CUBASE

Score

for Windows

Getting Started

DEMO version

Steinberg

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1

Introduction

Welcome!

Welcome to the Cubase Demo Getting Started on-line documentation!

Please use one of the methods described below to quickly find the desired information:

- **Use the Table of Contents provided by the Adobe Acrobat Reader program.**
- **Use the Adobe Acrobat Reader Search function.**
- **Click on a cross-reference (green text) to jump to the respective topic.**

It is of course possible to print out this document or parts of it.

Additional Information on how to use the Adobe Acrobat Reader program can be found in its on-line Help.

What this document contains

This chapter is an excerpt from the Cubase "Getting Started" book . It will help you get started with the programs basic capabilities and with MIDI recording and editing.

● Since this is an excerpt from a bigger book, some references to other texts and chapters will not be accurate.

2

Basic Methods

Why you should read this Chapter

In this chapter, none of the actual features of Cubase are described. Instead, the chapter contains information about the general methods you need to employ when using Cubase plus some useful terminology. These methods are the same in every part of the program, no matter if you are making a basic recording or using Cubase on its most advanced level. To make your working with Cubase as effective as possible, please take your time to read this chapter.
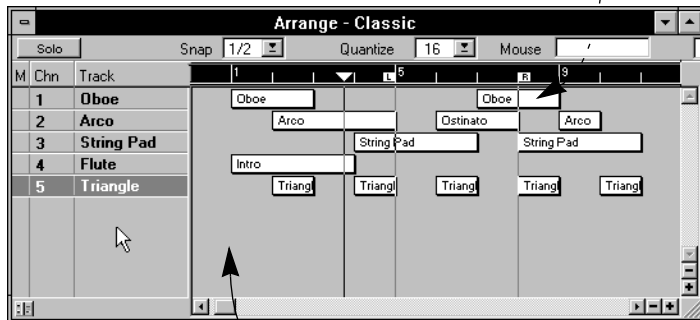
Cubase Building Blocks

When you record your playing on a MIDI keyboard, each note appears in Cubase as an **Event**.

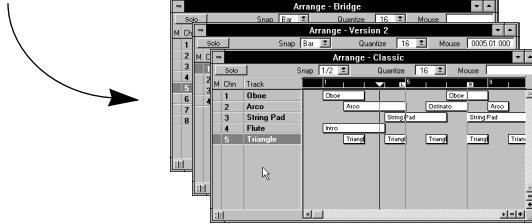Events are packed into "containers" called **Parts**.

Parts reside on **Tracks**. You will have one Track for each instrument in your MIDI "orchestra". The Parts and Tracks make up an **Arrangement.**

An Arrangement with five Tracks, each containing several Parts.

You can work on a number of Arrangements simultaneously. Together they form a **Song**.
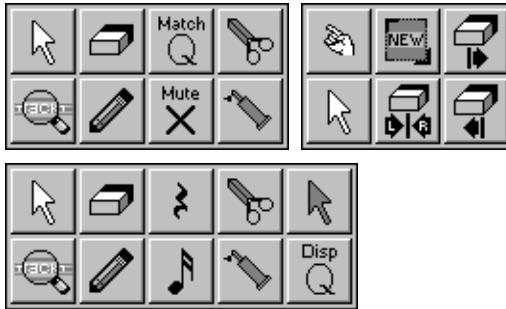
Toolboxes

What are the Tools?

When you are working with Cubase, you need different tools in different situations. You may for example want to input notes using a Pencil tool, or delete notes using an Eraser tool. There are a lot of other tools as well.

Some examples of tools

What are the Toolboxes?

The various tools you may need in a certain situation, are gathered in a Toolbox. This is essentially a "box" containing an icon for each tool. Each of the main windows in Cubase has its own Toolbox, containing the respective necessary tools. All the main tools are described in the chapters "An Introduction to Arrangement Editing" and "An Introduction To MIDI Editing".

Some examples of Toolboxes

Selecting a Tool from a Toolbox

1. Press the right mouse button.
   Make sure the pointer is not positioned over a numerical value field, as this will instead increase the value (see).

2. The Toolbox appears.

3. Move the pointer to the tool you want to select, and release the mouse button.
The Toolbox disappears and the pointer takes on the shape of the selected tool.

Pop-Up Menus

Throughout the program you will select values from pop-up menus. These differ a bit from the regular "menu bar menus". Pop-up menus may be located anywhere in a window, and are not on a menu bar. But, selecting is done identically from all menus, pop-up or regular.
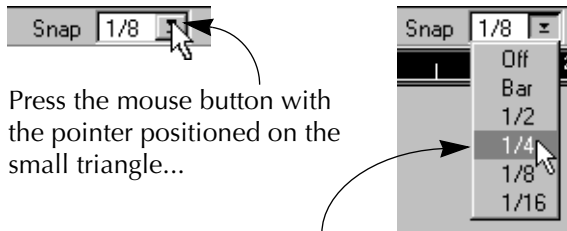
Press the mouse button with the pointer positioned on the small triangle...

...to pull down a pop-up menu.

About Positions, Lengths and Resolution

Cubase works with a resolution of 384 fractions (or ticks) per quarter note. You will often work with position values in the Arrange window and in the MIDI editors. Positions in Cubase are displayed in one of two formats:
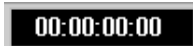
Meter positions

`0001.01.000` → The beginning of the Song, displayed as a Meter position.

Meter Positions and Lengths are divided into Bars, Beats (quarter notes) and Ticks. For example, a note length of three bars, one quarter note and a sixteenth would be displayed like this: "3.1.96". In the table below, some note values are displayed as ticks:

Note Value	Number of Ticks
Whole note	1536
Half note	768
Quarter note	384
Dotted eighth note	288
Eighth note	192
Eighth note triplet	128
Dotted sixteenth note	144
Sixteenth note	96
Sixteenth note triplet	64

Time positions

00:00:00:00 → The beginning of the Song,
displayed as a Time position.

Time Positions and lengths are shown as "hours: minutes:seconds:frames". How many frames there are to each second depends on the frame rate, as set in the Synchronization dialog box. Common values are 25 and 30. See the "Synchronization" chapter.

Setting Values

Different types of values

There are four basic kinds of values displayed in Cubase:

- Meter Positions
- Time Positions
- Note Pitches
- "Other" values

As explained above, positions and lengths can be displayed as Meter values or as Time Positions. Other values, such as tempo, velocity etc, are displayed as a number, sometimes with decimals. Some values may be negative.
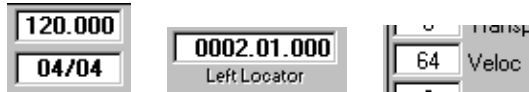
Some different values.

How to change a value by typing

You can double click on a value field. The value is highlighted, and you can type in a new value and press [Return]. You can use the numeric key pad as well as the normal keyboard in most cases.

If you are editing a value that is "segmented", such as a Song Position or a decimal number, you can use spaces, dots, commas or any character that is not a number, to separate the numerals. However, you don't have to type in all the numerals. If you just type in a single number, you will change the largest numeral in the segmented value, and all the lesser numerals will be set to their lowest values. See the picture on the next page:

0001.01.055

Double clicking on this value (Song Position)...

...brings up a value box.

5

If you type a single value and press

0005.01.000

...the lesser numerals get their lowest values

If you are editing a pitch (note number), there are two ways of typing it: as a *note name* (a letter followed by a number and maybe a #-sign) or as a *MIDI note number* (a number from 0 to 127, where 0 is the lowest note).

37

You may enter a MIDI note number, for example 37...

C#1

...but Cubase will display the name of the note (here C#1).

How to change a value using the Mouse

You can use the mouse to either change a value by single steps or continuously scroll it up or down.

Method 1

1. Position the pointer over the value you want to change.

2. Click with the left or right mouse button
The left button decreases the value, the right button increases it. For each click the value changes one step.

3. Continue clicking until you have reached the desired value.

• **If you hold down [Shift] while clicking, the value will change in larger steps (often steps of ten).**

Method 2

1. Press and hold down one of the mouse buttons with the pointer over the value.
The value will scroll up or down depending on which button you press (the left button decreases the value and the right button increases it).

2. Release the button when you have reached the desired value.

- • **If you hold down [Shift] while using the mouse, the value will scroll in larger steps (often steps of ten).**

Changing a value by dragging

If you hold down the [Control] key on the computer keyboard, you can click on a value and drag the mouse up or down with the button pressed. The whole screen will then act like an invisible scroll bar or fader, which you can use to change the value.

If you press [Control], click on a value and keep the mouse button pressed...

...you can "drag the value" up...

...or down.
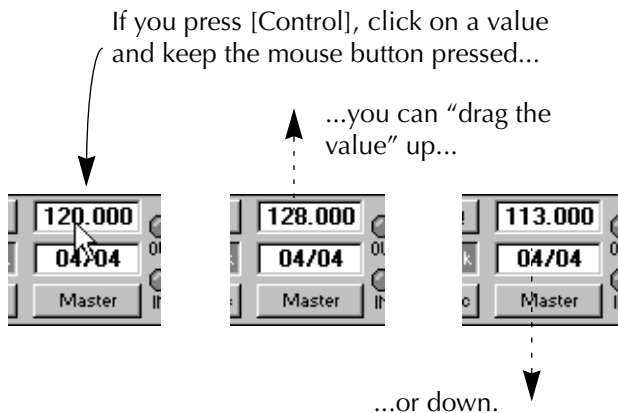
About changing "segmented" values

If you are using the mouse to change a "segmented" value such as a position or a decimal number, you can change any one of the "segments" individually. In a position value for example, you can change the bar, beat and tick values independently, just by positioning the pointer at the right numeral.

Clicking on the "Beats" value...

| 0005.04.024 | 0005.02.024 |
| Left Locator | Left Locator |

...will change this value

Naming

You can give names to Tracks, Parts and many other items in Cubase. To edit a name just double click on it. The text gets highlighted and you can type in the changes you want to make. You can use the arrow and [Backspace] keys, just as in any text-editing program.

Double clicking on the name...

...highlights it and makes it ready to

Window Techniques

Cubase is a Windows-program, which means standard "Windows procedures" apply. You may move, resize, scroll and close windows using standard procedures. If you use Windows 95, please refer to the "Using Windows 95" Readme file on one of the program disks, for information about special windows procedures. There are also a couple of special features:

Changing the Magnification

In the Arrange window and most of the editors, a plus and a minus sign appear on each scroll-bar. Click on the plus sign to increase magnification. The minus sign will decrease magnification.

The vertical magnifying buttons

The horizontal magnifying buttons
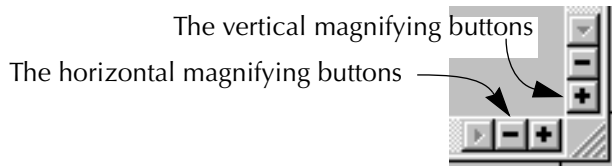
The plus and minus sign on the left/right scroll bar change the horizontal magnification. The signs on the up/down scroll bar change the vertical magnification. If you click on a plus or minus sign and keep the mouse button pressed, the magnification factor will change continuously, allowing you to zoom in or out.

You can also change the magnification from the computer keyboard, using the following keys:

[G]	Decrease horizontal magnification.
[H]	Increase horizontal magnification.
[Shift]-[G]	Decrease vertical magnification.
[Shift]-[H]	Increase vertical magnification.

Dividers

Some of the windows in Cubase are divided into two or more sections. The "borders" between the sections are called Dividers. If you position the pointer on a Divider, the pointer takes on the shape of a hand. You can then click on the Divider and drag it in the direction of one of the sections. This way, you will shrink that section and enlarge the other.
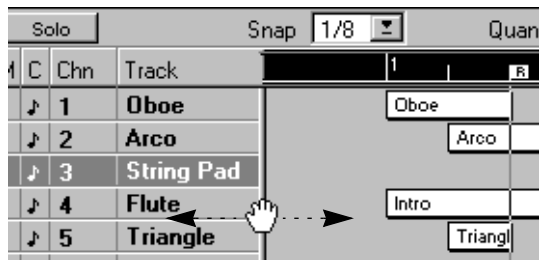
Dragging the Divider in the Arrange Window.

The Transport Bar

This is a special window, that among other things contain the transport controls: Play, Stop, Record, Rewind and Fast Forward. These work much like the controls on a tape recorder. Read more about the Transport Bar in the "Playback, Tempo and the Transport Bar" chapter.

The Transport Bar differs from standard Windows. It doesn't have a title bar (the area at the top of a window, used for dragging it around on the screen). Instead you can use the "handles", at each side of the window, to move the Transport Bar.

Dialog Boxes

When you select a function from a menu, sometimes a dialog box appears. This is a type of window, but it can't be moved or resized. After you have input the necessary information using the mouse and/or keyboard you close the dialog box by clicking on a button called "OK", "Do It!" or something similar, or by pressing [Return] on the computer keyboard.

Even when you have a dialog box open you can still use the numeric key pad for the functions on the Transport Bar (Start, Stop and so on).

Using the Computer Keyboard

When you are working with Cubase, the computer keyboard has several different uses:

Transport Controls

The Transport functions (such as Play, Stop, Record and so on) can all be managed from the computer keyboard. The keyboard commands for these functions are located on the numeric key pad, to the right on the computer keyboard. See in this book.

Keyboard Shortcuts

Many of the items in Cubase's menus have a computer keyboard equivalent - a "shortcut". These keyboard shortcuts generally use the keys on the main computer keyboard, to the left.

How Keyboard Commands are displayed in this Manual

The following list shows how the "special" keys on the computer keyboard are displayed in this manual.

In this manual:	On some keyboards:
[Shift]	⇧
[Alternate]	Alt
[Alt Gr]	(should not be confused with Alternate)
[Control]	Ctrl
[Tab]	→|
[Return]	⟵⤸
[Backspace]	⟵

When the text says something like "press [Control]-[T]" this means that you should hold down the control key on the computer keyboard and press T once.

Cutting, Copying and Pasting

You can use the standard commands, Cut, Copy and Paste, to rearrange Parts, notes and other Events. These commands can be found on the Edit menu, and have the keyboard equivalents [Control]-[X], [Control]-[C] and [Control]-[V] respectively. Cutting, Copying and Pasting is the main way of moving and duplicating notes between different Parts or between the different Arrangements in a Song.

Cutting

The Cut command takes the selected Parts or Events and removes them from where they were. Instead they are put in a temporary, non-visible location called the Clipboard.

Selecting a Part and Cutting it...

...removes it from
where it was...

...and puts it on the Clipboard.

Copying

The Copy command takes the selected Parts or Events, copies them and puts the copy on the Clipboard. The difference between Cut and Copy is that nothing is removed when using Copy.

Selecting a Part and Copying it...

...makes a duplicate of the Part and puts the duplicate on the Clipboard.

The original Part is left where it was.

● Only the last item(s) Cut or copied are stored in the Clipboard. There is only one Clipboard, shared by Cut and Copy.

This means that anything already on the Clipboard will be replaced if you Cut or Copy again.

Let's for example say that you Cut or Copy two notes from an editor. These are put on the Clipboard.

If you then Cut or Copy something else (a Part, some other notes, etc)...

Piano

...the two notes on the Clipboard will be replaced by these last Cut or Copied Events.

Piano
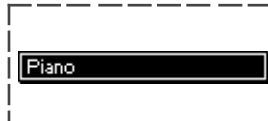
Pasting

The Paste command puts the contents of the Clipboard back into the selected window, in the same window as they were Cut or Copied from, or another. These are the rules:

- **If the Clipboard contains *Events* Cut/Copied from an *editor,* you can only Paste them into an editor (the one they came from or another one). You can't Paste editor Events into the Arrange Window.**

- **If the Clipboard contains *Parts* Cut/Copied from the *Arrange* window, you can only Paste them into the Arrange window.**

- **You can Paste the same contents from the Clipboard as many times as you like. Data is copied from the Clipboard, not moved from it.**
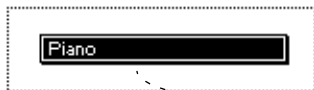
Pasting will make a duplicate of the contents of the Clipboard and put the duplicate where you want it.

The contents of the Clipboard are still there.

● Cutting, Copying and Pasting is the way to move Events from one Part to another. There is only one Clipboard for Events, and it is shared by all the editors, so that notes and other Events can be moved from one Part to the next.

Undo

Cubase has a very wide-ranging Undo function. This means that if you regret your last action, you can Undo it. This is very helpful when something doesn't turn out as intended. Remember that it is only the *last* action that can be undone.

You Undo an action by selecting "Undo" from the Edit Menu, or by pressing [Control]-[Z] on the computer keyboard.
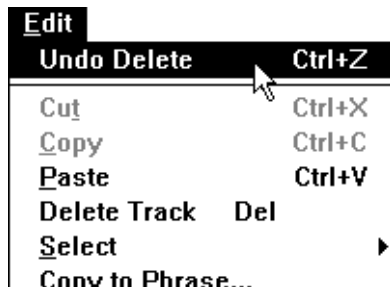
Often the menu item Undo tells you what will be undone at any given moment. In this case, "Undo Delete" means the last deletion will be undone.

If you wish to "Undo the Undo", this is possible. The menu text changes to "Redo" after an Undo (for example "Redo Delete"). If the menu item is grey, nothing can be undone.

Real Time

Cubase is a true real-time program. It has sophisticated multi-tasking procedures that let you do almost anything (like loading from, and saving to disk) without interrupting the music.

In some instances the notes sounding at the moment have to be cut off, but timing is never affected.

● Generally, don't turn off playback or recording just because you want to try a command or a function, just do it!

Getting Help

Cubase supports the Windows Help system. This means that you can always get help about the procedures and functions in the program while you run it. There are three principal ways to invoke the Help system:

• **By selecting "Help" on the Help menu.**
This will open a Help window, displaying information about the active window. This can also be done by pressing [F1] on the computer keyboard.

───

● To get help about a specific menu item, open the menu, mark the item with the up and down arrow keys and press [F1].

───

• **By selecting "Contents" on the Help menu.**
This will open the list of contents of the complete Help file. If you click on one of its entries, the appropriate information will be shown.

• **By clicking on a Help button.**
All dialog boxes in Cubase have a Help button. If you click on this, the Help window is opened, showing information related to the dialog box.

───

● For help on the Windows Help system, select Using Help on the Help menu.

───

3

Basic MIDI Recording

Preparations

Before you can actually press the Record button, there are a number of things you have to check and set up. It may seem like a lot the first time you do it. Once you're started, however, you'll note how fast you're laying down Tracks with Cubase.

Launching Cubase

When Cubase is first launched, an empty Arrangement with a number of MIDI Tracks is loaded automatically. We suggest you use this when you perform your first recordings. Later you can customize the way Cubase is "configured" on start-up.
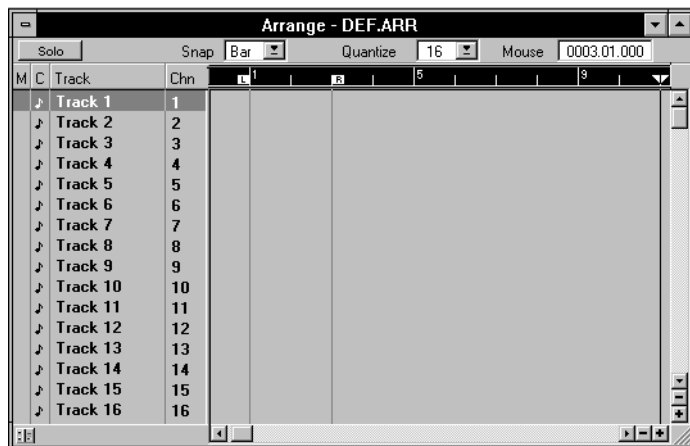
The default start-up Arrange window with sixteen empty Tracks.

If you don't see any Tracks just press [Command]-[T] a few times to create some.

Setting up the MIDI equipment

Hopefully you have already set up and acquainted yourself with your MIDI equipment (as described in the Installation chapter), but let's step through a quick check list to make sure:

- You need to have the MIDI Out of the instrument you're actually playing connected to a MIDI In on your computer.
- You need to have a MIDI Out on the computer connected to the instrument that is to produce the sound for the Track.
- If you're using the same instrument for playing and for playing back (if you for example are using a single keyboard synthesizer) you should set it to Local Off (see the Instruments operation manual for information on how to do this).
- Pull down the Options menu and select "MIDI Setup". In the dialog box that appears, make sure MIDI Thru is enabled.

There's one rare occasion where Thru should be turned off,

In most setups, MIDI Thru
should be enabled.

The MIDI Setup dialog box.

Selecting and naming a Track

The next step is to select a Track to record on:
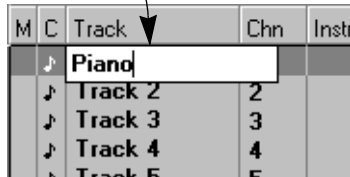
1. **If you have an empty MIDI Track in the Arrangement on screen, click on its name so that it turns black.**

2. **If you don't have an empty Track, select Create Track from the Structure menu and make sure the new Track is a MIDI Track (see page 127).**

This symbol indicates that the Track is a MIDI Track
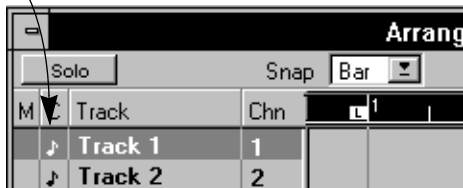
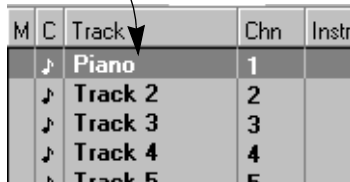### 3. Double click on the current name and type in your own.

Double click on the name,
and enter a new one....

M	C	Track	Chn	Instr
	♪	Piano		
	♪	Track 2	2	
	♪	Track 3	3	
	♪	Track 4	4	
	♪	Track 5	5	

...press [Return] and the
new name appears.

M	C	Track	Chn	Instr
	♪	Piano	1	
	♪	Track 2	2	
	♪	Track 3	3	
	♪	Track 4	4	
	♪	Track 5	5	

Setting MIDI Channel and Output

Setting the MIDI Channel in the Instrument

Most MIDI synthesizers can play several sounds at the same time, each on a different MIDI Channel. This is the key to playing back several sounds (bass, piano etc.) from the same instrument.

Some devices (such as General MIDI compatible sound modules) always receive on all 16 MIDI Channels. If you have such an instrument, there's no specific setting you need to make in the instrument.

On other instruments you will have to use the front panel controls to set up a number of "Parts", "Timbres" or similar so that they receive on one MIDI Channel each. See the manual that came with your instrument for more information.

Setting the MIDI Channel and Output in the Track List

1. Set the Chn column for the Track to the same MIDI Channel as you just decided to use on the synthesizer.

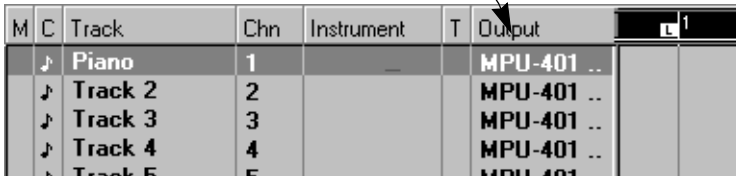**2. Drag the Track list Divider all the way to the right, to reveal the Output column.**

Dragging the Divider...

...reveals the Output column

3. Make sure the Track you plan to record on is set to the MIDI Output that the synthesizer is actually connected to. If it isn't, pull down the Output menu for that Track and select the desired MIDI Output.
If you only have one standard MIDI interface, that is limited to 16 MIDI Channels, then this setting is probably correct as it is. If you for example have a standard MPU compatible interface installed, this should say something with "MPU-401".

