Press 3)



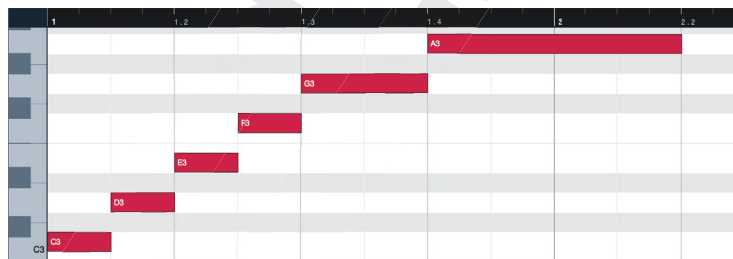
The scissors allow you to cut existing parts into smaller ones. Here we will see the scissors in action - here is an existing part:



Clicking with the scissors at bar 2 creates 2 parts from the original.



Note that the long note from the end of bar 1 (which extended over the bar 2 line where the cut was made) does not appear in the second part - the notes themselves are not cut. Looking inside the first part shows us that the note is intact, and extends beyond the new part.



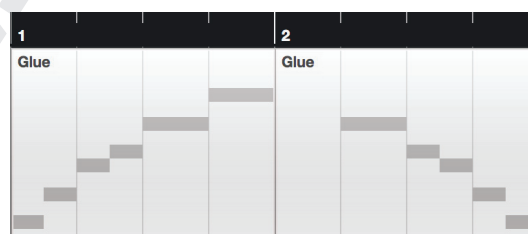
This can lead to some confusion when cutting parts with MIDI notes in, so be aware that things like this can happen.

The Glue

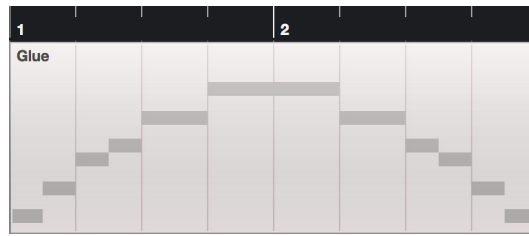
(Press 4)



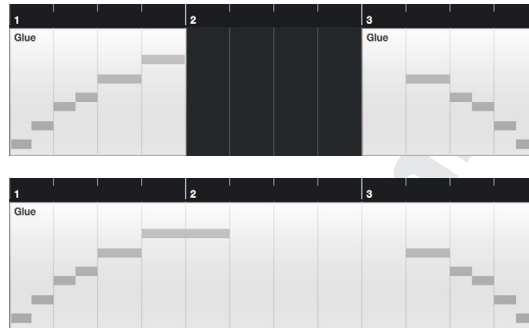
The Glue tool allows parts to be glued together and become one part. Taking the parts created by cutting above, we can see that the reverse of the cutting process happens:



Clicking on the first part glues it to the following one, as seen on the next page:



Note that the long note from the first part now has its true length shown. Glue can bridge the gaps between parts, as seen here:



Later on, when working with audio, note that glue will only glue audio events together that originally belonged together; if they didn't then an audio part will be created, which is a container with multiple audio events in it.

The Eraser

(Press 5)



The eraser allows you to delete parts by clicking on them. It is often quicker to stay on the Selection tool, click on a part and hit Backspace on the keyboard, but you may prefer using the erase tool.

The Zoom Tool

(Press 6)



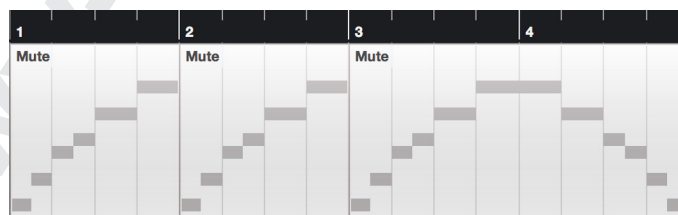
As its name suggests, the zoom tool controls zooming in and out. It has two main ways of working. If you click on a track without dragging, it will zoom in. ALT+click will zoom out. However, if you want to zoom into a particular area, you can click and drag that area using the zoom tool, and once you release the mouse button, that area will fill the screen.

The Mute Tool

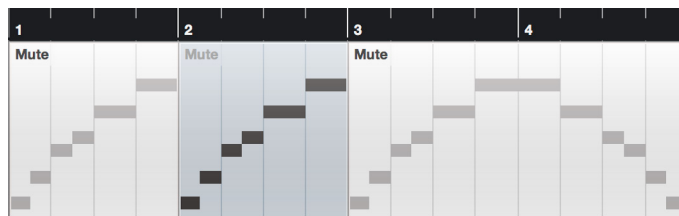
(Press 7)



The Mute Tool can be extremely useful - it allows the muting of a part, stopping it playing without moving or deleting it. This can be extremely useful for creating arrangements and testing ideas out. Here we see an original track, with three parts:



The middle part will now be muted using the mute tool - note that it has gone grey (easier seen on screen than in print!), and it will not be played.



Clicking again will allow the part to play normally.

The Pencil Tool

(Press 8)



The Pencil (or Draw) tool allows the creation of parts and events - this has already been seen on the section on Step Input on page 20. Clicking and dragging with it will create new parts or events, controlled by your current snap settings.

The Play Tool

(Press 9)



The Play Tool allows you to play a part by clicking and holding on it. Note that only the part you click on will be played - if there are other tracks which happen at the same time they will not be played. This is similar to using Solo, as covered on page 11.

The Line Tool

The Line tool has a number of modes, as seen below.



Line - creates straight lines



Parabola - creates curves. Pressing **CTRL** flips the curve



Sine, Triangle and Square - create repeating waveforms, with the wavelength (i.e. how often the cycle repeats) is set by the Snap value. This can be extremely useful for creating repetitive data. **CTRL**, **SHIFT** and **ALT** act as modifiers to change the creation mode.

