



Igor Engraver 1.6 Manual

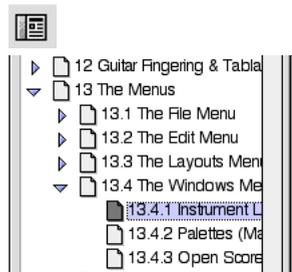
NoteHeads Musical Expert Systems AB

This manual refers to the notation software Igor Engraver 1.6, which can be downloaded from www.noteheads.com

Regarding the PDF Version of this Manual

We have been working hard creating an index that we find as relevant as possible. This means not every instance of a word is included. If you want to find more instances of a word – for example, the word “stem” – then press **Ctrl-F** (**Windows**), or **⌘-F** (**Macintosh**) and type “stem” in the search window that appears.

Also, observe that you can view all the manual’s headings to the left of the main window. If you do not see them, click the icon which resembles the one shown below once. If you click a heading entry, the document will jump to the corresponding heading. The triangles to the left of the entries are clickable too. Click once to see all subentries.



13.4.2 Palettes (Macintosh)

The two middle sections display the names of all of Igor Eng... let you select what palettes are to be displayed. By selecti... done by releasing the mouse button over the selected name) palette is shown. Unchecking a name makes the palette disap...

Show all palettes and Hide all palettes are used to show or hide once.

Finally, note that all of the page numbers listed in the Index and the two Tables of Contents are clickable as well. Click once and the document will display the corresponding text.

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Author: Petter Terenius & Bryan Doughty

Layout: Anna Pettersson & Petter Terenius

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Thanks, Congratulations, and Welcome!

We, the creators of Igor Engraver, would like to express our sincere thanks to you for using this program. Igor Engraver is the result of a seven-year development process under the guidance of the Swedish composer and programmer Peter Bengtson in collaboration with world famous composers, conductors, and other groups of musicians.

We would also like to congratulate you on your choice of notation software: there is nothing else like Igor Engraver on the market! Igor Engraver is intended to satisfy demands and needs that no other notation program is able to meet today. The features and design choices that have been made for Igor Engraver have been directed entirely towards providing the end-user with the highest possible performance and flexibility. This pervades the entire structure of Igor Engraver, from the design of dialog boxes, its graphics model and its user interface, to such things as the size and structure of its external files.

Igor is constantly evolving, and therefore we encourage you to visit our web site www.noteheads.com often to keep yourself updated about new features, instructional movies, free web pages, and more. You will also find updates of this manual and other files and documents of interest.

Last but not least: We welcome you to Igor Engraver and hope you see your scores published at www.noteheads.com in the near future!

— *The Igor staff at NoteHeads*

Why Igor Engraver

The basic design goal when developing Igor Engraver has been to provide the user with a product that helps rather than hinders the process of notation and maintenance of a composition. Igor Engraver offers unparalleled power and flexibility in so doing, through the use of cutting-edge software technology and through its unique design. To find out whether Igor Engraver is the superior program for your needs, take a look at the list below, which shows some of the many “above-high-end” features of Igor Engraver:

- One piece needs only one document – the connection between the score and its parts of a piece is always maintained correctly and kept in the same file. This means you do not have to create special documents just to extract the parts for the members of an orchestra or a band. It is also very easy to create many different scores based on the same piece, to make an orchestral version and a vocal and piano version out of an oratorio, for instance. The adjustments made in one score are automatically reflected in all other scores and parts.
- A unique approach used in Igor Engraver is the idea of the individual musicians as the foundation of the piece you are working on: When you open Igor Engraver, you will not find an empty score but a window for choosing musicians and instruments for the piece. After you have picked the musicians you want to work with, you will get the proper scores set up automatically. A musician is not synonymous with a single staff, but can switch between different instruments, which in their turn each might be written on a different number of staves or even on staves using a different number of staff lines... The possibilities are endless, and yet easy to realise!
- Part handling is automated to a high degree, and includes such features as finding page-turns and entering cue passages. Expert knowledge is used to optimise this process for each type of instrument. For instance: it takes longer time for a tuba player to turn a page than for a desk of violins. When calculating page turns, Igor Engraver takes this fact into account.
- A great deal of expert knowledge has been built into Igor Engraver regarding musicians and their instruments. The result is music being played back with an unprecedented degree of realism. Igor Engraver knows the difference between a flute and a kettledrum when it comes to playing a trill; it changes MIDI patches while analysing string articulation on the fly and correctly plays back accelerandos, ritardandos and other tempo fluctuations. It even generates glissandos, tremolos, tremolandos and

microtones accurately, and plays string harmonics at their actual, non-tempered pitch for maximum realism. This is achieved without any user intervention, based on a powerful real-time analysis of the musical context. Thus, Igor Engraver is a must both for the student of composition who needs to learn how different articulations sound, for the professional composer who needs to record a demo, and for the composer of film music, who cannot afford an orchestra.

- In contrast to most notation programs, you are always able to see the paper itself while working on a piece in Igor Engraver, instead of having to work in one view to edit music and in another mode to make graphical changes. Not only will this feature facilitate your work; it will also save a lot of time.
- All notation elements can be input simultaneously, which speeds up the notation process and reduces the risk of making notation errors. In all situations, Igor Engraver is designed to approximate to the process of working with pencil and paper as closely as possible.
- Simple and straightforward keyboard and mouse commands are used to create a highly intuitive user interface. Igor Engraver also has contextual menus that are of great help to users of all levels. All notation elements can be edited on-screen through drag-and-drop.
- Several languages (currently English, Italian, German, French, Swedish and Finnish) are supported for naming of instruments. English, French, German, and Italian conventions are supported for the naming of notes.
- Advanced 20th Century notation features are built-in, such as application of quarter-tones, of polyrhythms crossing barlines, of multiple levels of nested tuplets, etc.
- Igor Engraver files are 100% cross-platform compatible. This means you can use the same files in both Macintosh and Windows environments.
- Igor Engraver lets you move the music files to a different system without having to adjust anything at all, since the synthesiser channels can be automatically remapped to other units. Thus, you may be certain that a piece you have written will automatically sound as good as possible – perhaps even better than on your own system! – when transferred to another studio.

Some Music Notation Terms

Readers who are not familiar with music notation terms in English can use the screen shots below as a guide when reading the Igor Engraver Manual

1
page number

GALLIARD

title of the piece

Queen Elizabeth and her Galliard

subtitle of the piece

John Doe
composer's name

tempo indication
moderato

treble clef

time signature

quaver crotchet

beam fragment

dotted minim

minim

Guitar

mf dynamic marking

accidental

tablature (tab)

fret number

key signature

two beams

bar number 6

dotted crotchet

natural

rest

slur

notehead

stem

leger lines

10

bar

barline

crescendo hairpin

decrecendo hairpin

repeat barline

staff

system

CHAPTER I | Installation and Setup

Installation of Igor Engraver is a simple process in itself. Nevertheless, sometimes people run into problems during installation, due to various problems with operating system configurations and so on. Hence, this chapter may prove very valuable during the installation of the software. Note that this chapter is divided into two parts, one for Windows and one for Macintosh. If you are a Windows user - read on; if you use a Macintosh, start reading at section 1.5. The last sections tell you how to purchase Igor Engraver and how to move your Igor Engraver files between Windows and Macintosh computers.

I.1 System Requirements (Windows)

The Windows version of Igor Engraver will run on any system that uses Windows 95 or above, requires at least 64 MB of RAM and a Pentium II processor or better. You also need a soundcard or synthesiser to get playback from Igor Engraver. Remember that the quality of Igor Engraver's unique playback feature depends greatly on the quality of the synthesiser you are using.

I.2 Installing Igor Engraver (Windows)

The installation process of Igor Engraver is very simple: just run the installation program. Igor Engraver and its associated files will be automatically installed. Be sure to configure your synthesiser settings, as described in the next section. (If you would rather use a step-by-step approach for the installation process, turn to 1.3 "A Step-By-Step Guide to Installing Igor Engraver (Windows)" on page 19).

Acrobat Reader 4.0 or later is needed to read the documentation. Acrobat Reader is available from www.adobe.com.

When the appropriate applications are installed, you are ready to run Igor Engraver. Double-click the Igor Engraver symbol and go!

1.3 A Step-By-Step Guide to Installing Igor Engraver (Windows)

For those who prefer an easy to follow step-by-step approach during the installation process, this section can prove very valuable.

1.3.1 Downloading Other Software

In case you do not have Adobe Acrobat Reader installed, start by downloading that application. If you use an old version of Acrobat Reader, the Igor Engraver Manual may not be displayed properly.

1.3.2 Downloading and Unpacking

(This section is written for those who read the manual before downloading Igor. If you have already downloaded the program – skip to the next section.)

Start by downloading Igor Engraver from www.noteheads.com. Downloading is easy – simply fill out the download form and press **Download**. Igor Engraver is a large program – around 25 MB in size – so the downloading process may take a while.

When the downloading process has been completed, double-click the Igor Engraver Installer icon to unpack the program. Observe that if you use Windows NT/2000/XP, you will need to log in on your system as Administrator to install Igor Engraver, due to security settings in Windows.

When the installer has been opened, an Installer window will appear.

Next, press **Continue**. The READ ME-document will open. Read it carefully, since it may contain very important information not covered in the manual.

If you want to, you can print this document now (or later by opening the READ ME-document from the Igor Engraver folder). When you are done, click **Continue**, or **Cancel** to abort.

If you clicked **Continue**, you will now see a window telling about copyright issues and the like. If you have read, understood, and agreed with the text, press **Agree**.

Finally, you will be able to choose where you want to put the program files.

When you have unpacked the Installer file, you will get a dialogue telling the installation was successful. Restart your computer to be able to work with Igor Engraver.

After startup, you will find a folder named Igor Engraver in the folder you have specified.

You will also get an installation log – a text document that has detailed information about the installation process.

1.3.3 The Included Files and Folders

In the Igor Engraver folder you will find several files and folders, namely:

- Igor Engraver – This is the application. Double-click to open the program (but not yet!).
- READ ME – This is a text document telling you about new features that are not covered in the Igor Engraver Manual, and other highly important issues. If you run into a problem and you cannot find a solution in the Igor Engraver Manual – turn to the READ ME-document. We strongly suggest you to read through the READ ME-document before continuing the installation process.
- Igor Engraver Manual – this is the manual. In order to read the Igor Engraver Manual you will need Acrobat Reader (more about this later). If you have chosen to download the manual as a separate document, it will not appear in your Igor Engraver folder.
- Patches – The Patches folder is used for patches that can be downloaded from within the program as long as you are online. These patches will expand Igor Engraver's features.
- Resources – This folder contains font data files needed by Igor Engraver.
- Synths – In this folder, text documents called “Synth Matrix documents” are found. These documents tell your synthesisers how to respond to incoming MIDI events such as note on or note off. Currently there is only one matrix for the Windows platform, the General MIDI matrix.
- Plug-ins – This folder is used for plug-ins that you may want to buy at a later stage.
- Templates – In this folder, you will find templates for use with Igor Engraver.
- Examples – The Examples folder contains Igor Engraver example files, some of which are used in the Igor Engraver Manual.

Observe that the content in these folders can vary slightly.

1.3.4 Opening Igor Engraver For the First Time

Now it is time to open Igor Engraver for the first time. Double-click the Igor Engraver icon. A window appears in which you have two options: Press the **Try It!** button to try out the software or **Next** to purchase the software. How to purchase Igor Engraver is explained in section 1.11 “Purchasing Igor Engraver” on page 33 on.

1.3.5 Setting up your Synthesisers

Setting up your synthesisers so that they can be used with Igor Engraver is easy under Windows, and is explained in detail in 13.2.6 “MIDI – Windows” on page 220. More information on MIDI is found in the MIDI chapter.

1.4 Optimising Performance (Windows)

If you work on a slow computer or if you work with large-sized scores, you may need to speed things up. Below you will find some performance optimising tips (in no particular order of importance). Regardless of how your system works, you may find some of these tips to be more helpful than others.

- Set the colour depth both for your monitor and for Igor Engraver (this can be done in the Edit menu’s submenu named Graphics) to 256 colours.
- Work with fewer piece windows and layout windows open at one time.
- Use as few created layouts as possible. For instance, it may be a good idea to first create the score layouts and then, when you have entered all music, create the part layouts, or vice versa.
- In the Layouts menu, Set Anti-aliasing to **Off**. This will make redrawing approximately twice as fast.
- Since Igor Engraver redraws every page that is visible on the screen every time you make changes to a layout, it may be wise to only have one page visible at a time.
- Set manual breaks every now and then in long pieces. Since manual breaks are very definite they cut down the number of bars that Igor Engraver has to process. (See “Spacing of Bars Between Systems” on page 181 for more information).
- Set **Disable automatic spacing** in the contextual menu. (See “Spacing of Bars Between Systems” on page 181 for more information).

- Set Courtesy accidentals to **None**. This is done in the Accidentals pane in the Template/Piece settings window.
- If you use Windows NT/2000/XP, you can add a separate hard drive – not just a partition of your current hard drive – for the Windows swap files (refer to Windows documentation for details). There will be a noticeable difference in speed in your Windows operations, and this benefits the performance of Igor Engraver as well. A less sophisticated yet useful method is to partition the hard drive and to put Igor Engraver and the Igor Engraver files there.
- Free up your resources! Igor Engraver runs better if at startup the computer resources are as high as possible. Refer to the Windows documentation for details, and keep in mind that Igor Engraver runs best if you reboot before running it.
- Add more RAM to your computer – it's generally the best investment you can do when it comes to computer speed.

1.5 System Requirements (Macintosh)

You can run the Macintosh version of Igor Engraver on any PowerPC running MacOS 8.5 with at least 32 MB of free RAM, but a G3 or G4 with 64 MB of RAM or more is recommended. If you have the QuickTime synthesiser installed you do not need a MIDI device to use Igor Engraver. Please remember though that the quality of Igor Engraver's unique playback feature depends greatly on the quality of the synthesiser you are using.

1.6 The Open Music System (Macintosh)

On the Macintosh platform (only), Igor Engraver uses Open Music System (OMS) to manage all its MIDI traffic. OMS takes care of managing all MIDI event reading and writing, and allows synthesisers to be referenced by name and make, instead of anonymous port and channel numbers.

OMS is a freeware utility written by Opcode, Inc. If you do not have OMS installed on your computer already, you can download it from www.opcode.com. Igor Engraver can run without OMS, but if it is not installed, music playback will not be possible.

I.7 Installing Igor Engraver (Macintosh)

The installation process of Igor Engraver is very simple: just run the installation program. Igor Engraver, the notation fonts, extensions, and other necessary files will be automatically installed (If you think you would rather use a step-by-step approach for the installation process, turn to 1.9 “A Step-By-Step Guide to Installing Igor Engraver (Macintosh)” on page 25).

As you already know, you need to install OMS (preferably 2.3.8) and to configure your computer accordingly. You will also need to install QuickTime 3.0 or later to run Igor Engraver. (It does not matter in which order you install Igor Engraver, OMS, and QuickTime.)

Acrobat Reader 4.0 or later is needed to read all of the fonts included in this manual. Acrobat Reader is available from www.adobe.com.

Please note that QuickDraw GX must not be installed on your computer while working with Igor Engraver. Norton CrashGuard may occasionally cause Igor Engraver to not work properly or even to crash. If you experience this problem, please uninstall Norton CrashGuard and restart your computer.

When the appropriate applications are installed, you are ready to run Igor Engraver. Double-click the Igor Engraver symbol and go!

I.8 Setting up Your Synthesisers (Macintosh)

Igor Engraver assumes that you have configured your MIDI instruments in OMS Setup. If you have not already done so, you can enter OMS Setup from the **OMS Setup...** option of Igor Engraver’s Edit menu. It may be wise to disable the QuickTime synthesiser in OMS Setup if you are planning to use other devices, since you can otherwise get latency problems.

You can also make changes to MIDI playback both in the MIDI submenu of Igor Engraver’s Edit menu, and in the Template/Piece settings window’s MIDI Output pane. (The Template/Piece settings window is also brought up from the Edit menu.)

In order to make your synthesisers play back the music as naturally as possible Igor Engraver has a unique feature that adds a high level of realism to the music being played. This is achieved by using NoteHeads’ developed Synth Matrix

documents. These are the documents that Igor Engraver uses to specify how different kinds of synthesisers are to play back musical elements, such as timbre and timing characteristics. In this release, the following synthesisers are supported:

- Alesis Nanosynth
- E-MU Proteus 2000
- E-MU Proteus/2
- E-MU Virtuoso 2000
- Ensoniq ESQ-1
- QuickTime Musical Instruments
- Roland JV-1010 with the Orchestral Expansion Board
- Roland JV-1010 without the Orchestral Expansion Board
- Roland JV-1080 with the Orchestral Expansion Board
- Roland JV-1080 without the Orchestral Expansion Board
- Roland M-SE1
- Roland MOC-1
- Roland Sound Canvas SC-88
- Roland VSC/SC
- Roland XP-10
- Unity DS-1
- Unity DS-1 with the Miroslav Vitous library
- Yamaha CLP-810
- Yamaha MU-80
- Yamaha PSR-500
- Yamaha SY-77
- Yamaha TX81-Z

There is also a General MIDI Synth matrix, which is used for every General MIDI compatible synthesiser that OMS recognises. More matrices are being developed all the time, and will be downloadable from www.noteheads.com.

Note that if you use the Roland JV-1010, please remove the one of the two matrices that you will not use (simply put it outside the folder or delete it). The same is true for the Roland JV-1080. If you are going to use a Roland JV-1010

or a Roland JV-1080 synthesiser, you need to manually set the Performance to Concerto (No. 27) to get the right patches played back.

Please note that QuickTime takes an inordinate amount of time to change patches during playback – sometimes more than half a second, sometimes less. Therefore, you may occasionally experience that the first note (or notes) of a piece is played back with the wrong instrument. Thus, this behaviour is not a bug and has nothing to do with Igor Engraver.

1.9 A Step-By-Step Guide to Installing Igor Engraver (Macintosh)

For those who prefer an easy to follow step-by-step approach during the installation process, this section may prove very valuable.

1.9.1 Downloading Other Software

In case you do not have Adobe Acrobat Reader installed, start by downloading that application. If you use an old version of Acrobat Reader, the Igor Engraver Manual may not be displayed properly.

You will also need Open Music System (OMS) which takes care of Igor Engraver's MIDI handling.

1.9.2 Downloading and Unpacking

(This section is written for those who read the manual before downloading Igor. If you have already downloaded the program – skip to the next section.)

Start by downloading Igor Engraver from www.noteheads.com. Downloading is easy – simply fill out the download form and press **Download**. Igor Engraver is a large program – around 25 MB in size – so the downloading process will take a while.

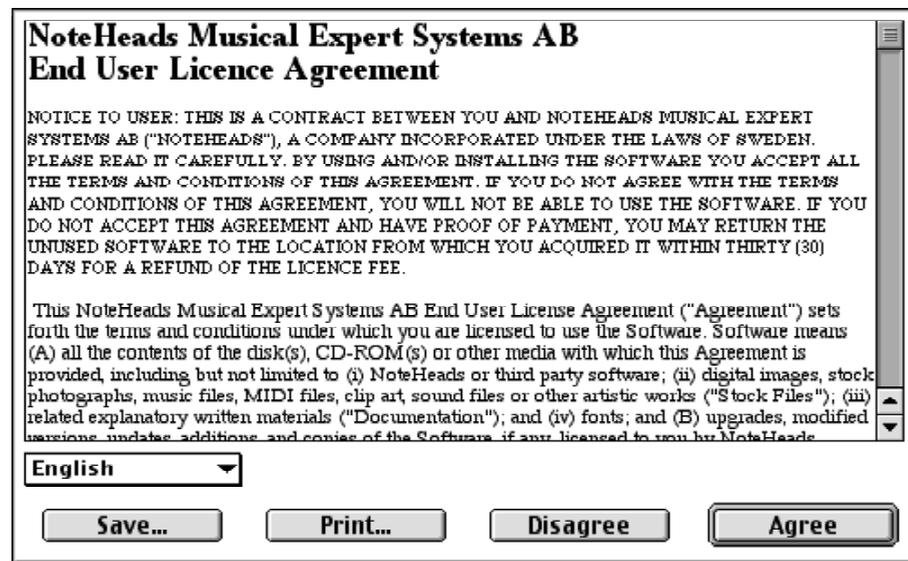
When the downloading process has been completed, double-click the Igor Engraver Installer icon to unpack the program. Note that you need StuffIt Expander from Aladdin Systems, Inc to unpack it. StuffIt Expander is downloadable for free on www.aladdinsys.com.

When the installer has been opened, an Installer window will appear.

Next, press **Continue**. The READ ME-document will open. Read it carefully, since it may contain very important information not covered in the manual.

If you want to, you can print this document now (or later by opening the READ ME-document from the Igor Engraver folder). When you are done, click **Continue**, or **Cancel** to abort.

If you clicked **Continue**, you will now see a window telling about copyright issues and the like. If you have read, understood, and agreed with the text, press **Agree**.



Finally, a window will let you choose how you want to execute the installation and where you want to put the program files.

Normally, you should choose **Easy install** from the installation pop-up menu (Easy install puts all files in the right places) and press **Install**. If you wish to install only a few files, you can use the Custom installation instead. Some of the files available are shown below. ("Full install" is equal to "Easy install".)

Next, select the folder you would like to put Igor Engraver and press **Install**.

When you have unpacked the Installer file, you will get the following information. Restart your computer to be able to work with Igor Engraver.



After startup, you will find a folder named Igor Engraver in the folder you have specified.

You will also get an installation log – a text document that has detailed information about the installation process.

1.9.3 The Included Files and Folders

In the Igor Engraver folder you will find several files and folders, namely:

- Igor Engraver – This is the application. Double-click to open the program (but not yet!).
- READ ME – This is a text document telling you about new features that are not covered in the Igor Engraver Manual, and other highly important issues. If you run into a problem and you cannot find a solution in the Igor Engraver Manual – turn to the READ ME-document. We strongly suggest you to read through the READ ME-document before continuing the installation process.
- Extras – The Extras folder contains other things of interest.
- Igor Engraver Manual – this is the manual. In order to read the Igor Engraver Manual you will need Acrobat Reader (more about this later). If you have chosen to download the manual as a separate document, it will not appear in your Igor Engraver folder.
- Patches – The Patches folder is used for patches that can be downloaded from within the program as long as you are online. These patches will expand Igor Engraver's features.
- Resources – This folder contains font data files needed by Igor Engraver.
- Synths – In this folder, text documents called "Synth Matrix documents" are found. These documents tell your synthesisers how to respond to incoming MIDI events such as note on or note off. (If you use a Roland JV-1080 synthesiser, you should place the Roland JV-1080 file you are not going to use outside of this folder: in case

you do not have the Orchestral expansion card, remove the document named Roland JV-1080-Orch.txt, and vice versa. The same thing is true for the Roland JV-1010.)

- Plug-ins – This folder is used for plug-ins that you may want to buy at a later stage.
- Templates – In this folder, you will find templates for use with Igor Engraver.
- Examples – The Examples folder contains Igor Engraver example files, some of which are used in the Igor Engraver Manual.
- Though not part of the Igor Engraver folder, the installation also adds the OMS Name Document labelled “Roland JV-1010”, which adds support for the Roland JV-1010. This document is automatically put in the OMS’s subfolder named Factory Names.

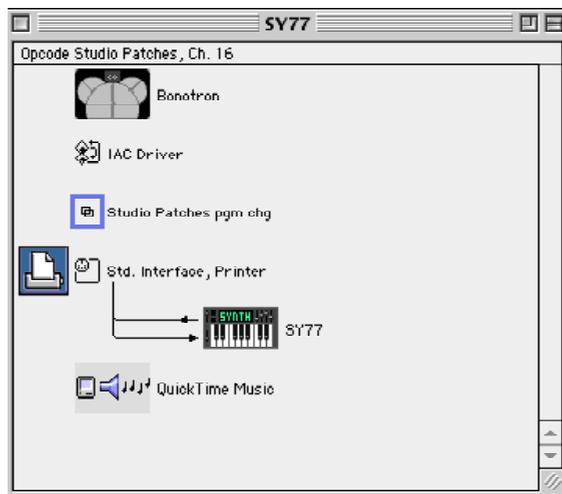
1.9.4 Configuring OMS

In order to get Igor Engraver to send the proper MIDI messages (i.e., to tell the synthesisers how to produce the correct sound) it is important that OMS is configured properly.

NoteHeads does not give technical support for OMS, since it is not our application, but this section will give you some hints on how to configure OMS (you do not have to make any special adjustments in OMS to use it with Igor).

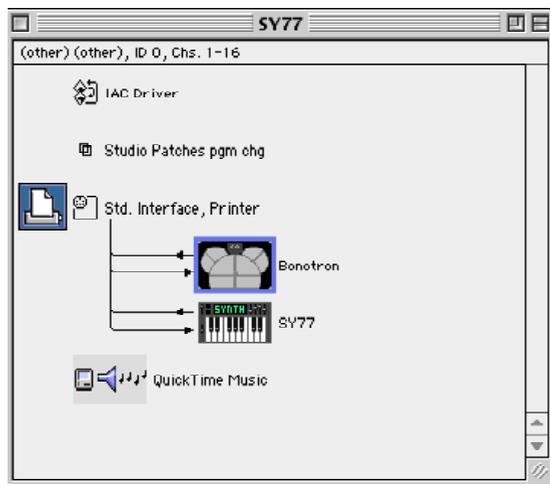
After opening OMS setup, you will see a Studio Setup window – the most important window in OMS – which is used for connecting your MIDI devices to

your computer. The Studio Setup window of a running OMS application resembles the diagram below:

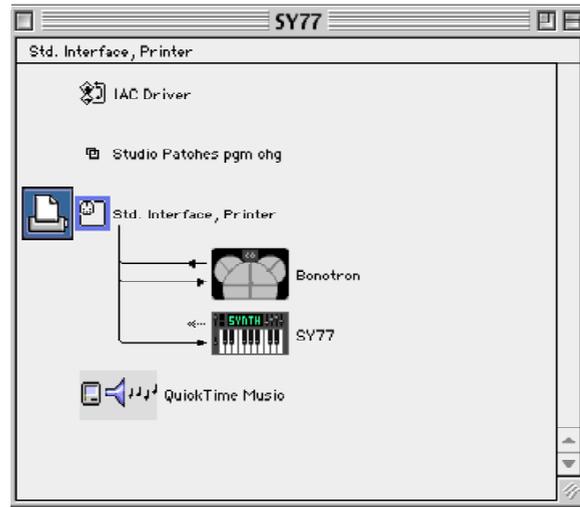


The simplest way to get your Studio Setup window configured is using the **Auto-detect devices** command (found in the Studio menu). In most cases, the instruments and MIDI interfaces used will be found this way. If not, you will have to configure OMS manually. Here are a few tips to get you started:

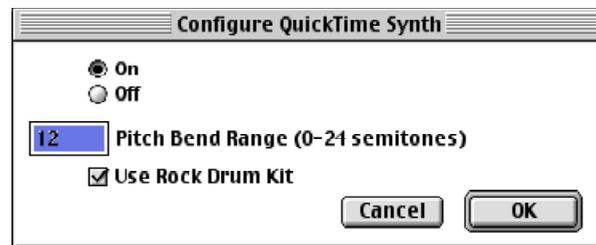
- To add a MIDI device to a MIDI interface, drag its icon to the MIDI interface icon and release the device icon on top of it.



- The arrows indicating MIDI In and MIDI out in the diagram may be clicked. This way, the MIDI connections are cut. In the example below, the SY77 is not used for MIDI input (i.e., for playing).

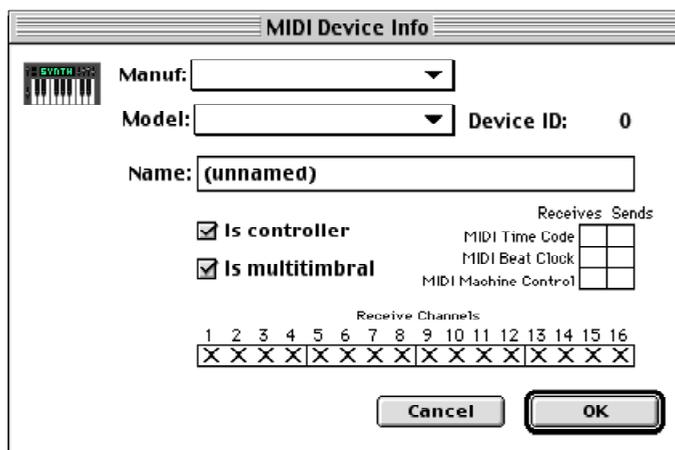


If a MIDI device icon is double-clicked, its Preferences window is opened. In case you use the QuickTime synthesiser (the on-board synthesiser in a Macintosh), the settings must be the ones stated below. If the pitch bend range is set differently, the glissandos will sound strange, and if **Off** is selected, the synthesiser will not be used.



- (If **Auto-Detect Devices...** works for you, you can skip this paragraph.) To set up your synthesisers manually, that is, if your synthesisers could not be found using the **Auto-Detect Devices...** command, select **New Device...** from the Studio menu. The MIDI Device Info window appears.

In this window, identify your device using the **Manuf:** and the **Model:** pop-up menus. If the device is not listed, set the manufacturer's name (if present, otherwise set it to **Other**) and the Model to **Other**. Next, name the device correctly.



An example: If you use a Roland JV-1010 and cannot find it using **Auto-Detect Devices...**, set the manufacturer's name to **Roland**, and the name of the model to **Other** (provided JV-1010 is not in the list). Then name the device JV-1010. This last step will make it possible for Igor Engraver to recognise the device – even though OMS does not.

You also have to define what MIDI channels the device is to be able to receive. In most cases, all channels should be enabled since Igor Engraver does all the patching work for you. However, it is not necessary to enable all of the channels if you need some of them disabled in other applications.

Next, you need to define what kind of MIDI data the device is to send or receive. For recording, check **MIDI Time Code: Sends**, and for playback, check **MIDI Time Code: Receives**. Finally, you have to route the devices using the cords in the main window.

- If you are going to use other synthesisers than the QuickTime synthesiser, you should deactivate the QuickTime synthesiser by selecting **Off** in the Preferences window shown above.
- If you still have trouble getting any output, you may try using **OMS Patch Names...**, which is located in the MIDI submenu in Igor Engraver's Edit menu. If at all necessary, this has only to be done once, not for every piece you create. There are predefined menu items to help you do this.
- If you still fail to get any sound from any synthesiser, try subscribing to the GM patches in the OMS Patch Names window (briefly described above), or choose an instrument similar to the one you use in OMS' MIDI Device Info window.

Are you going to use a software synthesiser or a software sampler for output? If so, and if it is not displayed in the Studio Setup window, you probably need to include it in the IAC driver. Be sure that the name of the device is correctly written in the IAC driver window (double-click the IAC driver icon to open this window). Refer to the device's manual to find out what to write. Note that there must not be an infinity sign in front of the name.

Before you close your Studio Setup window, be sure to test the different devices. To do this, select the **Test studio** command from the Studio menu and click on the device icons. If they produce sound, your setup is working well.

1.9.5 Opening Igor Engraver For the First Time

Now it is time to open Igor Engraver for the first time. Double-click the Igor Engraver icon. A window appears in which you will be asked to authorise your copy of Igor Engraver. How to purchase Igor Engraver is explained in section 1.11 “Purchasing Igor Engraver” on page 33 on. If you want to try it out instead, click that option.

1.10 Optimising Performance (Macintosh)

If you work on a slow computer or if you work with large-sized scores, you may need to speed things up. Below you will find some performance optimising tips (in no particular order of importance). Regardless of how your system works, you may find some of these tips to be more helpful than others.

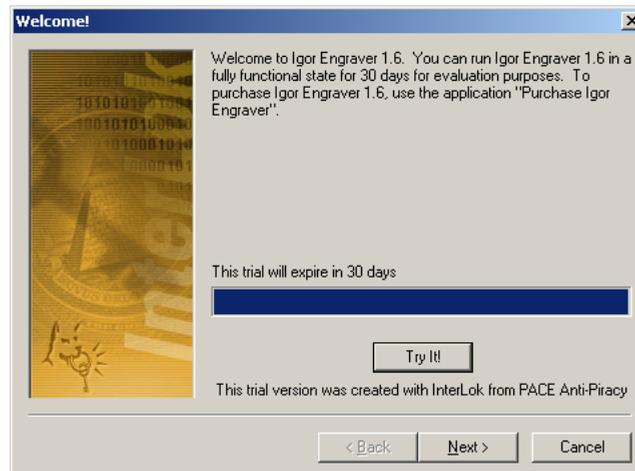
- Set the colour depth in MacOS (this can be done in the Apple menu's Control Panels submenu) and in Igor Engraver (this can be done in the Edit menu's submenu named Graphics) to 256 colours.
- Increase available memory: The window where you can change the memory size is opened when selecting the Igor Engraver icon (clicking once) and then pressing **⌘-I**. This tip is especially fruitful if you see the letter combination “GC” (Garbage Collection) often when working with Igor Engraver.
- Set Virtual memory to **Off** in the Apple menu's submenu Control Panels.
- Work with fewer piece windows and layout windows open at one time.
- Use as few created layouts as possible. For instance, it may be a good idea to first create the score layouts and then, when you have entered all music, create the part layouts, or vice versa.

- In the Layouts menu, Set Anti-aliasing to **Off**. This will make redrawing approximately twice as fast.
- Since Igor Engraver redraws every page that is visible on the screen every time you make changes to a layout, it may be wise to only have one page visible at a time.
- Set manual breaks every now and then in long pieces. Since manual breaks are very definite they cut down the number of bars that Igor Engraver has to process. (See “Spacing of Bars Between Systems” on page 181 for more information).
- Set **Disable automatic spacing** in the contextual menu. (See “Spacing of Bars Between Systems” on page 181 for more information).
- Set Courtesy accidentals to **None**. This is done in the Accidentals pane in the Template/Piece settings window.
- Add more RAM to your computer – it’s generally the best investment you can do when it comes to computer speed.

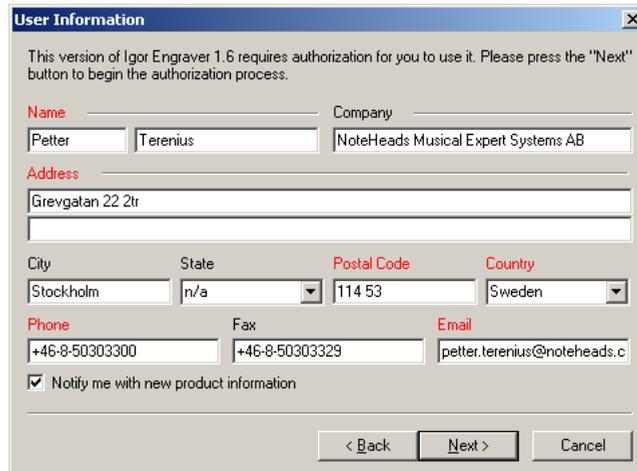
1.11 Purchasing Igor Engraver

To purchase Igor Engraver, double-click the Igor Engraver icon and follow the instructions below.

Under **Windows**, a window appears in which you have two options: Press the **Try It!** button to try out the software or **Next** to purchase the software.



When you click **Next**, a personalisation window will appear. Be sure to fill in the text boxes correctly: note that all of the textboxes marked with red text must be filled in, in order to continue the registration process.



The 'User Information' dialog box contains the following fields and options:

- Name:** Petter Terenius
- Company:** NoteHeads Musical Expert Systems AB
- Address:** Grevgatan 22 2tr
- City:** Stockholm
- State:** n/a
- Postal Code:** 114 53
- Country:** Sweden
- Phone:** +46-8-50303300
- Fax:** +46-8-50303329
- Email:** petter.terenius@noteheads.c
- Notify me with new product information

Buttons: < Back, Next >, Cancel

Click **Next** again. Now select a destination for the Authorisation key for Igor Engraver. If you are uncertain, just let the default setting stand. Click **Next**.



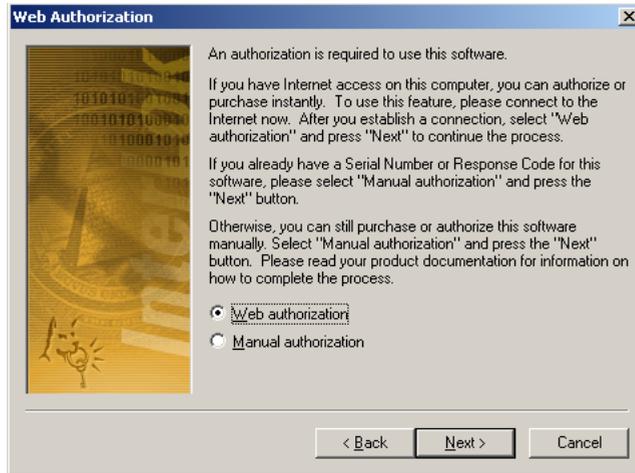
The 'Select Destination Hard Disk' dialog box contains the following options:

- Same disk as Igor Engraver 1.6
- Windows System disk
- Other (C:)

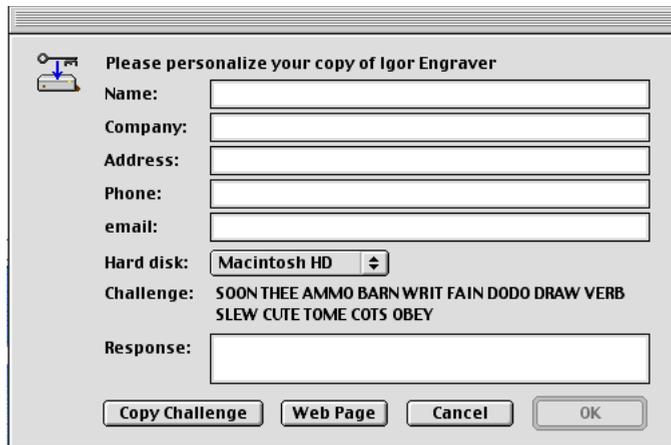
Buttons: < Back, Next >, Cancel

The next window lets you decide if you want to use authorisation over the Internet (suggested) or manual authorisation. If you purchase Igor Engraver over the Internet, and if you have an Internet access to your computer, choose **Web authorisation** and click **Next**. If you have no Internet connection, you can choose

Manual authorisation instead, and simply copy the code and go to the registration URL from another computer.



If you are using a **Macintosh** and click **Authorise** at startup, a personalisation window will appear. Be sure to fill in the text boxes correctly: note that all of the textboxes must be filled in, in order to continue the registration process. Press **Copy Challenge** to copy the challenge text (the series of four-letter words in the window). Now press **Web Page** or press **Cancel** to quit the program and leave the text boxes empty. If you pressed **Web Page**, your web browser will open.



When your default browser starts, you will become connected to a special web page, from which you can purchase Igor Engraver.

Igor Engraver Cross Platform Purchase page

Product	Price USD*
Igor Engraver for Windows/Macintosh single user license	295.00

*Swedish residents add 25% Sales tax

If you have a site license code or other agreement with NoteHeads, please enter your code and click <Submit>

When your credit card is approved, you will be provided access to your personal purchase page, where you can authorize Igor Engraver on two computers.

- Fill in the other fields (all are mandatory)
- Click <Proceed>

Our secure payment provider accepts Visa and Mastercard. Contact NoteHeads for other payment options.

* First name:

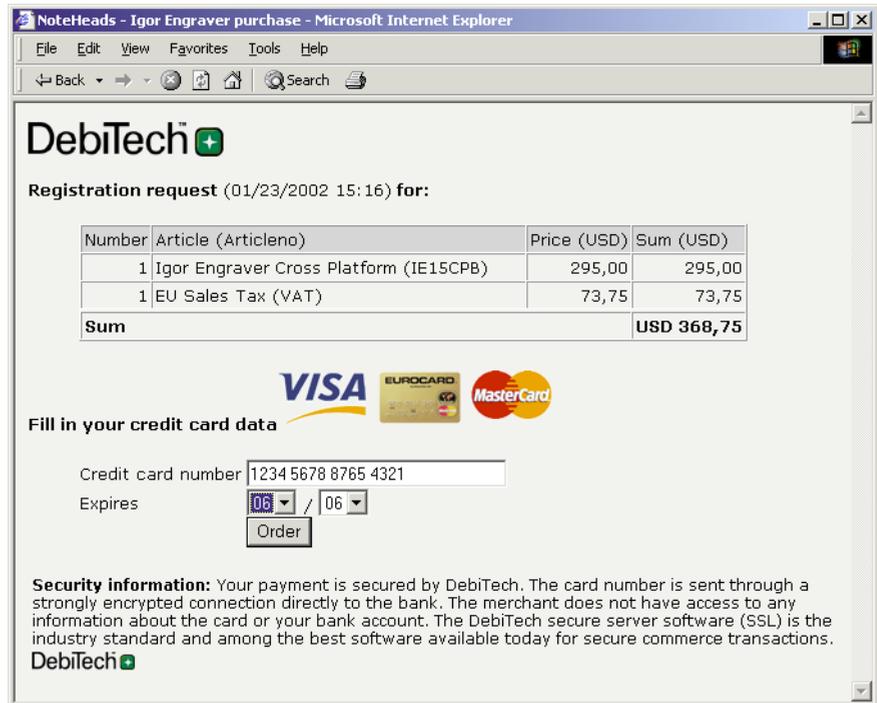
* Last name:

* e-mail:

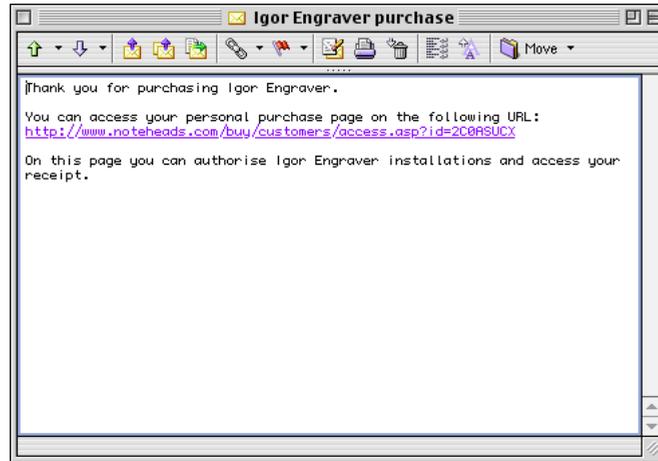
* I am a resident of:

Fill in the requested information – make sure the email address is correct! – and click **Proceed**. If you have been provided with a special code (e.g. a student license code), fill in the text field in the middle of the page and click **Submit**, but do not enter any information below that field.

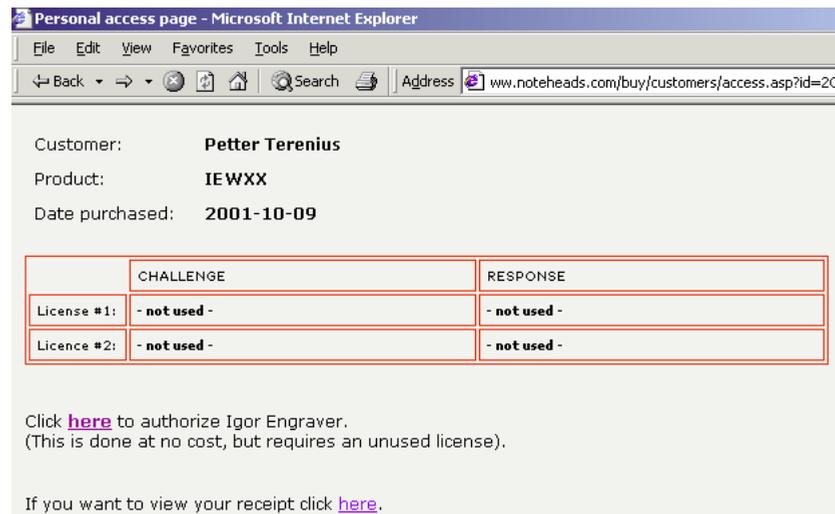
Now, enter your credit card information and click **Order**. A safe transaction will now take place. (This web page does not belong to NoteHeads and can look differently at your time of purchase.)



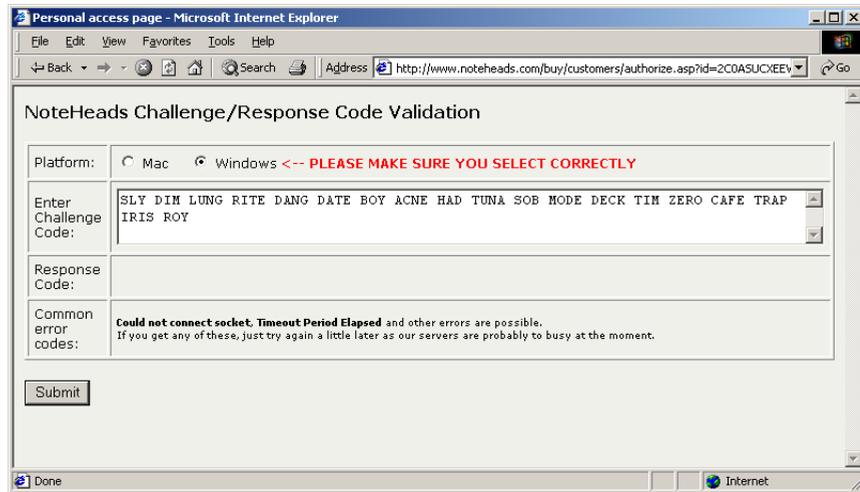
An e-mail, looking similar to the one below, will now be sent to your e-mail address. Keep this email in a safe place, as you will need the URL in it for retrieving future installs of Igor Engraver.



If you go to the URL you will come to your personal web page. Here, you can access your unlocking codes, view a receipt, etcetera. So, copy the “challenge code” provided by your computer, start a web browser and go to your web page.



Click the upper **here** link to go register your first install of Igor Engraver. A new window will open, as shown below.



Enter the challenge code where specified, make sure you have selected the right operating system above that field, and click **Submit** to receive a response code. Don't do the following yet, but if you go back and update the previous page, you will now see that one license has been used. You can also get a receipt from your purchase from here, by clicking the lower **here** link.

Instead, copy the “response code” and paste the text into the **Response:** textbox of Igor Engraver's Challenge/Response window. Now the **OK** button will become clickable. Press **OK**. Igor Engraver starts and the registration process is completed. Return to your personal web page if you ever should need your second install (e.g., your hard disk crashes), so **REMEMBER TO KEEP YOUR URL SECRET AND IN A SAFE PLACE**. Note also that the licenses are cross-platform, i.e., you can install your first license on a Macintosh and your second license on a Windows computer if you want to (the Igor Engraver files are cross-platform as well – see the next section in this chapter for more information).

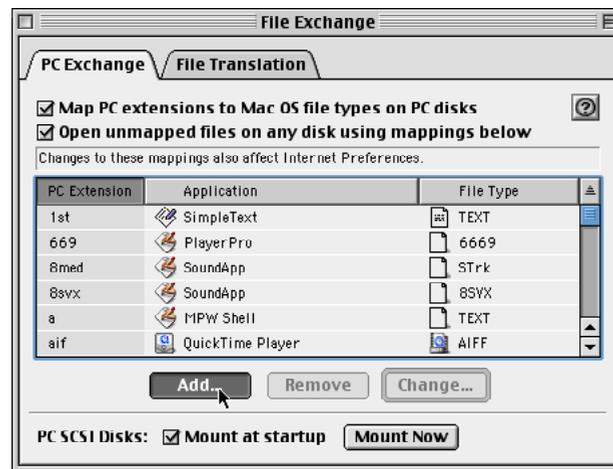
1.12 Sharing Files Between Platforms

Igor Engraver files are completely cross-platform, e.g., you can save files on a Macintosh and open them on a Windows computer, continue working on the file on that machine and then do the final editing on another Macintosh. However,

do to the limitations in the operating systems you will need to do some alterations.

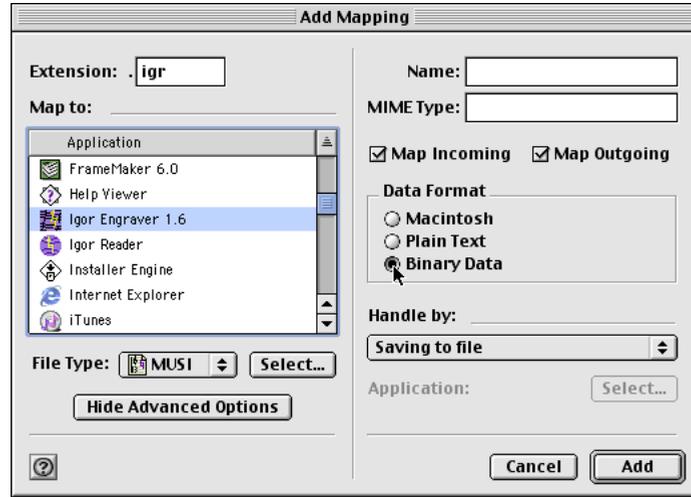
If you have a **Macintosh** file and want to save it for Windows, name it <The Name>.igr. Then it can be opened on a Windows machine without problems. If you are running Windows and receive a Macintosh Igor file which has no file extension (.igr), simply add “.igr” to the file name yourself.

If you have a **Windows** file and want to open it on a Macintosh, you will need to change its file type in MacOS. Open the Apple menu and choose **File Exchange...** from the Control Panels submenu. In the File Exchange window, click **Add....**

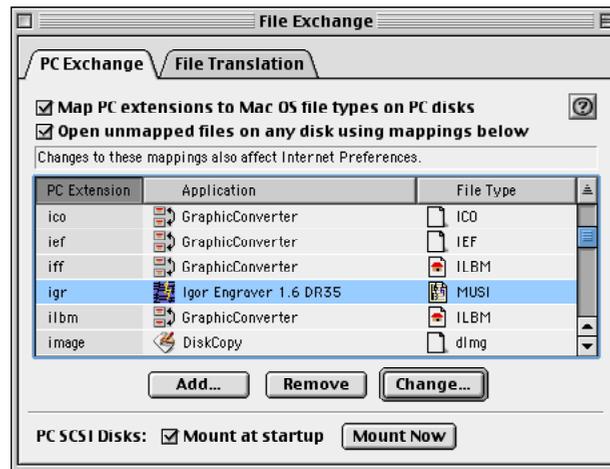


Now the Add mapping window opens. In the **Extension:** textbox, write “igr” (without the quotes). Then select Igor Engraver in the pane below. Set the title

type in the pop-up menu to “MUSI”. In the right part of the window (click **Show Advanced Options** to view it), set Data Format to Binary Data, and click **Add**.

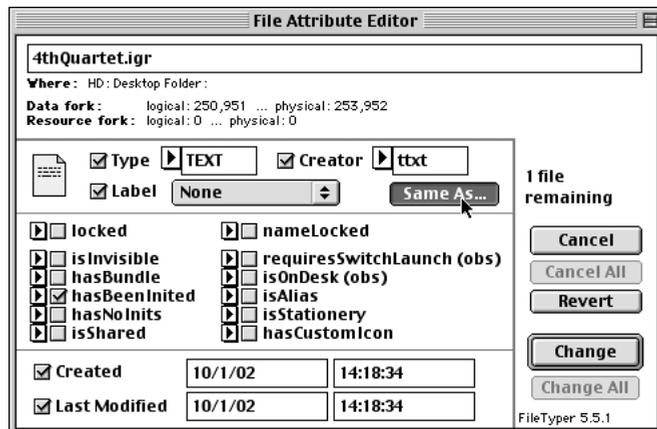


Last, in the File Exchange window, be sure you see the new addition listed as in the picture below. Windows files having the .igr extension should now always open as normal Igor Engraver files.



There might be times when the MacOS does not recognise the file type. If so, we recommend you run the shareware program FileTyper and change the file type from there. Simply open FileTyper, select the Igor Engraver file you want to

open, then click the **Same as...** command, and detect another Igor Engraver file. Close that window. You should now see the word “TEXT” change to “MUSI” and “txtt” to “IGOR”. Click **OK** and you’re done.



CHAPTER 2

“*espressivo*”

The object of this tutorial is to get you acquainted with the basic features of Igor Engraver and the philosophy behind this program. If you are not familiar with English music notation terms such as “bar”, “clef”, or “crotchet”, then please take a look at the Notation terms page, which covers these and other terms.

There are two versions of this chapter. If you are a Windows user, read on; if you are a Macintosh user, skip to the Macintosh section.

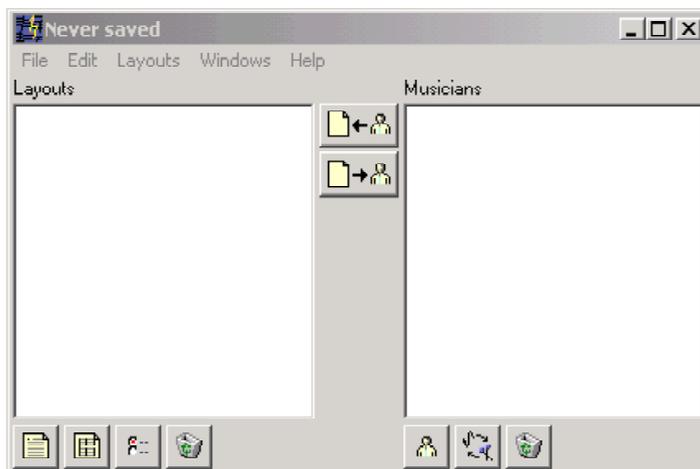
2.1 The Piece Window (Windows)

Double-click the Igor Engraver icon to open the program.



The Tool Palette, at the top of the screen, should give you an indication of what is possible in Igor Engraver. The most common note values, noteheads, accidentals and so forth, that you are familiar with – and perhaps even some that you do not recognise at all – are at your fingertips, ready to use, as soon as you have created a new layout. So, now it’s time to do that!

After opening Igor Engraver, a piece window will appear:

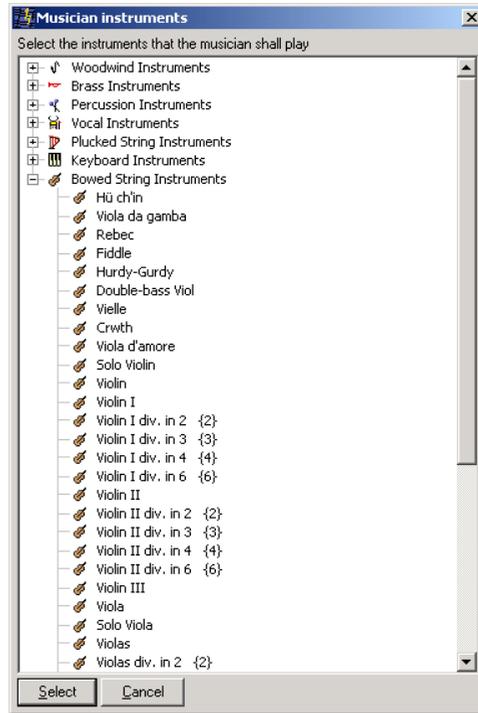


The Piece window is dedicated to two fields named Layouts and Musicians. Below the Layouts field (from left to right) you will find the Score button, the Part button, the Settings button and a Trash button. Below the Musicians field is the New Musician button, the change instrument button and a Trash button. Between these two fields, from top to bottom, are the add and remove musician buttons.

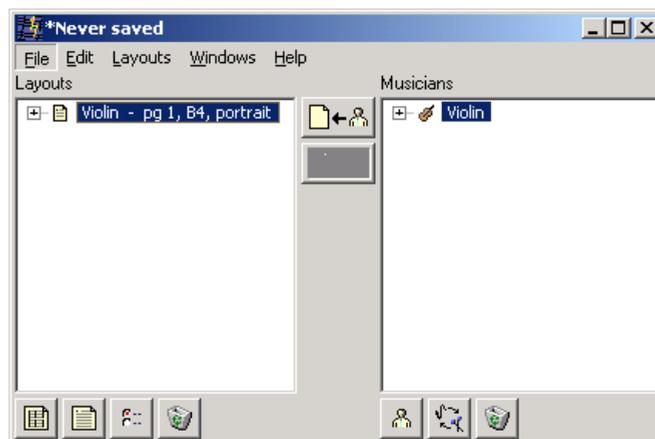
Since Igor Engraver is based on musicians, rather than empty staves, you are now going to create some musicians.

Click on the New Musician button and an Instrument library will appear. By clicking on the + sign in front of an instrument group name, all the instruments in that category will be displayed (in the diagram below, the + in front of the

“Bowed String Instruments” has already been clicked, and the bowed string instruments are shown).



Click on one of the bowed instruments and at the bottom of the window, press **select**. Your action should result in the following:



You have created a musician, who is called “Violin”, who plays the violin, and who automatically gets a part created (which is shown by the Violin part icon in the Layouts field). To create additional layouts, click on the musician or musicians and then click on either the Score or Part button.



The add and remove musician buttons are used to add musicians to or remove them from existing layouts. To remove a musician from a layout, select the corresponding icon in the layout and click the remove musician icon. To add a musician to a layout, select the musician in the Musicians field and select the target layout in the Layouts field. Then click the add musicians icon. Note that you can add the same musician several times to the same layout or multiple layouts.

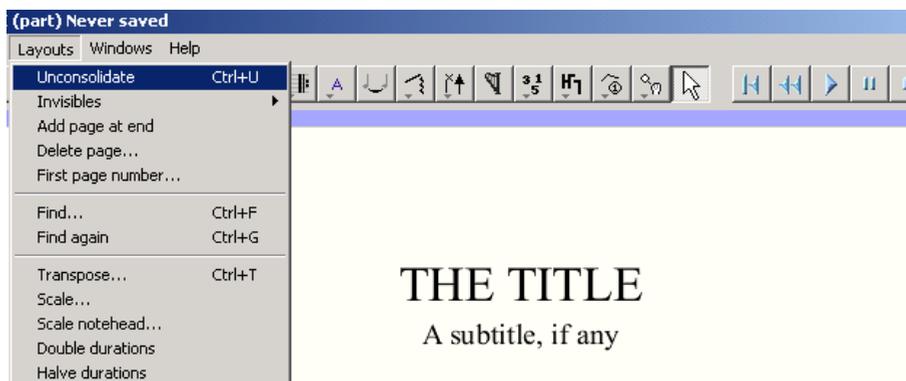
Now double-click the Violin Part in the Layouts field (shown below) to enter the Part layout window.

2.2 The Layout Window and Input (Windows)

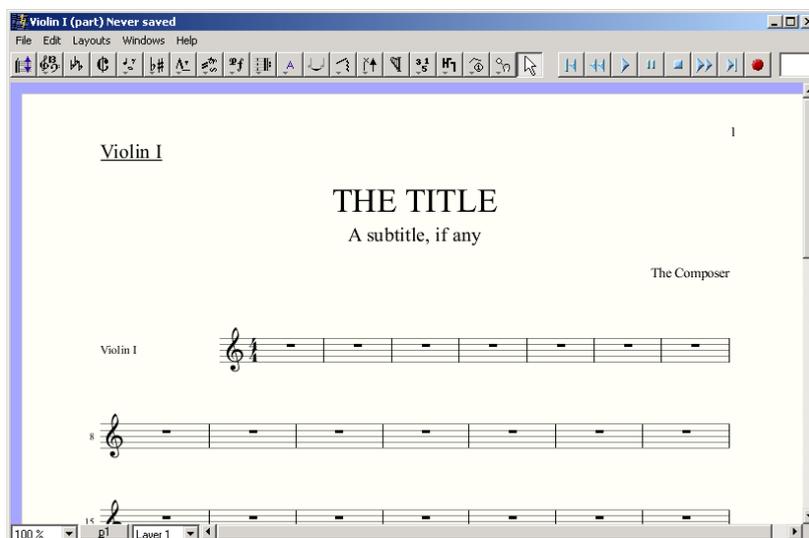
As you see, Igor Engraver has now created a part layout for your musician.



Since the parts use consolidated bars as default (or “multibar rests”), you may want to “unconsolidate” the layout. This is achieved by selecting **Unconsolidate** from the Layouts menu or pressing **Ctrl-u**.



This operation results in thirty-two unconsolidated bars, which cover a few pages. The top of the first page should now look like this (notice the bar numbers that have been created for you):



Find the Note Tool on the Tool Palette.



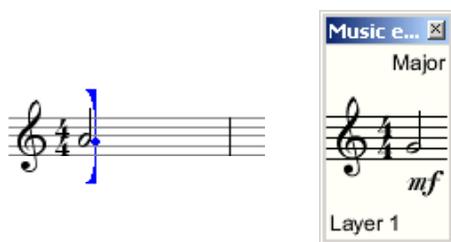
Click and choose a note duration. By clicking in the first bars you enter notes of the value you have specified. If you choose the augmentation dot from the note palette and then click on a note, you will add an augmentation dot to that specific note.



To create a pick-up bar, simply input the notes or rests of the pick-up bar and do not place any more notes or rests in that bar.

Igor Engraver has unlimited undo. To erase everything you have entered, press **Ctrl-Z** until the bars are empty. Note how the spacing of the music is recalculated every time you add or delete a note.

Click on the arrow on the Tool Palette, and double-click the first bar of the staff. You will see a blinking input caret, and a Music entry window will open. You are now in Input mode. This means you can use the computer keyboard to enter notes, rests, dynamics, articulations, etc. In the Music entry window, you will see the settings that apply up to the point where the input caret is placed: dynamic marking, key, metre, layer, and so on. This gives you valuable information, especially if the input caret is placed in a complex passage. To enter a minim/half note, press the **6** key and then Enter.

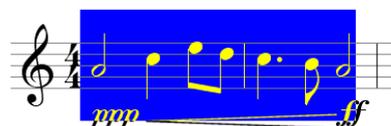


Now press the **P** key a few times. As you see, you add a dynamic marking, such as a piano or pianissimo, to the score. The same dynamic is displayed in the Music entry window. Press the **C** key. A crescendo hairpin is inserted. Enter a few more notes, using the number keys to change duration and the arrow keys to change pitch. You will see that the crescendo is extended as each note is entered. To end the crescendo, press **C** once again and then insert the final note.

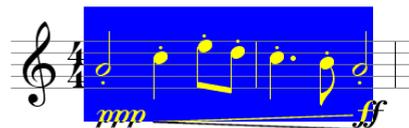
Now press **FF**. Your melody may look something like the example below. Press the Play button on the Play & Record palette to play back your music.



Place the input caret after the last note. Press the left arrow key while holding down Shift until all of the notes are selected, as in the figure below.



Press . (period) to add a staccato marking to all of the notes. Press play.



Press . once again to remove the staccato marking. Press **L** (as in sLur). This way, you have added a slur to all of the notes.

Still in Input mode, place the input caret after the last note and press the up arrow key or the down arrow key to move away from the note entered. While holding down Shift, press Enter. This way, you will add another note to the last note. Repeat this procedure to add another note to the two existing notes.



Press Play to play back your music once again. You will hear that the three notes of the chord will not start playing back simultaneously, but one at a time, which is the way a violinist would interpret this notation.

Perhaps you want to divide the crescendo into two sections, to define where you want the forte to be played? Just place the input caret after the desired note in the crescendo and then press the **F** key. You will find that the crescendo now becomes divided.



Leave Input mode by clicking a blank part of the layout. The input caret and the Music entry window disappear. If you click and drag one of the notes upward, you will find that the slur adjusts smoothly in accordance with the changes you make. If you drag the note high enough, the note would be awkward or impossible to play on a violin, and therefore it will be displayed in red.



A crescendo or a decrescendo can be performed on a single note, which you can try for yourself if you add some more music, as shown below:



This fact becomes even clearer if you tie the minims/half notes with the dotted minims/half notes. This can be done by pressing **T** in Input mode when the input caret is placed between the two chords or choosing the Tie tool from the Tool Palette and clicking on the first set of minims/half notes.

If you want to break the beam that connects the two quavers/eighth notes, place the input caret between the quavers/eighth notes and then press **/** (slash). Perhaps you also want to delete the current slur (select the slurred notes and press **L** or

click on the slur and press backspace) and create a slur that includes all of the notes. Your changes should result in the following figure:



Maybe the piece seems does not entirely complete. Therefore you are now going to create an ending, as the one below. This is done in the following manner: To enter rests, choose a note value and press Space instead of Enter. Insert the first note of the last group. Press some keys to insert a dynamic marking. Press **Alt-3** after having inserted one note to make that note the first note of a triplet. (This can also be done afterwards by selecting some notes and then pressing **Alt-3**. **Alt-5** creates a quintuplet, and so on. **Alt-1** brings up a window in which you can make several changes to tuplets.) When you have completed the triplet, Igor Engraver will close the triplet for you.

Enter the last chord, and perhaps a fermata marking, which can be accessed from the Attachments tool on the Tools Palette.



Naturally, Igor Engraver lets you work with quarter-tones. In this example, first delete the lowest of the three ties. This can be done either by Right-clicking the tie and selecting **Delete** from the contextual menu that appears or by clicking and then pressing the Backspace key. Next, select the lowest note of one of the notes (by pressing the left or right arrow key while holding down the **Alt** key,

until the notehead of your choice is selected). Now press **Alt-Shift-+**. The note gets raised a quarter-tone and a natural marking will be inserted, if appropriate.



A feature that is very useful is the contextual menu, which appears if you Right-click the page or any object on the screen. This can be used to delete or hide a note, for example. A “hidden” note, that is, a note that will not show on a print-out, will be displayed in grey on the screen, if the menu command **Show/Hide** is selected from the contextual menu or **H** is typed after an entry in Input Mode.



If you would like, you can now try Igor Engraver’s tablature feature: Right-click the staff and choose **Add tab...** Observe how Igor Engraver calculates the best way to fret the notes. (For more information about tablature, and for tablature examples, turn to the Tablature chapter on page 200.)

By now, you should be acquainted with some of the basic functions of Igor Engraver. Experiment with the palettes and the Input mode commands for a while if you like. Save your work by selecting **Save** from the File menu.

Igor Engraver has several features that simplify input even more:

- The function keys both select and enter a pitch in one operation. Pressing **F1** inputs a c in the current octave, **F2** inputs a d, etc. **F8** inputs a c in the higher octave. **F11** brings the input caret’s cursor an octave down, and **F12** brings the cursor an octave up.
- If you have a MIDI device (such as a keyboard) properly connected to Igor Engraver and you can enter notes by pressing the appropriate key(s) on the keyboard.

- If you press **O** (as in mirrOr) after having input some entries in one staff, you are able to “mirror” the rhythm to another staff by placing the input caret in the desired system and pressing the arrow keys and Enter. Pressing **O** again leaves the mirror state. This method is useful for creating homophonic pieces (such as Bach chorales) and works very well in combination with the first feature described.
- If you hold the **Ctrl** key while pressing Enter to input a note, that note will be raised a half step. Also, if you hold down the **Alt** key while pressing Enter, the new note will be lowered a half step. Thus, you do not have to change the height of the note after having input it.

Close the part layout (but not the Piece window).

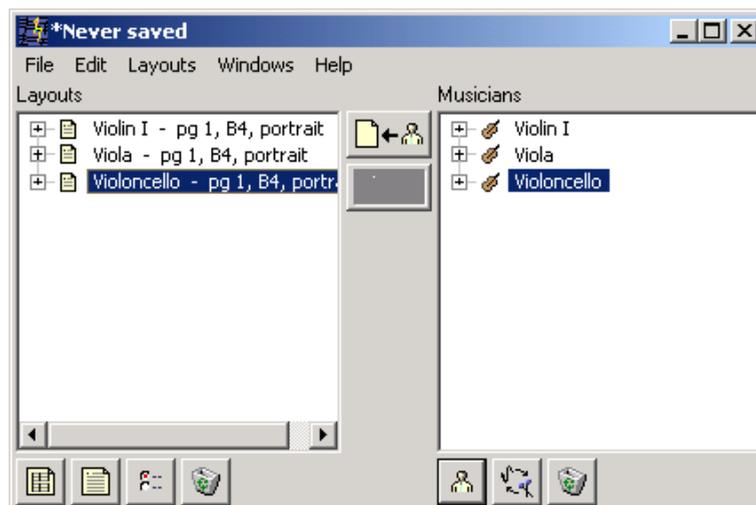
Some frequently used symbols are shown in the figure below.

Key(s):	Action:
Moving:	
1	Set duration to 1/64 (a hemidemisemiquaver)
2	Set duration to 1/32 (a demisemiquaver)
3	Set duration to 1/16 (a semiquaver)
4	Set duration to 1/8 (a quaver)
5	Set duration to 1/4 (a crotchet)
6	Set duration to 1/2 (a minim)
7	Set duration to 1/1 (a semibreve)
↑	The input caret's insertion point moves upward
↓	The input caret's insertion point moves downward
Alt ↑	The input caret moves to the staff above
Alt ↓	The input caret moves to the staff below
→	The input caret moves to the right
←	The input caret moves to the left
Ctrl →	The input caret moves to the next bar
Ctrl ←	The input caret moves to the beginning of the bar or to the previous bar
Enter	Add note
Ctrl Enter	Add raised note
Alt Enter	Add lowered note
Space	Add rest
,	Add dot to note or rest
.	Add staccato
>	Add accent

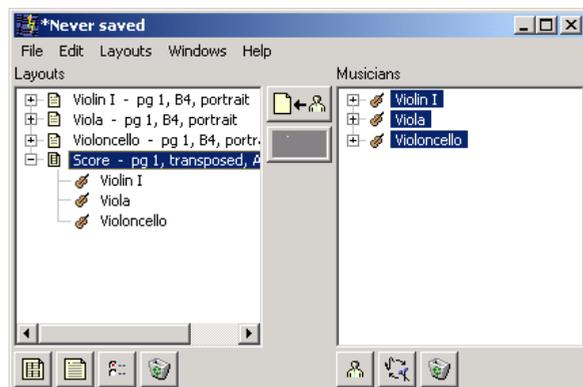
Key(s):	Action:
L	Add slur
C	Add crescendo
D	Add decrescendo (diminuendo)
S,P,M,F,Z	Add dynamic markings
G	Insert glissando
⇧Space	Enter Lyrics mode
+	Raise a note half a step
-	Lower a note half a step
Alt+	Raise a note quarter a step
Alt-	Lower a note quarter a step

2.3 Working with Musicians (Windows)

Select **New piece** from the File menu and create a violinist, a viola player and a cello player, as shown below:



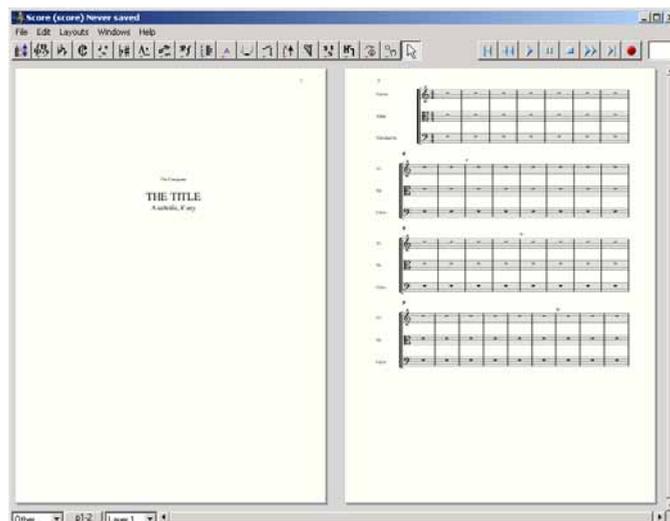
Now it is time to create a score layout for all of the musicians. This is done by selecting all of the musicians (click on one musician and then Shift-click on the others) and then clicking the Score button (the leftmost of the buttons).