Clicking in the Output column
brings up a pop-up which lists
the available MIDI Outputs
plus an item called MROS.

Selecting a sound for the Recording

The next step is to make sure the instrument plays the desired sound on the MIDI Channel you have chosen for this recording. There are two ways to do this:

Using the Instrument's front panel

Normally you can select sounds ("Programs", "Presets", "Patches", "Tones", "Voices" or whatever they might be called) – for each MIDI Channel – directly from the front panel on the instrument. If you choose this method, please refer to the instrument's operation manual for details.
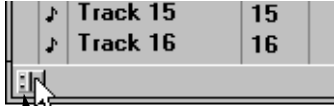
Using the Inspector

You can also select sounds directly in Cubase.

● Your instrument must be set up to receive MIDI "Program Change" messages for this to work.
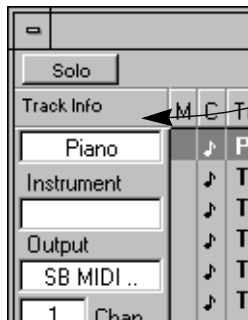
1. Click on the Inspector icon, below the Track list.

The Inspector appears.

Clicking on the icon in the lower left corner of the Arrange window...

...opens the Inspector to the left of the Track

2. Click in some empty part of the Part Display (the area to the right of the Track list).

This is to make sure no Part is selected.

3. Select the desired Track by clicking on its name.
The top text in the Inspector now says "Trackinfo" and below this the name of your Track is displayed. This is your verification to that the Inspector actually shows the settings for the right Track (the selected one).

4. Use the field titled Program (the area next to the characters "Prg" in the Inspector) to set the correct Program number.
In MIDI, Programs are always numbered continuously, and in Cubase they are numbered from 1 and up. Your instrument might use some other numbering scheme, so you might need to experiment a bit before you get the right sound.
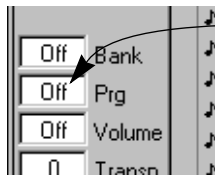
Changing this setting sends out MIDI Program Change numbers.

Verifying the Settings

Now when you play your keyboard you should hear the right sound in the synthesizer (and only that sound). If not, check the following:

- Is the Track set to the same channel as the MIDI instrument?
- Is the Track set to the right MIDI Output?
- Do you have MIDI Thru enabled in Cubase?
- Do you have Local Off activated in your instrument (if needed and/or available)?
- Do you have the correct sound selected in the synthesizer?

Click

Recording into a sequencer is normally done in time with a metronome click. So, to make sure you hear the metronome, check that the Click button is activated. If it isn't, click on it.

Click activated on the Transport bar.
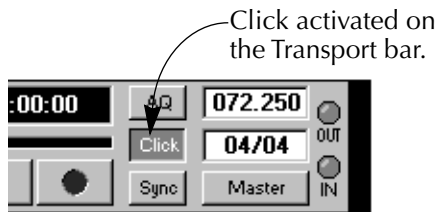
This activates a click directly from the computer. If you want a MIDI metronome, check the Metronome dialog (reached from the Options menu).

Tempo and Time Signature

To set a Tempo and Time Signature for your recording, proceed as follows:

1. Make sure the Master button on the Transport Bar is turned off.
You need to activate the Master (Track) if you want tempo changes in your song. Otherwise it is best turned off.

2. Set a Tempo and a Time Signature of your choice in the boxes above the Master button on the Transport Bar.
You can change each of the two Time Signature values separately to get time Signatures from 1/2 to 16/16.

Tempo

Time Signatu

The Master button turned off
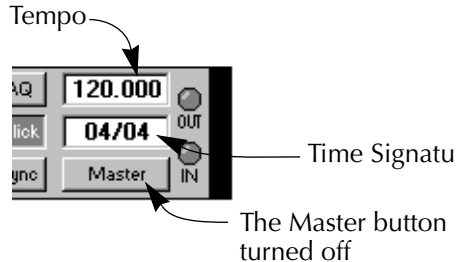
Other settings on the Transport Bar

If you are recording into the default Arrangement, the settings on the Transport Bar are probably perfectly OK. If not, make sure things are set as indicated in the picture below:

All these three buttons
should be turned off

This is used to set the start
point (1.1.0 = beginning
of the Song)

Leave this like
this for now

Overdub		0001.01.000
Rec Mode		Left Locator
Mix		0005.01.000
Cycle Rec		Right Locator

This setting is of
no relevance
right now

This setting is of no
relevance right now

Leave this
turned off for
now

AQ	106.000	OUT
Click	04/04	
Sync	Master	IN

Leave this turned
off for now

So now you're done with all preparations! Let's record!

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Activating recording from Stop Mode

This section teaches you how to record from stop mode. Later you will learn other techniques, like Punch In and Out and Cycled Recording.

Specifying a start point for the Recording

Recording starts from the position of the Left Locator. This is a marker, visible as a line stretching over the Arrangement and with an "L" flag in the ruler.

There are a number of ways to set the Left Locator described on . For now, let's introduce three ways:

• **You can click in the Ruler with the left mouse button.**

• **You can drag the Left Locator flag in the Ruler.**

The Left Locator flag — The ruler
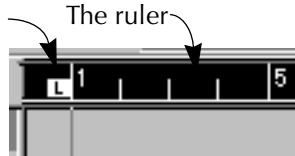
• **You can change the Left Locator position on the Transport Bar.**

When you begin recording on a new song, you probably want the Left Locator positioned at the beginning of the song (1.1.0) as indicated in the previous picture.

Recording

1. Click on the Record button or press [*] on the numeric key pad.

Clicking the Record button

2. Wait until the two-bar count-in is finished.

You can change the length of the count-in in the Metronome dialog box later, should you wish.

3. Start playing your keyboard.

You can play as much as you want to for as long as you want.

4. When you are done, click the Stop button.

Clicking the Stop button

Now, a box appears on the Track. This is called a Part, and is a container for your MIDI notes.

A newly created Part

Rewinding

As you recorded, a line moved across the Arrange window indicating the current position. This line is called the *Song Pointer*. The position is also indicated on the Transport Bar. To hear what you just recorded, you must first rewind the Song Position to the Start:

Using the Rewind button

One way of moving the Song Position is to click on the Rewind button for as long as is needed.

Clicking the Rewind button.

Using the Stop button

Another, quicker way of rewinding is to click the Stop button again (or to press [space bar] or [0] on the numeric key pad). This moves the Song Position to the Left Locator. If the Left Locator isn't at the beginning of the Song, simply click Stop again and the Song Pointer is moved to the absolute beginning of the Song.

Clicking the Stop button.

Listening to the Recording

Now all you have to do to hear what you recorded, is to click the Play button or press [Enter] on the numeric key pad.
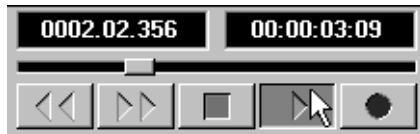
Activating Play.

Redoing the Recording

In case you realise you didn't really like what you just did, you can try either of the two following methods:

Using Undo

If you haven't made any changes to the Arrangement since you recorded, you can simply Undo the recording by selecting Undo from the Edit menu. Remember you can only Undo your last action.

Deleting a Part

You can delete a recording (a Part) by clicking on it and selecting Delete from the Edit menu or by pressing [Backspace].

Recording more on the same Track

If you wish to record more on the same Track, proceed as follows:

1. Move the Left Locator to the position you want to start recording from.
Move the Left Locator by dragging the "L" flag in the ruler, by clicking in the ruler with the left mouse button or by changing the value in the Left Locator box on the Transport Bar.

2. Make sure the Right Locator is to the right of the Left Locator. If it isn't, please move it.
Move the Right Locator by dragging the "R" flag in the ruler, by clicking in the ruler with the right mouse button or by changing the value in the Right Locator box on the Transport Bar.

● You can not activate recording if the Locators are positioned in "reverse order".
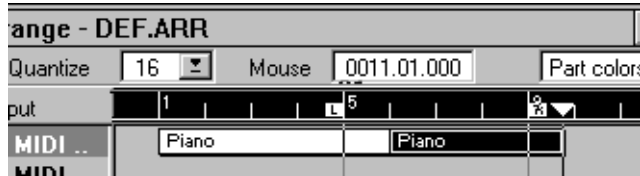
The Right Locator must be
positioned to the right of the Left
Locator.
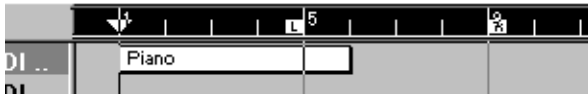
3. Activate Recording.

You will hear a count-in just as you did the first time, and then recording starts from the Left Locator position.

When you have finished recording, you will probably get a new Part, just after the first one.

The second Part appears after the first.

There are other methods for recording more on the Track, described under the terms "Punch In" and "Preroll", later in this book.

Recording the next Track

To record on the next Track, proceed as follows:

1. **Select an existing empty Track, or create a new one.**

2. **Set up the Track and the synthesizer so that you have a different MIDI Channel for this recording.**
   Again, the MIDI Channel on the Track and in the instrument must correspond.

**3. Select a sound for this recording, just as with the first.**

Again, this can be done either on the front panel of the instrument or from the Inspector, it all depends on your instruments and which method you prefer.

4. Set the Left Locator and activate recording as on the first Track.

Now, if you have everything set up OK, you should hear your first Track while you record the second.

Overdub or Replace? – That's the question...

On the Transport Bar, you will find a button called Record Mode. when you click on it, it switches between Overdub and Replace.
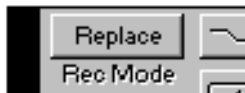

The Record Mode button.

Overdub

Up until now, we have assumed that this switch was in Overdub mode. When you record on a Track in Overdub mode, whatever you play is added to what was previously on the Track. This is unlike a regular tape recorder where as soon as you start recording, what was previously on the tape gets erased.

Overdub Mode is probably the safest way to record. If you add too much music, you can simply remove it later by editing (see the chapter "An Introduction to MIDI Editing").

Record some notes...

Whenever you record again on the Track, the new notes are simply added to the existing ones

- 59 -
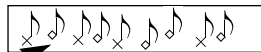
Replace

In this mode, whatever you record replaces what was previously on the Track. Replace mode is probably the best choice if you have made a mistake and wish to correct it by recording something new.
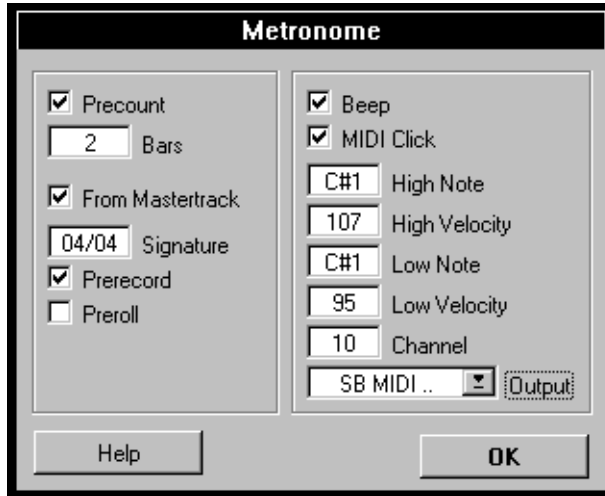
Record some notes...

When you record again on the
Track, the new notes replace
the existing

Setting Precount and using Preroll and Prerecord

In the Metronome dialog box you have three options related to what happens when you activate recording:

Precount

- By enabling/disabling the Precount you can decide if you want a count-in at all when you activate recording.
- By changing the Bars value you can set how long you want the Precount to be.

- If you disable the "From Mastertrack" function you can change the Time Signature for the count-in.
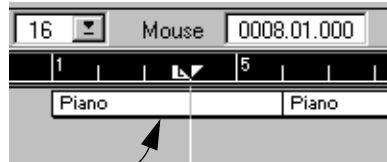
Prerecord

If this function is activated, Cubase will record during the Precount (count-in). Even if you don't hear your other Tracks during the Precount, you can for example add a note at the upbeat, just before playback starts.

● You can not record before song position 1.1.0 (the beginning of the song).

Preroll

When this is activated, the Precount (count-in) is not silent, instead you will hear the last bar(s) before the Left Locator. How many bars you hear depends on the Bars setting described above.

If you use the Preroll feature, you might probably want Prerecord activated at the same time, so that you can record during the Preroll.

When you activate recording from the Left Locator, with Preroll activated...

... the Song Position jumps back a number of bars and recording is activated.

Other options in this dialog box

The remaining options in this dialog are for setting up how the metronome should sound.

Recording different types of MIDI Messages

There are a few facts about the recording of some types of MIDI messages that can be useful to know. If you don't know too much about MIDI you may not understand everything below. Later when you have gained a more thorough understanding, come back and read this information.

Filters

You can prevent Cubase from recording certain types of MIDI data, see the chapter "Filtering and Mapping MIDI Data".

Notes

In MIDI, when you press and release a key on your synth or other MIDI keyboard, a Note On (key down) and a Note Off (key up) message are sent out.

The MIDI note message also contains the information which MIDI Channel was used. When Cubase records a note it also stores its MIDI Channel number.

Normally you set the playback MIDI Channel in the Track List, and this setting overrides the channel stored with the notes (and other Events).

In fact, this goes for all MIDI messages that are coming in on a certain Channel (all Channel Voice and Channel Mode messages). This can be used as a feature in combination with Cubase's MIDI Channel setting "Any". A more thorough explanation is found in the chapter "MIDI Input, Output and MIDI Channels".

Continuous Messages

Pitch bend, AfterTouch and Controllers (like modulation wheel, sustain pedal, volume etc.) are considered as MIDI continuous Events (as opposed to the momentary key down and key up messages).

About recording Continuous Messages

If you move the Pitch Bend wheel on your synthesizer while recording, this movement gets recorded together with the key (Note On and Note Off messages), just as you'd expect.

But the continuous messages can also be recorded after the notes have been recorded (or even before). They can also be recorded on Tracks separate from the notes they belong to.

Say for instance that you record one or several bass Parts on Track 2. If you now set another Track, like Track 55, to the same Output and MIDI Channel as Track 2 you can make a *separate* recording of just Pitch Bends for the bass Parts. This means that you activate recording as usual and only move the Pitch Bend wheel during the take. As long as the two Tracks are set to the same Output and MIDI Channel it will appear as if the two recordings were made at the same time.

A word of warning

You can run into problems with Controllers that don't match up. If you for instance deactivate recording (punch out) with the sustain pedal on your synthesizer down, you have instructed the program to keep the notes hanging, since the release of the pedal has not been recorded.

The same applies if you leave the Pitch Bend wheel or the modulation wheel up (or any other MIDI Controller for that matter), when you stop recording. During playback, Cubase may clean up Pitch Bend, Modulation and Damper pedal and Channel Pressure at the end of each Part, taking into account what happened in earlier Parts. But, the way Continuous MIDI messages behave is still something to be aware of.

Program Change Messages

Normally, when you switch from one Program to another on your keyboard (or whatever you use to record), a number corresponding to that Program is sent out via MIDI as a Program Change message. These can be recorded on the fly with the music, recorded afterwards on a separate Track, or manually entered in one of the Edit windows. You can also enter Program Change messages in the Inspector.

System Exclusive Messages

System Exclusive is a special type of MIDI message used to send things that only make sense to a unit of a certain make and type. Every major MIDI manufacturer has its own Sys Ex identity code. Sys Ex can be used to transmit a list of the numbers that make up the settings of one or more sounds in a synth. System Exclusive can be recorded just as any other messages and can be edited in List Edit.

System Exclusive messages are discussed in more detail in the chapter "System Exclusive Handling".

● Please remember that there is nothing that prevents you from Cycled recording (see page 80) of Sys Ex data, although this can lead to serious confusion. In plain English: don't, if you're not absolutely sure of what you are doing.

4

Punch In and Out

What is Punch In and Out?

Those of you who have used multi-track tape recorders know about a technique called Punching In. This is when you activate recording while the tape is rolling. If you for example have made a mistake in the middle of a chorus, you can play back from the beginning of the chorus and just before the flawed section, punch in and replace that section with a new performance.

Punch Out is when you deactivate recording without stopping playback. If – in the example above – the chorus is followed by a verse which is perfectly OK, you would punch out at the end of the chorus so that you don't record anything on the verse.

In Cubase there are two ways to Punch In and Out: Manual and Automatic:

Automatic Punch In

1. Select a Track and set it up as necessary (as with any other recording).

2. Decide if the new recording should replace what is currently on the Track or if you want to add to it.
This is done with the Record Mode switch (Replace/Overdub) as described in the previous chapter.

**3. Set the Left Locator at the position where you want recording to be activated.**
As described above, two ways of doing this are by dragging the "L" flag in the ruler or by changing the value in the Left Locator box on the Transport Bar.

4. Move the Song Position to some point before the Left Locator.
Again this can for example be done by using the Transport buttons (Rewind, Fast Forward etc) or by changing the value in the Song Position box. More info on .

5. Click on the Punch In button on the Transport Bar so that it is activated.
Punch In activated.
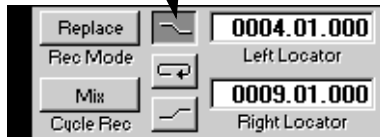
6. Activate playback.

Now, when the Song Position reaches the Left Locator, recording is automatically activated, as you can note by observing the Record button on the Transport Bar.

1. Set the Song Position...
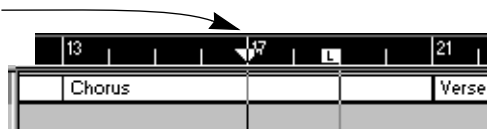
2. Activate playback...

3. When the program reaches the punch in point...

4. Recording is automatically activated!

7. Record.

8. Terminate recording either by stopping or by Punching Out (see below).

Manual Punch In

1. Select a Track and set it up as necessary (as with any other recording).

2. Decide if the new recording should replace what is currently on the Track or if you want to add to it.
This is done with the Record Mode switch (Replace/Overdub) as described on page 59.

3. Make sure Automatic Punch In on the Transport bar is *not* activated.

Punch In deactivated.

4. Move the Song Position to some point before the position where you want to Punch In.
Again this can for example be done just by using the Transport buttons (Rewind, Fast Forward etc) or by changing the value in the Song Position box.

5. Activate playback.

6. When you reach the right position, click on the Record button or press [*] on the numeric key pad.

7. Record.

8. Terminate recording either by stopping or by Punching Out (see below).

About punching in on long notes

When you activate recording in Cubase, already recorded notes are never cut off, they will play to their end just as they did before you started this recording. This is true regardless of the Record mode chosen (Overdub or Replace).

About punching in on Controller or Pitch Bend data

Watch out when punching in on recordings with Pitch Bend or Controller data (modulation wheel, sustain pedal, volume etc), since this may lead to strange effects (hanging notes, constant vibrato etc). See .

Automatic Punch Out

1. Set the Right Locator to the position where you want recording to be terminated.
Either drag the "R" flag in the ruler or change the value in the Right Locator box on the Transport Bar.

2. Click on the Punch Out button on the Transport Bar so that it is activated.

Punch Out activated

The Right Locator positioned

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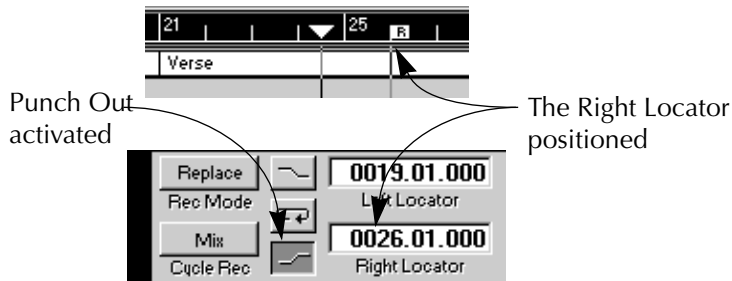
3. Now, recording is automatically deactivated when the Song Position reaches the Right Locator.

Activate recording.

When the Song Position reaches the Right Locator...

21			25	
Verse				

Recording is automatically deactivated, but playback continues.

You can of course combine automatic Punch In and Out for a totally automated recording.

Manual Punch Out

1. **Activate recording in any way you like.**
   You might for example combine manual Punch In and Out to fix an error in an otherwise good performance.

2. **When you reach the right position, click on the Record button or press [*] on the numeric key pad.**

3. **If you like, Punch in again and record some more.**

4. **When you're done, Stop Cubase.**

5

Cycled Playback and Recording

What can I do with the Cycle?

Cubase can play back and record in a Cycle – a loop. You decide where the Cycle starts and ends by setting the Left and Right Locators. When Cycle is active you can repeatedly listen to a section of the Arrangement, and record, adding more on each lap etc. Cycled playback is also convenient when editing and when making adjustments in the Inspector.

Setting up the Cycle

1. Set the Left Locator to the position where you want the Cycle to begin.

2. Set the Right Locator to the position where you want the Cycle to end.

3. Click on the Cycle button so that it gets activated, or press [÷] on the numeric key pad.

Set up the Left and Right Locator...

...and activate the Cycle
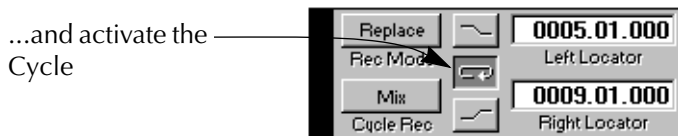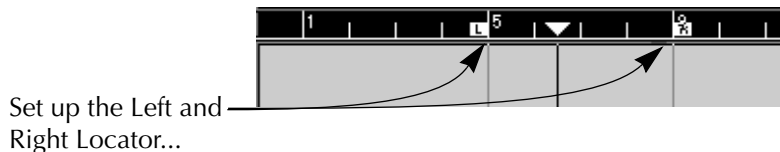
Playing back the Cycle

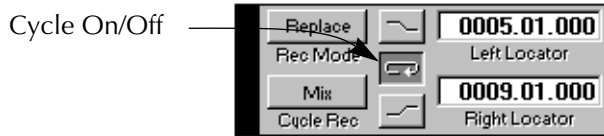When you play back with Cycle activated, the section between the Locators gets repeated indefinitely.

You can use all and any functions while the program is playing back. This fact allows you to use Cycled playback for a number of things, many of which you will learn about later in this manual:

• Rehearse a part before recording.
• Mute Tracks and Parts to try out variations on an Arrangement.
• Concentrate editing in the MIDI editors to a certain section of the Song.
• Make adjustments in the Inspector, apply Quantizing etc, to fine tune levels and grooves.
• Make adjustments to the sounds in your instruments or try out a Track with another sound.
• etc, etc.

Recording in Cycle Mode

From the Left Locator

1. Set up the Cycle and activate the Cycle button.

Cycle On/Off ──────

Replace	⌐	0005.01.000
Rec Mode		Left Locator
Mix		0009.01.000
Cycle Rec		Right Locator

2. Set up a Track to record on.

3. Use the Record mode switch on the Transport Bar to decide if you want the stuff you record to be added to what was previously on the Track or if you want it to replace the existing recording.
This is described on page 75.

4. Click the Record button.

5. After the count-in, start playing.

6. Keep playing on each lap of the Cycle until you are satisfied.
See the Cycled Recording Modes and Functions described below.

7. Stop Cubase or punch out manually.

From Before the Cycle

1. Set up the Cycle and activate the Cycle button.

2. Set up a Track to record on.

3. Use the Record mode switch on the Transport Bar to decide if you want the stuff you record to be added to what was previously on the Track or if you want it to replace the existing recording.
This is described on page 75.

4. Activate automatic Punch In on the Transport Bar.

Punch In activated.
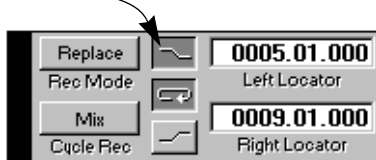
5. Set the Song Position to some point before the Cycle.