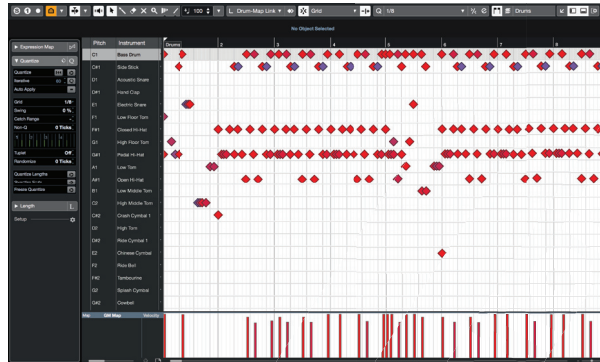


The Line tool allows the creation of notes in the editor, the editing of velocities and controller data in the controller lane (as seen on page 16), as well as automation data. In the line and parabola mode it can be very useful for making smooth edits of velocity and controller data. If you are feeling avant-garde, it can also be useful for creating unusual patterns of notes in the key editor.

In the key editor, another mode - Paint - exists, allowing free creation of note data.

Editing Drums

While it is possible to edit drum parts that have been played using the key editor, it is often better to do this editing in the drum editor – this is for two main reasons. Firstly, the length of a drum note is irrelevant – the sound will play for the same duration regardless of how long you hold the key down. Secondly, with a drum part it is often important to be able to edit the velocity and quantization of each drum instrument individually, and this is not easily achieved in the Key editor. To open the drum editor, select a drum part and pick **MIDI > Open Drum Editor**. You will see a window like the one below.

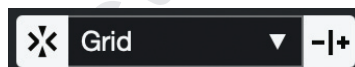


There are many similarities to the Key editor, but the main differences are listed below.

Each note (a drum sound) is represented by a single line, and named for convenience. It is possible to alter the order of the notes by clicking and dragging them by their names) to their new position.

The controller lane will only show the velocity of the currently-selected notes – notice in the above diagram only the bass drum velocities are shown.

Quantize can be applied globally or set individually; with **Use Snap from Drum Map** selected (as seen with the -|+ button below) then each drum instrument can be quantized to the appropriate value quickly and easily. It's also possible to pick **Use Quantize** from here, and set a single value across all drum instruments.



By default, note duration is not shown – each note is simply shown as a diamond, but the button below right can show note lengths if this is required.



The length of any notes created with the drumstick (the pencil tool, essentially) can be set with this menu - linked to the drum map or explicitly set.

Volume and Panning

The last thing we'll cover here is setting volumes of parts – this is important as the balance between instruments is totally under your control – you can do this by setting the volume using the slider in the inspector, as seen below.



The volume fader – from off (left) to loud (right) – click and drag the slider at the bottom to set it.



The pan control – this allows the sound source to be placed from left, through centre, to right; again click and drag the slider to set the position.

Both these controls work per track - it's important to remember that the Inspector works on tracks, not on parts.



Incorrect - a part on the Melody track is selected, but the inspector shows the settings for the track which is selected, in this case the Drums. Changing settings will alter the Drum track, not the Melody one.



Correct - the Melody track has been selected, so the inspector is now showing the settings for that track.

Getting the balance right between instruments can make a big difference to your composition and how it is perceived by the listener, so take some time to get this right. Also note that if they are set to "off" then it means that no value has been sent yet; it's never a good idea to leave them like this as you may inherit odd settings from a previous sequence.

The MixConsole

You can also set the volume and panning using Cubase's mixer, known as the MixConsole. It can be summoned using the **F3** key or via **Studio > MixConsole**. You should see a window similar to the one shown below.



At the bottom right are the mixer channels. These have faders which allow you to control the level of each channel. The channels are colour coded - by default, red for input or output channels, and cream for instrument channels. Moving the fader up or down will alter the volume of that track. The input seen on the left-most channel is the audio input - we will not be using this yet, but you may see a signal there (as seen in the screenshot) - don't worry about it for the moment. The right-most channel is the Stereo Out, and it controls the overall volume of your project.

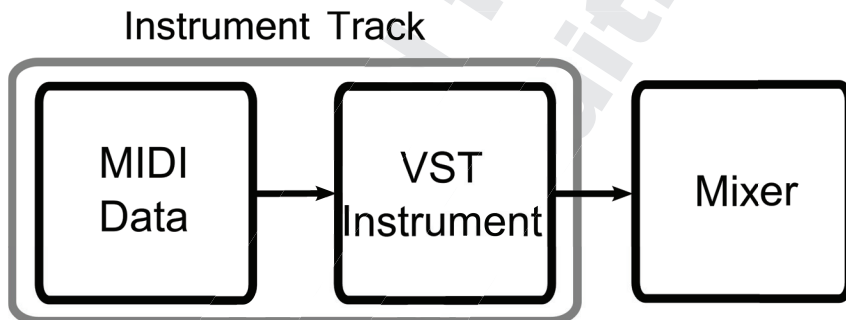
It is the same control as seen on the section on the Transport Bar earlier in this chapter. On the left, there is a section covering **Visibility**, **History** and **Snapshots**. This will be covered in the mixer chapter, but you can make a channel disappear from the mixer by clicking the circle to the left of its name. The section at the top right is where more in-depth manipulation of each channel can be performed, adding in a variety of effects and processing. We will not be using this section yet, but it will be covered later on in the mixer chapter and others. Remember - the mixer's appearance will change as you add more tracks, but the basics will remain the same. The MixConsole is covered in detail in its own chapter on page 8.

Instrument Tracks vs Rack Instruments

Cubase has two kinds of tracks with very similar features and function - Instrument Tracks and Rack Instruments. Originally, there were only Rack Instruments, but as Cubase has developed, Instrument Tracks came into being, combining MIDI data and a VST into one entity. When they were first introduced they had some limitations which have now largely gone, and as a result the two track types are now broadly similar. Let's examine both and look at what can be done with them.

Instrument Tracks

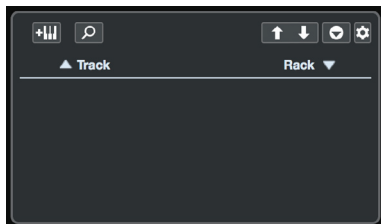
These are the type of track we have already used, and they allow us to create and edit MIDI information, but to have that information turned into sound using a VST Instrument (often called VSTi). As with all software synthesizers, they rely on using the computer's processor to create the sound, which can limit the number of sounds you can make (depending on how powerful your computer is, and how complex the synthesizer is). There are two big positives to using them – firstly you can create more than one copy of these to make more sounds – with a physical synthesizer that is not the case. Secondly, all of the information about and editing of the track occurs in one place, on the track itself - the diagram below shows how an instrument track works - it consists of a track with MIDI Data in it (which you will already have edited), but also contains a VST Instrument. The track then sends its output to the mixer.