Double-click the score layout row.



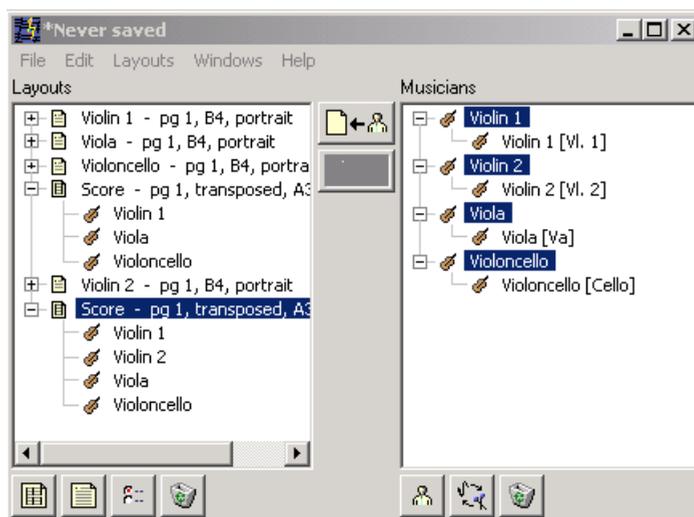
You will now enter the score layout window, which has settings that are suitable for the final score. Most notable is the title page, but there are also many more subtle differences between the part and the score layouts.



To create a string quartet, based on these musicians and an additional violinist, close this layout (but not the Piece window!) and create an additional violin

musician. Note that the violinists get numbered, and that the new violinist is added at the bottom of the list. In this case, your musicians are now out of order (the violin will appear below the viola and violoncello). Click and drag to their appropriate positions. There will be a small bar indicating where the musician will be dropped if you release the drag. This can be done on the Layout or Musicians side of the piece window.

Select all musicians and click on the Score layout button. The result should look like this:

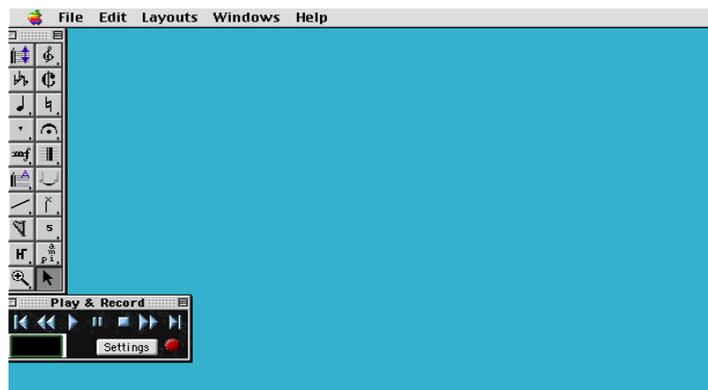


You now have two different score layouts. As you may imagine, this set-up makes it very easy to create different versions of the same piece. For example, you may want to create three versions of a choral piece: one version with piano accompaniment, one with organ accompaniment and one a cappella. If you ever consider adding a second verse to the piece, you only have to do that one time, not once per version.

Note that you are also able to switch a musician and replace it with another musician. To do this, click on the musician you wish to switch and click on the Change Instruments icon. Igor Engraver will then bring up the Instrument Window. After choosing a new instrument, click on **select**. In this way, the same music is played by the new instrument (This could become very helpful when transposing from one instrument to another. For example: from A clarinet to Bb clarinet).

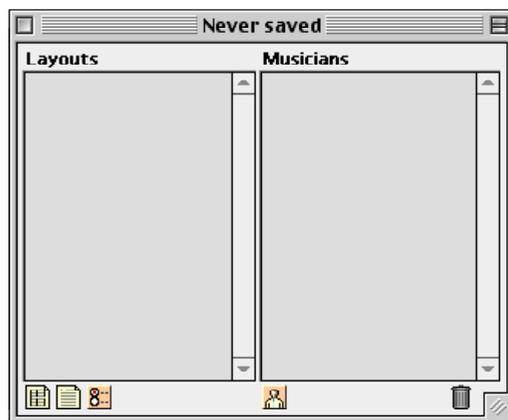
2.4 The Piece Window (Macintosh)

Double-click the Igor Engraver icon to open the program. Your screen should now look similar to this:



The Tool Palette, at the left of the screen, should give you an indication of what is possible in Igor Engraver. The most common note values, noteheads, accidentals and so forth, that you are familiar with – and perhaps even some that you do not recognise at all – are at your fingertips, ready to use, as soon as you have created a new layout. So, now it's time to do that!

From the File menu, choose **New piece**. An empty Piece window will be opened.

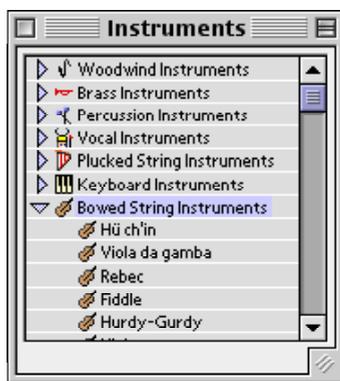


The Piece window is dedicated to two fields named Layouts and Musicians. Below the Layouts field (from left to right) you will find the Score icon, the Part

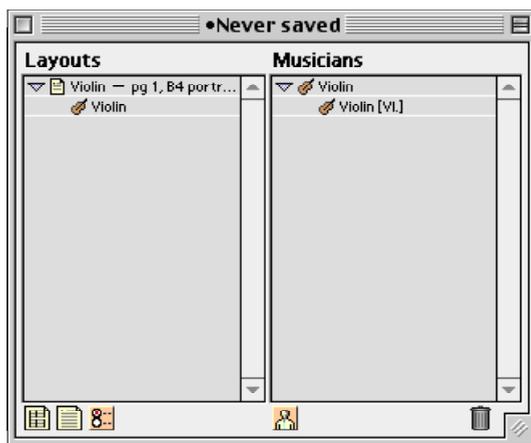
icon, and a Settings icon. Below the Musicians field is the Musician icon, and to its right you will find a Trash icon.

Since Igor Engraver is based on musicians, rather than empty staves, you are now going to create some musicians.

Open the Instrument library window from the Windows menu. By clicking on a triangle in front of an instrument group name, all the instruments in that category will be displayed (in the diagram below, the triangle in front of the "Bowed String Instruments" has already been clicked, and the bowed string instruments are shown).



Now drag one of the bowed string instruments, for example the violin, to the Musician icon. Your action should result in the following:

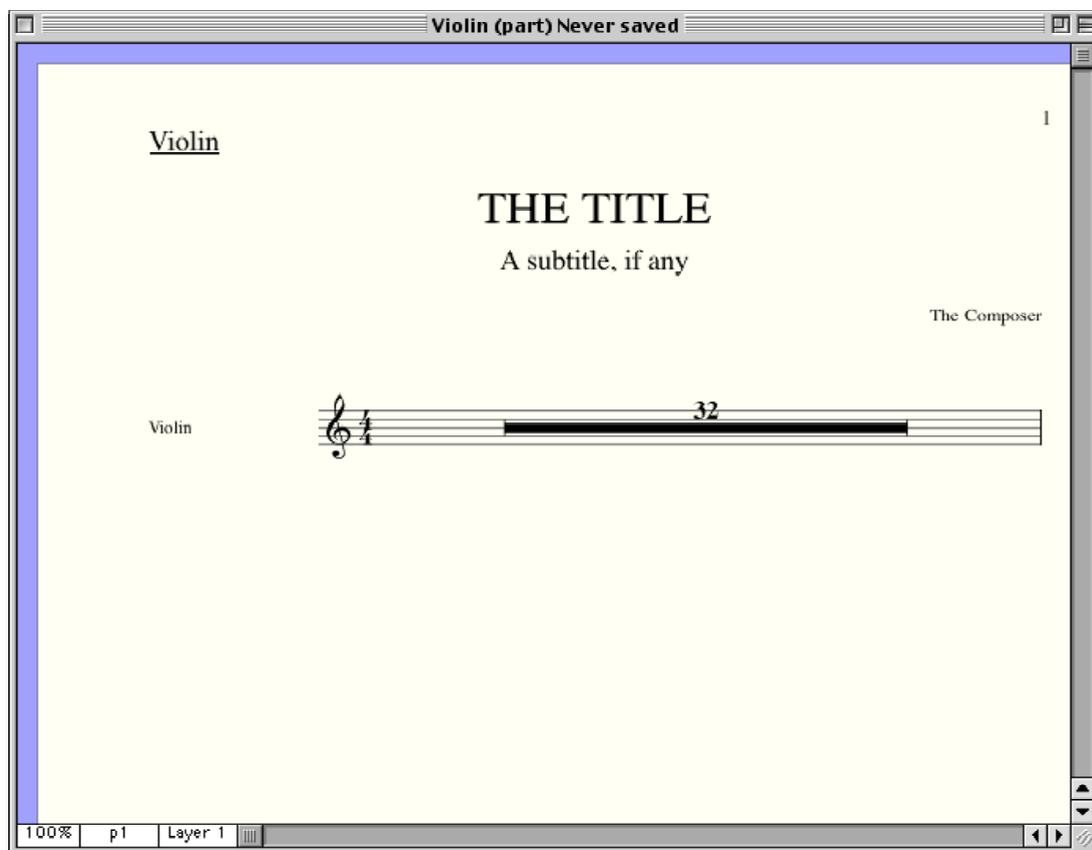


You have created a musician, who is called "Violin", who plays the violin, and who automatically gets a part created (which is shown by the Violin part icon in the Layouts field). Now double-click the Violin Part in the Layouts field (shown below) to enter the Part layout window.



2.5 The Layout Window and Input (Macintosh)

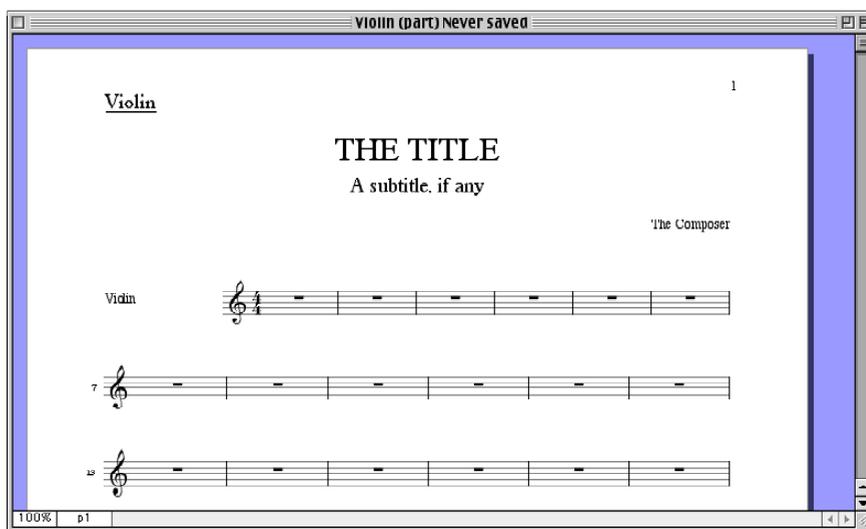
As you see, Igor Engraver has now created a part layout for your musician.



Since the parts use consolidated bars as default (or “multibar rests”), you may want to “unconsolidate” the layout. This is achieved by selecting **Unconsolidate** from the Layouts menu or pressing **⌘-u**.



This operation results in thirty-two unconsolidated bars, which cover a few pages. The top of the first page should now look like this (notice the bar numbers that have been created for you):



Find the Note Tool on the Tool Palette.



Click and choose a note duration. By clicking in the first bars you enter notes of the value you have specified. If you choose the augmentation dot from the note

palette and then click on a note, you will add an augmentation dot to that specific note.



To create a pick-up bar, simply input the notes or rests of the pick-up bar and do not place any more notes or rests in that bar.

Igor Engraver has unlimited undo. To erase everything you have entered, press **⌘-Z** until the bars are empty. Note how the spacing of the music is recalculated every time you add or delete a note.

Click on the arrow on the Tool Palette, and double-click the first bar of the staff. You will see a blinking input caret, and a Music entry window will open. You are now in Input mode. This means you can use the computer keyboard to enter notes, rests, dynamics, articulations, etc. In the Music entry window, you will see the settings that apply up to the point where the input caret is placed: dynamic marking, key, metre, layer, and so on. This gives you valuable information, especially if the input caret is placed in a complex passage. To enter a minim/half note, press the **6** key and then Enter (not Return).

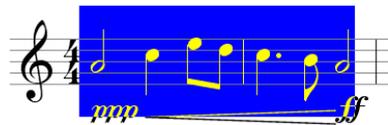


Now press the **P** key a few times. As you see, you add a dynamic marking, such as a piano or pianissimo, to the score. The same dynamic is displayed in the Music entry window. Press the **C** key. A crescendo hairpin is inserted. Enter a few more notes, using the number keys to change duration and the arrow keys to change pitch. You will see that the crescendo is extended as each note is entered. To end the crescendo, press **C** once again and then insert the final note.

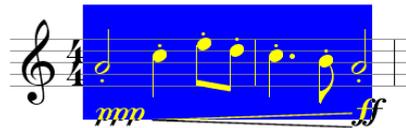
Now press **FF**. Your melody may look something like the example below. Press the Play button on the Play & Record palette to play back your music.



Place the input caret after the last note. Press the left arrow key while holding down Shift until all of the notes are selected, as in the figure below.



Press . (period) to add a staccato marking to all of the notes. Press play.



Press . once again to remove the staccato marking. Press **L** (as in sLur). This way, you have added a slur to all of the notes.

Still in Input mode, place the input caret after the last note and press the up arrow key or the down arrow key to move away from the note entered. While holding down Shift, press Enter. This way, you will add another note to the last note. Repeat this procedure to add another note to the two existing notes.



Press Play to play back your music once again. You will hear that the three notes of the chord will not start playing back simultaneously, but one at a time, which is the way a violinist would interpret this notation.

Perhaps you want to divide the crescendo into two sections, to define where you want the forte to be played? Just place the input caret after the desired note in the crescendo and then press the **F** key. You will find that the crescendo now becomes divided.



Leave Input mode by clicking a blank part of the layout. The input caret and the Music entry window disappear. If you click and drag one of the notes upward, you will find that the slur adjusts smoothly in accordance with the changes you make. If you drag the note high enough, the note would be awkward or impossible to play on a violin, and therefore it will be displayed in red.



A crescendo or a decrescendo can be performed on a single note, which you can try for yourself if you add some more music, as shown below:



This fact becomes even clearer if you tie the minims/half notes with the dotted minims/half notes. This can be done by pressing **T** in Input mode when the input caret is placed between the two chords or choosing the Tie tool from the Tool Palette and clicking on the first set of minims/half notes.

If you want to break the beam that connects the two quavers/eighth notes, place the input caret between the quavers/eighth notes and then press **/** (slash). Perhaps you also want to delete the current slur (select the slurred notes and press **L** or

click on the slur and press delete) and create a slur that includes all of the notes. Your changes should result in the following figure:



Maybe the piece seems does not entirely complete. Therefore you are now going to create an ending, as the one below. This is done in the following manner:

To enter rests, choose a note value and press Space instead of Enter. Insert the first note of the last group. Press some keys to insert a dynamic marking. Press \surd -(Option)-3 after having inserted one note to make that note the first note of a triplet. (This can also be done afterwards by selecting some notes and then pressing \surd -3. \surd -5 creates a quintuplet, and so on. \surd -1 brings up a window in which you can make several changes to tuplets.) When you have completed the triplet, Igor Engraver will close the triplet for you.

Enter the last chord, and perhaps a fermata marking, which can be accessed from the Attachments tool on the Tools Palette.



Naturally, Igor Engraver lets you work with quarter-tones. In this example, first delete the lowest of the three ties. This can be done either by Control-clicking the tie and selecting **Delete** from the contextual menu that appears or by clicking and then pressing the Delete key. Next, select the lowest note of one of the notes (by pressing the left or right arrow key while holding down the option (\surd) key,

until the notehead of your choice is selected). Now press **⌘+.** The note gets raised a quarter-tone and a natural marking will be inserted, if appropriate.



A feature that is very useful is the contextual menu, which appears if you Control-click the page or any object on the screen (this is done by Right-clicking in the Windows version). This can be used to delete or hide a note, for example. A "hidden" note, that is, a note that will not show on a printout, will be displayed in grey on the screen, if the menu command **Show/Hide** is selected from the contextual menu or **H** is typed after an entry in Input Mode.



If you would like, you can now try Igor Engraver's tablature feature: Control-click the staff and choose **Add tab...** Observe how Igor Engraver calculates the best way to fret the notes. (For more information about tablature, and for tablature examples, turn to the Tablature chapter on page 200.)

By now, you should be acquainted with some of the basic functions of Igor Engraver. Experiment with the palettes and the Input mode commands for a while if you like. Save your work by selecting **Save** from the File menu.

Igor Engraver has several features that simplify input even more:

- The function keys both select and enter a pitch in one operation. Pressing **F1** inputs a c in the current octave, **F2** inputs a d, etc. **F8** inputs a c in the higher octave. **F9** brings the input caret's cursor an octave down, and **F10** brings the cursor an octave up.

- If you have a MIDI device (such as a keyboard) properly connected to Igor Engraver and press the appropriate key(s) on the keyboard, you can enter these notes simply by pressing Enter.
- If you press **O** (as in mirrOr) after having input some entries in one staff, you are able to “mirror” the rhythm to another staff by placing the input caret in the desired system and pressing the arrow keys and Enter. Pressing **O** again leaves the mirror state. This method is useful for creating homophonic pieces (such as Bach chorales) and works very well in combination with the first feature described.
- If you hold down the Command (**⌘**) key while pressing Enter to input a note, that note will be raised a half step. Also, if you hold down the Option (**⌥**) key while pressing Enter, the new note will be lowered a half step. Thus, you do not have to change the height of the note after having input it.

Close the part layout (but not the Piece window).

Some frequently used symbols are shown in the figure below.

Key(s):	Action:
Moving:	
1	Set duration to 1/64 (a hemidemisiquaver)
2	Set duration to 1/32 (a demisiquaver)
3	Set duration to 1/16 (a semiquaver)
4	Set duration to 1/8 (a quaver)
5	Set duration to 1/4 (a crotchet)
6	Set duration to 1/2 (a minim)
7	Set duration to 1/1 (a semibreve)
↑	The input caret's insertion point moves upward
↓	The input caret's insertion point moves downward
↖↑	The input caret moves to the staff above
↖↓	The input caret moves to the staff below
→	The input caret moves to the right
←	The input caret moves to the left
⌘→	The input caret moves to the next bar
⌘←	The input caret moves to the beginning of the bar or to the previous bar
Enter (not Return)	Add note
⌘Enter	Add raised note
⌥Enter	Add lowered note

Key(s):	Action:
Space	Add rest
,	Add dot to note or rest
.	Add staccato
>	Add accent
L	Add slur
C	Add crescendo
D	Add decrescendo (diminuendo)
S,P,M,F,Z	Add dynamic markings
G	Insert glissando
⇧Space	Enter Lyrics mode
+	Raise a note half a step
-	Lower a note half a step
⌘+	Raise a note quarter a step
⌘-	Lower a note quarter a step

2.6 Working with Musicians (Macintosh)

Select **New piece** from the File menu and create a violinist, a viola player and a cello player, as shown below:



Now it is time to create a score layout for all of the musicians. This is done by selecting all of the musicians (click on the word Musicians) and then dragging

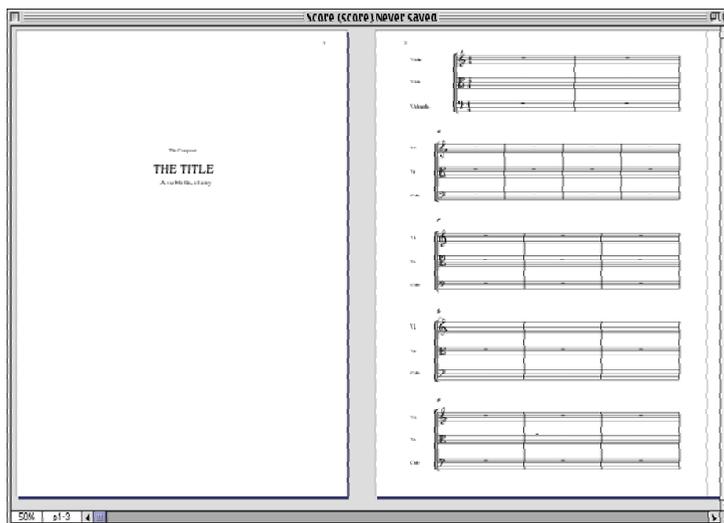
them to the score icon (the leftmost of the icons). By Shift-clicking the musicians, you could also select them one by one.



Double-click the score layout row.



You will now enter the score layout window, which has settings that are suitable for the final score. Most notable is the title page, but there are also many more subtle differences between the part and the score layouts.



To create a string quartet, based on these musicians and the first violinist you created, close this layout (but not the Piece window!) and drag the musician of

the first piece to the Musicians column of the new piece. Note that the violinists get numbered.

Select all musicians and drag them to the Score layout icon. The result should look like this:



Double-click the new score layout icon and note that you now have two different score layouts. As you may imagine, this set-up makes it very easy to create different versions of the same piece. For example, you may want to create three versions of a choral piece: one version with piano accompaniment, one with organ accompaniment and one a cappella. If you ever consider adding a second verse to the piece, you only have to do that one time, not once per version.

The new layout will not include the music of the first piece. The reason for this is that you often may want to use existing musician set-ups as templates, but in most cases, you are probably not interested in moving the music between different pieces (and you are always able to use copy and paste functions in the layouts to achieve this).

Note that you are also able to delete the instrument of a musician and replace it with another instrument. To do this, one must first delete that musician from all score and part layouts. After this is done, one can change the instrument and then replace the musician in the layouts from which they were removed. That way, the same music is played by the new instrument (This could become very helpful when transposing from one instrument to another. For example: from A clarinet to Bb clarinet).

CHAPTER 3

Purcell

In this tutorial, you will learn how to copy and enter a real piece, namely *Thou Knowest, Lord, the Secrets* by the British composer Henry Purcell (1659-1695). The piece is found in the Examples folder in the Igor Engraver folder. It will take you about one hour and a half to work through the tutorial. Below are several good reasons to do it anyway:

- You will have a look at the Piece settings window
- You will speed up music entry
- You will be comfortable using the function keys
- You will learn how to add more bars
- You will get acquainted with the mirroring concept
- You will learn how to add and edit lyrics
- You will learn how to add barlines
- You will learn how to work with manual system breaks
- You will learn how to space the staves
- Finally, you will learn how to set the page margins to get good looking results.

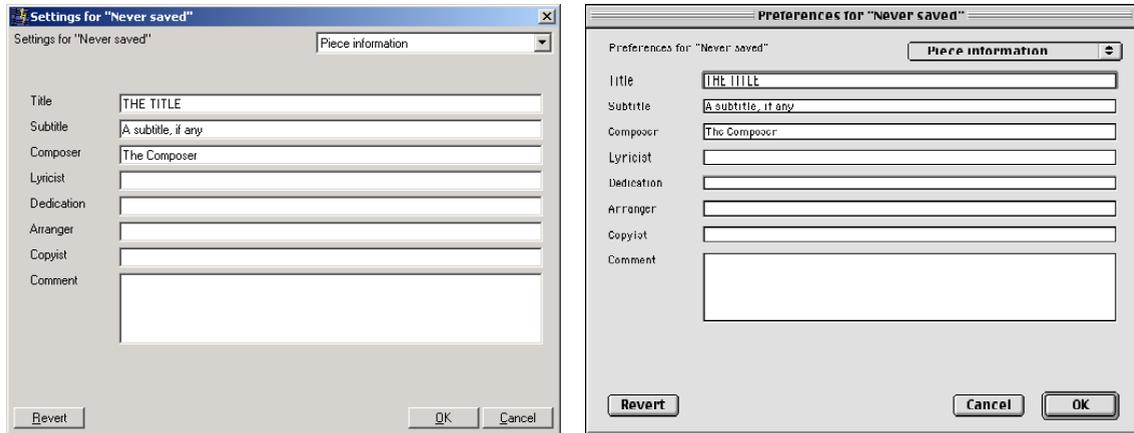
And remember: the more you use the manual now, the more time you will spare in the long run. (This tutorial assumes you have worked through chapter 2.)

Open and print the *Thou Knowest, Lord* example, which is found in the Examples folder (this is the piece you are going to copy). After printing, close and do not save.

3.1 The Creation

First, create a new piece. Open the Piece settings window by choosing the **Settings for 'Never saved'** command from the Edit menu (note that the new piece's window must be active in order to open the Piece settings window).

In the **Piece information** pane (the one that is displayed below) textual information such as the name of the composer can be found. (In case the pop-up menu in the top right corner of the window does not read "Piece Information", press the pop-up menu, scroll and choose "Piece Information" from the menu that appears.)



In the **Title** text box, write "THOU KNOWEST, LORD, THE SECRETS". In the **Subtitle** textbox, write "Second Setting (The Book of Common Prayer)". In the **Composer** textbox, write "Henry Purcell (1659-1695)". In the Copyist textbox, write your own name. If you need an additional line of text, press **⌘-Return** for **Macintosh** and enter your text.

From that pop-up menu, scroll down and select MIDI Output. The **MIDI Output** pane appears.





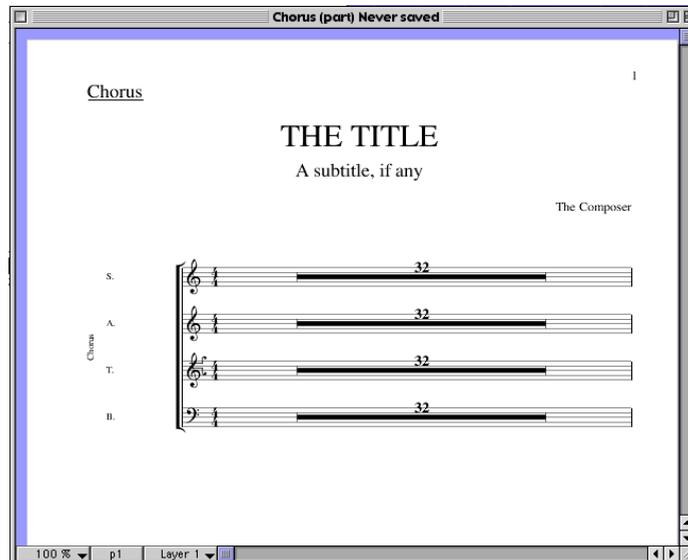
In the **Default tempo** text box, change the default tempo from 72 bpm (beats per minute) to 144. Press **OK** to leave the Piece settings window.

Choose **Save** from the File menu and save your work. For “safety” reasons, remember to save your work once in a while.

3.2 Starting Your Own Choir

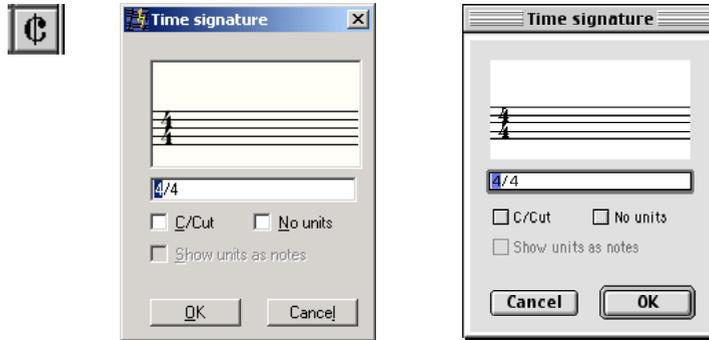
Macintosh: Open the Instrument Library window and create a Chorus SATB {4} by dragging to the Musician icon. Double-click the Chorus part layout to open.

Windows: Click on the New Musician icon and choose a Chorus SATB {4}. Double-click the Chorus part layout to open.

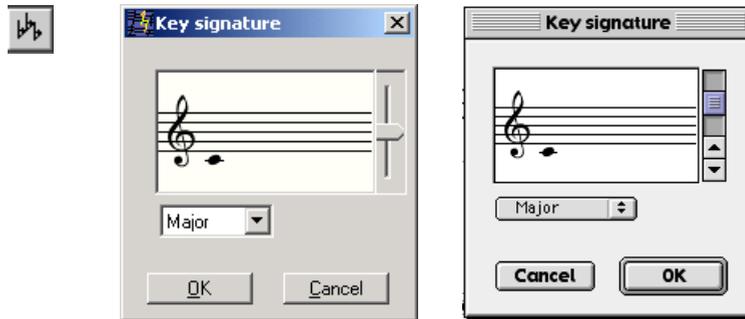


From the Layouts menu choose **Unconsolidate**. Change the time signature of the piece by choosing the Metre tool (shown below) from the Tools palette and click-

ing to the left of the rest in one of the staves of the first system. The Time signature window appears:



In this window, change the text to 2/2, and watch as the time signature pictured above the textbox gets updated. Press **OK**. The time signature of the piece will now be changed to 2/2. Change the piece's key by choosing the Key change tool (shown below) from the Tools palette. Once again, click to the left of the rest in the first bar of the piece. The Key signature window appears:



Use the scrollbar to the right in the window to change the key to B flat major (two flats). Press **OK**.

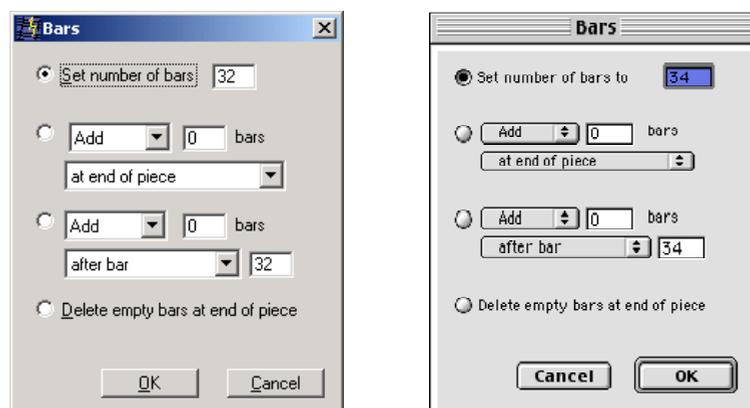
The first few bars of the layout should now look like this:

The image shows a musical score for a chorus in 3/2 time. It consists of four staves labeled S. (Soprano), A. (Alto), T. (Tenor), and B. (Bass). The score is currently empty, with only rests in the first few bars.

Now, enter the music of the soprano voice. Try to use the function keys as much as possible, since they provide a very quick way to enter music. (In case you have a MIDI keyboard properly installed, you can hold down the correct note instead of using the arrow keys or the function keys to alter the pitch. Some people find this method faster; some do not.) Be patient – this is going to take a while... Remember to differentiate between ties and slurs.

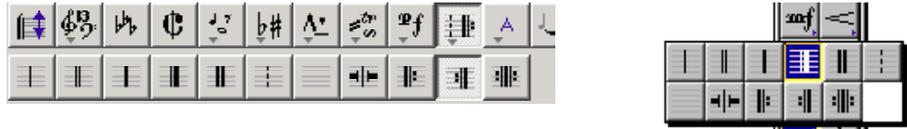
Since Igor Engraver automatically begins with thirty-two bars, you will eventually run out of bars. Therefore, Igor Engraver automatically creates more bars for you when you input the music.

You can also add more bars by choosing the **Add/Delete bars...** command from the Edit menu.



Select **Add** and **at end of piece** and the number of bars you need; then press **OK**.

To create the ending barline of the piece's last bar, choose the Ending barline tool from the Barline pop-up palette of the Tools palette and click the last barline (This can also be achieved in input mode by pressing **I** until the proper barline appears).



As you will see, the whole system will now get ending barlines.

3.3 Adding Music To the Other Staves

Igor Engraver has a “mirror” function, which enables you to copy the rhythm of one staff and use this same rhythm in another staff. Thus, when you input the music of a new staff and the rhythm is identical to the first staff, you do not have to use the number keys to set the note value.

This is how it works:

- First, place the input caret somewhere in a soprano staff and press **O** (as in “MirrOr”). The Music entry window will now display the word “Mirror”.
- Now, click on the alto staff and start entering the notes without indicating the duration of the notes. As long as the two voices share the same rhythm, you never have to determine the note values manually.
- When the two voices do not share the same rhythm, you can stop using the mirroring function by pressing **O** and work as usual.
- When you find it useful to work in mirroring mode again, go back to the soprano voice and press **O** once more to repeat the process.
- When you have completed the alto voice you may want to use the alto instead of the soprano for mirroring when entering the other voices. Press **O** somewhere in a staff belonging to the alto and start over.

Hopefully you have found that this process is very quick. When all of the music has been input, it is time to add lyrics to the piece. (But first – save your work!)

3.4 Adding Lyrics

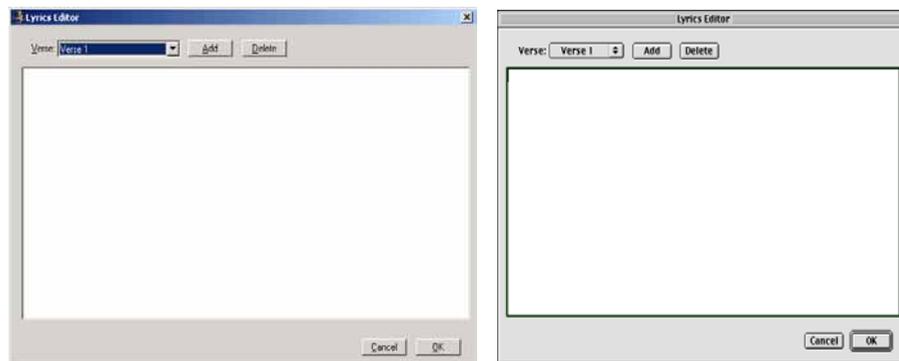
Place the input caret after the first note of the first bar of one of the voices. Press **Shift-Space**. You will now get a textbox beneath that note, and in that textbox, write “Thou”, the first word of the piece. Press Space, and watch the textbox move to the next note. This time, write “know” and press Hyphen (-). The textbox moves to the next note. Write “est” to complete the word “knowest”, a comma, and then Space once again to move to the next note.

When you need to add a melisma, such as “se - - - crets” in the tenor voice, simply press Hyphen a second time and then complete the word (that is: se <HYPHEN> <HYPHEN> crets).

To create an extension line, such as the line in “Shut__”, press Underscore (**Shift-Hyphen**) after the last letter of the word, continue to press until the length you desire has been achieved.

When you have inserted all of the lyrics of the voice (and saved the piece again), it is time to copy the lyrics into the other voices. A simple way to accomplish this is to use the Lyrics Editor. Right-click for **Windows** or Control-click for **Macintosh** the voice you have added lyrics to and select **Edit lyrics...** from the contextual menu.

The Lyrics Editor appears. In this editor you can both insert lyrics from the beginning or edit lyrics already entered, as you are going to do in this case.



Select all of the lyrics in the editor. Then press **⌘-C** for **Macintosh** or **Ctrl-C** for **Windows** to copy the text. Next Control-click or Right-click another voice's staff and bring up the Lyrics Editor for that voice. That Lyrics Editor will be empty since there are no lyrics attached to the voice. Press **⌘-V** or **Ctrl-V** to add the text in the new editor. Press **OK** to leave the editor and to add the lyrics to the chosen voice.

As you will see, not everything becomes perfect, since the piece is not entirely homophonic. You can shift the lyrics that are placed wrongly to the right or left in several ways. The easiest way is to choose **Left** or **Right** from the Shift lyrics contextual submenu which is accessed by clicking on a syllable and then Control-clicking. This moves all of the lyrics that have been selected to the left or right, starting at the first clicked syllable. It is further possible to make changes directly into the entered text and to use the Lyrics Editor to make changes, such as accommodating for new melismas or extension lines. Also note that the final syllables of a verse may not show in another verse. They have been clipped when closing the Lyrics Editor since they did not fit – there were obviously too few entries in that verse to fit all of the syllables.

After a short while, you should be able to add lyrics to all of the voices, and all of the musical information will now be inserted into the layout. Hence – it is time to save your work.

You may experience that some of the syllables entered are too close to other syllables. If that is the case, simply click and use the arrow keys or drag the syllables a little to the right or left.

You will also need to hide the verse numbers since there is no second verse in the piece. This is done by Control-clicking for **Macintosh** or Right-clicking for **Windows** the verse number of each staff and choosing **Hide verse** from the contextual menu. (You could also select “None” in the Lyrics pane of the Piece settings under Verse numbers.)

Close the layout (but not the Piece window) and create a score layout.

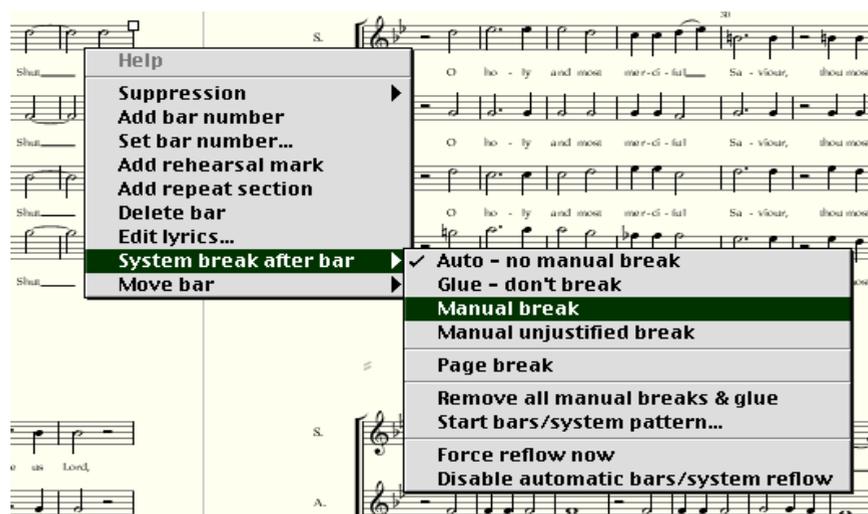
Macintosh: click on the musician in the Musicians field and drag to the leftmost icon to the bottom of the Piece window.

Windows: click on the musician and then click on the leftmost button at the bottom of the Piece window.

A score layout is formatted differently than the part layout, and since you are now going to make graphical changes, it is time to work in a score layout (you can work in score or part layouts all the time, if you prefer).

3.5 Cosmetics

Igor Engraver spaces the music as naturally as possible, but there are times when you may want to move bars between the systems. This can be done by Control-clicking for **Macintosh** or Right-clicking for **Windows** an empty space in a bar, and choosing either the System break after bar (shown below) or the Move bar submenu. By setting a **Manual break**, this bar will become the last bar of its system.

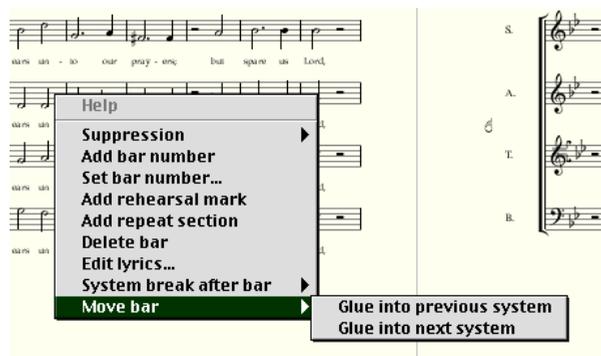


In the piece you are working on, this can be used to move the second “Shut” to the second system, to get a more professional look. When inserted, the symbol shown below will appear on the top of the staff of the layout. They can be hidden by using the **Show/Hide system breaks** command, which is found in the Layouts menu under invisibles.



At the end of the piece, you may want to “glue” the final bars together, so that they appear in the same system (as is the case in the example). The **Glue** command is also found in the System break after bar submenu.

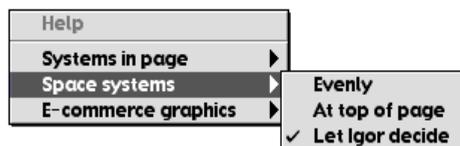
As stated above, you can also choose to move bars to the previous or next system using the contextual menu. This may be useful when you think the music gets too crowded.



When such a command is given, the system to which the bar is moved gets many system break symbols (the arch-like ones are the glue symbols).



When the music is spaced as in the original score, it is time to space the systems of the final page evenly. Access the Contextual menu on a blank part of the page, somewhere outside a of system, and choose **Evenly** from the Space systems submenu.



By now, your piece should look professional indeed. Good work! If you want to you can choose another lyrics font in one of the Piece settings window’s Text fonts panes. Then create a new layout and see that the lyrics font has been

changed. (Due to copyright issues, NoteHeads cannot distribute third-party fonts.) To suit your printer better, you can change the paper size and margins settings from the Layout settings which is found under the Layout menu.

CHAPTER 4

“*impressivo*”

Now that you are familiar with the basics of Igor Engraver, we would like to show you some of the more advanced features of the program. Many of these features are based on NoteHeads’ in-house developed playback technology, which lets you hear the music played back with an amazing degree of realism.

Keep in mind that the level of realism ultimately depends on how good the equipment is that you use – the resulting sound of the built-in synthesiser of a PowerBook will differ greatly from the sound of a high quality synthesiser or sample player such as the Roland JV-1080 or the E-MU Virtuoso 2000.

4.1 Pizzicato and Arco

Open *Pizzicato* from the Tutorial Examples folder. The layout should look like this:



Play the music. You are now going to add a pizzicato marking to the chord. Enter Input mode by double-clicking to the right of the chord. Press colon (**Shift-**

); A text box appears above the notes, and in that box, write “*pizz*”, “*pizz.*” or “*pizzicato*”:

Click on the staff or press return to leave the text box. Play the music. You will find that you are able to hear the pizzicato playing back. Now, using the same method, write “*arco*” above the minim/half note. The result should look similar to this:

Play back the music. As you would expect, the last note is played arco. Close the example.

4.2 Arpeggios

In this example, you will learn how Igor Engraver differentiates between different kinds of arpeggios (rolled chords). Below is a score layout containing two instruments, one harp and one piano. (To the right you can see a blue arrow,

which is a symbol indicating that the user has manually set a system break after the fifth bar.)

Play the music. You will find that the last chord of the piano part will be rolled, as will all of the harp chords. Maybe you already know that a harpist rolls all chords, but why is the pianist's last chord? The answer is: Igor Engraver knows the width of a pianist's hand, and realises that the last chord cannot be played in a normal fashion, and therefore has to be rolled! Actually you can override this behaviour by writing "*non arpeggiato*" or "*non-arp*" above the rolled chord. If you would want subsequent chords to be rolled as usual, simply write *ord* above the next chord.

If you play the example once again, you may notice that the first three chords that the pianist plays are not perfectly synchronised (as they would be in other notation programs). This is because a musician never plays completely synchronised. Igor Engraver "humanises" the playback, and that is part of the reason why the realism and the musicality of Igor Engraver's output become so good.

4.3 Glissandos

Glissandos are extremely easy to create, and they will play back accurately. You can even change how a glissando should be played back (from the MIDI Output pane of the Template/Piece settings window, which is found in the Edit menu): linear, quadratic or exponential. A glissando on a violin is of course not the same thing as a glissando played on the piano: where the violinist creates a smooth glissando, the pianist must play a lot of different keys. Igor Engraver can further differentiate between a white-key glissando and a black key glissando. Igor

Engraver recognises all of these instrument-specific characteristics, as you will find if you listen to the example named *Glissandos*.

Igor Engraver automatically prints glissando text along with the marking (this option can be deselected). If you drag a note up or down, you can see how the text changes, depending on the space available. To insert a glissando in a score, enter Input mode, find two notes you would like to add a glissando to and place the input caret between them. Now press the **G** key, and a glissando appears in the score.

4.4 Trills That Give Thrills

Open the *Flute trills* example. If you play the music, you will notice that the trills are played back. Playback of trills can be done in some other notation programs, but no other program plays back trills totally accurately: In measure 1, the first trill on the note a will be played back as a trill between A and B, while the other trill on a will be played back as a trill between A and B flat.

Listen carefully when you play back the music a second time, and you will find that the trills are not of the exactly same speed: The first flautist's solo trills sound a tiny bit different from each other. The difference in the playback of trills is perhaps more apparent when you hear both flautists playing trills at the same time. The difference, almost unnoticeable the first time the passage is listened to, adds a great deal of realism to the music.

Trills are played back differently on different instruments, a fact that is shown in the *Percussion* example.

The kettledrums/timpani (“tymbales” in French) use only one pitch for making a trill, whereas the xylophone uses two different pitches when interpreting the trill symbol. The speed of a trill is also instrument specific: for example, a tuba player plays a trill slower than a flautist. The speed of the trills has nothing to do with the playback tempo. To hear for yourself, double-click the text “Très modéré” and change it to “Vivace” or “Lento”. (All of the supported tempo markings are listed in the Appendix B.)

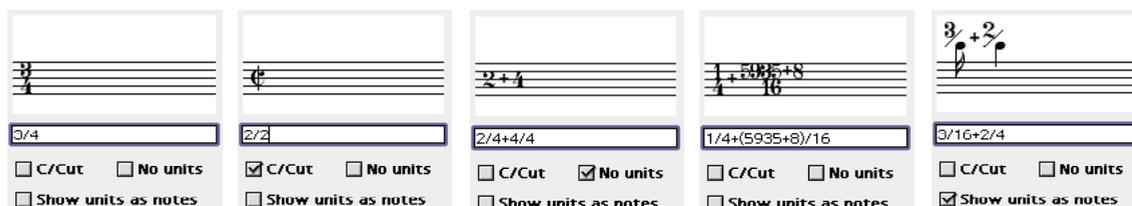
Also note that the special staff of the military drum is created automatically when you choose military drum from the Instrument library.

4.5 Advanced Piece Settings

In Igor Engraver, you are always in full control of layout and recording and playback features. For example, if you want to resize the thickness of the stems of a

piece, this can be done with ease. If you want to change the language of the instrument names and the musicians, this can easily be done too (the English, Italian, German, French, Swedish and Finnish languages are currently supported). These changes are made in the **Settings for this piece...** or **Settings for new piece...** windows (which are opened from the Edit menu).

Space does not permit us to discuss all of the features of the settings windows here, but as an example, some of the possible metre settings (available from the Key & metre pane of the Piece settings window) that would affect all the layouts of a piece are shown below (these specific changes must be made before creating a new layout).



Igor Engraver supports a concept called “House looks”. This concept allows the current settings to form a template, so that these settings can be applied to other pieces automatically. This way you will get a consistent look throughout all of the pieces you create or receive from other people – a great feature for producing a songbook, for example.

4.6 Moving On

To learn more about inputting music, adding lyrics, chord analysis or guitar diagrams, tablature, playback features, changing settings and so on, please read the next chapters carefully.

CHAPTER 5

The Piece Window and the Instrument Library Window

In Igor Engraver, you combine “musicians” and their “instruments” into different “layouts” (sheets of music). The musicians can be combined to form an unlimited number of different layouts. For example, you may keep the orchestra-choir version and the piano-choir version of Carl Orff’s *Carmina Burana* in the same piece. If you make changes in one of the layouts, all of the other layouts will be updated automatically.

A “musician” or an “instrument” does not necessarily have to correspond to only one physical person or one physical instrument. For example, there is an instrument called “Violas”, which will be played by the musician “Violas”.

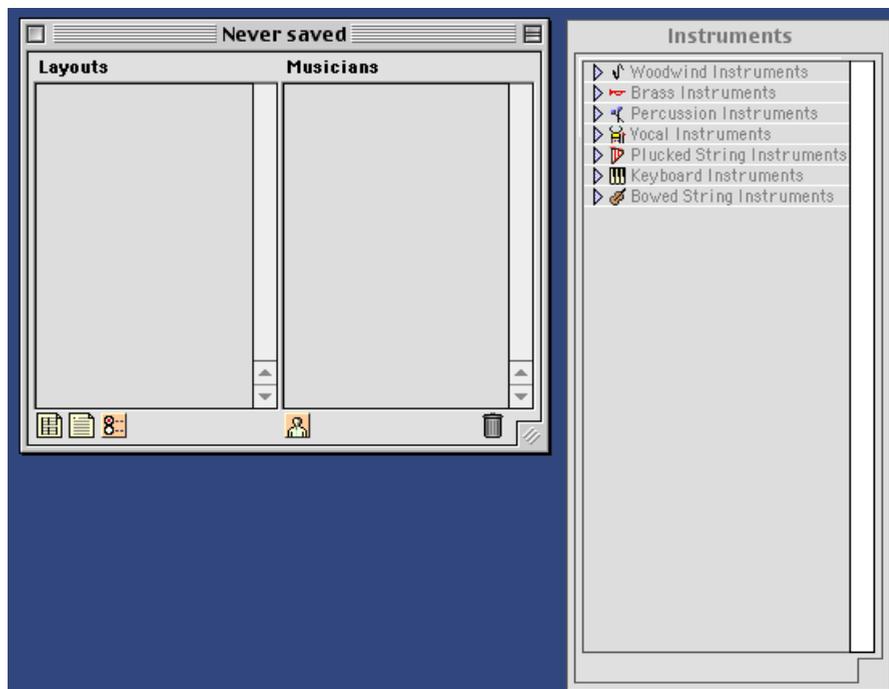
This chapter will teach you how to work effectively with the Piece window – the “control window” of Igor Engraver.

5.1 Creation of a New Piece

To create a new piece, choose the **New piece...** from the File menu.

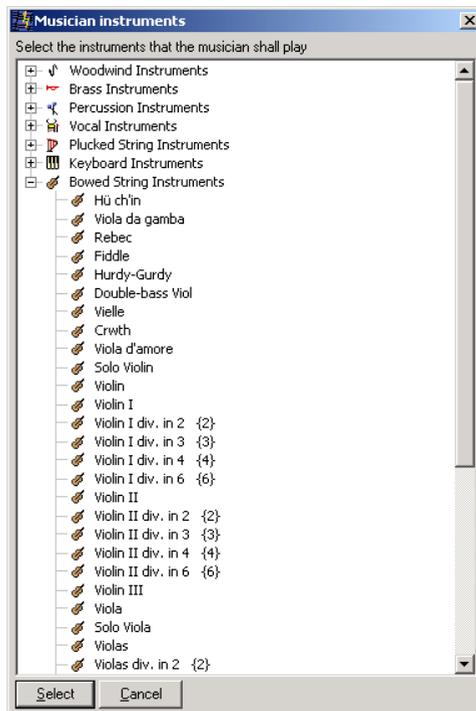
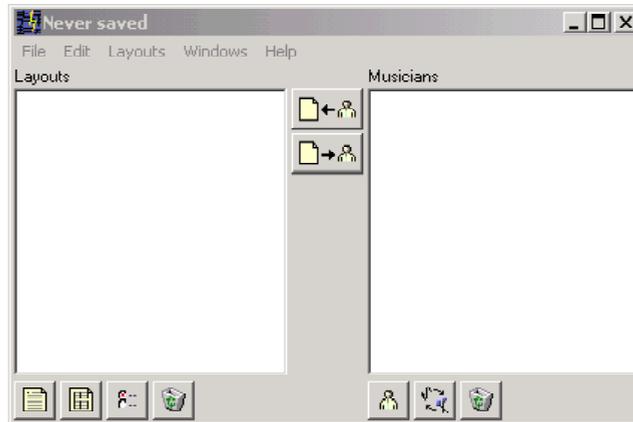
Macintosh: Next, to get some musicians to work with, open the Instrument library by choosing **Instrument library...** from the Windows menu. The diagram below displays these two windows. In the bottom of the Piece window there are several icons. To use these, objects found in the Instrument Library window and

in the Piece window are to be dragged on top of them. For instance, an object that is dragged to the garbage bin icon is deleted.



Windows: Next, to get some musicians to work with, click on the New Musician button (leftmost button on the Musician side of the Piece window). An

additional window will appear displaying the instruments that one can choose from.



5.1.1 Adding a Musician

By clicking on a triangle or + of one of the instrument categories in the Instrument library window, all the instruments of that category will appear. You may think of the instruments in the Instrument library window as all the different kinds of instruments available in the world (there are about 300 instruments – or configurations of instruments, such as Violin II – in the database). The instruments that belong to musicians, on the other hand, are personal and their settings can be modified if you wish.

Macintosh: The desired instrument can be clicked-dragged and then dropped on the musician icon in the Piece window.

Windows: The desired instrument can be clicked and then **Select** should be chosen at the bottom of the Instrument Library window.

Note that the lower right corners of the Instrument library window and the Piece window are able to be dragged in all directions so that more information may be viewed.

When an instrument has been chosen, the musician and the instrument that the musician plays become displayed in the Piece window's right column. At the same time, a part layout icon is shown in the left column. (A *part* is the sheet of music that is given to the individual musicians or groups of musicians of an orchestra, as opposed to a *score*, which is the sheet of music showing all of the music being played.) Observe that the musician and the layout get their names from the chosen Instrument library instrument if they have not been changed in another way (see the Settings and House looks chapter for further information).



As long as there are unsaved changes to the piece, there is a dot indicating this in front of the title in the Piece window's title bar. Remember to save your work every now and then using the **Save...** and **Save As...** commands, which are found in the File menu.

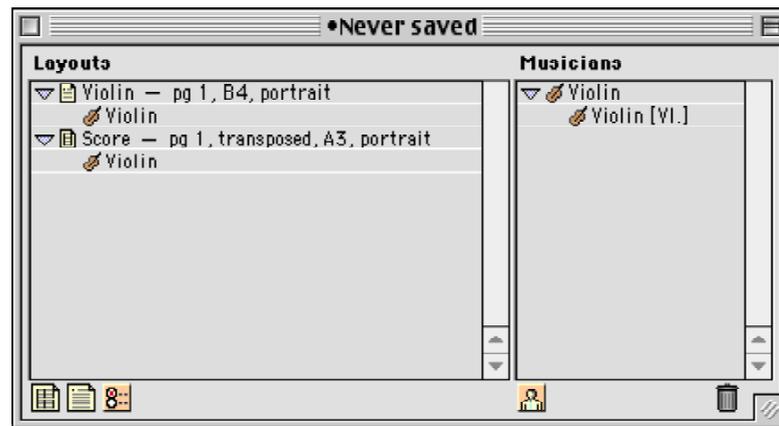
5.1.2 Creating More Layouts

Macintosh: To create a new layout, simply drag the musician (not its instrument) to the Score layout icon (far left in the bottom row of the Piece window) or the Part layout icon (to the right of the Score layout icon).

Windows: To create a new layout, click on the musician (not its instrument) and then click on either the Score or Part layout icon.

When the new layout has been created, an icon is displayed in the Layouts column. To the right of that icon is the name of the layout (per default this is the name of the musician), along with more information about the specific layout.

In the diagram below, a score layout has been added to the Violin's existing part layout. Note that the line separating the two columns is able to be dragged, and in this case it has been moved to the right in order to display all of the information of the left column. As can be seen, the window itself has been enlarged by dragging the lower right corner to the right.



The violin now has two layouts, one part layout, used by the violin player of an orchestra, and one score layout, which normally would be used for orchestral scores or possibly when working with other types of music. Below the layout rows containing the layout icons, the included musicians are listed. Clicking on the triangle or + before the layout icons hides the included musician rows.

Note that the paper size settings should be changed accordingly if you will be using an A4 or Letter printer, to achieve best graphical results. The format can

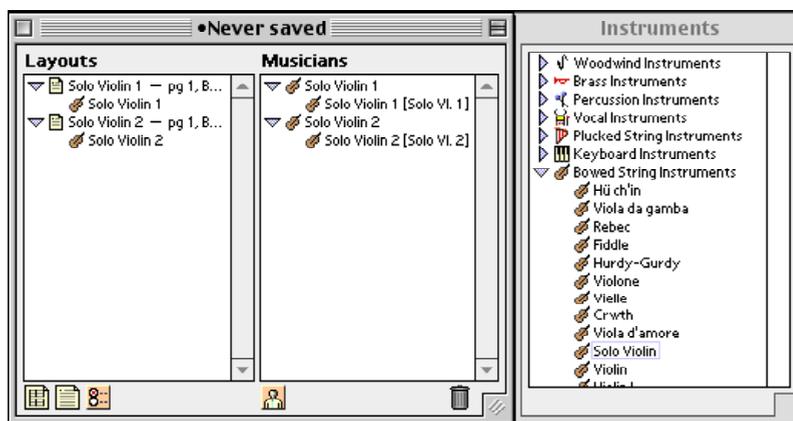
be changed for one layout using the Layout settings (more about this later in this chapter and in the Settings and House looks chapter) or globally using the Settings for new pieces (see the Settings and House looks chapter regarding this matter as well).

5.1.3 Working With More Musicians

Macintosh: You may add another musician by dragging a new instrument to the musician icon.

Windows: You may add another musician by clicking the New Musician icon, choosing an instrument and pressing select.

This way, a new layout will also appear. (**Macintosh:** It is also possible to add a musician by clicking the musician icon. If this is done, you will get an unnamed musician, to which you can drag an instrument.) If the added musician plays *the same kind of instrument* (not *the same instrument* though, of course) as an existing musician does, both of them will automatically acquire the correct numbers, as shown below.



The order of musicians, their instruments, and layouts can easily be changed by dragging. The order of the musicians and the Instruments window can also be changed by selecting **Sort in alphabetical order** or **Sort in orchestral order** from the Edit menu's submenu Sort.

Shift-clicking selects several objects at once.

Macintosh only: It is possible to copy musicians, instruments and layouts by selecting and dragging the desired item(s) to the preferred destination while pressing the Option (\mathcal{N}) key. By clicking the title “Musicians” above the Musician window, all of the musicians get selected. This is the easiest way to select all musicians when creating a new layout. Similarly, clicking the “Layouts” title selects all layouts. This feature may be useful if you want to delete all of the layouts.

Macintosh: Note that it is also possible to drag a musician to a current layout. If so, the musician is added to the other musicians of that particular layout.

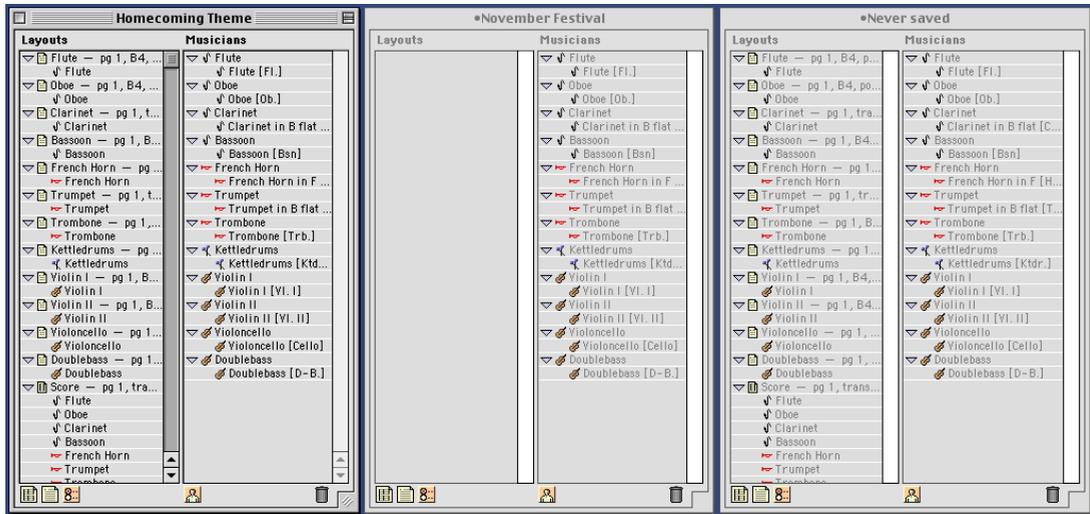
Windows: Note that it is also possible to move a musician to a current layout. This done by clicking on the musician and the layout you would like to add it to so both are highlighted and then pressing the Add Musician icon. If this is done, the musician is added to the other musicians of that particular layout.

5.1.4 Copying Musicians and Layouts Between Pieces

(this section is currently for Macintosh only)

It is also possible to copy musicians and their layouts between different pieces. Note that the copies do not hold any music information; instead, they may serve as templates; if you are working on an orchestral piece for a specific setting, e.g. your local high school orchestra, you can select all of the musicians (by clicking

on “Musicians”) and then drag these to the Musicians column in the new Piece window, as shown below.



In the file named *Homecoming Theme* there may be existing music. The musicians used in the piece named *November Festival* have been created by selecting and dragging all of the musicians from the *Homecoming Theme* piece to the musicians column. In the piece that has not been saved yet, the musicians and layouts have been created by dragging all layouts from the *Homecoming Theme* file. Remember that there is no music in either *November Festival* or the new piece.

Note that there is a dot in front of the titles “November Festival” and “Never saved”, indicating that the latest changes in these files have not been saved. Note also that the lower right corners of the Piece windows have been dragged so that more layouts and musicians may be viewed simultaneously.

5.1.5 Settings

The Settings icon/button, located to the right of the part layout icon/button, is used for changing the predefined values for individual musicians and their particular instruments, for layouts, and for the settings of the instruments in the Instrument library. If an object is dragged to the Settings icon for **Macintosh** or selected and then the **Settings** button is clicked for **Windows**, the specific set-

tings are shown, and may be changed. The different types of settings windows are examined in the Settings and House looks chapter.

5.1.6 More About the Piece Window and the Instrument Library Window

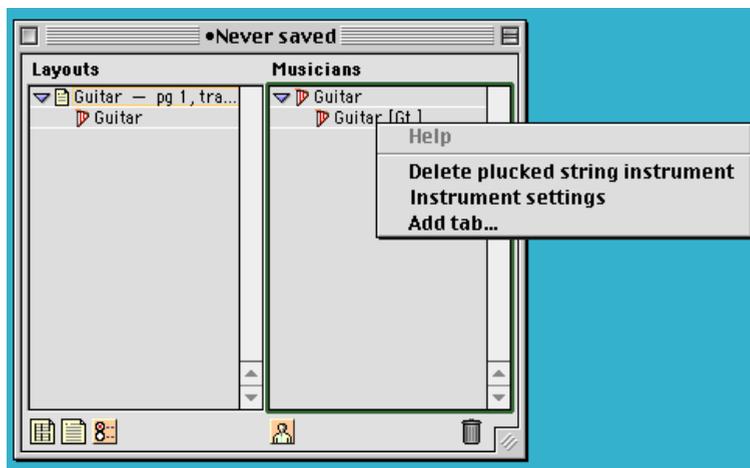
Contextual Menus

When working with layouts you will find that the contextual menus (which are opened by Control-clicking for **Macintosh** or Right-clicking for **Windows** on any object) are extremely useful tools. However, they may also be used in the Piece window, e.g., for deleting a layout.



One important note is that Igor Engraver's tablature feature is also available via the contextual menus. To add tab to an instrument, simply choose **Add tab...** from

the instrument's contextual menu. (The tab feature itself is examined in the Tablature chapter on page 200.)



Playback

If you are working on a slow computer and plan to make a recording of Igor Engraver's output, you may want to play back the music without any layout windows open.

If you play back the music with only the Piece window open (or with the Piece window active and the layout windows in the background), all of the music will be played back. The same is true if you delete all layouts, since the music belongs to the musicians – not to the layouts.

Changing Instruments

If you ever want a musician to choose another instrument when playing a piece, for **Macintosh** simply drag the musician's current instrument to the garbage bin and drag another instrument to the musician from the Instrument library window (this can only be done if that musician has been deleted from all current layouts). For **Windows**, click the Change Instruments icon and choose a new instrument. Now, the music of that musician will be played on the new instrument. As you see, the music stays with the musician, rather than with its instrument. This also means **DELETING THE LAYOUTS DOES NOT DELETE THE MUSIC.**

Manipulating Instruments

In the Instrument Settings window (double-click on the instrument), naming, playback, and other features may be changed for a particular instrument (see “The Instrument Settings Window” on page 259 for more information). If you make changes to the settings of an instrument in the piece window, the instrument used in that piece will be affected; however, in other pieces, the same instrument will not be affected by the changes.

On the other hand, if you change the settings of an instrument in the Instrument library, the changes will be reflected in all new pieces.

It is very simple to create new instruments, for use in all new pieces. Simply **⌘**-**(Option)**-drag for **Macintosh** or **Alt**-drag for **Windows** an instrument in the Instrument library to a new position and release it there. This way, you get a copy of the first instrument, and this copy can be manipulated any way you like, using the Instrument settings window.

CHAPTER 6 | The Layout Window

In contrast to most notation programs, you are always able to see the paper itself while working on a piece in Igor Engraver, instead of having to work in one mode to edit music and in another mode to make graphical changes. Not only will this feature facilitate your work; it will also save a lot of time.

Each piece may have an unlimited number of layouts. There are two different kinds of layout: *score layouts* and *part layouts*. A score layout is on the far left of the piece window, has several systems in its' icon and has a grey background. The part layout is in the middle of these three icons, contains many staves of music and has a light blue background. This system makes it easy to tell the difference between the layouts.

A **score layout** consists of a title page and music played by a number of musicians. This kind of layout is generally used for the finished score, as shown below. (The colour of the layout itself is slightly yellow if the monitor settings are set to display “Thousands of colours” or “Millions of colours”.)

The screenshot displays the Igor Engraver software interface. On the left, a vertical panel shows the score layout icon for 'La Nuit de Mai' (N. Lohj. Rintmäki • KonaLoff (1844-1918)). The main window shows a score layout with a grey background. The score is for 'La Nuit de Mai' and is arranged in a concert band format. The instruments listed on the left are: Engokki/Horn, Klorinetit A, Fagotti, S., Basketti A, Violiini I, Altsoliuorit, Seksoleikarit, Viuluorit, and Kontrabass. The score is in 3/4 time and G major. The first system shows the beginning of the piece, with the strings playing a rhythmic pattern and the woodwinds and brass playing melodic lines. The second system shows the continuation of the piece, with the strings playing a rhythmic pattern and the woodwinds and brass playing melodic lines. The third system shows the continuation of the piece, with the strings playing a rhythmic pattern and the woodwinds and brass playing melodic lines. The score is arranged in a concert band format, with the instruments listed on the left: Engokki/Horn, Klorinetit A, Fagotti, S., Basketti A, Violiini I, Altsoliuorit, Seksoleikarit, Viuluorit, and Kontrabass. The score is in 3/4 time and G major. The first system shows the beginning of the piece, with the strings playing a rhythmic pattern and the woodwinds and brass playing melodic lines. The second system shows the continuation of the piece, with the strings playing a rhythmic pattern and the woodwinds and brass playing melodic lines. The third system shows the continuation of the piece, with the strings playing a rhythmic pattern and the woodwinds and brass playing melodic lines.

A **part layout** is primarily used for the single musician or a collection of musicians in an orchestra or band. It is possible to include information in the part layouts (e.g. playing instructions) that will not show in score layouts. By default, in a part layout, a collection of empty bars becomes consolidated (see the diagram below.)

Unnamed 1

La Nuit de Mai

Nikolaj Rimskij-Korsakoff (1844-1908)

Violin I

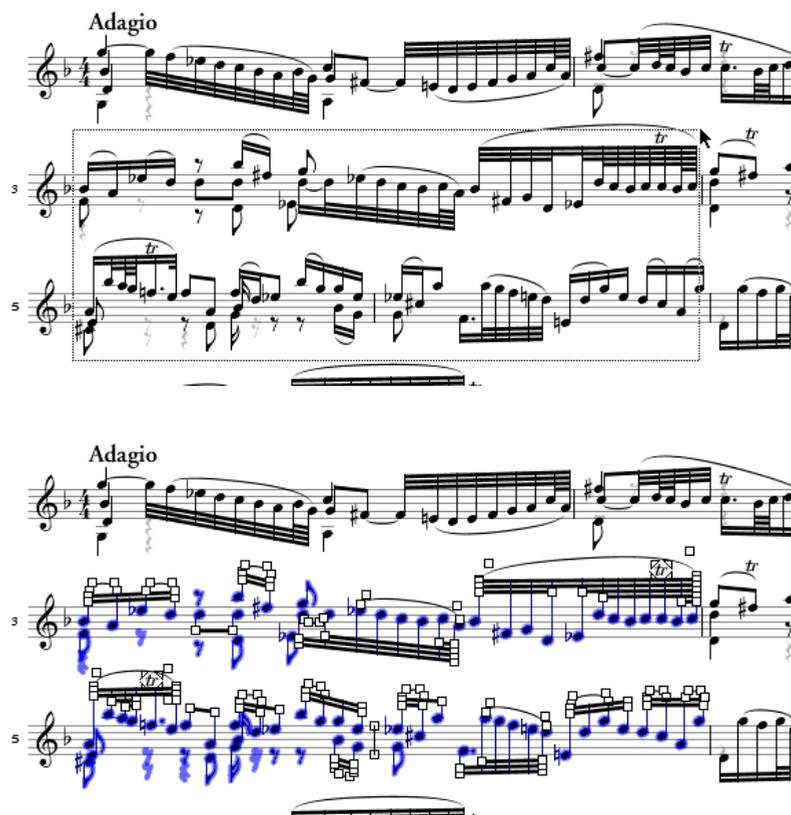
The consolidation follows the music of other layouts: if there are clef changes in one layout, for instance, this will become reflected in a consolidated layout, as can be seen below.

Bass Drum	$\parallel e$ 16 — e 2 $\frac{3}{4}$ 2 e
\equiv	$\parallel e$ 7 — e $\frac{3}{4}$ e 15

There are no significant differences between score layouts and part layouts apart from the ones mentioned above – it is quite possible to create a score layout consisting of the music played by only one musician in an orchestra, or by none at all (an empty score). It is also possible to create a part layout which includes all of the musicians.