6. Activate playback.

When Cubase reaches the Cycle, recording is automatically activated.

7. Keep playing on each lap of the Cycle until you are satisfied.
See the Cycled Recording Modes and Functions described below.

8. Stop Cubase or punch out manually.

● If you Punch In manually before the Cycle, the Cycle is automatically turned off!

Punching In and Out in the Cycle

Once you are in the Cycle you can punch in and out manually as many times as you wish without stopping in between. Simply click the Record button or press [*].

Switching Tracks while recording

You can record on more than one Track while in the Cycle:

1. Set up a few Tracks that you wish to record on. Also set up the instrument(s) so that they play the right sounds on these MIDI Channels.

M	C	Track	Chn	Instrument		
	♪	Drums	10			
	♪	Percussion	10			
	♪	Synth Bass	2			
	♪	Pad	4			

A few Tracks set up for recording a four bar groove.

2. Enter recording in Cycle mode.
Record on the first Track.

3. Without stopping, select a new Track in the Track list or use the [↑] and [↓] keys to step through the Tracks.
Selecting a new Track set to a different MIDI Channel and maybe Output, automatically routes your playing to the new sound.

4. Record on this second Track as with the first.

5. Keep recording on different Tracks until you are satisfied.
See the Cycled Recording Modes and Functions described below.

6. Stop Cubase or punch out manually.

Cycled Recording Modes

Switching Modes

On the Transport Bar you will find a small box labelled "Cycle Rec". This is used to select one of three "behaviours" when recording in Cycle Mode.

The Cycle Rec Mode Switch

You can select any of the modes prior to, or during, recording.

Mix Mode

In Mix mode, everything you record is added to what was recorded before. This is the preferred mode if you for example are building up a rhythm pattern in Cycle mode. You can start with the hi-hat, add bass drum on the second lap, snare on the third etc.

Record some notes on the first lap...

Whatever you record on the following lap(s) is simply added to the existing notes

Punch Mode

In this mode Cubase automatically punches in the moment you play anything on a lap. Proceed as follows:

1. Select Punch Mode.

2. Start Recording in a Cycle.

3. If you make a mistake in the middle of the Cycle, simply wait until you reach the correct position on the next lap, and start playing again.
What was previously recorded from this point to the end of the Cycle is replaced with what you play now.

4. When you have a recording you're happy with, you can turn off Punch mode, Stop or Punch Out.

Record some notes on the first lap...

Whenever you start playing on an upcoming lap, your new recording will replace the notes from that point and onwards.
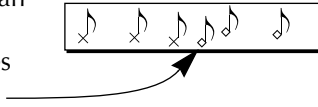
Normal Mode

The name Normal mode refers to the way Cubase behaves during normal (as opposed to Cycled) recording. This allows you to record afresh on the Track each time you enter the Cycle.

1. Decide if you want to overwrite earlier recordings on the Track or not, by selecting a Record Mode (Overdub or Replace).
See page 75.

2. Select Normal Cycled Recording Mode.

3. Record something on a lap.
You will not hear what you recorded, on the next lap(s).

4. If you'd like to redo the recording, simply try again on any upcoming lap.
Everything you recorded on earlier laps is automatically deleted.

5. When you have a performance you like (a complete recording on a lap), stop recording or switch to another Cycled Recording Mode.

Record some notes on the first lap...

If you play anything on any of the upcoming laps, it will totally replace your earlier

● Please note: a complete lap is only kept when the recording is stopped some time during the next lap.

Cycled Recording Functions

These functions are found on a pop-up menu that appears when you press the mouse button with the pointer over the "Cycle Rec" text on the Transport bar, *while recording in Cycle mode*.
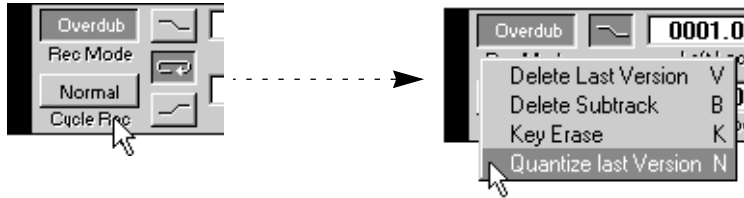
Delete Last Version

If you just made a mistake on the last lap, proceed as follows:

• **While recording, select Delete Last Version from the pop-up menu or press [V] on the computer keyboard.**

This erases your last recording. It doesn't matter if you didn't play anything for several laps, the last lap *that you recorded anything on* is erased.

Delete Subtrack

If you make a mistake and don't wish to keep anything of what you've just recorded, proceed as follows:

- **While recording, select Delete Subtrack or press [B] on the computer keyboard.**

The Part is cleared (but not deleted) and you can instantly start inputting music again, without leaving Record mode.

Key Erase

To erase all notes played with a certain key, or keys, proceed as follows:

1. **While recording, press and hold the relevant keys on the synth keyboard.**

2. **Select Key Erase from the pop-up menu or hold down [K] on the computer keyboard.**

Quantize Last Version

Quantizing is a function you can use to let the computer correct imprecisely played notes to the next correct timing position, defined by you. Quantizing is not irrevocable, it can always be undone unless you specifically "freeze" your Quantize. Cubase provides several different Quantize options, described on page 224.

If you want to over Over-Quantize everything you recorded on the last lap, proceed as follows:

1. Select a Quantize note value by using the Quantize pop-up at the top of the Arrange window.

The Quantize pop-up
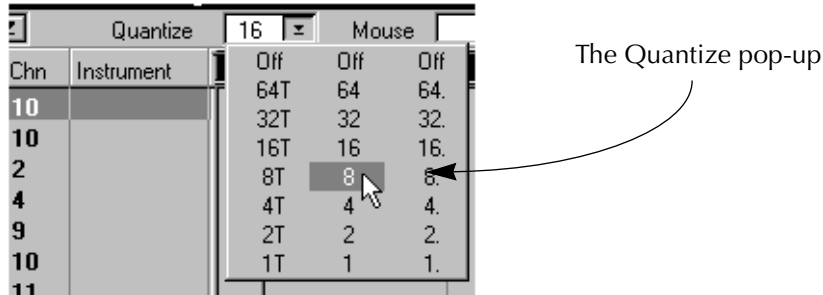
2. Select Quantize Last Version or press [N] on the computer keyboard.

Just as with Delete Last Version, it doesn't matter if Cubase has played back the Cycle several times since you last played anything, the last lap *you recorded anything on* is Quantized anyway.

About the Cycle and the Overdub/Replace Switch

As described on page 75, the Overdub/Replace switch is used to decide if what you record now is added to whatever was on the Track before or whether it should replace the existing recordings.

The same is true for Cycled Recording:

- If Overdub is selected, everything you record is added to what was previously on the Track.
- If you select Replace mode, everything you record during *one recording pass* (the time from which you activate recording until you deactivate it again) replaces what was previously on the Track.

- The Cycle recording Modes and Functions described on the previous pages *only apply to what is recorded during one recording pass.* For example, the special Cycle Punch Mode does not delete any notes recorded on the Track before, only notes that were recorded in the Cycle this time.

1. Let's say you have a Part already recorded.

2. You activate Cycled recording in Overdub Mode to add more notes.
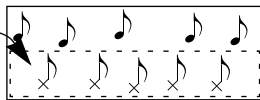
3. If you now use the Cycle Mode Punch function, you will only replace the notes recorded during the Cycle recording pass.
The previously recorded notes are not affected.

6

Playback, Tempo and the Transport Bar

The Transport Bar

Below, you will find a brief description of what each control on the Transport Bar is used for:

This setting determines whether what you now record is being added to (Overdub), or replaces (Replace) what has previously been recorded on a Track

Activates Punch In

Record start point, Punch In point and beginning of Cycle.

Handle (move)

Cycle On/Off

Switches between the three modes for Cycled Recording

Punch Out point and end of Cycle

Activates Punch Out
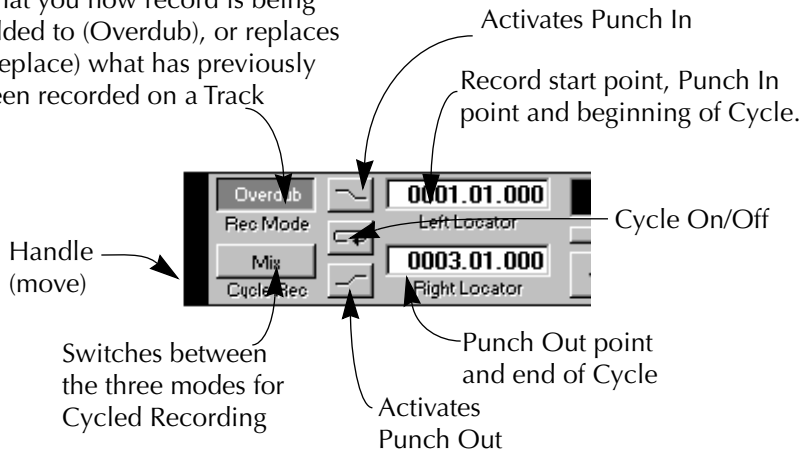
Song Position
(Meter format)

Position Slider

Song Position
(Time format)

0005.01.000

00:00:08:00
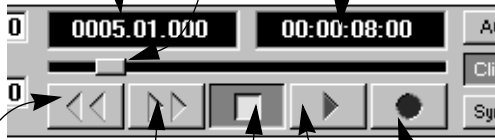
Rewind   Fast Forward   Stop   Play   Record

Activates automatic
quantization during record

Turns the Metronome
On/Off

Time Signature   Tempo

AQ   120.000

Click   04/04   OUT

Activates synchronization
to other equipment

Sync   Master   IN

Turns the Master
Track On/Off

Indicates MIDI
In/Out activity
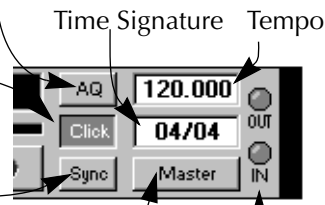
Hiding and showing the Transport Bar

To hide the Transport Bar, select "Hide Transport" on the Windows menu. To bring it back, select "Show Transport" from the Windows menu.

When the Transport Bar is hidden, you can still access all its functions via the computer keyboard. See below for a list of Transport Bar commands.

Moving the Transport Bar

You can put the Transport Bar anywhere you want it, by dragging the handles.

The Numeric Key Pad

The numeric part of the computer keyboard is used for many Transport Bar operations. Some of these are described in more detail later in this chapter.
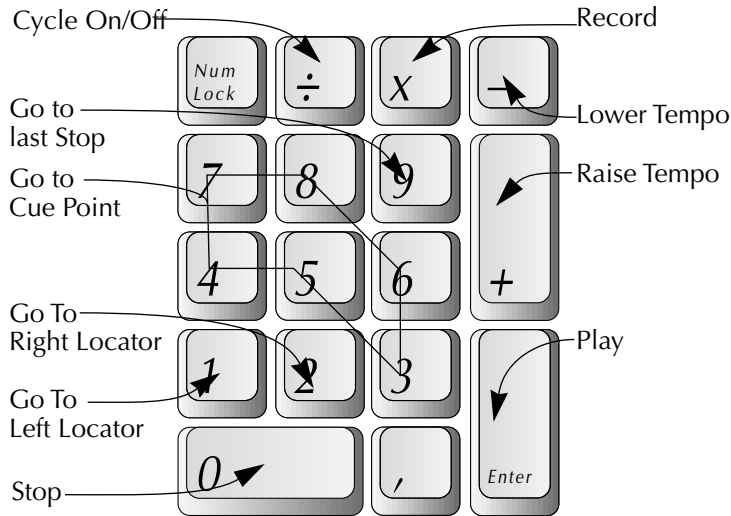
In addtion to this, the Page Up and Page Down keys function as Fast Forward and Rewind.

If you have a computer without a numeric key pad, some transport commands are still available from the regular keyboard (the picture shows American key caps):

Cycle On/Off   Record   Play
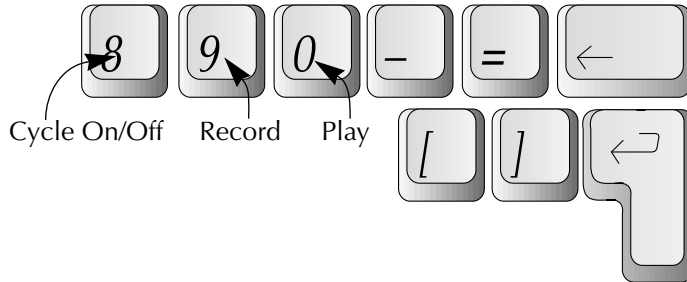
The Space bar also functions as Stop button.

Basic Tempo and Time Signature Handling

Transport Bar and Master Track Tempo

There are actually two sources for Cubase's tempo:

• When the song uses a steady tempo throughout, you can have the Master button on the Transport Bar turned off and simply set the right tempo directly on the Transport Bar. The tempo can be adjusted at any time, even while playing back.

• When the song contains tempo changes, you need to use the Master Track, (which is Cubase's tempo Track but also more! See the chapter "The Master Track"). For those tempo changes to actually "happen" on playback, the Master button on the Transport Bar must be activated. This is all discussed in the chapter "The Master Track".

The Tempo setting on the Transport Bar is used.

The Tempi set on the Master Track are used.

Setting the Transport Bar Tempo

The tempo on the Transport Bar is adjusted like any other value (see in this book). The value is in BPM (Beats Per Minute). The integer and fraction part can be adjusted separately, if needed.

Setting the Song and Time Position

Using Fast Forward and Rewind

The Song Position can of course be moved using Fast Forward or Rewind. If you hold down [Shift] while clicking the button, Rewind/FF is much faster.

Rewind⟶   ⟵Fast Forward
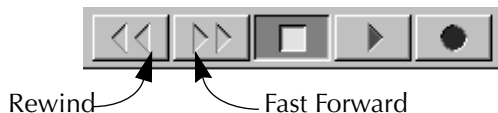
By double clicking in the Ruler

If you double click somewhere in the ruler, the Song Position Pointer is moved there.

Double-click in the ruler...   ...to move the Song Position Pointer.

By using the Position Slider

The position slider is located on the Transport Bar. You can drag the handle or click directly somewhere on the line to move the handle there.

The throw of the slider is relative to the length of your song. This means that if you drag the slider all the way to the right, the Song Position will appear at the end of the last Part.
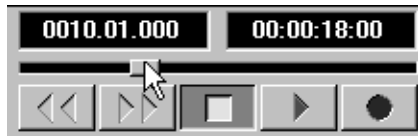
Dragging the Position Slider.

About the Snap Value

When you change the Song Position in the ruler or by using the position slider, something called "the Snap value" helps you find exact positions quickly. It does this by limiting the possible points for positioning, to Bar, half note, quarter note, etc. Snap can of course also be set to Off.

The Snap value is set with the Snap pop-up at the top of the Arrange window.

The Snap pop-up.

Value	Description
Off	Any position can be used
Bar	Movement is restricted to exact bar lines.
1/4 to 1/16	Movement is restricted to the selected note value.
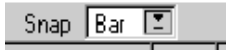
Snap [Bar ▼]   If Snap is set to Bar...
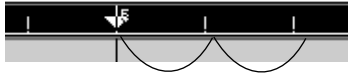
...the Song Position can only be dragged to exact bar lines.
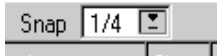
Snap [1/4 ▼]   If Snap is set to for example 1/4...
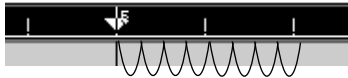
...the Song Position can be put on any quarter note position.

Changing Position values on the Transport Bar

You can adjust the Meter or Time Position values on the Transport Bar, as described in the chapter "Basic Methods". The Song pointer is moved accordingly.

Making relative Position changes

If you double click on either position value and enter a new one, preceded by a "+" or "–" character, the song position is moved relatively.

Double click...

0005.01.000

...enter a value preceded by + or –...

+2.2

...and the value gets added to the existing position

0007.03.000

Returning to the beginning of the Song

If the Song is stopped and you click the Stop button again (or press [0] on the numerical key pad), the following happens:

- The Song Position is moved to the Left Locator.
- If the Song Position is already at the Left Locator or to the left of it, the Song Position is moved to the beginning of the Song.

This means that you can always click twice on the Stop button to return to the beginning of the Song.

Going to the left side of the window

If you press the [Home] key on the computer keyboard, the Song Position pointer is moved to the left side of the window.

Going to the last Stop Position

If you press [9] on the numeric key pad, the Song Position moves to the place you last stopped at.

Moving to the Locators

- If you press [1] on the numeric key pad, the Song Position is moved to the Left Locator.
- If you press [2] on the numeric key pad, it is moved to the Right Locator.

Using Cue Points

Cue points are used to quickly locate to any position. If you for example often find yourself jumping to the beginning of the first chorus, set up that position as a cue point.

Programming Cue Points

1. Set the Song Position to where you want the Cue Point to be.

2. Hold down the [Shift] key and press any of the keys [3] to [8] on the numeric key pad.
The key is now programmed with that position.

Locating to Cue Points

If you press any of the keys [3] to [8] on the numeric key pad, the Song Position is moved to the position programmed for that key.

Cueing

Cueing is when you fast forward through the music while playing it. You might have done this on a multi-track tape recorder. The big difference with Cueing in Cubase is that the music is played back with normal pitch.

1. **Click and hold down the right mouse button with the pointer over the Fast Forward button.**

   or...

1. **Hold down the [Control] key.**

2. **Click and hold down the left mouse button with the pointer over the Fast Forward button.**

• **To change the speed of cueing, drag the mouse left/right.**

Locators

Setting the Locators by dragging in the Ruler

1. Set the Snap value.
The Snap value restricts the positions you can move the Locator to, as with the Song position, see page 103.

The Snap pop-up.

2. Point at the left or right Locator flag in the ruler, and press the corresponding mouse button (left or right).
You may actually point anywhere in the ruler; the Locator flag will move to the pointer when you press the mouse button.

3. Drag left or right.
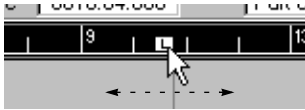
Dragging the Left Locator

4. Release the mouse button.

Setting the Locators by clicking in the Ruler

1. Set the Snap value.
See above.

2. Click somewhere in the ruler with the left mouse button, to move the Left Locator.
The Locator appears at that position. To move the Right Locator, click with the right mouse button.

Click with the left mouse button...

...to position the Left Locator.

Setting the Locators on the Transport Bar

You can also adjust the Left and Right Locator position by changing the numerical values in the Locator boxes on the Transport Bar.

Making relative Position changes

Just as with positions (see in this book) you can double click and enter a new value, preceded by a "+" or "–" character. When you hit [Return] the Locator is moved relatively.

Setting the Locators by selecting Parts

You can adjust the Locator positions to the range of the currently selected Part(s).

1. Select the Part(s) by clicking on it/them.
If the range includes several Parts, hold down the [Shift] key while selecting.

2. Hold down the [Alt Gr] key and press [P].

Select one or more Parts, press [Alt Gr]-[P]...
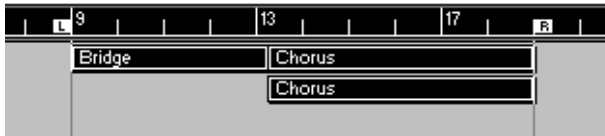
...and the Locators are moved to the edges of the "block".

Pre-programming Locator Pairs

If you find yourself moving the Locators back and forth between the same positions all the time, you can pre-program some Locator combinations for instant recall:

1. Set up the Locators as desired.

2. Hold down the [Shift] key on the computer keyboard.

3. Press one of the Function keys [F2] to [F11] on the computer keyboard.
That key is now programmed with the current settings of the Locators.

Recalling Locator Positions

• **Press the desired function key ([F2] to [F11]).**
The Locators are moved to the memorized positions.

Using Time Positions in the Rulers

If you'd like to use Cubase as a time based program, rather than a meter (tempo) based one, you can change the position indicators in any window, as follows:

1. Locate the Mouse Position box.
In the Arrange window this is located on the Status Bar (the area directly above the ruler).

2. Click once in the box.
Now the ruler and the Mouse Position box change to show time positions instead of meter positions.

The Mouse Position box

Positions in Meter format

Positions in Time format
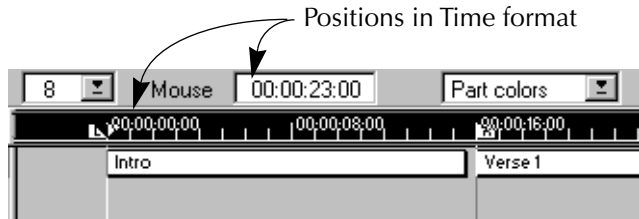
3. To switch back to meter positions, click again.

● Please note that even though you have switched to time positions, Snap is still on and relates to meter positions. You might want to set Snap to "Off" when using time positions.

7

Managing Tracks

What can I do with Tracks?

The Track is one of the most basic concepts in Cubase. Every time you record something in Cubase, the recorded material is placed on a Track. You can have thousands of Tracks in each Arrange window, and you can easily move or copy material between Tracks (if the Tracks are of the same kind - see Track Classes, page 127).

The most obvious reason for putting the recorded material on different Tracks, is perhaps that you want to have your music played back by different "instruments" - or maybe rather by different sounds on a MIDI Sound Module or Keyboard. But there are also many other advantages of working with many Tracks.

Creating Tracks

Create a new Track when you want to add another "layer" to your recording. You might for example want to add another "instrument", or make room for an alternate version of a part in your music. There are several ways to create a new Track:

By using the Mouse

M	C	Track
	♪	**Oboe**
	♪	**Arco**
	♪	**String Pad**
	♪	**Flute**
	＼	**Triangle**
	♪	**Horns**

Double clicking in an empty part of the Track List...

M	C	Track
	♪	**Oboe**
	♪	**Arco**
	♪	**String Pad**
	♪	**Flute**
	＼	**Triangle**
	♪	**Horns**
	♪	**Track 7**

...creates a new Track.

By using the Structure Menu

Selecting Create Track from the Structure menu will make a new Track appear at the bottom of the Track List. You may also use the keyboard short-cut [Control]-[T] to accomplish the same thing.

What name will the new Track have?

If you start with an empty Arrange Window (with no Tracks), and create a new Track, it gets the name "Track 1". Next time you create a New Track, this gets the name "Track 2" and so on. You can rename a Track at any time (see Naming Tracks, below).

Naming Tracks

You can rename a Track, simply by double clicking on its current name in the Track List, and typing in a new name.

Selecting Tracks

If you want to record on a Track, change settings for it or perform an operation that affects a whole Track, the Track has to be selected for Cubase to "understand" which Track you wish to direct the action to.

This Track is selected.
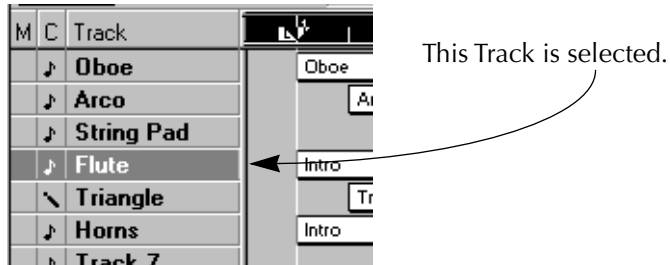
By clicking

1. **Click in the name field of the Track you want to select.**

2. **The Track gets inverted (white on black).**
   The Track you have selected is called the "active Track" or the "selected Track".

By using the keyboard

You may also simply "move" the selection up or down in the Track List by using the [↑] and [↓] keys on the computer keyboard. This will select the Track above/below the currently selected.