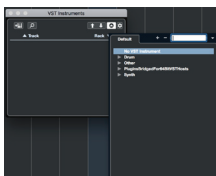
Don't worry if you find this confusing, you will probably find for most applications that Instrument Tracks will do what you need.

VST Instruments and Separate MIDI Tracks

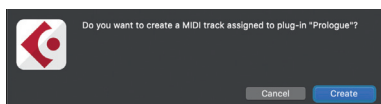
This way of using VST Instruments involves more steps – firstly you create the VST Instrument, and secondly you create a MIDI track to send data to it.



Firstly, go to **Studio > VST Instruments** and the VST Instruments window will appear. It can be accessed using **F11** as well as the menu, and you can run up to 64 VST Instruments, depending on the version of Cubase that you are running. If you have Instrument tracks, the instruments will appear in the top of the window, but to create a Rack instrument, click on the right, where it says **Rack...**



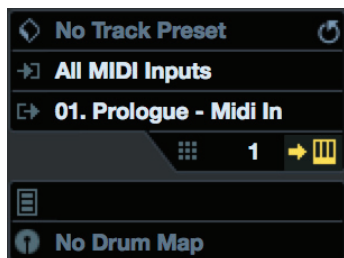
...to see a menu of the available instruments – we will select the **Prologue** that is included with Cubase. Your list may be different to this, depending on the plug-ins that you have installed.



You will be asked if you want to create a MIDI track for the prologue – you will usually want to, so click **Create**



Next, the Prologue will appear on screen. It can be played with the on-screen keyboard, but we will need to route MIDI to it to use it for any sequencing work or playing live with a keyboard.

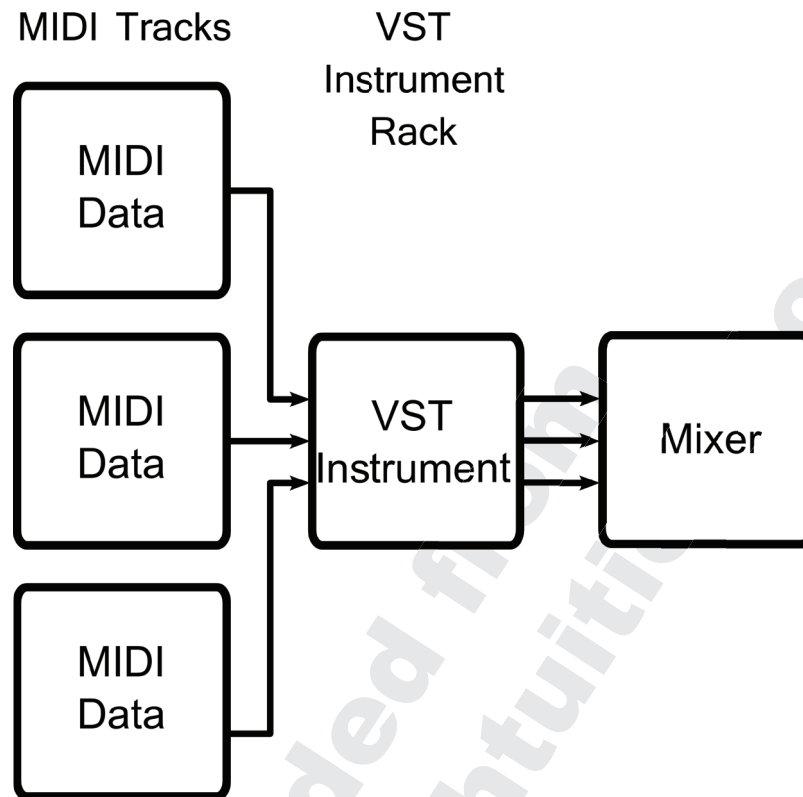


Here we see the outputs in the Inspector – note that the Prologue has appeared in a new 'group' on the list (and is currently selected).



...and the Prologue patches can be accessed here or in the Inspector, giving a large range of sounds. This is the same patch selection method as seen on page 8.

The diagram below shows the connection between MIDI tracks and a VST Instrument which is in the rack. As can be seen, multiple MIDI tracks can be sent to the same VST Instrument.



Advantages and Disadvantages

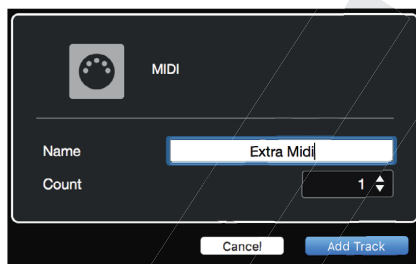
Clearly, using Instrument tracks is much quicker and simpler. In addition you will notice later on when you start using automation that it is much easier to do this using Instrument tracks, because everything is in one place; if you are automating a “rack” VST then you will need to go and find the track for the VST Instrument you are using, and in a large project this can take time. In the past, Instrument Tracks were limited - they only had a single stereo audio output, and could only accept MIDI from the instrument track itself. Now this is no longer the case, your preference is the main deciding factor between using Instrument Tracks and Rack Instruments. If you like having everything integrated into one track, then Instrument Tracks are the way to go. However, if you want to work with purely MIDI tracks and then send them to a single instrument (aping the way MIDI studios worked with physical synthesizers), then Rack Instruments may be the way to go. When working with many instruments at once, you may find that you need to use each synthesizer to produce many timbres at once (Multi-Timbral synths provide up to 16 different sounds), and then it may be simpler to use Rack Instruments. But at the moment, if you’re unsure then stick to using Instrument Tracks until it becomes apparent that you need to do something else.

Sending MIDI to an Instrument Track

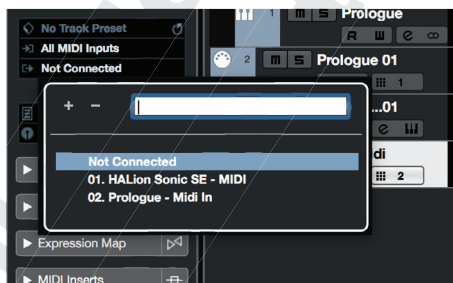
There are two main reasons to use extra MIDI tracks with an Instrument. Firstly, you may want to have multiple parts played by a multi-timbral synthesizer. Some synths (such as Halion Sonic SE) have the ability to play 16 different sounds, and when using this facility it makes sense to have each part on a different track. Secondly, it may be desirable to have the musical parts that are played by a synth split across multiple tracks to allow construction of layered and complex parts easily. Whatever the reason, doing it will involve a new type of track - the MIDI Track.