6.1 Selecting

Selecting objects is easy. To select objects, simply drag-select them. You do not have to totally enclose the objects you want to select; instead, all the objects that are touched will be selected, as pictured below:



In case you do not want to select objects by starting from a corner of the selection, you can start from the middle by holding down the **⌘** key for **Macintosh** or **Control** key for **Windows** while dragging. If you have chosen too many objects, **Shift-click** on the objects you did intend to choose and they will no longer be selected.

Selected objects can be deleted (by pressing **Backspace**), moved (by using the mouse or the arrow keys), and cut, copied and pasted into new locations (see next section).

Note that staves or systems cannot be selected this way. Instead, the System tool of the Tools palette must be used. (See “The System Tool” on page 137.)



If a note is double-clicked outside Input mode, all notes of the same layer become selected. (A “layer” is basically a voice that, for instance, can share a staff with other voices.) This is a useful feature if you want to copy a layer and paste it into another staff (e.g., if you want sopranos and altos to have individual staves or if you want to apply different colours to different voices). If a note is triple-clicked, all notes become selected, regardless of layer.

6.2 Cut, Copy and Paste

Macintosh: In Igor Engraver, it is easy to copy or move large sections of a piece. To copy a section of the music, click-drag to select the objects you want to be copied, and press **⌘-C**. Use **⌘-X** for cutting selected objects and pasting them onto the clipboard. To paste the entries in a different location of a piece, put the input caret at the desired position and press **⌘-V**.

You can also use the copy, cut, and paste commands in Input mode; entries that are selected (use Shift and the arrows or click) may be copied or cut. To paste the entries to a different section, simply put the input caret at the desired position and press **⌘-V**.

Windows: In Igor Engraver, it is easy to copy or move large sections of a piece. To copy a section of the music, click-drag to select the objects you want to be copied, and press **Ctrl-C**. Use **Ctrl-X** for cutting selected objects and pasting them onto the clipboard. To paste the entries in a different location of a piece, put the input caret at the desired position and press **Ctrl-V**.

You can also use the copy, cut, and paste commands in Input mode; entries that are selected (use Shift and the arrows or click) may be copied or cut. To paste the entries to a different section, simply put the input caret at the desired position and press **Ctrl-V**.

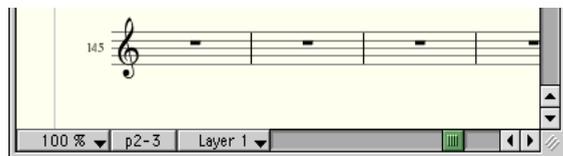
Both: Note that only the third and the fifth bars will be copied from the example presented in the Selecting section. This means that when pasted, the music of the third bar will appear in the bar in which the input caret is placed, the next

bar will be left empty, and the music of the fifth bar will (consequently) appear two bars after the first one.

Further note that music can be copied between layouts and also between pieces. Finally, the speed of the execution of the cut, copy, and paste commands is highly depending on the amount of RAM you have assigned to Igor Engraver - the more RAM, the faster the process.

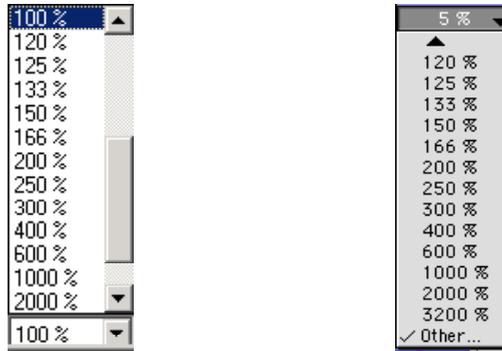
6.3 Viewing

The scrollbar works as in most computer programs, although one feature is noteworthy: when you drag the thumbnail of the scrollbar you see the layout move accordingly. Thus, you are always able to see the part of the music you are scrolling through – no guessing is required. In the figure below, you can see a portion of a score layout, the scrollbars, the zooming area, the page viewer area and a page divider.

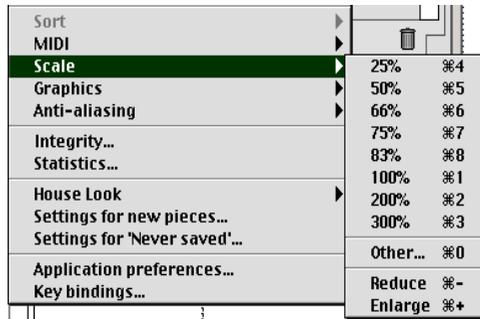


By changing the size of the view, you may see several pages at a time. This is useful for getting an overall view of the piece. Naturally, you can also zoom in on details of the music, for precise editing of all kinds of objects. The zooming factor may be set to any whole number between 5 per cent and 3200 per cent of the actual layout. Setting the zooming factor can be done by clicking the zooming

area and choosing one of the alternatives in the window that appears (the window is shown in the figure below).

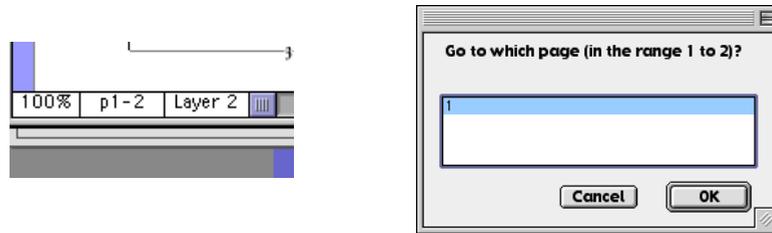


Zooming can also be executed from the Scale submenu of the Edit menu (or by using the shortcuts shown):



Lastly, there are some shortcuts worth mentioning: **⌘**-clicking for **Macintosh** or **Alt**-clicking for **Windows** the zoom area sets the zooming factor to 100%. Control-clicking for **Macintosh** or Right-clicking for **Windows** brings up the zooming factor window. These shortcuts are shown if the balloon help is used and the input caret is pointing to the zoom area.

The page viewer area tells which pages are being shown at the moment. By clicking that area, a window appears, asking which page you want to go to.



If the page margins of a layout are shown (**⌘-J** for **Macintosh** and **Ctrl-J** for **Windows**), they can be changed by dragging. When changed, the screen immediately redraws and updates all of the objects of the layout (these can be changed globally in the Piece or Layout settings).

All of the settings made regarding position, zooming factor, showing of page margins and so forth for all of the layouts associated with one piece, are remembered by Igor Engraver and recalled the next time the piece is opened. In consequence, you never have to waste time rearranging the appearance of the layouts of your piece.

CHAPTER 7 | Input Mode

Now that you are familiar with the Piece window and the score editing philosophy, it's finally time to make some music!

There are several ways (besides importing files) of inputting and editing music in Igor Engraver. This chapter describes how to use Input mode, the fastest way to input and edit the music.

The computer keyboard provides a wide variety of ways of working with Igor Engraver. This is especially true for inputting music. Igor Engraver's unique Input mode allows all musical elements to be input at one time, thus enabling the user to work in a way which resembles working with pen and paper. This accelerates the notation process and will not hinder the creative flow.

To enter music into a part or a score, click on the arrow from the tool palette and double-click on a staff. Igor Engraver will enter Input Mode: a blinking "input caret" will become visible, the "Input" menu will be added to the menu bar, and the Music entry window will appear:



The Music entry window shows the complete state of the music at the insertion point. It displays the chosen note, its duration and pitch, the type of staff, clef, key and what articulations will be applied to new entries, ties, slurs, glissandos, harmonics, tremolo, and so forth. It also shows the active dynamic, even if it was set many measures or pages previously. This makes it easy to enter music, since you will always know the musical context.

Also note that the settings shown in the Music entry window are *ongoing*: For instance, to input a lot of accented tremolo notes, switch on tremolo and marcato

by pressing ⌘-T for Macintosh and Alt-T for Windows, then > , and then enter your notes. Pressing > again will switch off that particular setting. To switch off the tremolo, you will have to press ⌘-T or Alt-T several times. You will see the different options for tremolo until you return to standard notation.

7.1 The Input Caret

By pressing the appropriate keys on the computer keyboard, we will now be able to enter music. Commands normally apply to the entry immediately to the left of the input caret, which is why the input caret faces that way:



In the above example, new commands (such as G , which produces a glissando marking) will apply to the crotchet/quarter note.

The “espressivo” crash course is partly constructed to give you a deeper understanding of Input mode.

7.2 Entry Selections and Note Selections

In Input mode, there are two ways of selecting music: making *Entry selections* and making *Note selections*. (Do not forget, though, that you can always drag-select objects when not in Input mode. The selected objects may then be copied, transposed, et cetera.)

7.2.1 Entry Selections

The input caret expands to become a selection range if you press Shift and then the left or the right arrow, just like in a word processing program. The figure below shows an Entry selection, encompassing whole entries. If you would like to select an extended passage of music, press Shift and an arrow key to begin the

the section. Then Shift-click where you would like the highlighted section to end.



Many of the keyboard commands apply not only to the last entry, but may also be used with a selection range, for instance to add articulation to many entries at one time. The selections made are based on context. For example, if you apply articulation markings to a few bars of a piece, Igor Engraver will not attach articulation markings to rests.

Macintosh: A selection range may be copied (by pressing **⌘-C**) or cut (**⌘-X**) and pasted (**⌘-V**) elsewhere on the same staff or on another staff. This makes entering music very effective. To move the input caret sideways on a staff, press the left or right arrow key. To move to another staff, press **⌘-up** arrow or **⌘-down** arrow.

Windows: A selection range may be copied (by pressing **Ctrl-C**) or cut (**Ctrl-X**) and pasted (**Ctrl-V**) elsewhere on the same staff or on another staff. This makes entering music very effective. To move the input caret sideways on a staff, press the left or right arrow key. To move to another staff, press **Alt-up** arrow or **Alt-down** arrow.

7.2.2 Note Selections

Besides Entry selections there are also Note selections, which apply to individual notes. Note selections are very useful for assigning non-standard noteheads to a few notes of a chord, for instance. To select a single note, press **⌘-left** or **⌘-right** arrow for **Macintosh** (**Alt-right** or **Alt-left** arrows for **Windows**) and a circle will appear around the notehead. To select several notes, hold down Shift while pressing **⌘** or **Alt** and the arrow key repeatedly.

Entire note selections can be transposed by using the up arrow keys and the down arrow keys. Naturally, they can also get attachments, just like entry selections, and be raised or lowered by pressing the **+** or **-**.

7.3 The Input Mode Commands

The different Input mode commands can be grouped together in the way they logically work. Below, the commands are grouped in the following categories:

- Moving and selecting
- Durations
- Notes, rests, and chords
- Dynamics
- Ties, slurs, glissandos, and arpeggios
- Tuplets
- Grace notes
- Trills, tremolando and tremolo
- Attachments
- Chord names and guitar diagrams
- Bar- and system-related commands

First, the keyboard symbols will be covered more extensively than in the Getting Started section, since the Input menu has some icons that might otherwise be confusing if you use certain types of keyboards (Please note that the symbols are all for **Macintosh** only, except ⇧ which applies to both platforms.):

Symbols for Macintosh:	Term:
⇧	Shift
⌥	Option
⌘	Command
⌃	Control
N	“n” (no Shift)
⇧N	Shift and “n”
⌥⇧S	Option, Shift, and “s”
↵	Enter
␣	Space
⌫	Delete or Backspace
→	Tab

7.3.1 Moving and Selecting

Understanding how to move the input caret and how to select notes and rests is essential in Igor Engraver. As you have seen, there is a logical connection between notes and rests, and taken together they are referred to as “entries”. The following commands are used for moving the input caret and selecting entries in general or notes in particular.

Macintosh:	Action:	Windows:
Moving:		
→	Move the input caret to the right	→
←	Move the input caret to the left	←
⌘→	Move the input caret to the next bar	Control →
⌘←	Move the input caret to the beginning of the bar or to the previous bar	Control ←
↑	Move the input caret's insertion point or a note selection a diatonic step up	↑
↓	Move the input caret's insertion point or a note selection a diatonic step down	↓
⌘↑	Go to the staff above	Alt ↑
⌘↓	Go to the staff below	Alt ↓
Selecting:		
⌘→	Select the next entry	Alt →
⌘←	Select the previous entry	Alt ←
⇧→	Extend/shrink the selection with the next entry or chord	⇧→
⇧←	Extend/shrink the selection with the previous entry or chord	⇧←
⌘⇧→	Extend/shrink the selection with the next entry	⇧ Alt →

Macintosh:	Action:	Windows:
⌘⇧←	Extend/shrink the selection with the previous entry	⇧Alt ←
⇧⌘→	Extend/shrink the selection with the next entries of a bar	⇧Ctrl Alt →
⇧⌘←	Extend/shrink the selection with the previous entries of a bar	⇧Ctrl Alt ←
Choosing layers:		
^↑	Increment layer	Ctrl ↑
^↓	Decrement layer	Ctrl ↓
^1	Set layer 1	⇧Alt 1
^2	Set layer 2	⇧Alt 2
...
^9	Set layer 9	⇧Alt 9

7.3.2 Durations

To enter notes or rests in Input mode, it is necessary to decide what duration the note or rest is going to have. As stated before, this is a simple procedure: just press the appropriate number key on the computer keyboard. Probably, most notes are semiquavers/sixteenth, quavers/eighth, crotchets/quarter, and minims/half notes. Therefore, a right-handed person would find the placement of the keys comfortable: a good way to use the computer keyboard for entering durations is to put the index finger on the **4** key of the numeric keypad to input quavers/eighth notes. Then, the middle finger could rest on **5** to input crotchets/quarter notes, the fourth finger on **6** to input minims/half notes (the ring finger could then also be used for the **3** key to input semiquavers/sixteenth notes) and the little finger on Enter to execute the insertion of a note. The thumb can then be used on the spacebar for rests.

All of the default keys used for setting the wanted duration are listed below.

Key(s):	Action:
0	Set duration to one semihemidemisemi-quaver (1/128)
1	Set duration to one hemidemisemi-quaver (1/64)
2	Set duration to one demisemi-quaver (1/32)

Key(s):	Action:
3	Set duration to one semiquaver (1/16)
4	Set duration to one quaver (1/8)
5	Set duration to one crotchet (1/4)
6	Set duration to one minim (1/2)
7	Set duration to one semi-breve (1/1)
8	Set duration to one breve (2/1)
9	Set duration to one longa (4/1)

7.3.3 Notes, Rests, and Chords

As mentioned several times before, to enter a note press **Enter**, and to enter a rest press **Space**. Entering chords are accomplished by moving to a new pitch and pressing **Shift-Enter** after one of the notes of the chord (not necessarily the root) has been entered. **Backspace** removes the nearest entry or last character of a dynamic to the left.

There is a shortcut for entering notes: instead of using the arrow keys you can use the **F1, F2, ..., F7** keys to insert the c, d, ..., h/B degrees (the note inserted is the one that follows the key signature; c double flat, c flat, c, c sharp, and c double sharp are the note heights derived from the c degree). Unlike the up and down arrow keys, the function keys also include **Enter**. In other words, this way you save a lot of keystrokes and a considerable amount of time. **F8** adds a c in the octave above the present octave.

Macintosh: **F9** brings the insertion point of the input caret one octave down, and **F10** brings the insertion point one octave up.

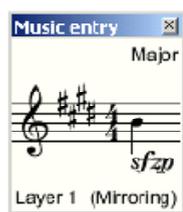
Windows: **F11** brings the insertion point of the input caret one octave down, and **F1** brings the insertion point one octave up.

Note that the function keys can also be used together with **Shift**, to add notes to an existing note, and that way form a chord.

There is a mirror function in Igor Engraver, which is used for mirroring the rhythm of a layer into another layer or another staff. As an example, mirroring will be applied to the following passage:



Before or after the passage has been entered, the **O** (as in MirrOr) key may be pressed. In the Music entry window, a part of the word “Mirroring” is displayed:



Next, the input caret may be placed either in another staff or in another layer (in this case, in the staff below). Finally, by using the up arrow, the down arrow, and Enter or Space, the function keys, or by pressing keys on a MIDI keyboard the rhythmic context automatically applies to the second staff, as shown below. (Mirroring can then be applied to more staves and layers, as long as **O** is not pressed a second time, which turns mirroring off.) Note that the last bar has other rhythmic content than the upper staff. Therefore, mirroring has to be turned off before entering these notes.



It is also possible to repeat the last entry by pressing Tab. The new entries will hold exactly the same information as the previous one. If you have to repeat a lot of entries, especially chords, this will be a welcome feature.

Hiding one or more entries is possible by creating an Entry selection and pressing **H**, if you want to hide the entries in all layouts. If you press **⌘-Shift-H** for **Macintosh** and **Ctrl-Shift-H** for **Windows**, you will to hide the entries locally.

Pressing the **N** key a number of times gives you different noteheads, as pictured below. It is also possible to hold down the **N** key and watch the notehead toggle repeatedly. If several notes are selected, pressing **N** will toggle all of the selected notes' noteheads.



When the notes have been inserted, they can get augmentation dots attached. This is achieved by typing **.**. If more than one augmentation dot needs to be applied, **⌘.**, for **Macintosh** or **Ctrl.**, for **Windows** should be used. Every time **⌘.**, is pressed, an additional augmentation dot becomes attached to the entry. All augmentation dots associated to one entry can be removed by pressing **,** once again.

The stems and beams of the entered notes can be altered in many ways. One useful feature is the ability to flip a stem and to freeze the direction of a stem. Freezing means that even if the music gets respaced (the spacing or placement of entries and other symbols become recalculated), the stem direction remains the same. This can be undone (called “thaw”) by typing the same command once more. Below is an example of how to use other stem- and beam-associated commands.



The first group above is the untweaked original.

*The second group has been altered by using the **Flip stem** command.*

The beam of the third group has been slightly shortened, in such a way that the first note has been shortened most, while the last note has not been shortened at all.

In the fourth example the first stems have been lengthened instead.

*In the fifth example, the beam has been flattened, by using the **Flatten beam** command.*

*The sixth group of semiquavers has been broken into two groups (by applying the **Break beam** command twice). Then, the beams have been scaled, using the **Scale beam...** contextual menu command, to 80 percent and 120 percent, respectively.*

In the last example, the beams have been broken by typing *I*, once after the first and the second notes, and twice after the third note. The Beam submenu command **Reverse beam fragments** has then been executed. Observe that the notes can be beamed together again by typing ⌘-I for Macintosh or **Alt-I** for Windows.

The keys that are associated with accidentals work in a pretty straightforward manner, as displayed in the following example. Nevertheless, it may be useful to take a look at the various possibilities while working with accidentals. First, a raised and lowered quaver is shown; next, twenty ways of spelling an A minor chord. All of the different spellings are accessed by typing = on the computer keyboard. Respelling can also be applied to single notes, and is then called an “enharmonic change”.

The image displays three staves of musical notation. The first staff, starting at measure 13, shows a sequence of notes with beams broken and then reformed. The second staff, starting at measure 19, shows various chord spellings for A minor. The third staff, starting at measure 26, shows further chord spellings.

The **Standard accidental/Show accidental/Parenthesise accidental** and **Hide accidental** commands (available from the contextual menu) make it possible to decide whether or not the accidentals should be shown, and whether or not they should be parenthesised (the default behaviour of parenthesising may be altered in the Accidentals pane in the Piece settings window). These commands can also be accessed in input mode by pressing # .

The articulation markings, such as staccato and tenuto, are simply turned on or off using the same keystrokes.

Macintosh:	Action:	Windows:
Enter	Enter a note	Enter
⌘Enter	Add a note to the selected entry	⌘Enter
Space	Enter a rest	Space
⌘X	Remove entry or dynamic	Backspace

N	Change notehead	N
F1	Add a c in the current octave	F1
F2	Add a d in the current octave	F2
...	...	
F7	Add an h/B in the current octave	F7
F8	Add a c in the next octave and leave the input caret's insertion point in that octave	F8
F9	Move the input caret's insertion point one octave down	F11
F10	Move the input caret's insertion point one octave up	F12
⇧ F1	Add a c in the current octave to an existing note	⇧ F1
⇧ F2	Add a d in the current octave to an existing note	⇧ F2
...	...	
⇧ F7	Add an h/B in the current octave to an existing note	⇧ F7
O	Mirroring on or off	O
→ I	Repeat last entry	TAB
H	Hide selected entry in all layouts	H
⇧⇧ H	Hide selected entry in current layout	⇧ Ctrl H
Augmentation dots:		
,	Add first augmentation dot or remove all dots	,
⌘,	Add one augmentation dot to the entry	Ctrl,
Stems and beams:		
⇧ F	Flip stem	⇧ F

⌘F	Freeze/thaw stem direction	⇧Ctrl Alt I
B	Shorten first stem of beam group	B
⇧B	Lengthen first stem of beam group	⇧B
^B	Shorten last stem of beam group	Alt B
⇧⇧B	Lengthen last stem of beam group	⇧ Ctrl B
⌘⇧B	Flatten beam	⇧Alt B
/	Break beam segment	/
⌘/	Join beam segment	Alt /
Accidentals:		
+	Transpose up a semitone	+
-	Transpose down a semitone	-
⌘+	Transpose up a quarter-tone	Alt +
⌘-	Transpose down a quarter-tone	Alt -
⌘⇧+	Transpose up a sixth-tone	⇧Alt +
⌘⇧-	Transpose down a sixth-tone	⇧Alt -
#	Hide/force show/Parenthesise/unparenthesise/normal accidental	#
=	Enharmonic change/respell chord	=
⌘=	Show all possible enharmonic spellings	Alt =
Articulation:		
.	Staccato	.
‘	Staccatissimo	‘
-	Tenuto	-
>	Marcato	>
⌘<	Marcatissimo	Alt <

7.3.4 Dynamics

Dynamics, such as *mf*, *pppp*, and *sffz*, are written into the score after the desired entry. Not only will Igor Engraver let you write any logical combination and choose its' default placement, but it will also play back the dynamics properly (although, since MIDI only uses 128 steps for volume, eventually an added *f* or *p* will not affect the loudness of the music). Dynamics are always placed below the staff, except when applied to singers' staves. In those cases, the dynamics are placed above the staves.

Macintosh: If the Option (⌘) and Control keys are pressed in conjunction with the dynamic keys, the dynamic markings will be applied to all of the staves in the system. If the ⌘, Control, and Shift keys are pressed in conjunction with the dynamic keys, the dynamic marking will be applied to all of the staves of the selected instrument group.

Windows: If the Alt and Control keys are pressed in conjunction with the dynamic keys, the dynamic markings will be applied to all of the staves in the system. If the Alt, Control, Shift keys are pressed in conjunction with the dynamic keys, the dynamic marking will be applied to all of the staves of the selected instrument group.

Macintosh:	Action	Windows:
P, F, M, R, S, Z	Add dynamic markings according to the letter combination	P, F, M, R, S, Z
C	Add a crescendo hairpin	C
D	Add a decrescendo hairpin	D
⌘<	Add a double hairpin	<
^⌘P etc.	Add entered dynamic marking(s) to all staves of the system	Ctrl Alt P etc.
^⌘⇧P etc.	Add entered dynamic marking(s) to all staves of the instrument group	⇧ Ctrl Alt P etc.

7.3.5 Ties, Slurs, Glissandos, and Arpeggios

Ties, slurs, and glissandos all have interesting behaviours, and therefore they will be dealt with in detail in this section.

What is the difference between a tie and a slur? – The answer is: a tie binds two or more notes that sound like only one note, but that are not metrically suitable to display as one note only, whilst a slur indicates a legato. There are rules for deciding which way a tie should face, upwards or downwards. However, it is possible to flip ties and slurs manually, by using Shift in combination with the keys used for applying ties and slurs when the input caret is placed between the notes. If you want to connect two notes of a chord with a tie or a slur, you can do this by including the desired notes in a note selection.

Instead of using the tie input mode command to input tied notes across barlines, it is often faster to enter the full duration of the note (as if it were untied) and continue to enter music as you normally would. Igor Engraver will then tie the note value across the barline after you have entered an additional note or moved the input caret into the next measure (This is only possible when **Inserted into next bar** is selected in the Input mode menu's Bar overflow submenu.)

Any number of slurs can be nested by typing **⌘-L** on **Macintosh** or **Alt-L** for **Windows** for every additional slur. The slurs are then ended one by one as usual. Note: If you move away from a slur and then put the input caret back to the position of the slur, the “slur context” is not remembered (otherwise it would be impossible to add new slurs from that particular point). To get back to the “slur context”, type **⌘-Shift-L** for **Macintosh** or **Alt-Shift-L** for **Windows**. You have now created a “pick-up slur”. Using the pick-up method is also handy when you start entering a slurred passage, then move away to something else, and then move back again to continue your input. If you do not use the pick-up method at this point, you will end up with either no slur or a new slur.

A tip: there is additional information about “tweaking” of slurs and ties in “Tweaking” on page 156.

A glissando marking is entered by pressing **G** after entering a note. If there is no other note to the right of that one, the glissando marking will point down, as it is supposed to do. If a glissando marking is inserted between two notes, it will connect them instead. (The appearance of glissandos can be controlled from the Glissandos pane in the Piece settings window.) If the glissando line or the glissando text is double-clicked, the glissando text will become editable.

Finally, an arpeggio marking is inserted by typing **⌘-Shift-A** for **Macintosh** or **Alt-Shift-A** for **Windows**. The arpeggio marking can later be dragged and tweaked in other ways.

Macintosh:	Action:	Windows:
T	Add a tie	T
⇧T	Flip a tie	⇧T
L	Add a slur	L
⇧L	Flip a slur	⇧L
⌘L	Add a nested slur	Ctrl Alt L
⌘⇧L	Get back to slur context	⇧Ctrl Alt L
G	Add glissando	G
⌘⇧A	Add arpeggio	⇧ Alt A

7.3.6 Tuplets

Working with tuplets in Igor Engraver will be explained in the next chapter. However, the keys used for entering tuplets are listed below. Note that the tuplet defaults can be altered by typing **⌘-1** for **Macintosh** or **Alt-1** for **Windows** or by selecting the Tuplets pane in the Piece settings window, and that arbitrary tuplets can be entered as well. A tuplet can be ended by pressing **⌘-0** for **Macintosh** or **Alt-0** for **Windows**.

Macintosh:	Action:	Windows:
⌘1	Enter arbitrary tuplet and change tuplet defaults	Alt 1
⌘2	Enter duplet	Alt 2
⌘3	Enter triplet	Alt 3
⌘4	Enter quadruplet	Alt 4
⌘5	Enter quintuplet	Alt 5
...	...	
⌘9	Enter nonuplet (novemol)	Alt 9
⌘0	End tuplet	Alt 0

7.3.7 Grace Notes

Grace notes are easily inserted into Igor Engraver layouts by entering Grace notes mode. In this mode, all entries inserted will become grace notes. Adding

grace notes shortens the played duration of the previous entry: the tempo of the piece stays intact.



As can be seen below, grace notes can be entered in groups as well. The size of the grace notes and the position of the slash that crosses the grace notes can be altered in the Grace Notes pane of the Piece settings window.



Key(s):	Action:
⌘G	Enter/leave Grace note mode
⌘⇧G	Toggle grace note slash

7.3.8 Trills, Tremolandos, and Tremolos

Trills, tremolandos and tremolos can be applied in Input mode, but the trill extension lines have to be altered (by dragging the end of the line) after leaving Input mode. There are several commands for entering these objects, since there are many ways to play them back. Note that you can press ⌘-T for Macintosh or Alt-T for Windows repeatedly to change tremolo type.

Macintosh:	Action:	Windows:
⌘R	Create trill (from the selected entry)	Alt R
⌘⇧R	Create a whole-tone trill	⇧ Alt R
⌘⇧⌘R	Create a semitone trill	⇧ Ctrl R
⌘M	Create tremolando (from the selected entry)	Alt M
⌘T	Set tremolo/change tremolo type	Alt T

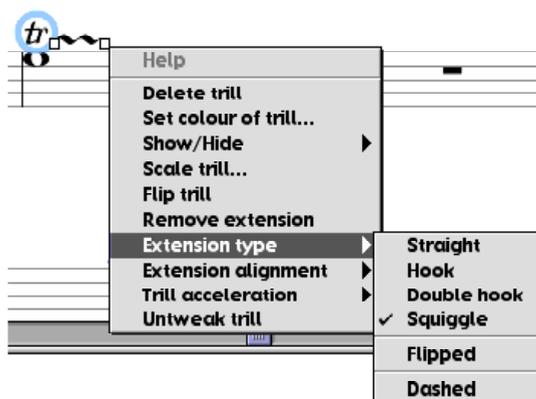
Trills and some attachments can have extension lines. They are applied the following way: First, access the contextual menu for a trill and choose **Set extension** from the options that appear. The result of the operation will look like this:



Next, drag the handle of the extension line to the desired position (and observe that playback will change accordingly):



The extension line's type can be altered. You can choose between four available types, **Straight**, **Hook**, **Double hook**, and **Squiggle**, as pictured below:

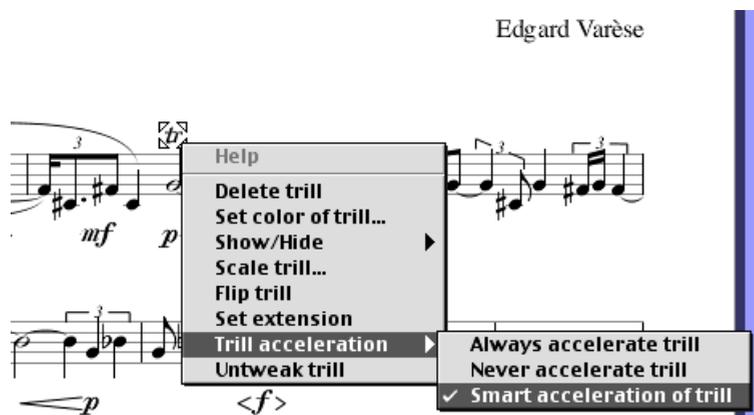


Note that an extension line may be flipped upside down or be dashed.

An extension line may also be tweaked by holding down the **⌘** key for **Macintosh** or **Alt** key for **Windows** during dragging the right handle, or simply by dragging the left handle. Furthermore, by applying one of the Extension alignment commands, the extension line may be adjusted vertically as well.

In certain situations, a musician would start playing a trill slightly below full speed and then accelerate up to full speed. This effect is more pronounced for

long notes and may also depend on the speed of the preceding notes and the dynamic level – no acceleration is done in forte. Igor Engraver takes these parameters into account automatically, using a playback feature called "Smart trills"/"Smart accelerandos". To define the playback behaviour of the trills and tremolandos, select **Always accelerate trill/tremolando**, **Never accelerate trill/tremolando**, or **Smart acceleration of trill/tremolando** (the default).



7.3.9 Attachments

Attachments, such as bowing instructions or Bartók pizzicato markings, are input using single Input mode commands. The following attachment types are available:

Macintosh:	Action:	Windows:
$\backslash P$	Set Bartók pizzicato	$\hat{C}trl P$
*	Pedal up	*
$\backslash D$	Pedal down	Alt D
$\backslash S$	Set plus (stopped note or left-hand pizzicato)	Alt S
$\backslash H$	Set natural harmonic	$\hat{C} H$
$\backslash ,$	Set comma caesura	Alt,
$\hat{C} \backslash ,$	Set double-line caesura	$\hat{C} Alt=$
$\backslash \hat{C} U$	Set upbow	$\hat{C} Alt U$
$\backslash \hat{C} D$	Set downbow	$\hat{C} Alt D$

Once inserted, the attachments can get extension lines, just like the trills, as explained above.

7.3.10 Chord Names and Guitar Diagrams

Chord names and guitar diagrams are entered by selecting the entries (shift and arrows) and then pressing **A** or **Shift-A**, respectively. Igor Engraver then creates the appropriate symbol automatically, as shown below. (If there is only one note in the “chord”, no chord symbol will be applied.) Every time you press **A** or **Shift-A** the spelling of the symbol changes.



If you play a chord on a MIDI keyboard, you can see its associated chord symbol directly by pressing the **A** key (without having to enter the chord in the score). In other words, place the input caret after the note you want to attach the chord to. Now, while holding down the keys of the chord on your MIDI device, press **A**.

Both types of objects can be removed by choosing **Delete chord name** or **Delete guitar diagram** from the contextual menu that appears when the objects are Control or Right-clicked, or by selecting them and pressing Backspace.

Key(s):	Action:
Chord diagram: A	Add chord analysis (selected chord or MIDI input) (C, Caug, C+, C-5, C6, C7, C7#9, C9, Cmaj9, Csus, C7sus, Cmaj7, C7b5, Cm, Cmaug, Cm+, Cm-5, Cm6 Cm7, CmMaj7, Cm7b5, Cdim, C69, C13, CMaj13 and their transpositions)
Guitar diagram: ⇧A	Add guitar diagram (C, Cm, C7, Cm7, C6, Cmaj7, Cdim, C7b9, C7b5, C+, Caug, Csus, Cm6 and their transpositions)

Remember that you can also use regular textboxes to insert chord names. This is convenient at times when you want to insert a chord name at a place where there

is no chord written in the score, such as when you want to attach chord names to a solo voice staff.

7.3.11 Text

There are several kinds of text in Igor Engraver. Lyrics and markings such as *pizz.* can be applied directly in Input mode. Although lyrics will not be covered until another chapter, the basic lyrics commands will be shown here, for future reference.

Naturally, any text can be typed into the textboxes, but some terms also have intelligent playback behaviour. These terms are listed in “Entry Expressions” on page 197.

Rehearsal marks use textboxes that are enclosed by frames. The rehearsal marks can be toggled on and off by typing the combination shown below.

Once the textbox has been inserted, it is possible to change the size of the text as well as the text font. This is done in the Font menu (which appears when an existing textbox is clicked once).

Macintosh:	Action:	Windows:
Lyrics:		
⇧ Space	Enter lyrics mode	⇧ Space
-	Add a hyphen (in lyrics mode)	-
Space	Move to next entry (in lyrics mode)	Space
-	Add an extension line (in lyrics mode)	-
⌘ Space	Add a non-breaking space	Alt Space
Textboxes:		
:	Create an entry-associated textbox (entry expressions)	:
^ ⌘ ⇧ ⌘ R	Toggle rehearsal mark	⇧ Ctrl M

7.3.12 Bar-, Staff-, and System-Related Commands

Some of the Input mode commands apply not to entries but to bars, staves, and systems. For instance, the **I** key changes the barline to the right of the input caret, as shown below.



It is also possible to show the bar number of the current bar, even if the bar number settings tell differently. This can be done both on a local basis (that is, only the current layout will be affected) and on a global basis (that is, the specific bar number is to be shown in all layouts).

Macintosh:	Action:	Windows:
I	Change barline	I
⇧N	Force bar number (all layouts)	⇧N
^⇧N	Force bar number (current layout)	⇧CtrlN

CHAPTER 8

The Palettes

In Igor Engraver, two palettes are available: the Tools palette and the Play & Record palette (pictured below), covering both some of the basic and some of the complex features of the program. The Tools palette includes a number of pop-up style palettes.

Macintosh: These are indicated by the blue triangles in the bottom right corners of the palette's icons.

Windows: If a tool is clicked, a palette will appear below with additional options.

The different palettes are further examined in the following sections.



8.1 The Tools Palette

Most of the icons of the Tools palette are used for inserting different sorts of objects into the layouts. Nonetheless, they all have unique properties and will therefore be examined in more detail.

8.1.1 The Magnifier Tool, the Hand Tool, and the Arrow Tool

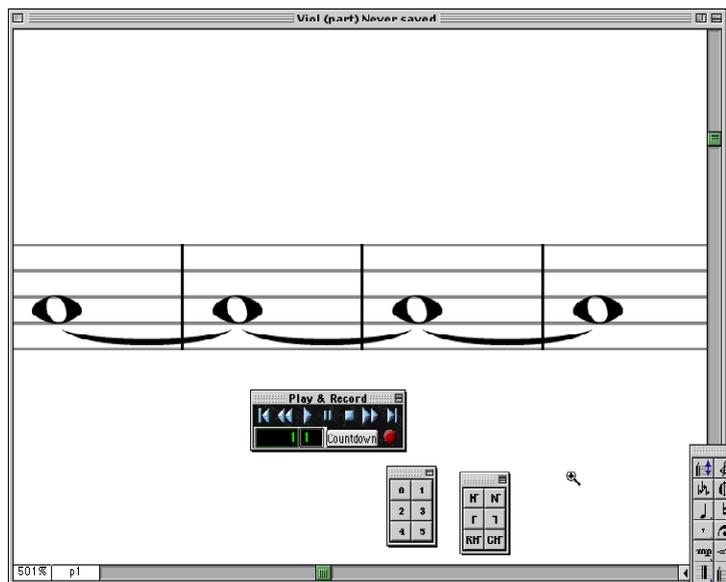
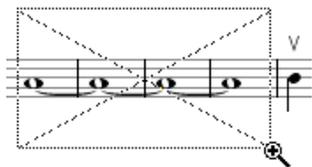
Three tools that are found also in other sorts of software are the Magnifier tool, the Hand tool, and the Arrow tool. However, in Igor Engraver these tools have some special features that are worth mentioning.



The Magnifier Tool is used to zoom in on the spot you are clicking. Every time you click in a layout, the value of the zoom percentage becomes doubled (for example, 100% becomes 200%). **⌘**-clicking for **Macintosh** or **Alt**-clicking for **Windows** zooms out at the same rate.

If you click-drag the layout, a rectangle appears. The centre of the rectangle becomes the centre of the magnified area. On the other hand, if the layout is Right-clicked (Windows) or Control-clicked (Macintosh), a crossed rectangle appears (see below left). The middle of the cross – that is, the point where the layout was clicked – will become centered (see below right).

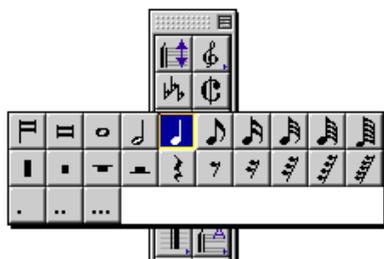
The size of the rectangle also determines the zooming factor: the smaller the rectangle, the larger the zoom percentage increment. Note that the zoom percentage number of the zoom area is updated.



The two other tools are even easier to understand: the Hand tool is simply used for dragging the visible page, to enable you to see the area that you want to see. The Arrow tool must be selected when selecting objects, when editing textboxes, and when entering Input mode. Besides clicking the Arrow tool icon, you can also press **⌘-** for Macintosh or **Ctrl-** for Windows to get the arrow tool. You may find this shortcut handy if you are using the different tools extensively.

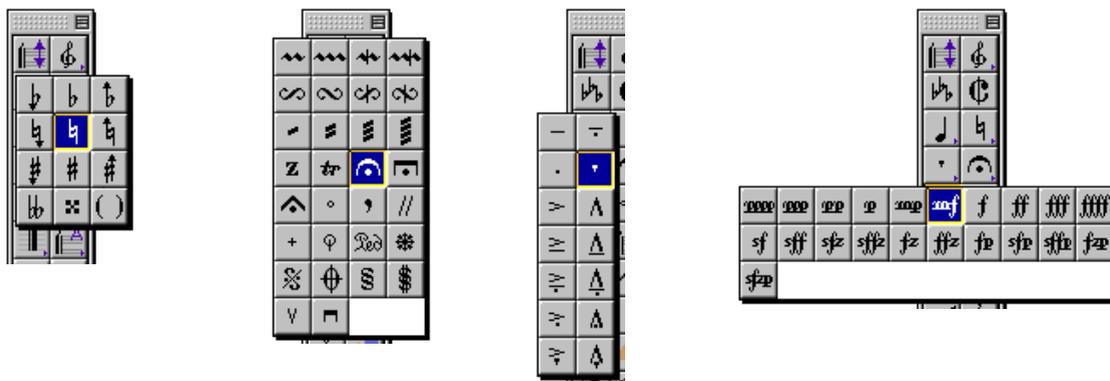
8.1.2 Notes & Rests, Accidentals, Attachments, and Articulations

To input a note or rest in an empty layout, just select a note or rest symbol from the Notes & Rests pop-up palette (shown below) and click a bar of the layout. If there are no entries already entered into the chosen bar, the new entry will be inserted at the beginning of the bar. If there are other entries, the new entry will be inserted at the point the bar is clicked.



Insertion of accidentals, attachments, and articulations works more or less the same way. All of the tools of the Accidentals, the Attachments, and the Articulation pop-up palettes (shown below) are applied to a certain note. For example, selecting the Tremolo tool from the Attachments palette and then clicking a note in a layout will attach a tremolo marking to the note. However, attach-

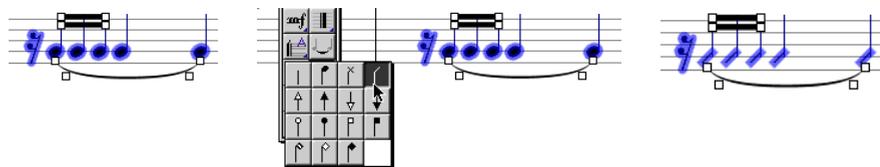
ments can later get extension lines by using the contextual menus, as explained in “Trills, Tremolandos, and Tremolos” on page 121.



Though simple, using this method to insert notes, rests or other objects may become very time-consuming, and is better avoided if you input a lot of music. Inputting music from the computer keyboard is a much faster process, and easy to learn. Nevertheless, at times you may find this feature useful.

A final word about adding notes: if you click above or below an existing note while pressing Shift, a new note of the same type that was already present will be inserted, regardless of the note icon used. For example, if the semiquaver/sixteenth note icon is selected and you Shift-click above an existing quaver/eighth note, a new quaver/eighth note will be added to the one existing.

Observe that when some entries are selected and you choose a palette icon while holding down Command for Macintosh or Control for Windows, the appropriate objects get exchanged, as displayed below:



In this example, some notes get new noteheads, but the slur, the rest, and the beams (also selected) stay unaffected.

8.1.3 Dynamics

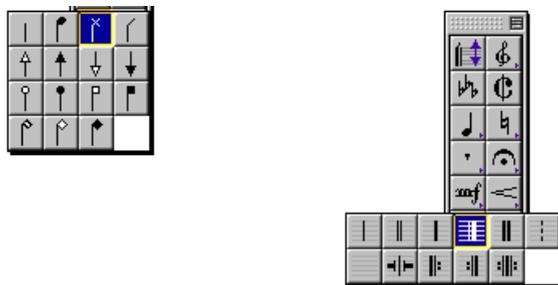
The Dynamics pop-up subpalette works in much the same way as the Notes & Rests, the Accidentals, the Attachments, and the Articulation pop-up subpalettes. However, there is a special feature that applies only to the adding of dynamics: If you **Ctrl-⌘**-click for **Macintosh** or **Ctrl-Alt**-click for **Windows** an entry of a staff, all of the system's entries that have the same starting point as the clicked entry will get the same dynamic attached. This is a faster process than applying all dynamics one by one, especially when working with homophonic pieces. In the left example below, a piano marking is input in the third voice, without pressing Control and **⌘**. In the right example, Control and **⌘/Alt** are pressed while clicking.



8.1.4 NoteHeads, and Barlines

The Noteheads pop-up subpalette and the Barlines pop-up subpalettes have similar functions: they both change the appearance of certain objects. The tools of the Noteheads pop-up sub palette change the current notehead of a clicked note to the selected symbol. The Barlines tools change the appearance of a clicked barline. Some of the Barlines tools, namely the different Repeat barlines tools, also change the playback behaviour. (Examples of layouts with different kinds of

noteheads and layouts with different barline types can be found in the Input Mode chapter on page 106.)



8.1.5 The Tie Tool

A tie marking may be inserted in a layout to connect two notes of equal pitch. A tie can also be inserted before the second note of the pair has been inserted. In that case (or in case the following note is of another pitch than the note the tie is attached to), the tie stays unattached until the pitch is changed.



8.1.6 The Glissando Tool and the Arpeggio Tool

Inserting a glissando between two notes is as easy as clicking the first of the two notes with the Glissando tool chosen. Depending on the distance between the notes, the text that is attached to the glissando marking will be of different length (by default this will mean that either no text, “gl.”, “gliss.”, or “glissando” is shown).

Inserting an arpeggio is just as easy: simply select the Arpeggio tool and click one of the notes that should be included in the arpeggio to insert a draggable arpeggio marking.

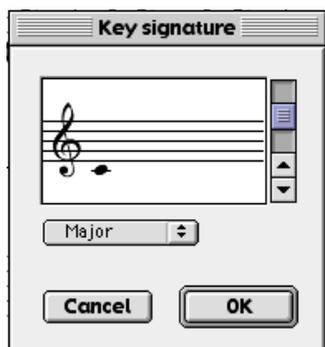


8.1.7 The Key Signature Tool and the Time Signature Tool

The key signature and the time signature of a layout can be modified by using the Key signature tool and the Time signature tool, respectively. These tools can also be found in the Piece settings window.

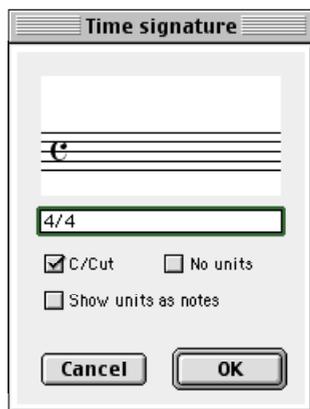


It is possible to change the key signature anywhere in a layout, even between two entries. This is accomplished by selecting the Key signature tool and then clicking the desired insertion point in the layout. The Key signature window will appear, and by using its scrollbar and pop-up menu, the new key signature can be set.



It is also possible to change the time signature in any bar of a layout. This is done by selecting the Time signature tool and then clicking the desired bar in the layout. The Time signature window will appear, and by changing its parameters,

the new time signature can be set. To set to C cut time, the meter must read 2/2 and the C/Cut must be checked.



8.1.8 The Harp Diagram Tool

Harp diagrams can be attached to notes (or rests) by selecting the Harp tool, clicking the desired entry, adjusting the preferences settings of the Harp Diagram window as one wishes, and clicking **OK**. (This feature is not yet implemented in Igor Engraver.)



8.1.9 Change Clef

The Change clef pop-up subpalette is used for inserting clef changes and for changing the current clef.



If a clef change is to be inserted, the first bar that the new clef should control is to be clicked. If the rightmost icon of the lower row is selected, the Change Clef window appears, in which it is possible to define the clef that should be inserted

(pictured below). On the other hand, if any other of the icons is selected, the corresponding clef is inserted.



Clef changes can be inserted anywhere in a bar, and will automatically update the heights of the notes that follow (of course, playback is not affected by a clef change). Below is an example of what is possible to achieve when using clef changes extensively.



Note that clef changes are attached to rhythmical positions; if you delete a note to the left of a new clef, the clef will not move with the note, but stay in the same position.

8.1.10 Text

The Text pop-up palette holds five icons, from left to right, the Page text tool icon, the System text tool icon, the Staff text tool icon, the Entry expression tool icon, and the Rehearsal mark tool icon. They work as follows:



- When the Page text tool is chosen, click-drag anywhere on the page and a textbox will appear (you click-drag to different sizes).

- The System text tool inserts a textbox that is attached to a system. The text written in this textbox can affect Igor Engraver's playback behaviour (for example, tempo text such as "Allegro" will affect the tempo).
- The Staff text tool inserts a textbox that is attached to a staff. The text written in this textbox does not affect Igor Engraver's playback behaviour.
- The Entry expression tool is used for inserting textboxes that are attached to specific entries.
- The Rehearsal mark tool, is used for adding rehearsal marks to the different systems. This is defaulted to a square in Piece settings, but can be changed to none, rectangle, square, oval or circle.

Once a textbox has been inserted, it is possible to change the size of the text as well as the font. This is done in the Font menu (which appears when an existing text is clicked once). Note that text entry itself is examined in more detail in the Text Entry chapter on page 186.

8.1.11 The System Tool

The System tool is used for moving different sections of systems (such as lyrics or bar numbers) and also for moving entire systems.



When the System tool is selected, blue colour covers all systems, and boxes to the left of the systems tell the height of the different objects, such as staves, system text, and dynamics.



By dragging these boxes up or down, the objects move accordingly:



If the word **System** itself is clicked, it becomes selected and can be moved both horizontally and vertically (you will also see four handles around the blue section). If one of the right handle is clicked, the system can be narrowed or widened, as shown below. Note that the bar number box has disappeared, since there is no longer any bar number in the selected system (in the example, every fifth bar is numbered). If the left handles is clicked, one can indent a passage of music. There are also boxes on top and below the music. The top handle allows you to drag the entire system up or down. The bottom handle will spread out or compress staves evenly when dragged. You will notice a line appears if the system has been tweaked. This shows you how much space has been added compared to the standard amount from the Layout settings.



Naturally, if several systems are selected (by Shift-clicking or click-dragging) the changes will affect all of them. Selected systems can also be scaled if **Scale...** is chosen from the Layouts menu. Note that double-clicking in a field selects all fields of the same type in the entire piece. For instance, all staves in all systems can be selected by double-clicking the Staff-field in front of any staff, and they can then be dragged simultaneously.

8.1.12 Fingering

The Fingering pop-up subpalette is used for inserting fingering symbols into the score.



To input a fingering number, simply select one of the palette's numbers and click the note that you want to attach the number to.



8.1.13 Wien

The Wien pop-up subpalette is used when inputting music of the Second Viennese school (Schoenberg, Berg, and Webern).



The Hauptstimme tool, the Unterstimme tool and the other tools of this pop-up subpalette are applied to notes simply by clicking the right tool and then clicking the note. The result may look as pictured below:



8.2 The Play & Record Palette

The Play & Record palette is used to record and play back your piece. Most of the tools of the Play & Record palette resemble tape deck recorders and should be familiar to most users.



From left to right, these are the tools of the upper section of the Play & Record palette:

- Back to Top – Use this tool to put the playback cursor in the first bar of the piece.
- Rewind – The Rewind tool lets you move the playback cursor backwards one bar at a time. The tool is disabled during playback.
- Play – Pressing this tool starts playback.
- Pause – This tool lets you pause playback.
- Stop – This tool stops playback and recording.
- Forward – The Forward tool lets you move the playback cursor forward one bar at a time. The tool is disabled during playback.
- To End – Use this tool to set the playback cursor to the last bar of the piece.

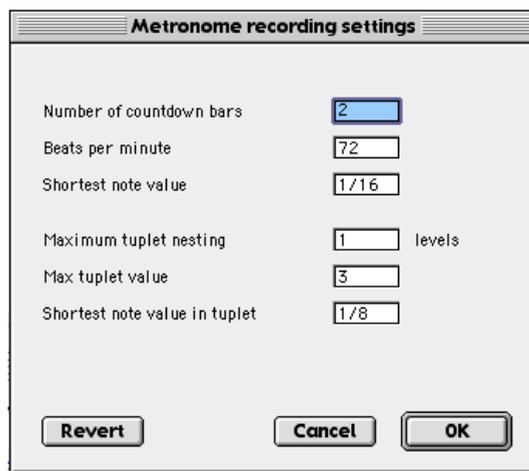
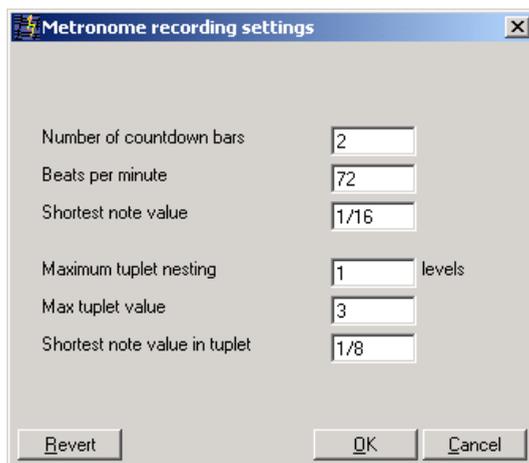
Macintosh: To the left, the lower section has a textbox which displays the number of the bar currently played. The bar at which playback is to begin can be changed simply by typing another number in the box. The number close to the textbox shows the beat played.

In the middle, the Settings tool is found. When clicked, the Metronome Recording settings window appears, which is used for setting recording options (see “Real-Time Recording” on page 265 for more information about real-time recording).

Windows: To the right, there is a textbox which displays the number of the bar currently played. The bar at which playback is to begin can be changed simply by typing another number in the box.

From the Edit menu, scroll down to Midi and choose Record Settings. A Metronome Recording settings window appears, which is used for setting recording

options (see “Real-Time Recording” on page 265 for more information about real-time recording).



The rightmost tool is the familiar Record button, which is covered in the MIDI chapter.

CHAPTER 9

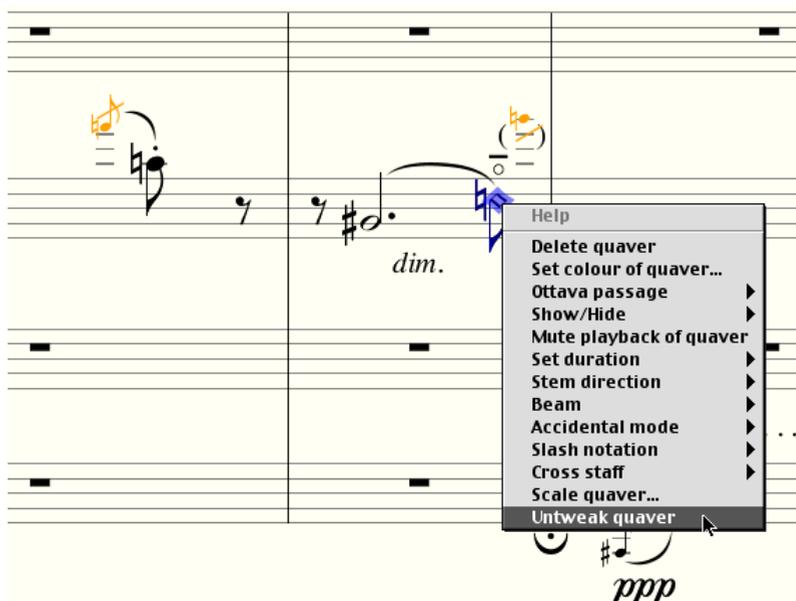
The Contextual Menus

Regardless of what you are working with in Igor Engraver, you can always use the contextual menus to easily edit most aspects of your layouts. You bring up one of the contextual menus by Control-clicking in **Macintosh** or Right-clicking in **Windows** the object you would like to edit.

In this chapter you will find some of the contextual menu items. The objective is not to teach you which alternatives can be used at different times, but rather to give you an idea of their usefulness. Remember that the more you depend on the contextual menus, the less you have to turn to the manual for assistance.

9.1 The Quaver Example

If you Control or Right-click a note, for example a quaver/eighth note, the following menu will appear.



The menu's options work as described below:

Delete quaver deletes the note.

Set colour of quaver... opens a window in which the colour of the note can be changed. By using this command, you get an excellent tool for changing colours of similar objects (since the contextual menu holds for all Shift-clicked or drag-enclosed objects). For instance, this feature lets teachers assign different colours to notes of different pitch, for pedagogical reasons. This feature is examined in more detail in the *More About Music Input and Editing* chapter on page 152.

The Ottava passage command lets you insert ottava passages, as explained in the *More About Music Input and Editing* chapter.

The Show/Hide alternative can be applied to most objects. In the example below, the upper treble clef and one of the quavers/eighth notes have been hidden – i.e., they can be seen, but will not print.

Mute playback of quaver does not affect the graphics, but lets you mute the note during playback, as the name implies.

The **Set duration** submenu lets you change duration of the selected note.

The **Stem direction** submenu lets you control the direction of the stem: it can be set to **Up** or **Down**. This submenu also lets you **Freeze** or **Thaw** the direction of the stem: if a stem is frozen and pointing upwards, it will point upwards – even if it is transposed – until **Thaw** has been selected.

The **Beam** command lets you define how the beam should behave. Beaming is examined further in the More About Music Input and Editing chapter.

Accidental mode lets you decide whether the note's accidental should be shown or not. An accidental can have standard behaviour, be forced to appear, be parenthesised, or be hidden.

The **Slash notation** command is used for changing the note to a slash notation “note”.

The **Cross staff** command is used for moving the note between different staves.

Scale quaver... brings up a window in which the size of the note can be altered.

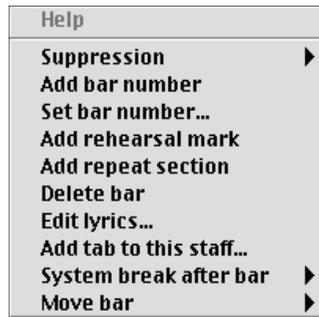
Untweak quaver appears a the note has been moved or “tweaked” in any other way, and puts the note back to its default position or size.

The **Hide legerlines/Show legerlines** appears if there are leger lines applied to the note. This command lets you hide (or show, if already hidden) the legerlines attached to the note. This is done to the first quaver/eighth note of the lower staff in the example below.



9.2 The Bar Example

There are several contextual menu commands that apply to bars. (The ones found in the previous example will not be explained again.)



Suppression allows one the options to suppress staves automatically, choose suppressed, unsuppressed, all but this or none.

Add bar number adds a bar number to the specific bar. This command can only create a bar number above or below the bar – not to the left of the system.

Set bar number...allows you to change the bar numbering. For example, if you have a piece that contains several continuous movements, you may want to start with bar 1 at the beginning of each movement.

Add rehearsal mark adds a rehearsal mark to the bar.

Add repeat section adds a repeat section, starting in the current bar.

Delete bar allows you to delete the bar.

Edit lyrics brings up the Lyrics editor, which is examined in the “Entering Lyrics Using the Lyrics Editor” on page 189.

Add tab to this staff... adds tab to the staff (see the Tablature chapter on page 200 for more information).

The **System break after bar** submenu lets you, among other things, make the current bar the last bar of a system. This submenu is further examined in the More About Music Input and Editing chapter.

The **Move bar** submenu lets you move the bar into the next or the previous system.

9.3 The Page Example

If the page is Control or Right-clicked where there are no objects, a contextual menu appears with options for the page and its systems.



There are also several submenus present: the Systems in page submenu, the Space systems submenu, and the E-commerce graphics submenu.

The four commands of the Systems in page submenu work as follows:

- **Push one to next page** moves the last system of the current page onto the next page.
- **Get one from next page** moves the first system of the next page onto the current page. If the current page is the last page of the layout, this command will be greyed out (as pictured above).
- **Set number of systems** brings up a window in which you can define how many systems you want in the particular page.
- **Let Igor decide**, lets Igor Engraver decide what to do to make your score look as good as possible.

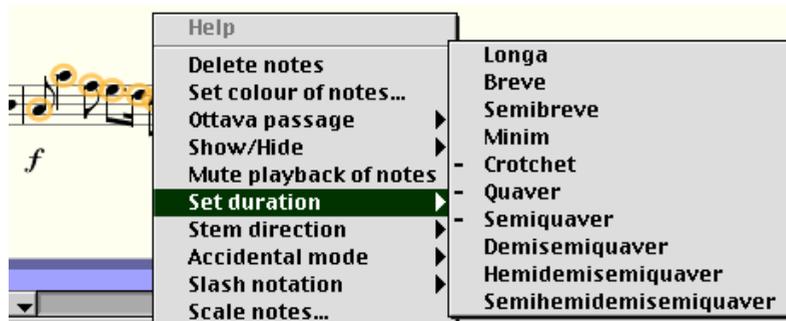
The Space systems submenu has three commands: **Evenly**, **At top of page**, and **Let Igor decide**, used for controlling the spacing of the page's systems.

- **Evenly** adjust the systems so that they become evenly spaced.
- **At top of page** attaches the systems to the upper part of the page.
- **Let Igor decide**, once again, lets Igor Engraver decide what to do to make your score look as good as possible.

The E-commerce submenu lets you add watermarks and demo banners. See the E-Commerce chapter for more information.

A note about contextual (and other) menus:

When a selected object meets a requirement (such as being a crotchet) a check is shown in the current menu. On the other hand, when some of the selected objects meet a requirement and some do not, a - is shown instead of a check:



CHAPTER 10

More About Music Input and Editing

In this chapter, more advanced features will be examined. The chapter will include information about the following:

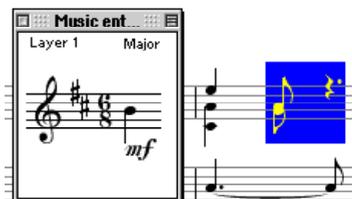
- The layer concept
- Entering tuplets
- Tweaking and untweaking objects
- Editing beaming manually
- Suppressing keys
- Turning on and off announcements
- Creating repeat sections and repeat barlines
- Inserting ottava passages
- Jazz and pop formatting
- Creating drumset notation
- Changing music fonts
- Changing colour of objects
- Spacing within and between bars.

10.1 Layers

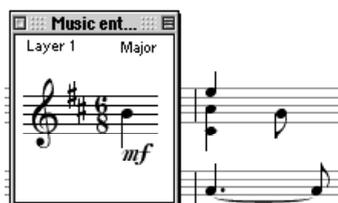
If you want two or more melodies to share the same staff, you should put them in different *layers*. The music of one layer is completely separated from that of another layer; thus, they are entered and edited separately. Per default, all staves are in Layer 1 (the layer number is reflected in the bottom left corner in the Music entry window). To add notes or other entries in another layer, hold down Control for **Macintosh** or **Shift-Alt** for **Windows** and then type the number of the layer (1-9) you want to work on or press control and use the arrow keys to move one layer at a time. You can have an unlimited number of layers, but for most purposes, creating more than a couple of layers is not recommended.

Though fairly easy understood, we will devote some space to explore the philosophy of layers. The examples in this section should give you an idea of how to work with two layers.

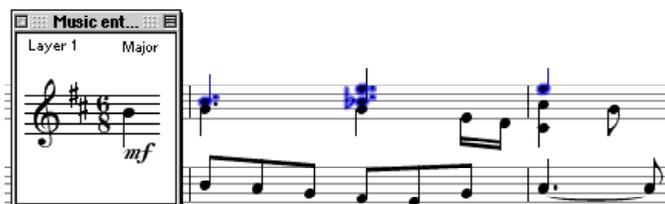
The entry selection made below applies only to the entries of Layer 1, since “Layer 1” is displayed in the Music entry window:



Deletion of the entries in the selection does not affect the quaver/eighth note of the second layer:



A note selection (double click on a note) in Layer 1 of a staff illustrates very well the fact that there is more than one layer in use in the staff. In this particular case, Layer 1 holds the upper notes of a staff (for example, the first oboe).



When deleted, the second layer stays intact:



New rests and notes entered apply only to Layer 1, and are shown accordingly.



You will notice, that if one layer is used all stems are defaulted correctly up or down. If you are using additional layers, all odd layers will have stems up and even layers stems down.

10.2 Tuplets

Tuplets, such as triplets or quintuplets, are easy to work with in Igor Engraver. To enter a tuplet, press the corresponding numeric key while holding down the **⌘** key for **Macintosh** or **Alt** key for **Windows** in Input mode, when the input caret is placed after the first entry of the tuplet. For instance, after entering a note, pressing **⌘-3** for **Macintosh** or **Alt-3** for **Windows** will create a triplet. When the tuplet is complete, the tuplet “mode” is left. (Tuplets can also be applied to entry selections.)

One unique feature of Igor Engraver is the ability to automatically calculate nested tuplets. In other words, if you press different numbers while holding

down the **⌘** or **Alt** key several times in sequence, the result should look something like the diagram below.



Igor Engraver takes barlines into account when calculating tuplets. If a tuplet crosses a barline, the result may look like this:



The appearance of the tuplets of a piece can be altered in the Tuplets pane of the Template/Piece settings. Among other things, you can choose to display tuplets as a ratio. For example, “3:2” means three notes should occupy the same space as two notes would occupy normally.



If you have consecutive sets of triplets, you may want to use a feature called “sticky triplets.”

Macintosh: After pressing **⌘-3**, press **⌘-Shift-1** and Igor Engraver will allow you to enter triplets until **⌘-Shift-1** is pressed once again.

Windows: After pressing **Alt-3**, press **Alt-Shift-1** and Igor Engraver will allow you to enter triplets until **Alt-Shift-1** is pressed once again.

More information about the settings of the Tuplets pane is found in Appendix A.

10.3 Tweaking

All of the musical elements in the layouts can be “tweaked” in a number of ways: A note or rest can be dragged sideways, a mezzo-forte marking can be moved upwards, and so forth. Though not necessary to use (Igor Engraver will create a proper layout for you), tweaking is an important concept for publishers and musicians who are concerned with making small adjustments.

10.3.1 Normal Tweaking

Tweaking is as simple as dragging an element to its desired position. On most occasions, this method will only affect the graphics: playback will not be affected if you drag one note to the other side of another note. In most cases, you are also able to use the arrow keys to move selected objects.

All tweaking can be undone by choosing **Undo** from the Edit menu. Tweaked objects may also be “untweaked” by choosing **Untweak** from the contextual menu that appears if the object in question is Control or Right-clicked. If untweaked, Igor Engraver puts the object back to its’ default position.

Below is an example of the tweaking of a crotchet/quarter note.

A passage, before and after dragging to the right:

The image shows two musical staves for Viola d'amore in G major (one sharp) and common time. The top staff shows a sequence of notes: a quarter note G4, an eighth note A4, a dotted quarter note B4, an eighth note C5, a quarter note D5, and a quarter rest. A blue vertical bar is positioned over the dotted quarter note B4. The bottom staff shows the same sequence, but the blue vertical bar has been moved to the right, now positioned over the eighth note C5. This illustrates the process of tweaking a note's horizontal position.

A note or rest can be tweaked sideways or up an down (in this sense, “tweaking” means moving an entry). You will notice, that if rests are dragged they snap to a grid.

Macintosh: If you would like to move a rest smoothly, -drag. Noteheads can be dragged away from their stems by -dragging. The length of a stem can be tweaked by dragging the end of the stem.

Windows: If you would like to move a rest smoothly, **Alt**-drag. Noteheads can be dragged away from their stems by **Alt**-dragging. The length of a stem can be tweaked by dragging the end of the stem.

10.3.2 Special Tweaking

Some objects can be tweaked in special ways to obtain certain effects not used by all objects. These objects are examined below.

10.3.3 Tweaking Slurs and Ties

Slurs and ties can be tweaked in interesting ways. For instance, both the height and angle of the slur's arc can be altered, as well as the starting and end notes. How this is achieved is easy to understand after taking a look at the example below.

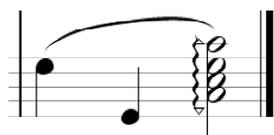
The image shows a musical score for two instruments: Elektrische Orgel (Electric Organ) and Klavier (Piano). Both parts are in 4/4 time. The Elektrische Orgel part has a treble clef and a bass clef. The Klavier part also has a treble clef and a bass clef. The score consists of four measures. In the first measure, both instruments have a pickup bar. In the second measure, the Elektrische Orgel has a slur over four eighth notes, and the Klavier has a slur over four eighth notes. In the third measure, the Elektrische Orgel has a slur over four eighth notes, and the Klavier has a slur over four eighth notes. In the fourth measure, the Elektrische Orgel has a slur over four eighth notes, and the Klavier has a slur over four eighth notes. The Elektrische Orgel part has a final double bar line with a repeat sign. The Klavier part has a final double bar line with a repeat sign. The Elektrische Orgel part has a slur that is higher than the previous one. The Klavier part has a slur that is extended to include the last two slurs.

The two treble parts in the example above are notated identically (apart from the pickup bars). The slurring differs, however. In the lower part, the slur above the first group of four quavers is selected, and the draggable square handles are shown. The next slur has been tweaked and is now higher than the previous one. The tweaking procedure has been executed by dragging the slur's two middle handles. The slur further to the right has been extended, and now includes the last two slurs. This has been achieved by dragging the slur's rightmost handle to the last note. Igor Engraver has then automatically redrawn the slur.

If **⌘** for **Macintosh** or **Alt** for **Windows** is pressed while dragging the slur's handles, the shape of the slur will be preserved when attached to a new entry instead of getting reformed. The same is true for ties.

10.3.4 Tweaking Arpeggios

Arpeggios can also be tweaked. When first applied (by making an entry selection and pressing **⌘-Shift-A** for **Macintosh** or **Alt-Shift-A** for **Windows**) an arpeggio will be attached to the notes of the entry selection (it will also play back correctly). When the arpeggio marking is clicked, small arrow-like triangles appear at the top and the bottom of the marking. If dragged, more or fewer notes will be included in the arpeggio (also cross staff).



10.3.5 Tweaking Page Numbers

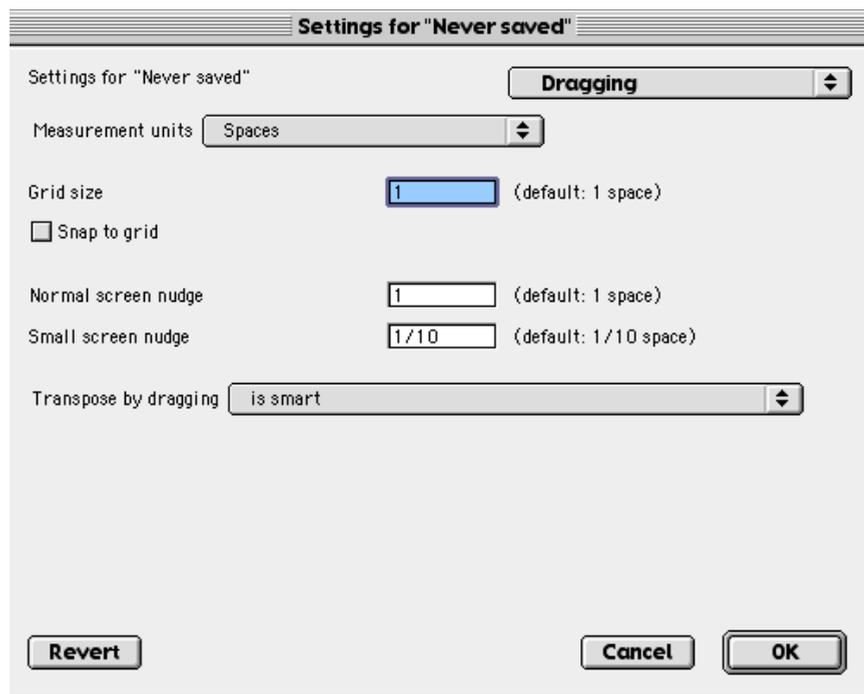
Many kinds of objects can be tweaked in groups if they are selected. However, page numbers do not have to be selected to be tweaked (since it may be a bit time-consuming to select objects on different pages). Instead, pressing the **Command (⌘)** key for **Macintosh** or **Control** for **Windows** while dragging one page number textbox tweaks all of the other identical page number textboxes as well (e.g., all left or right page numbers).