If you press the [↑] key...

...the Track above in the Track List gets selected.

Finally, you may also press [Alt Gr]-[T] on the computer keyboard, and type in the number of the Track you want to select (counted from the top of the Track List).

Changing the order of the Tracks

You can rearrange the Tracks in the list like this:

1. Press the mouse button with the pointer on the Track you want to move. The pointer takes on the shape of a hand.

2. Drag the Track with the mouse button pressed. A dotted outline shows you where the Track will be placed.

3. When you release the mouse button, the Track is moved to its new position.

● All the Parts on the Track are moved with the Track.

Duplicating Tracks

You may make a copy of a Track and all Parts on it.

1. Position the pointer on the name of the Track in the Track List.

2. Hold down [Alternate] on the computer keyboard and press the mouse button.

3. Drag the outline of the Track to an empty field in the Track List.

4. Release the mouse button.

M	C	Track		5
	♪	**Oboe**		
	♪	**Arco**	Arco	
	♪	**String Pad**	String Pad	
	♪	**Flute**		
	↘	**Triangle**	Triang	
	♪	**Horns**		
	♪	**Track 7**		
	♪	**String Pad**	String Pad	←

A duplicate of the selected Track is created and placed,
complete with Parts, at the bottom of the Track List.

● You can not duplicate empty Tracks.

Deleting Tracks

You may delete a Track and all Parts on it.

1. Make sure that no Part is selected (inverted).
This is to make sure that what you Delete will be a Track, not a Part.

Check that this menu item says
"Delete Track", not Delete Parts.

Edit	
Undo	Ctrl+Z
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Delete Track Del	
Select	▶
Copy to Phrase...	
Edit	Ctrl+E
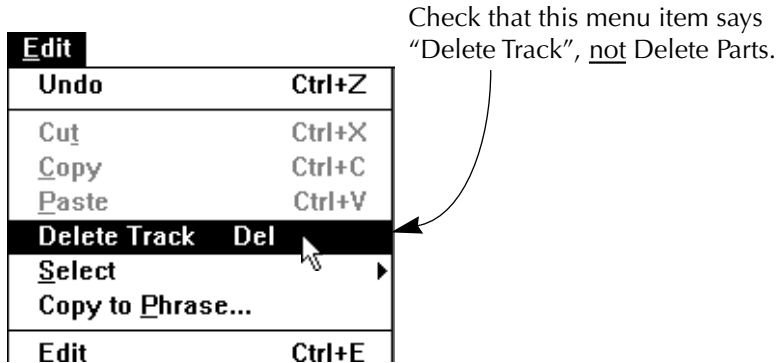
2. Press [Backspace] on the computer keyboard or select Delete Track on the Edit menu.

● If you change your mind, you can undo the Delete Track operation with the Undo option on the Edit menu, or by pressing [Control]-[Z] on the computer keyboard.

Track Classes

There are different types of Tracks, called *classes*. In the column marked "C" in the Track List, a small symbol shows which class each Track has.

How to select a Class for a Track

Press the mouse button with the pointer in the "C" column for a Track...

...to pull down a menu where you can select a Track Class.

Converting a Track from one Class to another

If you have not recorded anything yet on a Track, you may at any time convert it to any class. Just select the new class from the menu as described above. If there is something recorded on it you may not be able to select another class for the Track.

● In the rest of this manual, if nothing else is stated, an operation applies to all Track classes.

The seven basic Track Classes

MIDI Tracks

♪

MIDI Tracks are the most common type. They are used for regular MIDI recording and editing.

Drum Tracks

Just like MIDI Tracks, Drum Tracks contain MIDI Events, but Drum Tracks are tailor-made for use with the Drum editor. This Cubase feature makes editing rhythmic Tracks much easier, keeping track of exactly which key is assigned to which drum sound etc. You can convert a MIDI Track to a Drum Track and vice versa, at any time. See the chapter "Drum Edit".

Mix Tracks

Cubase features a MIDI Mixer, a window that lets you control the volumes, settings and parameters on your connected sound modules and other devices, from inside the program. A Mix Track contains information about the MIDI Mixer actions, rather than regular MIDI Events.The MIDI Mixer is explained in more detail in the chapter "The MIDI Mixer and Mix Tracks".

Group Tracks

Cubase lets you put together different parts of the recorded material into Groups. You may for example Group all of the instruments in the verse, bridge or chorus of a song, and thereby get different building blocks to use when you are rearranging

your song. The Group Track will not contain regular MIDI data, but instead just these building blocks or Groups. By moving and copying Groups on the Group Track you can easily try out new arrangements.

Groups are explained in more detail in the chapter "Groups".

Tape Tracks

Tape Tracks are used to control Tape Recorders from Cubase. This is explained in detail in the chapter "Tape Tracks – Controlling Tape Recorders".

Style Tracks

Cubase Score and Cubase Audio come with a module that lets you work with "Styles", a kind of automated accompaniment patterns. If the module is activated (see the Modules chapter in the Getting into the Details book), the Style Track Class symbol appears on the pop-up menu. Style Tracks contain information about which Style the accompaniment should use. See the Style Tracks chapter.

Chord Tracks

 C⊤

Chord Tracks contain information about chord changes. These chords are used by the Style Tracks, and in the Score editor in Cubase Score and Cubase Audio.

Other Classes

If you purchase an expanded version of Cubase, more Track Classes may appear on the menu.

8

MIDI Input, Output and MIDI Channels

Why you should read this Chapter

This chapter contains some details about how Cubase handles MIDI. This information is vital for making the most out of the program!

MIDI Input

Standard Interfaces

Cubase records from all active MIDI Inputs at the same time. So which MIDI Inputs are active? You can make your choices on the "Inputs Enable" pop-up menu in the MIDI Setup dialog (which opens when you select MIDI Setup... on the Options menu). Normally all Inputs are activated, but you can change this if you need to.
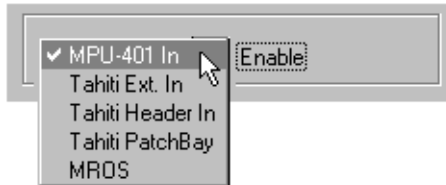
In this example, Cubase will only record from the MPU-401 interface, since the other ports are not activated (not ticked).

In this example Cubase will record from the MPU-401 and the Tahiti Ext. In port.

Normally the MIDI data coming in to the inputs is added together (merged) and recorded on one single Track. You *do* have the option of recording different inputs to different Tracks, see the "Multi Track recording" chapter.

About Multi-port Interfaces

If you have a multi-port interface (see Installation), Cubase will record from all its inputs at the same time. Cubase does not make a difference between the inputs, it sees them all as "one big MIDI connector".

MIDI Outputs

Each Track has a MIDI Output setting. This routes the data on the Track to a physical MIDI Output on one of your MIDI Interfaces.

Standard Interfaces

Standard interfaces are identified in Cubase by the names provided by their respective drivers (see).
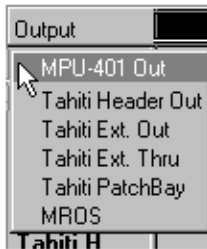
Select one of the ports on the Output pop-up menu to make the Track transmit data to that interface.

Multi-port Interfaces

If you have a multi-port interface, each of its MIDI Out connectors appears as a MIDI Output in the Output list. Setting a Track to a certain Output routes all the MIDI Data on that Track to that specific MIDI Out connector on the interface.
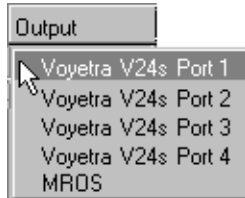
In the case above, the Track will transmit all its data to MIDI Output number 1 on a Voyetra multi-port interface.

How Cubase records MIDI Channel data

Each MIDI Event that Cubase records has a MIDI Channel number.

If you for example set your MIDI keyboard to transmit on MIDI Channel 5, all the notes, Pitch Bend data, program change or whatever you transmit from it, will have the MIDI Channel number 5.
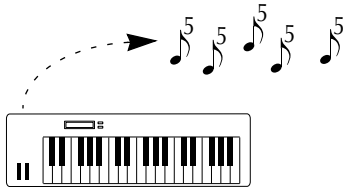
This keyboard transmits on MIDI Channel 5.

Some MIDI devices can transmit on more than one MIDI Channel. In this case the MIDI input data coming in to Cubase will contain mixed channel numbers.
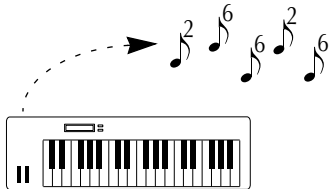
This keyboard transmits on two MIDI Channels, – 2 and 6. Possibly it transmits each channel from one side of a split point.

Cubase stores the MIDI Channel with the Event. If you for example look in List Edit (which you will learn about later in this manual), you can see the MIDI Channel for each Event that has been recorded.

Status	Chn
Note	2
Note	6
Note	6
Note	2
Note	6
Note	6

In List Edit you can see the MIDI Channel stored with each Event.

Rechannelizing – The MIDI Channel setting for the Track

When you play back a recording, you want it to be routed to a certain sound in one of your synthesizers. Let's say you have a synthesizer that plays a bass sound on MIDI Channel 3. To route a Track to that sound you set it to MIDI Channel 3.

Track	Chn
Bass Synth	3

This Track is set to play back on MIDI Channel 3.

What now happens is that when you hit play Cubase plays back all the data on the Track, but when doing so it *replaces the MIDI Channel number stored in the Events with that of the Track* – in this example, MIDI Channel 3!

These Events, on different MIDI Channels...

...get their MIDI Channel changed to that of the Track, during playback.

Status	Chn
Note	2
Note	6
Note	6
Note	2

Track	Chn
Bass Synth	3
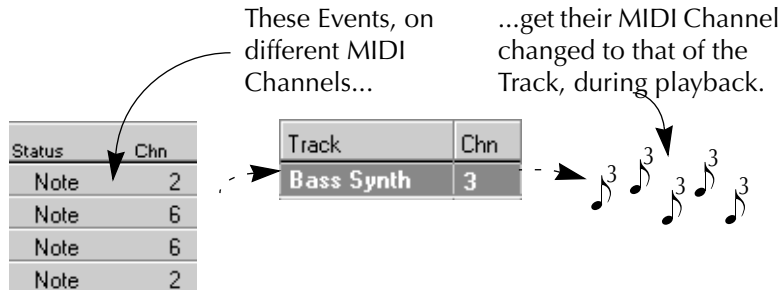
This replacement is done as part of the playback procedure, that is it does not affect the recording permanently. If you check the data on the Track in List edit (as mentioned above) all the Events still have their MIDI channel intact.

This is what we refer to as *rechannelizing* – changing the MIDI Channel of the Events on playback.

Rechannelizing is very convenient because it lets you forget what MIDI Channel number your keyboard is set to transmit on. Instead, to route a Track to a certain sound, you simply set the MIDI Channel number in the Track list in Cubase.

And, if you decide you want to route the Track to another synthesizer, later, the only thing you have to do is to change the MIDI Channel setting for the Track.

Rechannelizing also works on Thru-put!

The description above only was about what happens on playback. But in fact, Re-channelizing happens on the data that passes *Thru* Cubase.

If you click on a Track to activate it, its MIDI Channel setting is used for rechan-nelizing the data that passes through the program. This automatically routes your playing to the correct MIDI Channel when you are recording, or rehearsing for a re-cording you are about to make.

If you make a Track active...

...its MIDI Channel value is used for rechannelizing the data that passes through Cubase.
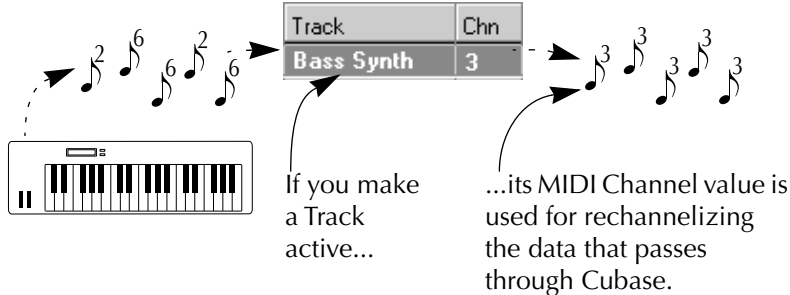
Turning off Rechannelizing – MIDI Channel "Any"

There's one situation where you might not want rechannelizing and that's when you have a Track that contains Events on multiple MIDI Channels. You might for example have:

• Recorded with a keyboard that can be "split" so that it transmits on two MIDI Channels.
• You might have a guitar synthesizer where each string can transmit on a different MIDI Channel.
• You might have recorded the output of another MIDI sequencer onto a Track in Cubase.
• You might have imported a MIDI File of Type 0, which by definition contains only one Track, possibly with Events on several MIDi Channels.

In each of these situations you might want to have the Track transmit on all its MIDI Channels – the MIDI Channels actually stored with each Event, as described above. This would allow you to set up several sounds and play them all from one Track.

To do this, set the Track to MIDI Channel "Any" (the "lowest" value).

These Events, on different MIDI Channels...

...will play back on their original MIDI Channels since the Track is set to "Any".

Status	Chn
Note	2
Note	6
Note	6
Note	2
Note	6
Note	6

Track	Chn
No Rechan!	any
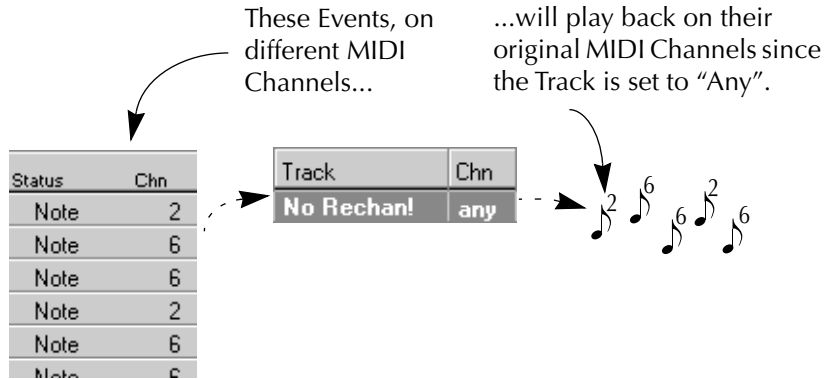
Summary

To summarize: When a Track is set to MIDI Channel "Any", rechannelizing is turned off, and the Events will be transmitted on their original MIDI Channels instead.

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9

The Track Columns and the Inspector

The Track Columns

The Track columns show names and settings for the Tracks. These settings can be changed directly. The headings are the same for all Tracks, but may have a slightly different meaning for different Track classes. Not all columns apply to all Track classes.

Getting the Track Columns to appear

The Arrange Window is divided into two parts, the Track columns to the left and the actual Arrangement display to the right. To get all of the Track columns to appear, press the mouse button with the pointer positioned above the Divider (the border between the two parts of the Arrange Window) and drag it as far to the right as possible. You should now be able to see all of the Track columns.
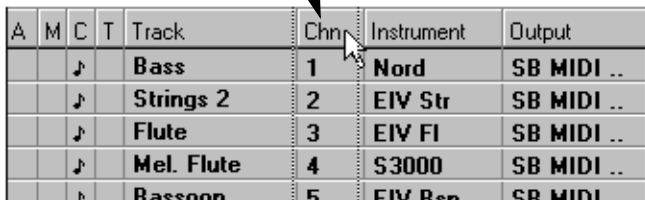
The Divider, dragged as far right as possible.

Changing the order of the Track Columns
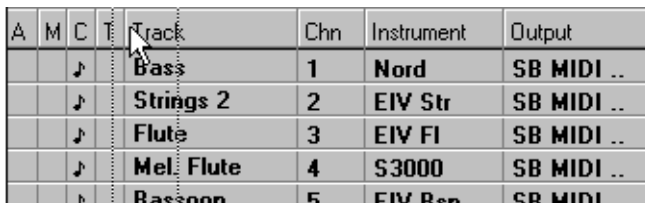
You can arrange the vertical columns in any order you like, by simply dragging the headings to the left and right, respectively.

Press the mouse button with the pointer on the heading of the column you want to move.
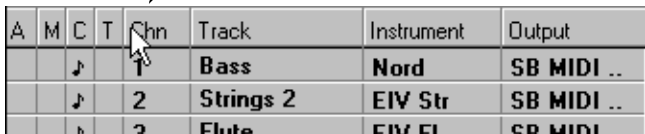
A	M	C	T	Track	Chn	Instrument	Output
			♪	**Bass**	1	**Nord**	SB MIDI ..
			♪	**Strings 2**	2	**EIV Str**	SB MIDI ..
			♪	**Flute**	3	**EIV Fl**	SB MIDI ..
			♪	**Mel. Flute**	4	**S3000**	SB MIDI ..
			♪	**Bassoon**	5	**EIV Bsn**	**SB MIDI**

With the mouse button pressed, drag the column to the new position.

A	M	C	T	Track	Chn	Instrument	Output
			♪	**Bass**	1	**Nord**	SB MIDI ..
			♪	**Strings 2**	2	**EIV Str**	SB MIDI ..
			♪	**Flute**	3	**EIV Fl**	SB MIDI ..
			♪	**Mel. Flute**	4	**S3000**	SB MIDI ..
			♪	**Bassoon**	5	**EIV Bsn**	**SB MIDI**

Release the mouse button, and the column is moved to its new position.

A	M	C	T	Chn	Track	Instrument	Output
			♪	1	**Bass**	**Nord**	SB MIDI ..
			♪	2	**Strings 2**	**EIV Str**	SB MIDI ..
			♪	3	**Flute**	**EIV Fl**	**SB MIDI**

If you drag to the left, the column will be inserted to the left of the column you "drop it on". If you drag to the right it will be inserted to the right of the column you "drop it on".

The Activity Column

This column is shown if the checkbox "Activity Display" in the Preferences dialog (reached from the File menu) is activated. The column, with the heading "A",

This column is shown only if the checkbox "Activity Display" in the Preferences dialog (reached from the File menu) is activated. The column, with the heading "A", shows if any MIDI is being sent out from the Track at the moment. The width of each bar represents velocity for notes. The activity column applies to MIDI Tracks, Drum Tracks, Group Tracks and Mix Tracks.

A	M	C	T	Chn	Track
■		♪		1	Bass
		♪		2	Strings 2
		♪		3	Flute
		♪		4	Mel. Flute
		♪		5	Bassoon

The Activity Column as it looks when a note is played back on the Track.

● This column can't be moved!

The Mute Column

The Mute column is indicated by an "M". By clicking in this column, you temporarily "silence" the Track. A black dot is displayed in the column. To make the Track sound again, you just click in the Mute column again. This is described in detail in the chapter "Mute and Solo".

Click in the "M" column...

...to Mute the Track. The black dot indicates that a Track is Muted.

In the basic version of Cubase, muting applies to all Track classes except Tape Tracks.

The Class Column

This column is indicated by a "C" and is used to set a Track to a certain Class. See page 127 for a thorough explanation.

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The Time Lock Column

This column is indicated by at "T". If you click in it, a lock symbol will appear.

A Time Locked Track.

Events on Time Locked Tracks are fixed in time. This means that even if you change the tempo, the Events will stay at the same positions, time-wise. See the chapter "Time Locked Tracks".

The Track Column

This column shows the Track's name. To enter or change a name, double click in this field for the relevant Track.

The Chn Column

The contents of this column vary depending on the Track class:

The Chn Column for MIDI Tracks, Drum Tracks and Chord Tracks

For these Track classes, the Chn column shows the MIDI Channel set for each Track. You may change the MIDI Channel of a Track at any time. For a full explanation of MIDI Channels and the effects of changing them, please read the chapter "MIDI Input, Output and MIDI Channels".

- **Chord Tracks do not play back MIDI messages like MIDI Tracks. The MIDI Channel value is only used for thruput when you record chord changes (see the chapter "Style Tracks").**

The Chn Column for Tape Tracks

For Tape Tracks, the column shows the track on the tape recorder. See the chapter "Tape Tracks – Controlling Tape recorders".

The Chn Column for Group Tracks, Mix Tracks and Style Tracks

For these Track classes, the Chn value does not apply. The column is therefore always left blank.

The Output Column

The function of this column varies with the Track Class:

The Output Column for MIDI Tracks, Drum Tracks and Chord Tracks.

For these classes, the Output column shows which physical MIDI Output each Channel uses.

• **Chord Tracks do not play back MIDI messages like MIDI Tracks. The MIDI Channel value is only used for thruput when you record chord changes (see the chapter "Style Tracks").**
To change Output for a Track, position the pointer in its Output column, press the mouse button...

Track	Instrument	Output
Bass	**Nord**	**SB MIDI**
Strings 2	**EIV Str**	**SB MIDI ...**
Flute	**EIV Fl**	**SB MIDI ...**

Track	Instrument	Output
Bass	**Nord**	SB Pro Stereo FM
Strings 2	**EIV Str**	SB MIDI Out
Flute	**EIV Fl**	MROS
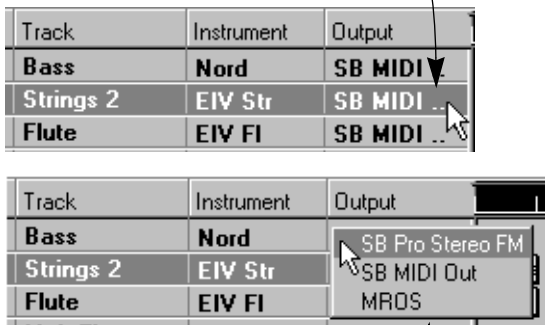
...and select the MIDI Output you want from the pop-up menu that appears.

- **If you hold down [Control] while you change the Output value, all Tracks will get the selected Output value.**

● The concept of different MIDI Outputs is fully explained in the chapter "MIDI Input, Output and MIDI Channels". To avoid confusion, please take your time and read this section.

The Output Column for Mix Tracks

Mix Tracks do not contain regular MIDI data, and therefore have no corresponding MIDI Output. Instead, the Output column is used to decide which Mixer Map the Track should use. See the chapter "The MIDI Mixer and Mix Tracks" for an explanation of these concepts.

The Output Column for Group Tracks, Tape Tracks and Style Tracks

For these Track classes, the Output column is not used, and is therefore left blank.

The Instrument Column

In Cubase terms, an *Instrument* is simply a certain MIDI Channel together with a certain Output. Instruments can be defined for MIDI Tracks and Drum Tracks.

Defining your different MIDI Channel/Output combinations as Instruments can be practical, since you can do this once and then not have to mind the actual Channel and Output settings. In the Instruments chapter, this concept is more thoroughly explained.

Using the Inspector

What is the Inspector?

The Inspector is a part of the Arrange Window. It contains a number of value- and name fields, where you can change settings and properties of a Track or individual Parts on a Track.

There is one important thing to remember before you start working with the Inspector:

● The settings you make in the Inspector will affect the material *during play-back*. You do not really change anything recorded.

When you play back notes
from a Part...

...they pass through the
Inspector...

Utt	Volume
7	Transp
0	Veloc
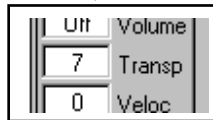
...and are output, in this example
transposed one fifth (i.e. seven
semitones) upward.

The actual recorded material
in the Part is not affected.