MIDI Tracks contain only MIDI data. There is no synthesizer integrated into them, so their output needs to be sent to a synth to turn the MIDI data into audio.

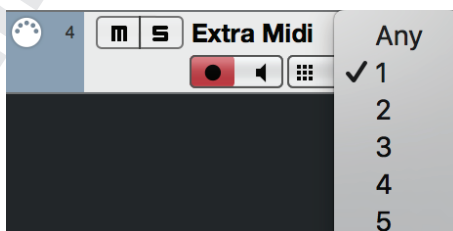
Creating one is done in the same way as other tracks - either right-clicking in the track list area, or going to **Project > Add Track > MIDI**.



Once created, there are two important settings to alter. The first is the output - this picks the destination instrument that the MIDI data will be sent to. This is done in the inspector, as seen here.



The other setting may or may not be crucial, depending on the synth; the MIDI channel. MIDI data streams can contain up to 16 channels, and the synth may be 'listening' on a specific channel, or it may listen to all of them (this is called OMNI mode). Often if there is no sound generated, the MIDI channel is wrong; many synths default to channel 1, so set it by clicking on the number either on the channel (as shown here)...



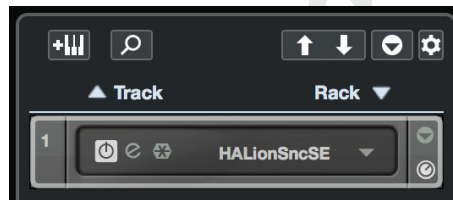
... or in the inspector - both are the same setting, so use whichever is most convenient.

Using more than one output on a VST Instrument

While in many cases as single audio output for a VST Instrument (VSTi) will be appropriate, there are some occasions when more than one output is useful, for instance having a multi-timbral VSTi (such as Halion Sonic SE), and wanting to apply Effects or Automation to one of the sounds without it altering any of the others. In such a situation, it is possible to use more than one audio output on a VSTi, and the next section shows how to do this. If you are just starting out in sequencing this may not be needed at this point, but there will come a time when you'll want to do this - so if you're following the book from start to finish, you may want to remember this and return at a later date. There are three main steps to achieving this - two are mandatory, and the last makes working in the project window a lot easier when you have multiple tracks using different outputs on the same instrument.

Setting up the outputs in the rack

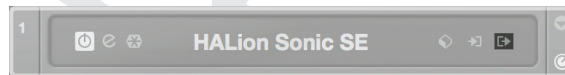
The first step is to activate the extra outputs needed in the VST Instruments rack - either in the Right Zone (**CTRL + ALT + R**), or in the VST Instruments Window (**F11**). By default this area is smaller than needed to see the outputs menu directly ...



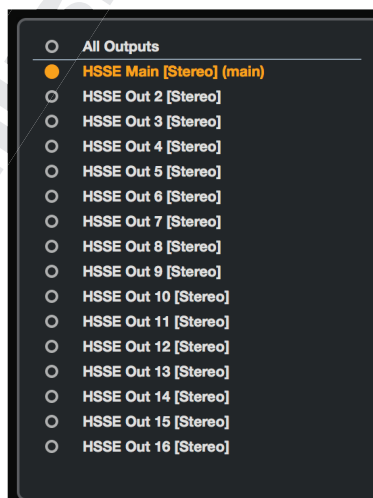
... so resize the window to show all the options.



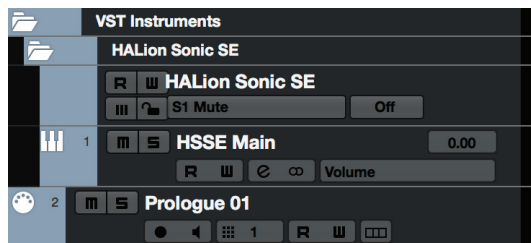
To turn an output on or off, summon the menu using the outputs button...



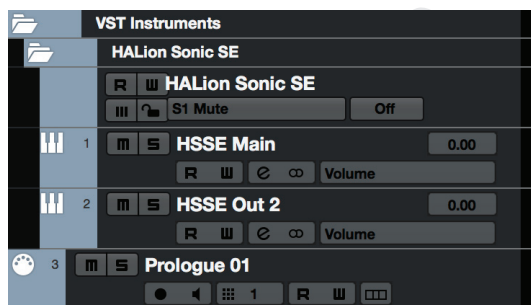
...and a menu will appear showing all the possible outputs from that instrument:



Extra outputs can be turned on here, and you will see a change in the Instrument track in the project window when it changes from 1 output...



... to 2:



This can be repeated for as many outputs as needed. Remember that each output will add a track to the project window and mixer, so you want to only turn on outputs as they are needed.

Assigning an output from inside the instrument

The next step is to change the audio output that a part inside the instrument is using. This is different for each instrument. Here is Halion Sonic SE, on the Mix page, and the outputs are currently all set to Main at the right hand side of the window.



Selecting a new output is as simple as clicking on the current output - which is **Main** by default - and picking one from the list.



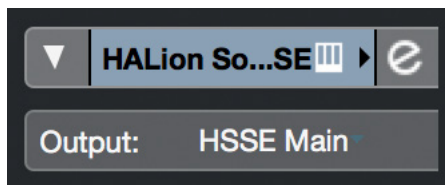
Selecting a different output will now cause the audio for that channel to be output there, allowing processing for that track to be achieved separately. Note that it is possible to select an output inside a VST Instrument which has not been turned on in the rack, and this will lead to that channel being silent. Note that it is possible to select an output inside a VST Instrument which has not been turned on in the rack, and this will lead to that channel being silent.

Separate outputs are not only useful for multi-timbral synths - many percussion synths can benefit from this (with the kit effectively being a timbre per MIDI note, you could consider it a massively multi-timbral synth). The same process can be applied, for instance, to Groove Agent SE5, by selecting a different output per drum pad. The output is selected in the Main area of Groove Agent, as shown below, and the output selected from the same list of 16 possible outputs.