10.3.6 Nudging

Instead of dragging objects, the arrow keys can be used at times, e.g., when moving notes or rests (this procedure is called “nudging”). As default, if the left or right arrow keys are used, the entry moves one line space (a “line space” is the distance between two horizontal lines of a staff) at a time. If the **⌘** key for **Macintosh** or **Alt** key for **Windows** is pressed while using the arrow keys, the entry moves only a tenth of a space at a time.

10.3.7 The Dragging Pane

In the Dragging pane of the Template/Piece settings window, settings regarding tweaking and nudging can be altered.



Grid size refers to the distance between the (invisible) horizontal and vertical lines of the “grid” that dragged objects will be attached to, in case **Snap to grid** is checked.

Macintosh: If **Snap to grid** is checked and \mathcal{N} is held down while dragging, the dragged object *will not* be attached to the grid. Likewise, if **Snap to grid** is unchecked and \mathcal{N} is held down while dragging, the dragged object *will* be attached to the grid.

Windows: If **Snap to grid** is checked and **Alt** is held down while dragging, the dragged object *will not* be attached to the grid. Likewise, if **Snap to grid** is unchecked and **Alt** is held down while dragging, the dragged object *will* be attached to the grid.

Normal screen nudge and **Small screen nudge**, respectively, define the distance a selected object is to move when an arrow key or **⌘** or **Alt** and an arrow key are pressed.

10.4 Beam Breaks

Igor Engraver always creates correct beaming of notes. However, sometimes you may wish to create other kinds of beaming. In case you want to split a group of four beamed quavers/eighth notes into two groups of two beamed notes, press **/** in Input mode.

A group of quavers/eighth notes, before and after inserting two breaks.



If there are two or more beams present, pressing **/** breaks one beam at a time. To join the beams that have previously been broken, press **⌘-/** for **Macintosh** and **Alt-/** for **Windows**.

You are also able to break and join beams by Control-clicking for **Macintosh** and Right-clicking for **Windows** the first note of the beamed group and choosing **Break** or **Join** from the Beam submenu.

Finally, there is a checkbox named **Break beams at each beat**: available in the Beams pane of the Template/Piece settings window.

If that checkbox is checked, beams will be broken at each beat:

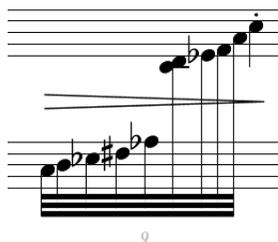


If unchecked, the same passage would look like this:



10.5 Cross-Staff Beaming

Cross-staff beaming is very easy to accomplish in Igor Engraver. Select the notes you want to cross-staff and choose **Up one staff** or **Down one staff** from the contextual menu's Cross staff submenu.

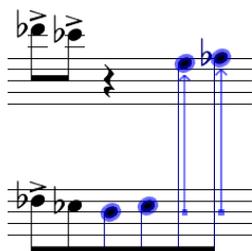


The notes that you want to cross-staff can be selected in any of the three ways: by creating an entry selection, by creating a note selection, or by drag and select outside Input mode.

Macintosh: In Input mode, you can also move the notes using the shortcuts **⌘**-up arrow and **⌘**-down arrow.

Windows: In Input mode, you can also move the notes using the shortcuts **Shift-Alt**-up arrow or **Shift-Alt**-down arrow.

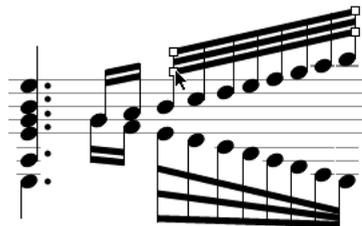
When cross-staffing has been applied to a note and the note is clicked, a blue arrow indicates the note's default position, as shown below:



Note that you are able to perform additional cross-staff operations of a note if the associated musician uses several staves, e.g., a piano on four staves.

10.6 Feathered Beaming

It is very easy to create feathered beaming (to indicate *accelerando* or *ritardando*) in Igor Engraver. Simply click once on one of the beams you want to tweak, and then drag one of the two inner handles that appear in the corner of the beam to “feather” it. Next, drag one of the outer beams’ handles to move the outmost beam. That’s all there is to it!



10.7 French Beaming

Igor Engraver can create what is referred to as “French beaming”. French beaming indicates that stems of a group of notes will only extend to the innermost beam, as shown below: In the first diagram, French beaming is not applied; in the second diagram, it is. The French beaming command also invokes fret blanking, i.e. the staff lines behind the beams disappear to increase legibility.

If the **French Beaming** checkbox – found in the Beams pane in the Piece settings window – is checked, French beaming will be applied to all the stems of a piece.



10.8 Suppressing Score and Part Keys

Some instruments, notably kettle drums (timpani) and French horns, are often notated without a fixed key signature. This is very easily accomplished in Igor Engraver.

In the Instrument settings window there is a checkbox called **Suppress score/part key**. It turns on and off the showing or fixed key signatures in scores and parts respectively. If it is unchecked, you get the standard behaviour most musicians are used to: fixed key signatures are put to the left of every staff to indicate the current key, and the individual notes on the staff refer to these as “defaults”. When the box is checked, fixed key signatures are not used – instead, individual sharps and flats are used in each bar. In the example below, the first French horn

musician has its box unchecked, whereas the second musician has the box checked.

10.9 Reservation of Space and Turning Off Announcements

Clef changes, time signature changes, and key signature changes normally get a suitable amount of space when they appear in the layouts. On some occasions though, you may want the layout to look as if there has not been any change at all. In that case, hiding the clef etcetera is not enough – you also need to get rid of the extra space. This can be done using the **Don't reserve room for XXX** from the Contextual menu, which appears if you Control or Right-click one of those objects:

In the figure below, the time signature becomes hidden and the music respaces. If the hidden time signature is Control or Right-clicked, it becomes possible to reserve room for it again.

The image shows a musical score with two systems. The first system has a treble clef, a key signature of three flats (B-flat, E-flat, A-flat), and a 3/5 time signature. It contains two measures of music. The second system has the same key signature and a 6/8 time signature. The '6/8' time signature is hidden. Below the staff, there are fingerings and bar numbers. The first system has fingerings 3, 5, 5, 7, 5, 7 and bar numbers 5, 7. The second system has fingerings 6, 8, 8, 8, 8 and bar numbers 10, 10.

If there is a clef change, a time signature change, or a key signature change in the beginning of a system, Igor Engraver automatically adds an announcement in the previous system. This announcement can be removed, by choosing **Turn off announcement of XXX** in the contextual menu. This announcement can be put back in the layout by choosing **Turn on announcement of XXX** when Control or Right-clicking the “real” time signature.

10.10 Repeat Sections and Repeat Barlines

Playable repeat sections can be added to a layout by using the contextual menu. First, insert a repeat barline (by using the Barline tool or by pressing **I** in Input mode). Then Control or Right-click the bar in which you want the repeat section

to begin and choose **Add repeat section** from the contextual menu that appears. A repeat section marking appears.

2

Sopranino recorder

French Horn in G

Almglocken

In the textbox that appears at the beginning of the repeat section, a number can be entered. It is of course possible to write anything in the textbox, and there are only two rules for writing repeat numbers:

- Any letter or combination of letters can be inserted between the numbers (such as “1 (Primo) and 2 (Secondo)”) and Igor Engraver will still play back the piece correctly (in this case, it will play through the specified passage twice and then continue).
- If a hyphen is inserted between two numbers, such as “1-3”, Igor Engraver will play back the piece accordingly (three times in this case).

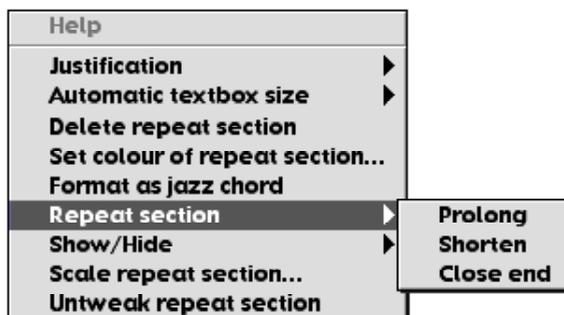
To get playback to work as expected, a repeat sign must have the right ending – it can be either “open” or “closed”. If the repeat sign is to end before a repeat barline, it has to be closed (shown below left), but if there is no repeat barline it can be open (shown below right).

1.

2.

These endings can be changed by choosing **Open end** or **Close end**, respectively, from the contextual menu. As can be seen, there are also commands to prolong

and shorten repeat signs. When chosen, Igor Engraver will prolong or shorten one measure at a time.

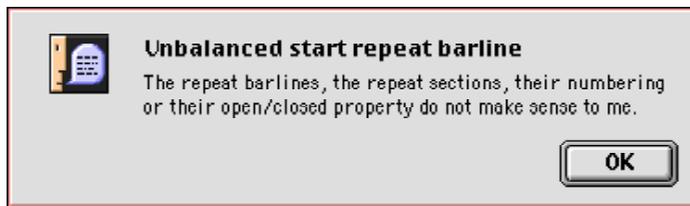


Repeat barlines can be nested (that is, one group of repeat barlines can be enclosed by another) and sequenced in arbitrarily many layers, as shown in the canon below:



The example above would be performed in this manner: Bar 1-5, bar 4-6, bar 2-5, and then bar 4-6.

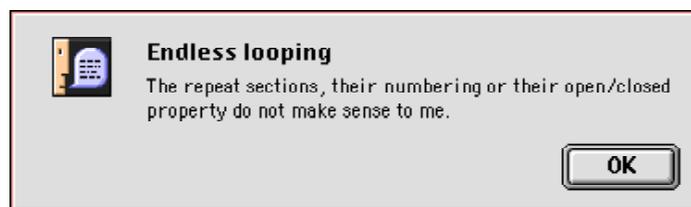
If there are too many start or end repeat barlines in the layout and the Play button is pressed, Igor Engraver warns the user that it is not possible to play back the piece accurately. Still, the program tries to ignore the error and starts playing anyway.



As can be seen in the window, Igor Engraver understands whether there are too many start or end repeat barlines; if there would be too many end repeat barlines,

the message above would have read “Unbalanced end repeat barline” instead. Thus, it is possible to check for these kinds of errors simply by pressing Play.

The same behaviour is true for repeat sections; if repeat sections are inserted incorrectly (e.g., there is a risk of endless looping due to mistyped repeat numbers), Igor Engraver alerts the user properly:



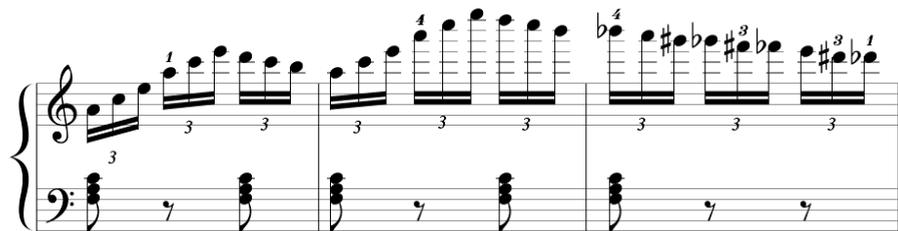
10.11 Ottava Passages

Ottava passages can easily be added to notes. Control-click for **Macintosh** or Right-click for **Windows** a note and choose **Select 8va start**, **Select 8vb start**, **Select 15ma start**, or **Select 15mb start** from the Ottava passage submenu.

Now Control or Right- click the note that you want to be last in the selection. From the Ottava passage submenu, choose **End & Insert passage**. The ottava passage will now become inserted in the layout.

When an ottava passage is inserted, the notes will get “visually” transposed. That is, their sounding pitch will remain the same, but the written pitches will be moved one or two octaves up or down in the staff. This way you will not run into any problems when working with real-time recording. This behaviour is shown below:

A passage, before adding an ottava passage:



The same passage, after adding an ottava passage:

Note that the notes will play back the correct pitches (inserting an ottava passage will not affect playback at all).

Ottava passages are only applied to other layouts of the same kind: if you insert an ottava passage in one transposing part layout, other transposing part layouts will be affected, while untransposing score layouts remain unaffected. (There are three layout types: transposed part layouts, transposed score layouts, and untransposed layouts.) This further means you can have an 8va in a transposing part layout and at the same time have a 15ma in an untransposed score layout – they are totally independent of each other.

In case you copy a piece from sheet music, you may want to insert the ottava passages the way they appear in the score (as you know, executing the **End & Insert passage** command will move the notes up or down). There are two ways to do this:

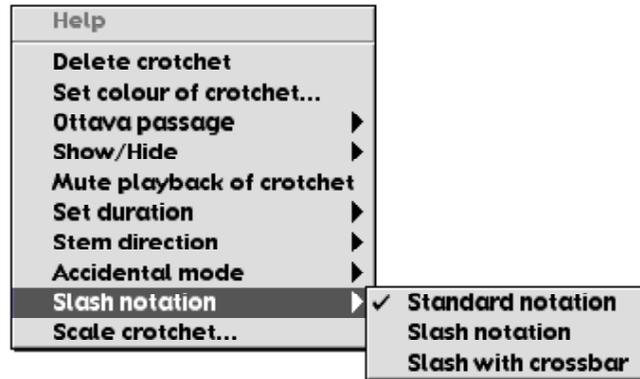
- Either transpose the notes of the ottava passage back to their former positions manually by dragging, by using the **Transpose...** command, or
- Choose one of the ottava passages commands after you enter the first note of the ottava passage – the rest of the notes will be correctly interpreted by Igor Engraver. When the ottava passage is about to end, simply choose **End & Insert passage** and continue working as usual.

10.12 Jazz and Pop Formatting

Igor Engraver supports jazz and pop notation in several ways. This section examines how to create slash notation and jazz formatted chords. Tablature is examined in the Tablature chapter.

10.12.1 Slash Notation and Repeat Bar Symbols

Changing regular notation into slash notation is very simple indeed: Control-click the desired passage, and choose **Slash notation** from the contextual menu's Slash notation submenu. If you want crossbars on the notes, choose **Slash with crossbar**.



Below is an example of slash notation with crossbars on some quavers.



Semi-breve/whole note rests may be replaced by repeat bar symbols, using the **Set repeat bar symbol** contextual menu command. Note that this is only possible when the bar is completely empty, i.e., the semi-breve/whole note rest must be Igor Engraver's default, and not an input semi-breve rest.



10.12.2 Jazz Formatted Chords

In Igor Engraver you can format chords in the jazz standard format. When dealing with a lot of chords, to make the formatting as fast as possible, you will press certain keys on the computer keyboard, and then choose a contextual menu com-

mand. Observe that you can use this feature to format instrument name text-boxes, such as Clarinet in B flat – in this case the word “flat” can be exchanged for a flat sign.

First, enter a regular staff textbox (the middle choice for text on the Tool palette) above the desired note or chord. Then, enter the chord name using the certain jazz format syntax, which is examined below. Finally, to change the unformatted jazz chord text to the formatted chord text, Control or Right-click the textbox and choose **Format as jazz chord** from the menu that appears (several textboxes can be formatted at once if they are drag selected or Shift-clicked). Observe that changes will not take place until you click outside the textbox. When the textbox is entered again, the text will become unformatted for editing purposes.

Grouping of Text

There are several ways to format groups of text vertically:

- **[a b c]** signifies three groups of text, positioned on top of each other. “a” is positioned at the top (superscript), “b” is positioned in the middle, and “c” is positioned at the bottom (subscript). Note that the groups are separated by spaces.
- **[a b]** is the same as above, but room is only made for two groups of text.
- **[a b]** adds extra room in the middle (there are two spaces between “a” and “b”).
- **[a]** “a” is formatted as superscript.
- **[a]** “a” is formatted as subscript (note the space in front of the “a”).

If parentheses are used instead of brackets, the parentheses become displayed, as can be shown in one of the examples below.

As always, you can control the font, size and spacing of the text in the Piece settings, and a new font and size may be chosen from the Font menu.

Special Symbols

You can insert certain special symbols, such as flats and sharps, using the following syntax:

Key(s):	Action:
<code>\b</code>	Insert a flat sign
<code>\B</code>	Insert a double flat sign
<code>\#</code>	Insert a sharp sign

Key(s):	Action:
\x	Insert a double sharp sign
\o	Insert a circle
\t	Insert a triangle
\n	Insert a natural

To add symbols otherwise used for the syntax itself, write the following:

Key(s):	Action:
//	Insert a forward slash ("/")
\\	Insert a backslash ("\")
\(Insert an opening parenthesis
\)	Insert a closing parenthesis
\[Insert an opening bracket
\]	Insert a closing bracket

Root Degrees

Root degrees can be formatted in this manner:

- **a / b** results in a root degree with a diagonal line separating the chord from the root degree (this feature is coming shortly).
- **a /- b** results instead in a horizontal line separating the chord from the root degree.

Jazz Chord Examples

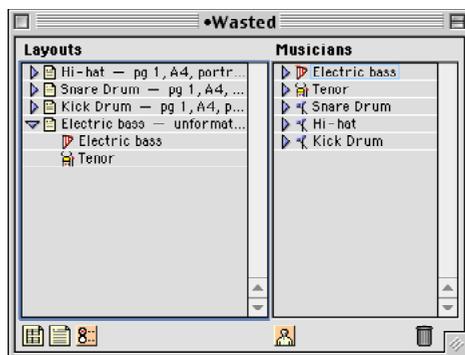
The figure below displays some jazz format script examples:

Fmaj[7]	Fmaj ⁷
Amaj[9 7]	Amaj ⁹ ₇
D7[\b9 +5]	D7 ^{b9} ₊₅
E[\b]7[sus4]	E ^b 7 ^{sus4}
C[\#] 7 (\b13 \#11 \b10)	C [#] 7 $\begin{pmatrix} b13 \\ \#11 \\ b10 \end{pmatrix}$
Gm[7]/-C	$\frac{Gm^7}{C}$

10.13 Creating Drumset Notation

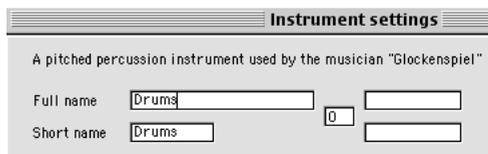
It is fully possible to create drumset notation in Igor Engraver, and to achieve correct drumset playback as well. This is how it's done:

First, create one musician for each drum instrument (i.e., one kick drum musician, one snare drum musician, and so on. If you are going to input pop or jazz drums, you may want to open the Instrument settings of these instruments and change the reverb and pan settings.

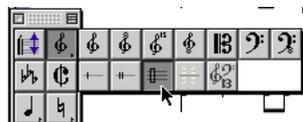


Input the music of the various instruments in the correct parts.

Now, create a new musician – its kind will not matter as it will not play back, but it is wise to use a percussion instrument so that it appears in the correct orchestral order in your final score. Using Glockenspiel is a good suggestion, as because of its range, the drum notes will not likely show red (out of range). In the Musician settings, change the name to Drums or the like. Do the same thing in the Instrument settings for the new musician.



Open a layout for the new musician and, if desired, change the clef type to a drum clef (observe that you can choose between several kinds of drum clefs).



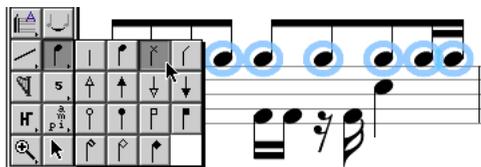
Copy the music of one of the drum musicians (preferably one with stems that should be pointing up), and paste that music into layer 1 of the new musician. If you have a repeated drum pattern you might be better off if you only copy the first bar(s), as you will have to do some adjustments afterwards.

Copy the music of the next musician (preferably one with stems pointing down), and paste this music into the new musician's layer 2.

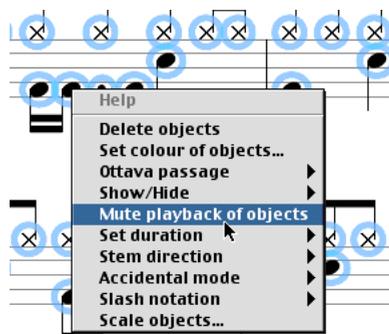
Repeat these steps for the other musicians. In case you want the drum noteheads of two or more instruments to share one stem, you will have to add these notes individually. In other words – do not copy the music of those instruments.

If you want to, you can now change the appearance of one or several of the drum noteheads. If you want to change only a few noteheads, click on the Notehead subpalette, choose the appropriate notehead type, and then click on the desired noteheads. If you want to change all noteheads of one layer, double-click one of

them and then click the appropriate notehead type (observe that there are many different drum notehead types to choose from) in the Notehead subpalette.

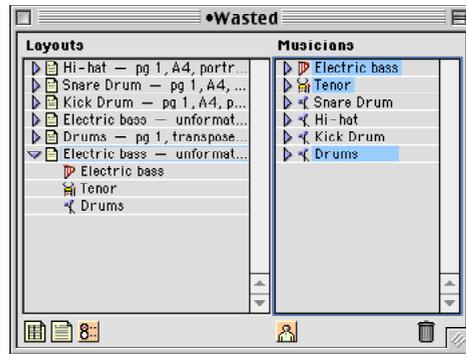


Select all of the music of the new musician by triple-clicking a note, and choose the **Mute** contextual menu command. This way, the new musician will not generate any sound. Instead, the sound comes from the original drum instruments: Under **Windows**, to hear all of the music you will either need to create a layout consisting of the different drum musicians and the other instruments, or having the Piece window topmost and choose the Play command from the Edit menu's MIDI submenu; on a Macintosh, you will automatically get playback from all layouts.

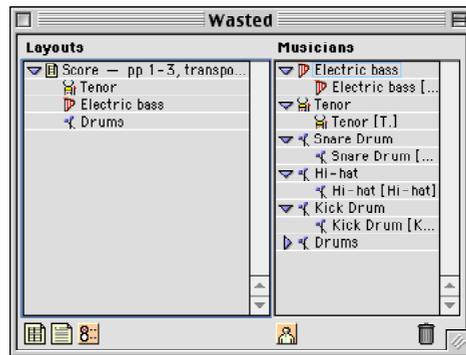


Finally, create a new layout (part or score, whichever you prefer) consisting of the new musician and the other instruments you want to include in the final sheet

music. Now you have a score or part consisting of some musicians, with drums playing back correctly.



To speed up Igor Engraver, you can delete the part layouts of the original drum instruments (as the music resides within the musicians – not in the layouts). Also, if you are creating a pop piece, you might want to change the order of the the layout's musicians, as shown in the left pane below. (The layouts update automatically if you change the order of the msuicians.)



This is part of the resulting file - the kick drum and the snare drum have their stems downward (they are in layer 2) and the hi-hats have modified noteheads. Observe that the key signature has been hidden. (It is of course also possible to

delete the key signature markings completely, but then they will reappear in new or altered layouts.)

A musical score for a piece in B-flat major. The score consists of three staves: a vocal line in treble clef, a bass line in bass clef, and a drum line in bass clef. The vocal line has lyrics: "Sad she _____ walks a - way__ from me. _". The bass line is a simple accompaniment of eighth notes. The drum line uses 'x' symbols to represent notes on a single staff.

As drum parts can consist of many instruments, it can prove useful to colour certain noteheads, or entire layers. Observe that there are many other ways to use Igor Engraver for drum notation, including using several staves, adding articulation symbols and much more.

10.14 Changing Music Fonts

It is easy to change the default music font – Igor Engraver Classic – to a music font created by third parties, provided these fonts are supported by Igor Engraver. If you have them installed in your Fonts folder, their names will appear in the Template/Piece settings window's Music fonts pane. If you change the settings in the Music fonts pane, the layout becomes updated on the fly. Igor will instantly remap the music symbols and recalculate the spacing and things like slurs and beams for you.

This gives you an opportunity to have different looks of one piece, e.g., for delivering the piece to a publisher using one format, when preferring another font yourself. The feature may also be useful if you want to add a Jazz-look to your piece.

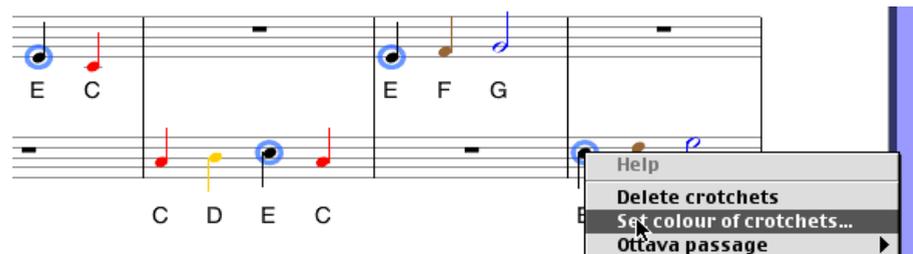
Igor Engraver currently supports:

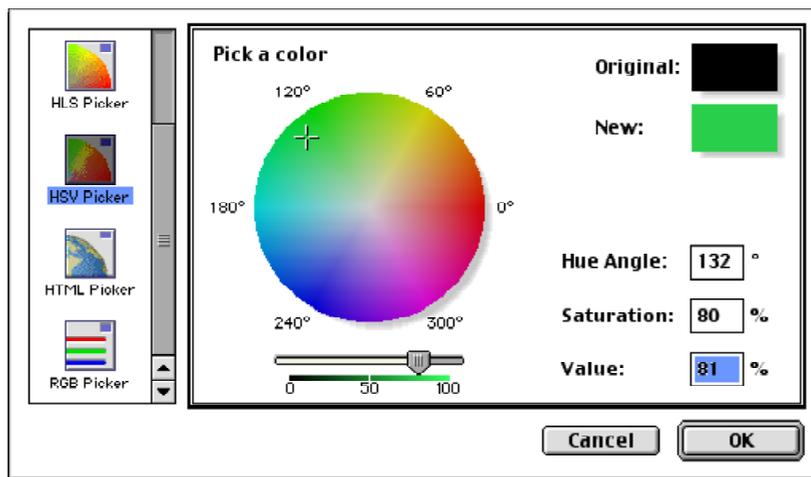
- Igor Engraver Plate
- Igor Engraver Classic

- Sonata
- Petrucci
- Maestro
- Engraver Font Set
- Susato
- Lee Music
- Ash Music
- Golden Age Music
- Jazz

10.15 Changing Colour of Objects

It is possible to change colour of the different objects in the layouts. Naturally, the colours applied will be printed on colour printers and they will also appear in IGP (Igor Publishing) files. The colourisation process is simple – just select one or several objects, choose **Set colour of XXX...** from the contextual menu and choose a new colour from one of several panes.





The result of such an operation can be used for educational purposes. This can be seen in the example below, where the young student gets to learn the relationship between notes of different octaves through colourisation.

Frère Jacques

- Deuxième leçon -

Pierre Terrenue

The musical score for 'Frère Jacques' is presented in two systems. The first system shows the melody in the treble clef (C, D, E, C) and bass clef (C, D, E, C). The second system shows the melody in the treble clef (G, A, G, F, E, C) and bass clef (G, A, G, F, E, C). The notes are color-coded to show octave relationships: C is red, D is yellow, E is green, F is blue, G is purple, and A is pink.

10.16 Spacing

Spacing – not to be confused with tweaking – is a process of calculation that Igor Engraver executes for you. The object of using the spacing algorithms is to create layouts that are pleasant to the eye.

In Igor Engraver, the term “spacing” is used in two ways:

- Spacing within bars. In this case, “spacing” refers to how the musical elements of a bar are to be spaced.
- Spacing of bars. Here “spacing” refers to how many bars should fit on a specific system.

Igor Engraver uses an advanced spacing algorithm in order to give every layout a professional look. Nonetheless, sometimes you may want to make changes to the two kinds of spacing manually. This section describes how.

10.16.1 Spacing Within Bars

There are three ways you can adjust the spacing within bars: by dragging barlines, by changing the number of bars that can occupy one system, and by changing the spacing settings in the Template/Piece settings’ spacing panes. (The spacing comma feature is especially suitable for this: it is used to separate objects that otherwise would be colliding.)

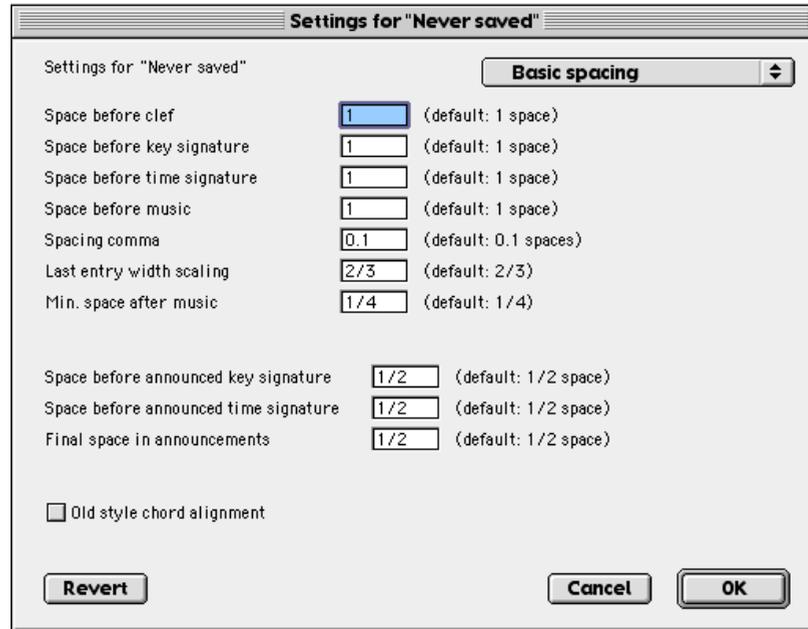
Respacing a bar by dragging a barline is a simple task: just drag the barline to the desired position, and the music of the two associated bars will adjust automatically.

Two bars, before and after dragging:

The image shows two musical staves for Viola d'amore, both in treble clef with a key signature of two sharps (F# and C#) and a common time signature (C). The top staff shows two measures of music. The first measure contains a half note (F#4), a quarter note (G4), and a quarter note (A4). The second measure contains a quarter note (B4), a quarter note (C5), and a half note (B4). A slur covers the first four notes. The dynamic marking *mp* is below the first measure, and *mf* is below the second measure. The bottom staff shows the same two measures after a barline has been moved to the right, between the first and second measures. This adjustment has compressed the spacing within each measure, making the notes appear more tightly packed.

By changing the number of bars that may fit on one system, you force the bars to be respaced. This kind of change is described in the next section.

Finally, there are some panes (such as the one pictured below) in the New or Current Piece settings that are devoted to this matter; see the Appendix for further information.



10.16.2 Spacing of Bars Between Systems

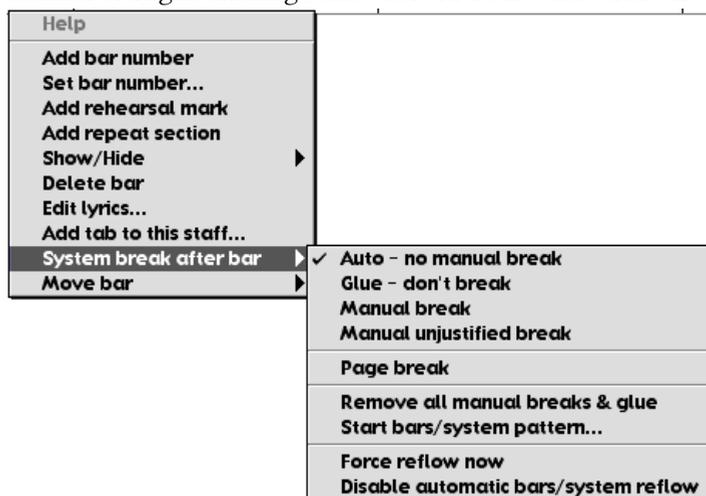
Spacing of Bars Between Systems

There are a number of ways to control how Igor Engraver should place bars onto a page:

- Setting a Manual break, which forces the chosen bar to be the final bar of its system. The bar gets justified to the right.
- Setting a Glue – never break, which forces Igor Engraver to attach two specified bars.
- Setting a Manual unjustified break, which works as a manual break except that the width of the system will be allowed to be less than the system width.
- Defining a fixed number of bars per system, by using the Start bars/system command.
- Using the System tool (as described in 8.1.11 “The System Tool” on page 137).
- Using the Page contextual menu (as described in 9.3 “The Page Example” on page 146).

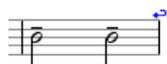
- Using the options available when the page margins are shown (see “Show/Hide Margins” on page 231).

The first four options are available from the contextual menu that appears when Control or Right-clicking somewhere in a bar where there are no objects.



Creating a Right-Justified System Break

Setting a **Manual break** will force a bar to be the final, right-justified bar of its system. This is accomplished by Control or Right-clicking the bar you want to be the final bar of a system and choosing **Manual break** from the contextual menu. A blue arrow appears to the right of that bar, indicating a manual break has been inserted:



A manual break can, among other things, be useful for creating a chorus that extends to the right of a system. To remove a manual break, Control or Right-click the desired bar and choose **Remove break** from the contextual menu. Note that all breaks and glues can be removed by choosing **Remove all breaks & glues** from the contextual menu.

Creating an Unjustified System Break

Setting a **Manual unjustified break** works as setting a manual break except that the width of the system will be allowed to be less than the default system width. A

blue arrow with a dotted end appears to the right of that bar, indicating an unjustified break has been inserted:



Typically you may want this setting applied to the bar before a coda marking which should be as easy as possible to find. To remove a manual unjustified break, Control-click the desired bar and choose **Remove break** from the contextual menu. (Note that if the unjustified break is placed near the right margin, the break may still be justified, since Igor Engraver always strives to make your score look as good as possible.)

Gluing Two Bars Together

Setting a **Glue - never break** forces Igor Engraver never to break after a specified bar, and the “glue” is indicated by a blue arc:



Setting a glue can be useful for making the music more readable if there are clef changes, key changes or other changes that you may not want to appear in a system break. A certain text passage might also be more readable if the text is kept together on one system. To remove a glue, Control or Right-click the desired bar and choose **Remove break** from the contextual menu.

Bars/System Patterns

If you would like to have a fixed number of bars per system, you can use the **Start bars/system pattern...** command, which brings up a window in which you are able to set a fixed number of bars for each system from the specified bar on.

In this manner you can also easily make manual modifications. A typical situation would be creating a repeat section with a first and a second ending of one bar each. Even if you should have four bars in each system of the piece, you might want to keep both the endings 1 and 2 on the same system (which means you will need five bars for the last system of the repeat section to keep the symmetry). This is achieved by starting a new bars/system pattern after the second ending and by changing one bar from manual break into never break.

If you prefer this way of working, you should wait with the bars/system spacing until the whole piece has been input into Igor Engraver so you can see how to adjust your music from the start of the piece to the end.

A second way to work with fixed number of bars per system is using the Layout settings checkbox **Fixed no. of bars/system** in the Bar grouping pane. This way, Igor Engraver will always use the same number of bars per system whatever you do – even if you insert or delete bars Igor Engraver will always keep the number of bars per system constant.

There is a very clever use for this feature: staff paper can be produced in just a few seconds using the **Start bars/system pattern...** command! First, create a layout with the desired instruments. Next, choose **Start bars/system pattern...** and set the number to 1. This way every system contains only one bar, so you will not have any barlines in the middle of the systems. (Alternatively, set the number to three or four if you want three or four bars per system.) To hide the semi-breve/whole note rests, enclose them using click-drag and choose **Hide semi-breves** from the contextual menu. If you want to, you can hide the rightmost barlines as well and other objects on the page too.

Forcing Reflow of Bars

When you are working on a piece, you may find that the spacing of one or several bars does not look as good as you would expect. This is because Igor Engraver lets you work to some extent without recalculating the spacing of bars all the time, thus saving processing time. The command **Force reflow now** overrides this function and may produce even better spacing results.

To Speed Things Up

There are two things related to system breaks that may speed Igor Engraver up (if you do not have any speed-related problems when running Igor, you can ignore these tips):

- Use manual breaks in long pieces. Since manual breaks are very definite, they cut down the number of bars that Igor Engraver has to process. Moving bars from system to system takes time and a manual system break prevents bars from being moved beyond that system.
- Disable automatic bars/system reflow: This means that you will have to manually respace the music or enable the reflow again when a system gets too crowded or when your piece is completed.

CHAPTER II | Text Entry

There are several methods for entering lyrics and other text – such as subtitles or playing instructions – in Igor Engraver.

II.1 Entering Lyrics

There are two ways to enter lyrics in Igor Engraver, by typing the lyrics directly into the score and by using the Lyrics Editor. The following two sections describe how.

II.1.1 Entering Lyrics Directly Into the Score

The Basics

First you insert the notes that will be used in the piece, as shown in the figure below:

Ave maris stella

Edvard Grieg (1843-1907)

Tenor

=

While in Input mode, place the input caret after the first note you want to attach lyrics to. Now, while holding down Shift, press the Space bar. (Note that if the bar is empty, it is not possible to add lyrics using **Shift-Space**.) A cursor will

appear below the note, and a verse number will appear to the left (verse numbering can be turned off, as explained below).



Type the syllable that belongs to the note. If the word requires two or more notes (e.g. “Ave”), type the first part of the word (e.g. “A”), then “-” and then the rest of the word (“ve”). Thereafter, press the Space bar to move on to the next note. If the word you are typing requires only one note, type the text and press the Space bar to move to the next note. Pressing **⌘-Space** for **Macintosh** or **Alt-Space** for **Windows** results in a non-breaking space (as can be seen in the Fauré example in this section).

Every time you press Space, the cursor moves one note to the right. This will be necessary when there is a rest in the score, since syllables can be attached to rests as well as to notes (although not very common, attaching lyrics to rests is used in some types of music).

To enter a second verse, just hold down Shift and press the Space bar once again. The second verse number will appear and you will be able to enter the lyrics of the second verse.

To move the text box between the syllables or verses, simply use the arrow keys. If you place the textbox somewhere in the first verse and then press the up arrow or return, you will leave lyrics input but stay in Input mode. You may then return to Lyrics input by entering **Shift-Space** once again.

A-ve Ma-ris Stel-la

In this section you will find out how lyrics may be attached to a part of a choral piece by the Norwegian composer Edvard Grieg.

Ave maris stella

Edvard Grieg (1843-1907)

Tenor

1 A - ve ma - ris stel - la.
2 Vi - tam præ - sta pu - rum.

Writing the lyrics of this piece is a five-step process:

- Double-click on a staff (to enter Input mode) and place the input caret after the first note.
- Press **Shift-Space** (to enter Lyrics input, and to get the verse number “1” applied automatically).
- Write the following: A-ve<SPACE>ma-ris<SPACE>stel--la.
- Press **Shift-Space** once again (to start entering the lyrics of the second verse, and to get a second verse number).
- Write the following: Vi-tam<SPACE>præ-sta<SPACE>pu--rum.

Note: The number of hyphens inserted by Igor Engraver depends on the distance between the syllables. Therefore, if you drag the minim closer to the previous notes, you will only get one hyphen, and if you drag it to the right (or extend the bar) you will get more hyphens.

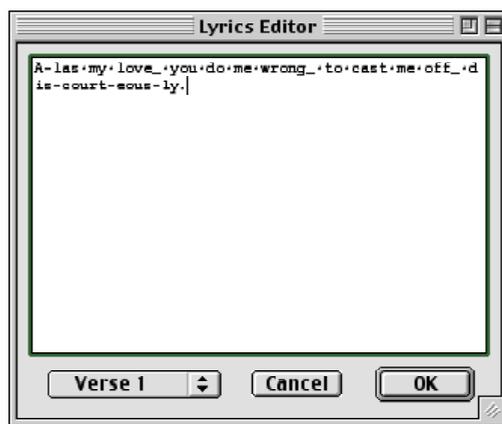
Adding Melismas and Extenders

If you want to create a melisma, that is, a syllable that stretches over several notes, you just have to press “-” once, and then the Space bar for every note that is to be included in the melisma. Igor Engraver inserts an appropriate number of hyphens for you, and automatically makes necessary changes, should you ever want to insert or delete a few notes of the melisma.

To make the Lyrics Editor appear, Control or Right-click the staff to which you want to apply the lyrics, and choose **Edit lyrics...**



Type the text the same way as has been done in the previous examples, or copy text from another document (remember though to add hyphens, underscores and spaces). Then press **OK**. Now the text will appear in the score! If you have a slow computer, it may be better to use the Lyrics Editor than to type the lyrics directly into the score, since Igor Engraver will not have to update the screen for every syllable you type. Below is an example of how to use the Lyrics Editor:



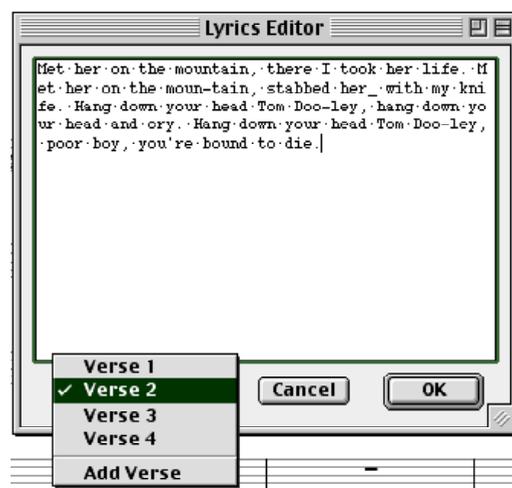
The text typed into the Lyrics Editor above will result in the following (if the Lyrics Editor has been selected from the contextual menu to the right of the first note).

Mezzo-soprano

I. A - las my love__ you do me wrong__ to cast me off__ dis -

court__ cou__ ly.

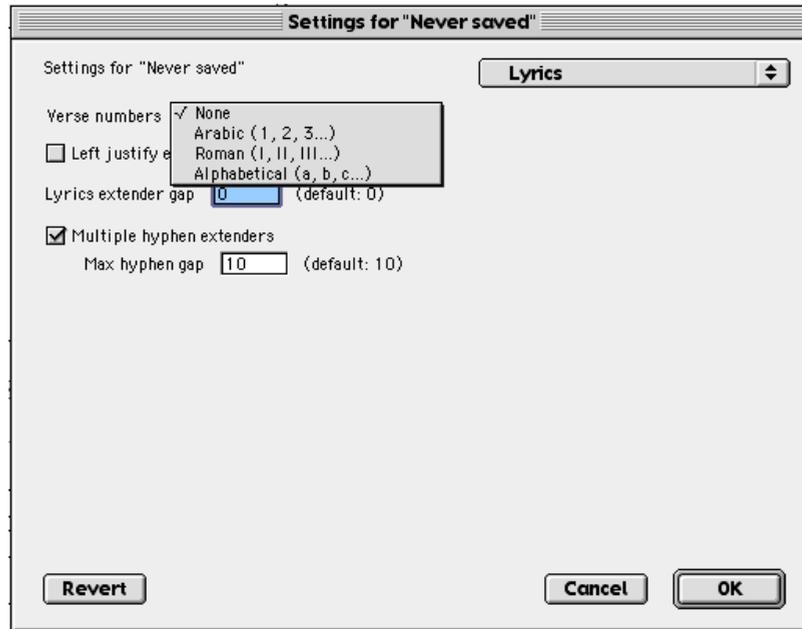
It is easy to add more verses directly into the Lyrics editor: simply select **Add verse** from the pop-up menu at the bottom left of the window and type in the next verse. The number of the new verse will be added to the pop-up menu. This way you can move back and forth between the verses and edit all of the lyrics without leaving the Lyrics editor.



Two final notes about the two ways of entering lyrics:

- It is always possible to edit lyrics both by making changes in the Lyrics Editor and by making changes directly in the score, and it does not matter how the lyrics have been entered the first time.

- In the Lyrics pane of the Template/Piece settings window you are able to edit the appearance of the verse numbering. The verses can be numbered in several ways, and also have no numbering at all, as shown in the diagram below.



11.1.3 Shifting Lyrics To the Left or To the Right

There may be times when you need to shift lyrics to the left or right, e.g. if you have typed the lyrics in the Lyrics Editor and forgotten to enter an extra space for a rest, as in the following example:

1

Bass

CANTIQUE de JEAN RACINE

Op. 11

Gabriel FAURÉ

12 Ver-be é-gal au Très-Haut. No-tre u-ni-que es-pé-ran-ce.

Everything looks right, except for the lyrics, which are placed one entry too much to the left. (Note that the second and third syllables – “be” and “é” – are attached to the same note. This is accomplished by inserting a non-breaking space in between the two syllables, which is created by pressing **⌘-Space** for **Macintosh** or **Alt-Space** for **Windows**.) What one needs to do at this point is to shift the lyrics one step to the right. This is done by **Control** or **Right-clicking** the desired word or words:



(As shown above, you can also delete, hide or scale a syllable this way.) The result of shifting to the right looks like this:

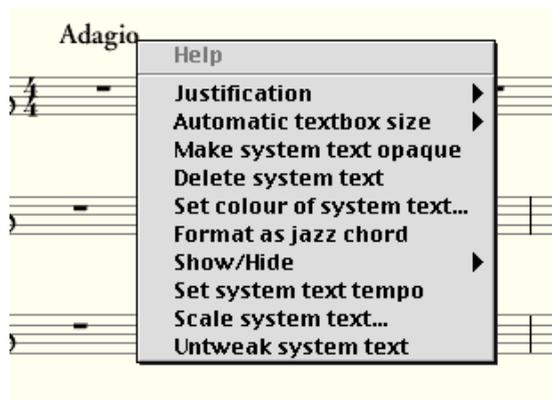


11.2 Textboxes

There are several kinds of textboxes used in Igor Engraver, but they all have consistent behaviour. They are placed onto a page by using one of the textbox-associated tools of the Tools palette. Below, from left to right, are the Page text tool, the System text tool, the Staff text tool, the Entry expression tool, and the Rehearsal mark tool.



An easy way to change the appearance of a textbox is using the contextual menu.



In the **Justification** submenu you can control how the text in a textbox is to be justified, **Left**, **Right**, or **Center**.

The **Automatic textbox size** submenu's two commands **Horizontal** and **Vertical** lets you define the size of the textbox. If checked, Igor Engraver makes the textbox window as small as possible.

Make system text opaque allows one to change the text to opaque. If this is done, the text will be seen over other entries such as staff lines.

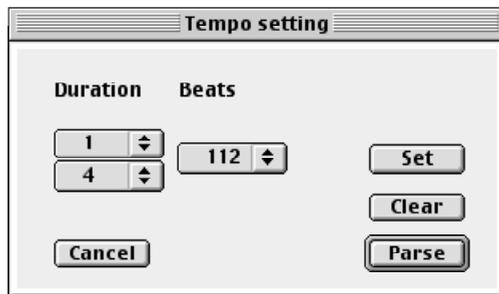
Delete system text allows you to delete a system text.

Set colour of system text... allows you to change the colour of the textbox.

Format as jazz chord will allow you to format the text into a jazz chord.

Show/Hide textbox shows or hides the textbox. In other words, it will be greyed out on the screen and will not appear when the page is printed.

Set system text tempo brings up the Tempo setting window, shown below:



Changes made in this window sets the playback tempo of the textbox. This way, tempo text that is not supported by Igor Engraver (for example, tempo text in unsupported languages) can still affect playback behaviour. If there is already a valid name (such as Allegro), the settings of the Tempo setting window overrides the tempo set in the textbox. The settings shown in the diagram above means there will be 112 crotchet/quarter note beats per minute. If **Set** is selected, the changes will take effect. If **Clear** is selected, changes in the textbox will be cleared and the window will be closed. If **Parse** is selected, the tempo of the Tempo setting window will default to Igor Engraver's setting for that tempo.

Scale system text... brings up a window in which you can define the scaling percentage of the textbox.

Untweak system text returns the textbox to its' default positioning.

11.2.1 Page Text

A textbox that the Page text tool (the leftmost icon) creates is the same kind as the default textboxes used for displaying the title, the subtitle, and the name of the composer. To create such a textbox, point, click and drag at the desired position in the score. In the example below, a selected textbox is shown. When selected, it is possible to resize the textbox. The text gets redrawn in real time to adjust for the changes in size.

There are several contextual menu commands that define the appearance of the text, such as the justification (left, right, or centered text). When the textbox is selected (clicked once), it is also possible to choose another font of the textbox from the Font menu.

Macintosh: In case you want to insert an additional line of text, press ⌘ -Return.

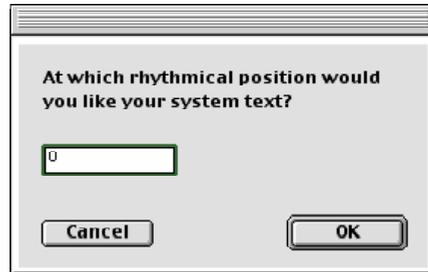


11.2.2 System Text

The System text tool creates a textbox that is attached to the system being clicked. The terms that affect playback when they are written in a System textbox, such as “Adagio” or “Faster”, are listed in Appendix C. All of these terms may be entered with or without periods and still affect playback. However, if other words are added to the keywords (“Faster *and faster*”), they will not be recognised. Thus, the tempo will have to be manually set using the Tempo setting window (available from the contextual menu when clicking the tempo textbox).

If an entry is clicked, the textbox will be attached to the rhythmical position of that entry. If clicked elsewhere in a bar a window appears, asking at what rhythmic position the textbox is supposed to be entered. The positions are expressed as “0”, “1/32”, “3/4”, and so on – but not as “4/4” or “32/32”. If you are not certain of the numbering you, can try for yourself by selecting **Show sync points** from the

Layouts menu. This way, you are able to apply textboxes to beats even where no entries begin.



11.2.3 StaffText

The Staff text tool creates a textbox that is attached to a specific staff. Staff text does not affect playback.

11.2.4 Entry Expressions

The Entry expression tool creates a textbox which is attached to a specific entry (a note, chord, or a rest). The terms that affect playback behaviour are:

- pizz, pizzicato, arco, staccato, stacc, staccatissimo, gew, gewöhnlich
- trem, tremolo
- legato, legatissimo
- con sord, con sordino, con sordini, mit Dämpfer, mit Dpf, straight mute, straight mutes, mute on, mutes on, senza sord, senza sordino, senza sordini, ohne Dämpfer, ohne Dpf, mute off, mutes off
- Harmon, Harmon mute
- arp, arpegg, arpeggio, arpeggiato, arpeggiati, no arpeggio, non arp, non arpegg, non arpeggio, non arpeggiato, non arpeggiati
- Solo, en dehors, in rilievo
- ord, ordinario.

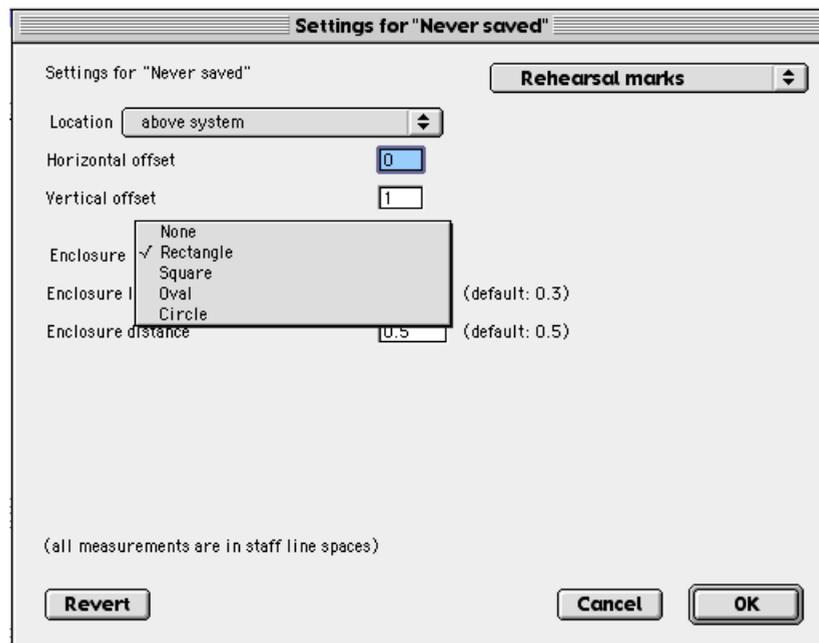
All entry expressions may be entered with or without periods and they will still affect playback.

11.2.5 Rehearsal Marks

The Rehearsal mark textbox creates textboxes that apply to the entire system, just like the System textboxes, but they are displayed differently: by default, they have an enclosure line around the text, as shown below.



The Rehearsal marks pane in the Template/Piece settings window is used to determine how the rehearsal marks should look. For example, different sorts of enclosures that can be chosen:

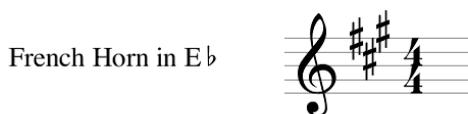
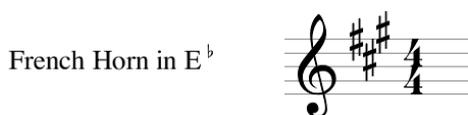
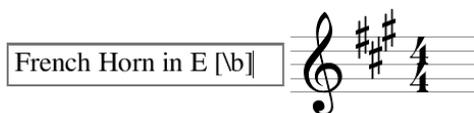


11.2.6 Importing Text

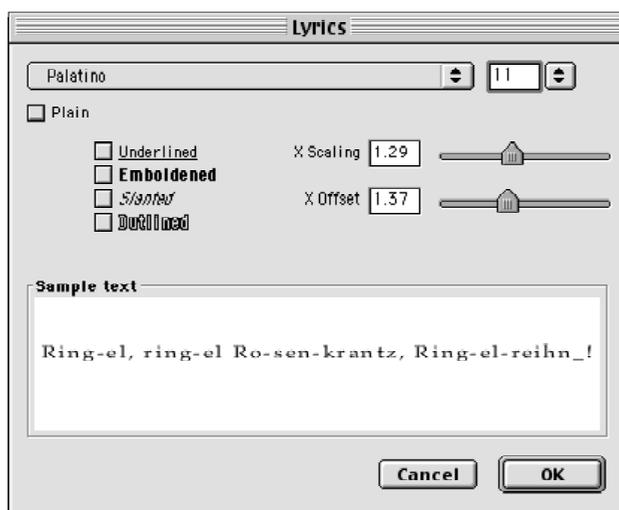
It's easy to import text from other programs, since you can paste text from the clipboard. You can even create new textboxes by dragging selected text from other programs onto an Igor Engraver layout.

11.2.7 Special Text Formatting

All textboxes can be formatted using the **Format as Jazz chord...** command, which appears in the contextual menu when a textbox is Control or Right-clicked. This means “Clarinet in B flat can have the word “flat” replaced by a flat sign, which can also be set as superscript. Turn to 10.12.2 “Jazz Formatted Chords” on page 170 for further information.



Furthermore it is possible to change the width of the letters used and also the distance between them. This is done on a global basis in the Edit windows that are found in the different Text fonts panes.



CHAPTER 12

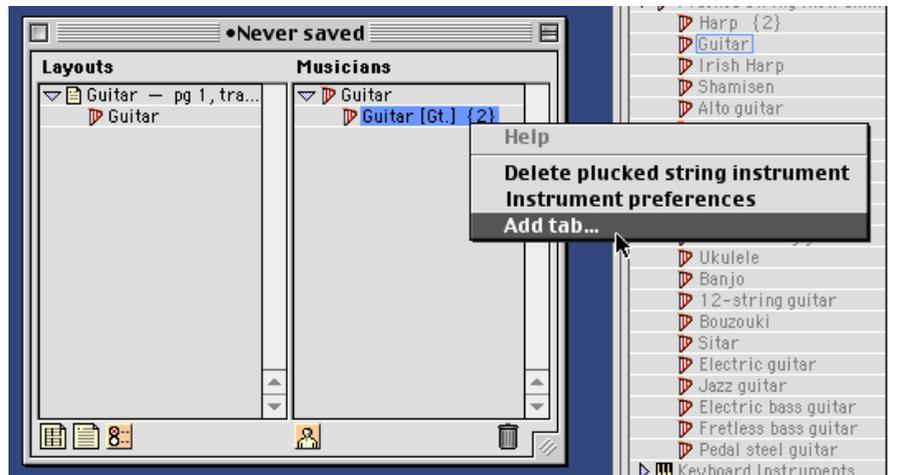
Guitar Fingering & Tablature

There are two sets of features to support guitar notation in Igor Engraver: guitar fingering—such as string, fret, left hand and right hand indications—and tab notation which is a popular, more visual music notation. Igor can also notate simple guitar chord diagrams, which are described in chapter 7.

12.1 Basics

The easiest way to get acquainted with guitar and tab is to do some hands on experimenting. Here's a guide which will get you briefly acquainted with the full range of what Igor Engraver has to offer.

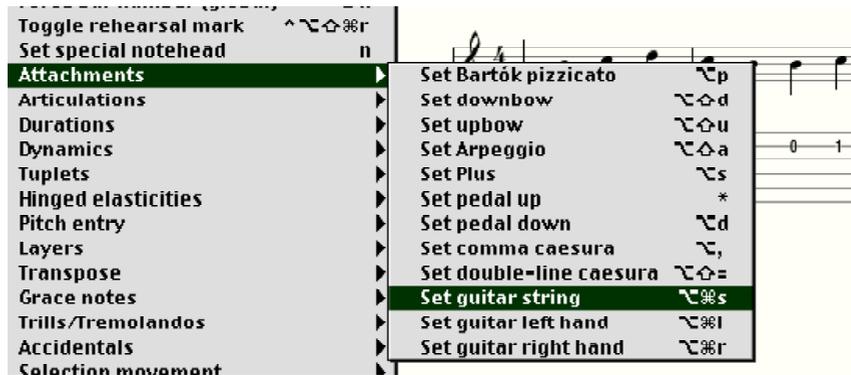
Open a new piece, select guitar from the instrument library, double click the layout and enter some music. Now Control or Right-click the instrument (not the musician) and choose **Add tab...** from the contextual menu (If a layout is open, this can be achieved by Control or Right-clicking on a staff of music and then choosing **Add tab...**).



Just click **OK** in the dialogue box to confirm that you would like to work with an ordinary six stringed guitar. Igor adds a tab stave to the original music and translates the music into the tab equivalent.

Try dragging a note up and down, Igor will “mirror” the music and its tab so whenever one of them changes the other will change accordingly.

Enter some more music and see how Igor Engraver creates the tab notation automatically as you go along. There are several Input modes available, for example, **⌘S** for **Macintosh** or **Shift-Alt-S** for **Windows** immediately after entering a note. A string indication pops up. (For **Macintosh**, all guitar related keyboard commands use the **⌘** combination.) Also remember that all Input mode commands are available in the **Input** menu, so whenever you are in Input mode you can look up a command in case you have forgotten the keyboard shortcut.



To control the tab positioning while you are still in music input mode, use **⌘ ↑** or **⌘ ↓** for **Macintosh** or **Ctrl-Alt-↑** or **Ctrl-Alt-↓** for **Windows** on the note you just added the string indication to. You should see the tab fret numbers

move up and down the tab stave, and note that the string indication gets updated as well!

Grace notes		
Trills/Tremolandos		
Accidentals		
Selection movement		
Beams and stems		
Chords		
Enharmonics		
Tablature		

Tab note one string down	↵
Tab note one string up	↶
Tab note default string	↵
Tab chord (notes) default string	↵
Reset minimum fret to 0	↵
Set minimum fret to 1	↵
Set minimum fret to 2	↵

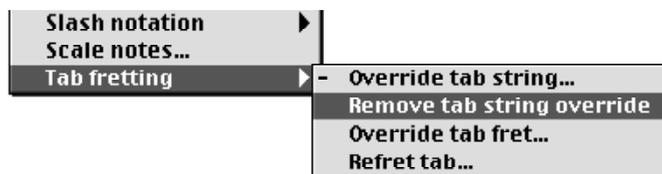
As you can see, a little blue pin appears in the tab once you have used these commands. You will get the same effect if you use the mouse to drag a fret number up or down. Drag the note corresponding to a tab fret number which has a blue pin—the fret number stays put on the same string since it has been “pinned” or manually set to be there. If you try dragging a note which does not have a blue pin on its tab fret number, the tab fret will switch strings now and then.

Clearly, there is some sort of auto-tab logic which decides when its appropriate to switch strings, so lets take a closer look at this feature. Enter a chord, note by note, such as below.

At first Igor Engraver picks the lowest fret possible, but at a certain point tab fret numbers need to switch strings to make the chord playable. Igor Engraver will always try to make playable tab out of the music you enter, but once you pin a fret number the auto-tab logic will always leave it in place and the auto-tab will also try to adapt the surrounding notes to suit the note or notes you have pinned.

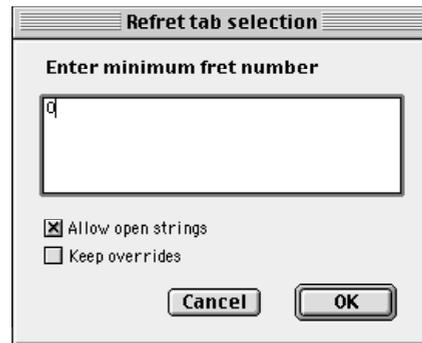
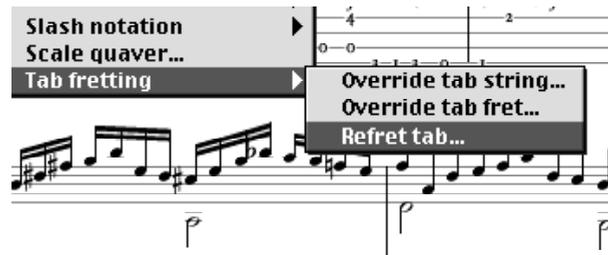
This tab logic not only applies to chords but to all situations, such as multiple layers with different rhythms. The tab logic makes sure that all notes get the chance to sound during their full duration. Sometimes this is not possible and Igor Engraver will colour notes red or display short texts instead of fret numbers—for example, when notes go out of the range compared to the string they are played on or if you try to enter more notes in a chord than the number of strings available.

Manually setting the string of a fret number affect the auto-tab if you are not careful about removing unnecessary pins. If your tab gets cluttered, use **⌘⇧←** for **Macintosh** or **Ctrl-Alt-←** for **Windows** to remove the pin, also called a string override, for the note selected by the input mode caret, and use **⌘⇧→** for **Macintosh** or **Ctrl-Alt-→** for **Windows** to remove all the pins for a whole chord. Since these are Input mode commands, you must be positioned after the note you want to tweak, in the correct layer, at the correct pitch for the them to work properly. Alternatively you may mark any number of tab fret numbers and then use the Context-menu as below.



If you have long passages played at higher frets, say four bars played at the fifth fret, there is a very convenient shortcut. Just press **⌘⇧5** for **Macintosh** or **Shift-Ctrl-5** for **Windows** to make Igor understand that “from now on, all fret numbers generated must be on the fifth fret or higher up” (press **⌘⇧0** for **Macintosh** or **Shift-Ctrl-0** for **Windows** to reset this mode). After pressing **⌘⇧0** or **Shift-Ctrl-0**, enter a scale from bottom to top. Press **⌘⇧5** or **Shift-Ctrl-5** and enter the scale once again to see the difference.

The commands above are handy as you enter music but Igor also provides some special commands for music that has already been entered. Mark a passage of fret numbers in your music and Control-click for **Macintosh** or Right-click for **Windows** one of the numbers to try the **Refret...** command.

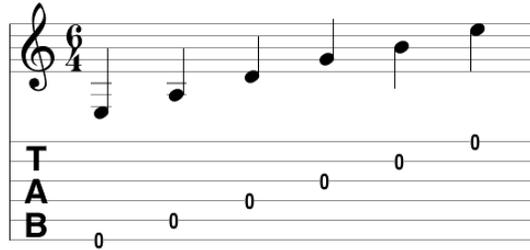


Refret... allows you to apply a new minimum fret to a selection of notes. The **Allow open strings** checkbox specifies whether open strings are allowed (that is, if the fret number zero is allowed even if there is a minimum fret limit), and **Keep overrides** tells Igor whether to keep the tab pins (string overrides) or to throw the pins away and let Igor run the auto-tab logic on *all* notes instead.

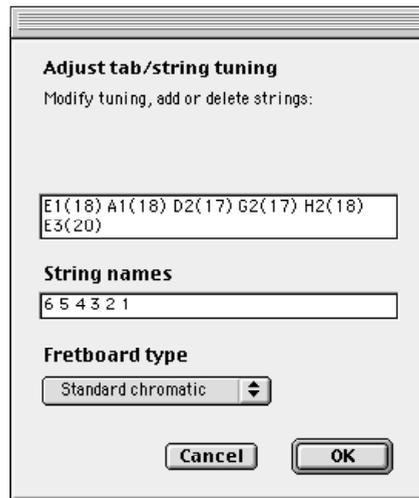
The **Allow open strings** checkbox is also available in the piece settings together with, for example, the **Collide double stops** checkbox. Collided double stops means that notes with identical pitches may share the same string while uncollided double stops causes the tab logic to reserve one string, for each of two simultaneously sounding notes, even if they have identical pitches.

See Appendix A where you will find all the four panes of guitar and tablature settings, including fonts, placements of the different guitar indications and appearance of glissandi and bendhats etcetera, described.

Igor Engraver understands alternative tuning too. Below is the standard guitar tuning. In Igor Engraver you can have any number of strings; you may tune any string any way you want; have the strings in any order you want; you may set the register for each string separately; and you may even work with non-chromatic fret boards, such as dulcimer—the auto-tab will keep on working equally well.



Control-click the tab staff to enter the **Adjust tab/string tuning** dialog.

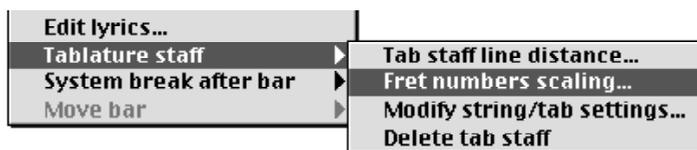


The first text field uses MIDI pitches to specify the tuning of each string of the instrument—E1, A1, D2, G2 H2 (B2) and E3 for an ordinary guitar as above. But each pitch entry must be immediately followed by a parenthesis, an integer and an ending parenthesis before the separating blank space (or end). The integer indicates the number of frets which can be used by that string—for example, electrical guitars sometimes have some extra frets for the higher pitched strings and the classical guitar often has a sound hole which limits the middle strings to have one fret less than the upper and lower strings. (Igor uses this information to

figure out when strings must be switched to yield a playable tab, and also to colour notes red if the music forces the tab to go out of range.)

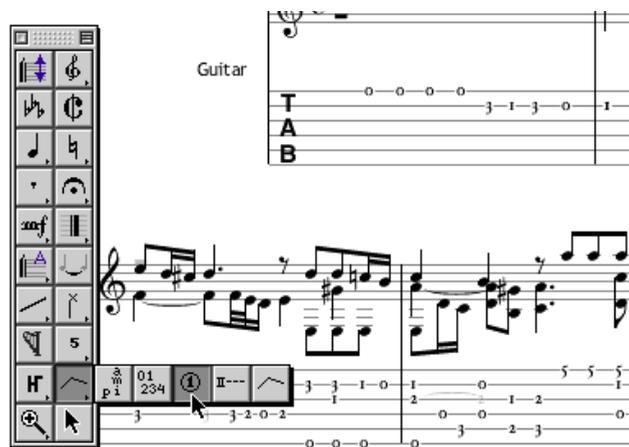
The dialogue also lets you select new string names, for example if you would like string indications (the contents of the circles) to be named according to *E A D G D E* or *VI V IV III II I* instead of the default *6 5 4 3 2 1* (you need to modify this sequence if you add or delete strings). When you click **OK** it only takes a second or two for the tab to get updated.

You may also adjust the tab appearance with the context menus—for example set the distance between tab staff lines or scale all the fret numbers. In the piece settings you can set appearance such as fret number font and the amount of white space used under each fret number (this is called **Fret blanking** and the amount of blanking can be controlled with an **Extra** value—see the **Tablature 1** pane).



The final thing to try out are bendhats and glissandi—these entries receive a special appearance in the tab staff—and fret indications. In input mode, press **G** to enter a glissando or press **⌘B** for **Macintosh** or **Ctrl-Alt-B** for **Windows** to enter a bendhat. **⌘F** for **Macintosh** and **Shift-I** for **Windows** adds a fret indication—it works best if you first mark the passage you want the fret indication above, in input mode, by repeatedly pressing **⬆→** or **⬆←**, and then use the commands to add the fret indication. Just as with left and right hand fingerings you are positioned in a text box right after entering the command, allowing you to type in the text you would like, and then exit the text box with **Enter**.

The bendhat and the fret, string, left-hand and right-hand indications are all available through the tools in the Guitar tool palette as well.



Note that Igor provides some automatic formatting of bendhats, for example when you have several consecutive bendhats. For more advanced music, as in the example below, you may also want to use the **Bendhat options** or **Set extension** contextual menu commands on a bendhat (this is not an example of correctly engraved music, but rather just a small sample of what is possible to create). As with most graphic elements in Igor, you may also tweak, that is drag, the starting and ending points of the bendhat and move or change the contents of the bendhat text box.

12.2 Provided features

Here is a complete listing of the available commands and a small section of special hints. The four guitar and tablature settings panes are described in Appendix A.

12.2.1 Tool palettes

All the guitar tools – right-hand, left-hand, string, fret and bendhat from left to right, except the bendhat tool, are tools that add a text box. So when the tool is used, you click the note on which to add the indication, then type in the text and press Enter (Clicking outside the text box will have the same effect as pressing Enter, that is, it will take you out of the text box input mode.).

For the left-hand, right-hand and string indications, you can also accept the default suggestion directly without entering any new text. Igor Engraver, will by default, suggest the previous text you used. For example, you can enter several right-hand thumb indications (*p*), without having to enter any text.

You will never need to modify a string indication if you are working with tab since the music staff takes the string information from the tab staff.

12.2.2 Contextual menus

Tab staves and fret numbers

- **Add tab...** on a music staff or an instrument in the piece window allows you to set up or adjust the tablature for a music staff.
- **Tablature staff** on a tab staff brings up the commands **Tab staff line distance...**, **Fret number scaling...**, **Modify string/tab settings...** and **Delete tab staff**.
- **Tab fretting** on a fret number brings up the **Override tab string...**, **Override tab fret...** and **Refret tab...** commands. The first is seldom used since its easier to drag the fret numbers instead. The second command is used as soon as you want a non-standard fret number, you can enter any text at all here like (10) or 5.75. The third command is only meaningful to apply to large selections of fret numbers (if you want you can select a whole page, since selecting some extra objects does not matter).

Bendhats

- **Bendhat options** on a bendhat in the tab staff brings up six choices to toggle the appearance of the bendhat to accomplish some less common effects: **Straight angle**, **No arrow head**, **Point horizontally**, **Straight line**, **Never hide target fret** and **No pre-bend**.