Getting the Inspector to appear

You open the Inspector by clicking on the strip with the little Inspector Icon below the Track column, or by pressing [Alt Gr]-[I]. An area to the left of the leftmost column in the Track list appears. In this you find a number of value fields, name fields and buttons. These are described in the following pages.
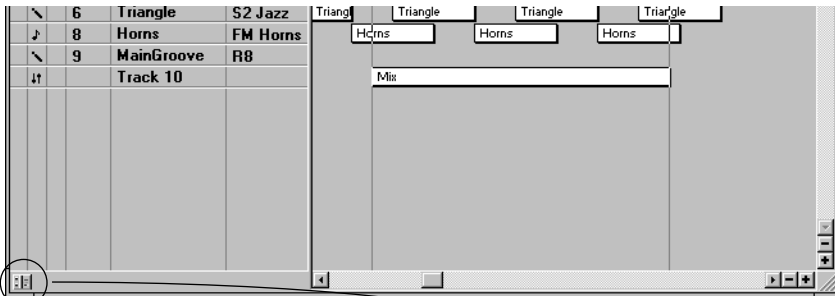
Click on the Inspector Icon...

...to open the Inspector.
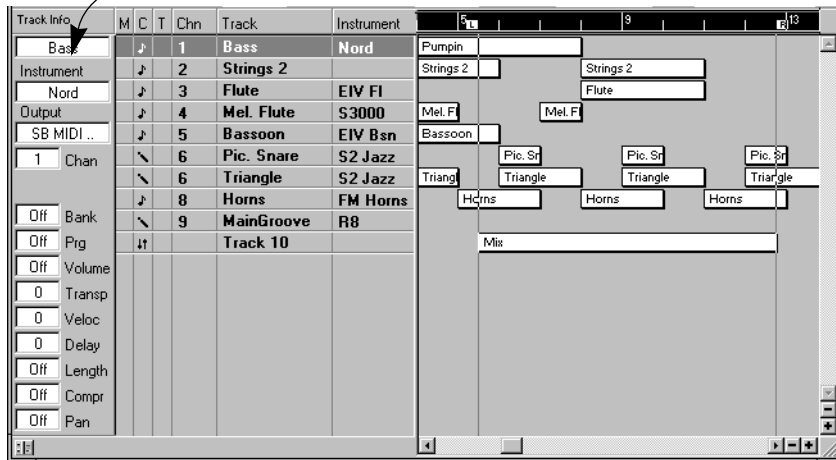
To close the Inspector, click on the Inspector Icon again.

Changing values in the Inspector

By changing values in the Inspector, you make changes to your Parts and Tracks. Some fields are duplicates of fields in the Track list, while others can be found only in the Inspector. To get a basic grip of how to use the Inspector, follow the steps below:

1. Open the Inspector.

2. Select a Track on which you have recorded some music.

3. Check that no Parts are selected.
The heading of the Inspector should read "Trackinfo" - otherwise, just click on an empty area in the Part Display.

4. Start playback.

5. While the music is playing, try changing the "Transpose" and "Volume" values in the Inspector.
The transposition and volume of the played back music will change accordingly.

Making Real-time changes with the Inspector

When you change the value of a parameter in the Inspector, the new value is immediately sent out to the MIDI Output. This will affect not only the sound source assigned to the selected Track, but all MIDI devices connected to the same Output as the Track, and set to receive on the same MIDI Channel.

You may use this feature for setting appropriate values (e.g. volume, velocity etc) while the music is playing.

What is affected by the Inspector?

This depends on what is selected in the Arrange window. The following possibilities exist:

When a Track, but not a Part, is selected

When no Parts are selected, the Inspector has the heading "Trackinfo". The parameter values affect the selected Track, and all the recorded material (the Parts) on it.

One Part is selected

The Inspector has the heading "Partinfo". The parameter values affect the selected Part only.

Two or more Parts are selected

The Inspector has the heading "Partinfo", and shows the parameter values of one of the selected Parts. If you change a parameter, all the selected Parts will get the new value, regardless of their previous settings.

How Part and Track settings relate

As you have seen, you may change parameter values both for the whole Track and for individual Parts on the Track. It is the latest change that "counts". If you for example change the velocity value of a single Part and then set another velocity value for the whole Track, the Part will also get this latest velocity value. Other parameter settings for the Part will remain unaffected.

Make various settings for a Part...

...then change the velocity
value for the whole Track.

Part Info		Track Info		Part Info	
Bass Verse		Bass		Bass Verse	
Instrument		Instrument		Instrument	
Nord		Nord		Nord	
Output		Output		Output	
SB MIDI ..		SB MIDI ..		SB MIDI ..	
1	Chan	1	Chan	1	Chan
Off	Bank	Off	Bank	Off	Bank
Off	Prg	Off	Prg	Off	Prg
73	Volume	Off	Volume	73	Volume
3	Transp	0	Transp	3	Transp
-10	Veloc	22	Veloc	22	Veloc
0	Delay	0	Delay		Delay
75%	Length	Off	Length	75%	Length
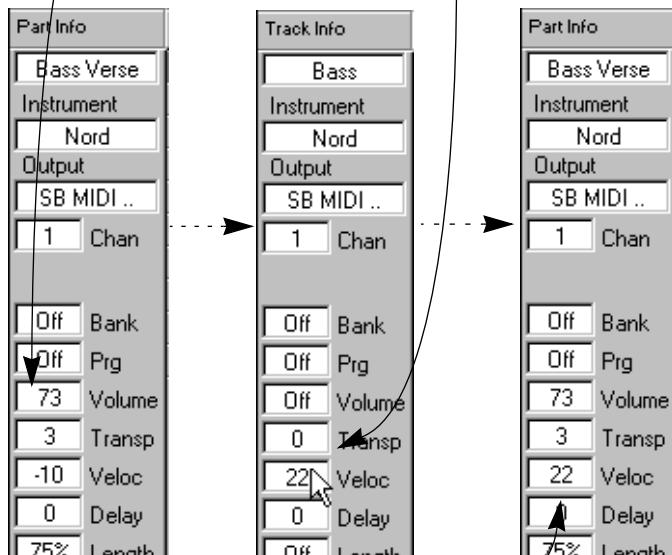
Now the velocity value for the Part is
changed to that of the Track, but the other
settings for the Part remain unaffected.

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The Fields and values in the Inspector

The Inspector contains names, numerical values and pop-up menus. All these settings can be changed using any combination of mouse and keyboard, as usual. As all other changes, these can of course be done while the music is playing and even while recording.

The table below contains the different parameters in the Inspector for a *MIDI Track/Part*. For other Track classes, the contents of the Inspector may differ. For a more thorough explanation of some of these parameters, see the chapter "Inspector Real Time Parameters".

Parameter	Explanation
Track/Part Name	The name of the selected Track or Part.
Instrument	The Instrument (Output and Channel) that the selected Track or Part is assigned to.
Output	The Output port for the selected Track or Part.
Chan	The MIDI Channel that the Track or Part is playing back on.
Bank	Lets you associate a MIDI Bank Select message with a Track or a Part, to make a connected instrument switch from one "program bank" to another.

Parameter	Explanation
Prg	Lets you associate a MIDI Program Change message with a Track or a Part, to make a connected instrument switch from one sound to another.
Volume	A volume value for a Track or a Part. This setting is sent out as a MIDI Volume message.
Transp	Lets you transpose the notes in a Part or on a whole Track.
Veloc	The value in this field is added to the velocity of the notes played back.
Delay	Delays the notes. With a negative value, Delay will cause notes to play earlier instead.
Length	Changes the length of the notes by a percentage factor.
Compr	Compresses or expands the velocity range of notes.
Pan	Sends out a MIDI message, telling your instrument to place the sound of the Part/Track in a certain position in the stereo field.

● When the Mode parameter in the GM/GS/XG Editor is set to anything but "Off", the Prg value field shows GM Program names instead of Program numbers.
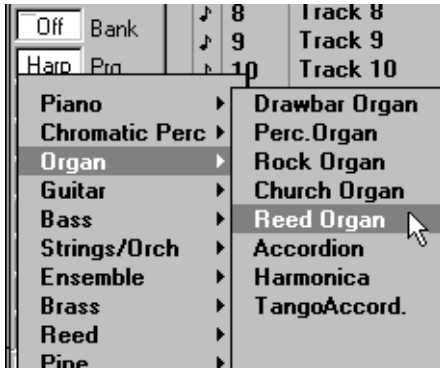
Clicking on the Prg field in GM/GS/XG mode opens a pop-up where you can select program group and name.

When should I use the Track Columns and when should I use the Inspector?

Many of the parameters in the Inspector have equivalents in the Track columns. Remember the following facts:

- The Inspector can affect both Tracks and single Parts. The Track columns only affect whole Tracks.
- The fields with the same name in the Track columns and the Inspector have exactly the same function. Changing the value in one affects the other as well.

Why then use the Track columns at all? Well, for one thing, it is very handy to have instant overview and control over all Tracks at the same time. The contents of the Inspector will change depending on which Parts you have selected. There may also be situations when you want the Part display (to the right in the Arrange Window) as large as possible, and therefore need to close the Inspector.

Real-time Thru

In most recording situations, the Thru function in Cubase is used to "echo" incoming MIDI data via MIDI Out. If you use the Thru function, the MIDI data that you send in to Cubase via MIDI In is modified in real-time by some of the Playback parameters. This means that if you for instance set a transposition value of 7 (semitones) and play your keyboard, all notes coming out via the MIDI Out are transposed a perfect fifth upward.

Notes from the keyboard...

...are passed through the Inspector...

...and output again, transposed one fifth upward.
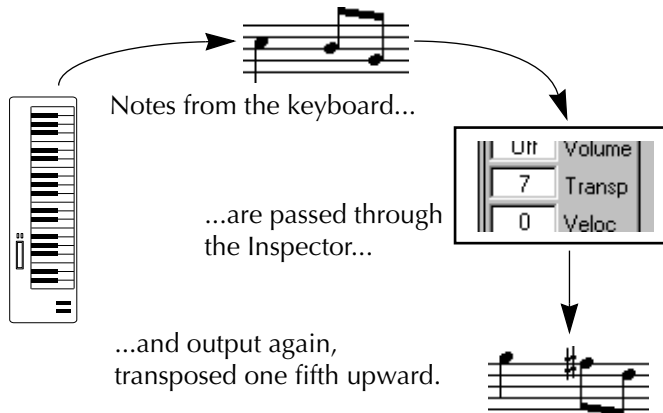
This allows you to try out what effect a certain parameter setting will have on the music, before and when you record something. Since different Parts can have different settings you must select the right Track and check that the Song Position is somewhere within the Part that has the settings you want to try.
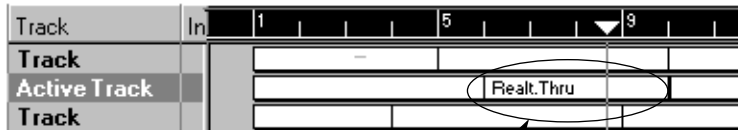
The Part in the "cross" made up by the Active Track and the Song Position is used for real-time "Thruing".

● It doesn't matter which Part or Track you have visible in Part Info (you may have stepped through the Parts and Tracks with the arrow keys on the computer keyboard), it is only the Song Position and Active Track which determines which Part's settings should be used for the real-time modification.

The real-time parameters used for modification are: Transpose, Velocity and Compression.

You can also thru-put to up to four Instruments (Outputs and MIDI Channels), see the chapter "Multi Track Recording".

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10

Mute and Solo

What is Muting?

Using the Mute function you can silence a part of the music without actually deleting it. This is useful in many situations, since it lets you "take away" a component of the music without actually deleting it. You may for example want to try out different variations of an arrangement by muting some parts of the music, or listen only to the rhythm section of a song etc.

The Mute function in Cubase resembles that on a regular audio mixing console. The difference is that in Cubase, you may Mute not only whole Tracks, but also individual Parts on a Track.

Muting a Track

Clicking in the Mute column...

...silences a Track.

A	M	C	T	Chn	Track
		♪		1	Bass
		♪		2	Strings 2
		♪		3	Flute
		♭		4	Mel. Flute

A	M	C	T	Chn	Track
	●	♪		1	Bass
	▲	♪		2	Strings 2
		♪		3	Flute
		♭		4	Mel. Flute

The black dot indicates
that the Track is Muted.
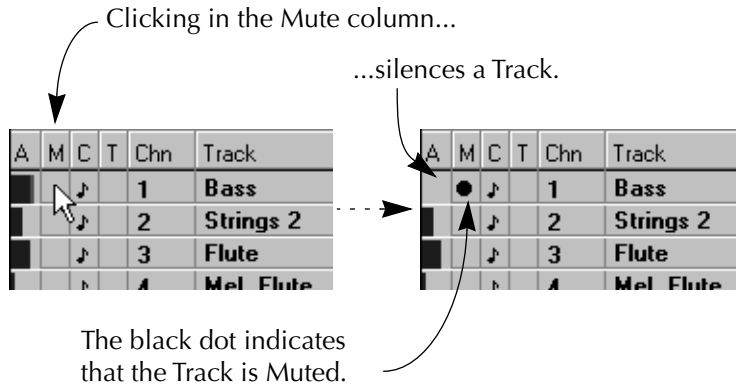
To "unmute" a Track, simply click on the black dot.

● If any notes are sounding at the moment you Mute a Track, they are allowed
to play until their end.

Muting a Part

Select the Mute tool from the Toolbox.

Click on the Part you want to Mute.
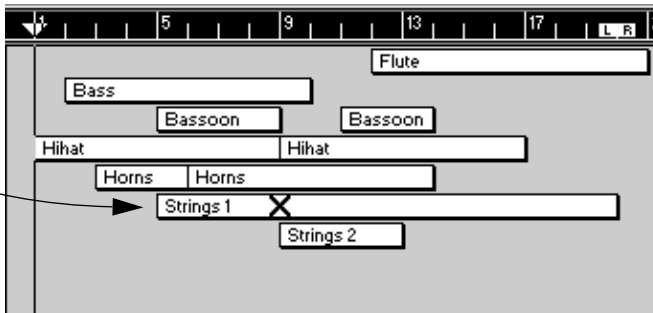
The Muted Part.
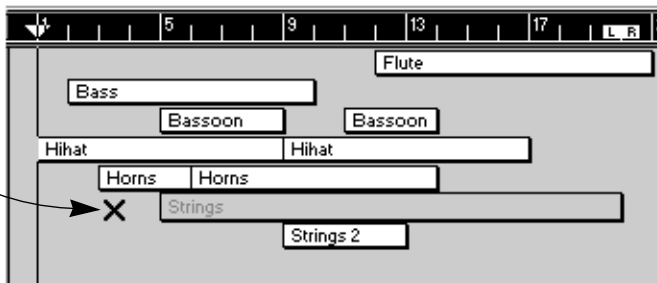
To "unmute" a Muted Part, simply click on it with the Mute tool selected.

What is Solo?

The Solo function works as an "inverted" Mute - that is, if you Solo a Track, all other Tracks get Muted. This is useful if you want to listen closely to the contents of a Track, and don't want any other music to interfere. Solo a Track like this:

Click on the Solo button in the upper left corner of the Arrange Window to activate Solo.

The highlighted Solo button indicates that Solo is activated.

All Tracks except the currently selected, get Muted.

A	M	C	T	Track
	●	♪		Flute
	●	♪		Bass
	●	♪		Bassoon
	●	＼		Licks
		♪		Horns
	●	♪		Strings 1
	●	♪		Strings 2
	●	♪		Ac Guitar
	●	♪		Tenor Sax
	●	＼		DrumKit
	●	↕		Mixer
	●	♪		Organ
	●	♪		

If you select another Track, it will get Soloed instead.

		Bass
●	♪	Bassoon
●	＼	Licks
●	♪	Horns
	♪	Strings 1
●	♪	Strings 2
●	♪	Ac Guitar

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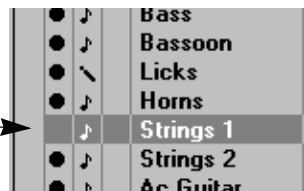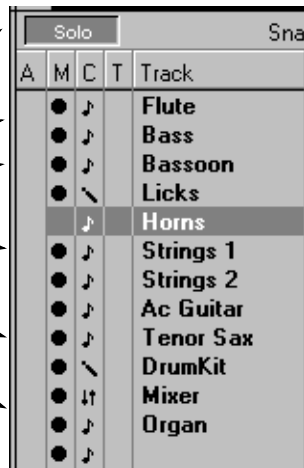
Instead of clicking on the Solo button, you can type [S] on the computer keyboard. You can unmute one or more Tracks while in Solo mode if you want to hear, for example, just how two or three Tracks sound together.

To deactivate Solo, click on the Solo button (or type [S]) again. All Tracks will return to the Mute status they had before Solo was activated.

Pre-programming Mutes

You can define and store up to ten Track Mute settings. These can be used for instant recall of any combination of muted Tracks.

1. **Mute the Tracks you want Muted.**
   You can use either the Mute function or the Solo function, as described earlier.

2. **Hold down [Shift] and [Alt Gr] (the right Alternate key) and press one of the function keys [F2] to [F11].**
   The Mute setting is now stored under that key.

3. **To recall a setting: Hold down [Alt Gr] and press the corresponding function key ([F2] to [F11]) .**

Recording Mutes and Solo

It is possible to record Mutes and Solo, just like any regular MIDI data. This is described in the chapter "Recording Mutes and Solo" in the "Getting into the Details" book.

11

An Introduction to Arrangement Editing

About Parts and arranging

As you have already seen, a Cubase Arrangement is roughly structured in three "levels": Several *Tracks*, each containing a number of *Parts* which in their turn contain *Events* (notes and other MIDI data). This chapter is about arrangement editing - in other words, the re-arranging of the larger building blocks, Parts and Tracks. This is done in the right part of the Arrange Window, the area called the Part Display.
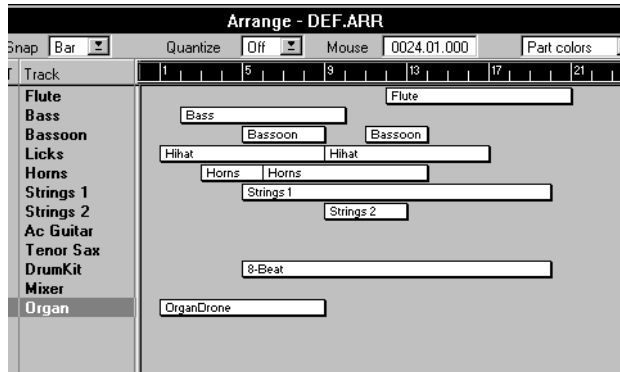
The Arrange Window with the Part Display to the right.

Selecting Parts

As with all elements in Cubase, you have to select a Part to be able to move, delete or in any way manipulate it. Selecting a Part can be done in several different ways:

By clicking
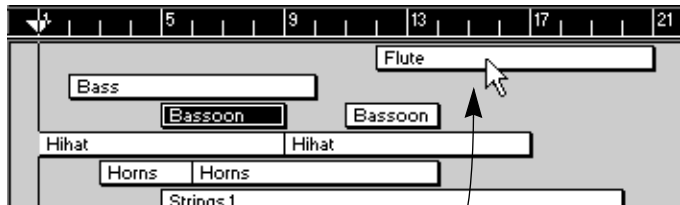
Clicking on a Part with the Arrow tool...

...selects it...

...and deselects all other selected Parts.
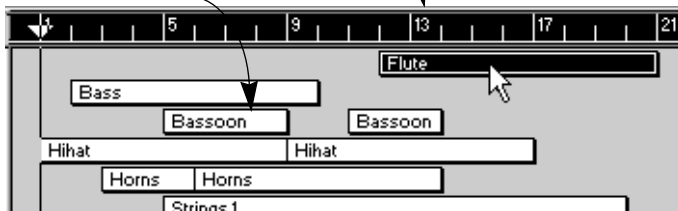
By shift-clicking
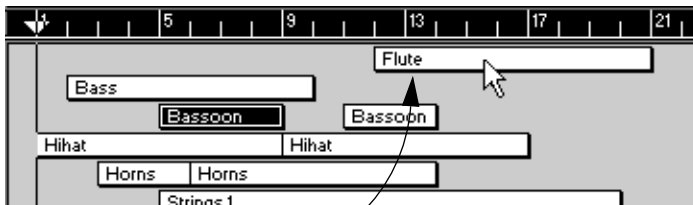
Clicking on a Part while holding down [Shift]...

...selects the Part.

The previously selected Part(s) remain selected.
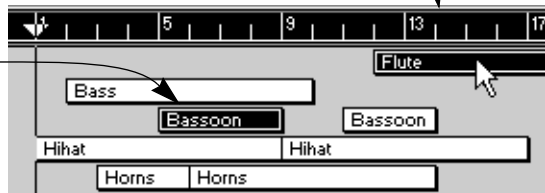
By using the computer keyboard

Pressing the right arrow key on the computer keyboard...
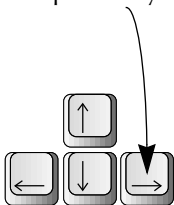
...selects the next Part on the same Track.
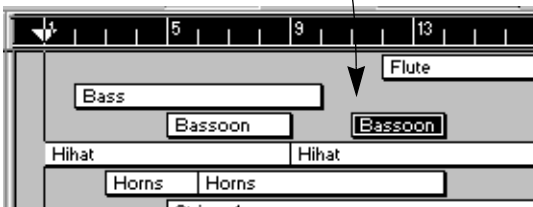
By enclosing them in a rectangle

Press the mouse button with the pointer somewhere in an empty part of the Part Display...
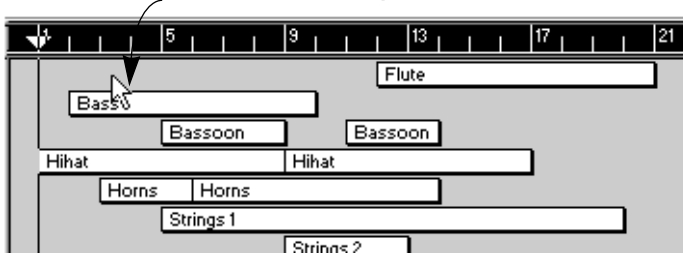
...and drag the mouse with the button pressed. A dotted outline of a rectangle is shown.
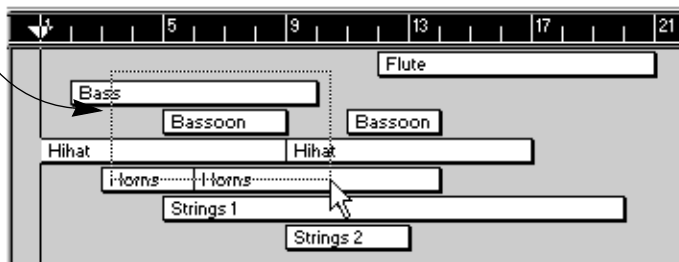
When you release the mouse button, all Parts that were enclosed or "touched" by the rectangle, become selected.
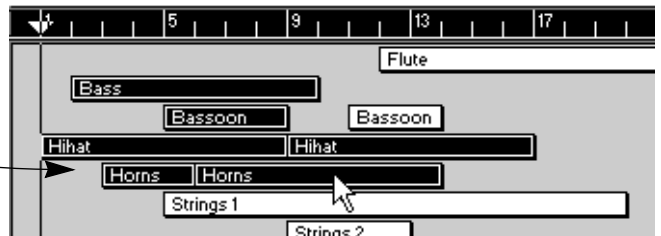
If you hold down [Shift] when you start to drag, you don't have to have the pointer in an empty area, you can start with the pointer positioned over a Part.

By using the Edit menu

On the Edit menu you will find an item called "Select" which brings up a sub-menu with a number of options that allow you to select all Parts on a Track, all Parts in the Arrangement, to invert the current selection etc.