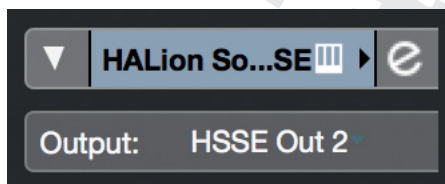


Linking the Inspector to the Output Track

One of the biggest drawbacks of using separate VST Instruments and MIDI tracks is that there are two tracks for the overall part - one for the MIDI data, and another for the audio output of the instrument. This can make editing a little more complex, and using Automation also means splitting attention between two tracks (some parameters will be part of the MIDI track, others will be part of the instrument). To make this a little easier, Cubase can be told which VST Instrument output track is being used by the MIDI track, allowing the Channel Settings window for that track to be opened quickly to view audio settings. By default, it will be set to the main output of the instrument in question, as seen in the Inspector below (note that you may need to scroll down the Inspector to see this, depending on the overall window size and open sections in the Inspector).



This can be changed to any active output of the instrument in question by selecting it from the menu that pops up.



Clicking the e in the inspector will now open up the appropriate audio channel, and this alone can make the separation of multiple audio outputs from the MIDI tracks that they are being driven by much simpler to understand.

Setting up multiple outputs properly can take a little time, but the increase in creative possibilities it opens up compared to using a single stereo output mean that it is worth spending the time on it. The first time you do this it will probably seem complex, but after a few sessions using it you will wonder how people got by without access to individual outputs for each part of a 16-part multi-timbral synth!

Considerations for VST Instruments

Bear in mind that each VSTi uses your computer's processing power to create sound (some more than others), so you may find that you can only run a few on your system before it runs out of processing power. There is a great advantage of software synths though – if you need another one (and have the processing power) then you can just create another one in the rack – no extra expense!

Another issue is called latency – you may find that when you press a key, there is a delay before sound is heard. This is latency, which is the delay between the CPU processing some audio (in this case making a sound) and it being output by the sound card. If there is a significant delay, you may need to alter the latency, or you can record your parts using a “normal” MIDI synth, and then play them back using a VSTi – this is possible because Cubase can take the delay into account when playing back a part from a MIDI recording.

MIDI Devices

When looking at the output list in the Inspector, you may wonder why there are different groups of outputs – there is always **Not Connected** available at the top, but in addition there can be three other groups.

The bottom group is a list of ‘actual’ outputs – these will be physical MIDI ports which exist on your setup, and often the Microsoft software synth that is part of Windows. These will allow you to play MIDI, but Cubase will not give you any listings of patches that are available with them.

Above this there can be two different groups, which may alter depending on how you have the system set up.

There can be a list of “MIDI Devices” – this is a way of telling Cubase about the synthesizers you have in your studio, and what MIDI connections they use. For instance, if your system has two MIDI outputs with a JV1080 attached to output 1 and an Emu Proteus 2000 attached to output 2, you could use the MIDI Device Manager to set these up. They would then appear in the output list. Although the MIDI information will still pass to the same output (output 1 if you have selected the JV1080), Cubase will now give you a list of the patches that a JV1080 has available, making sound selection a much easier proposition.

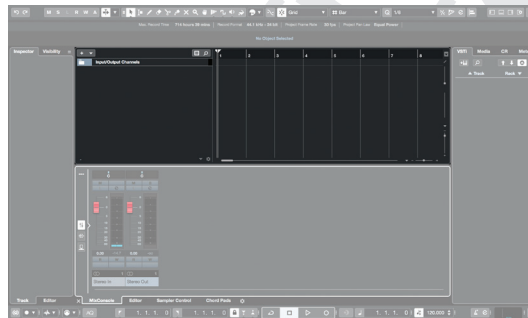
There can also be a list of VST Instruments – if you have set any of these up (as shown previously in this chapter) then each VST Instrument will appear here.

The Project Window in Detail

You have already been using the Project Window - it is where the majority of your recording and arranging work will take place. There are a number of features that have not been covered, so we will now look in more detail at the sections of it. It consists of a number of different areas, most of which can be hidden from view, allowing you to give maximum space for the task you are working on.

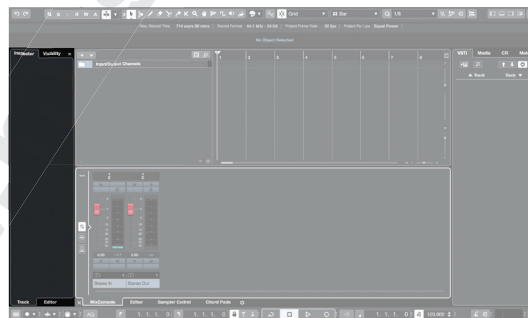
We will look at the different areas of the project window that are available, and how to alter the setup; the default view may be a little crowded on some screens, and you will soon get used to altering the setup quickly to suit whatever you are working on at any given time. Good knowledge of what information is available where, and how to control this quickly and efficiently is important to ensure that you are concentrating on the task in hand (creating music) rather than searching for information. Many settings in Cubase are available in multiple locations, so being aware of this is also an important part of learning how to work efficiently.

The Main Area



This is where your tracks are shown, and any parts (be they MIDI, Audio or any other type) will be displayed. On the left of this section is the track listing area, and on the right is the main area where your parts will be. Time runs from left to right, and here the time shown in bars. This part of the window is always in view, and is where you will be doing a considerable amount of the work you do in Cubase.

The Left Zone

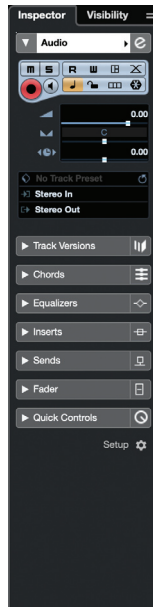


The left zone holds two main tools - the Inspector and the Visibility list. It can be toggled on and off with the keyboard shortcut **CTRL + ALT + L**, or with the button at the top right of the tool bar (where the right and bottom zones can be toggled as well):

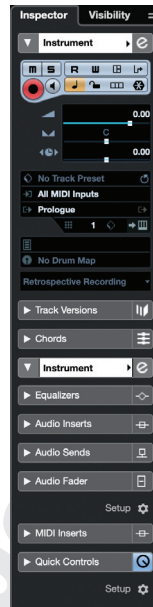


The Inspector

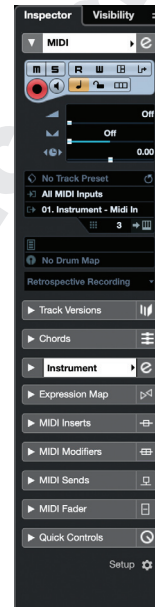
The Inspector allows a wide range of settings for the selected track to be altered. The information that is available here will depend on the track type. Here is the Inspector view for three example tracks - Audio, MIDI and Instrument - which are the most common track types you will be dealing with, but there are others with different functions available here. Many of the changes you will make that apply to a track can be made here, although there are some (such as audio effects) which can also be made in the mixer as well as the channel settings window.