12.2.3 Keyboard commands (Music input mode commands)

Macintosh:	Action:	Windows:
Key(s):		
⌘B	Insert a bendhat	Ctrl Alt B
⌘S	Add a string indication (usually 12345 or 6)	⇧Alt S
⌘L	Add a left hand indication (0123 or 4)	⇧Ctrl L
⌘R	Add a right hand indication (pim or a)	Ctrl Alt R
⌘F	Add a fret indication	⇧I
G	Insert a glissando (this is not guitar specific, but glissandi are specially formatted in tab)	G
⌘0	Set minimum fret to 0	⇧Ctrl 0
...
⌘9	Set minimum fret to 9	⇧Ctrl 9
⌘↑	Move note up one string in tab (without changing pitch)	Ctrl Alt ↑
⌘↓	Move down one string in tab (without changing pitch)	Ctrl Alt ↓
⌘←	Remove string override for pointed note	Ctrl Alt ←
⌘→	Remove string override for pointed chord	Ctrl Alt →

12.2.4 Menus

The **Invisibles** sub menu in the **Layouts** menu has an alternative **Show/Hide tab pins** to hide the blue string override markings.

All the music input commands above are available, just as all music input commands in Igor, in the **Input** menu during music input mode.

12.2.5 Out-of-limit highlighting

The image shows a musical score with a treble clef and 4/4 time signature. The notation includes a whole note on the second line (D4), a quarter note on the second space (E4), a whole note on the second space (E4), and a whole note on the second space (E4). The tablature below shows fret numbers for strings T, A, and B. Red highlights indicate errors: a blue arrow points to fret 2 on the T string, a blue arrow points to fret 19 on the B string, 'Overcrowd' is written in red above the A string, and 'High' and 'Low' are written in red next to fret 13 and fret 0 respectively. A bracket above the staff indicates an 8va shift to loco.

The above shows some of the highlights Igor will make to help warn you that something is wrong. You can ignore this if you want, since it prints ok (black, not red as it is on the screen and in the PDF version of the manual). Or use the context menu **Override tab fret** from the **Tab fretting** menu on a fret number, to change the fret number text.

Usually the indications show that something is really wrong—from left to right above:

- The first note can not be played on the second string (where it has been pinned) since it is too low pitched. Retune the guitar or pin the note to another string (or remove the string override altogether). Retune here means to use the context menu **Adjust tab/string tuning** on the tab staff to modify the range of the second string.
- The second note can not be played on fret 19 since this guitar has been set up to have 18 frets. Retune or pin to another string.
- You can not have a chord with seven notes on a six stringed guitar. Igor complains with an *Overcrowd* text instead of a fret number.
- The second note of bar three can not be played since the E note sounds at the same time and since the G note can not be played on any other string than the E string. Igor complains that the note is too *Low* in pitch compared to the available strings.
- Simple out of pitch—the note is too *High* in pitch.

Two other highlights are possible:

- *Miss* which means that a note was neither too high nor too low in pitch but that it could not be placed on any string anyhow (this can only happen if the register of each string does not partly overlap the register of the previous and next string).
- *DulcMiss* which can appear only if you work with non chromatic fret boards. These fret boards simply can not represent all pitches and these pitches are displayed as *DulcMiss* in the tab.

12.2.6 Subtle hints

Here is some advice if you work a lot with tab:

- You can add several tab staves to a single music staff. This can be useful if you want to experiment with several different ways of tuning your instrument (or even different number of strings).
- Note that the string indications are fully automatic, but only if you have already set up a tab to your music staff. Never change the text of a string indication if you are working with tab—drag the fret numbers over the strings instead or use the keyboard short-cuts.
- Igor understands a lot about tab, but how bendhats affect the fret number of a note is not included, which means that you will sometimes need to manually override fret numbers when bendhats are used.

CHAPTER 13 | The Menu

At all times, the File, Edit, Layouts, Windows, and Help menus are visible. If you work in Input mode, you can see the Input menu, and if you have selected a textbox by clicking once, the Font menu appears.

In this chapter, the different menu commands will be examined.

13.1 The File Menu

Most of the menu commands of the File menu are self-explanatory. For instance, **Open... Save, and Save As...** work as in most programs. **Export as EPS...** is explained in the Printing and Exporting chapter on page 245, and **Export for E-commerce...** is explained in the E-Commerce chapter on page 283. **Revert...** undoes all the changes to a piece (in other words, **Revert...** does the same thing as closing the layout without saving, and then opening it again).

A few menu commands are worth a more in-depth coverage, and will be examined in this section.



13.1.1 Saving and Opening Files on Other Platform

Igor Engraver files are completely cross-platform, e.g., you can save files on a Macintosh and open them on a Windows computer, continue working on the file on that machine and then do the final editing on another Macintosh. However, do to the limitations in the operating systems you will need to do some alterations. See 1.12 “Sharing Files Between Platforms” on page 39 for details.

13.1.2 Import MIDI File and Export MIDI File

The **Import** and the **Export** commands allow you to import or export a MIDI file. These two windows are dealt with in the MIDI and NIFF chapter.

13.1.3 Import NIFF File

The **Import NIFF File** command lets you import NIFF (Notation Interchange File Format) files. This means Igor Engraver can import sheet music files from some other notation software and sheet music scanning programs, using a standard much more suitable for exchanging sheet music data than MIDI can offer. For example, slurs are notated correctly when importing a NIFF file, whereas a MIDI file will notate slurred passages as “clusters”. This process is dealt with in the MIDI and NIFF chapter.

13.1.4 Load Plug-In

If you have an Igor plug-in, you can use this command to load the plug-in into Igor Engraver. When chosen, this **Load Plug-in...** opens a regular window for finding files. Locate the plug-in file (it should be put in the Plug-ins folder inside the Igor Engraver folder) and open it to activate it (this feature is not available for Igor Engraver 1.4).

13.1.5 Check for Patches

When the important and unique **Check for patches...** command is selected and you are online, Igor Engraver automatically checks for new patches (files that adds functionality to the program or correct bugs) on a web server. In most cases, they are only a few kilobytes in size.

If Igor Engraver finds any new patches, they will be downloaded and installed automatically – there is nothing more to be done; you do not even have to quit the program to activate them. This way, you can always be assured of using the latest and best version of Igor Engraver. The patches put themselves in the Patches folder and need to stay there in order to remain active.

If you do not use the **Check for patches...** command, Igor Engraver will ask you to check for new patches from time to time (you will be reminded once a week).

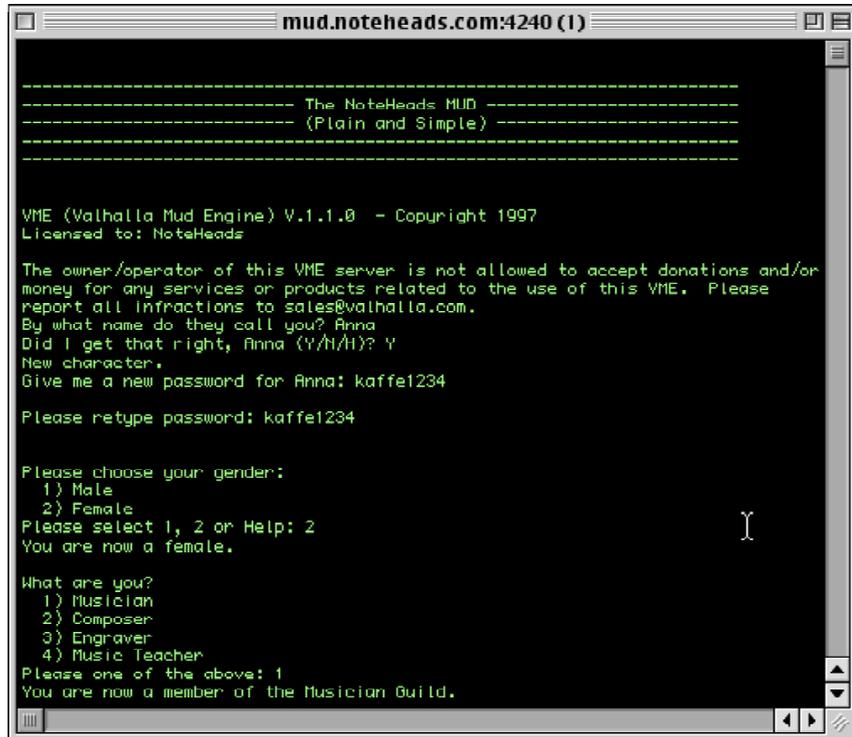
13.1.6 The NoteHeads Site

Found when you scroll down to Internet, his command takes you to **www.noteheads.com**. Here you can find the latest information about Igor Engraver, subscribe to mailing lists, chat with other Igor Engraver users, download sheet music as IGP files, and so on.

13.1.7 Chat With Other Users

When you choose the **Chat with other Users...** command (from the Internet selection), you enter NoteHeadsland (provided your computer can be connected to the Internet)! It is beyond the scope of this manual to describe how to make your way through NoteHeadsland, but you can always press “help” or “command” to

get help, and “who” to see who is online, or ask one of the inhabitants; use “<SPACE>” to speak to somebody!



```
mud.noteheads.com:4240 (1)

-----
----- The NoteHeads MUD -----
----- (Plain and Simple) -----
-----

VME (Valhalla Mud Engine) V.1.1.0 - Copyright 1997
Licensed to: NoteHeads

The owner/operator of this VME server is not allowed to accept donations and/or
money for any services or products related to the use of this VME. Please
report all infractions to sales@valhalla.com.
By what name do they call you? Anna
Did I get that right, Anna (Y/N/A)? Y
New character.
Give me a new password for Anna: kaffe1234

Please retype password: kaffe1234

Please choose your gender:
 1) Male
 2) Female
Please select 1, 2 or Help: 2
You are now a female.

What are you?
 1) Musician
 2) Composer
 3) Engraver
 4) Music Teacher
Please one of the above: 1
You are now a member of the Musician Guild.
```

13.1.8 I’m Bored

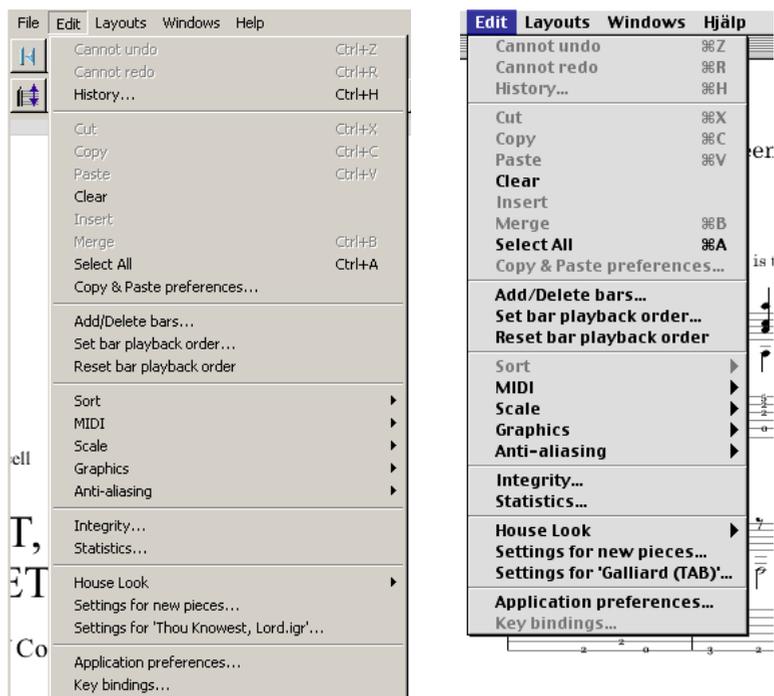
Should you ever be bored when working with Igor Engraver, use the **I’m bored...** command (from the Internet selection) to let your browser take you elsewhere!

13.1.9 Print options, Page Setup and Print

The **Print options...**, **Page Setup...** and **Print...** commands are explained in the Printing chapter. The **Print...** command is only available when a layout window is topmost, and it applies only to that layout.

13.2 The Edit Menu

Just like the File menu, many of the menu commands of the Edit menu resemble menu commands of other programs, for example the **Undo** and **Redo** commands.



13.2.1 History

This command brings up the History window, which shows the changes that have been made to the piece you are working on since you opened the piece (even across saves), the newest edit is presented at the top of the window. All of the changes that are listed in this window can be undone. Thus, this window is excellent for getting an overview of what has been done, and also for getting full control over the undo process.

To undo a step in the History window, double-click one of the items in the History window. This way, the corresponding edit and the newer edits become undone, and the window closes. If you change your mind and want to redo some of the edits, simply open the window again and double-click the edit you want

to redo from (Instead of double-clicking, you can select an item and press **OK** to get the same result.)

Note that there is a small arrow indicating where you are in the Undo chain at the moment.



13.2.2 Cut, Copy, and Paste

Cut, **Copy**, **Paste** and **Select All...** work as in most programs, and are used to edit music entries.

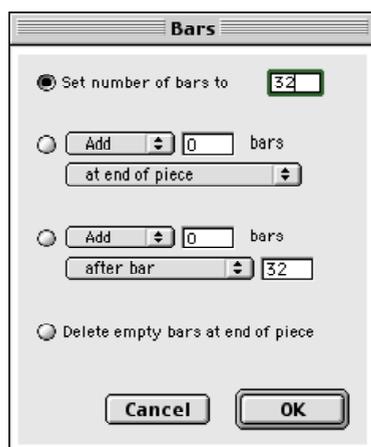
Copy & Paste preferences... brings up the Copy & Paste preferences window. In this window you can define the objects that are to be included when copying a

section of a layout. For instance, if you would like to copy the notes of a selection but not the dynamics, simply uncheck **Copy dynamics**.



13.2.3 Add and Delete Bars

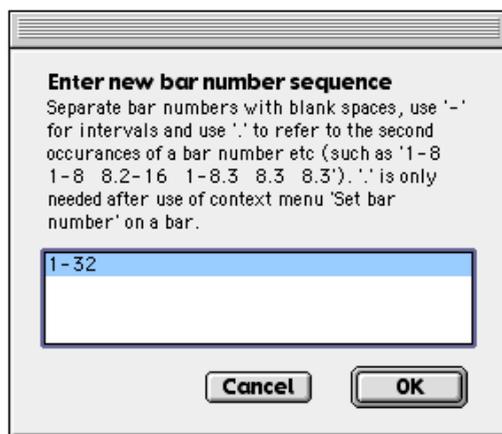
The **Add/Delete bars...** menu command brings up the Bars window. You can use this window to add or delete bars in several ways: by setting a specified number of bars, by defining a specific location, etcetera.



13.2.4 Set Bar Playback Order and Reset Bar Playback Order...

Set bar playback order allows you to set the order in which the measures will be played back. This is very valuable for creating a DC/Da Capo, DS/Dal Segno or creating a sampling of several sections of a piece.

To return your piece to the original playback order, choose **Reset bar playback order...**



13.2.5 Sort (Macintosh Only)

Sort is used only in the Piece and Instrument windows. By selecting **Sort in orchestral order** or **Sort in alphabetical order** you change the order of the musicians. (The orchestral order is the one used in the Instrument library window.)

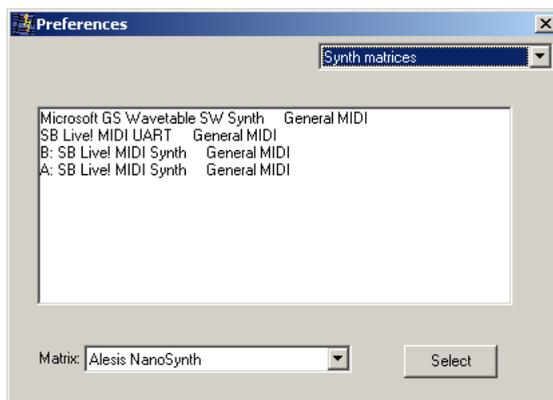
13.2.6 MIDI – Windows

The Windows **MIDI** submenu has several options for configuring your MIDI setup (Mac users - skip to the next section).

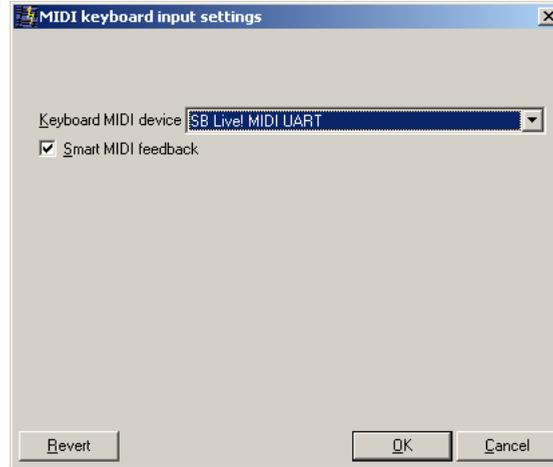


Play and **Stop** lets you to start and stop playback also when the Piece window is topmost. This allows you to listen to all instruments at once, even if there is no layout containing all of the instruments. If you are using Igor Engraver on a slow computer, closing all layouts and selecting **Play** from this menu can be useful if you are experiencing interrupts in the playback of the piece (scrolling through a layout adds strain to the computer's processor).

Synth settings... brings up a window in which you can choose which synthesiser (either hardware synthesiser, software synthesiser, or sound card) to use for playback. The units recognised by Windows will be included in the upper part of the window. Select one of the unit names and then choose a corresponding synth matrix from the pop-up menu below, followed by clicking **Select** to get the best playback results.

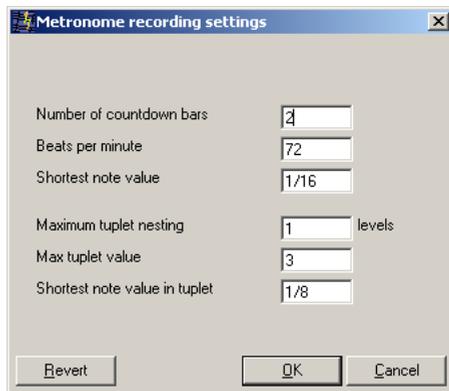


MIDI keyboard input settings... brings up the MIDI keyboard input settings window. In this window you can define what MIDI controller (such as a MIDI keyboard) is to be used for entering music into Igor. In this window there is also a checkbox for turning “smart MIDI feedback” on and off, i.e. if Igor is to play back the music that is being input during Input mode. (The settings of the smart MIDI feedback are altered in the MIDI Input pane of the Template/Piece settings.)

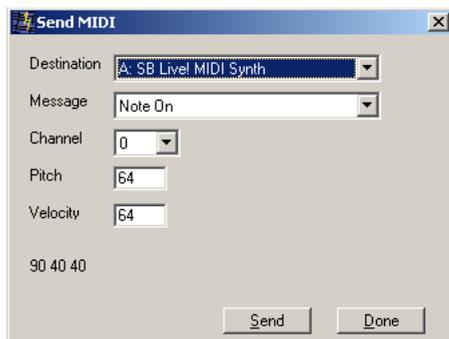


Metronome recording settings... lets you define certain parameters concerning real-time recording (from the MIDI controller specified in the MIDI keyboard input settings window). The first parameter defines the number of bars of MIDI-click before recording starts, and the second one defines the recording tempo. **Shortest note value** means that all notes shorter than the value specified in the box will get the value specified; i.e., all recorded notes shorter than a semiquaver will become semiquavers with the setting 1/16. **Maximum tuplet nesting** indicates the number of tuplets inside other tuplets allowed. A setting of 1 means “standard” tuplets are allowed; a setting of 0 means tuplets should not be recognised at all. If the passage you record contains no tuplets, set the number to 0 to eliminate unnecessary cleaning-up afterwards. **Max tuplet value** sets the highest tuplet number allowed - a “3” means there can be triplets but no quintuplets, for example. **Shortest note value in tuplet**, finally, means that shorter notes will not be recognised for tuplets. In other words, you can record a piece with semiquavers and triplet quavers without problems - the semiquavers will not be mistaken for triplet semiquavers. *A word of advice: If you experience results that do not look good, increase the shortest note value (e.g., 1/8 instead of 1/16) and set the maximum tuplet*

nesting value to 0 and fix the triplets and the shortest notes (if there are only a few of them) manually afterwards, as editing the final results is so easily accomplished anyway.



Send note value... brings up a window which you can use to check your MIDI equipment and your MIDI settings. You can choose which synthesiser to check, what kind of MIDI message you want to send, and the MIDI channel, pitch and velocity for sending the message. Click **Send** to send the message. Each time the **Send** button is pressed, a new MIDI message of the type specified in the pop-up menu is being sent. If your synthesiser does not respond, something is wrong with your MIDI equipment or MIDI settings.

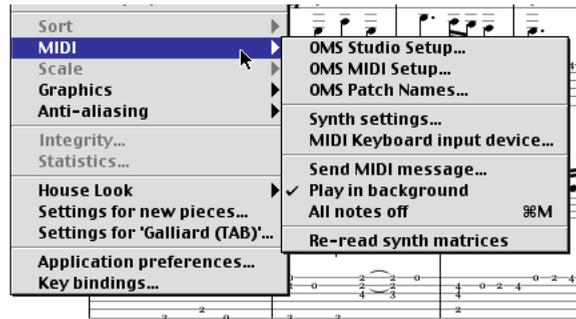


All notes off cuts off all notes played. Use this command if one or several notes are stuck when you have pressed the Stop button. There is also a shortcut for this important command, **Ctrl-M**.

Re-read Synth Matrices may be used whenever you have made changes in the synth matrices, or when you have added or removed a Synth matrix. This way, you do not have to quit and restart Igor Engraver to make changes take place.

13.2.7 MIDI – Macintosh

The Macintosh **MIDI** submenu has several options for configuring your MIDI setup.



The first three options refer to Opcode's OMS-related software, which is needed to get playback in Igor Engraver on the **Macintosh** platform (you can still work with Igor Engraver without getting playback).

OMS Studio Setup... opens the OMS Studio setup program. The functionality of this window is described in 1.9 "A Step-By-Step Guide to Installing Igor Engraver (Macintosh)" on page 25.

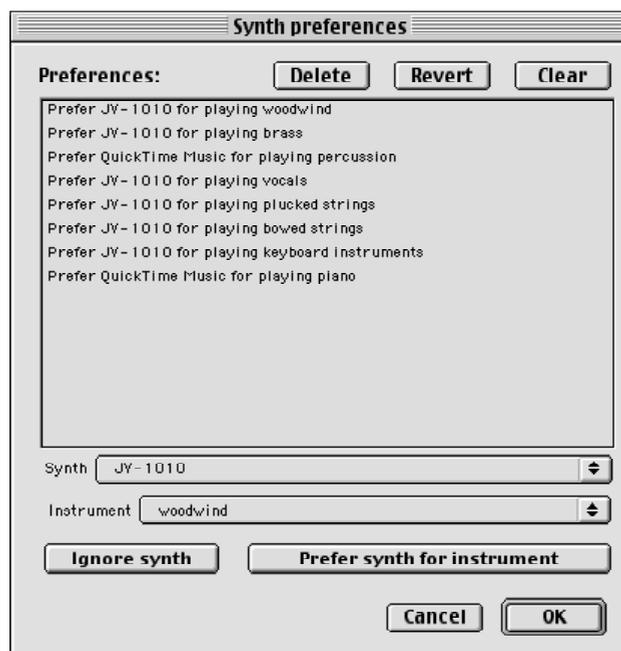
OMS MIDI Setup... refers to another of Opcode's OMS applications. It is used for determining what port to use for MIDI on your computer (the modem or printer port, for example). It is also used for selecting whether MIDI playback from one program is to be enabled while that program's window is inactive.

OMS Patch names... is the last command that refers to an OMS application. This is used for choosing patch-name documents in OMS, and for subscribing to patch-name documents. The functionality of this application is explained in the OMS material and will not be covered here in more detail.

MIDI keyboard input device... brings up the MIDI keyboard input device window. In this window you can define what MIDI controller (such as a MIDI keyboard)

is to be used for entering music into Igor. In this window there is also a checkbox for turning “smart MIDI feedback” on and off, i.e. if Igor is to play back the music that is being input in Input mode. (The settings of the smart MIDI feedback are altered in the MIDI Input pane of the Template/Piece settings.)

Synth settings... lets you define what synthesiser should be used for what instrument. For example you may want the brass to be played back by Synthesiser X and the strings by Synthesiser Y, to get the most convincing sound possible. Furthermore, this window is used to switch synthesisers on and off, and to switch on General MIDI (GM) behaviour for each synthesiser that supports General MIDI. To assign an instrument group to a synthesiser, set the Synth and Instrument pop-up menus as you want them and then press **Prefer synth for instrument**. If there is one synthesiser that you explicitly want to tell not to use, choose **Ignore synth**. To delete one of the preference rows, click it (to select it) and press the **Delete** button. To undo the changes, press the **Revert** button. To clear all preferences rows, press the **Clear** button. Finally, press **OK** or **Cancel**.



The Synth settings window is of great importance when trying to achieve the best sound possible from your equipment since it lets you play back strings on

one synthesiser, percussion on a second synthesiser, and the rest of the instrument groups on a third one, for instance.

Send MIDI message... brings up a window in which you can let Igor Engraver send a MIDI message to the playback device (such as the QuickTime synthesiser). Each time the **Send** button is pressed, a new MIDI message of the type specified in the pop-up menu is being sent.



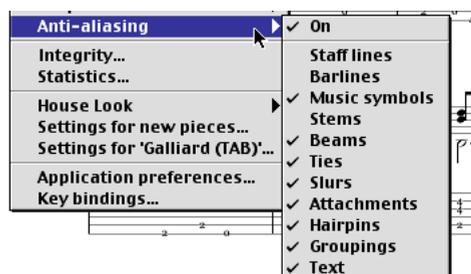
Play in background lets you play an Igor Engraver file while using a different program. If unchecked, Igor Engraver will stop playing while you are working in that program. When you return to Igor Engraver, the music will continue from the place where Igor Engraver stopped playing.

All notes off sends a global Note Off-command, and this way silences notes that for some reason have not been ended correctly, but are left sounding when the Stop button has been pressed.

Re-read Synth Matrices may be used whenever you have made changes in the Synth matrices, or when you have added or removed a Synth matrix. This way, you do not have to quit and restart Igor Engraver to make changes take place.

13.2.8 Anti-Aliasing

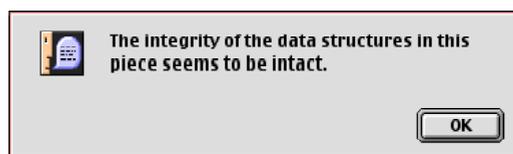
When **On** is checked, the checked options of the **Anti-aliasing** submenu are in use.



These options make sure that the different elements of the layouts are being smoothly drawn on the screen. There is a reason for unchecking **On**: redrawing the screen can be time consuming, and thus, when unchecked, your computer should have less work to do. However, on most computers, the redrawing of the screen should not be an issue.

13.2.9 Integrity

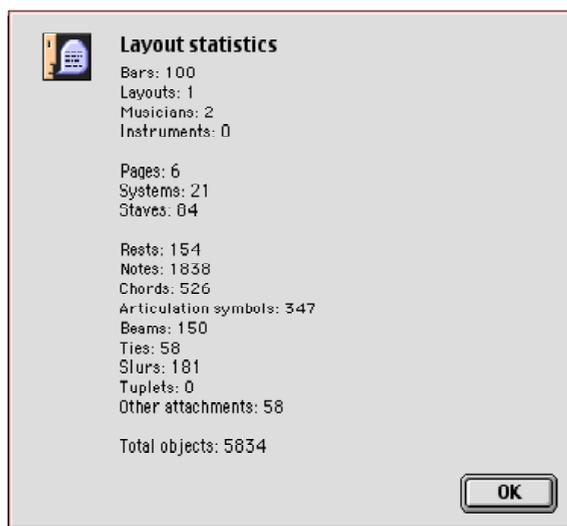
If you believe your file is behaving strangely, you can use the **Integrity...** command to let Igor Engraver check and repair the file. If something is wrong, a window appears asking whether you would like the program to repair itself. If the file is functioning properly, the following window appears:



13.2.10 Statistics

You can get statistics on many types of objects in Igor Engraver by choosing the **Statistics...** command (pictured below). This provides an easy way for you to get an idea of the size and complexity of a file or layout, for instance, if you want to compare two files that might have been confused with each other. Furthermore, publishers, arrangers, engravers and others may use this window when calculating payment for engraving. The Statistics window that appears is context-

dependent – if a layout window is active, the statistics information will be calculated only for that layout; if a piece window is active, the information will concern the entire piece.

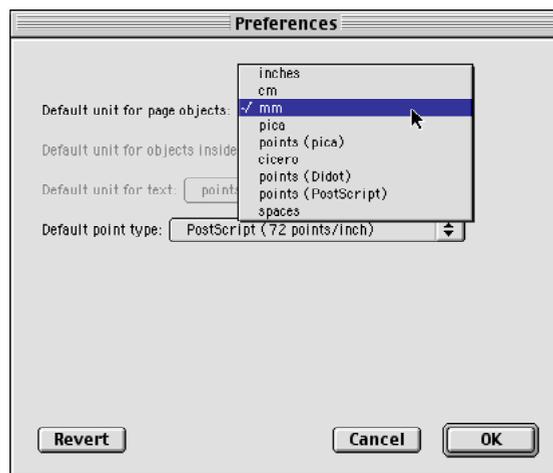


13.2.11 House Looks, Settings, and Piece settings

The **House look**, **Settings** and **Piece settings...** menu commands are explained in Chapter 14 the Settings Windows and House looks chapter.

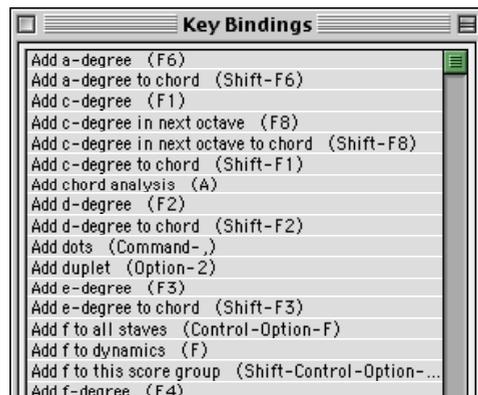
13.2.12 Application Preferences

The **Application Preferences** allows you to choose the default preferences for Igor Engraver. For example, if units are measured in inches, mm, cm, etc.

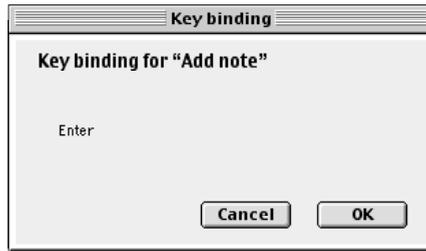


13.2.13 Key Bindings

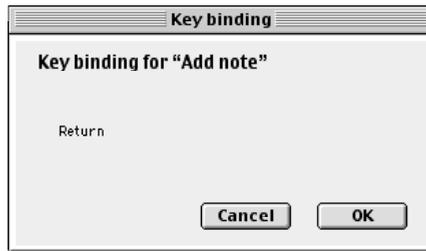
At the bottom of the menu there is an option called **Key bindings...** When selected, this brings up the Key bindings window, which displays all of the current keystrokes used for executing different commands. This window is used for checking the current Input mode commands and also for changing them.



If one of the lines is double-clicked, another window appears:



In this window you are able to choose a new key binding. For example, if you would rather press Return than Enter to add a note or rest, press Return. The result will look like the diagram below.



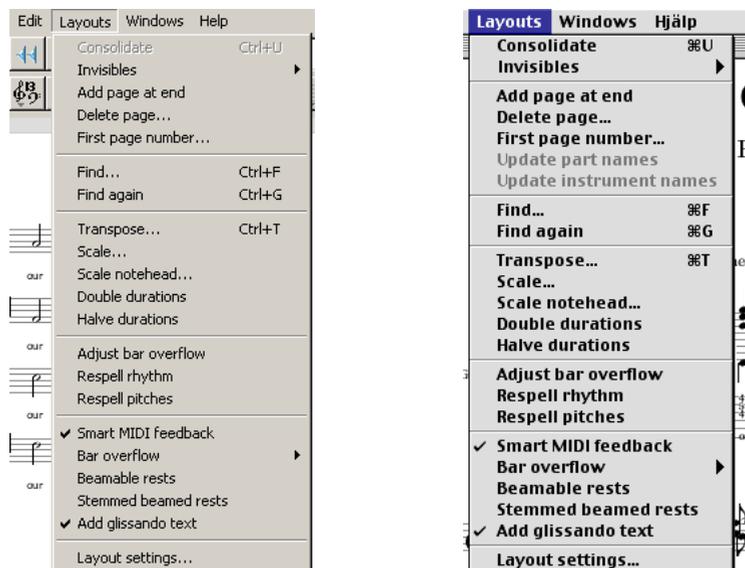
Click **OK** to change the key binding. Now, Return will be used instead of Enter to add an entry. Your bindings will be saved between runs of Igor Engraver. If you feel you want to change a binding back to its default manner, you may find it in the Reference chart (Appendix B).

On some keyboards, a few keys may be assigned in such a way that it is impossible to use one or two of the default key bindings. If that happens to you – simply reassign those bindings as described above.

13.3 The Layouts Menu

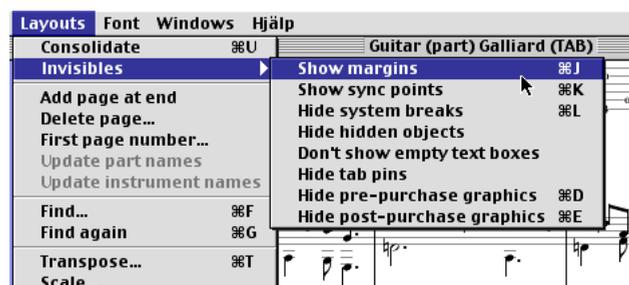
There are several commands on the Layouts menu that are worthwhile to mention. Two of them are **Consolidate/Unconsolidate**, which makes multibar rests

appear or disappear in part layouts, and **Add page at end**, which adds a blank page to the end of the piece.



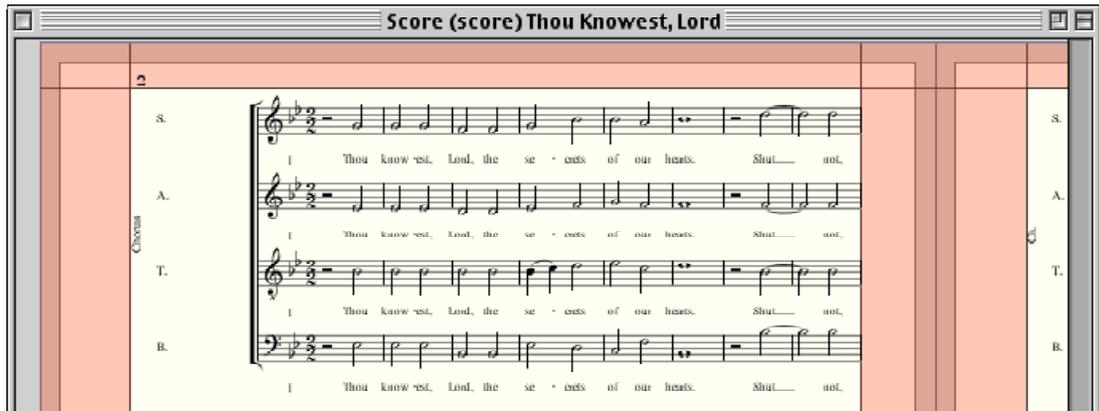
13.3.1 Invisibles

The Invisibles submenu has several commands for showing or hiding different kinds of markings that will not be printed, such as markings for layout margins. To avoid cluttering the layouts while you are working on a piece, it's possible to hide these objects. However, a few of these markings, namely layout margins, sync points, system , and Pre-/post-purchase graphics, actually affect the layouts, and are examined below.



Show/Hide Margins

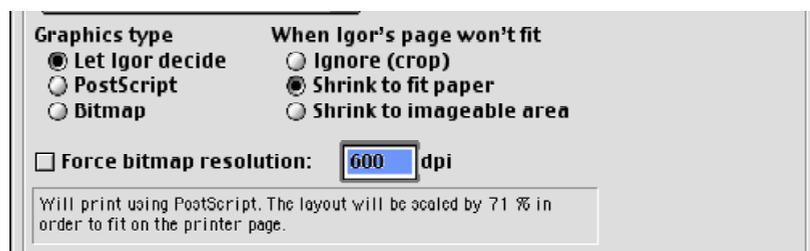
Show/Hide margins selects whether or not to show the layout margins, as pictured below.



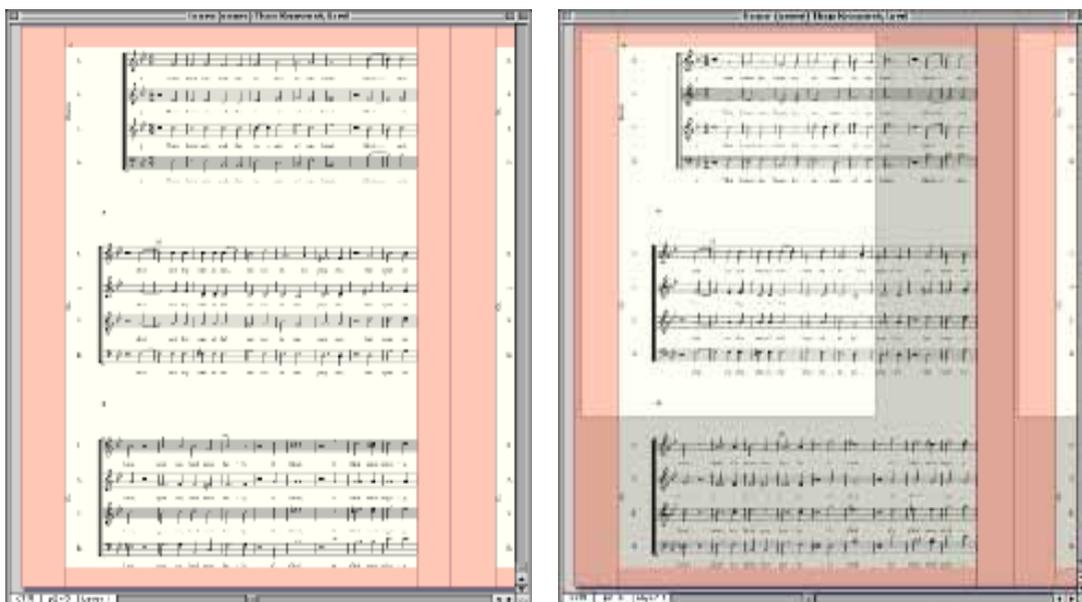
The light-red lines enclosing the music are draggable. If dragged just a little to the left or right, the system width changes and the placement of the bars gets adjusted (the manual system breaks and glues still work, of course). If a line is dragged so much that a system gets pushed onto another page, it will keep its width (otherwise, the tweaking you may have made of the system would have been lost). If you want to reformat the moved system, simply drag the left side of the system or the left or the right page margin line. Please note that the light-red margins do not apply to other objects than the music; e.g. the page numbers are not affected (The margins can also be set in Layout settings).

The darker areas show the areas that will be omitted when printing the document. In the example above, a small amount of space will be omitted all around the paper's edges; on the other hand, that area is intended to be omitted since the printer cannot print that close to the edges. The size of the dark areas (or rather, the printed size) depends on two things, the paper size set in the Page Setup window, and the printing options set in the Print window:

In the above example, the following settings have been set in the Print window (and A4 in the Page Setup window, and A3 in the Piece settings):



On the other hand, if **Ignore (crop)** is chosen, the actual paper size will be printed and thus reflected in the layout (below left), and if **Shrink to imageable area** is chosen, there will be no grey areas whatsoever:



In other words, using the settings described above, only the white sections of the left layout will be printed. (See also the Printing chapter for further explanation concerning printing.) Note that **⌘-J** for **Macintosh** or **Ctrl-J** for **Windows** serves as a shortcut for showing or hiding the margins.

Show/Hide Sync Points

Show/Hide sync points, also found in *Invisibles*, helps you create complex rhythms. If active, vertical bars will point out every entry in the layout, and numbers above the bars will tell where in the bar the entry is situated. If two or more entries share the same starting point, the bar and the corresponding numbers (sync points) will be displayed in blue. If a starting point has only one entry, the sync point will be shown in red. The examples below display some entries, before and after choosing **Show/Hide sync points**. (In the second example, the first beats of the two first bars have sync points in blue, the other sync points are red.)

The image shows two musical staves for the piece "I. Violinen in 2 geteilt in 2". The top staff shows the music with blue vertical bars at the start of the first two bars. The bottom staff shows the same music with red vertical bars at the start of every note, with numbers above them indicating their position in the bar (e.g., 1/16, 3/16, 1/4, 1/2, 5/8, 0, 1/4, 3/8, 0).

A sync point can be dragged sideways. When dragged, the entries (and their attachments) that are connected to the dragged sync point move along with it.

Sync points may also be shown or hidden using **⌘-K** for **Macintosh** or **Ctrl-K** for **Windows**.

Show/Hide System Breaks

Show/Hide system breaks lets you choose whether or not the system break symbols (the blue arrows and glue symbols) should be shown or not in the layout. This setting does not affect printing; the system break symbols are never printed.

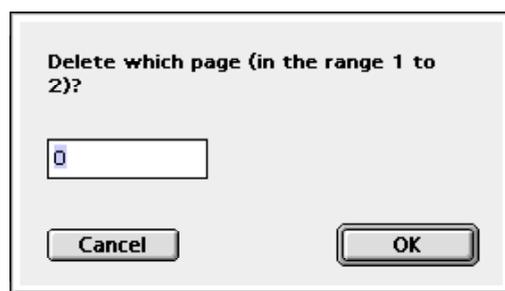
A **Show/Hide System break** command can also be executed using **⌘-L** for **Macintosh** or **Ctrl-L** for **Windows**.

Pre-/Post-purchase Graphics

The Show/Hide Pre-/Post-purchase graphics... command lets you show or hide the banners and watermarks which can be created for exporting IGP (Igor Publishing) files for uploading and selling over the Internet. This is dealt with in detail in the e-commerce chapter. Note that when shown, the banner and watermark textboxes can be modified just like any other type of textbox.

13.3.2 Delete Page

If the **Delete page...** command is chosen, a window appears where you can choose which page or pages to delete. When you delete a page the effect will be the same as tearing off a sheet of music paper, except that the page numbering will be changed accordingly.



13.3.3 First Page Number

The **First page number...** command brings up a window that lets you set the number of the first page, a useful feature if you plan to join several pieces into one document. If working with a score layout, you may want to set this to "0" so the title page will not be numbered.

13.3.4 Update Part Names and Update Instrument Names (Macintosh)

Update part names and **Update instrument names** are used only when a Piece window is active. If you change the name of an instrument in the Names pane of the Instrument preferences window, and then choose **Update instrument names**, the particular instrument name of the layouts get changed. If **Update part names** is chosen instead, the names of the parts that instrument is used in will be changed.

13.3.5 Find

The **Find...** command is a powerful tool, which lets you search selected (by click-dragging) music by a number of criteria. (However, you cannot use the **Select All...** command for this since that command also selects other types of objects.) This may be very handy if you need to find certain elements in a large work. The elements that correspond to the settings in the Find window will be selected.



13.3.6 Transpose

The **Transpose...** command brings up a window in which you can define how you want to transpose an entry or note selection:



Depending on the settings in the Dragging pane in the Template/Piece settings, transposing may be of different types:

- **preserves the chromatic distance from the root of each pitch** – a double sharp will remain a double sharp also after transposing.

- **adapts each pitch to the key signature** – if this option is selected, a lowered note will become a raised note in case the key signature says that the destination note is to be raised.
- **adapts each pitch to the entire chromatic context** – if the chromatic context of the transposed passage says that the notes are to be raised, they will be raised. Thus, it is the chromatic context that defines what notes to raise and what notes to lower, rather than the key signature.
- **is smart** – if a note was chromatically altered from the context (i.e., has an accidental), it will retain the same chromatic alteration when dragged. If not, it will adapt to the chromatic context.

13.3.7 Scale and Scale Notehead

The **Scale...** and **Scale notehead...** commands let you scale the musical events of an entry selection or the noteheads of a note selection, by a given percentage. This way, it is easy to create cue passages, as seen in the first 2 measures of the following example:

The image shows a musical score with four staves. The first two staves are in 2/4 time. The first staff has a melody starting with a quarter note, followed by two eighth notes, and a quarter note. The second staff has a bass line with a quarter note, followed by two eighth notes, and a quarter note. The third staff has a melody starting with a quarter note, followed by two eighth notes, and a quarter note. The fourth staff has a bass line with a quarter note, followed by two eighth notes, and a quarter note. A double bar line is placed after the first two measures. The lyrics 'Glo - ri - a' are written below the staves, with hyphens under the vowels. The word 'Glo' is under the first staff, 'ri' is under the second, and 'a' is under the fourth.

13.3.8 Double Durations and Halve Durations

The **Double durations** and the **Halve durations** commands immediately change the duration of selected notes, and recalculate the music accordingly. However, bar

overflows (such as five crotchets/quarter notes in 4/4 time signature) will be allowed. The bar overflow may easily be adjusted – see below.

13.3.9 Adjust Bar Overflow

Adjust bar overflow recalculates the music of a bar and moves the overflowing entries into the next bar, recalculates that bar, and so on.

13.3.10 Respell Rhythm

The **Respell rhythm** option is a powerful way of making the music easier to read when a passage is rhythmically advanced. This option will apply to selected notes. Below are two examples of the same passage, shown before and after choosing **Respell rhythm**.

Klarinette in B



The image shows two staves of musical notation for a Clarinet in B. The top staff shows a sequence of notes: a quarter note, a quarter note, a half note, a quarter note, and a dotted quarter note. A blue bracket highlights the last two notes. The bottom staff shows the same sequence of notes, but the first note is now a dotted quarter note, and the second note is a quarter note, illustrating the effect of the 'Respell Rhythm' option.

13.3.11 Respell Pitches

Respell pitches respells the pitches of some selected (drag-selected or entry- or note-selected) notes. This command only changes the pitches of notes that may be more naturally represented in another way, depending on the context. For example: an e sharp is better represented as an f in C major.

13.3.12 Layout settings

Layout settings... opens the Layout settings window, which will be discussed in Chapter 15.

13.4 The Windows Menu

The Windows menu allows you to bring windows and palettes to the front.



13.4.1 Instrument Library (Macintosh)

Instruments opens the Instrument library window. Also, if the Instrument library window is inactive and **Instruments** is selected, that window is brought to front. (Under **Windows**, the Instrument library is brought to front after the New Musician button has been pressed.)

13.4.2 Palettes (Macintosh)

The two middle sections display the names of all of Igor Engraver's palettes and let you select what palettes are to be displayed. By selecting a palette (this is done by releasing the mouse button over the selected name), the corresponding palette is shown. Unchecking a name makes the palette disappear.

Show all palettes and **Hide all palettes** are used to show or hide all of the palettes at once.

If **Align to edges** is checked, the palettes are automatically placed along the sides of the screen, thus freeing up valuable space in the middle of the screen.

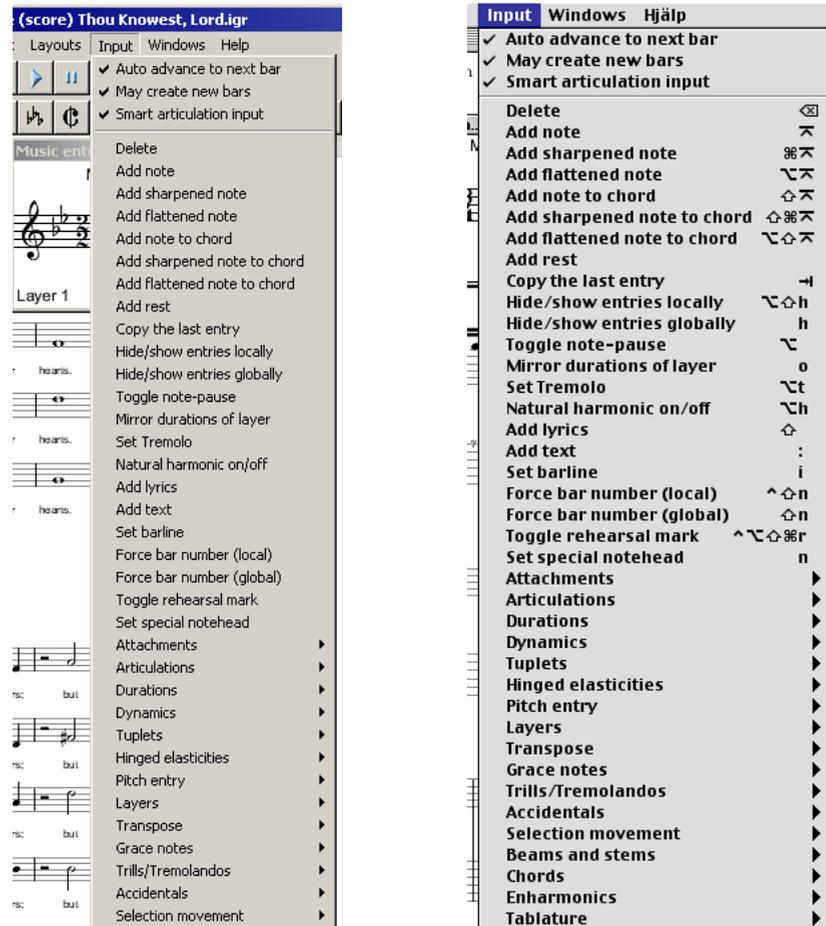
The **Play & Record** or **Tools** palettes can be opened individually by releasing the mouse button over the selected name.

13.4.3 Open Score Layout Windows and Part Layout Windows

The (last section of the) Windows menu displays the open Piece windows and Layout windows. From this section, the desired window can be brought to front.

13.5 The Input Menu

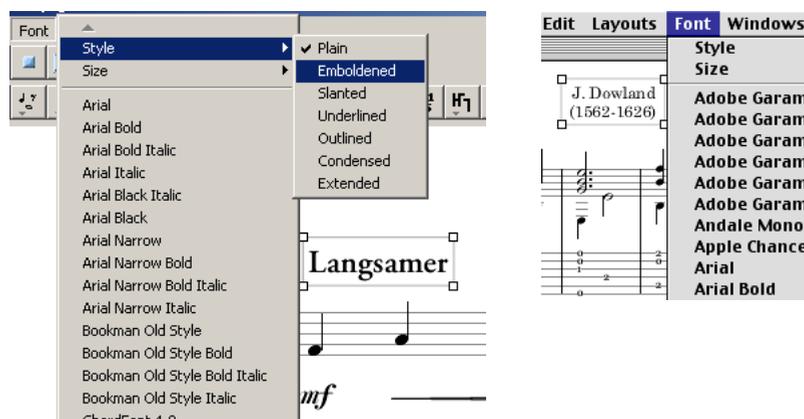
The Input menu (only visible in Input mode) has exactly the same features as the Input mode commands.



Consequently, if you do not know an Input mode command, you can use the Input mode menu as a reference or to execute exactly the same command.

13.6 The Font menu

The Font menu becomes visible when a textbox is selected (clicked once). By choosing a font from the Font menu, the font of the textbox becomes updated. The Font menu also lets you change the style and size of the text in the selected textbox.

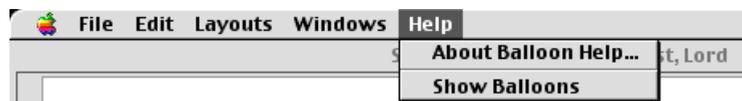


13.7 The Help Menu

The **Windows** Help menu holds the About window for Igor Engraver.



The **Macintosh** Help menu is used for toggling balloon help on and off. Balloons can be of great help, not least when working with the different settings windows, as Igor Engraver uses the balloon help as it is intended to be used.



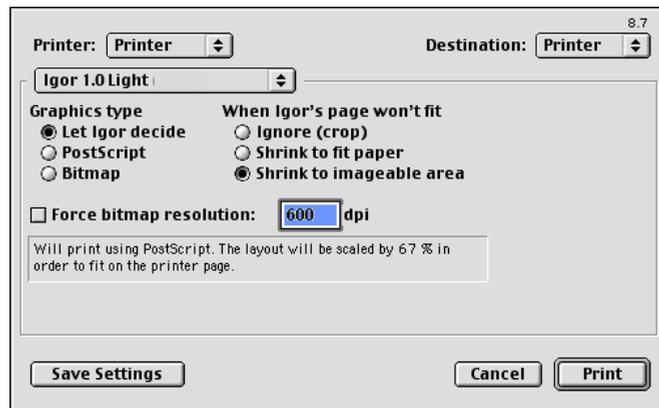
CHAPTER 14

Printing and Exporting

It is possible both to print and to export an Igor layout. This chapter describes how.

14.1 Printing

When **Print...** is chosen from the File menu, your printer driver window opens. (If you use a LaserWriter 8 printer driver, you have to open the Igor Engraver pane from the pop-up menu labelled “General” to access the Igor settings).



The settings of the Igor Engraver window has two columns of radio buttons: **Graphics Type** and **When Igor's page won't fit**.

When a radio button is clicked, an explaining text will be displayed below the settings section of the window.

Graphics Type has three radio buttons:

- **Let Igor decide** – if chosen, Igor Engraver will print the document in the most appropriate way. If you are using a laser printer, Igor Engraver will print a PostScript file, if not, Igor Engraver will print a bitmap file, using the highest resolution of your

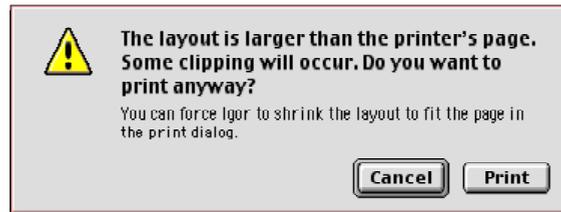
printer as default. If Igor Engraver prefers to print a bitmap file and the Force bitmap resolution checkbox is checked, the document will get printed with the resolution you specify. Of course, you can only use the Force bitmap resolution textbox to choose a lower resolution than or equal to your printer's maximum resolution (which is automatically shown in the textbox).

- **PostScript** – this setting creates a PostScript document, if it is possible.
- **Bitmap** – this setting creates a bitmap document, using your printer's maximum resolution, if the Force bitmap resolution checkbox has not been checked. If checked, the document will get printed with the resolution you specify.

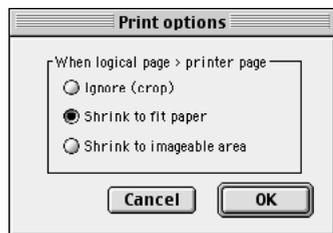
When Igor's page won't fit also has three radio buttons:

- **Ignore (crop)** – if chosen, any sections of the layout that does fit will be ignored.
- **Shrink to fit paper** – if necessary, this setting shrinks the layout so that the layout is equal in size to the paper it is to be printed on. In other words, any graphic elements placed too near the border of a page in an Igor Engraver layout will be omitted. When the layout page has to be made smaller, the explaining text tells you how much. Once again (since this is very important): **Shrink to fit paper** shrinks the layout paper size so that it exactly fits the printer's paper size. This means that if any objects in a layout are too close to the edges of a page, those objects might be cropped by the printer.
- **Shrink to fit imageable area** – this setting shrinks the layout so that it fits inside the page margins of the printed page. When the layout page has to be shrunk, the explaining text tells you how much.

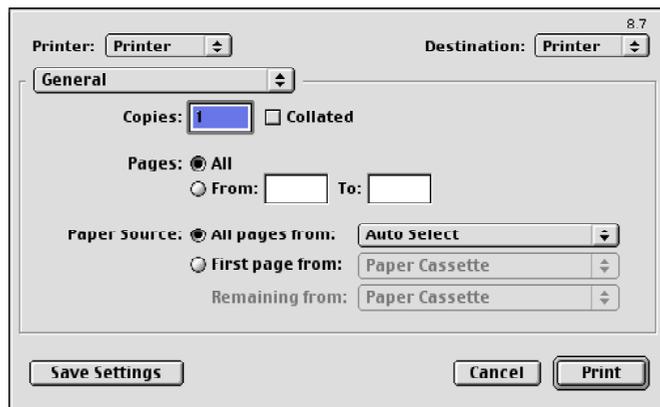
When you try to print a page that is going to be cropped, you will receive a warning (however, if you hold down the **⌘** key for **Macintosh** or the **Alt** key for **Windows** while pressing **Print**, you will not get this warning):



The **Print options...** menu command (available from the File menu) lets you choose a default setting for dealing with layouts larger than the printable area.



Naturally, Igor supports all of the printer driver's standard parameters. For example, in a LaserWriter 8 printer driver window, **File** can be set in the Destination pop-up menu to save a post-script file of your layout. The **Collated** check-box can also be used – if checked, this option tells the printer to print one copy of the layout's total amount of pages at a time, instead of first printing the appropriate number of Page 1 pages, then the Page 2 pages, et cetera.



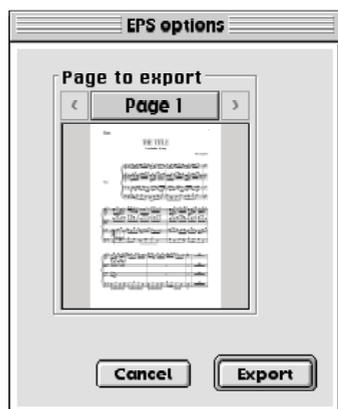
The printed area is reflected by the light areas shown if the **Show/Hide** margins command is set to **Show**. For more information about this important matter, please turn to “Show/Hide Margins” on page 231.

The screenshot shows a music score window titled "Score (score) Thou Knowest, Lord". The score is displayed in a window with a light yellow background and a dark border. The score is divided into two systems. The first system is for a choir with four parts: Soprano (S.), Alto (A.), Tenor (T.), and Bass (B.). The second system is for a soloist with three parts: Soprano (s.), Alto (A.), and Tenor (T.). The lyrics are: "I Thou knowest, Lord, the se - crets of our hearts. Shut... not, shut not thy mes - si - ful ears us - to our pray - ers, but spare us".

14.2 Exporting as EPS

There is a feature in Igor Engraver for exporting the files to EPS. (EPS – Encapsulated PostScript – is a vector based picture format that lets you zoom in on details without the picture getting distorted.)

Choose **Export as EPS...** from the File menu to perform the export process. A window that lets you choose a destination folder and a file name of the EPS file appears. Click **OK**. The EPS options window opens.



In this window, use the arrows to choose the page you want to export (it is only possible to export one page at a time, due to limitations in the EPS format). Click the **Export** button to execute the export or the **Cancel** button to cancel the operation.

A Word About Reading EPS Files

*If you try to open an EPS file generated from Igor Engraver in Adobe Illustrator or PhotoShop, you will get a message saying that the EPS parser encountered an error. This is because the PostScript interpreter used by those programs only understands a small subset of the PostScript language, and Igor Engraver uses several PostScript commands that lies outside that subset. (An EPS file is basically a program, written in the PostScript programming language, which when executed results in an image.) If you use Adobe Illustrator, PageMaker or InDesign, you can instead use the **Place command** in the File menu. This will let you "import" Igor Engraver-generated EPS files into those programs, and print the files on PostScript printers.*

Igor Engraver generates a bitmapped "preview picture" during the EPS export, and puts this preview into the EPS file. When you place the EPS into another application, that preview bitmap is used when the EPS is displayed on the screen. The preview bitmap is generated by Igor Engraver at screen resolution (72 dpi), so the EPS may appear to be of poor quality when viewed on-screen – especially if it scaled or rotated – but it will look fine when printed on PostScript printers. (If you try to print it on a non-PostScript printer, it will in most cases look horrible.) If you have Adobe Acrobat Distiller (that is, the full ver-

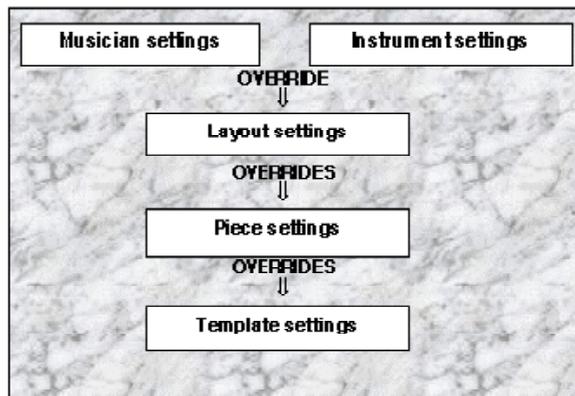
sion of Adobe Acrobat), you can "distill" the EPS file into PDF-format. (Acrobat Distiller works just as well with EPS files as with PostScript files (since they are basically the same).

When Igor Engraver exports a page in EPS format, it does its best to include any used fonts in the file. Igor Engraver only knows how to include PostScript-fonts, however, so if any TrueType fonts are used, they will not be included in the EPS file. Consequently, it is not a good idea to use the EPS export function if you use any TrueType fonts on the page you try to export.

In Igor Engraver, as in most programs, there are certain windows for setting preferences of different aspects of a piece. The reason for using these windows is to avoid changing the nature of objects every time they appear. Since the default settings have been set by professional composers, they should work well for most situations, but sometimes you may want to change the default settings. For example, if you would like to change the language of the instruments' names. The settings that you have made can be saved and applied to other pieces. This way it is easy to get a consistent look of all the pieces you are working on – a House look.

15.1 Windows Hierarchy

You can define many of the settings in more than one window. For instance, the language of the instrument names can be defined in the Piece settings window (all of the instruments) as well as in the Instrument settings window (one instrument at a time). Therefore, there is a hierarchy defining which setting should be active at which time. The hierarchy works as follows:



In other words, when the same type of settings appear in two windows, changes made in one of the window will not always have effect. For instance, changes

made in the Piece settings window regarding bar number placement will not be reflected in existing layouts, since there is a bar number placement setting in the Layout windows as well. To make the new Piece settings take place, either make the changes in the Layout window as well, or trash the layout and make a new layout (since the Piece settings will be reflected in all new layouts).

15.2 The Settings Windows

The following Settings windows are available in Igor Engraver:

- The New Piece settings window
- The Current Piece settings window
- The Instrument settings window
- The Musician settings window
- The Layout settings window.

The different settings of these windows will be explained in detail in Appendix A. In this section, you will be given an idea of the basic structure of the Settings windows, so you can find the information you may need while working with Igor Engraver. Note that the Balloon help is used extensively in the Settings windows.

15.2.1 Piece Setting the Template and the Piece Settings Windows

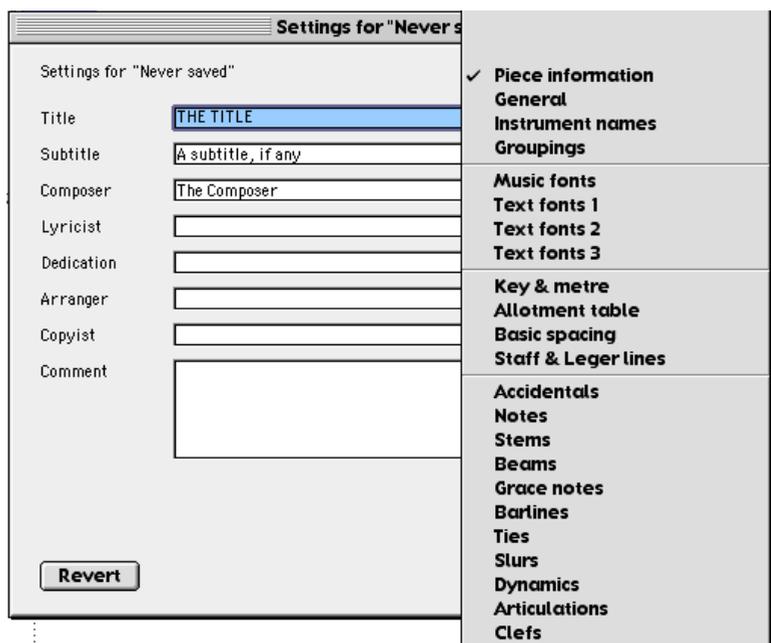
The New Piece settings window and the Current Piece settings window have exactly the same features. The only, but important, difference between them is that the settings in the New Piece settings window serve as a template for new documents, whereas the Current Piece settings window applies to the currently opened piece.

A New Piece settings window or a Current Piece settings window holds a lot more information than the other settings windows, but most of its features are pretty straightforward (and remember: if you are happy with the settings, you do not ever have to use the settings windows). The Piece settings window's menu (displayed in the first of the examples below) is divided into several sections: for example one section for common settings regarding the fundamentals of the piece (e.g. the contact information of the example below), some sections for making changes in the appearance of objects (e.g. the thickness of slurs) and one sec-

tion for MIDI settings (e.g. the playback length of arpeggios). The first section of the menu will now be explored.

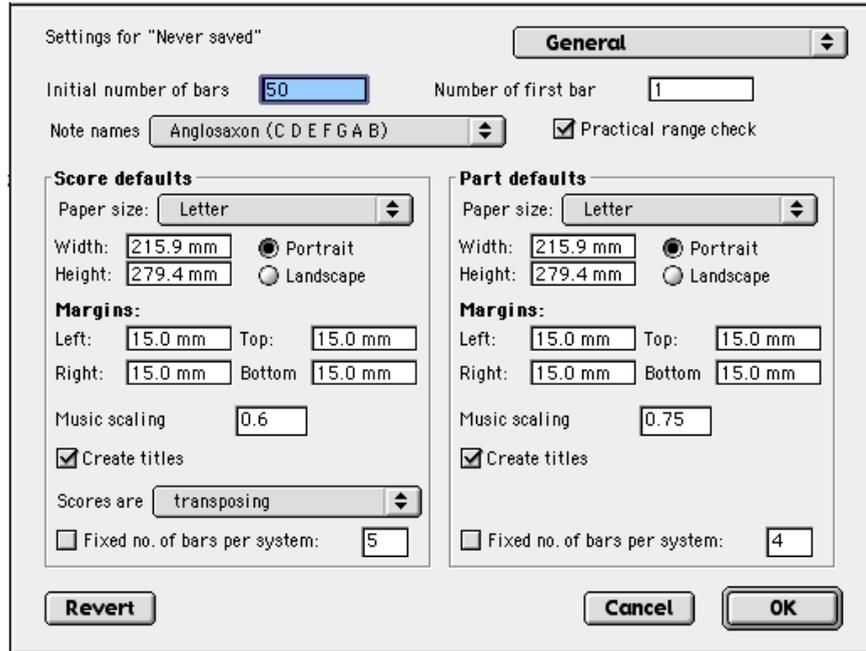
The Piece Information Pane

The Piece information pane is used for entering information such as the name of the piece and the composer's name. Besides the common **OK** and **Cancel** buttons – here hidden by the menu – there is also a **Revert** button, which resets the settings of the pane. (Revert buttons are available in every Settings window.)



The General Pane

The General pane has settings that are used mainly for making adjustments of the page layout of the scores and parts. Some of the available commands will be explained below.



Initial number of bars defines how many bars an empty score or part will have when it is first opened. If you know the number of bars the piece will need beforehand, you can write the correct number in the box. That way, you will not have to make changes later on. Once the piece is created, this setting has no effect.

The familiar default page settings, in Igor Engraver named **Score defaults: Format** and **Part defaults: Format**, let you define the paper size and margins you want to use for your printed music (If your printer does not allow printing on larger sheets than A4, set these to A4.). **Music scaling**, sets the default scaling used for the musical objects in score and part layouts.

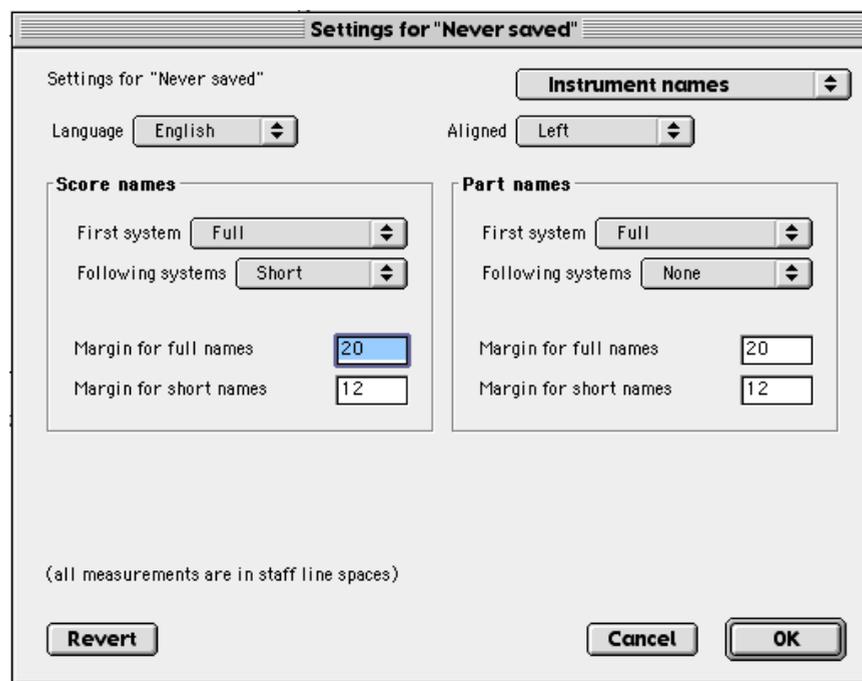
When checked, the **Create titles** options automatically create titles, as defined in the Piece information pane.

You can decide whether scores should be shown transposed or not. In most cases scores are transposed, but in certain 20th century art music, for instance, they are not, but rather “in C”. (For an explanation of the term “transposing”, see 15.2.2 “The Layout Settings Window” on page 256.)

For historical reasons, notes have different names in different language groups. Therefore, **Note names** lets you choose between Anglosaxon, Gallic, German and two types of Roman naming of notes. This feature can be used for harp diagrams and the like.

The Instrument Names Pane

The Instruments names pane defines the appearance of the musicians’ and instruments’ names in layouts. In the example below, the Finnish language is being chosen, which means all of the instruments and the musicians of the score will be in Finnish.