Edit		
Undo	Ctrl+Z	
Cut	Ctrl+X	
Copy	Ctrl+C	
Paste	Ctrl+V	
Delete Track	Del	
Select		Select All Ctrl+A
Copy to Phrase...		Invert
Edit	Ctrl+E	Overlap
List	Ctrl+G	Track Class
		Inside Locators
		Outside Locators
		Parts on Track
		Score Layout ▸
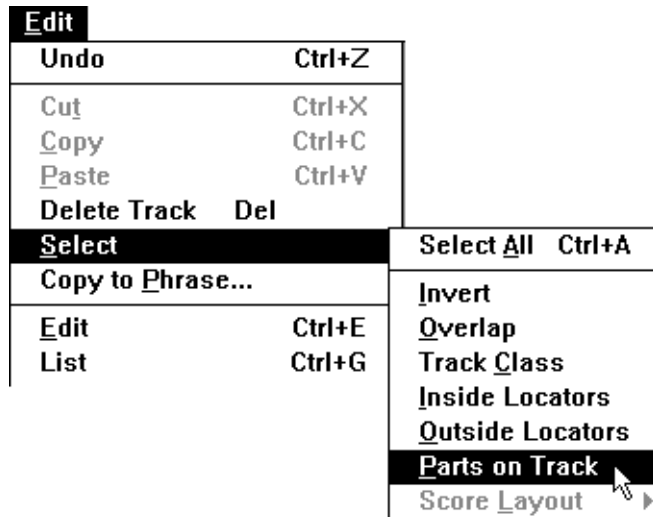
• You can also select all Parts by pressing [Control]-[A] on the computer keyboard.

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• You can also select all Parts on a Track, by holding down [Shift] and double clicking anywhere on that Track.

Deselecting Parts

There are two principal ways to deselect already selected Parts:

1. If you hold down [Shift] and click on a Part...
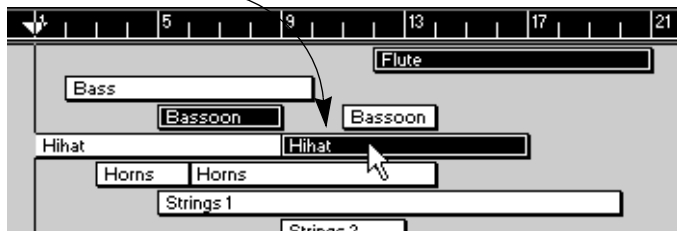
...the Part gets deselected. The other selected Parts remain selected.
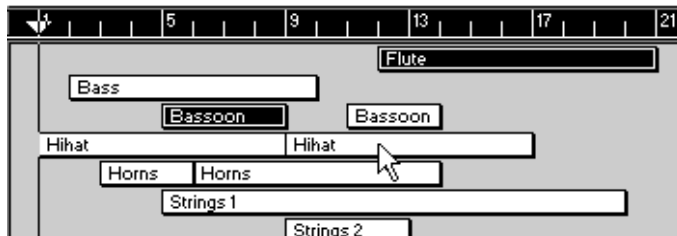
2. If you instead click in some empty area in the Part Display...
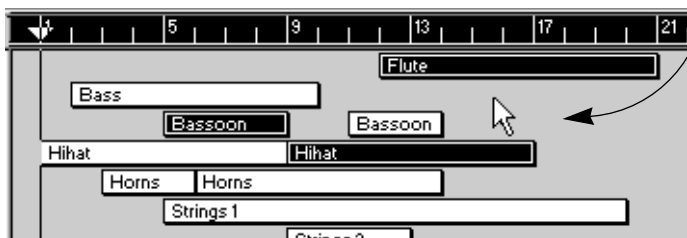
...all selected Parts get deselected.
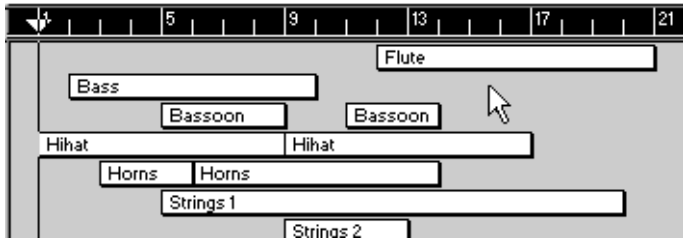
Manipulating Parts

About the Snap value

When you are moving, duplicating or changing the length of Parts, the result of your actions depends on the Snap value.
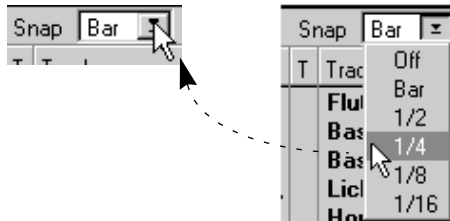
Pulling down the Snap pop-up menu.

This value determines the smallest distance you can move a Part. The table and figure explains it more clearly:

Value	Description
Off	Any position can be used.
Bar	Movement is restricted to exact bar lines.
1/2 to 1/16	Movement is restricted to the selected note value.

If Snap is set to Bar...

...Parts can only be dragged to exact bar lines.
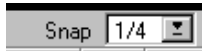
If Snap is set to for example 1/4...
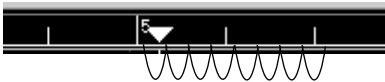
...Parts can be put on any quarter note position.

Moving Parts

You can move one or more Parts to a new position on any Track. Remember that the Snap value determines where you can place the Parts.

1. Press the mouse button with the pointer over the selected Parts you want to move.
The pointer takes on the shape of a hand.
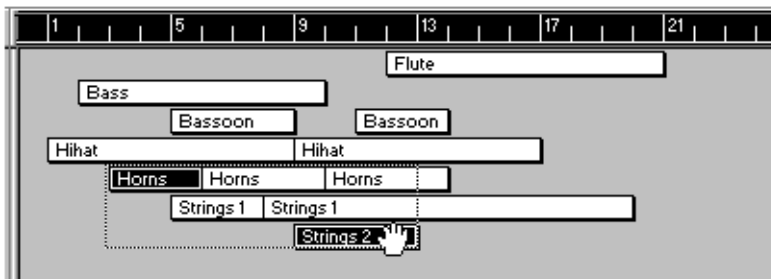
2. Drag the Parts to their new position.
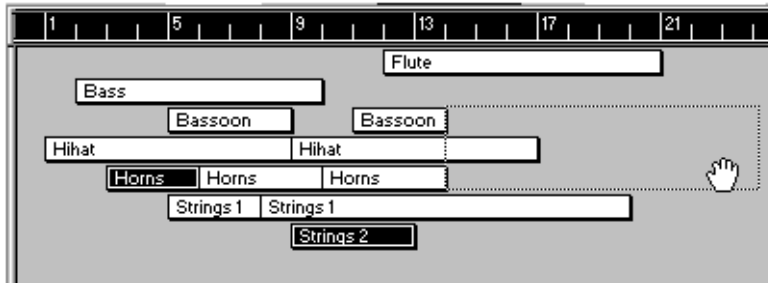
3. .Release the mouse button.
The Parts are moved. Note that the relative distances between the moved Parts are kept intact.
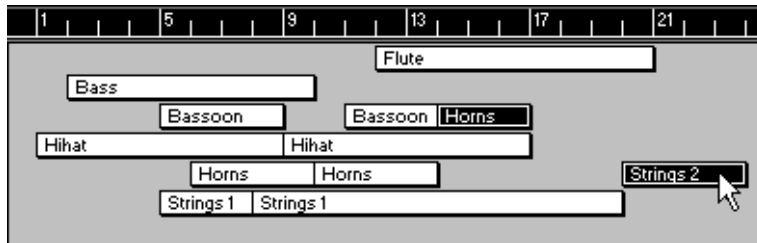
Duplicating Parts

To duplicate Parts hold down the [Alternate] key on the computer keyboard and proceed exactly as when moving. You may move the duplicate to any position on any Track.
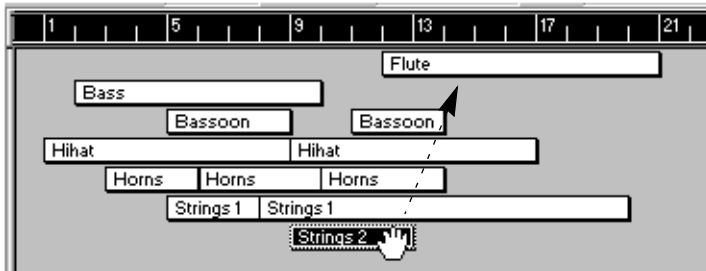
When you hold down [Alternate] and drag a Part to a new position...

...a duplicate of the Part, complete with contents, is placed at the new position.

The original Part is not affected.
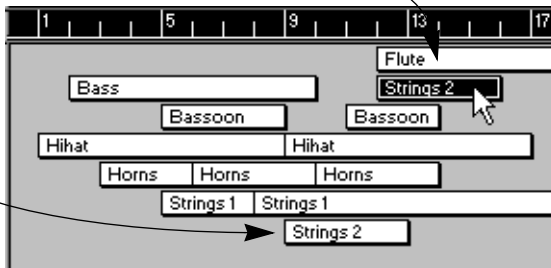
Another way of moving or duplicating Parts is to use Cut/Copy and Paste. These functions are described in the chapter "Basic Methods".

Using the Toolbox

You can perform a number of operations on Parts using the tools available in the Arrange window's Toolbox. Each tool is briefly described below. For more detailed information, see the chapter "The Arrangement – Part and Track Operations".

● Remember that any operation that deals with the *length* or *position* of a Part, also is affected by the Snap value.

The Pencil Tool

The Pencil tool can be used to create new, empty Parts, by "drawing" them in the Part Display. You can also use the Pencil to change the length of a Part.

Clicking on the outline of a Part and dragging it with the Pencil changes its length.

The Eraser Tool

Click on a Part with the Eraser tool to delete it. If you hold down [Alternate] and click on a Part with the Eraser tool, this Part and all the consecutive Parts on the Track will be deleted. Other ways of deleting Parts are described on .

The Scissors Tool

The Scissors tool is used to split one Part into two. The two Parts will have the same name as the original Part.
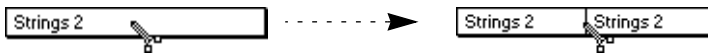
Clicking with the Scissors on a Part, divides it in two.

The Magnifying Glass Tool

With this tool, you can perform what is known as "Scrubbing". By clicking and dragging the Magnifying Glass over a Part, you can monitor its contents (the Events in the Part are output).

The Glue Tube Tool

This works as the opposite of the Scissors tool: If you click on a Part with the Glue Tube, you "glue together" that Part and the next Part on the Track. The resulting, longer Part will have the name of the first Part. The two Parts do not have to adjoin.
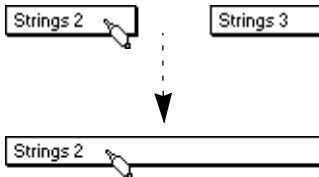
Before and after gluing two Parts together.

The Match Quantize Tool

This tool is described in the chapter "The Arrangement – Part and Track Operations".

The Mute Tool

Use this tool to Mute Parts. See the chapter "Mute and Solo".

Deleting Parts

There are several ways to get rid of unwanted Parts.

- **Select them and press [Backspace] on the computer keyboard.**

- **Select them and use Delete Parts on the Edit menu.**

- **Click on the Parts with the Eraser tool.**

Part Appearance
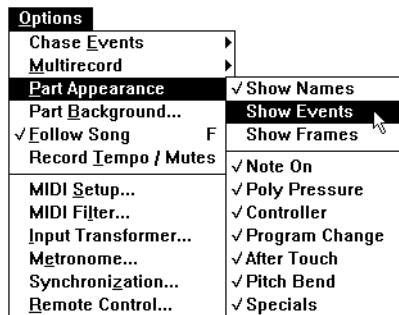
You can choose how the Parts should be displayed, using the Part Appearance sub menu on the Options menu. There are three choices:

Show Names
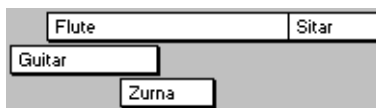
Parts are shown as boxes with names.

Show Events

Parts are shown as boxes with vertical lines representing the MIDI Events. You may define which types of Events should be displayed, by turning on and off the flags in the Part Appearance sub menu.
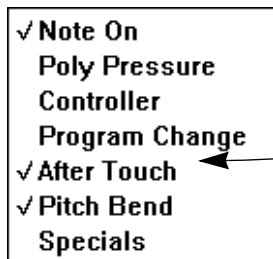
In this example, only Notes, After Touch and Pitch Bend Events are displayed.

Show Frames
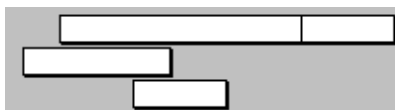
Parts are shown as empty boxes.

Part Color

To distinguish Parts, you may give them different colors. You have a choice of seven user definable colors.

Adding Color to all Parts on a Track

1. Make sure no Parts are selected.

2. Click on the Track name in the Track list to activate that Track.

3. Select the desired color from the Part Color pop-up.

Adding Color to some Parts

1. Select the Parts.

2. Select the desired color from the Part Color pop-up.

Part colors ▼	- - - - - - - - - - - ➤	Part Colors ▼

The Part Color pop-up is found above the Part Display.

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- Refrain
- Bridge
- Intro
- Coda
- Chorus
- Solo
- Brass

Choosing one of the colors from the menu adds color to the Parts.

Click here to edit the colors and names. ──── Edit...
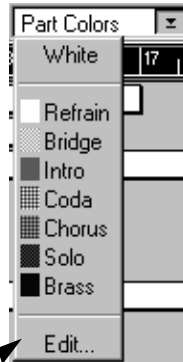
Naming the Arrangement

As you have seen, you can work with several different Arrangements within a Song. You can give names to each of your Arrangements. Simply use the right mouse button, click on the leftmost part of the Arrange window's Title bar, to the right of the Control menu button, and type in a new name.

Clicking in this area with the right mouse button...

| Solo | Snap | Bar | ▾ | Quantize | Off | ▾ |

Arrange - DEF.ARR

...opens a name box where you can type in the new name.

| New Brid | Arrange - DEF.ARR |

Arrange - New Bridge

Renaming an Arrangement.

If you choose to save an Arrangement to disk as a separate file, then the name you give it while saving will be used as the Arrangement's title next time you load it.

12

An Introduction to MIDI Editing

What can I do with the MIDI Editors?

When you record MIDI data, you fill Parts with notes and other MIDI "Events". But you don't really get to see and manipulate those Events individually from the Arrange window. In the MIDI editors you do!

Different types of Events and where to find them

Below we'll list the different types of MIDI data that Cubase can record, and how and where they are displayed for editing:

Notes (Note On and Off messages)

Notes are displayed in all MIDI editors. Let's look at a simple drum pattern and how it is shown in the different editors:

In Drum Edit

In the Drum Edit window, the notes are shown as diamonds.
Each key corresponds to a Sound, as listed to the left. The different
shadings of the diamonds indicate different velocity values.

In Key Edit

The piano keyboard to the left is there to make it easy to find the right pitch when inputting or editing notes.
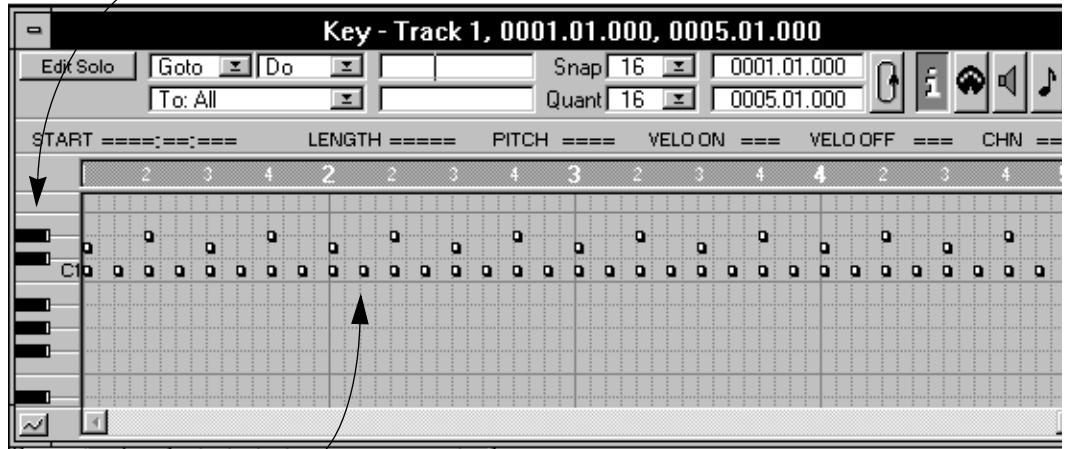
The notes are shown as boxes, with higher notes higher up in the grid.
Since this is a drum pattern, all the notes are short, but otherwise note length is indicated by the width of the rectangle.

In List Edit

The notes are shown both in the list to the left, and in the graphic display to the right.

Start-Pos.	Length	Val. 1	Val. 2	Val. 3	Status
0001.01.000	48	D1	70	64	Note
0001.01.000	48	C1	120	64	Note
0001.01.000	96	C3	81	64	Note
0001.01.001	=====	0	0	===	Sys Ex
0001.01.192	48	C1	90	64	Note
0001.01.192	320	E3	127	64	Note
0001.02.000	48	D#1	120	64	Note
0001.02.000	48	C1	90	64	Note
0001.02.048	=====	84	47	===	Pitch Be
0001.02.144	312	C3	106	64	Note
0001.02.192	48	C1	110	64	Note
0001.02.376	=====	1	57	===	Modulat

The black bar graphs are for graphically displaying and editing MIDI "Value 2" in every Event. In the case of notes, "Value 2" is the velocity value.

In Score Edit
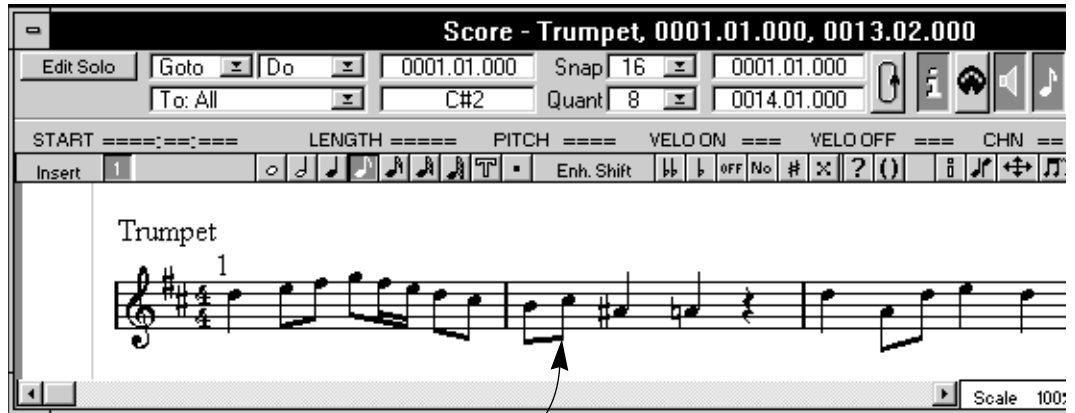
In Score Edit, notes are displayed and edited just as notes on a printed score. This snapshot is taken from Cubase Score.

Continuous Messages

In MIDI, various types of MIDI messages are used to transfer continuous changes. To be exact, these types are:

- Aftertouch (Channel Pressure and Poly Pressure).
- Pitch Bend.
- Controllers, like sustain pedal, MIDI Volume, Modulation wheel etc.

To be really exact (not to say pedantic!) some of these are not really continuous. Sustain Pedal for example can only be down (On) or up (Off). However, the MIDI specification groups all these messages as "Continuous", and so does Cubase.

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Continuous messages are shown and edited in Key Edit and List Edit:

In Key Edit, the area beneath the Divider is the Controller Display.
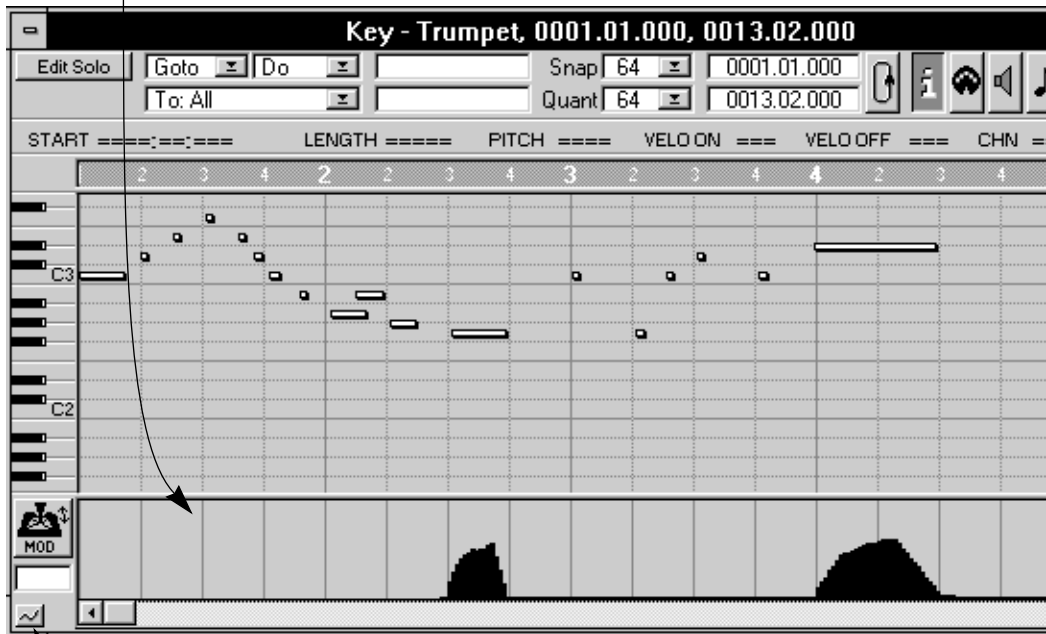
Clicking on this icon brings up a pop-up menu, allowing you to
select which type of continuous data should be shown. In this
case, modulation wheel Events are displayed.

The "mountains" of continuous data (as shown in the Key Edit Window) are in reality
a large number of single Events. This becomes clear when looking at the same data in
the List Edit Window:

The modulation
Events are listed in
their playback order.

Value 2 for each Event is shown in the
list and in the bar display. The grey
color indicates non-note Events.

Start-Pos.	Length	Val. 1	Val. 2	Val. 3	Status
0004.02.168	=====	1	59	===	Modulation
0004.02.192	=====	1	53	===	Modulation
0004.02.216	=====	1	47	===	Modulation
0004.02.240	=====	1	41	===	Modulation
0004.02.264	=====	1	34	===	Modulation
0004.02.288	=====	1	28	===	Modulation
0004.02.312	=====	1	22	===	Modulation
0004.02.336	=====	1	16	===	Modulation
0004.02.360	=====	1	10	===	Modulation
0004.03.000	=====	1	3	===	Modulation
0004.03.096	=====	1	0	===	Modulation
0005.02.000	672	A2	32	64	Note
0006.01.192	1056	D#3	32	64	Note

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Program Change messages

A Program Change message is a MIDI Event, telling a connected MIDI device to switch to another Program (e.g. a sound in a synthesizer, a setting in a reverb device, etc). You can record Program Change messages into Cubase like any other Event. If you want to edit (or create new) Program Change messages, it can be done in Key Edit or List Edit.

System Exclusive messages

System Exclusive messages are a special kind of MIDI Events, intended for detailed control of the parameters of a MIDI device. Since all devices have different parameters, each major manufacturer of MIDI devices has a special ID code that is included in the System Exclusive message.

System Exclusive messages are displayed and edited in the List Edit window. See the "List Edit" chapter.