Audio



Instrument



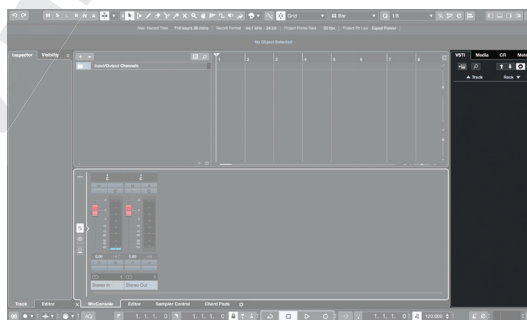
MIDI

The Inspector can work in either Track or Editor mode; if an editor is open in the lower zone, then the editor section will become available, and the Inspector's mode will depend on which window has focus.

Visibility

The Visibility section allows tracks to be hidden. Note that hiding a track does not stop it playing back. It is possible to sync the visibility settings between the Project Window and the Mix Console by selecting that option in the menu to the right of Visibility - without this activated, the two are independent.

The Right Zone



The right zone holds four sections - VST Instruments, Media Bay, Control Room and Meter. As with the Left Zone, it can be toggled on and off with the button at the top right of the tool bar, or with the keyboard shortcut **CTRL + ALT + R**.

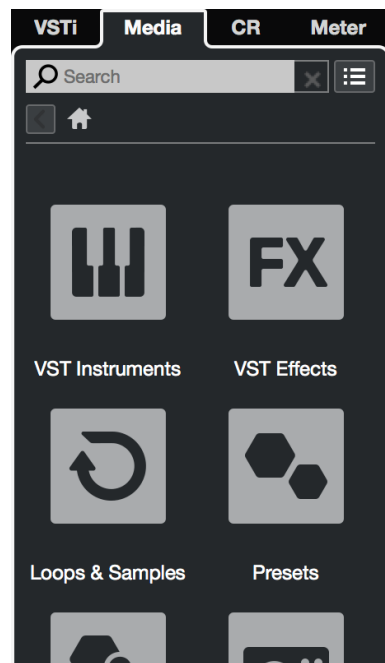
VST Instruments

This section (visible by default) shows any VST Instruments that you are using - the software instruments that take your musical information and convert them to audio. The two types of VST Instruments are both present here - the top section shows Instrument track instruments, while the lower section shows any which are being used as separate VST Instruments and MIDI tracks (Rack Instruments) - these are both covered in the section starting on page 29. Most of the controls available here are available in the Inspector, but some - such as activation of extra outputs - are not. Note that under each instrument there are a number of controls available, giving quick access to the most-used settings, avoiding the need to open the instrument editor.



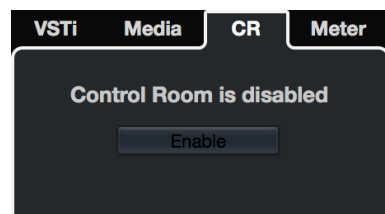
MediaBay

MediaBay gives quick access to a great deal of musical resources in one place, combining search of samples, sounds, MIDI loops and other information into one search engine. Once a search has been completed, the results can be dragged directly to tracks (or to create new tracks if the search result is an instrument/sound combination) to quickly create music from the available resources. Making use of MediaBay's facilities can vastly speed your workflow, allowing quick, seamless access to the considerable amount of content that is included with Cubase.



Control Room

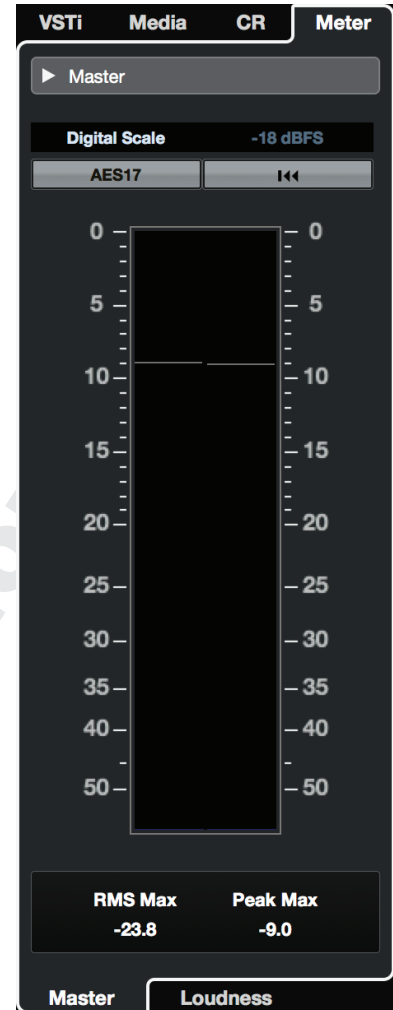
The Control Room allows complex routing for audio for performers to be achieved from within Cubase. It is outside the scope of this book.



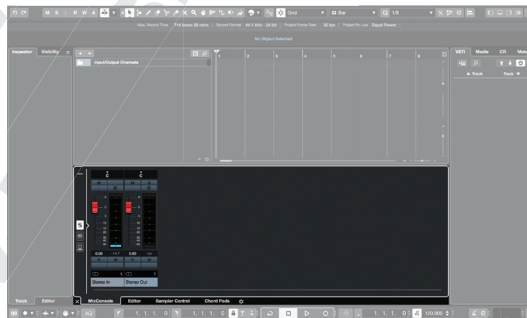
Meter

The meter section allows monitoring of the output level of your project in Cubase without having to open the Mix Console. This can be particularly useful if you are working on a laptop or any other computer with limited screen space.