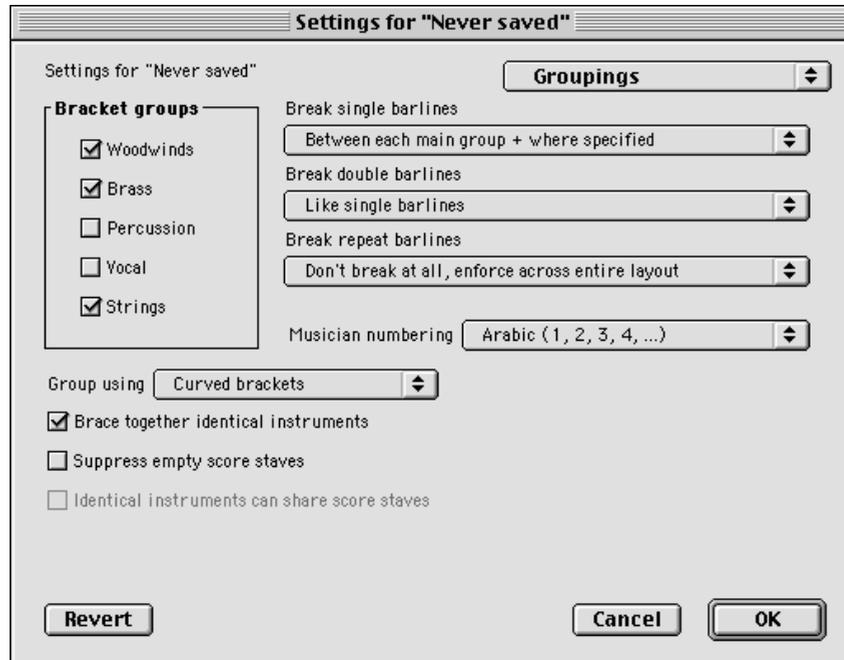


You can also define whether names should appear as “Full”, (e.g. “Flute”), “Short”, (that is, abbreviated: e.g. “Fl”), or not at all. If you want to change the

alignment of the names or the distance between a name and a staff, you can do that as well.

The Groupings Pane

In the Groupings pane, you can make changes to some important aspects of the layouts of a piece.



The **Bracket groups** section lets you specify which instrument groups should be braced together. To the right of that section are options for how different kinds

of barlines are to be shown. The settings of those options in the example above will result in the following structure:

The image shows a musical score snippet for four instruments: Clarinet in B flat, Violas, Violoncellos, and Doublebasses. The Clarinet part is in the treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It features a half note (H) and a trill (tr). The string parts (Violas, Violoncellos, and Doublebasses) are in the bass clef and are grouped together with pizzicato (pizz) markings. The score is in 4/4 time with a key signature of one sharp (F#).

Since the violas, the violoncellos and the double basses belong to the strings instrument group, and since that group is checked, those instruments are braced together. Since **Between each main group + where specified** is chosen from the **Break single barlines** menu, there is no barline between the clarinet and the strings, but between the different instruments of the string section.

The choices available in the **Group using** menu are **Curved brackets**, **Straight brackets**, **Vertical bars** and **Braces**.

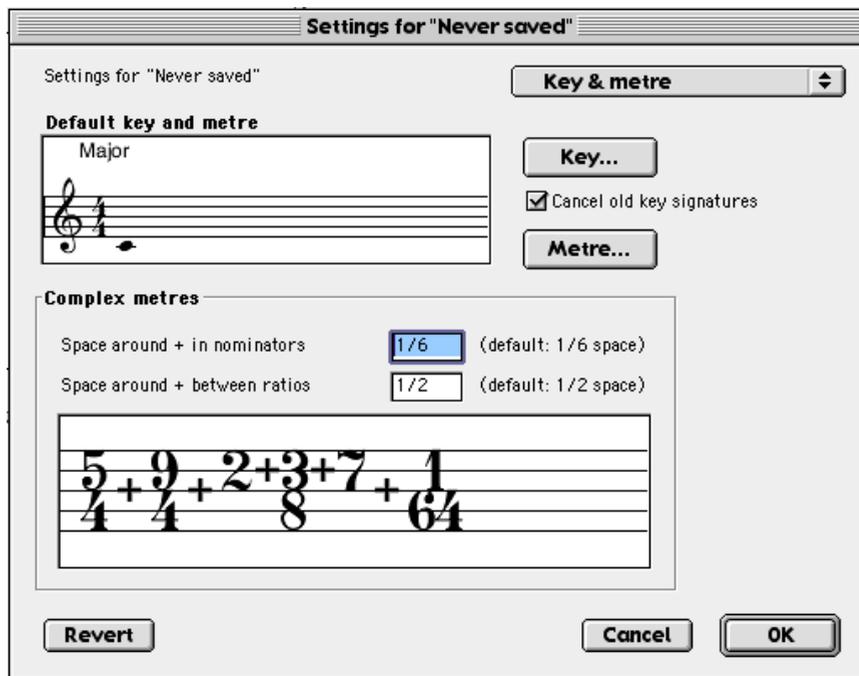
Beneath the **Group using** menu are three options with checkboxes concerning the grouping of instruments in certain situations. The **Brace together identical instruments** option will create a brace around adjacent identical instruments, such as Flute 1 and Flute 2. The **Suppress empty score staves** option lets you hide staves that are not used in scores (apart from the first page of the score, where all staves of the score are presented). The **Identical instruments can share score staves** option, finally, combines the music played by identical, adjacent instruments into a single staff, if their rhythmic patterns are similar to each other, on a system-to-system basis.

The **Musician numbering** menu controls whether musicians are numbered using Arabic numbers (e.g. Flute 1, Flute 2, Flute 3) or Roman numbers (Flute I, Flute II, Flute III).

Suppress empty score staves suppresses empty staves automatically (this can also be done from the contextual menu or in the Layouts Pane).

The Key & Metre Pane

The most important feature of this pane is the ability to change the default values of the key and metre used in the layouts. The default key and metre values are changed in the dialogues that appear if you press the **Key...** or the **Metre...** button, respectively. The changes made in those windows will be reflected in the diagram to the left of the buttons.



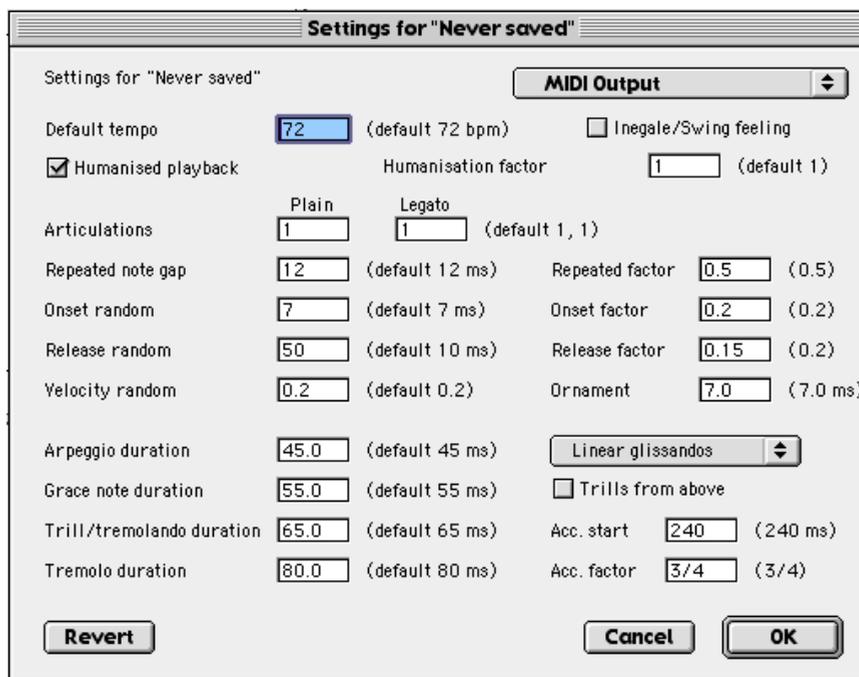
The rest of the Key & Metre pane will be examined in Appendix A.

The MIDI Output Pane

Of the three panes dedicated to MIDI, the MIDI Output pane will probably be the one you will need most. Among other things, this is the place you set the **Default tempo**, which is measured in beats per minute. By checking **Inégale/Piece setting Swing feeling**, the first of two notes of equal length becomes longer and the second note becomes shorter. The **Humanisation factor** determines the amount of “humanisation” that the playback will make: a professional orchestra would correspond to a humanisation factor of 1, while a setting of 10 would sound rather terrible.

In this pane you are also able to change the settings of other MIDI information, such as the interpretation of the duration of grace notes, trills, and so on. If **Trills from above** is checked, the trills of a piece start on the auxiliary note instead of on the written note.

The rest of the MIDI Output pane, and the other panes, will be examined in Appendix A. Piece setting

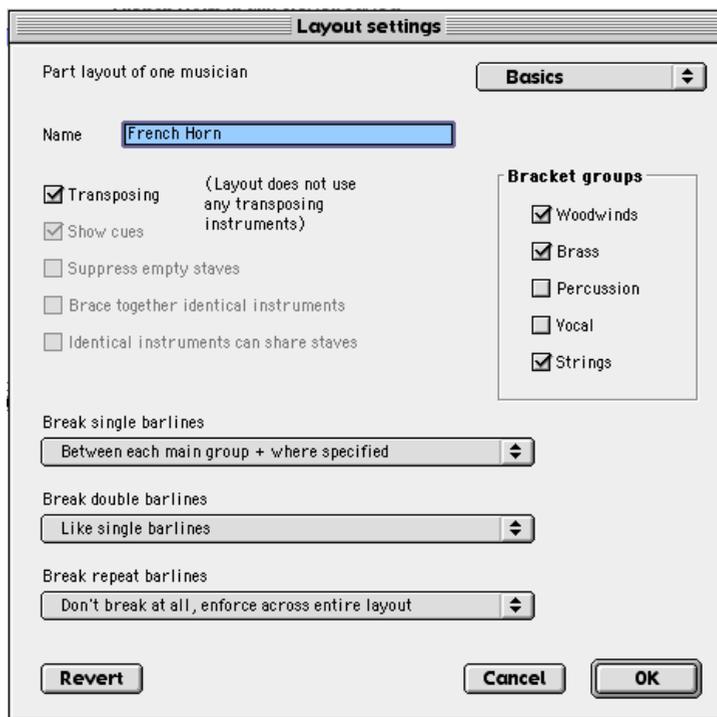


15.2.2 The Layout Settings Window

The Layout window consists of three panes, Basics, Format, Instrument names, Spacing, Bar numbers and Bar grouping. Most of the options have already been covered, since they have equivalents in the Piece settings window. Please notice though that the settings in the Layout settings window override those of the Piece settings window.

The Basics Pane

One important option in the Basics pane of the Layout settings window is **Transposing**, which defines whether the instruments of a particular layout should be shown transposed or not.



If you are not certain of what transposing means, please see the textbox at the end of this section.

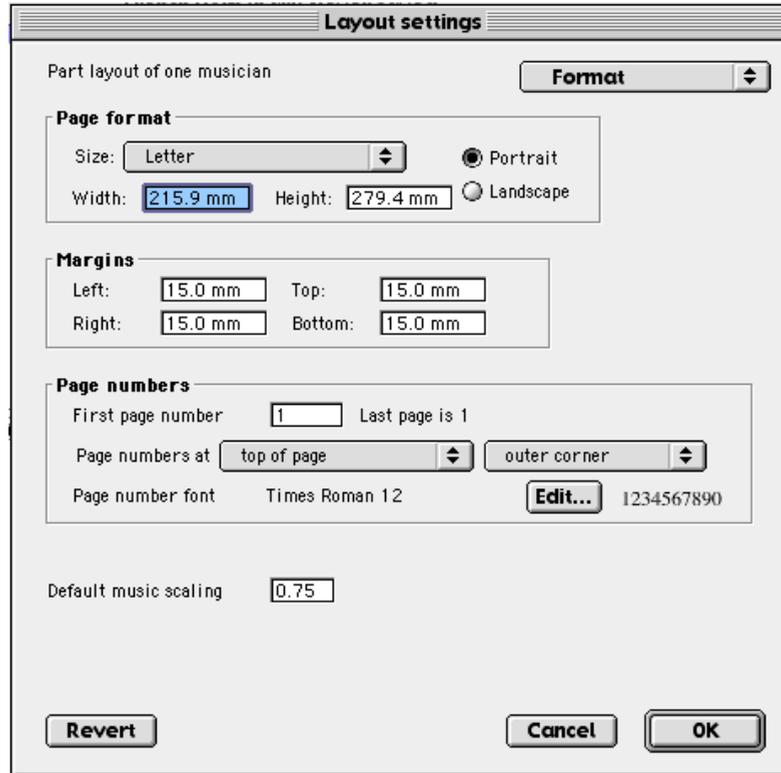
Transposing

A “*transposing instrument*” is an instrument whose written pitch is different from its sounding pitch. Most of the transposing instruments are identified by letters after the instruments’ names, e.g. Clarinet in B flat. The letter name identifies the pitch class that is sounded when a written C is played. In other words, if there is a C written in a clarinet in B flat’s part, the clarinet’s sound will be a B flat. To make a clarinet in B flat play a C, a D must be written into the score.

The key signature of a transposed part will be different from the rest of the “C” instruments, in the case of the B flat clarinet two sharps more or two flats less.

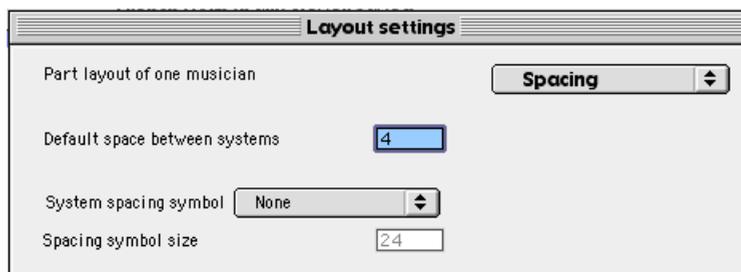
The Format Pane

In the Format pane of the Layout settings window, several important settings – such as settings for page numbering and page format – can be changed. The Format pane is pretty straightforward.



The Spacing Pane

Finally, the Spacing pane is used to change the default settings for the spacing between the staves, to define system spacing symbol et cetera.



15.2.3 The Instrument Settings Window

The Instrument settings window settings should be altered with care, since these settings are not necessarily associated with the different pieces but with the global Instrument library – changes made in these windows may affect the database of Igor Engraver.

Macintosh: As long as you are working with an instrument used by a musician – this is done by either double-clicking the specific instrument or dragging the instrument to the Settings icon in the Piece window – you can change the settings of that musician’s instrument without affecting the database.

Windows: As long as you are working with an instrument used by a musician – this is done by clicking the specific instrument and then pressing the settings button. You can change the settings of that musician’s instrument without affecting the database.

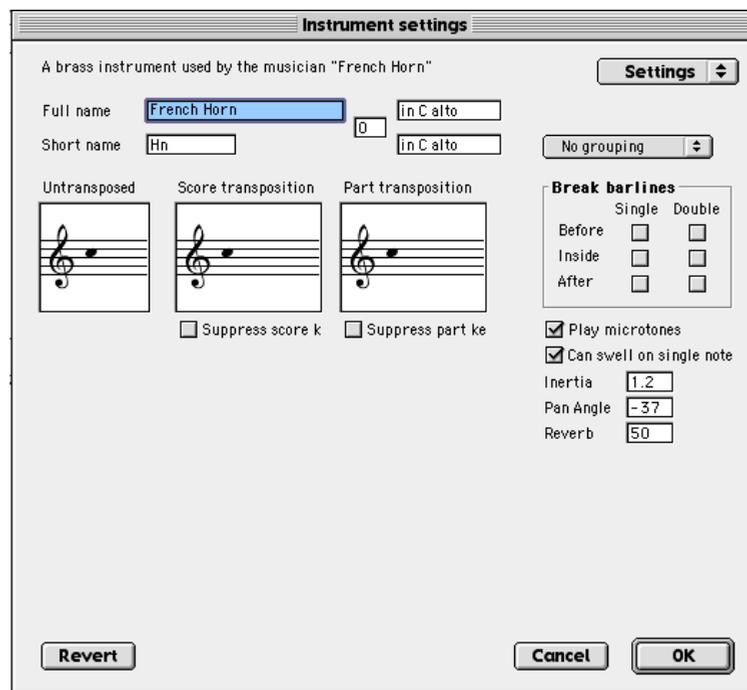
Macintosh only: If you want to make changes to an instrument in the Instrument library, you can copy an existing instrument and use it as a template for creating an instrument of your own. Copying is done by holding down the \mathcal{N} key while dragging the instrument to the desired destination in the library. Creating your own instruments can be useful if you are not satisfied with the spelling of the instruments’ names, grouping abilities et cetera.

There are two panes in the Instrument library window: Settings and Name. In the Settings pane, you can choose whether the instrument should be shown transposed or not in the different kinds of layouts. (Note that if you are working

with an Instrument library instrument, you will not see any name in the Name fields of the Settings pane. This is because the names are not assigned for Instrument library instruments, since there is no active language.)

You can also choose to suppress the key of the parts and scores that the instrument is used in by checking or unchecking **Suppress score key** or **Suppress part key**, respectively. The **Break barlines** feature controls when the barlines between the staves of a system are to be shown and when they are to be hidden. A popup menu lets you choose how the instrument should be grouped: with brackets, with braces or without a grouping symbol.

In the Instrument settings window you also find reverb and pan settings.



15.2.4 The Musician Settings Window

Some of the settings in the Musician settings window can also be found in the Piece setting window, but overrides those settings. This is true for the **Name** setting and the **Suppress empty score staves** setting. The **Can share staff with similar neighbour** option corresponds to **Identical instruments can share staves** in the

Groupings pane of the Piece settings window. The **Scaling** option is related to the **Default music scaling**, also in the Groupings pane. The Scaling option may be used for ossias etcetera, and consequently it may prove very useful on many occasions.

The different options concerning breaks of barlines, finally, correspond to and override the similarly named menus in the Groupings pane of the Template/Piece settings window.



15.3 The House Look

Publishers, writers who include score examples in books, and every composer will appreciate the simple yet powerful House look feature.

The House look feature lets you reformat a piece's settings according to the settings you have made in another piece. This way, you can import a piece from another Igor Engraver file and then reformat the piece (or your current piece) with just one command.

Like files, House Settings are also cross-platform.

It is important to know the difference between the New Piece settings and the Current Piece settings while working with House looks. The settings made in

the New Piece settings serve as template settings for every new piece being created, while the Piece settings belong only to the piece you are working on.

There are six commands available in the House look submenu, namely:

Replace this pieces settings with the settings for new pieces – this command lets you import the New Piece settings into the piece you are currently working on. Remember to make a backup of your Piece settings (by first choosing **Export the Piece settings**) before you perform this step if you are not certain that you will not regret your actions.

Make this piece's settings the default for new pieces – this command replaces the settings of the New Piece settings with the current Piece settings. Again, remember to make a backup of your New Piece settings before performing this step.

Export the settings for this piece... – this command lets you save the settings the piece you are currently working on. The resulting file, whose icon looks like the one below, can be imported into other pieces by choosing **Import settings for this piece...** in those pieces. Exporting the Piece settings can be used not only to apply settings to other pieces, but also to backup the current settings, in case you regret the changes you make to the Piece settings in the future.

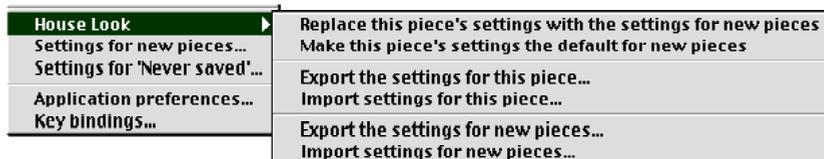


Magnum Opus Preferences

Import the settings for this piece... – this command lets you change the current settings of a piece to the settings of a Piece settings file.

Export the settings for new pieces... – this command works as the **Export the Piece settings** command, except it applies to the New Piece settings.

Import settings for new pieces... – this command works as the **Import new Piece settings** command, except it applies to the New Piece settings.



MIDI (Musical Instrument Digital Interface) is still, after a remarkable period of time of almost twenty years, the most acknowledged standard for connecting various devices used for creating music.

In Igor Engraver, MIDI is used in several ways:

- To let you input music from a MIDI device such as a keyboard or a MIDI-guitar
- To tell synthesisers what to play
- To exchange files between Igor Engraver and other programs.

MIDI is dealt with both in this chapter and in the *Menus* chapter, namely 13.2.6 “MIDI – Windows” on page 220 and 13.2.7 “MIDI – Macintosh” on page 223. Those sections explain how to use the MIDI options available from the Edit menu.

The **Import NIFF File** command lets you import NIFF (Notation Interchange File Format) files. This means Igor Engraver can import sheet music files from some other notation programs and sheet music scanning programs, using a standard much more suitable for exchanging sheet music data than MIDI can offer. For example, slurs are notated correctly when importing a NIFF file, whereas a MIDI file will notate slurred passages as “clusters”. NIFF Import is dealt with after the MIDI sections.

16.1 Music Input From a MIDI Device

To input music from a MIDI device, for example a keyboard, you need to connect the device to the computer by using a MIDI interface. On the **Macintosh** platform, Igor Engraver uses OMS; thus, to use a MIDI device you need to configure OMS properly, as described in 1.9 “A Step-By-Step Guide to Installing Igor Engraver (Macintosh)” on page 25. Read on to learn more about how to select synthesisers for recording and playback.

16.1.1 Step-Time Recording

As mentioned earlier, it is possible to perform MIDI step-time recording in Igor Engraver. First, enter Input mode by double-clicking in a bar. Next, press the key for the desired duration. Finally, press one or several keys on your MIDI keyboard. Now, the pitch will be entered with the duration you selected. If you hit another key on the MIDI keyboard, you will add another note to the layout. This is perhaps the fastest way to enter your music, as it's easy to create long passages of music just by hitting the right keys on the MIDI keyboard.

16.1.2 Real-Time Recording

As stated when describing the Play & Record palette in the Palettes chapter, real-time recording is possible in Igor Engraver. This is how it works:

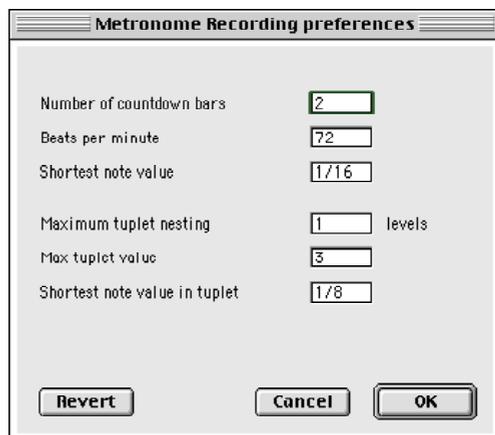
- Put the Input caret in the bar where you want to begin recording.
- Press the Record tool to initiate the recording process.
- Press a key (or the like...) on your MIDI device to start the metronome's countdown. Since recording does not start immediately after you press the Record tool, you have time to get in position before starting the actual recording.
- The metronome will play the specified number of countdown bars, and recording then starts.
- Recording continues as long as the metronome sounds (it will stop at the end of the piece).
- Recording stops when the Stop tool is pressed or at the end of the piece.
- All the entries will be quantised according to the settings in the Metronome Recording settings window (see below).

If the **Metronome recording settings...** command is chosen from the Edit menu's MIDI submenu (**Windows**), or the Settings tool of the Play & Record palette is clicked (**Macintosh**), the Metronome Recording settings window appears. In this window you can define several things:

Number of countdown bars, which defines how many bars of countdown you want before recording begins.

Beats per minute, in which you set the default playback tempo according to the denominator of the tempo signature.

The rest of the text boxes of this window concern tuplet recording and are examined in the MIDI Quantisation pane section of this chapter.

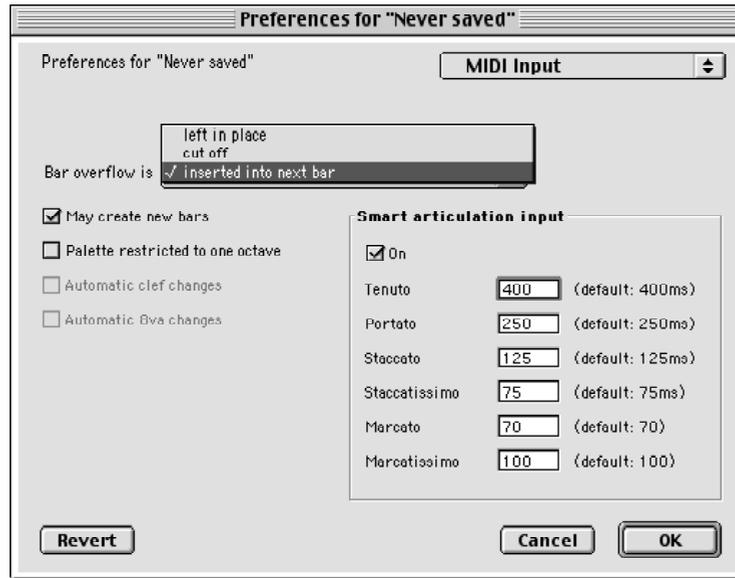


16.2 The MIDI Panes

The three panes that are dedicated to MIDI in the Template/Piece preferences window will be discussed in this section. If you do not plan to use a MIDI device for inputting music, you do not have to read about the MIDI Input and the MIDI Quantisation panes. Still, the section covering the MIDI Output pane will be of importance to you.

16.2.1 The MIDI Input Pane

In the MIDI Input pane, you can make changes as to how Igor Engraver should interpret different articulation inputs and so on, as shown below.



Bar overflow is: – if too many notes or rests are inserted into a bar, this pop-up menu defines the default behaviour of Igor Engraver’s actions. The entries that do not fit in the first bar can be inserted into the next bar, left in place, or simply cut off.

May create new bars: – if checked, additional bars may be created if there are not enough bars to fit the inserted music. (Note that this is not available when performing real-time recording.)

Palette restricted to one octave: – if checked, the notes displayed in the Music entry window will be limited to one octave.

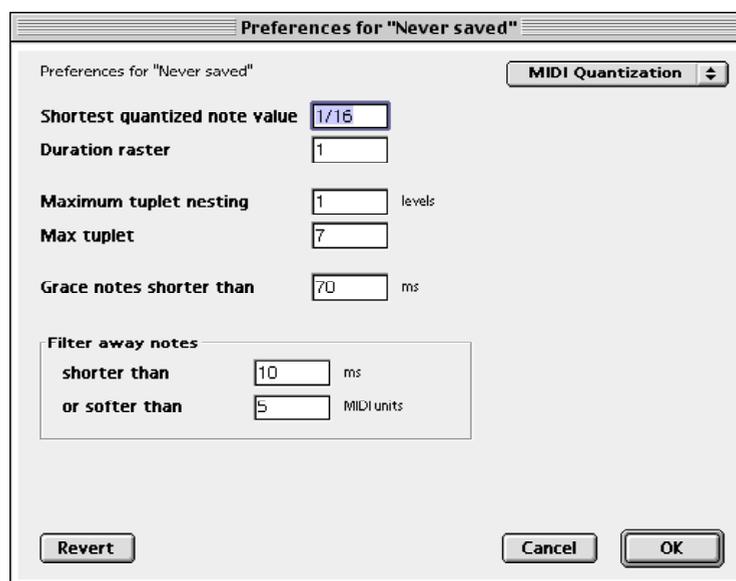
Automatic clef changes: and **Automatic 8va changes:** – if checked, Igor Engraver may create automatic clef changes and automatic ottava changes when appropriate.

Smart articulation input – if **On** is checked, Igor Engraver will use the smart articulation variables during MIDI input and apply the appropriate markings to the

layouts. The textboxes inside the smart articulation area determines the limits for recognition of tenutos, portatos, staccatos, staccatissimos, marcatos, and marcatisissimos. If a value in one of these text boxes is set to 0, that articulation is disabled.

16.2.2 The MIDI Quantisation Pane

The music that you record via MIDI will be quantised, i.e. the starting and ending points of an individual note will be set to an exact note value. If you want to change the default MIDI quantise settings, this should be done in advance, in the MIDI Quantisation pane of the Preferences window.



Shortest quantised note value displays the shortest note (or rest) value that will be recognised. In general, this means with the setting 1/16, a note that is shorter than a semiquaver will automatically become a semiquaver. There are exceptions from this rule: if the note played is part of a tuplet of some kind, it will still be recognised as a note. As a rule, this setting should correspond to the shortest note shown in the piece you are recording. (If you know semiquavers and semiquaver triplets will be used in the piece, the setting 1/16 will be appropriate – if you are going to record 32nd notes, it will not.) Getting a MIDI performance rhythmically correct is not a very easy task; therefore, if you know you are going to record mainly quavers or longer, and only occasionally some semiquavers, you may as

well change the setting to 1/8 and correct the few semiquavers by hand afterwards.

Duration raster lets you define the note length quantisation, and is used for rounding off recorded notes. If the value is set to 1, all notes will be rounded off to “semi-breve-length” – that is, semi-breves, breves, or longas, and dotted breves. If the value is set to 2, the notes recorded will be rounded off to “minim-length”. If set to 3, the notes will be rounded off to “crotchet-length”, and so on.

Maximum tuplet nesting lets you specify the number of tuplets that should be nested. In some art music and in music with “exotic” rhythms, it may be important to be able to nest tuplets, i.e., to have tuplets within tuplets. In Igor Engraver, you can have more or less an unlimited number of nested tuplets, but the higher number of nested tuplets Igor Engraver is to recognise, the slower the transcription process.

Max tuplet defines the maximum number of notes or rests that may be used in a tuplet. For example, if you change this setting to 3, a quintuplet will not be recognised: instead, the notes of the quintuplet would be quantised in another manner. It is recommended that you enter a number that is as low as possible in the box of this setting, to get a proper result when recording.

The **Grace notes shorter than** textbox lets you define when Igor Engraver is to identify notes as grace notes. Entries that have a duration value lower than the number in the Grace notes shorter than box will automatically become grace notes. The relationship between milliseconds and note values depends on the beats per minute setting in the MIDI Output pane. Some typical values are shown below.

Relationship between note values and milliseconds:

The relationship between note values and milliseconds can be calculated as follows:

$$\text{Number of milliseconds/beat} = 60/\text{the beat number}$$

The table below shows some values where a crotchet equals one beat.

Note value	72 beats per minute	96 beats per minute	120 beats per minute
1/1	3332 ms	2500 ms	2000 ms
1/2	1666 ms	1250 ms	1000 ms

Note value	72 beats per minute	96 beats per minute	120 beats per minute
1/4	833 ms	625 ms	500 ms
1/8	416 ms	312 ms	250 ms
1/16	208 ms	156 ms	125 ms
1/32	104 ms	78 ms	62 ms
1/64	52 ms	39 ms	31 ms
1/128	26 ms	19 ms	15 ms

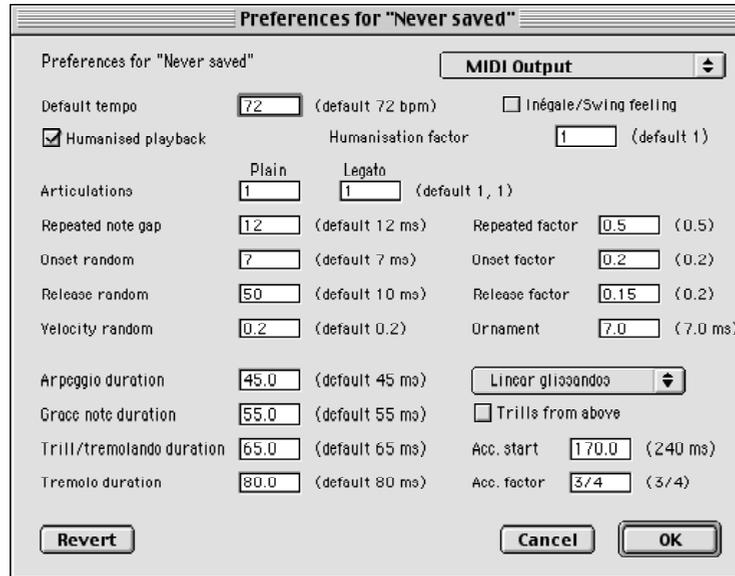
The **Filter away notes** setting is used for eliminating note entries that have been entered by accident. **shorter than** lets you define when notes should not be regarded as either normal notes or grace notes.

16.2.3 The MIDI Output Pane

The MIDI Output pane resembles the MIDI Input pane. Important settings are **Default tempo** and **Inégale/Swing feeling**, which lets you set tempo and playback style, respectively.

Humanisation factor is another feature worth mentioning – it defines how much the music is to be played back imperfectly. The higher number, the less perfect synchronisation and intonation (a setting of 10 will get some very interesting results)... On the other hand, if the number is set to 0, the output will sound synthetic, as it is “unrealistically perfect”.

Trills from above lets you choose whether the trills of a piece should start on the auxiliary note or not.



16.3 Importing and Exporting MIDI Files

Importing MIDI files provides a quick and easy way to get music from other applications into Igor Engraver, for notating the music, or just for taking advantage of Igor Engraver's unique playback capabilities.

16.3.1 The Import MIDI Window

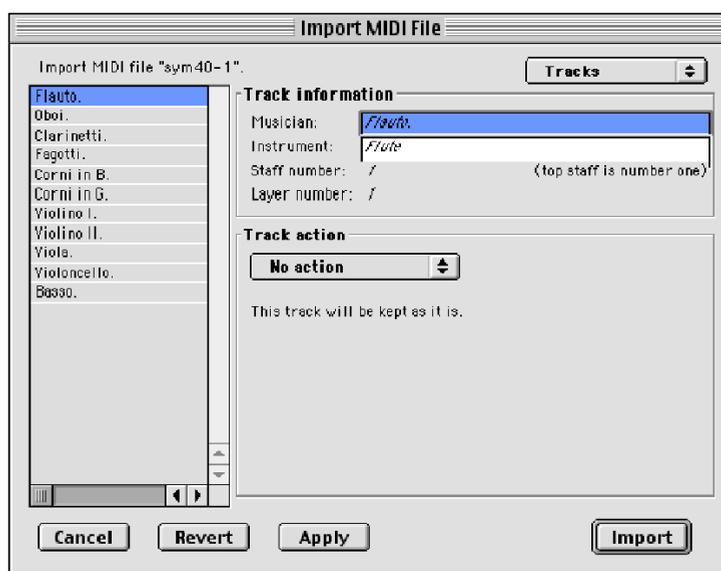
To import a MIDI file into Igor Engraver, you must first select a MIDI file by choosing **Import MIDI file...** from the File menu and then choose the appropriate file. When you double-click the file you want to import, the Import MIDI file window will open. This window has four panes: Tracks, Shorten, Quantisation, and Expert settings.

The Tracks Pane

This window looks pretty empty at first, apart from having the names of the MIDI file's tracks listed to the left. However, if you select one of the track names, additional information is being shown, as in the example below.

In the **Musician** textbox, you can change the track's name to something else. If Igor Engraver is able to recognise an instrument name, it proposes that name in the **Instrument** textbox; otherwise you must define it yourself. Note that the instrument you specify in this textbox must be spelled exactly the same way as the instrument's name in the Instrument library window.

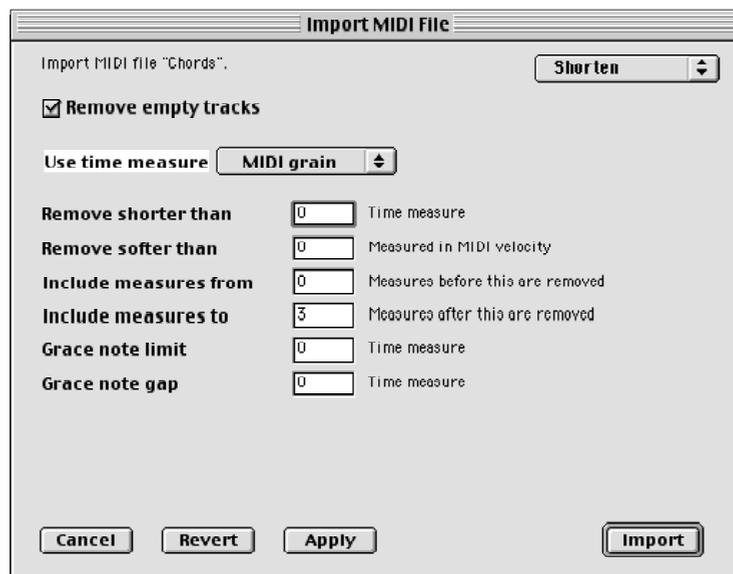
The **Staff** option lets you set the number of staves that will be used for the musician in question. Depending on whether you want one or two staves, you will have different options in the pop-up menu below. Beneath the pop-up menu there is text giving additional information about the settings.



If there is no MIDI information in one of the recognised MIDI tracks, Igor Engraver will suggest that the track should be removed. When all of the tracks have got corresponding Instrument names, press **Apply**. If one of the instruments specified cannot be used, its textbox will be cleared. When all of the tracks have got instrument names, the MIDI file can be imported (provided you do not want to change the settings of the other panes). When the file is imported you will find musicians named after the specific instruments. However, there will not be any layouts created for you; instead, you may decide yourself what layouts you need, and then create them in the usual manner.

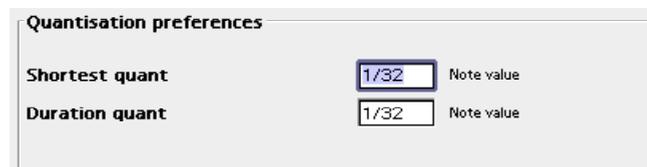
The Shorten Pane

The Shorten pane lets you filter away notes that are shorter or softer than a specified number and determine which notes should be considered grace notes. There are also two textboxes, **Include bars from** and **Include bars to**, that specify the range of the MIDI information that is to be imported. In other words: if you are to import a piece of considerable size, you can try to import a portion of the piece first to see what the result may look like.



The Quantisation Pane

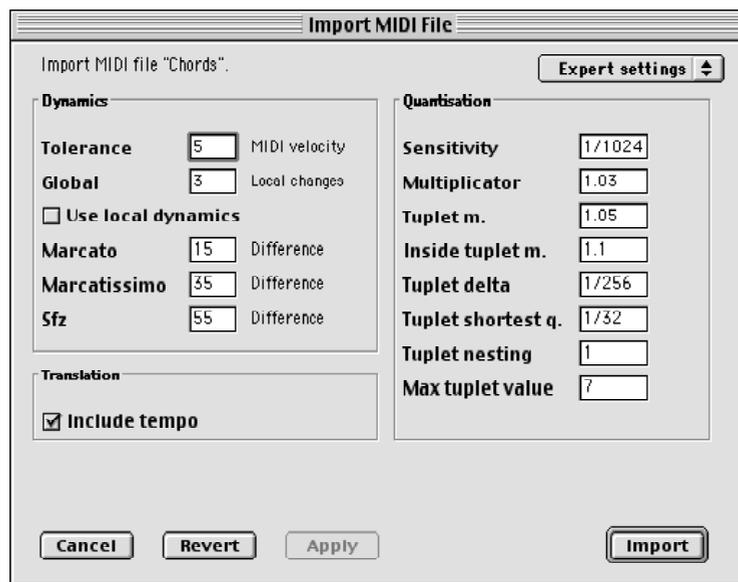
There is also a **Quantisation** pane, which has two quantising settings. The **Shortest quant** is used for specifying the length of the shortest resulting entries. The **Duration quant** is used for specifying how much the entries are to be “rounded off”. If this textbox is set to 1/32, entries such as a crotchet tied to a hemidemi-semiquaver will not be allowed.



The Expert Settings Pane

Finally, there is an Expert settings pane for detailed settings for the music that is to be imported.

In this pane, you have more control over quantisation; among other things the quantisation of tuplets can be altered here. The Dynamics section lets you define when a note is to be considered as *marcato*, *marcatissimo*, or *sforzando*. Turn to the balloon help to read more about these settings.



Changes to the Imported MIDI File

When a MIDI file has been imported, you may find there are many things that need to be changed to the file. This is especially true when importing non-quantised files from sequencers and the like. Consequently, you may need to do some clean-up to the resulting music. However, Igor Engraver has helped you in many ways in order to let you work as little as possible. For example, the chords in the imported files have been analysed, so that the right accidentals are used.

A common problem when importing MIDI files into any software is that the length size of the notes is not accurate. If you experience this problem, consider changing the quantisation settings.

Also, you may experience that the wrong instrument is used in the Piece window. If so, simply delete the unwanted instrument (not the musician) and replace it with the right instrument by dragging the desired instrument from the Instrument library to the musician.

16.3.2 The Export MIDI Window

If you choose **Export**, the Export to MIDI file settings window will appear.



In this window, you find two scroll menus. The first of these menus are used for defining how the music is going to be applied to different tracks. This may be done in the following ways:

- Type 0: Single track – All of the notes will share one track. In other words, all music will merge onto one staff.
- Type 1: Multiple channel tracks – The music of every MIDI channel gets one individual track. In addition, two extra tracks will be created, for additional MIDI information concerning playback.
- Type 2: Multiple instruments tracks – Every instrument gets one individual track. In addition, two extra tracks will be created, for additional MIDI information concerning playback.

The second menu lets you define what device the MIDI file is going to be imported to. If you do not choose a particular name, such as “Nanosynth”, you will lose some of Igor Engraver’s unique playback information. Therefore, if you know what device you are going to use, and that device is supported by Igor Engraver, you should use that option. Otherwise, to ensure playback compatibility, you should better use **General MIDI**.

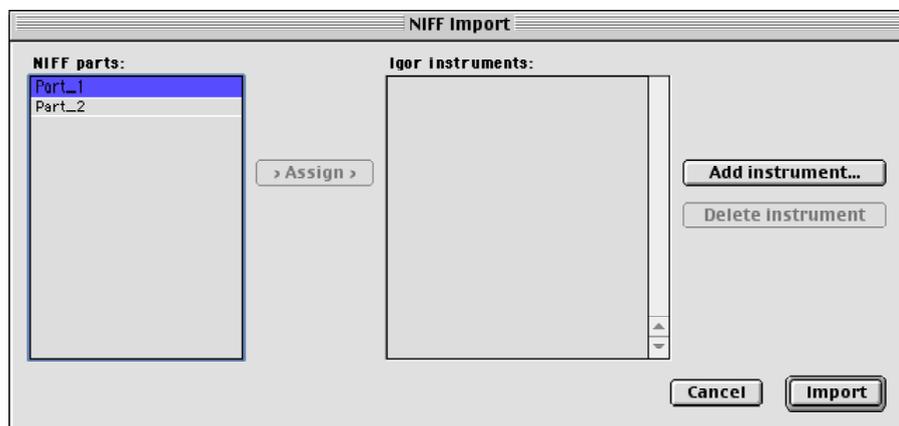
A final note about MIDI:

MIDI problems frequently occur when used in a new setup. In other words, if you are experiencing problems with MIDI, please check if you are actually getting any MIDI input and output by running another MIDI-based program that you know works properly.

16.4 NIFF Import

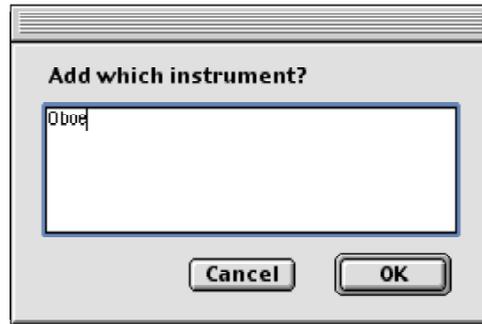
The **Import NIFF File** command lets you import NIFF (Notation Interchange File Format) files. This means Igor Engraver can import sheet music files from some other notation software and sheet music scanning programs, using a standard much more suitable for exchanging sheet music data than MIDI can offer. For example, slurs are notated correctly when importing a NIFF file, whereas a MIDI file will notate slurred passages as “clusters”.

After the **Import NIFF File...** command has been chosen, the NIFF Import window appears:



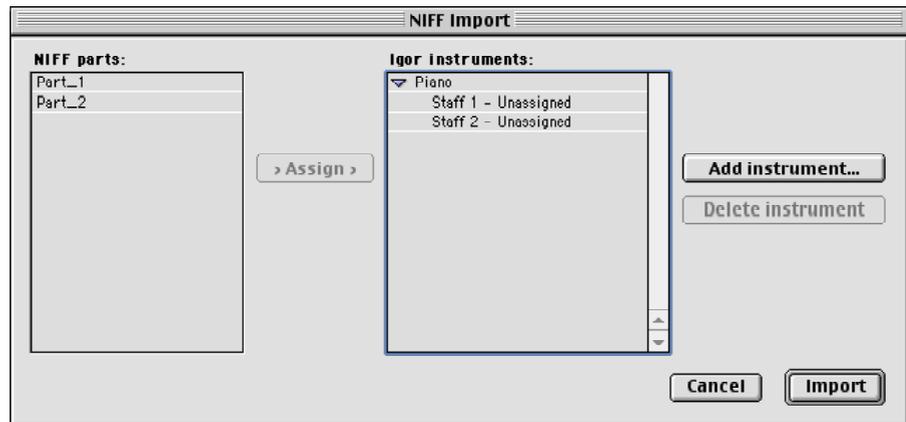
In the left pane, the parts recognised are displayed. These can be assigned to various musicians. In the example above, there are two parts, one for the treble clef and one for the bass clef of a piano score. To the right is a button for adding musicians who will be assigned the parts.

Clicking the **Add instrument...** button brings up a dialogue in which an instrument can be chosen. It is important that the instrument is spelled the same way as in Igor Engraver's Instrument library for correct translation.

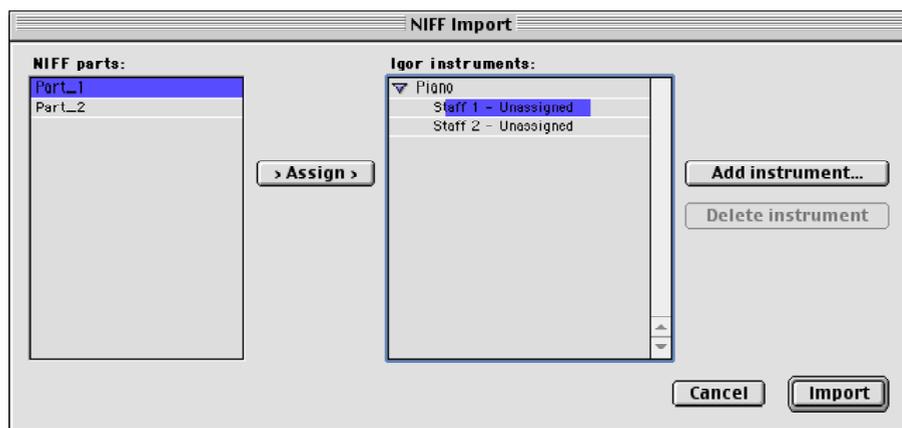


In this case, "Piano" will be chosen, as a piano score is being imported, and **OK** is clicked.

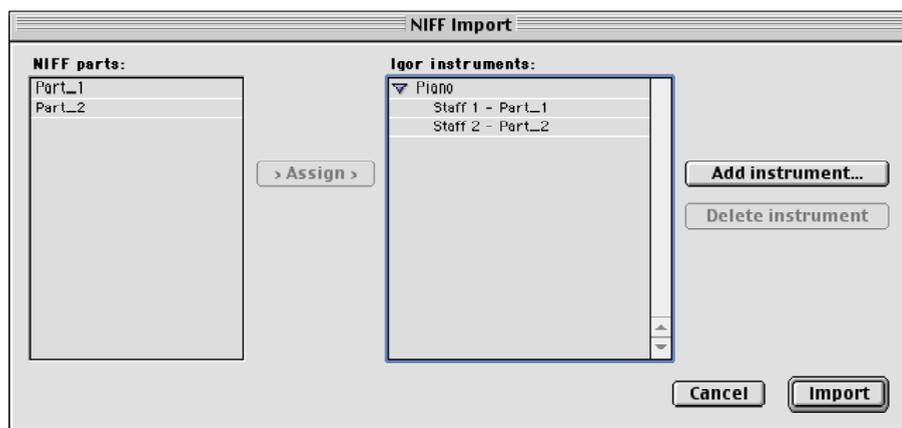
Now, a Piano appears in the right pane, i.e., the pane for the musicians.



Next, click to select one of the parts in the left pane, and on the "unassigned staff" you want to import the music to, as shown below.



Now, click Assign (which now should have become active). The results of the operation, and a repeated operation for the other part, looks like this:



Finally, **Import** is clicked and the import process itself is completed. A Piece window will open, containing a Piano musician but no part or score layouts. Create a suitable layout for your composition and you're done.

NoteHeads offers a system for secure distribution of sheet music over the Internet. This means musicians all over the world may search for, download samples of, and optionally buy sheet music files set in Igor Engraver via an Internet web site.

17.1 The Igor Reader

Using the free Igor Reader (which is downloadable from www.noteheads.com), a person can listen to and print the sheet music with the same quality that Igor Engraver provides. The web format files (IGP) may be downloaded in a “pre-purchase” state, which means there may be pre-purchase banners written over the score as well as some limitations regarding playback, number of pages shown, printing, etcetera.

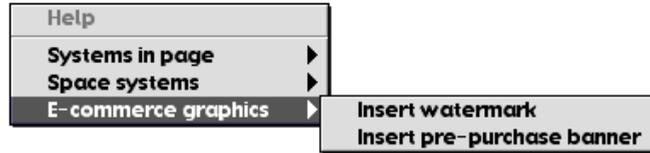
The Igor Reader files are much smaller than the Igor Engraver files, and so, downloading a demo of a piece for evaluation purposes does not take an extended amount of time. When a person has decided to buy the piece, the reader connects to a secure site, and a very small decryption file is sent to the buyer. Then, the banners disappear, hidden pages are shown and all other restrictions are removed. After the purchase has been completed a “watermark” is also inserted into the file, i.e. a small footer similar to the copyright text which contains the name of the buyer.

Note also that since the Igor Reader files are small in size, they are very suitable for emailing to a client. For instance, if you are engraving a piece for a composer or if you have to deliver portions of a piece when scoring film music.

For more information about the NoteHeads Reader and the e-commerce solution, please visit www.noteheads.com.

17.2 Banners and Watermarks

Entering pre-purchase banners and watermarks is a fast process. To accomplish this, first Control-click for **Macintosh** or Right-click for **Windows** somewhere on a page outside a system and open the E-commerce graphics submenu.



17.2.1 Inserting Watermarks

You can use the **Insert watermark** command if you want to insert a watermark that will be shown at the bottom of the page:

 A musical score snippet in G minor, 3/4 time, starting at measure 17. The score shows a piano introduction with a *cresc.* marking. Below the score, a watermark text box is displayed with the following text: "This is a sample which can be downloaded or bought as a full version piece (including playback) at <http://www.noteheads.com>. (c) 2000 by NoteHeads AB. All rights reserved."

Of course, the text of this text box may be changed as well. The default text is derived from the Piece settings' Publishing Info pane.

The watermark is actually a special kind of text box since it will change its appearance after a purchase has been carried out. Before purchase it may contain the copyright information and some information about where to download and buy the file. After purchase the watermark will contain some text which is added by the server, e.g. the name and e-mail of the buyer, the date of purchase and the copyright notice. You cannot control this text from within Igor – it can only be chosen by publishers who have an agreement with NoteHeads. In the near future, a complete service will be provided to any composer or arranger using Igor Engraver as a digital publishing tool.

If you move or resize the watermark, it is important to always make it as large as possible because you do not know what text will be added after purchase. If the post-purchase text is too long, it may be cut to avoid collisions with symbols outside of the watermark bounding box. The Show margins feature may be useful to find out whether or not the pre-purchase watermark may be cropped.

17.2.2 Inserting Banners

Now choose the **Insert pre-purchase banner** command to insert a banner that will be displayed across the page, as shown below:

B. O God most might - y. O ho - ly and most mer - ci - ful

S. Sa - viour, thou most worth - y judge e - ter - nal suf - fer us not

A. Sa - viour, thou most worth - y judge e - ter - nal suf - fer us not

Ch. Sa - viour, thou most worth - y judge e - ter - nal suf - fer us not

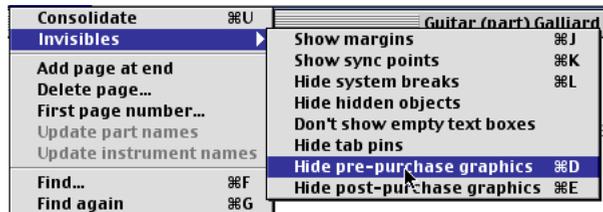
T. Sa - viour, thou most worth - y judge e - ter - nal suf - fer us not

B. Sa - viour, thou most worth - y judge e - ter - nal suf - fer us not

S. suf - fer us not at our last_ hour for a - ny pains of death for

The banner is a text box and is easy to change to whatever text you may want to attach to the unpaid music. Of course, when a buyer has decided to buy the piece, the banner text disappears.

17.2.3 Showing and Hiding E-Commerce Graphics



The **Layouts** menu allows you to toggle between showing and hiding the e-commerce graphics objects, and you may define this behaviour on a pre- or post-purchase basis. Note that the banner is only seen in a pre-purchase state, while the watermark is both a pre-purchase and post-purchase object. If you toggle between showing only post-purchase graphics and showing only pre-purchase graphics, you will notice how the watermark changes its contents to mimic how your file will look before and after purchase.

⌘-D for **Macintosh** or **Ctrl-D** for **Windows** executes the **Show/Hide pre-purchase graphics** command, and **⌘-E** for **Macintosh** or **Ctrl-E** for **Windows** executes the **Show/Hide post-purchase graphics** command.

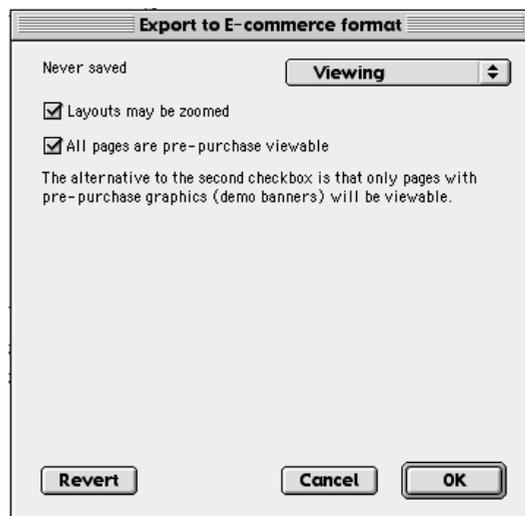
17.3 Export for E-commerce

To create a NoteHeads Reader document, you have to export the music using the **Export for e-commerce...** command, which is found in the **File** menu. This command opens the **Export to e-commerce** multi-pane window. Note that the **Export for e-commerce...** command is only available when the Piece window is topmost and that the command will include all the layouts of the piece in the exported file.

17.3.1 The Viewing Pane

After choosing **Export for E-commerce** from the **File** menu, a Viewing pane will appear. Here you define whether or not the layouts may be zoomed in the reader

in a pre-purchase state, and also if all of the pages are to be viewable. The alternative is to display only pages that you have manually inserted demo banners.



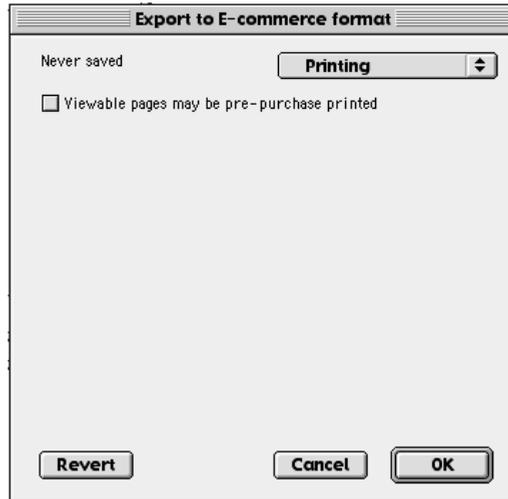
17.3.2 The Playback Pane

In the Playback pane you define what bars are to be playable before purchase. Also, you may decide whether or not the music may be transposed via MIDI and if the playback tempo may be altered.



17.3.3 The Printing Pane

In the printing pane, you define if the pages that are viewable may be printed before purchase.



17.3.4 The Versions Pane

This pane contains a checkbox used only for very special situations where several version of the same piece are published. This is best explained with two examples.

If you find a flaw in a piece after publishing the piece, then you will need to remove the file from the ftp servers where it is stored for public download and replace it with a newly exported file. *But you don't need to register the piece once*

again. This is because Igor and the e-commerce server consider the original piece and the corrected piece to have the same identity.



On the other hand, if you publish a piece, and later decide that you would like to publish a second version of the piece, for example, with strings included, it is possible to have two versions. Perhaps the second version could have a higher price than the first. To do this, you should store the old version of the file under one name and then save the piece under a new name and add the strings arrangement to this new file. But you can not export it as you normally would because then it will be given the same identity as the old piece (it would have the same price and other information associated with it, stored in the e-commerce server). *This is the case when you must use the **Export as a completely new web file** check box.* You need to register this file once again.

In this manner you can manage several versions of files. Note that if you do not save the original file under a new name then this file is “forever lost.” Meaning that you may never correct mistakes in it or export it under the old identity.

17.3.5 Compression

The IGP files can be compressed, which means they simply take up less amount of space after this process has been executed. To compress a file, simply check the **Compression** checkbox and then start the compression. The higher number you

set in the **Level** textbox, the smaller the file will be (but the longer time it will take to compress it). Set a number higher than the amount of pages to compress to get maximum effect.

Using compression can be very wise, especially if you are exporting a large piece, or a piece consisting of several layouts. The person who downloads a compressed file from your homepage, or who receives it via email or the like, will most certainly appreciate getting a file which is as small as possible.



17.4 Upload and registration

The final step of preparing a piece for e-commerce is to register the file at the e-commerce server and to upload it (This can only be done if you are a member of the NoteHeads Community. To join, go to www.noteheads.com and follow the Community link). After uploading, the file will be able to be searched and purchased at the Music Stand. After a file has been saved in the web format with the **Export for e-commerce...** command from the File menu, Igor Engraver asks if you would like to register it as well.

When you answer yes to this question Igor Engraver will open a browser window and ask you to login. After logging in, you will be asked to create a new opus or upload the file to an opus already created. After choosing your opus, another screen will appear that will ask you to type in the name of the IGP file you wish to upload. If you do not know the exact name of the file, choose **Browse...**, find the file and click on **Open**. To complete the registration process, press **Upload** and

your file will be uploaded to the web for sale (the speed of uploading will depend upon your internet connection).

17.5 General advice

A few tips useful when exporting IGP files for e-commerce:

- Always check the IGP file using Igor Reader. Re-export and upload again if you're not satisfied.
- Remember to enter the title and subtitle in the settings before you export - they become searchable in the database and appear as the published title of your piece. Don't forget the e-commerce pane where all copyright info and other vital information is collected. Fill in your name and city in the copyright fields and complete as many as possible of the other fields.
- Uncheck the **All pages pre-purchase visible** checkbox and put pre-purchase banners on pages you want potential customers to be able to see. Putting banners on pages is what makes the pages visible when **All pages pre-purchase visible** is not checked.
- Put watermark boxes on pages where you want the copyright and purchaser ID to appear. This need not be on every page, but it is up to you.
- Make sure you export at least one viewable page. Make it a meaningful one - the first page of the full score, or the first two pages, for instance. You might want to consider making the entire score viewable, but not printable.
- Think through your settings carefully before you export. If you check **Viewable pages may be printed**, visible pages will be printable before purchase. Fine. This is nice. However, if you check this box and also check **All pages are pre-purchase viewable**, people will be able to print out your *entire* piece *before* they pay for it. This is probably not what you want as it defeats the entire purpose of e-commerce.
- Don't overprice your music – better modest than no income. Take a look in the Music Stand at noteheads.com to see how others have priced their music.
- Spread your piece as you want. Once your file has been registered it does not matter how the file itself is spread in its demo state. You can put it on any ftp server, mail it to a friend, or even publish it on an enhanced CD including both a normal CD player soundtrack and your music in the IGP format. As long as the piece has been registered, it can be purchased.

APPENDIX A | Settings

As mentioned earlier in the Igor Engraver Manual, there are a number of settings windows. This appendix describes these windows, in the following order:

- The Settings for new pieces and Settings for ‘current’ piece windows
- The Layout settings window
- The Musician settings window
- The Instrument settings window.

The Settings for New Pieces and for ‘Current’ Piece Windows

All settings that apply to pieces are available from one single place, the Settings for ‘current piece’ window. Each piece has its own settings, which can be edited using the Settings for ‘current piece’ when one of the windows belonging to the piece is active. The Settings are explained by the balloon help.

If no piece window or layout window is active, or if the Instrument Library is topmost, you can still use the Settings for new pieces window – but what you will be editing are the *Settings for new pieces*. They are not used by any piece, but are copied into each new piece when it is created. This is a feature that can be used, among other things, to create a personal or company-specific look to your music: you simply create your settings and these will always be used in the pieces you create. At the same time, pieces you receive from other sources will still use their own settings. Each piece is completely self-contained.

There are commands available to copy settings between pieces and also to and from the Settings for new pieces, to give you complete flexibility. The Settings for ‘current piece’ is a multi-pane dialog. At the top left of each pane is a caption telling you which settings you are editing. The following panes are available:

Piece Information

In the Piece information pane, settings regarding information about the piece may be entered.

The screenshot shows a dialog box titled "Settings for 'Never saved'". Inside, there is a section labeled "Piece information" with a dropdown arrow. Below this are several input fields: "Title" (containing "THE TITLE"), "Subtitle" (containing "A subtitle, if any"), "Composer" (containing "The Composer"), "Lyricist", "Dedication", "Arranger", "Copyist", and "Comment" (a larger text area). At the bottom of the dialog are three buttons: "Revert", "Cancel", and "OK".

The different settings of the Piece information pane are used in the following manner:

Title:

If you enter a title here, the same name will be put on the front pages of all score layouts and of the top of every part layouts' first pages.

Subtitle:

If you enter a subtitle here, the same name will be put on the front pages of all score layouts and of the top of every part layouts' first pages, below the title.

Composer:

The name you enter here will automatically be written below the subtitle of every score layouts' first pages and to the right of every part layouts' first pages.

Lyricist:

Here you put the name of the author of the lyrics.

Dedication:

If the piece has a dedication, this is where to write it.

Arranger:

Here you put the arranger's name.

Copyist:

Here you can put the name of the copyist or the engraver who engraved this piece.

Comment:

A general comment, which will not be included in the layouts, may be entered here

General

The General pane contains general settings such as the title and composer of the piece, its initial number of measures, your chosen unit of measurement, and so forth.

The screenshot shows a dialog box titled "Settings for 'Never saved'" with a "General" tab selected. The dialog is divided into several sections:

- Initial number of bars:** 32
- Number of first bar:** 1
- Note names:** Anglosaxon (C D E F G A B)
- Practical range check:**
- Score defaults:**
 - Paper size: Letter
 - Width: 215.9 mm
 - Height: 279.4 mm
 - Orientation: Portrait, Landscape
 - Margins:** Left: 15.0 mm, Top: 15.0 mm, Right: 15.0 mm, Bottom: 15.0 mm
 - Music scaling: 0.6
 - Create titles
 - Scores are: transposing
 - Fixed no. of bars per system: 5
- Part defaults:**
 - Paper size: Letter
 - Width: 215.9 mm
 - Height: 279.4 mm
 - Orientation: Portrait, Landscape
 - Margins:** Left: 15.0 mm, Top: 15.0 mm, Right: 15.0 mm, Bottom: 15.0 mm
 - Music scaling: 0.75
 - Create titles
 - Fixed no. of bars per system: 4

Buttons at the bottom: Revert, Cancel, OK.

The different settings of the General pane are used in the following manner:

Initial numbers of bars:

The number entered in this box determines the number of bars that will be created in empty layouts. (This field will only work in Settings for new pieces.)

Number of first bar:

This setting affects the automatic numbering of the bars of a piece. The number would normally be set to one, if there is not a pick-up bar (then the value should rather be set to zero).

Note names:

Notes have different names in different languages. The language chosen in this setting will be used when displaying phrases such as “Harp in C” (which would be changed to “Arpe in Ut” if Roman would be chosen). These names are also used when Igor Engraver creates harp diagrams.

Practical range check:

If this checkbox is checked, notes that are unpractical to play for a musician are displayed in orange. (Naturally, the notes will be printed in black).

Score defaults, Format:

This setting reflects the format that will be used for the piece’s score layouts. The layout window reflects this setting: if you choose “B3 landscape” instead of “A3 portrait”, the score layouts will be shown differently in the layout windows. You can change the paper size for individual score layouts using the Layout settings dialog after the scores have been created. We strongly suggest that you change this setting to **A4, Portrait** or **Letter, Portrait**, respectively if you are going to use a printer that cannot handle larger sheets.

Score defaults, Margins:

This settings allows you to choose new margins. The options include left, right, top and bottom.

Score defaults, Music scaling:

In this textbox, you set the music scaling factor for scores. For example, a scaling factor of 0.9 (90 percent) will display a layout with music that is slightly smaller than a scaling factor of 1.0.

Score defaults, Create titles:

When this box is checked, the title will automatically be applied to the front page of the scores. (The title is input in the Piece information pane.)

Score defaults, Scores are:

Scores can be “transposing” or “in C”. (The term transposing is explained earlier in the Igor Engraver Manual.) Please note the parts of the musi-

cians included in the scores will not be affected, but you can change whether individual scores are transposing or not using the Layout settings dialog.

Score defaults, Fixed no. of bars per system:

When this box is checked, scores will always have a fixed number of bars to each system. The fixed number is set in the box below.

Part defaults, Format:

This setting reflects the format that will be used for the piece's part layouts. The layout window reflects this setting: if you choose "B4 landscape" instead of "B4 portrait", the part layouts will be shown differently in the layout windows. You can change the paper size for individual part layouts using the Layout settings dialog after the parts have been created. We strongly suggest that you change this setting to **A4, Portrait** or **Letter, Portrait**, respectively if you are going to use a printer that cannot handle larger sheets.

Part defaults, Music scaling:

In this textbox, you set the music scaling factor for parts. For example, a scaling factor of 0.9 (90 percent) will display a layout with music that is slightly smaller than a scaling factor of 1.0 would give.

Part defaults, Create titles:

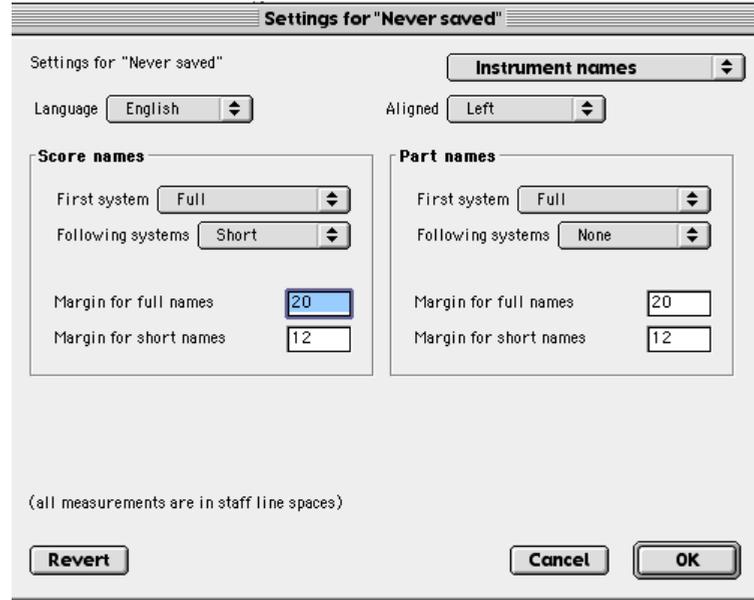
When this box is checked, the title will automatically be included in the header of the parts. (The title is input in the Piece information pane.)

Part defaults, Fixed no. of bars per system:

When this box is checked, parts will always have a fixed number of bars to each system. The fixed number is set in the box below.

Instrument Names

In the Instrument names pane, settings regarding the automatic naming of instruments may be entered. Here you can also determine how layouts are to present the instrument names.



The different settings of the Instrument names pane are used in the following manner:

Language:

In this scroll menu, you choose which language should be used for naming instruments of a piece. The languages supported are English, Italian, French, German, Swedish and Finnish. Instruments will always be presented in English in the Instrument Library window, but as soon as they are copied into a piece, their names will change according to the chosen language. Instrument name language will also affect things like score and staff expressions, which will be automatically translated by Igor Engraver in certain situations.

Aligned:

Here you choose if the names of the instruments should be aligned to the left, to the right or if they should be centred in the instrument textboxes.

Score names, First system:

In this scroll menu you can choose whether the instrument names should be shown in full or abbreviated (e.g. “Flute” or “Fl”) on the first system of the scores. If ‘Full’, the long form of the instrument name will be used on the very first system of the piece. If ‘Short’, the abbreviated form will be used. If ‘None’, the instrument name will not appear at all. The default value is ‘Full’.

Score names, Following systems:

In this scroll menu you can choose whether the instrument names should be shown in full or abbreviated (e.g. “Flute” or “Fl”) after the first system of a score. If ‘Full’, the long form of the instrument name will be used on the following systems of the piece. If ‘Short’, the abbreviated form will be used. If ‘None’, the instrument name will not appear at all. The default value is ‘Full’.

Score names, Margin for full names:

In this box you set the margin for the full names (e.g. “Flute”) in scores.

Score names, Margin for short names:

In this box you set the margin for the short names (e.g. “Fl”) in scores.

Part names, First system:

In this scroll menu you can choose whether the instrument names should be shown in full or abbreviated (e.g. “Flute” or “Fl”) on the first systems of the parts. If ‘Full’, the long form of the instrument name will be used on the very first system of the piece. If ‘Short’, the abbreviated form will be used. If ‘None’, the instrument name will not appear at all. The default value is ‘Full’.

Part names, Following systems:

In this scroll menu you can choose whether the instrument names should be shown in full or abbreviated (e.g. “Flute” or “Fl”) after the first system of a part. If ‘Full’, the long form of the instrument name will be used on the following systems of the piece. If ‘Short’, the abbreviated form will be used. If ‘None’, the instrument name will not appear at all. The default value is ‘Full’.