Opening An Editor

By double clicking on one Part

If you only want to open one Part into an editor, simply double click on it.
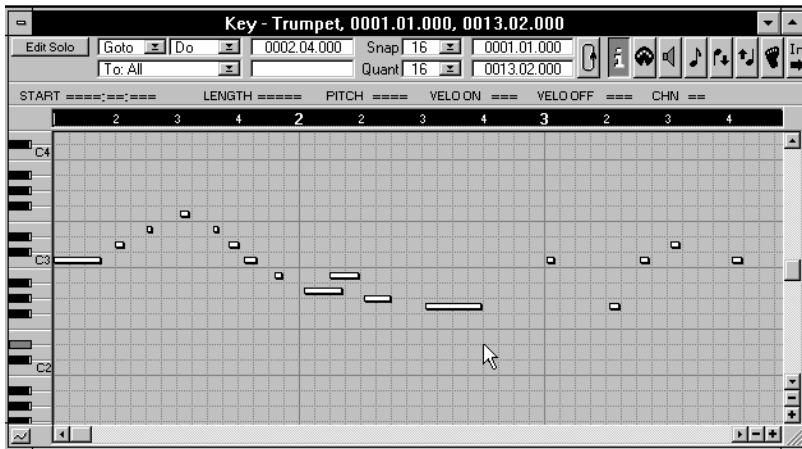
Which editor opens depends on two things:

- The Track Class (Drum Tracks open the Drum editor etc.)
- The "Double Click Opens" Preference setting (see below).

Setting the preferred Editor for MIDI Tracks

For MIDI Tracks you can yourself decide which editor you get with a double click.

1. Open the Preference dialog from the File menu.

2. Change the Double Click Opens setting.

3. Save the Song.

File	Edit	Structure	Functions

New	Ctrl+N
Open...	Ctrl+O
Close	Ctrl+W
Save Song	Ctrl+S
Save Arrangement	Shift+Ctrl+S
Save As...	
Revert to Saved	
Import MIDI File...	
Export MIDI File...	
Print & Page Setup...	
Print...	
Preferences...	
Quit	Ctrl+Q

Preferences

Double click opens
- Key
- Score
- List
Editor

Autosave every

- ☐ Crosshair
- ☑ Activity Display
- ☐ Play in background
- ☑ Dark Rulers

Editing a complete Track

You can edit all Parts on a Track at the same time:

1. Make sure no Parts are selected, by clicking somewhere in an empty area of the Arrange Window.
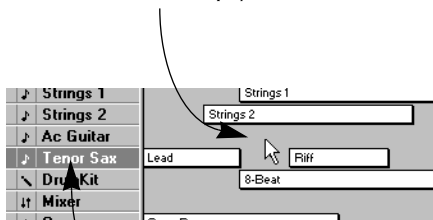
2. Select the Track you want to Edit.

3. Select the preferred editor from the Edit menu or use the keyboard equivalents.
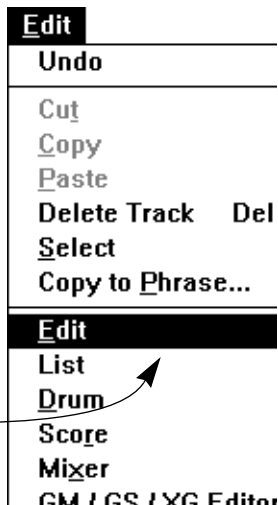
For MIDI Tracks, the "Edit "item opens Key Edit.

Editing more than one Part

You can edit any selection of Parts, even Parts on different Tracks at the same time. The only restriction is this:

● List Edit can only be used to edit Parts that are all on the same Track.

---

1. Select the Parts you want to Edit.

2. Select the preferred editor from the Edit menu or use the keyboard equivalents.

If you haven't recorded any Part yet

You might want to open the editor to input notes from scratch, without recording anything first:

1. Select the Pencil from the Toolbox.

2. Draw in a Part where you want it.
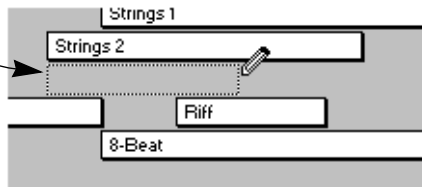
3. Double click on the newly created Part or use the Edit menu as described above.

About Recording and Playback

Basically, anything you can do in the Arrange window that relates to playback and recording, you can also do in the editors.

Realtime

As everything else in Cubase, editing can happen in realtime. This means that you can edit while the music is playing or actually even while you are recording!

Step Recording

If you prefer not to record your music in real time, you may use the Step Recording function to input music one note at a time. This is explained in the chapter "Step Recording".

Follow Song
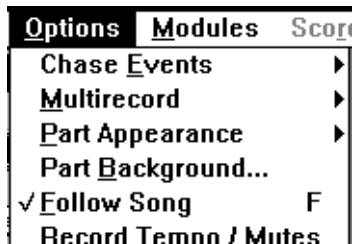
If Follow Song on the Options menu is turned on, the Edit window will scroll automatically during playback, so that the current Song Position is always visible.

• **You may also press [F] on the computer keyboard to turn Follow Song on and off.**

Edit Solo

When this button is activated, you will only hear the Track/Parts that are currently being edited. All other Tracks are muted. Use this function when you want to concentrate on editing the Parts in the editor, rather than hearing the recording in a context.

Cycle

If the Cycle button on the Transport Bar is activated, a certain section of your arrangement will be repeated over and over as described in the chapter "Cycled Playback and Recording". This is very handy for editing where you can fine tune a recording and instantly hear the result without having to Rewind and Play to get to the right section.

Key Edit

Below you will find a description of some of Key Edit's main features:

The position of the mouse pointer is shown both on the Piano keyboard and in the Mouse Box.

The Do and To pop-ups. See "The MIDI Editors – General Information"

The Snap and Quantize boxes.

The black notes are
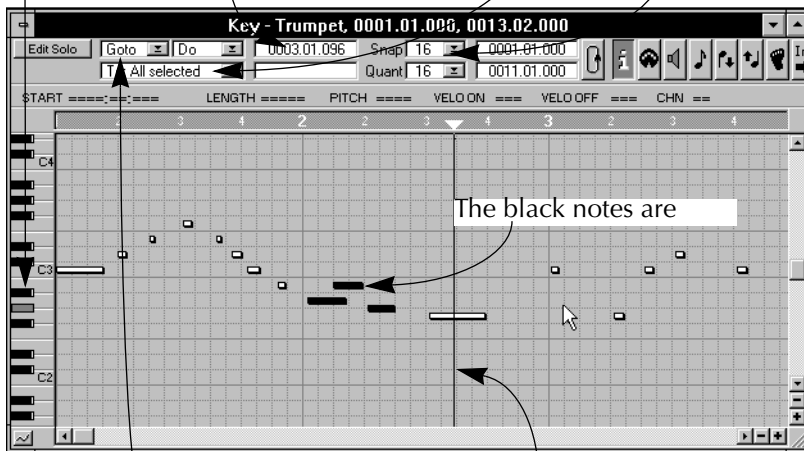
The Goto pop-up is used for moving the view.

The Song Position Pointer.

Clicking here opens the Controller Display.

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Score Edit

Overview

Below you will find a description of some of Score Edit's main features:

The mouse position is shown both in the mouse box and as a
note name in the box below. When you move a note, the
lower box shows the amount of transposition in semitones.

The Song Position Pointer.

The "inverted" notes are selected.
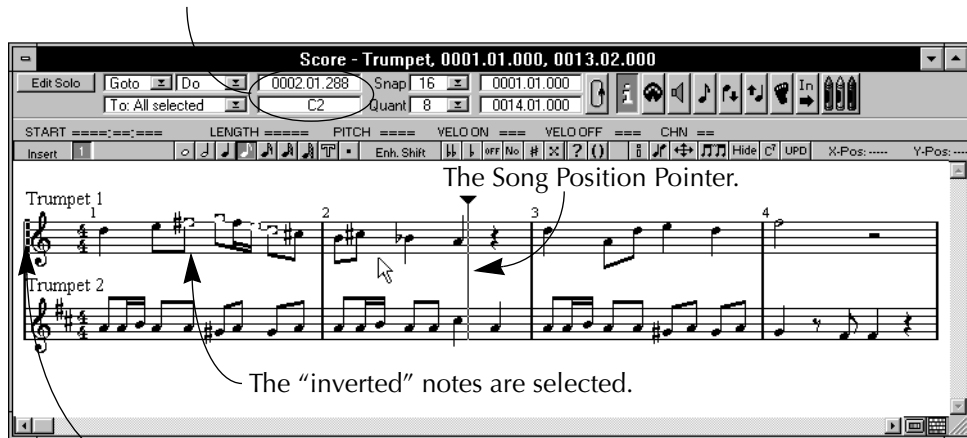
If you are editing Parts on several Tracks at the same
time, the striped double bar line at the beginning of
the score indicates the Active Track.

Getting the Score displayed correctly

When you open Score Edit, your notes may not look as legible as you would expect. There are a number of settings you can do to make the Score look good. See the Score Edit chapter for more information.

Window Size

Score Edit's Edit mode displays as many notes as there is room for in the window. In other words, to see more or less of your Track, simply resize the window.

Page Mode vs Edit Mode

If you are using Cubase Score or Cubase Audio, your program will have a Score menu. The top item on this menu is used to switch the Score editor between its two modes, "Page" and "Edit".
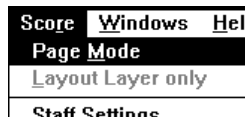
Selecting Page Mode will display the music as it will look when printed...
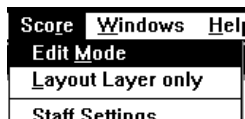
...while Edit Mode displays the music in a way more suitable for editing, see below.

We recommend you to select Edit Mode for regular editing of MIDI recordings. The text below assumes the editor is set to Edit mode. The other mode is for score layout and printing.

Users of the regular Cubase (not Score or Audio) do not have to worry about this.

Drum Edit

Drum Edit can be used to edit MIDI Tracks. It can also be used in a more advanced context, for editing Drum Tracks. See the chapter "Drum Edit and Drum Tracks".

Below you will find a description of some of Drum Edit's main features:

The Do and To menus.
See the chapter "The
MIDI Editors – General
Information".

The position of the mouse is shown
in the Mouse Box. The name of the
Drum Sound on the corresponding
line, is shown in the box below.

The Song Position pointer.
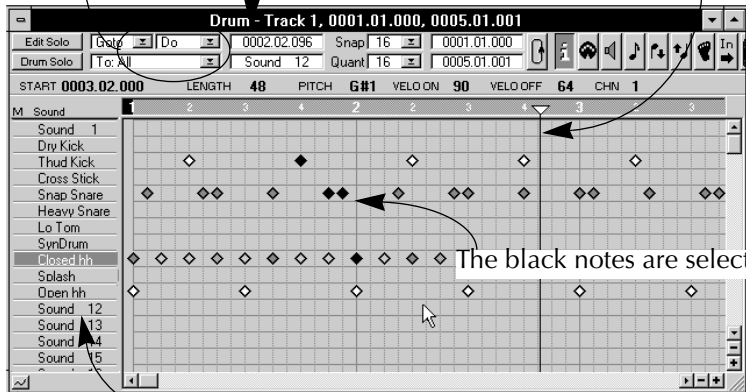
The black notes are selected.

The Drum Sound list. By dragging the Divider
further to the right, more columns are shown.

Clicking here opens the
Controller Display.

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About the Drum Map

In Drum Edit, each key on your MIDI keyboard is represented as a "Sound", in a "Drum Map". This map consist of 64 Sounds which can be named and set to represent a certain drum sound in your synthesizer, sampler or drum machine.

When you have defined a Sound, all notes that are already recorded with that Sound will appear as diamonds on that "line" in the note display.

Opening ready-made Drum Maps

You can find a number of ready-made drum maps on one of the Cubase disks. You may very well find one there which has been created for the drum sounds in one of your instruments. To load a map, proceed as follows:

1. Select Open from the File menu.

2. From the File Format pop-up menu, select "Drumsets (*.DRM)".

List Files of Type:
Drumsets (*.DRM) ±

3. Locate the Drum Maps folder on your hard disk or on one of the program floppy disks.

4. Locate the drum map you desire, and click OK.
Now when you next time open the Drum editor, your Drum Map is already properly defined and recordings made in the Arrange window should appear with all the notes on the right "lines".

If you save your Song, the selected Drum Map is saved together with the Song. It will be loaded automatically next time you open the Song.

Setting up and changing the Drum Map

If you don't find a Drum Map suited for your instrument among the ones included with Cubase, you can easily change an existing Drum Map, or set up a whole new one:

1. Check out and memorize which key on your keyboard is used to play a certain Sound.

2. Open the Drum editor and drag the Divider between the Drum Map and the Note display so that you see the first few columns in the list.
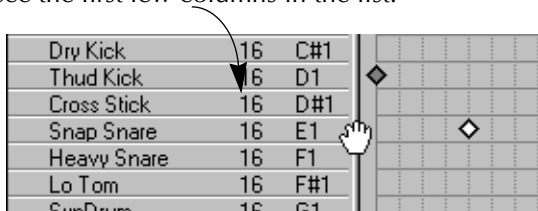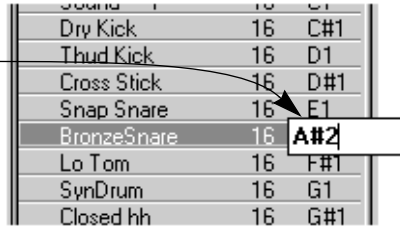
3. Double click on a
Drum Name and type
in your own.

Dry Kick	16	C#1
Thud Kick	16	D1
Cross Stick	16	D#1
Snap Snare	16	E1
BronzeSna		F1
Lo Tom	16	F#1
SynDrum	16	G1

4. Double click on the I-note
value for that Sound, and
type in the pitch of the key
that plays the Sound.

Sound 1	16	C1
Dry Kick	16	C#1
Thud Kick	16	D1
Cross Stick	16	D#1
Snap Snare	16	E1
BronzeSnare	16	A#2
Lo Tom	16	F#1
SynDrum	16	G1
Closed hh	16	G#1

Now, recordings made with the Sound played by that key will appear on that line.

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If already recorded Notes don't appear on the Line

It may happen that you have defined an I-Note correctly and still, no notes appear although they play back correctly. If this happens it is because more than one Sound is set to the same I-Note. Proceed as follows:

1. **Scroll up or down the List to find a Sound set to the same I-Note as the one you want to use.**

2. **Scroll the I-note value of the Sound you just located to its lowest possible value (C-2).**

3. **Scroll back to the original Sound and check again.**
   The notes should now have appeared.

If you get the "Double defined Notes" message
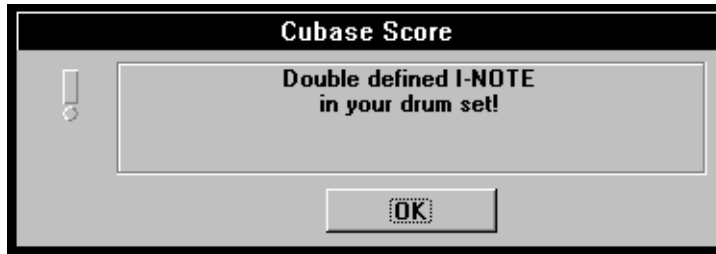
When you change the I-note value, a dialog box may appear saying "Double defined I-NOTE in your drum set". This means that more than one Sound is set to respond to the same MIDI Note, as described above.

This dialog will appear every time you open Drum Edit, until you change one of the identical I-note values.

List Edit

Overview

The Mask pop-up is used to make List Edit show Events of a certain type only.

In the Insert pop-up menu, you decide which type of Events to input.

The Mouse position is shown in the Mouse Box.

The Do, To and Goto menus.

The Events are shown in the list and in the display to the right.

The Song Position is shown both in the Event list and in the Event display

To make all columns appear, drag the Divider as far right as possible.

About selecting in the Editors

- Selecting Notes and other Events in the main Event displays is done exactly like when selecting Parts in the Arrange window, see the previous chapter.
- Selecting Events in the List in List Edit can be done by clicking and Shift-clicking.
- You may use the Select sub-menu in the Edit menu to select Events. The contents of this sub-menu varies depending on which editor you are in. See the Online Help for more information.
- Selecting in the Controller Display in Key and Drum Edit is slightly different. See the chapter "The MIDI Editors – General Information".

About Snap

The Snap Value is used in the editors just like in the Arrange window, that is for restricting movement to certain note positions.

Using the Tools
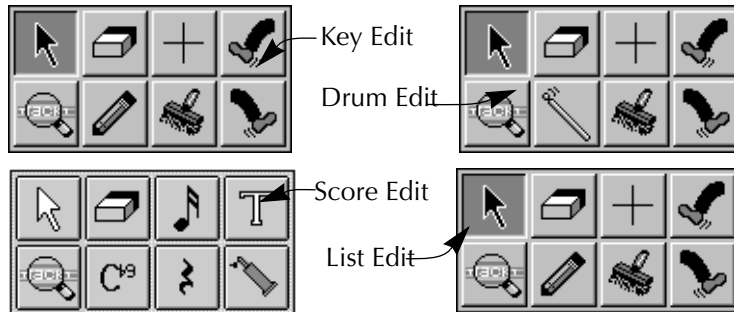
The Toolboxes of the different Edit Windows. The Score Toolbox shown above is from Cubase. The "Score" and "Audio" versions have a different one.

The Arrow Tool

Moving Events

Just as in the Arrange window, notes (and in List Edit – other Events too) can be dragged around as desired.

Duplicating Events

Again like in the Arrange window, if you hold down [Alternate], the notes you drag will be duplicated.

The Eraser

This is used to delete notes and other Events in the graphic displays. Click and/or drag over the notes you want to delete.

The Pencil/Drum Stick (in Key, Drum and List Edit)

Entering Notes in Key and Drum Edit

1. Set the Snap value to the smallest position you want to enter a note at.
For example if you only want to enter notes at quarter note positions, set Snap to "4".

2. Set the length of the note to enter by changing the Quantize value.

If you for example set this to "8" you will input eighth notes. You may also change the length while you're drawing - see .

```
Snap  4   ⋤
Quant 8   ⋤
```
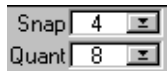
The Snap and Quantize values set to 4 and 8, respectively.

3. Select the Pencil/Drum Stick tool from the Toolbox.

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4. Move the pointer onto the note display, aiming at the correct position.

Two fields on the Status Bar will help you by showing the position and
Pitch/Sound you move the pointer over.
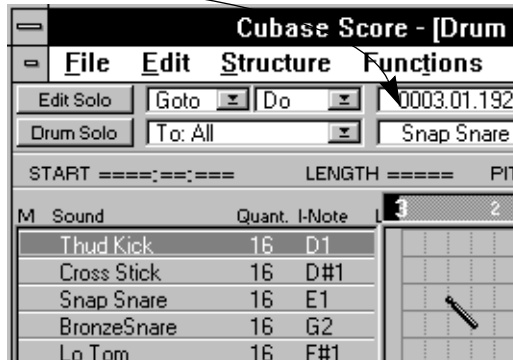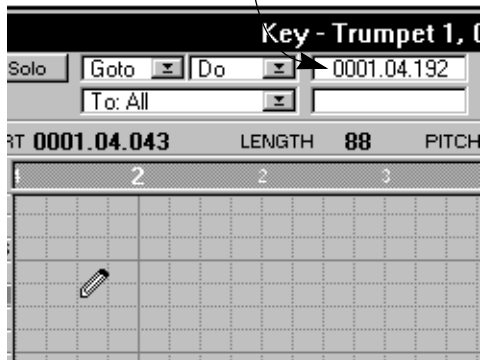
5. Click once with the mouse.

The note appears.
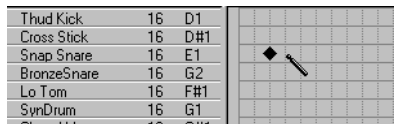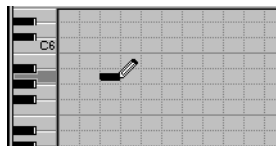
Entering Events in List Edit

1. Use the Insert pop-up menu to decide what type of Event to Insert.

Insert pop-up menu:
- Note
- Poly-Press.
- Control Change
- Program Change
- Aftertouch
- Pitch Bend
- Sys Ex
- Text
- Stop
- Track-Mute
- Scale
- Styletrax

Ins. Scale

Snap 4
Quant 8

2. Set the Snap value to the smallest position you want to enter a note at.

3. If you are entering notes, set the length with the Quantize value. If you for example set this to "8", you will input eighth notes.

4. Click with the Pencil tool in the Event Display. Use the ruler to find the right position.

Start-Pos.	Length
0001.04.017	58
0002.01.000	355
0002.02.000	384
0002.02.369	251
0002.03.375	83
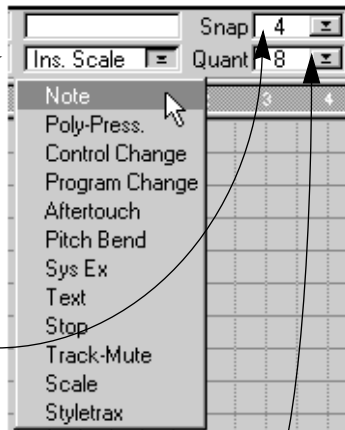
The Event appears both in the Event Display and in the List.
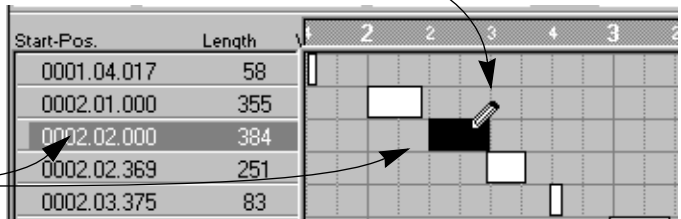
Setting the length while drawing (Key and List Edit only)

In Key and List Edit you have the option to set the length of notes to something else than the quantize value, while entering them. Still the *Snap value* applies so you can only set the Length to even multiples of this value.

1. Aim with the Pencil at the correct position and pitch.
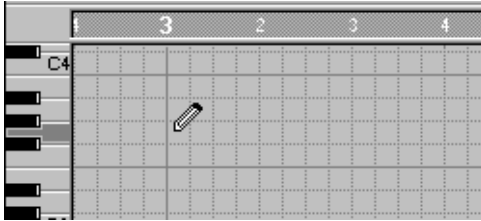
2. Press the mouse button and drag to the right with the button pressed.
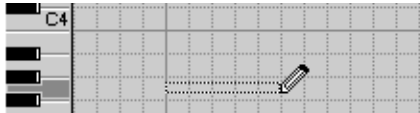
3. Release the mouse button. The Event is adjusted to the closest Snap value.
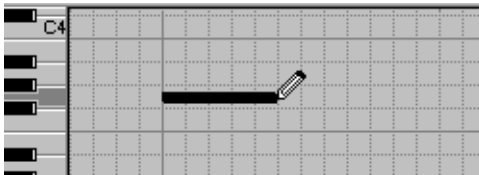
Determining the note's velocity

The Note you click in have a fairly high velocity. In Key, List and Drum Edit you can change it by holding down modifier keys while clicking. First let's look at Key and List Edit:

Velocity	Modifier key
High	None
Medium - high	[Shift]
Medium	[Control]
Low	[Shift]+[Control]

In Drum Edit things are a little bit different. For each Sound in the List you can set four velocity values for note input which are then each represented by a modifier key, and displayed graphically with four different diamond symbols in the display.

Symbol	Velocity value / column in Sound List	Modifier
◆	Level 4	None
◆	Level 3	[Shift]
◆	Level 2	[Control]
◇	Level 1	[Shift]+[Control]

The Brush Tool (Key, Drum and List Edit)

This is used for continuous "painting" of notes, and in List Edit also other Events. It is described on in the chapter "The MIDI Editors – General Information".

The Note Tool (Score Edit)

This is used to enter notes in Score Edit, pretty much as with the Pencil in Key Edit. The shape of the Note tool changes depending on which note value you are inserting.