There are a number of options available here, and choice between a Master output meter or a loudness meter.



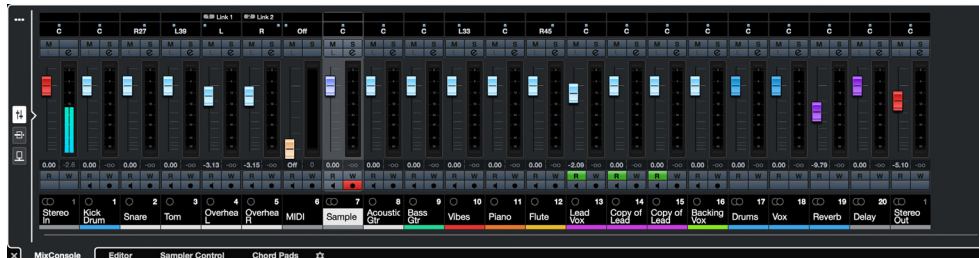
The Lower Zone



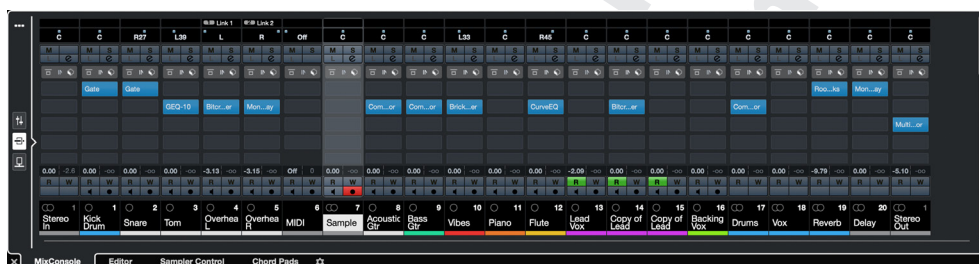
The Lower Zone has four modes - MixConsole, Editor, Sampler Control and Chord Pads. The first two offer a particular view of an editor/function which is available elsewhere, but Sampler Control and Chord Pads can only be seen here. The lower zone allows a fuller range of functions (such as editing and mixing) to happen while keeping Cubase in a single-window environment, allowing work on laptops to be achieved without a myriad of overlapping windows. It, too, can be toggled on and off with the button at the top right of the tool bar, or with the keyboard shortcut **CTRL + ALT + E**.

MixConsole

The lower zone MixConsole view allows the viewing of some of the features of the full MixConsole (see page 8 for a full description of the MixConsole). By default, it will show the faders for the channels in the project - usually inputs, the tracks in the project and the Stereo Out - and it gives quick access to levels, panning, mute, solo and automation controls.



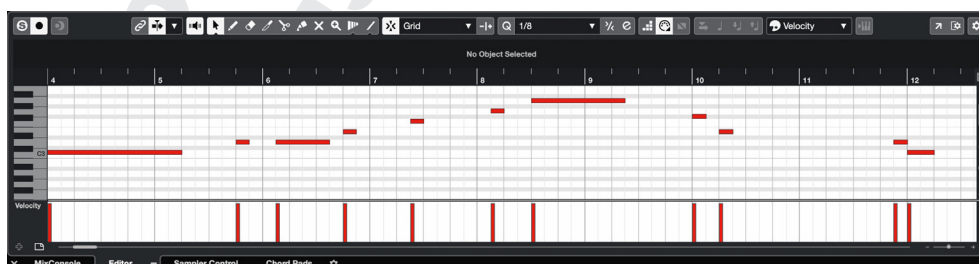
There are two other views - Inserts...



...and Sends.



Editor



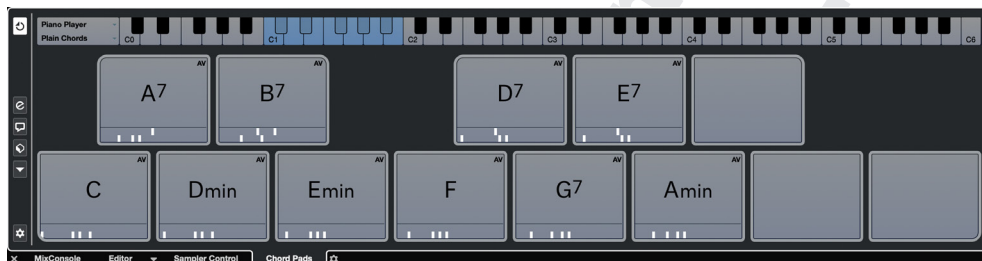
The editor view provides a version of the Key Editor (covered on page 16), allowing quick access to MIDI information on MIDI and Instrument tracks.

Sampler Control



This mode provides all the controls for Sampler Tracks, which can also pop out into a floating editor window.

Chord Pads



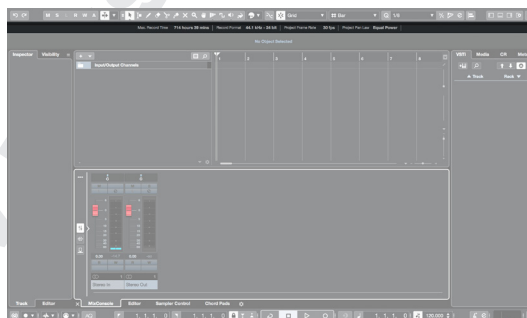
Chord Pads reside here, and this is the only location they can appear.

Transport

In addition to the Transport Zone (see page 5), there is a floating transport bar (F2) which can be placed anywhere. On larger screens it can be useful to place it near your work area, and on smaller screens you can use only minimal controls and hide the Transport Zone to save space. The features it has are identical to the Transport Zone, and learning to configure it to suit your needs at any time is an important skill in smoothing your workflow in Cubase.

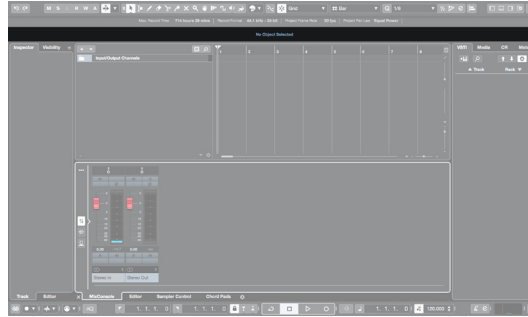


The Status Line



The Status Line gives information about the current project and setup - by default whether audio inputs and outputs are connected, and information about project setup and recording time.