Part names, Margin for full names:

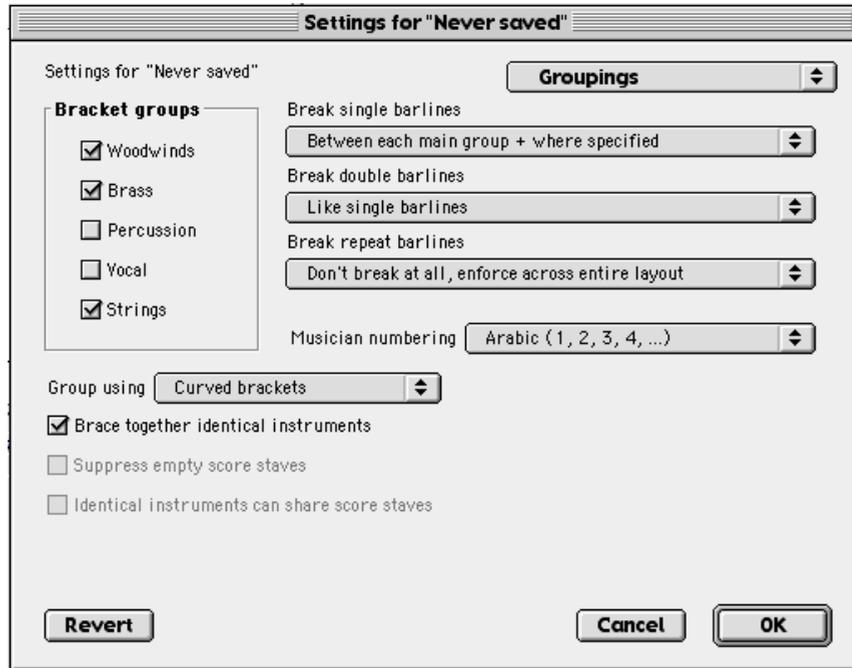
In this box you set the margin for the full names (e.g. “Flute”) in parts.

Part names, Margin for short names:

In this box you set the margin for the short names (e.g. “Fl”) in parts.

Groupings

The Groupings pane controls the visual grouping of musicians, instruments and staves. This includes how brackets and braces are placed, how barlines are drawn, and so forth.



The different settings of the Groupings pane are used in the following manner:

Bracket groups:

The Bracket group checkboxes determine which instrument groups should be connected by braces or brackets, as defined in the Group using scroll menu (see below). By default, this is done with woodwind, brass and strings.

Break single barlines:

This setting defines to what extent the instruments should be connected by single barlines. The options available range from “Only where specified” to “Don’t break at all”.

Break double barlines:

This setting defines to what extent the instruments should be connected by double barlines. The options available range from “Only where specified” to “Don’t break at all”.

Break repeat barlines:

This setting defines to what extent the instruments should be connected by repeat barlines. The options available range from “Only where specified” to “Don’t break at all”.

Musician numbering:

If two or more musicians play instruments of the same kind, they will automatically be numbered by Igor Engraver (e.g. Violin 1, Violin 2). The numbering can be Arabic (1, 2, 3, 4, ...) or Roman (I, II, III, IV, ...).

Group using:

The options for using symbols for grouping instruments are curved brackets, straight brackets, vertical bars and braces.

Brace together identical instruments:

If checked, this setting will put a brace around identical instruments, such as violins in the example below.

The image shows a musical score snippet with four staves. The staves are labeled on the left as 'Violon 1', 'Violon 2', 'Alto', and 'Violoncelle'. The Violon 1 and Violon 2 staves are grouped together by a large left-facing curly brace. All staves are in 4/4 time and contain a whole rest in the first measure.

Instruments have to be completely identical in order to be braced together in this way, including their transposition. Thus a clarinet in B flat and a clarinet in A would not be braced together.

Suppress empty score staves:

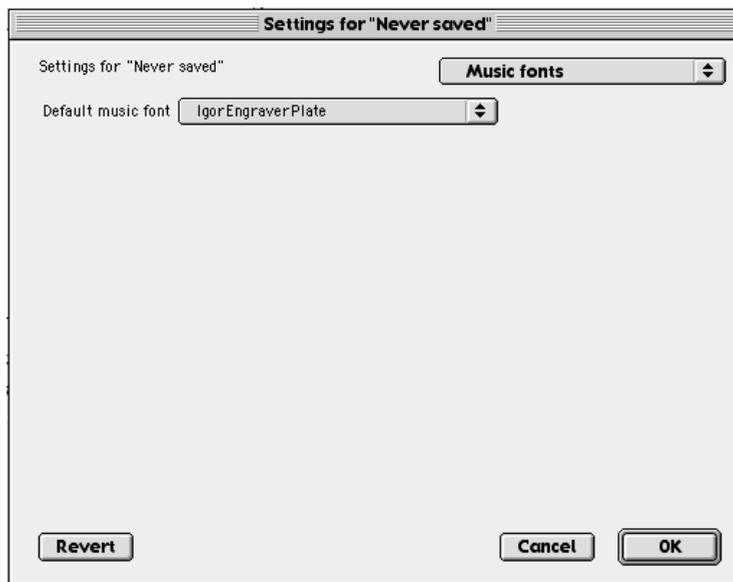
If checked, staves with no music will not be shown. That way, a lot of space can be saved.

Identical instruments can share staves:

If checked, identical instruments, such as two trumpets in C, will be printed on the same staff when Igor Engraver decides this is possible, and that way this feature saves space. If the instruments play a polyphonic passage that would blur the score if the instruments would be written on one staff, Igor Engraver puts one instrument on one staff and one instrument on another staff. This feature is executed on a system-to-system basis.

Music Font

In the Music Font pane, the user can decide what font to use for the current piece or for new pieces. As changes take effect immediately, it is easy to view a score using different music fonts.

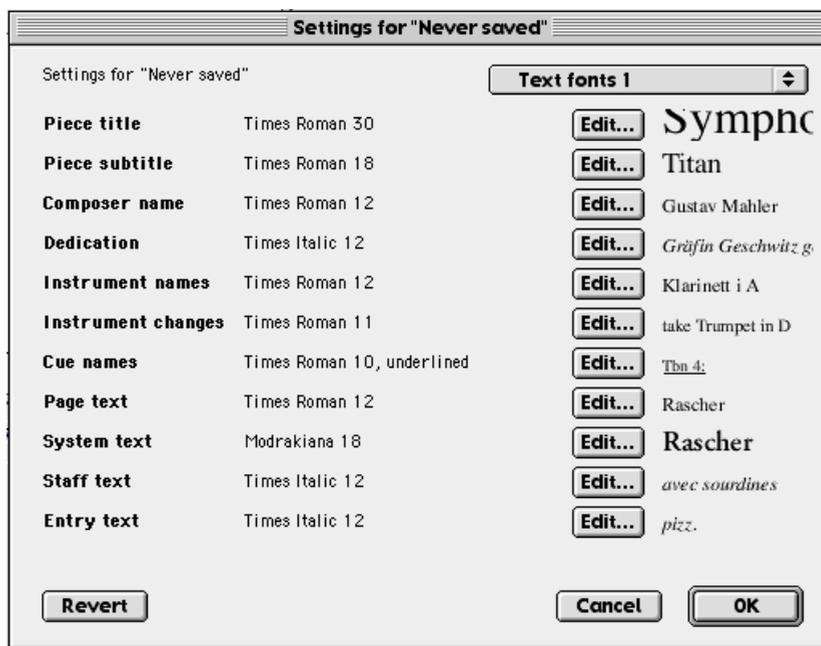


Default music font:

Igor Engraver now supports the Igor Engraver Plate, Igor Engraver Classic, Sonata, Susato, Petrucci, Engraver Font Set, Jazz, Maestro, Lee Music, Ash Music and Golden Age Music fonts, and more are added all the time. Since other fonts do not have as many symbols as Igor Engraver Classic and Plate, the omitted symbols become substituted by the Igor Engraver fonts. (Due to copyright reasons, we cannot distribute third party fonts.)

Text Fonts I

In the Text fonts 1 pane, the text fonts used for some different types of text elements in Igor Engraver can be altered. The text font settings are shown to the right of each setting's name. A text fragment of the font in use is displayed to the right of the setting's Edit button.



The different settings of the Text fonts 1 pane are used in the following manner:

Piece title:

Pressing the Edit button brings up a window in which the font used for the piece's score title can be edited.

Piece subtitle:

Pressing the Edit button brings up a window in which the font used for the piece's subtitle can be edited.

Composer name:

Pressing the Edit button brings up a window in which the font used for the composer's name can be edited.

Dedication:

Pressing the Edit button brings up a window in which the font used for the dedication text of the piece can be edited.

Instrument names:

Pressing the Edit button brings up a window in which the font used for the instruments' names can be edited.

Instrument changes:

Pressing the Edit button brings up a window in which the font used for the instrument changes information can be edited.

Cue names:

Pressing the Edit button brings up a window in which the font used for cue names can be edited. Cue names are used to indicate instrument changes, for instance "take Trombone" or "muta in Silofono", and also for the indication which Igor Engraver automatically inserts where the new instrument actually begins to play, like "Tbn III" or "Sil."

Page text:

This font is meant to be used for headers, footers, and so on.

System text:

This font is meant to be used for system relative text, such as tempo indications.

Staff text:

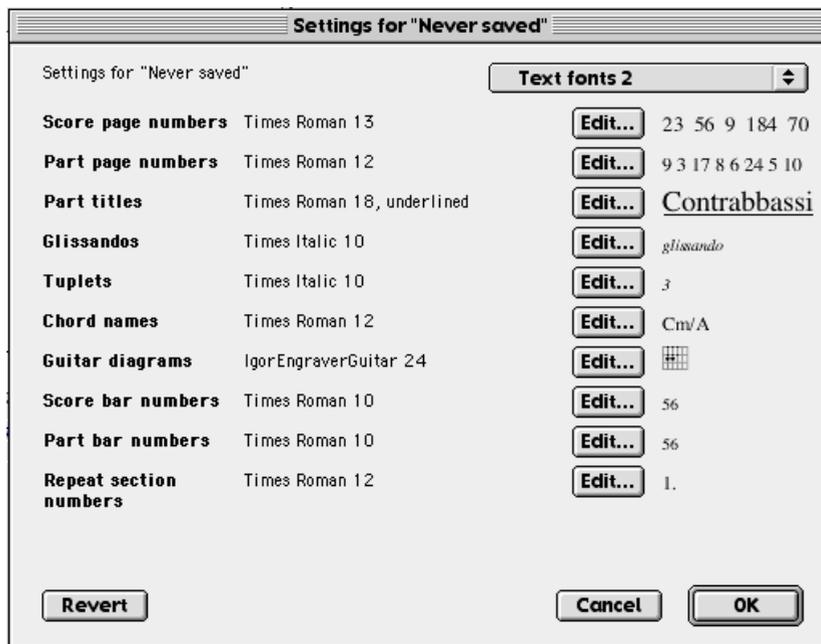
This font may be used for staff specific text, such as vivace, espressivo or crescendo.

Entry text:

This is the font to use for entry specific text, such as pizz.

Text Fonts 2

In the Text fonts 2 pane, the text fonts used for other types of text elements in Igor Engraver can be altered. The text font settings are shown to the right of each setting's name. A text fragment of the font in use is displayed to the right of the setting's Edit button.



The different settings of the Text fonts 2 pane are used in the following manner:

Score page numbers:

Pressing the Edit button brings up a window in which the font used for the page numbers in scores can be edited.

Part page numbers:

Pressing the Edit button brings up a window in which the font used for the page numbers in parts can be edited.

Part titles:

Pressing the Edit button brings up a window in which the font used for the piece's part titles can be edited.

Glissandos:

Pressing the Edit button brings up a window in which the font used for glissando text can be edited.

Tuplets:

Pressing the Edit button brings up a window in which the font used for triplet numbers can be edited.

Chord names:

Pressing the Edit button brings up a window in which the font used for chord names can be edited.

Guitar diagrams:

Pressing the Edit button brings up a window in which the font used for guitar diagrams can be edited.

Score bar numbers:

Pressing the Edit button brings up a window in which the font used for bar numbers in score layouts can be edited.

Part bar numbers:

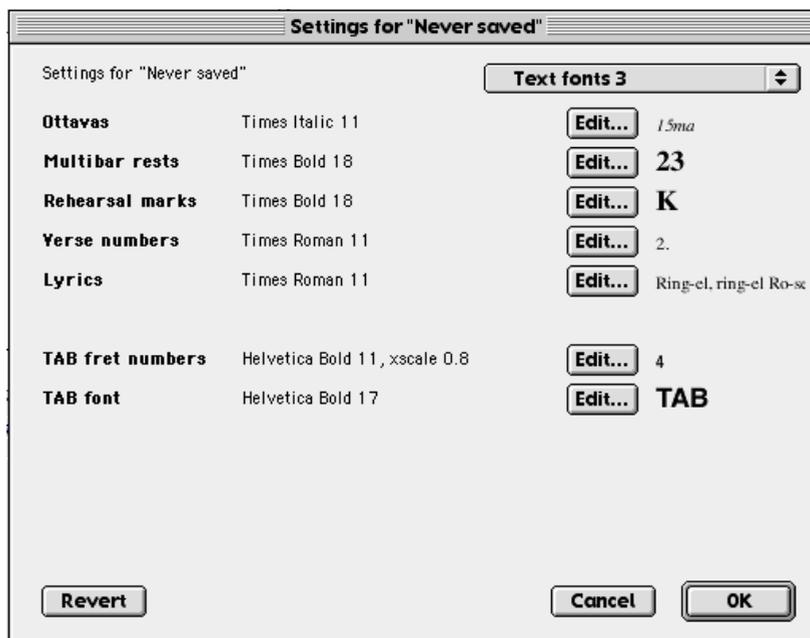
Pressing the Edit button brings up a window in which the font used for bar numbers in part layouts can be edited.

Repeat section numbers:

Pressing the Edit button brings up a window in which the font used for repeat section numbers (1., 2., 3., etc) can be edited.

Text Fonts 3

In the Text fonts 3 pane, the text fonts used for other types of text elements in Igor Engraver can be altered. The text font settings are shown to the right of each setting's name. A text fragment of the font in use is displayed to the right of the setting's Edit button.



The different settings of the Text fonts 3 pane are used in the following manner:

Ottavas:

Pressing the Edit button brings up a window in which the font used for ottava passages can be edited.

Multibar rests:

Pressing the Edit button brings up a window in which the font used for the multibar rests (that is, the consolidation number) can be edited.

Rehearsal marks:

Pressing the Edit button brings up a window in which the font used for rehearsal marks (such as the letters A, B, C, etc) can be edited.

Verse numbers:

Pressing the Edit button brings up a window in which the font used for the verse numbers (such as the numbers 1., 2., 3., etc) can be edited.

Lyrics:

Pressing the Edit button brings up a window in which the font used for lyrics can be edited.

TAB fret numbers:

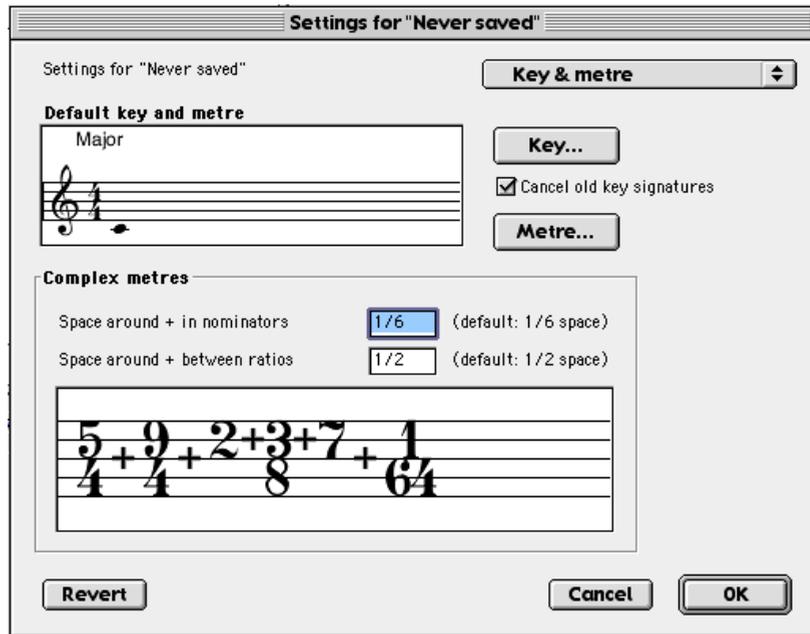
Pressing the Edit button brings up a window in which the font used for tab fret numbers can be edited.

TAB font:

Pressing the Edit button brings up a window in which the font used for the tab “clef” can be edited.

Key & Metre

In the Key & metre pane, the default key and metre of a piece can be altered.



The different settings of the Key & metre pane are used in the following manner:

Default key and metre:

In this display, the current key and metre settings are shown.

Default key and metre, Key...:

When this button is pressed, a window appears in which the default key can be changed.

Default key and metre, Metre...:

When this button is pressed, a window appears in which the default metre can be changed.

Complex metres:

In this display, the spacing of complex metres is shown.

Complex metres, Space around + in nominators:

This setting determines the space around and between the nominators (the upper numbers) of one ratio of a complex metre.

Complex metres, Space around + in nominators:

This setting determines the space around and between the ratios of a complex metre.

Allotment Table

In the Allotment table pane, the allotment table used in a piece can be altered. The allotment table is used for determining the default spacing of notes.

Note Value	Setting
Breves (2/1)	11.5
Semibreves (1/1)	7.75
Minims (1/2)	5.25
Crotchets (1/4)	4
Quavers (1/8)	3
Semiquavers (1/16)	2.25
Demisemiquavers (1/32)	1.62
Hemidemisemiquavers (1/64)	1
Semihemidemisemiquavers (1/128)	0.62

The different settings of the Allotment table pane are used in the following manner:

Name:

In this textbox, the current spacing table can be exchanged to another one.

Breves (2/1):

In this textbox, the default spacing of breves can be altered.

Semi-breves (1/1):

In this textbox, the default spacing of semi-breves can be altered.

Minims (1/2):

In this textbox, the default spacing of minims can be altered.

Crotchets (1/4):

In this textbox, the default spacing of crotchets can be altered.

Quavers (1/8):

In this textbox, the default spacing of quavers can be altered.

Semiquavers (1/16):

In this textbox, the default spacing of semiquavers can be altered.

Demisemiquavers (1/32):

In this textbox, the default spacing of demisemiquavers can be altered.

Hemidemisemiquavers (1/64):

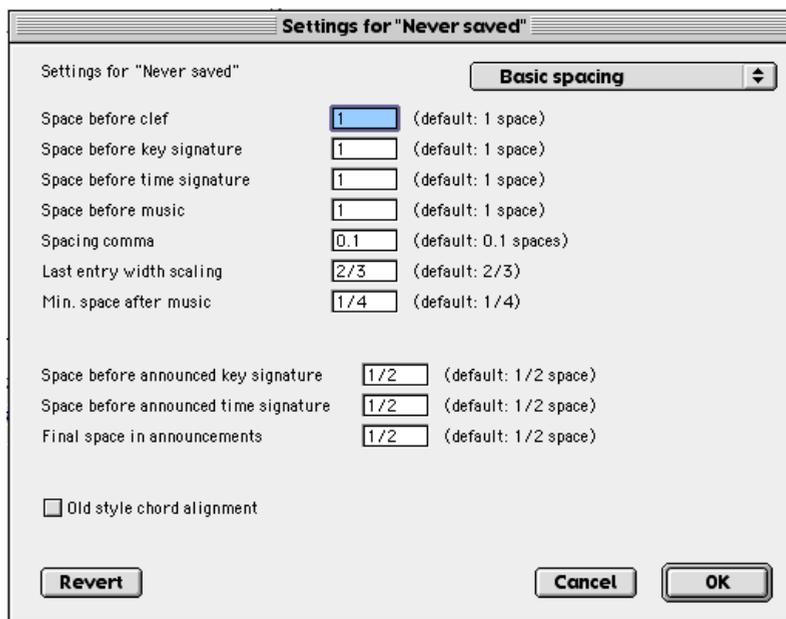
In this textbox, the default spacing of hemidemisemiquavers can be altered.

Semihemidemisemiquavers (1/128):

In this textbox, the default spacing of semihemidemisemiquavers can be altered.

Basic Spacing

In the Basic spacing pane, the spacing used for certain elements of a piece can be altered. (The spacing table used for notes is found in the Spacing table pane.)



The different settings of the Basic spacing pane are used in the following manner:

Space before clef:

In this textbox, the default amount of space before a clef can be altered.

Space before key signature:

In this textbox, the default amount of space before a key signature can be altered.

Space before time signature:

In this textbox, the default amount of space before a time signature can be altered.

Space before music:

In this textbox, the default amount of space before a music entry (a note or a rest) can be altered.

Spacing comma:

In this textbox, the absolute minimal amount of space between two entries (notes, chords, or rests) can be entered.

Last entry width scaling:

In this textbox you determine how relatively much less space should be added after the last entry of a bar. For example, a setting of $2/3$ will create a width between an entry and a barline that is only a third of the space between the specific entry and an equal entry should have been.

Min. space after music:

In this textbox, the default amount of space after the last music entry can be altered.

Space before announced key signature:

In this textbox, the default amount of space before an announced key signature can be altered.

Space before announced time signature:

In this textbox, the default amount of space before an announced time signature can be altered.

Final space in announcements:

In this textbox, the default amount of space before an announced time signature can be altered.

Final space in announcements:

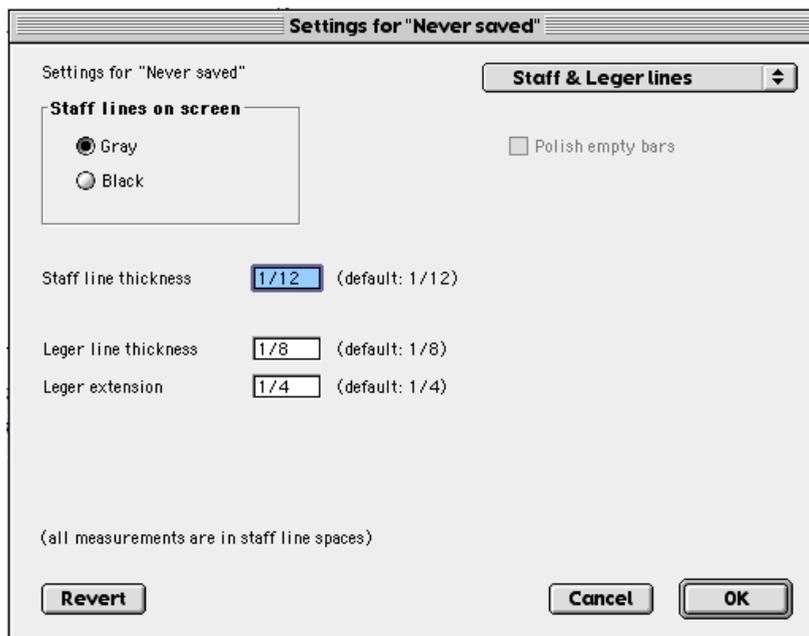
In this textbox, the default amount of space between the right edge of the announcement end the barline can be altered.

Old style chord alignment:

When checked, chords are aligned the same as single notes. When unchecked, chords are aligned by their stems.

Staff & Leger Lines

In the Staff & Leger lines pane, their respective settings can be altered.



The different settings of the Staff & Leger lines pane are used in the following manner:

Staff lines on screen:

Here you can choose to display the staff lines in grey or in black. If grey is chosen, it might be easier to see the layouts onscreen. This setting does not affect the printouts.

Polish empty bars:

If checked, empty bars will not have any whole rests displayed, but be completely empty.

Staff line thickness:

In this textbox, the default thickness of a staff line can be altered.

Leger line thickness:

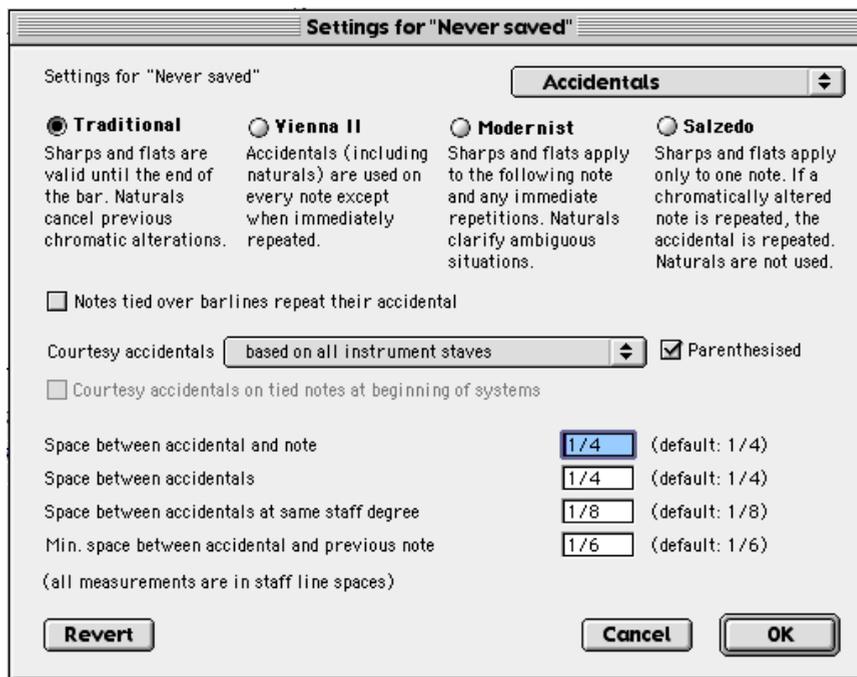
In this textbox, the default thickness of a leger line can be altered.

Leger extension:

In this textbox, how much a leger line may extend to either side of a note-head can be altered.

Accidentals

In the Accidentals pane, the settings for the use of accidentals can be altered.



The different settings of the Accidentals pane are used in the following manner:

Traditional, Vienna II, Modernist, Salzedo:

By choosing one of these four systems, you determine when accidentals are to be placed in the layouts and at what times they are to be cancelled by naturals.

Notes tied over barlines repeat their accidental:

If you want notes that are tied over a barline to repeat the accidental of the first note, you should check this box. (In most traditional scores, tied notes do not repeat a previous accidental).

Courtesy accidentals:

In this scroll menu, you determine what staves should serve as foundation when displaying accidentals, and whether or not they should be parenthesised (this is determined in the **Parenthesised** check box).

Courtesy accidentals on tied notes at beginning of systems:

If checked, this setting lets tied notes with accidentals repeat their accidentals if they appear after a system break.

Space between accidental and note:

In this textbox, the default space between an accidental and its note can be altered.

Space between accidentals:

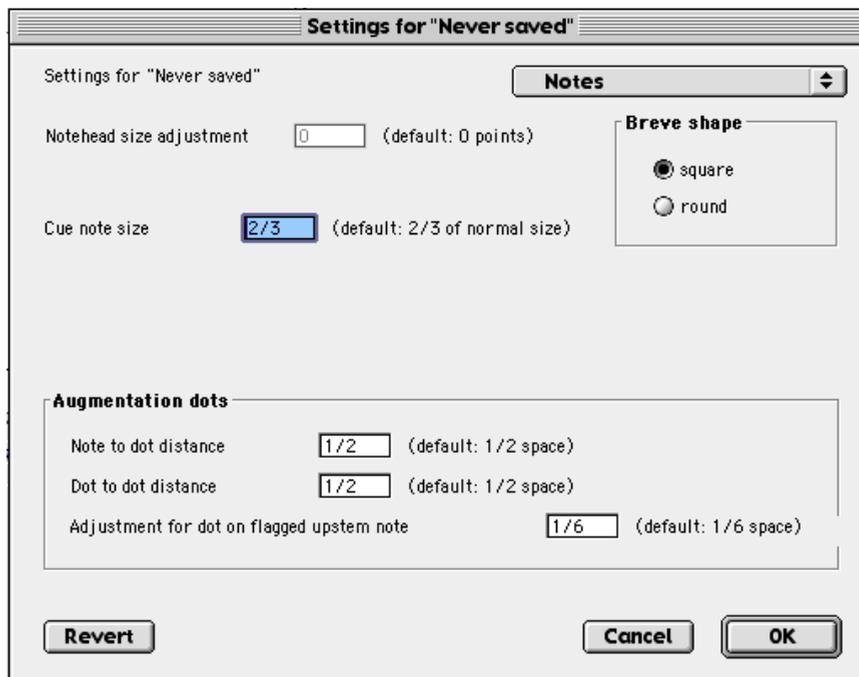
In this textbox, the default space between two accidentals can be altered.

Space between accidentals at same staff degree:

In this textbox, the default space between two accidentals of the same staff degree can be altered.

Notes

In the Notes pane, settings for the use of notes can be altered.



The different settings of the Notes pane are used in the following manner:

Notehead size adjustment:

If you wish, you can change the default size of the noteheads in this textbox.

Cue note size:

Cue notes, that is, notes that are played by another musician that serve as a cue for the current musician, can be set in another size than the current musician's own notes.

Breve shape:

Here the shape of breve notes can be set to either square or round.

Augmentation dots, note to dot distance:

In this textbox, the default space between a note and its dot can be altered.

Augmentation dots, dot to dot distance:

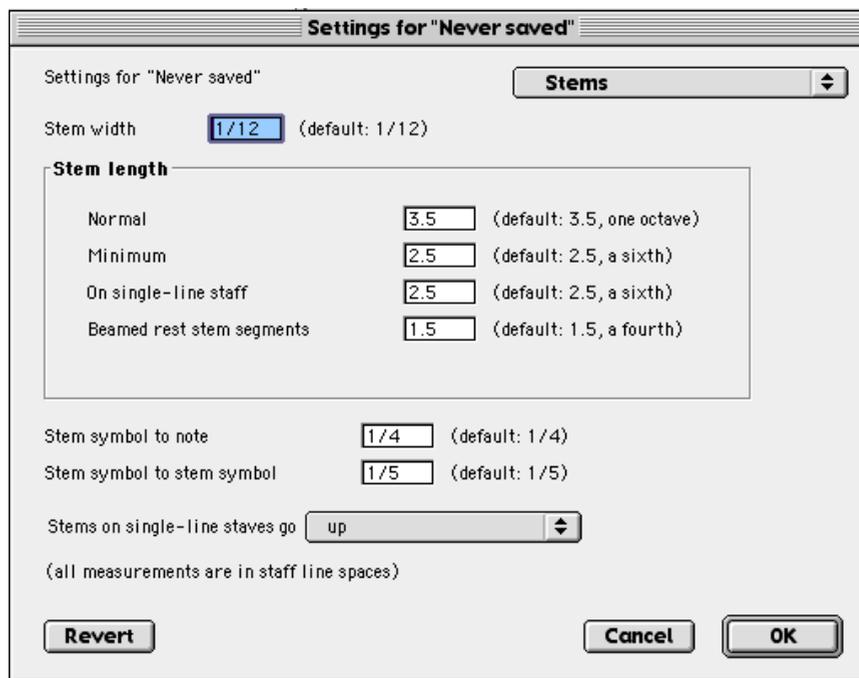
In this textbox, the default space between two augmentation dots can be altered.

Augmentation dots, Adjustment for dot on flagged upstem note:

To avoid blurring, the augmentation dots on flagged upstem notes can be adjusted separately. The adjustment is done in this box.

Stems

In the Stems pane, the width and length of stems can be altered.



The different settings of the Stems pane are used in the following manner:

Stem width:

This textbox determines the width of stems (in line spaces, as all of the textboxes in the Stems pane).

Stem length, Normal:

This textbox determines the default length of stems.

Stem length, Minimum:

This textbox determines the minimum length of reversed stems, that is, stems that have been flipped upside-down.

Stem length, On single-line staff:

This textbox determines the default length of stems applied to single-lined staves (which are mainly used for percussion notation).

Stem length, Minimum when beamed:

This textbox determines the minimum length of notes that are beamed.

Stem length, Beamed rest stem segments:

This textbox determines the minimum length of beamed rest stem segments.

Stem symbol to note:

This setting determines the minimum length between a symbol that is attached to a stem and the notehead that is attached to the stem.

Stem symbol to stem symbol:

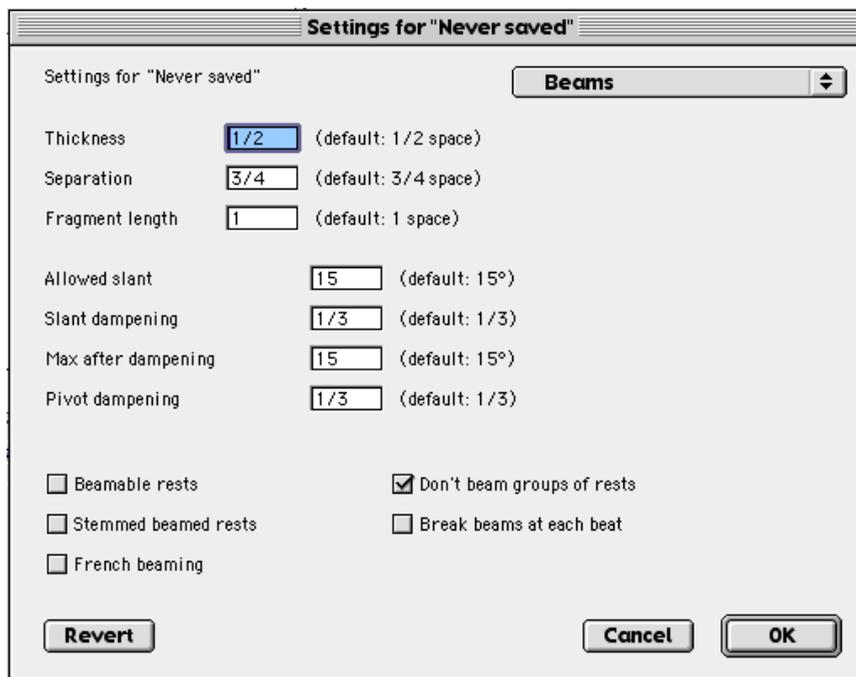
This setting determines the minimum length between two symbols that are attached to a stem.

Stems on single-line staves go:

This setting determines if stems on single-line staves (e.g. percussion staves) are to go up or down.

Beams

In the Beams pane, the default layout settings of beams can be altered.



The different settings of the Beams pane are used in the following manner:

Thickness:

If you wish, you can change the default width of beams in this textbox.

Separation:

This textbox determines the default distance between two beams.

Fragment length:

This textbox determines the default length of beam fragments.

Allowed slant:

This textbox determines the maximum allowed beam slant, specified in degrees (a setting of 90° would allow the beam to point entirely upwards).

Slant dampening:

If beamed notes of a passage descend or ascend, the beam does not have to follow the notes completely, but may be a bit "dampened". The dampening factor may be set here.

Max after dampening:

This textbox determines the maximum allowed slant, shown in degrees, after dampening has taken place.

Pivot dampening:

This textbox determines the pivot dampening factor.

Beamable rests:

If this checkbox is checked, it is possible to beam a rest to other entries.

Don't beam groups of rests:

If this checkbox is checked, groups of rests will not be beamed, even if rests are beamable in other aspects.

Stemmed beamed rests:

If this checkbox is checked, beamed rests will have stems.

French beaming:

If this checkbox is checked, French beaming will be applied to the stems of a piece. French beaming indicates that stems of a group of notes will only extend to the innermost beam, as shown below: In the first diagram, French beaming is unchecked; in the second diagram, French beaming is checked.

**Break beams at each beat:**

If this checkbox is checked, beams will be broken at each beat:

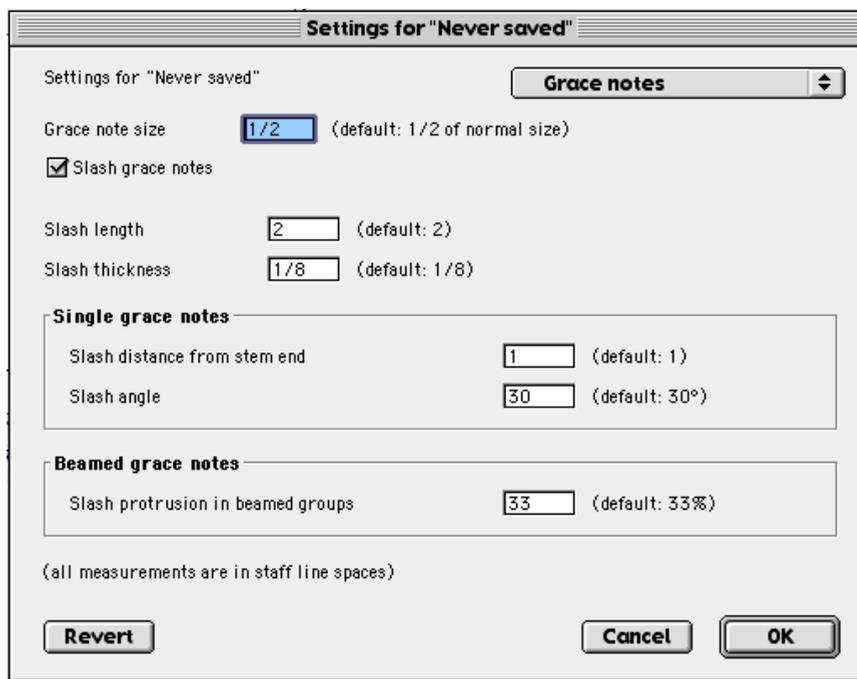


If unchecked, the same passage would look like this:



Grace Notes

In the Grace Notes pane, the grace note settings can be altered.



The different settings of the Grace Notes pane are used in the following manner:

Grace note size:

If you wish, you can change the default size of grace notes in this textbox.

Slash grace notes:

If checked, grace notes (both single and beamed) will be drawn with a slash across the flag or stem.

Slash length:

This textbox determines the length of the grace note slash.

Slash thickness:

This textbox determines the thickness of the grace note slash.

Single grace notes, Slash distance from stem end:

This textbox determines the distance between the stem end of a single note and the slash.

Single grace notes, Slash angle:

This textbox determines the angle of the slash that is applied to a single note.

Beamed grace notes, Slash protrusion in beamed groups:

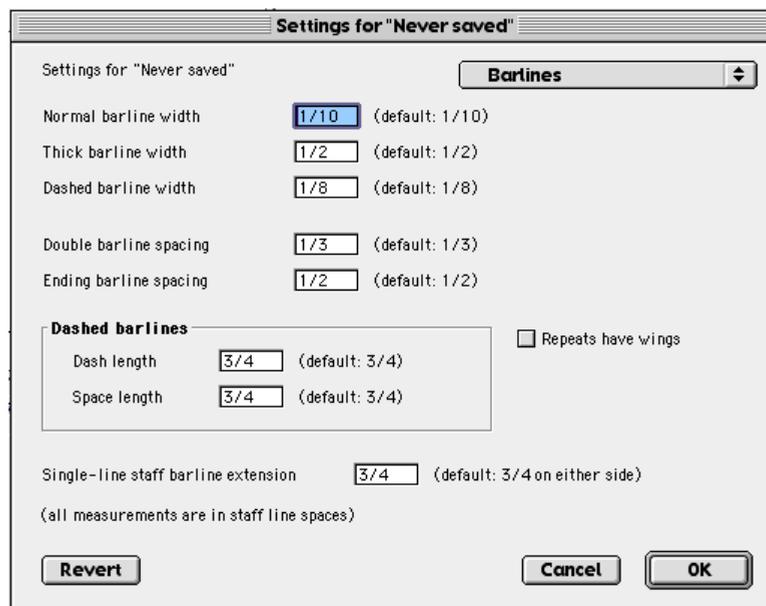
The percentage set in this textbox determines how much of a slash will be set to the upper left of the leftmost grace note (see the diagram below).

The default 33% will make a third of the slash appear to the upper left of the first beamed grace note, a third of the grace note inside the group and a third of the group to the left of the beamed group.



Barlines

In the Barlines pane, barline settings can be altered.



The different settings of the Barlines pane are used in the following manner:

Normal barline width:

This textbox determines the default width to be used for normal barlines.

Thick barline width:

This textbox determines the default width to be used for thick barlines, such as ending barlines.

Dashed barline width:

This textbox determines the default width to be used for dashed barlines.

Double barline spacing:

This textbox determines the space between the two lines of a double barline.

Ending barline spacing:

This textbox determines the space between the two lines of an ending barline.

Repeat have wings:

If checked, repeat barlines have wings, as in jazz style music.

Dashed barlines, Dash length:

This textbox determines the length of the “dashes” of a dashed barline.

Dashed barlines, Space length:

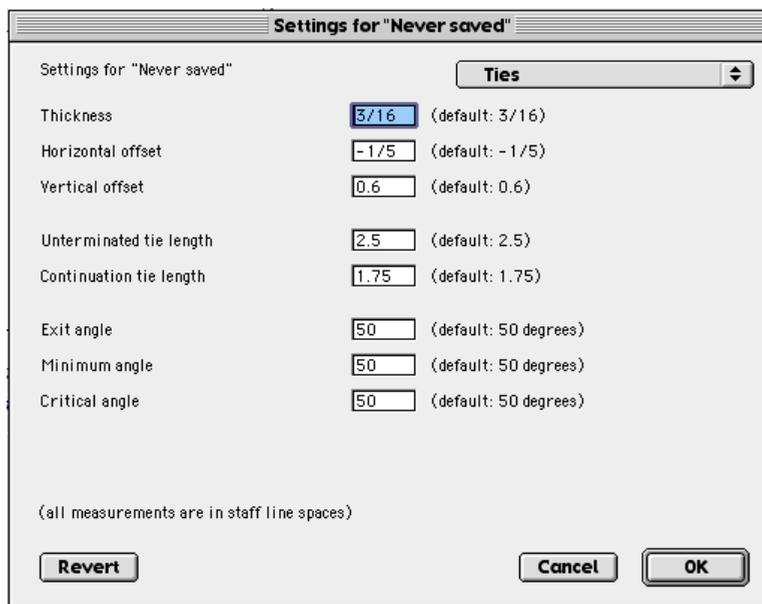
This textbox determines the space between each dash of a dashed barline.

Single-line staff barline extension:

This textbox how much single-line staff barlines should be extended.

Ties

In the Ties pane, the settings of ties can be altered.



The different settings of the Ties pane are used in the following manner:

Thickness:

This textbox determines the thickness of a tie.

Horizontal offset:

This textbox determines the horizontal distance between a note and its tie.

Vertical offset:

This textbox determines the vertical distance between a note and its tie.

Unterminated tie length:

This textbox determines the length of a tie that is not attached to another note.

Continuation tie length:

In case a tie has to be split between two systems, this textbox determines the length of the continuation tie length.

Exit angle:

This textbox determines the exit angle (that is, the side close to the first note) of a tie.

Minimum angle:

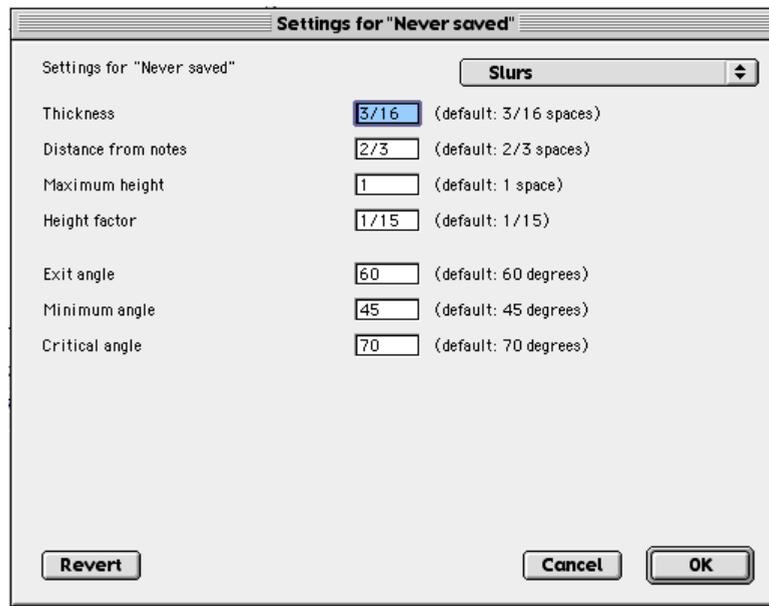
This textbox determines the minimum allowed angle of a tie.

Critical angle:

This textbox determines the maximum allowed angle of a tie.

Slurs

In the Slurs pane, the slur settings can be altered.



The different settings of the Slurs pane are used in the following manner:

Thickness:

This textbox determines the thickness of slurs.

Distance from notes:

This textbox determines the default distance between the slurs and their associated notes.

Maximum height:

This textbox determines the maximum height of slurs.

Height factor:

This textbox determines the height factor of slurs. With the setting 1/15, for every 15 horizontal pixels, the slur moves one pixel vertically.

Exit angle:

This textbox determines the exit angle (that is, the side close to the first note) of a slur.

Minimum angle:

This textbox determines the minimum allowed angle of a slur.

Critical angle:

This textbox determines the maximum allowed angle of a slur.

Dynamics

In the Dynamics pane, the graphical settings of dynamics symbols can be altered.



The different settings of the Dynamics pane are used in the following manner:

Dynamic offset, horizontal:

This textbox determines how far offset a dynamic marking in relation to the corresponding entry. Positive values move the dynamic marking to the left.

Dynamic to hairpin gap:

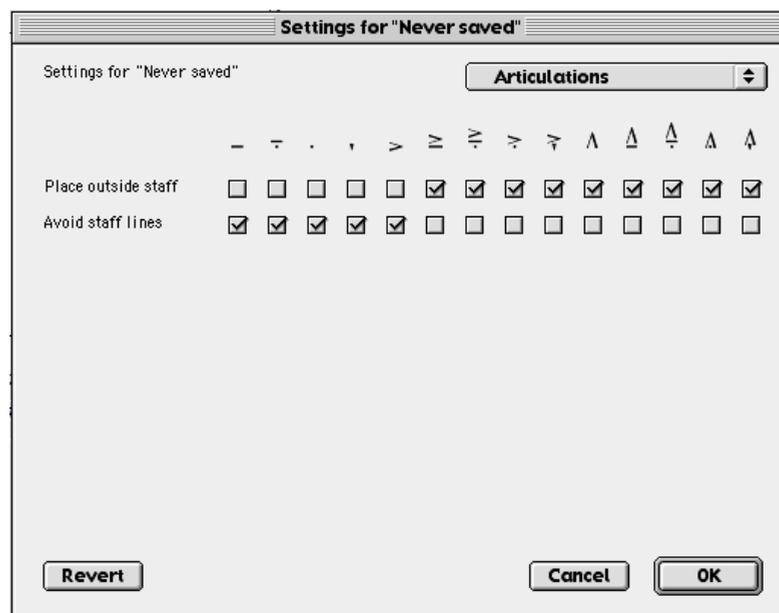
This textbox determines the gap between a dynamic marking and an immediately following hairpin.

Multi-hairpin gap:

This textbox determines the distance between adjacent hairpins.

Articulations

In the Articulations pane, it is possible to define where to put articulation markings.



The checkboxes of the Articulations pane are used for defining the default placement of articulation markings.

Place outside staff

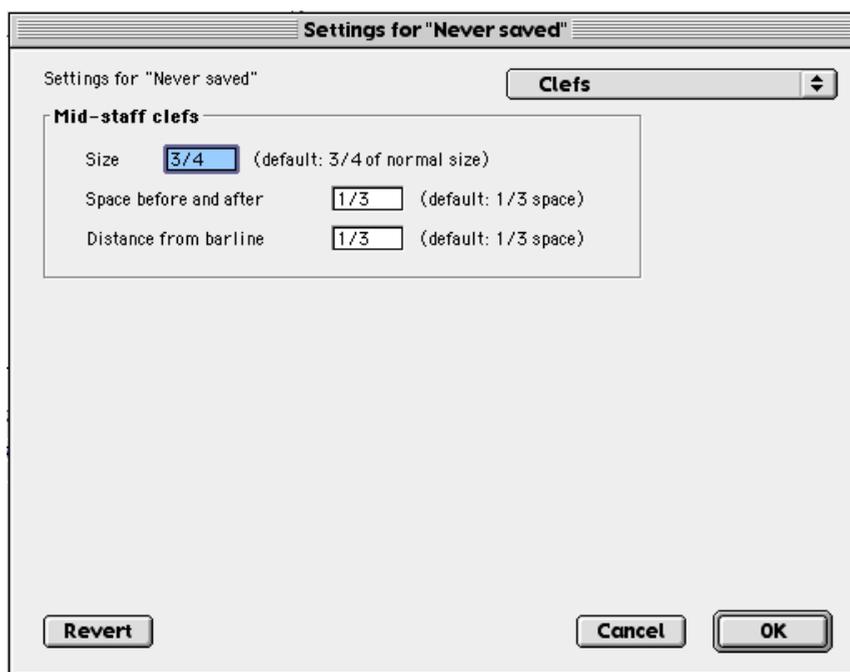
If this checkbox is checked, the articulation marking type will always be placed outside the staves.

Avoid staff lines

If this checkbox is checked (and **Place outside staff** is not), an articulation marking may be put between staff lines. If the articulation marking is too big to fit between the lines, it will be put outside the staff.

Clefs

In the Clefs pane, the clef settings can be altered.



The different settings of the Clefs pane are used in the following manner

Mid-staff clefs, Size:

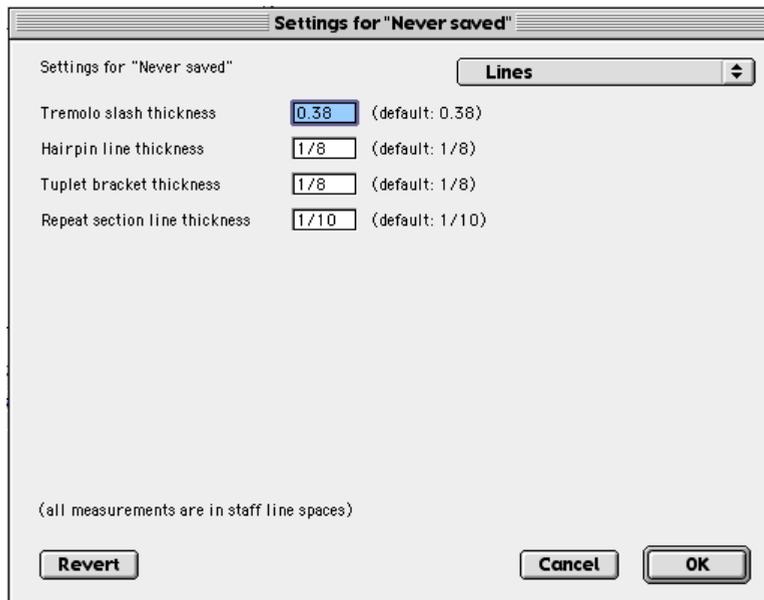
In this text box, the default size of mid-staff clefs can be altered.

Mid-staff clefs, Distance from barline:

In this text box, the mid-staff clefs' default distance from barlines can be altered.

Lines

In the Lines pane, the line settings can be altered.



The different settings of the Lines pane are used in the following manner:

Tremolo slash thickness:

This textbox determines the thickness of tremolo slashes.

Hairpin line thickness:

This textbox determines the thickness of hairpin lines.

Triplet bracket thickness:

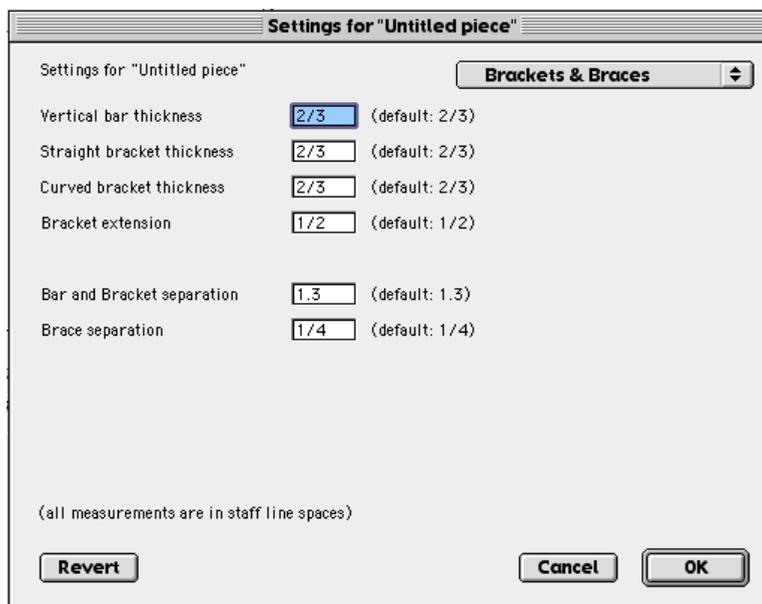
This textbox determines the thickness of triplet brackets.

Repeat section line thickness:

This textbox determines the thickness of repeat section lines.

Brackets & Braces

In the Brackets & Braces pane, bracket settings and brace settings can be altered.



The different settings of the Brackets & Braces pane are used in the following manner:

Vertical bar thickness:

This textbox determines the thickness of vertical bars.

Straight bracket thickness:

This textbox determines the thickness of straight brackets.

Curved bracket thickness:

This textbox determines the thickness of curved brackets.

Bracket extension:

This textbox determines how much a bracket is to extend beyond the bottom and top of the staves they enclose.

Bar and Bracket separation:

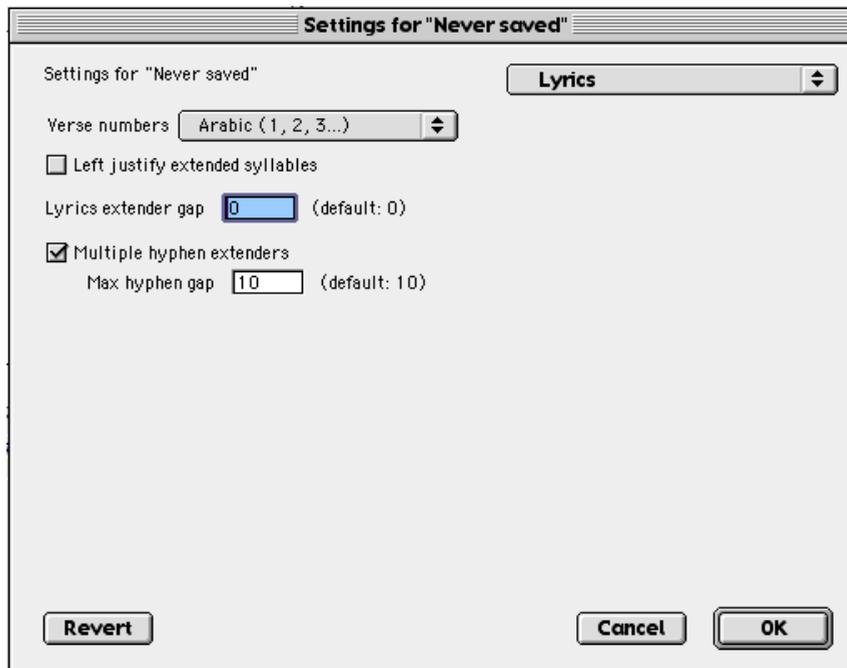
This textbox determines the amount of vertical separation between the bars or brackets and the staves they enclose.

Brace separation:

This textbox determines the amount of vertical separation between the braces and the staves they enclose.

Lyrics

In the Lyrics pane, the lyrics settings of the use of lyrics can be altered.



The different settings of the Lyrics pane are used in the following manner:

Verse numbers:

This pop-up menu defines how the verses of a sung or spoken piece are to be numbered. The available options are None, Arabic (1,2,3...), Roman (1,2,3...), and Alphabetical (a,b,c...). If None is chosen, no verse number will appear.

Left justify extended syllables:

If checked, Igor Engraver will automatically left justify extended syllables (syllable with underscore).

Lyrics Extender gap

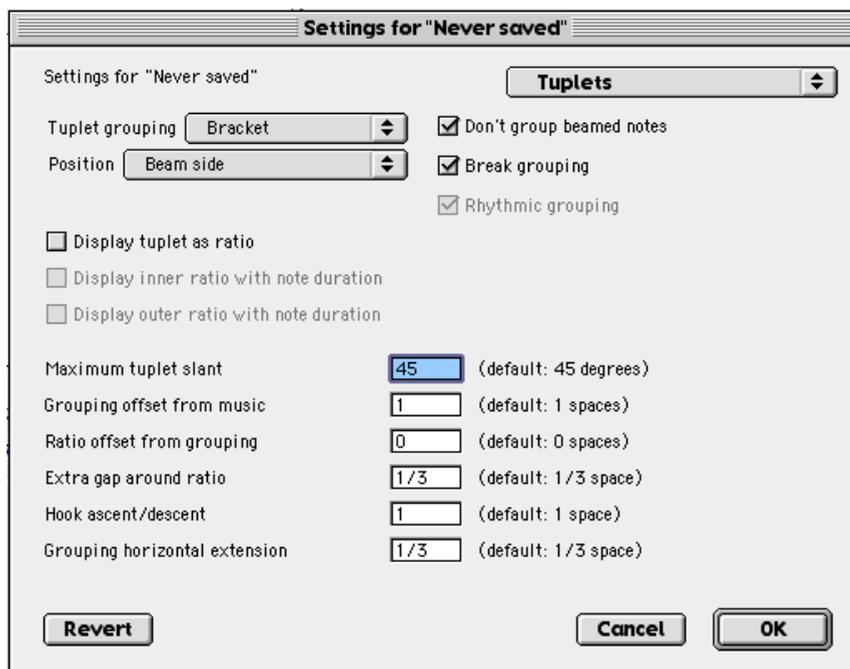
The **Lyrics extender gap** is the space between the words entered and where the extender begins.

Multiple hyphen extenders:

If checked, Igor Engraver will place multiple hyphens between hyphenated syllables. The **Max hyphen gap** is the maximum distance allowed between dashes.

Tuplets

In the Tuplets pane, the tuplet settings can be altered.



The different settings of the Tuplets pane are used in the following manner:

Tuplet grouping:

This pop-up menu defines how tuplets are to be grouped (with brackets, with slurs, or with no attachment at all).

Position:

This pop-up menu defines where tuplets are to be positioned: on the beam side of the entries, opposite the beams (that is, the notehead side), or always above or always below the entries.

Don't group beamed notes:

If checked, tuplets that are applied to a group of beamed notes will not be grouped.

Break grouping:

If checked, the bracket or slur will be broken to make room for the tuplet number.

Rhythmic grouping:

If checked, the grouping will extend beyond the last tuplet entry in proportion to its rhythmic length.

Display tuplet as ratio:

If checked, the tuplet will be displayed as a ratio, that is, as “3:2” instead of just “3”.

Display inner ratio with note duration:

If checked, the inner ratio of a note duration will be displayed as the corresponding note symbol.

Display outer ratio with note duration:

If checked, the outer ratio of a note duration will be displayed as the corresponding note symbol.

Maximum tuplet slant:

This textbox determines the maximum tuplet slant, shown in degrees.

Grouping offset from music:

This textbox determines the distance between the entries and the tuplet grouping.

Ratio offset from grouping:

This textbox determines the distance between the entries and the tuplet ratio number.

Extra gap around ratio:

This textbox determines the distance between tuplet number and a tuplet bracket.

Hook ascent/descent:

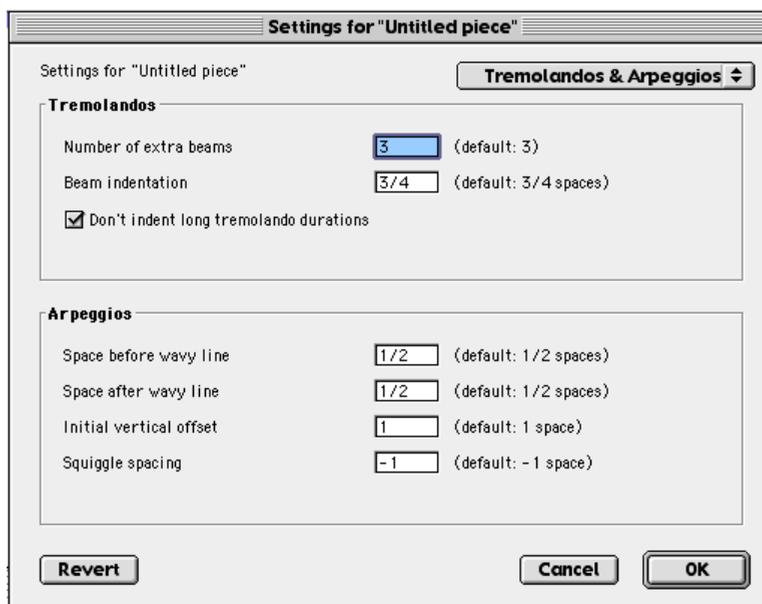
This textbox determines the height of the tuplet hooks.

Grouping horizontal extension:

This textbox determines how much the tuplets are to extend the entries they are attached to.

Tremolandos & Arpeggios

In the Tremolandos & Arpeggios pane, the tremolando settings and arpeggio settings of can be altered.



The different settings of the Tremolandos & Arpeggios pane are used in the following manner:

Tremolandos, Number of extra beams:

This textbox determines the number of beams that are to be attached to an entry.

Tremolandos, Beam indentation:

This textbox determines the distance between the tremolando and the stems it is attached to.

Tremolandos, Don't indent long tremolando durations:

If checked, notes longer than a crotchet/quarter note will not have indented tremolando beams, but be attached to each other instead.

Arpeggios, space before wavy line:

This textbox determines the amount of space added to the left of the wavy line.

Arpeggios, space after wavy line:

This textbox determines the amount of space added to the left of the wavy line.

Initial vertical offset:

This textbox determines the initial vertical offset between the arpeggio and the top or bottom note to which it is attached. (Note that the arpeggio marking then can be dragged both upwards and downwards.)

Squiggle spacing:

This textbox determines the height between the squiggles of an arpeggio.

Glissandos

In the Glissandos pane, the glissando settings can be altered.

The screenshot shows a dialog box titled "Settings for 'Never saved'" with a sub-pane for "Glissandos". The settings are as follows:

- Glissando line thickness: (default: 1/8)
- Distance from notehead: (default: 1/3)
- Add glissando text
- Distance from line: (default: 1/5)
- Extra space on either side of text: (default: 1/2)
- Short text:
- Medium text:
- Long text:

At the bottom, there is a note: "(all measurements are in staff line spaces)". Buttons for "Revert", "Cancel", and "OK" are also visible.

The different settings of the Glissandos pane are used in the following manner:

Glissando line thickness:

This textbox determines the default thickness of glissandos.

Distance from notehead:

This textbox determines the default distance between the glissando line and the notehead that follows.

Add glissando text:

If checked, text will be automatically inserted, as defined in the textboxes below.

Distance from line:

This textbox determines the distance between the glissando text and the glissando line.

Extra space on either side of text:

This textbox determines the amount of extra space that is to be inserted to either side of the text. In other words, if a high number is entered here, the short texts will be used more often than if a low number would have been inserted.

Short text:

This textbox sets the short name for glissando. (The default short text is “gl.”, but any name will do for playing back a glissando.)

Medium text:

This textbox sets the medium name for glissando. (The default medium text is “gliss.”, but any name will do for playing back a glissando.)

Long text:

This textbox sets the long name for glissando. (The default long text is “glissando”, but any name will do for playing back a glissando.)

Ottava Passages

In the Ottava passages pane, the settings of ottava passages can be altered.

Settings for "Never saved" Ottava passages

Dash length (default: 2/3)

Space length (default: 1/3)

Line thickness (default: 1/10)

Use the music font for 8va indications

8va text	<input type="text" value="8va"/>	8va music symbol	<input type="text" value="87"/>
8vb text	<input type="text" value="8vb"/>	8vb music symbol	<input type="text" value="88"/>
15ma text	<input type="text" value="15ma"/>	15ma music symbol	<input type="text" value="89"/>
15mb text	<input type="text" value="15mb"/>	15mb music symbol	<input type="text" value="196"/>

(all measurements are in staff line spaces)

The different settings of the Ottawa passages pane are used in the following manner:

Dash length:

This textbox determines the length of the ottava passage's dashes.

Space length:

This textbox determines the amount of space between the ottava passage's dashes.

Line thickness:

This textbox determines the thickness of the ottava passage's line.

8va text:

The text written in this textbox sets the default 8va text.

8vb text:

The text written in this textbox sets the default 8vb text.

15ma text:

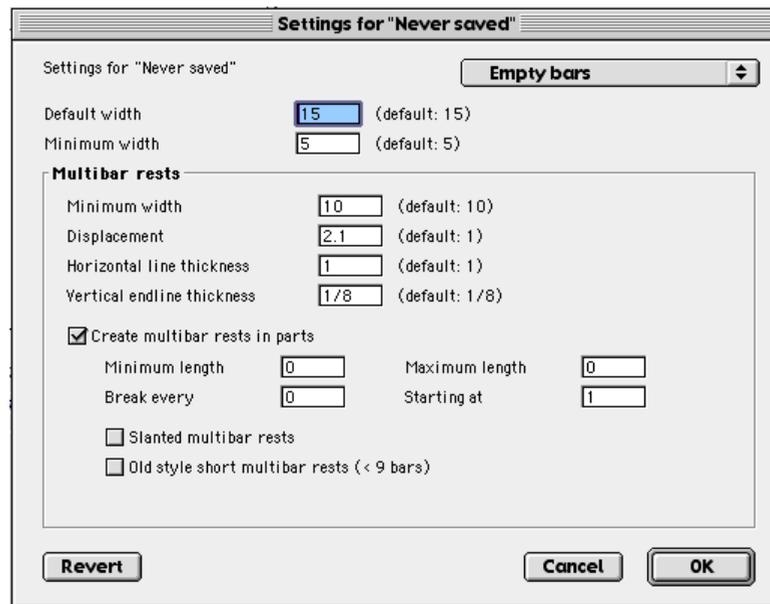
The text written in this textbox sets the default 15ma text.

15mb text:

The text written in this textbox sets the default 15mb text.

Empty Bars

In the Empty bars pane, the settings of empty bars can be altered.



The different settings of the Empty bars pane are used in the following manner:

Default width:

This textbox determines the default width of an empty bar.

Minimum width:

This textbox determines the minimum allowed width of an empty bar.

Multibar rests, Minimum width:

This textbox determines the minimum allowed width of a multibar rest.

Multibar rests, Displacement:

This textbox determines the default distance between a multibar rest and its attached number.

Multibar rests, Horizontal line thickness:

This textbox determines the thickness of the horizontal line of a multibar rest.

Multibar rests, Vertical endline thickness:

This textbox determines the thickness of the multibars' vertical endlines (that is, the vertical lines that enclose the multibar marking's horizontal line).

Multibar rests, Create multibar rests in parts:

If checked, multibar rests will be created automatically in new parts.

Multibar rests, Minimum length:

This textbox determines the minimum length of a multibar rest. If set to 0, there is no lower limit of bars that should be included in a multibar rest.

Multibar rests, Maximum length:

This textbox determines the maximum length of a multibar rest. If set to 0, there is no upper limit of bars that should be included in a multibar rest.

Multibar rests, Break every:

This textbox determines how often multibar rests are to be divided. For instance, if the value of this textbox were set to 10, a forty-bar rest would be displayed as four ten-bar rests.

Multibar rests, Starting at:

This textbox determines when the first bar of multibar rests can be applied to a section of music.

Multibar rests, Slanted multibar rests:

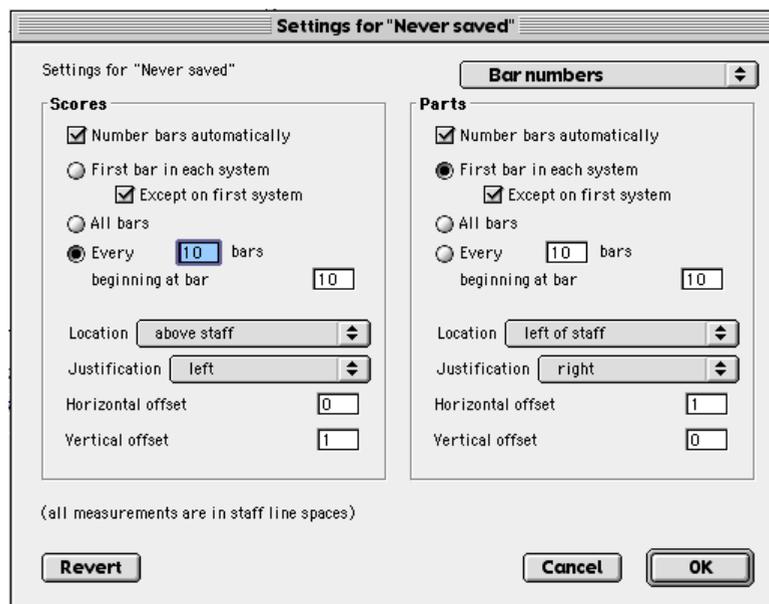
If checked, multibar rests become slightly slanted.

Old style short multibar rests (< 9 bars):

If checked, multibar rests shorter than nine bars use the old style composite symbols.

Bar Numbers

In the Bar numbers pane, the bar number settings can be altered.



The different settings of the Bar numbers pane are used in the following manner:

Scores, Number bars automatically:

If checked, score layouts will automatically have their bars numbered.

Scores, First bar in each system:

If selected, the first bar in each system of a score layout will have a bar number attached except the first bar.

Scores, All bars:

If this option is selected, all bars in score layouts will have bar numbers attached.

Scores, Every:

If this option is selected, every n:th bar (the number is to be written in the textbox) of a score layout will have a bar number attached to it. The checkbox **beginning at bar** determines where the bar numbering is to begin.

Scores, Location:

This pop-up menu determines where the bar number is to be inserted in proportion to the staff it is attached to. The available options are “above staff”, “below staff”, and “left of staff”.

Scores, Justification:

This pop-up menu determines the justification of a bar number: they can be “left”, “right” or “centre”.

Scores, Horizontal offset:

The horizontal offset has different meanings in different contexts. If the bar number is to be placed left of a staff, a positive horizontal offset means the number will be placed further to the left (since this is the “offset” direction). In the two other cases, a positive horizontal offset means placing the bar number further to the right, as usual in a coordinate system.

Scores, Vertical offset:

The vertical offset also has different meanings in different contexts. If the bar number is to be placed above or to the left of a staff, a positive vertical offset means the number will be placed higher up. However, if the bar number is to be placed below a staff, a positive vertical offset means placing the bar number further down.

Parts, Number bars automatically:

If checked, part layouts will automatically have their bars numbered.

Parts, First bar in each system:

If selected, the first bar in each system of a part layout will have a bar number attached. The checkbox **Except on first system** will affect the bar numbering so, that the very first system will not have a bar number attached.

Parts, All bars:

If this option is selected, all bars in part layouts will have bar numbers attached.

Parts, Every:

If this option is selected, every n:th bar (the number is to be written in the textbox) of a part layout will have a bar number attached to it. The checkbox **beginning at bar** determines where the bar numbering is to begin.

Parts, Location:

This pop-up menu determines where the bar number is to be inserted in proportion to the staff it is attached to. The available options are “above staff”, “below staff”, and “left of staff”.

Parts, Justification:

This pop-up menu determines the justification of a bar number: they can be “left”, “right” or “centre”.