Finding the right Pitch

To easily enter notes with the correct pitch when drawing notes in Score Edit, proceed as follows:

1. Set up Snap and Quantize and select the right tool.

2. Press the mouse button somewhere in the display.

3. With the mouse button down, drag the note up/down. Accidentals appear to show you the exact pitch of the note.

0004.01.192
A2

The pitch is also shown in the value field under the Mouse Box.

0004.01.288
F2
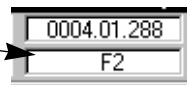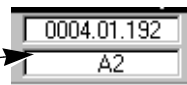
4. When you have the note at the right note line with the correct accidental, release the mouse button.

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The Rest Tool (Score Edit)

This is used for inserting rests between notes. As with the Note tool, the Rest tool changes appearance depending on the chosen note value. See the Score tutorial.

The Magnifying Glass

If you click on an Event with the Magnifying Glass, it is played back. You can also drag over Events to play them back one after the other.

The Kickers (Key, Drum and List Edit)

These tools are used to move an Event one Snap value in either direction.

The Cross-hair (Key and Drum Edit)

This tool is only used in the Controller Display, see below.

Editing Velocity in Key, Drum and List Edit

Showing/Hiding the Controller Display in Key and Drum Edit

There are two ways to bring out/hide the Controller Display:

- **Click on the Controller Display button in the lower left corner of the window.**
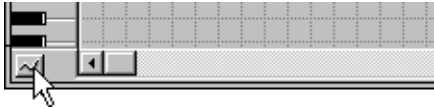
- **Press [Alt Gr]-[C].**

Changing the size of the Controller Display

Drag the Divider up or down to enlarge or
shrink the Controller Display.
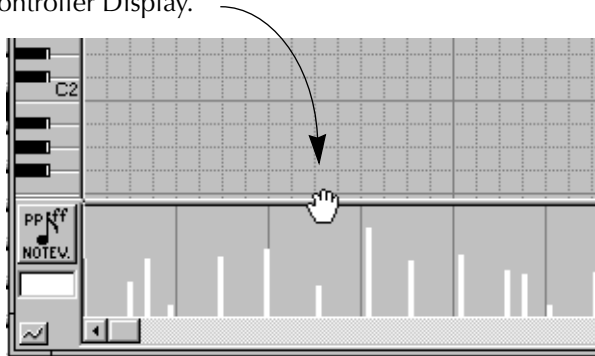
Making the Controller Display show velocity

The Controller Display can show various types of data, one of them being note velocity. To select velocity proceed as follows:
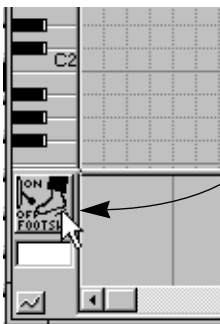
1. Position the pointer on the Event type icon (in the Controller Display) and press the mouse button.

2. Select Velocity from the pop-up menu.
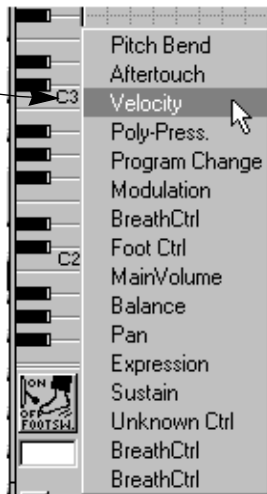
3. Release the mouse button. The velocity values are shown as bars, with higher bars representing higher velocity values.

Pitch Bend
Aftertouch
Velocity
Poly-Press.
Program Change
Modulation
BreathCtrl
Foot Ctrl
MainVolume
Balance
Pan
Expression
Sustain
Unknown Ctrl
BreathCtrl
BreathCtrl
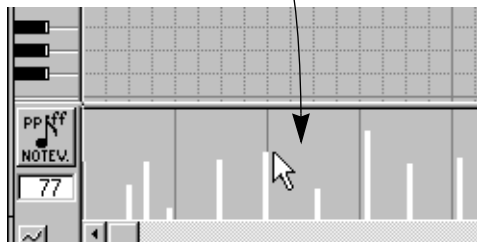
The Controller Display in List Edit

The Controller Display in List Edit is on the right-hand side of the window. This area works pretty much as the Controller Display, only it is vertical rather than horizontal.

The Controller Display.
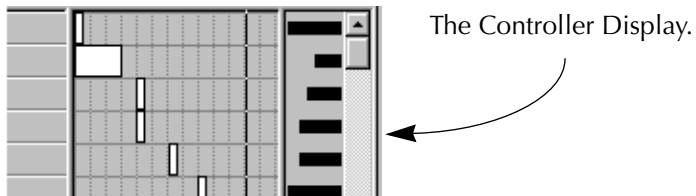
Editing Velocity Values

With the Pencil

Simply click on the velocity bar with the Pencil...
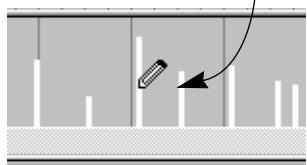
...to change its value.
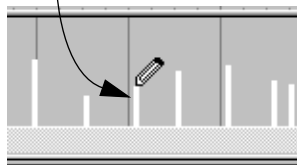
To change a series of values, drag over them.

With the Line Tool

To create a ramp of values, for example a fade-in or fade-out, proceed as follows:

1. Select the Line tool.

2. Position the pointer and press the mouse button.

3. "Draw" the outline of the ramp with the mouse button pressed.
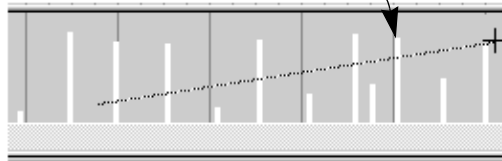
4. Release the mouse button. The velocity values are changed.
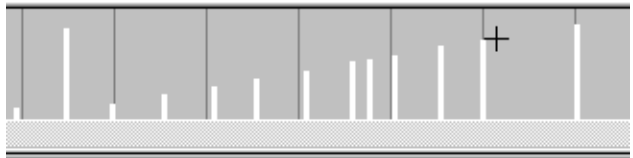
Continuous Data in Key and Drum Edit

Opening the Controller Display

This is described on .

Making the Controller Display show the right Data type

The Controller Display can show several types of continuous MIDI data, but only one at a time, of course. You decide which one yourself:

The Event Type icon opens a pop-up, where you can select the type of data to be displayed.
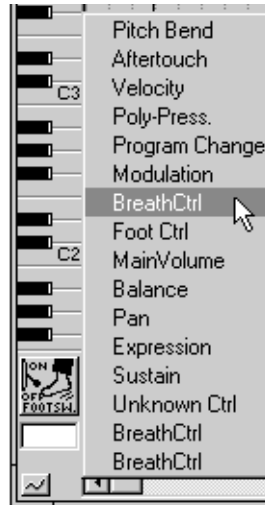
Editing the Values

With the Pencil

To change one value with the Pencil, simply click on it.
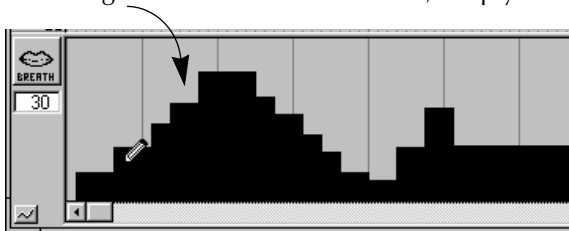
To change a series of values, drag over them.
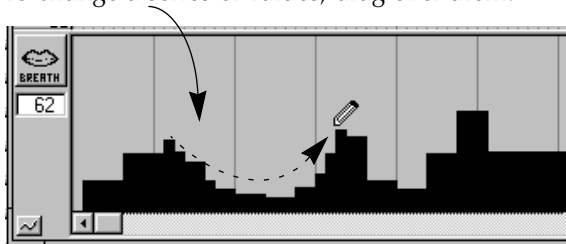
With the Line Tool

"Draw" a line with the Line tool...
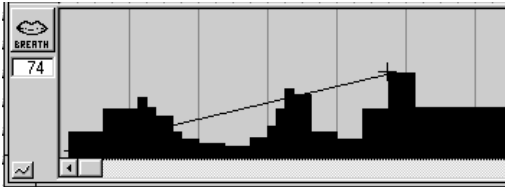
...to create a ramp of values.
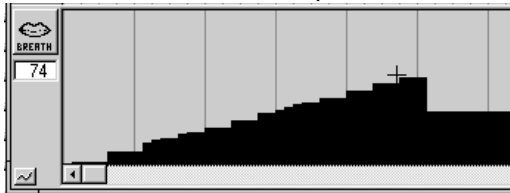
Adding new Events

1. Select what type of data you want to add.

2. Set up the Snap value to decide what "density" you want for the Events.

If you for example want to input one Event every eighth note, set the Snap value to "8".

3. Hold down the [Alternate] key.
From here on there are basically three ways to go:

If you want to enter just one Event, click once with the Pencil.
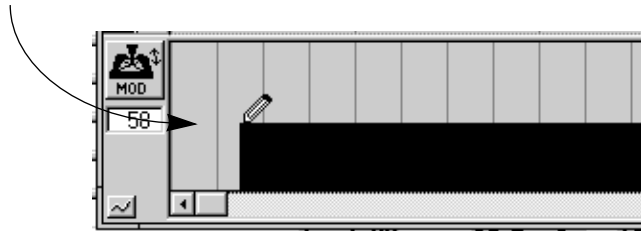
If you want to "paint a curve",
drag the Pencil (with the mouse
button pressed).
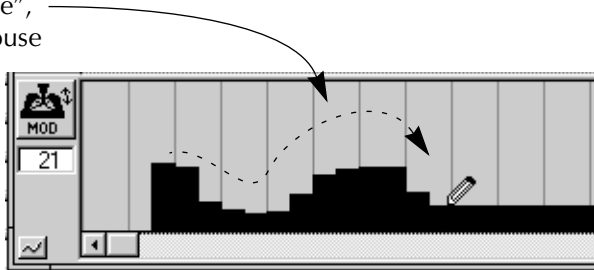
If you want to create a perfect ramp, use the Line tool as described above.
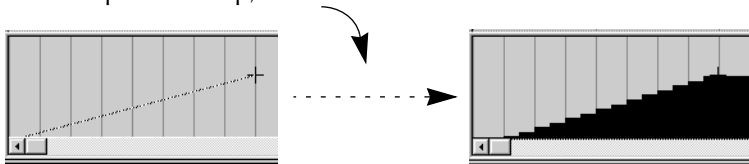
4. Release the [Alternate] key.

About the Info Line

At the top of each editor (except List Edit), you have the Info Line. This can be shown/hidden with the Info button.

When the "i" button is lit, the Info Line is shown.

| START 0008.02.000 | LENGTH | 768 | PITCH | G#3 | VELO ON | 32 | VELO OFF | 64 | CHN | 2 |

The Info Line shows the values for one selected note. The values can be edited, just as in the List in List Edit.

Closing the Editor

There are two ways of closing the editor, "Cancelling" and "Keeping".

Cancelling

If you press [Esc] (escape) on the computer keyboard or select "Cancel" from the Edit window's Control Menu (reached by clicking on the Control Menu button to the left on the window's title bar), the editor and all the changes you made since you last opened it are discarded.

- **If you don't have checked the "Fewer Alerts" check box in the Preferences dialog (on the File menu), a dialog box allows you to change your mind:**
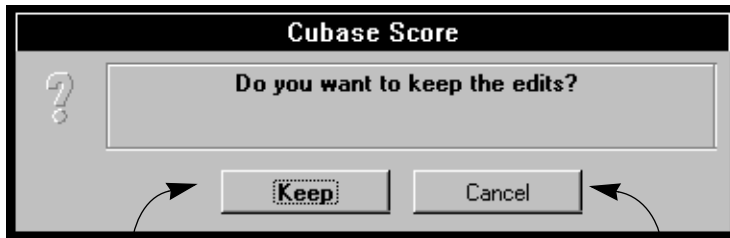
"Keep" will exit the editor, but keep your changes.

"Cancel" will cancel all changes you have made since you opened the editor.

Cancelling can be thought of as a super-undo. It allows you to try out a series of changes to a recorded piece of music and then easily revert back to its original state.

Keeping

If you close the editor by selecting "Keep" from the Control Menu or by pressing [Return], the window closes and all the editing you have made is kept.

The "Keep Appended Events?" Dialog

If you close the editor and a dialog appears asking you if you want to "keep appended Events", this is because you have added Events outside the Part(s) being edited.
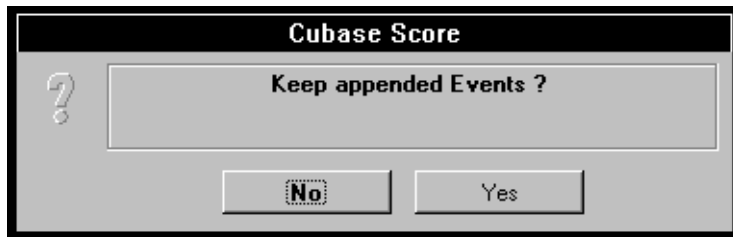

- If you click "Yes", the Part will be extended to encompass the added Events.
- If you click "No", the Events outside the Part will be discarded.

13

Quantizing and Using Functions

How Functions are applied

By using "functions" you can perform various operations on notes and other MIDI Events. Some of the most important functions, such as the different types of Quantization, can be found on the Functions menu on the menu bar. In addition, the editors have their own "miniature" Functions menus, called the "Do" menus.
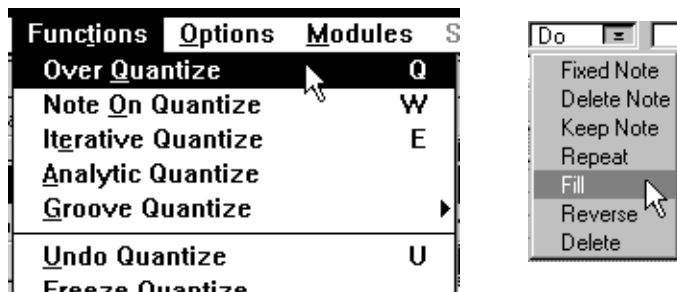
The main Functions menu and one of the Do menus – they both contain "functions".

However, before explaining how the functions work, it is important to know exactly what is affected by a function:

In the Arrange Window

If you use a function from the Arrange window, it will apply to *all selected Parts*. If there are no selected Parts, the function will apply to *all Parts* on the *active Track*.

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In the Editors

All the editors feature a pop-up menu called "To". There you can decide which Events should be affected by a function. The menu options are explained in this figure:

All Events, active or inactive, will be affected.

This option has to do with the Loop feature, which is described in "An Introduction to the MIDI Editors".

All active or inactive Events inside the Cycle (between the left and right locators) will be affected, whether the Cycle is on or off.
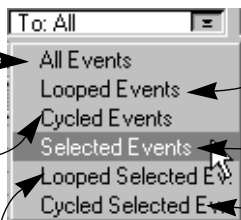
All selected Events, active or inactive, will be affected.

This option has to do with the Loop feature which is described in "An Introduction to the MIDI Editors".

Only the selected Events inside the Cycle are affected.

To: All
All Events
Looped Events
Cycled Events
Selected Events
Looped Selected E
Cycled Selected E

Quantizing

What is Quantizing?

Quantizing in its fundamental form is a function that automatically moves recorded notes, positioning them on exact note values:

If you for example record a series of eighth notes, some of them may end up slightly beside the exact eighth note positions.
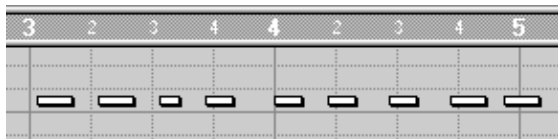
Quantizing the notes with the Quantize value set to eighth notes will move the "misplaced" notes to exact positions.
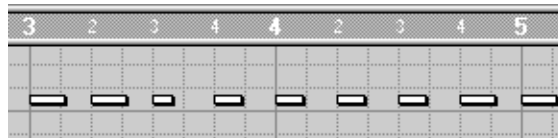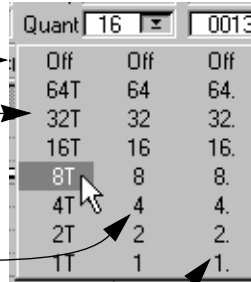
The Quantize value concept may need some explanation. By setting this value, on the pop-up menu on the Status Bar, you select the exact positions the notes should be moved to when you quantize. These are the options:

If you select OFF, no quantizing will be done.

In the left column, you select Triplet (T) Quantize values.

In the middle column you select regular Quantize values. The available values range from 1 (whole note) to 64 (1/64 note).

In the right column, you select dotted (.) Quantize values.

In this example a Quantize value of eighth note triplets is selected.

The effect of the different Quantize values is explained in the illustration on the next page.

Quantizing with different Quantize values

Start with a straight eighth note pattern.

Quantizing with an eighth note triplet Quantize value moves the each second eighth note, creating a triplet shuffle beat.

Quant 8T ▼

Quant 8. ▼

Quantizing with a dotted eighth note Quantize value moves notes to positions three sixteenth notes apart.

Quant 4 ▼

Quantizing the eighth note pattern with a quarter note Quantize value, will move every second eighth note to even quarter note positions.

It is important to realize that there will now be two notes on each beat! This may cause strange sounds, increased volume etc.

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Actually, quantizing in Cubase is more than just correcting errors, it is a creative feature. On the Functions menu, there are several types of quantization. The three most important ones are described in this chapter. The rest are described in the On-line Help.

● Only notes are Quantized, not other types of Events.

Over Quantize
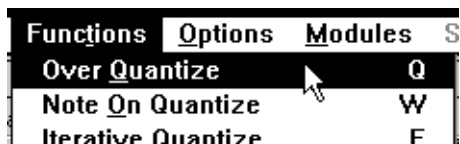
This is a very musical version of the standard "auto correct" quantize. Over Quantize will move notes to the closest quantize value, without changing the length of the notes. But it also detects and holds together chords (see the figure below) and if you consistently play behind of, or ahead of the beat, it uses this fact when finding notes to move. In most situations, Over Quantize is probably the most suitable Quantize function to use.
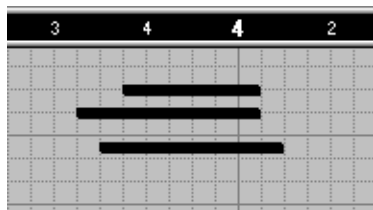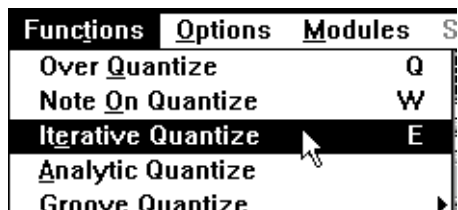

When you Over Quantize (in this example with a quantize value of 4), Cubase realizes that the three notes are a chord, and holds them together.
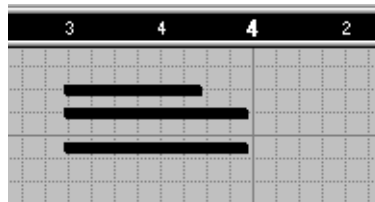
- **Over Quantize can be selected from the computer keyboard by pressing [Q].**

Iterative Quantize

If you want to straighten up the timing of your notes a little, but don't want the precise feel you get from using Over Quantize, Iterative Quantize is probably the best bet. It works like this:

Instead of moving a note to the closest quantize value, Iterative Quantize moves it only part of the way. You can specify how much the notes should be moved towards the selected quantize value in the dialog box that appears when you select Setup Grooves... from the Functions menu.
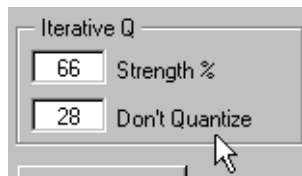
In the same dialog you can also set a value in ticks (0 to 192) called Don't Quantize. Only notes further away than the specified Don't Quantize value are moved. This lets you allow a certain amount of loose timing, while still being able to straighten out really "off" notes.

Creating a Shuffle Feel using Iterative Quantize

To show the difference between regular quantizing and Iterative Quantize, let's look at two identical eight-note patterns:
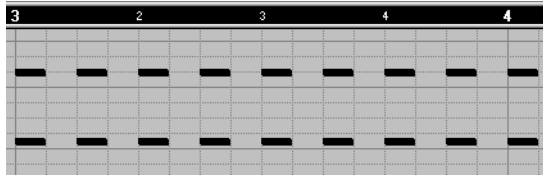
Quant 8T ▾

Functions **Options** **Modules** S
Over Quantize   Q
Note **O**n Quantize   W
Iterative Quantize   E
Analytic Quantize
Groove Quantize   ▶
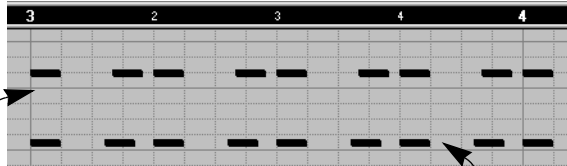
The upper set of notes are Over
Quantized to eighth note triplets...

Quant 8T ▾

Iterative Q
66 Strength %
20 Don't Quantize

...while the lower set of notes are Iterative Quantized
using the same Quantize value. Strength is set to 66%.
(Don't Q is set to 20, but doesn't really matter in this case.)

The upper pattern gets a heavy, precise triplet feel...

...while the lower pattern gets a more jazzy, natural shuffle feel.

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Groove Quantize

This type of quantizing is not meant for correcting errors, but for creating rhythmic feels. This is done by comparing your recorded music to a "Groove Map" (a pattern with a certain feel) and moving the appropriate notes so that their timing matches the one of the Groove Map. You can for example easily create the shuffle feel from the Iterative Quantize example above, using a suitable Groove Map instead.

You select a Groove Map from the Groove Quantize sub-menu on the Functions menu. As you see, there are more than a dozen Groove Maps included with Cubase from the beginning, but you can also load new ones from disk or make up your own, as described in the Online Help.

The Grooves included with Cubase are described in detail in a ReadMe file in your Cubase directory.

The DNA Grooves used in Cubase are derived from the "feel" of real, live recordings. These are analysed and a timing template plus a number of Motions - variations on the basic Groove for different purposes - are created. More DNA Grooves are available as separate products.

Undoing Quantize

● Quantizing is not definite or irrevocable - not even after saving to disk! You can always re-quantize to any value, even to Off, unless you specifically "freeze" your Quantize, with "Freeze Quantize (Functions menu).

This means that notes quantized to eighths can later be quantized to sixteenths. The original (un-quantized) positions of the notes are used for determining how notes should be moved, except when using Iterative Quantize. You can re-quantize just some notes in one of the Edit windows.

To completely restore quantized Events to their original positions, use the Undo Quantize function on the Functions menu. This can be applied to any selection of Parts or individual Events, just as all Functions (see).

Automatic Quantize - Getting your music quantized while recording

This is a function that allows you to have everything automatically Quantized as you go along with your recording. When automatic Quantize is activated, everything you record is Over Quantized immediately. The quantization can be undone, just as usual.

Automatic Quantize activated.

The AQ Button (above the Click button on the Transport Bar) turns on and off Automatic Quantize. You can also press [Z] on the computer keyboard to activate/deactivate.

● There is one thing to note. If you have this function activated, your recording gets Over Quantized at the end of each Cycle. Even if you select some other type of Quantizing (like Groove Quantize) during the Cycle, the music will be Over Quantized at the end of the Cycle. So, before you manually Quantize, turn Auto Quantize off.

Other Functions

The Functions menu is not only used when quantizing, it contains a lot of other functions as well. In addition the "Do" menus in the editors contain useful editing functions. The same rules as for Quantizing are used to decide what gets affected.

The various functions on these menus are described in theOnline Help.