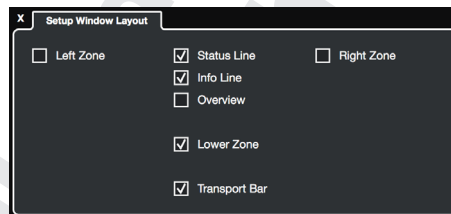
Info Line



The Info Line provides information about the currently selected object (the actual information displayed will change depending on the type of object selected). From here it is often possible to double-click to alter a value (useful when you want to make a precise setting). If multiple objects are selected, then the information will be in yellow, and it is possible to alter all the objects at once here (useful when you want to apply the same change to multiple objects).

Project Window Layouts

The default setting for the project window is to have all of the areas viewable, and depending on your screen resolution this may be an acceptable setting. On smaller screens (such as laptops), it may be more suitable to have fewer zones viewable, and indeed the near-minimal setting of only the inspector, info line and main area viewable is a more minimal setup for workflow in many situations. The active zones can be set by clicking Setup Window Layout (the triangle to the left of the cog at the top right), and selecting them from the menu that appears:



Backing up your work

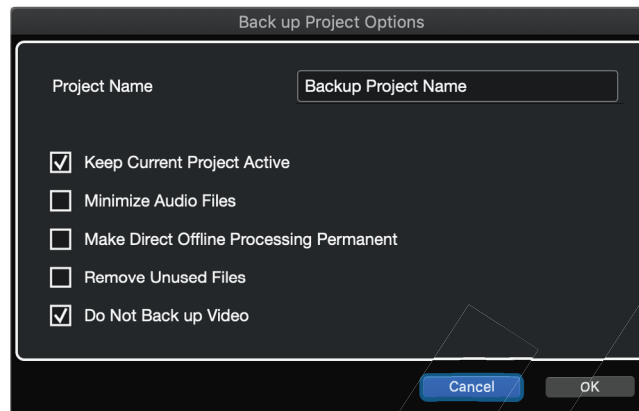
It's a fact of life – computers crash. Modern computers are massively complex systems, and a single fault can render a computer unusable. A hardware fault in a hard drive can mean a total loss of data, and with it hundreds (or even thousands) of hours of work lost. In addition if you are working on a shared computer there is a chance of accidental data loss, and if your computer is connected to the Internet there is always the chance of a virus or similar program wreaking havoc on your computer and possibly with your data. Many school computers will be restored from an image in the case of problems, and that usually means all the data on the computer is erased.

How can data loss be avoided? Simple – back your work up. Whenever you have made a significant change to a piece, save it, and whenever your session ends, save the work on the computer you're working on and on another storage medium. If you don't, you run the risk of losing everything – if it's in two places it's extremely unlikely that both will suffer a fault at the same time.

The biggest issue here is making sure that all the data for the song is saved. If you merely do **Save As...** then you are only saving Cubase's project file (.CPR) – if you have only MIDI information then this will be adequate, but if you have any audio in the project then you need to save the audio files as well.

To do this go to **File > Back up Project...** You will see a new dialog box where you can pick the location of the new project; this needs to be in an empty folder.

Once you have done this a new dialogue box will appear where you can name the project file, and also choose backup options. If you are aiming to make a complete backup, then leave the boxes ticked as shown below – this will not alter the audio files in any way, but will use the most space.



The unticked options are only relevant to audio operations, and will decrease the amount of space needed for the backup, but will decrease the possibilities for further editing. What they will not do is alter the sound of your project, however. Once you hit **OK** Cubase will save the project file to the new folder, and also create new audio files for it, inside that new folder. The entire folder is self-contained and therefore can be taken to any other Cubase setup.

If you regularly back up your project and audio files, you will never have a significant loss of work. It is a good idea to alternate between two flash drives for backups – after all, they are physically small, and easily lost. Bear in mind that “my data was lost” is not a viable excuse either when at school, college or when working professionally recording clients!

Exercises

Here is a list of tasks that will help you get started with sequencing - each chapter will have some exercises if they are relevant. Whenever you start out with a new topic, getting started is far more important than the material you are working on - the skills and techniques are important; the music itself isn't. Don't attempt to sequence anything complicated at first; simple melodies such as nursery rhymes are a great starting place and will mean you spend more time sequencing than worrying about what to work on.

Sequence a simple melody

Make sure you set Cubase to an appropriate tempo (turn the tempo track off and set the tempo on the transport bar), and sequence the melody accurately. Use a simple sound such as a piano for this part of the task.

Sequence chords

You may already have the keyboard skills to play the correct chords or even harmonise the melody at sight. If not, make use of step input (on page 20) to input the chords. If you can't work out what chords to play, then try to find out what they should be, or harmonise the melody.

Sequence a bass part

Your first bass part can just be the root notes of the chords you have played, but if you want to increase the complexity, you can create a more interesting bass part by changing the rhythm, or creating a part which doesn't just use the root note of the chords.

Sequence drums

Adding drums can be a challenge for many beginning sequencing students - both because drummers are usually playing more than one part of the kit at a time and also knowing what to play. You can get round the 'two things at once' issue by either using cycle recording (page 12), step input (page 20) or using the editor to input your part (page 16). If you don't know what to play, this drum part may get you started, so try to input it and then come up with developments of your own.

Change sounds

This will be done by using the inspector for the tracks in question, or changing the VST instruments to give a greater change in sounds.

Apply volume and panning

By using the mixer - as seen on page 28 - you can apply volume and panning to your tracks. Remember that you can make some drastic changes to the way your piece is perceived by altering just the pan and volume of your parts.

Summary

The sequencing techniques you have seen above are basic, but they are the foundation of all MIDI sequencing that you will do. Understanding them and performing them quickly will enable you to capture musical ideas quickly, and being able to quantize quickly and effectively can mean creating accurately sequenced parts quickly. The only way to gain these skills (as with many others) is to practice. Do this by picking a simple song to sequence at first (such as a Folk, Traditional or Christmas Carol tune), and then progress onto longer, more complex songs with more parts and increased complexity within them. It is often a good idea to practice on some music which already exists rather than your own composition as then you will only need to practice one element (sequencing) rather than working on creative elements as well.