Parts, Horizontal offset:

The horizontal offset has different meanings in different contexts. If the bar number is to be placed left of a staff, a positive horizontal offset means the number will be placed further to the left (since this is the “offset”

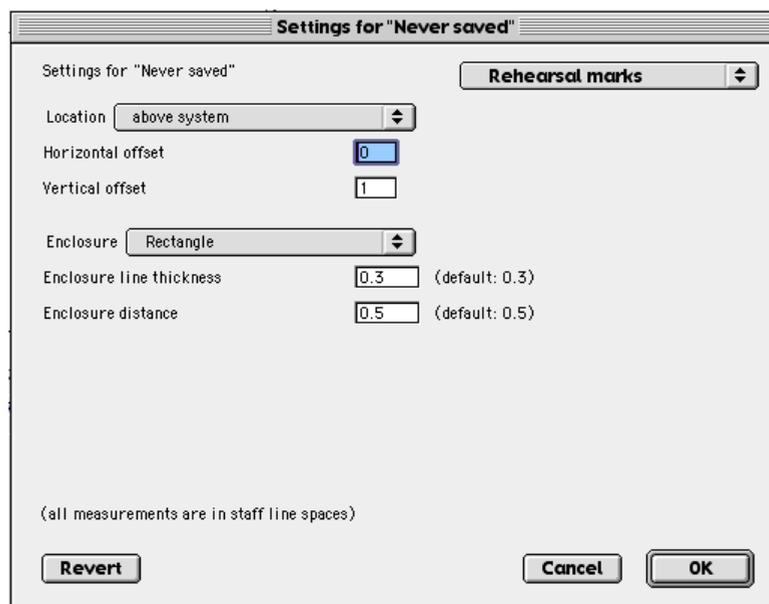
direction). In the two other cases, a positive horizontal offset means placing the bar number further to the right, as usual in a coordinate system.

Parts, Vertical offset:

The vertical offset also has different meanings in different contexts. If the bar number is to be placed above or to the left of a staff, a positive vertical offset means the number will be placed higher up. However, if the bar number is to be placed below a staff, a positive vertical offset means placing the bar number further down.

Rehearsal Marks

In the Rehearsal marks pane, the rehearsal mark settings can be altered.



The different settings of the Rehearsal marks pane are used in the following manner:

Location:

This pop-up menu determines whether the rehearsal mark should be placed above or below a system.

Horizontal offset:

This textbox determines the horizontal distance between the rehearsal mark and the bar it is attached to.

Vertical offset:

This textbox determines the vertical distance between the rehearsal mark and the bar it is attached to.

Enclosure:

This pop-up menu determines which symbol that is to enclose the rehearsal mark letter. The available options are “None”, “Rectangle”, “Square”, “Oval”, and “Circle”.

Enclosure line thickness:

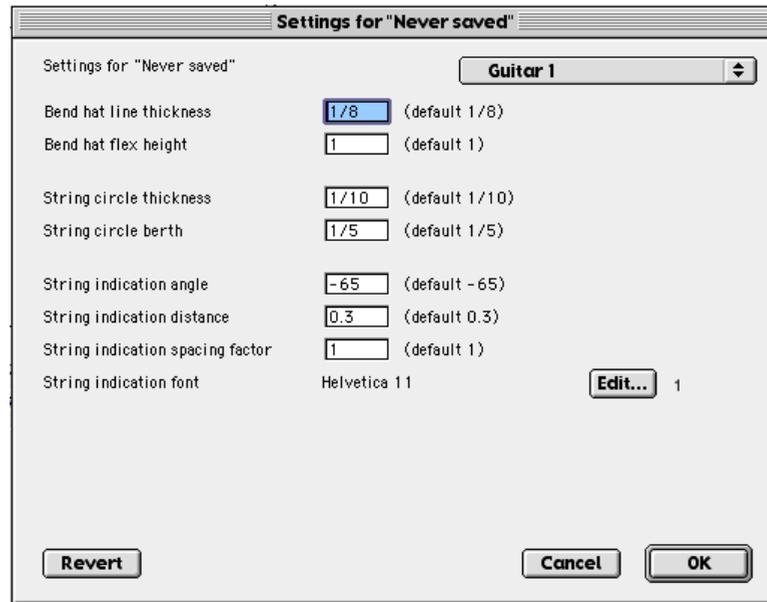
This textbox determines the thickness of the enclosure line.

Enclosure distance:

This textbox determines the distance between the enclosure line and the rehearsal letter.

Guitar 1

The Guitar 1 & 2 settings panes affect the appearance of string, left-hand and right-hand indications as well as bendhat appearance in music staves.



The string, left-hand and right-hand indications all share the same radius & angle placement model:

- The radius specifies how far the centre of the indication should be placed from the centre of the notehead where 0 means “boarding onto”.
- The angle specifies the direction, in degrees, from the notehead to the indication where 0 means that the indication is straight to the right of the notehead and 90 means that the indication is straight above the notehead etcetera.
- The spacing factor indicates how much horizontal space should be reserved for the indication. 0 means that no space at all will be reserved while 1 means that exactly the horizontal distance between the centre of the notehead and the centre of the indication will be reserved. The reason there is a spacing *factor* instead of entries in a spacing table is that spacing tables usually contain horizontal values while the placement is based on angles in this case.

The different settings of the Guitar 1 pane are used in the following manner:

Bendhat line thickness:

This textbox determines the thickness of a bendhat in a staff.

Bendhat flex height:

This textbox determines the height of a bendhat.

String circle thickness:

This textbox determines the thickness of the string indication circle.

String circle berth:

This textbox determines the extra space between the string number and the circle surrounding it.

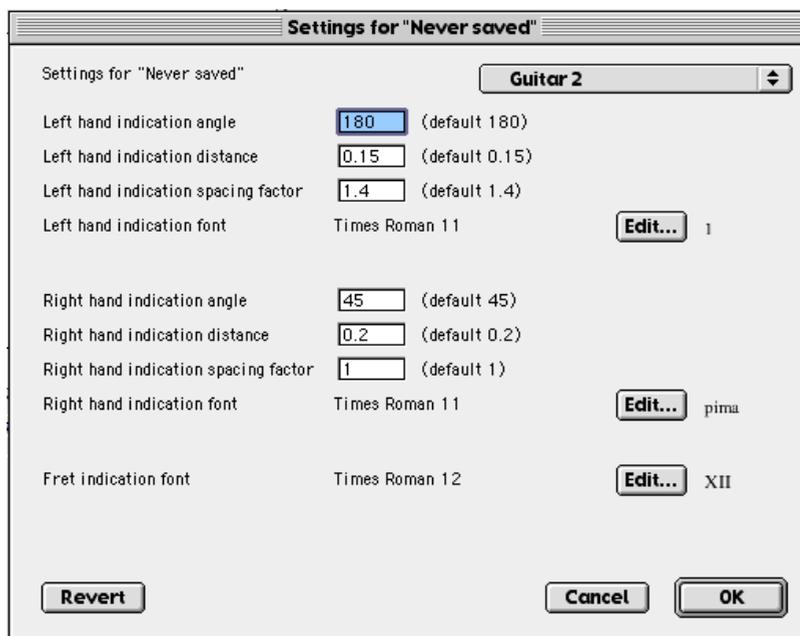
String indication angle, etcetera:

See above.

String indication font:

Here, the font and size is set for the string indication number.

Guitar 2



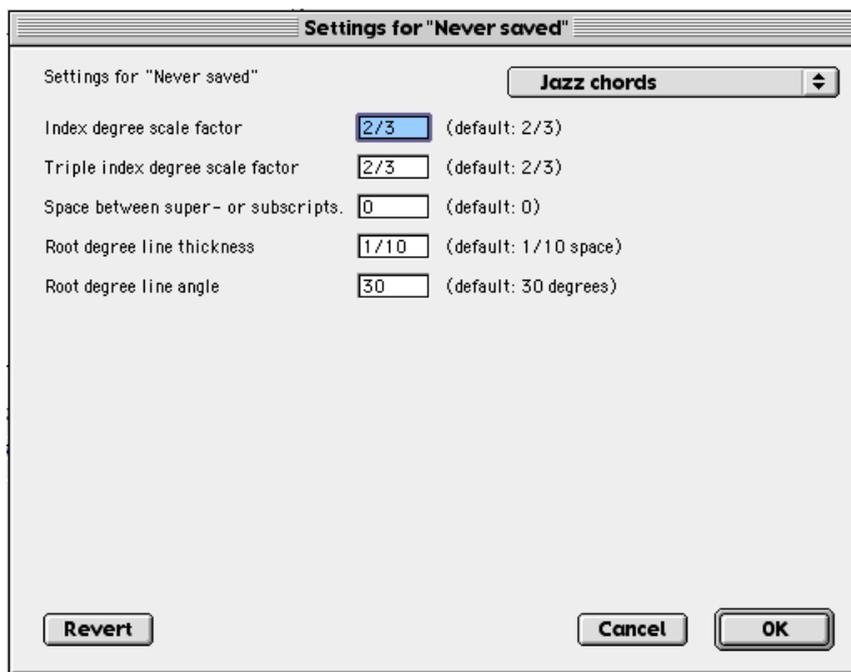
The different settings of the Guitar 2 pane are used in the following manner (for the left-hand and right-hand string indications, see the description of the Guitar 1 pane settings):

Fret indication font:

This is the font used for fret numbers in the tab.

Jazz Chords

In the Jazz chords pane, the jazz chords settings can be altered.



The different settings of the Jazz chords pane are used in the following manner:

Index degree scale factor:

This textbox determines the amount of scaling to apply to a superscript (above) or subscript (below).

Triple index degree scale factor:

This textbox determines the amount of scaling to apply to a jazz chord with super-, mid- and subscript.

Space between super- or subscripts:

This textbox determines the space between the scripts, measured as a factor of the font height.

Root degree line thickness:

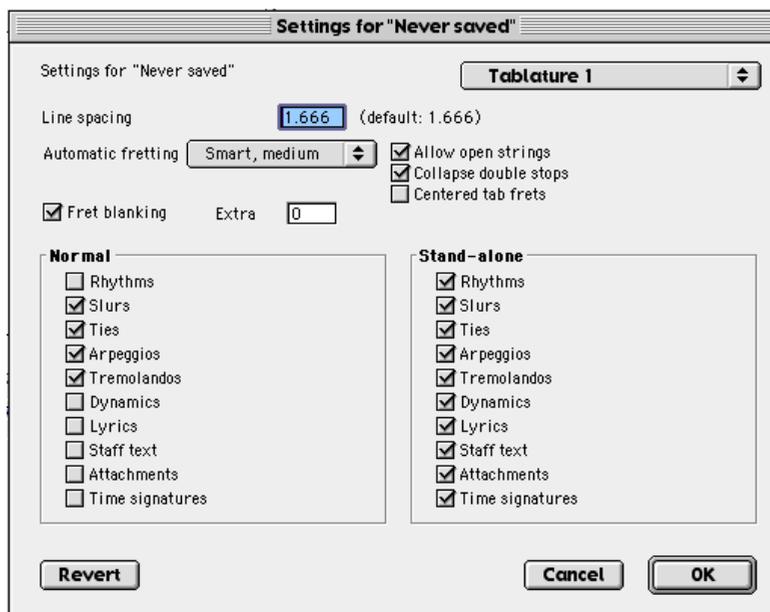
When appropriate, this textbox determines the thickness of the line separating the chord text from the root degree text.

Root degree line angle:

This textbox determines the angle of a root degree line.

Tablature 1

In the Tablature 1 pane, settings regarding tab may be altered.



The different settings of the Tablature 1 pane are used in the following manner:

Line spacing:

This textbox determines the height (in spaces) between the tab staff lines.

Automatic fretting:

This textbox determines how much of Igor Engraver's automatic tablature mechanism should be used. **Simple** means that string collisions will be avoided, while the **Smart** means that Igor Engraver will also make the tab as playable as possible. **Smart, tight frets** means keeping frets as close to each other as possible while **Smart, low frets** will attempt to put each group of frets as close to the zero fret as possible, sometimes at the cost of a less tight group of frets.

Allow open strings:

The **Allow open strings** checkbox decides if open strings should be allowed when the minimum fret number is set higher than 0.

Collapse double stops:

If **Collapse double stops** is checked, unison notes will be notated as one note in the tab staff, instead of being notated as two unison notes on two strings.

Centered tab frets:

This checkbox determines whether fret numbers in the same rhythmical position are to be centered above each other or left aligned.

Fret blanking:

The **Fret blanking** checkbox defines whether or not the staff lines should interfere with the fret numbers. When checked, some white space will appear around each fret number.

Extra:

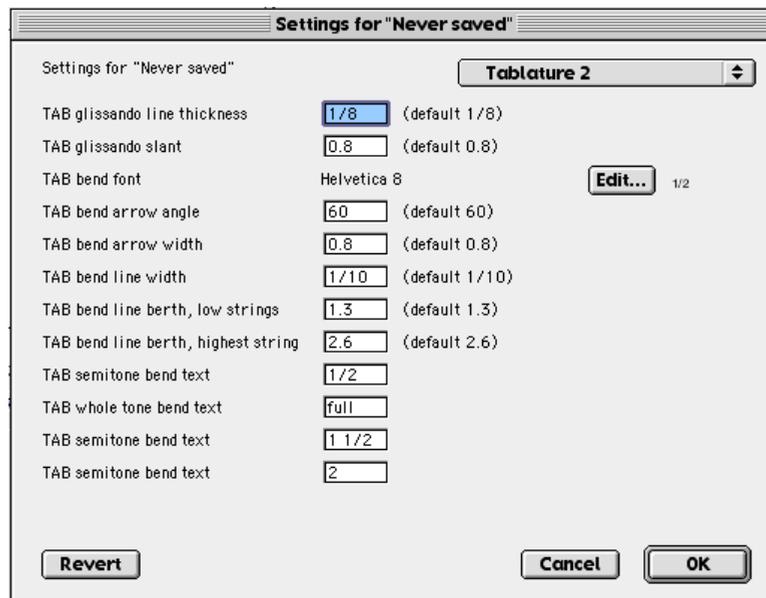
In the **Extra** textbox it is possible to define how much extra space should be added horizontally when fret blanking is selected, measured in spaces.

Normal/Stand-alone:

The checkboxes found in these two columns define whether or not the different objects are to be displayed alongside the fret numbers in the tab staff. Yet, only the normal mode is available while the stand-alone mode is still being developed and will not yet have any effect (stand-alone here means a tab staff without any music staff).

Tablature 2

In the Tablature 2 pane, settings regarding tab may be altered.



The different settings of the Tabulature 2 pane are used in the following manner:

TAB glissando line thickness:

This textbox determines the thickness of glissando lines in the tab staff.

TAB glissando slant:

This textbox determines the height, from starting to ending point, of a tab glissando.

TAB bend font:

This textbox determines the font for the bendhat text (texts such as *Full*, *1/2* etcetera above a bendhat).

TAB bend arrow angle:

This textbox determines the angle of the two bottom corners of the bendhat arrow.

TAB bend arrow width:

This textbox determines the width of the tab bendhat arrow.

TAB bend line berth, low strings/highest strings:

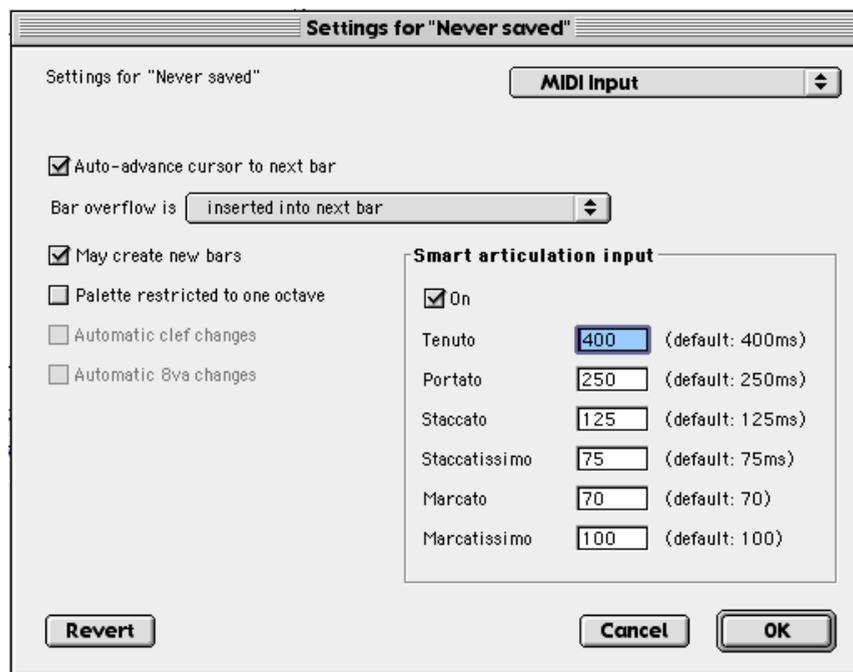
This textbox determines the height above the top tab staff line to which an upward pointing tab bendhat should point. There is one separate setting for the top string and one setting for the lower strings together.

TAB semitone bend text etcetera:

These four text boxes determine the default texts in the textbox above bendhats to indicate the pitch difference of a the starting and ending note of a bendhat.

MIDI Input

In the MIDI Input pane, the MIDI input settings can be altered.



The different settings of the MIDI Input pane are used in the following manner:

Auto-advance cursor to next bar:

If checked, the cursor advances to the next bar when the bar has been completed.

Bar overflow is:

If too many notes or rests are inserted into a bar, this pop-up menu defines the default behaviour of Igor Engraver's actions. The entries that do not fit in the first bar can be inserted into the next bar, left in place, or simply cut off.

May create new bars:

If checked, additional bars may be created if there are not enough bars to fit the inserted music.

Palette restricted to one octave:

If checked, the music inserted will only apply to one octave.

Automatic clef changes:

If checked, Igor Engraver may create automatic clef changes when it seems appropriate.

Automatic 8va changes:

If checked, Igor Engraver may create automatic 8va changes when it seems appropriate.

Smart articulation input, On:

If checked, Igor Engraver will detect the variables listed below during MIDI input and apply the appropriate markings to the layouts.

Smart articulation input, Tenuto:

This textbox determines the limit for recognition of a tenuto. If the value is set to 0, this function is disabled.

Smart articulation input, Portato:

This textbox determines the limit for recognition of a portato. If the value is set to 0, this function is disabled.

Smart articulation input, Staccato:

This textbox determines the limit for recognition of a staccato. If the value is set to 0, this function is disabled.

Smart articulation input, Staccatissimo:

This textbox determines the limit for recognition of a staccatissimo. If the value is set to 0, this function is disabled.

Smart articulation input, Marcato:

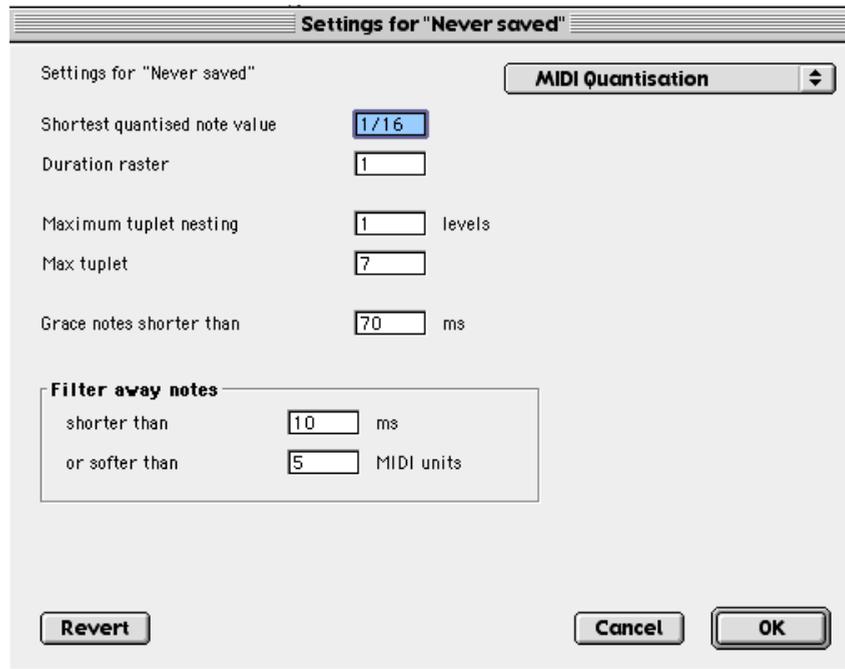
This textbox determines the limit for recognition of a marcato. If the value is set to 0, this function is disabled.

Smart articulation input, Marcatissimo:

This textbox determines the limit for recognition of a marcatissimo. If the value is set to 0, this function is disabled.

MIDI Quantisation

In the MIDI Quantisation pane, the MIDI quantisation settings can be altered.



The different settings of the MIDI Quantisation pane are used in the following manner:

Shortest quantised note value:

This textbox determines the shortest note to recognise during quantisation. Shorter notes will either be considered as special entries (as specified in the MIDI input pane) or neglected.

Duration raster:

This textbox determines the duration raster value.

Maximum tuplet nesting:

This textbox determines the maximum tuplet nesting that Igor Engraver will search for. (Note that the higher the number, the longer it takes for Igor Engraver to quantise the piece and the more exact the MIDI input has to be.)

Max tuplet:

This textbox determines the maximum tuplet value to scan for during quantisation (“3”=a triplet, “5”= a quintuplet, “7”= a heptuplet, and so on).

Grace notes shorter than:

This textbox determines when notes are to be considered grace notes.

Filter away notes, Shorter than:

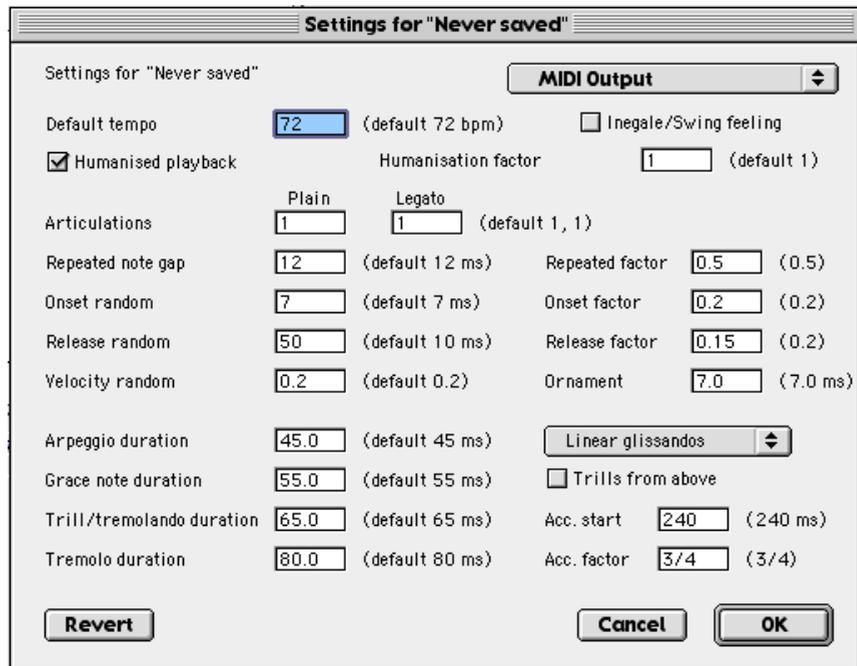
This textbox determines when notes are so short that they are to be neglected. Thus, a slip on a piano keyboard will not result in a strange looking layout.

Filter away notes, Or softer than:

This textbox determines when notes are so soft that they are to be neglected. Thus, a slip on a piano keyboard will not result in a strange looking layout.

MIDI Output

In the MIDI Output pane, the MIDI output settings can be altered.



The different settings of the MIDI Output pane are used in the following manner:

Default tempo:

This textbox determines the default tempo to use for playing back the file (that is, if no tempo marking is inserted).

Inégale/Swing feeling:

If checked, certain rhythms are played back as to give an inégale or swing feeling.

Humanised playback:

If checked, humanised playback is applied to the music.

Humanisation factor:

This textbox determines the amount of humanisation that is to be used for playback. The higher number, the worse musicians (a setting of 10 will get some very interesting results)... On the other hand, if the number is set to 0, the output will sound synthetic, as it is “unrealistically perfect”.

Articulations, Plain:

This textbox determines the length of non-slurred notes. The default factor is 1, i.e., 100 percent. A setting of 2 means all of the non-slurred notes sound twice as long as they are written.

Articulations, Legato:

This textbox determines the length of slurred notes. The default factor is 1, i.e., 100 percent. A setting of 2 means all of the slurred notes sound twice as long as they are written.

Repeated note gap:

The Repeated note gap textbox determines how much succeeding notes of the same pitch are to be moved apart.

Repeated factor:

This textbox determines the maximum time of the gap; if the setting is 0.5, the gap cannot be more than 50 percent of the length of the repeated note.

Onset random:

This textbox determines the randomness in time when setting a note.

Onset factor:

This textbox sets the maximum onset randomness; with a factor of 0.2, a note cannot be offset more than 20 percent of the note’s duration.

Release random:

This textbox determines the randomness when releasing the note.

Release factor:

This textbox limits the release randomness offset; with a release factor of 0.2, the release cannot be more than 20 percent off.

Velocity random:

This textbox determines the velocity (that is, the amount of force that an instrument player uses) randomness of a note.

Ornament:

This textbox determines the random length offset of individual notes when playing trills and turns.

Arpeggio duration:

This textbox determines the basic duration of an arpeggio.

Grace note duration:

This textbox determines the basic duration of a grace note.

Trill/tremolando duration:

This textbox determines the basic duration of a trill or tremolando.

Tremolo duration:

This textbox determines the basic duration of a tremolo.

Glissandos:

This pop-up menu defines how to play back glissandos. They can be played in a linear fashion, in an exponential fashion (e.g. the glissando is weaker in the beginning and stronger in the end), and in a quadratic fashion (the same as “exponential”, but less apparent).

Trills from above:

If checked, trills and certain ornaments begin on the auxiliary note, instead of on the written note.

Acc. start:

This textbox determines the speed of the beginning accelerating trills and tremolandos. The higher value, the faster.

Acc. factor:

This textbox determines the acceleration factor of the beginning accelerating trills and tremolandos. The higher value, the faster.

Publishing Info

In the Publishing info pane, additional settings constructed especially for publishers can be altered.

The screenshot shows a dialog box titled "Settings for 'Never saved'" with a sub-tab labeled "Publishing info". The dialog contains the following fields and values:

- E-mail: [Empty text box]
- WWW: <http://www.noteheads.com>
- Phone: [Empty text box]
- Contact: [Empty text box]
- Genre: [Empty text box]
- Publisher: [Empty text box]
- ISMN #: [Empty text box]
- Copyright: Copyright (c) Your name here, your city here, 2001
- Watermark: Purchased by [purchaser], [purchaser-email] [new-line] [copyright]
- Reg. URL: <http://www.noteheads.com/community/catalogue/change.asp>
- Purch. URL: <https://secure.noteheads.com/ssl/buyone.asp>
- Price: [Empty text box] USD

Buttons at the bottom include "Revert", "Cancel", and "OK".

The different settings of the Publishing info pane are used in the following manner:

E-mail:

Here you can put your e-mail address for your customers' convenience.

WWW:

If more information about the piece may be found at a web site, the URL of that site may be entered here.

Phone:

A contact phone number may be entered here.

Contact:

Additional contact information may be entered here.

Genre:

Information concerning the genre of the piece may be entered here.

Publisher:

The name of the publisher may be entered here.

ISMN #:

In this field, the ISMN number may be entered, if the piece is going to be published.

Copyright:

Here the copyright holder's name may be entered.

Watermark:

This textbox is used for entering the post-purchase watermark text. The name of the purchaser will be entered automatically by the server.

Purch. URL:

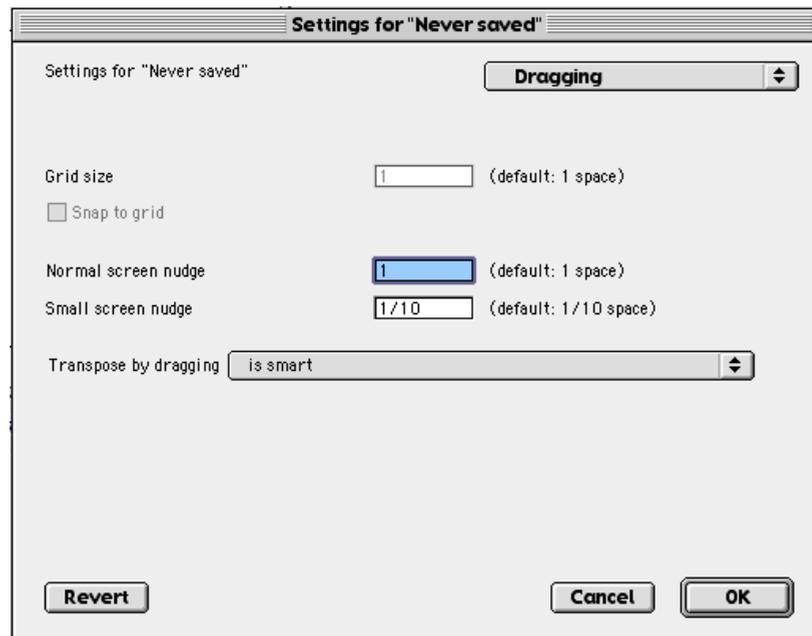
If the piece is available at a web site as an IGP file, the URL may be entered here. (This is not necessary for uploading the file.)

Price:

The piece's actual price when downloading it as an IGP file.

Dragging

In the Dragging pane, it is possible to alter settings for the transposition of notes and for the positioning of objects that have been tweaked or nudged.



The different settings of the Dragging pane are used in the following manner:

Measurements units:

Here you can select your desired measurement unit (millimetres, inches, or spaces).

Grid size:

Here you define the size of the grid, i.e., the distance between the horizontal and vertical lines of the grid that the objects may be attached to.

Snap to grid:

If checked, dragged objects will attach to the grid. If unchecked, dragged objects will be placed exactly where they are dropped. Option-dragging will temporarily reverse the state of the checkbox.

Normal screen nudge:

If an object is “nudged” normally (moved with the arrow keys), the object moves the amount specified in the textbox each time the key is pressed.

Small screen nudge:

If an object is “nudged” with more detail (moved with the arrow keys while holding down Option), the object moves the amount specified in the textbox each time the key is pressed.

Transpose by dragging:

This pop-up menu controls how pitches are transposed with the mouse or the cursor keys. There are four options available, explained below:

preserves the chromatic distance from the root of each pitch: A double sharp will remain a double sharp also after transposing.

adapts each pitch to the key signature: If this option is selected, a lowered note will become a raised note in case the key signature says that the destination note is to be raised.

adapts each pitch to the entire chromatic context: If the chromatic context of the transposed passage says that the notes are to be raised, they will be raised. Thus, it is the chromatic context that defines what notes to raise and what notes to lower, rather than the key signature.

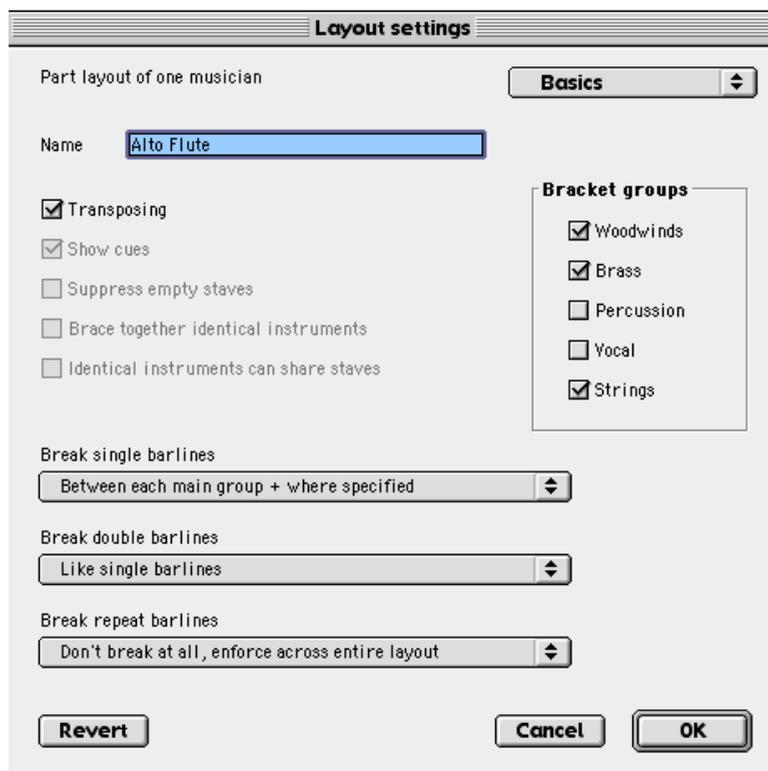
is smart: If a note was chromatically altered from the context (i.e., has an accidental), it will retain the same chromatic alteration when dragged. If not, it will adapt to the chromatic context.

The Layout Settings Window

Each layout has its own settings which override the Piece settings. There are six panes of the Layout settings window: Basics, Format, Instrument names, Spacing, Bar numbers, and Bar grouping.

Basics

In the Basics pane, the Basic layout settings can be altered.



The different settings of the Basics pane are used in the following manner:

Name:

This textbox displays the name that will be used for the layout in question.

Transposing:

If not checked, a layout that uses transposing instruments (such as a clarinet in B flat) will be shown untransposed.

Show cues:

If checked, cues will be shown.

Suppress empty staves:

If checked, staves with no music will not be shown. That way, a lot of space can be saved.

Brace together identical instruments:

If checked, this setting will put a brace around identical instruments, such as violins in the example below.

The image shows a musical score snippet with four staves. The staves are labeled on the left as Violon 1, Violon 2, Alto, and Violoncelle. The Violon 1 and Violon 2 staves are grouped together by a large left-facing curly brace. All staves are in 4/4 time and show two measures of music, each with a whole rest. The Alto staff has a C-clef and the Violoncelle staff has an F-clef.

Instruments have to be completely identical in order to be braced together in this way, including their transposition. Thus a clarinet in B flat and a clarinet in A would not be braced together.

Identical instruments can share staves:

If checked, identical instruments, such as two trumpets in C, will be printed on the same staff when Igor Engraver decides this is possible, and that way this feature saves space. If the instruments play a polyphonic passage that would blur the score if the instruments would be written on one staff, Igor Engraver puts one instrument on one staff and one instrument on another staff. This feature is executed on a system-per-system basis.

Break single barlines:

This setting defines to what extent the instruments should be connected by single barlines. The options available range from “Only where specified” to “Don’t break at all”.

Break double barlines:

This setting defines to what extent the instruments should be connected by double barlines. The options available range from “Only where specified” to “Don’t break at all”.

Break repeat barlines:

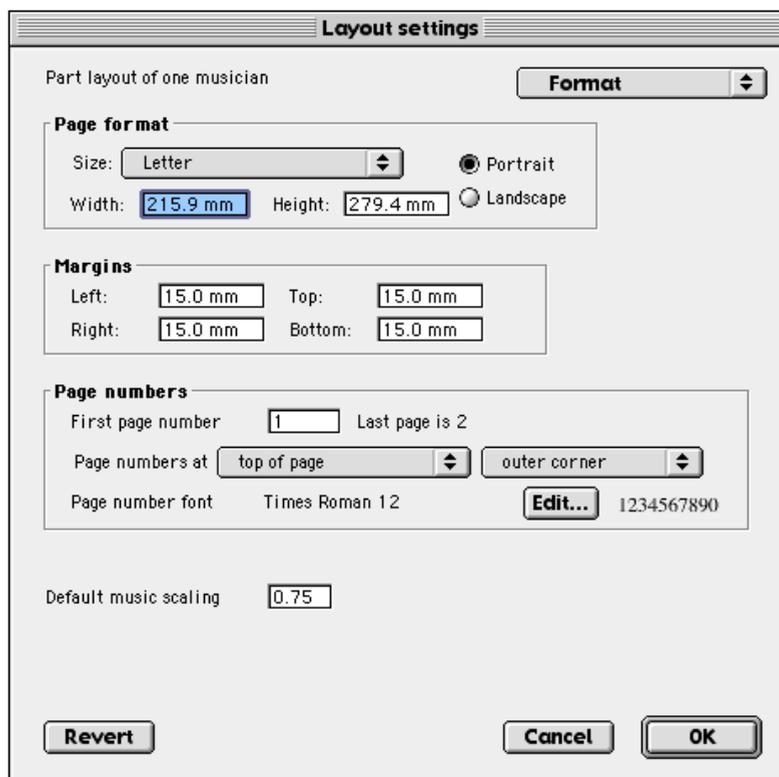
This setting defines to what extent the instruments should be connected by repeat barlines. The options available range from “Only where specified” to “Don’t break at all”.

Bracket groups:

The Bracket group checkboxes determine which instrument groups should be connected by braces or brackets, as defined in the Group using scroll menu (see below). By default, this is done with woodwind, brass and strings.

Format

In the Format pane, the layout format settings can be altered.



The different settings of the Format pane are used in the following manner:

Page format:

This setting reflects the format that will be used in the layout. The layout window reflects this setting: if you choose “B3 landscape” instead of “A3 portrait”, the layout will be shown differently in the layout window.

Score defaults, Margins:

This settings allows you to choose new margins. The options include left, right, top and bottom.

Page numbers:

This textbox determines the number of the first page. To the right of the textbox a sentence tells the last page of the layout.

Page numbers at:

These pop-up menus define where on the page the page number is to be applied.

Page number font:

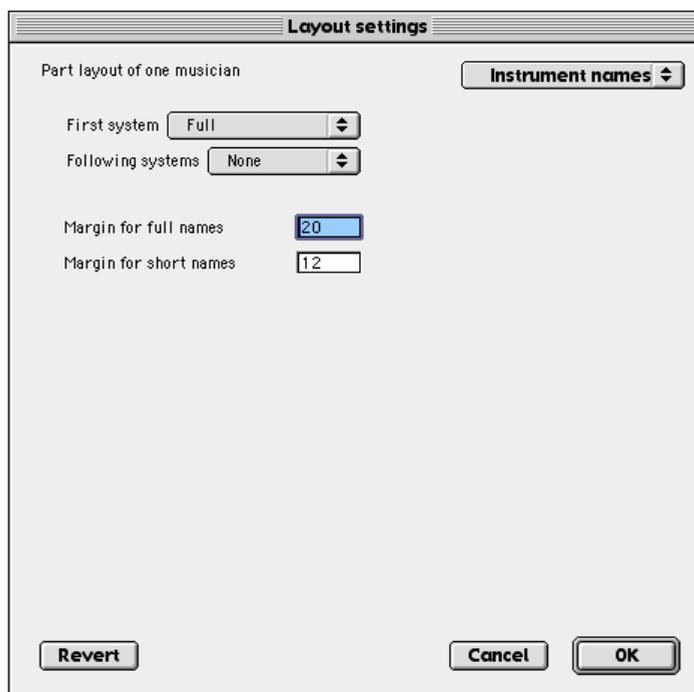
Pressing the Edit button brings up a window in which the font used for the page numbering can be edited.

Default music scaling:

In this box, you set the scaling factor for the music of the layout. For example, a scaling factor of 0.9 (90 percent) will display a layout that is slightly smaller than a scaling factor of 1.0.

Instrument Names

In the Instrument names pane, the layout names and positioning can be altered.

**Part layout of one musician, First system:**

In this scroll menu you can choose whether the instrument names should be shown in full, abbreviated (e.g. “Flute” or “Fl”) or none on the first systems of the parts. If ‘Full’, the long form of the instrument name will be used on the very first system of the piece. If ‘Short’, the abbreviated form

will be used. If 'None', the instrument name will not appear at all. The default value is 'Full'.

Part layout of one musician, Following systems:

In this scroll menu you can choose whether the instrument names should be shown in full, abbreviated (e.g. "Flute" or "Fl") or none after the first system of a part. If 'Full', the long form of the instrument name will be used on the following systems of the piece. If 'Short', the abbreviated form will be used. If 'None', the instrument name will not appear at all. The default value is 'Full'.

Part layout of one musician, Margin for full names:

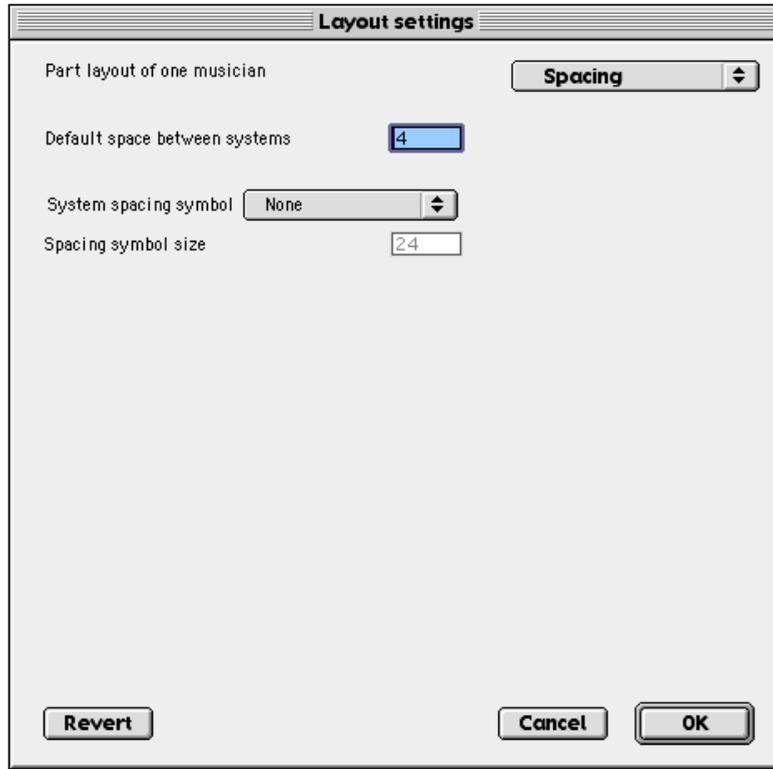
In this box you set the margin for the full names (e.g. "Flute") in parts.

Part layout of one musician, Margin for short names:

In this box you set the margin for the short names (e.g. "Fl") in parts.

Spacing

In the Spacing pane, the layout spacing settings can be altered.



The different settings of the Spacing pane are used in the following manner:

Default space between systems:

This textbox determines the default space between systems, expressed in staff line spaces. Note that a system has white areas both above the highest staff and below the lowest staff.

System spacing symbol:

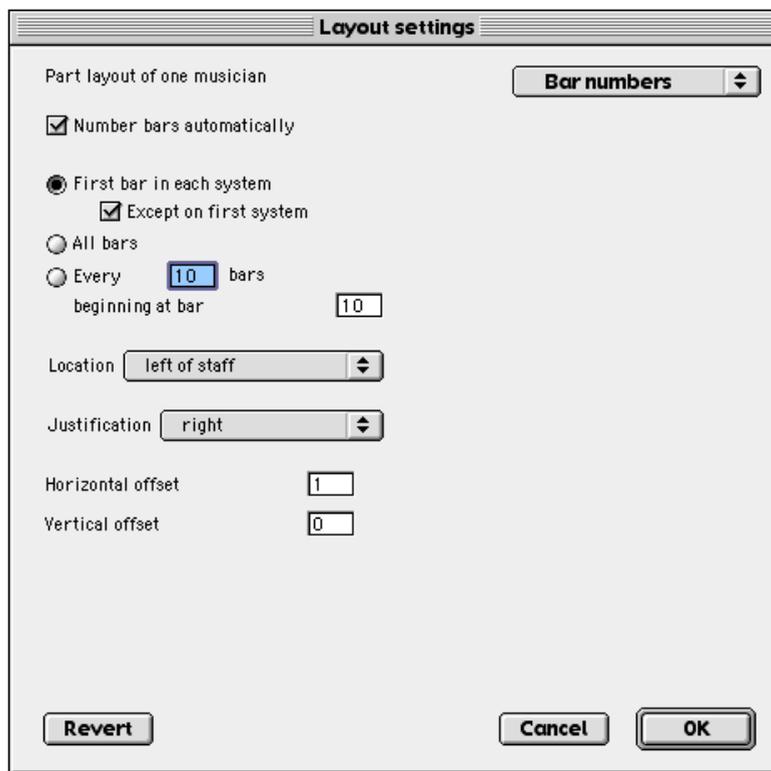
This pop-up menu defines the system spacing symbol. The options available are “None”, “Single slash”, and “Double slash”.

Spacing symbol size:

This textbox defines the size, expressed in staff line spaces, of the spacing symbols.

Bar Numbers

In the Bar numbers pane, the layout bar number settings can be altered.



The different settings of the Bar numbers pane are used in the following manner:

Number bars automatically:

If checked, the layout will have its bars numbered automatically.

First bar in each system:

If selected, the first bar in each system of the layout will have a bar number attached. The checkbox **Except on first system** will affect the bar numbering so, that the very first system will not have a bar number attached.

All bars:

If this option is selected, all bars in the layout will have bar numbers attached.

Every:

If this option is selected, every n:th bar (the number is to be written in the textbox) of a the layout will have a bar number attached to it. The checkbox **beginning at bar** determines where the bar numbering is to begin.

Location:

This pop-up menu determines where the bar number is to be inserted in proportion to the staff it is attached to. The available options are “above staff”, “below staff”, and “left of staff”.

Justification:

This pop-up menu determines the justification of a bar number: they can be “left”, “right” or “centre”.

Horizontal offset:

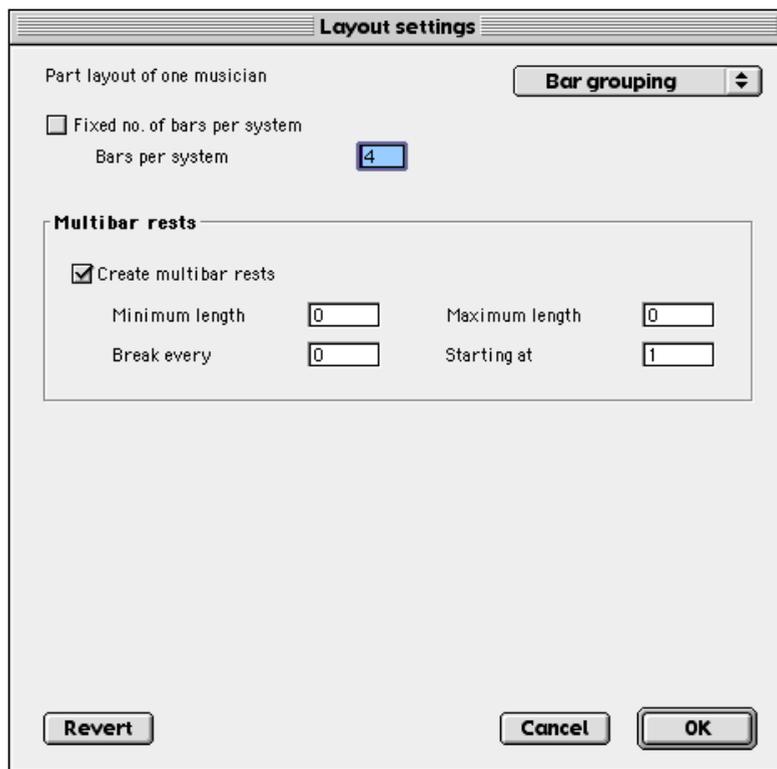
The horizontal offset has different meanings in different contexts. If the bar number is to be placed left of a staff, a positive horizontal offset means the number will be placed further to the left (since this is the “offset” direction). In the two other cases, a positive horizontal offset means placing the bar number further to the right, as usual in a coordinate system.

Vertical offset:

Also the vertical offset has different meanings in different contexts. If the bar number is to be placed above or to the left of a staff, a positive vertical offset means the number will be placed higher up. However, if the bar number is to be placed below a staff, a positive vertical offset means placing the bar number further down.

Bar Grouping

In the Bar grouping pane, finally, the bar grouping settings of a layout can be altered.



The different settings of the Bar grouping pane are used in the following manner:

Fixed no. of bars per system:

If checked, the layout uses a fixed number of bars per system, as defined in the Bars per system textbox.

Multibar rests, Create multibar rests:

If checked, Igor Engraver may create multibar rests.

Multibar rests, Minimum length:

This textbox determines the minimum length of a multibar rest. If set to 0, there is no lower limit of bars that should be included in a multibar rest.

Multibar rests, Maximum length:

This textbox determines the maximum length of a multibar rest. If set to 0, there is no upper limit of bars that should be included in a multibar rest.

Multibar rests, Break every:

This textbox determines how often multibar rests are to be divided. For instance, if the value of this textbox were set to 10, a forty-bar rest would be displayed as four ten-bar rests.

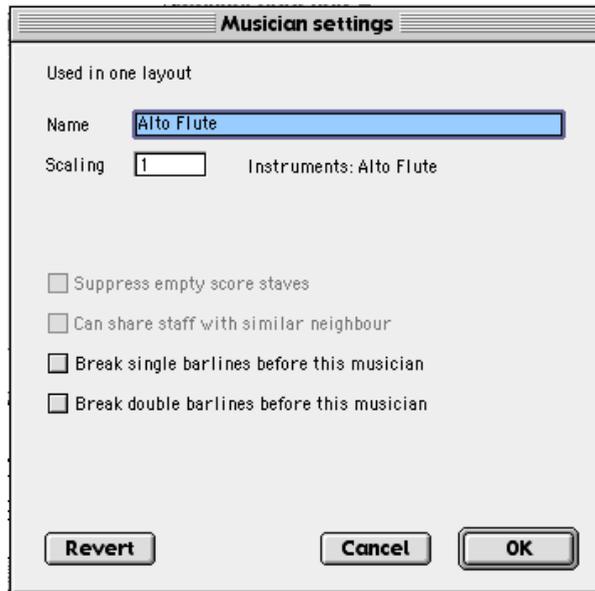
Multibar rests, Starting at:

This textbox determines the first bar that multibar rests can be applied to.

The Musician Settings Window

The Musician settings window is easiest accessed by dragging a musician icon to the settings icon in the Piece window.

The Musician settings window is a single-pane window. The settings of this window override both the Piece settings and the Layout settings.



The different settings of the Musician settings window are used in the following manner:

Name:

Here, the name of the musician can be altered.

Scaling:

Here, the scaling factor of the musician can be altered (the default setting is 1).

Suppress empty score staves:

If checked, staves with no music will not be shown. That way, a lot of space can be saved.

Can share staff with similar neighbour:

If checked, identical musicians, such as two musicians who play trumpets in C, will be printed on the same staff when Igor Engraver decides this is possible, and that way this feature saves space. If the instruments play a polyphonic passage that would blur the score if the instruments would be written on one staff, Igor Engraver puts one instrument on one staff and one instrument on another staff. This feature is executed on a system-per-system basis.

Break single barlines before this musician:

If checked, the musician will not have single barlines connected to the musician above. If “Only where specified” is chosen in the Groupings pane, this setting will override that setting.

Break double barlines before this musician:

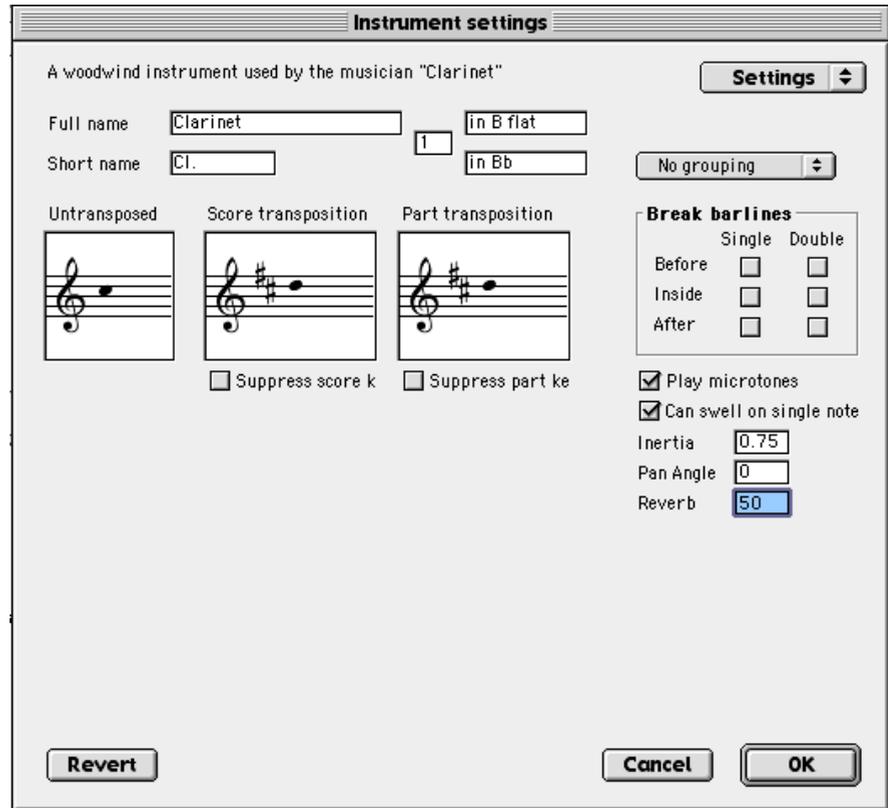
If checked, the musician will not have double barlines connected to the musician above. If “Only where specified” is chosen in the Groupings pane, this setting will override that setting.

The Instruments Settings Window

The Instrument settings window defines the different settings that apply to instruments. There are two panes in this window, Settings and Names. The Instrument settings window is easiest accessed by dragging an instrument icon from the Piece window or the Instrument library window. Remember though that changes made to the Instrument library window will affect the program itself, and cannot be reset without installing the program a second time. (However, dragging instruments from the Piece window will not affect anything outside the piece...)

Settings

In the Settings pane, the general instrument settings can be altered.



The different settings of the Settings pane are used in the following manner:

Full name:

The first of these two textboxes determines the full name of the instrument. The second textbox displays an extension of the instrument's name, if appropriate. In this case the extension is "in B flat".

Short name:

The first of these two textboxes determines the short name of the instrument. The second textbox displays an extension of the instrument's name, if appropriate. In this case the extension is "in Bb".

[Middle textbox]:

The textbox that is located between the Full name section and the Short name section displays the number of the instrument, in case there is any.

Since the number in the diagram above is 1, there must be at least two instruments named “Clarinet in B flat”. In case there is only one musician, this number will not be used, and is therefore set to 0 by default.

Untransposed:

This diagram displays the instrument's foundation note as untransposed, in relation to C. The notehead of the diagram can be dragged up and down, and that way the transposition of the instrument can be altered.

Score transposition:

This diagram displays the instrument's score transposition foundation note, in relation to C. The notehead of the diagram can be dragged up and down, and that way the transposition of the instrument can be altered. If **Suppress score transposition** is checked, the key signature is not shown in score layouts.

Part transposition:

This diagram displays the instrument's score transposition foundation note, in relation to C. The notehead of the diagram can be dragged up and down, and that way the transposition of the instrument can be altered. If **Suppress part transposition** is checked, the key signature is not shown in part layouts.

Play microtones:

If checked, the instrument may be able to play microtones (quarter tones, sixth tones, etc.)

Can swell on single note:

If checked, the instrument is able to perform a crescendo, a decrescendo, and so on, on a single note.

Inertia:

This textbox defines how fast the instrument can play trills, grace notes, and the like. A setting of 0.5 means playback will be twice as fast; a setting of 2 means playback will be of half normal speed. This is very useful when defining playback of tubas and other instruments that are not able to produce fast trills.

Pan Angle:

This textbox determines the panning of the instrument: -90 means due left; 0 means middle; 90 means due right.

Reverb:

This textbox determines the reverb amount to be used for the instrument, provided the synthesizer used is capable of producing reverb.

Names

In the Names pane, the general instrument settings can be altered.

The screenshot shows the 'Instrument settings' dialog box. At the top, it says 'A woodwind instrument used by the musician "Clarinet"'. There is a 'Names' dropdown menu in the top right corner. The 'ID' field contains 'Clarinet in B flat' with a note 'Used internally, must be in English'. The 'Ordering' field contains '12300' with the label 'Orchestral sort order'. Below this are two columns: 'Full' and 'Short'. The 'Full' column contains the instrument name in various languages: English (Clarinet), Italian (Clarinetto), German (Klarinette), French (Clarinette), Swedish (Klarinett), and Finnish (Klarinetti). The 'Short' column contains the abbreviations: Cl., Cl., Kl., Cl., Kl., and Kl. At the bottom, there are three buttons: 'Revert', 'Cancel', and 'OK'.

The different settings of this pane are used in the following manner:

ID:

This is the name used internally in Igor Engraver. The name may be used when elaborating with synth matrices and the like, but will not affect the graphical appearance of the instrument in any way.

Ordering:

This is the number by which the instrument is ordered in the layouts. Most of the time, there will not be any need for changing the ordering of instruments. However, if you would like to create a new piece that is to function as a template for creating other pieces where, for example, the trumpets are placed above the horns, changing the numbering may be useful. (If you would like to change the ordering of instruments in only

one piece, it is easier to just move the musicians – or the instruments of one musician – in the Piece window.)

English:

These textboxes determines the full and short English names of the instrument.

Italian:

These textboxes determines the full and short Italian names of the instrument.

German:

These textboxes determines the full and short German names of the instrument.

French:

These textboxes determines the full and short French names of the instrument.

Swedish:

These textboxes determines the full and short Swedish names of the instrument.

Finnish:

These textboxes determines the full and short Finnish names of the instrument.

APPENDIX B | Reference Chart

On the next pages, you will find reference charts displaying the keyboard commands used in Input mode. It may be a good idea to print the reference chart separately and place it near your computer when working with the program. Note that the Input mode commands are also shown in the Input menu, and that it is possible to assign different keys to the commands. The Windows commands are listed first, and the Macintosh ones thereafter.

The following symbols are examples of combinations are used in the chart:

Symbol:	Term:
⇧	Shift
⌘	Option (corresponds to Alt on Windows)
⌘	Command (corresponds to AltGr on Windows)
^	Control (Ctrl)
N	“n” (no Shift)
⇧N	Shift and “n”
⌘⇧S	Option, Shift, and “s”

Igor Engraver Reference Chart Windows

Moving and Selecting

Moving:	
→	Move input caret to right
←	Move input caret to left
Ctrl →	Move input caret to next bar
Ctrl ←	Move the input caret to the beginning of the bar or to the previous bar
↑	Move cursor or note selection diatonic step up
↓	Move cursor or note selection diatonic step down
Alt ↑	Go to the staff above
Alt ↓	Go to the staff below
⇧ Alt ↑	Cross-staff up
⇧ Alt ↓	Cross-staff down

Selecting:	
Alt →	Select the next entry
Alt ←	Select the previous entry
⇧→	Extend/shrink selection to the right
⇧←	Extend/shrink selection to the left
⇧ Alt →	Extend/shrink note-selection to the right
⇧ Alt ←	Extend/shrink note-selection to the left
⇧ Ctrl Alt →	Extend/shrink the selection with a bar's next entries
⇧ Ctrl Alt ←	Extend/shrink the selection with a bar's previous entries

Choosing layer:	
Ctrl ↑	Increment layer
Ctrl ↓	Decrement layer
⇧ Alt 1	Set layer 1
...	...
⇧ Alt 9	Set layer 9

Durations

0	Set duration to 1/128
1	Set duration to 1/64
2	Set duration to 1/32
3	Set duration to 1/16
4	Set duration to 1/8
5	Set duration to 1/4
6	Set duration to 1/2
7	Set duration to 1/1
8	Set duration to 2/1
9	Set duration to 4/1

Dynamics

P, F, M, R, S, Z	Add dynamic markings
C	Add a crescendo hairpin
D	Add a decrescendo hairpin
<	Add a double hairpin
Ctrl Alt P etc.	Add entered dynamic marking(s) to all staves of the system
⇧ Ctrl Alt P etc.	Add entered dynamic marking(s) to all staves of the instrument group

Barlines and bar numbers

I	Change barline
⇧ N	Force bar number (all layouts)
⇧ Ctrl N	Force bar number (current layout)

Ties, Slurs, and Glissandos

T	Add a tie
⇧ T	Flip a tie
L	Add a slur
⇧ L	Flip a slur
Ctrl Alt L	Add a nested slur
⇧ Ctrl Alt L	Get back to slur context
G	Add glissando
⇧ Alt A	Add arpeggio

Trills, Tremolandos, and Tremolos

Alt R	Create trill (from the selected entry)
⇧ Alt R	Create a whole-tone trill
⇧ Ctrl R	Create a semitone trill
Alt M	Create tremolando (from the selected entry)
Alt T	Set tremolo/change tremolo type

Grace Notes

Alt G	Enter/leave Grace note mode
⇧ Alt G	Toggle grace note slash

Attachments

⇧ Ctrl P	Bartók pizzicato
*	Pedal up
Alt D	Pedal down
Alt S	Set plus (stopped note or left-hand pizzicato)
⇧ H	Set natural harmonic
Alt ,	Set comma caesura
⇧ Alt =	Set double-line caesura
⇧ Alt U	Set upbow
⇧ Alt D	Set downbow

Tuplets

Alt 1	Enter arbitrary tuplet and change tuplet defaults
Alt 2	Enter duplet
Alt 3	Enter triplet
Alt 4	Enter quadruplet
...	...
Alt 9	Enter nonuplet (novemol)
Alt 0	End tuplet

Chords & Guitar Diagrams

A	Add chord analysis
⇧ A	Add guitar diagram

Text, Notes, Rests, and Chords

Lyrics:	
⇧ Space	Enter lyrics mode
-	Add hyphen

Lyrics:	
Space	Move to next entry
-	Add an extension line

Textboxes:	
:	Create an entry-associated textbox (entry expressions)
⇧ Ctrl M	Toggle rehearsal mark

Entries:	
Enter	Enter a note
⇧ Enter	Add a note to the entry
Space	Enter a rest
Ctrl Enter	Enter a raised note
Alt Enter	Enter a lowered note
Backspace	Remove entry or dynamic
N	Change notehead
F1	Add a c
...	...
F7	Add a h/B
F8	Add a c of the next octave and leave the cursor in that octave
F11	Move cursor octave down
F12	Move cursor octave up
⇧ F1	Add a c of the current octave to an existing note
...	...
⇧ F7	Add a h/B of the current octave to an existing note
O	Mirroring on or off
→ I	Repeat last entry
H	Hide selected entry globally
⇧ Ctrl H	Hide selected entry locally

Augmentation dots:	
,	Add first augmentation dot or remove all dots
Ctrl ,	Add one augmentation dot to the entry

Stems and beams:	
⇧ F	Flip stem

Stems and beams:	
⇧Ctrl Alt I	Freeze/thaw stem direction
B	Shorten first stem of beam group
⇧B	Lengthen first stem of beam group
Alt B	Shorten last stem of beam group
⇧Ctrl B	Lengthen last stem of beam group
⇧Alt B	Flatten beam
/	Break beam segment
Alt /	Join beam segment

Accidentals:	
+	Transpose up a semitone
-	Transpose down a semitone
Alt +	Transpose up a quarter-tone
Alt -	Transpose down a quarter-tone
⇧Alt +	Transpose up a sixth-tone
⇧Alt -	Transpose down a sixth-tone
#	Hide/force show/normal accidental
(Parenthesise / unparenthesise accidental
=	Enharmonic change/respell chord
Alt =	Show all possible enharmonic spellings

Articulation:	
.	Staccato
‘	Staccatissimo
-	Tenuto
>	Marcato
Alt <	Marcatissimo

Igor Engraver Reference Chart Macintosh

Moving and Selecting

Moving:	
→	Move input caret to right
←	Move input caret to left
⌘→	Move input caret to next bar
⌘←	Move the input caret to the beginning of the bar or to the previous bar
↑	Move cursor or note selection diatonic step up
↓	Move cursor or note selection diatonic step down
⌘↑	Go to the staff above
⌘↓	Go to the staff below
⌘↑	Cross-staff beam up
⌘↓	Cross-staff beam down

Selecting:	
⌘→	Select the next entry
⌘←	Select the previous entry
⇧→	Extend/shrink the selection with next entry/chord
⇧←	Extend/shrink selection with previous entry/chord
⌘⇧→	Extend/shrink the selection with next entry
⌘⇧←	Extend/shrink the selection with previous entry
⇧⌘→	Extend/shrink the selection with a bar's next entries
⇧⌘←	Extend/shrink the selection with a bar's previous entries

Choosing layer:	
^↑	Increment layer
^↓	Decrement layer
^1	Set layer 1
...	...
^9	Set layer 9

Durations

0	Set duration to 1/128
1	Set duration to 1/64
2	Set duration to 1/32
3	Set duration to 1/16
4	Set duration to 1/8
5	Set duration to 1/4
6	Set duration to 1/2
7	Set duration to 1/1
8	Set duration to 2/1
9	Set duration to 4/1

Dynamics

P, F, M, R, S, Z	Add dynamic markings
C	Add a crescendo hairpin
D	Add a decrescendo hairpin
⌘<	Add a double hairpin
^⌘P etc.	Add entered dynamic marking(s) to all staves of the system
^⌘⇧P etc.	Add entered dynamic marking(s) to all staves of the instrument group

Barlines and bar numbers

I	Change barline
⇧N	Force bar number (all layouts)
^⇧N	Force bar number (current layout)

Ties, Slurs, and Glissandos

T	Add a tie
⇧T	Flip a tie
L	Add a slur
⇧L	Flip a slur
⌘L	Add a nested slur
⌘⇧L	Get back to slur context
G	Add glissando
⌘⇧A	Add arpeggio

Trills, Tremolandos, and Tremolos

⌘R	Create trill (from the selected entry)
⌘⇧R	Create a whole-tone trill
⌘⇧⌘R	Create a semitone trill
⌘M	Create tremolando (from the selected entry)
⌘T	Set tremolo/change tremolo type

Grace Notes

⌘G	Enter/leave Grace note mode
⌘⇧G	Toggle grace note slash

Attachments

⌘P	Bartók pizzicato
*	Pedal up
D	Pedal down
⌘S	Set plus (stopped note or left-hand pizzicato)
⌘H	Set natural harmonic
⌘,	Set comma caesura
⇧⌘,	Set double-line caesura
⌘⇧U	Set upbow
⌘⇧D	Set downbow

Tuplets

⌘1	Enter arbitrary tuplet and change tuplet defaults
⌘2	Enter duplet
⌘3	Enter triplet
⌘4	Enter quadruplet
...	...
⌘9	Enter nonuplet (novemol)
⌘0	End tuplet

Chords & Guitar Diagrams

A	Add chord analysis
⇧A	Add guitar diagram

Text, Notes, Rests, and Chords

Lyrics:	
⇧Space	Enter lyrics mode
-	Add hyphen

Lyrics:	
Space	Move to next entry
-	Add an extension line
⌘Space	Add non-breaking space

Textboxes:	
:	Create an entry-associated textbox (entry expressions)
^⌘⇧⌘R	Toggle rehearsal mark

Entries:	
Enter	Enter a note
⇧Enter	Add a note to the entry
Space	Enter a rest
⌘Enter	Enter a raised note
⌘⇧Enter	Enter a lowered note
Backspace	Remove entry or dynamic
N	Change notehead
F1	Add a c
...	...
F7	Add a h/B
F8	Add a c of the next octave and leave the cursor in that octave
F9	Move cursor octave down
F10	Move cursor octave up
⇧F1	Add a c of the current octave to an existing note
...	...
⇧F7	Add a h/B of the current octave to an existing note
O	Mirroring on or off
→I	Repeat last entry
H	Hide selected entry locally
⌘⇧H	Hide selected entry globally

Augmentation dots:	
,	Add first augmentation dot or remove all dots
⌘,	Add one augmentation dot to the entry

Stems and beams:	
⇧F	Flip stem
∩F	Freeze/thaw stem direction
B	Shorten first stem of beam group
⇧ B	Lengthen first stem of beam group
^ B	Shorten last stem of beam group
⇧⇧ B	Lengthen last stem of beam group
∩⇧ B	Flatten beam
/	Break beam segment
∩/	Join beam segment

Accidentals:	
+	Transpose up a semitone
-	Transpose down a semitone
∩+	Transpose up a quarter-tone
∩-	Transpose down a quarter-tone
∩⇧+	Transpose up a sixth-tone
∩⇧-	Transpose down a sixth-tone
#	Hide/force show/normal accidental
(Parenthesise / unparenthesise accidental
=	Enharmonic change/respell chord
∩=	Show all possible enharmonic spellings

Articulation:	
.	Staccato
‘	Staccatissimo
-	Tenuto
>	Marcato
⌘<	Marcatissimo

APPENDIX C | Tempo Indications

In Igor Engraver, there are a lot of tempo indications supported, both exact, such as Adagio, and relative, such as accelerando. All of those are listed in the tables on the next pages.

All of the terms may be entered with or without periods and they will still affect playback

Exact tempo indications

Beats per minute	Italian	English	French	German	Swedish
40	Grave Adagissimo Larghissimo Lentissimo	Extremely slow	Très lent	Sehr langsam Ganz langsam	Mycket långsamt
44	Largo				
46	Adagio	Very slow	Lent Large Largement	Langsam Breit	Långsamt Brett
48	Lento				
52	Larghetto	Rather slow	Un peu lent	Etwas langsam	Något långsamt Aningen långsamt
54	Adagietto				
60	Andante	Moderately slow	Allant	Mässig lang- sam	Tämligen långsamt
66	Andantino		Très Modéré	Gehend	
84	Moderato	Moderately	Modéré	Mässig Mässig bewegt	Måttligt Måttligt snabbt
112	Allegretto	Rather fast	Un peu animé	Etwas bewegt	Ganska snabbt Tämligen snabbt
120	Allegro	Fast Quick	Animé	Bewegt Schnell	Rörligt Snabbt
132	Vivace				
144	Vivo	Quite fast	Vif Vite	Lebhaft Eilig	Livligt Hastigt
168	Presto				
188	Allegrissimo				
192	Vivacissimo	Very fast	Très vif	Sehr schnell Ganz schnell	Mycket snabbt
208	Prestissimo			Sehr lebhaft Ganz lebhaft	Jättefort
300					Blixtnsnabbt

Relative tempo indications

Type	Italian	English	French	German	Swedish
accelerando	accelerando poco a poco accelerando p. a p accelerando accel acc stringendo poco a poco stringendo p. a p string		pressez	Allmählich schneller werdend Schneller werdend Beschleunigend	
ritardando	ritardando poco a poco ritardando p. a p ritardando ritard rit allargando allarg rallentando poco a poco rallentando rallentando p. a p		Cédez	Allmählich lang- samer werdend Langsamer wer- dend	
tempo	A tempo Tempo I Tempo primo				
mosso (faster)	più mosso più allegro più animato mosso	Faster	Plus animé Plus vite Plus vif	Schneller Bewegter Lebhafter Rascher	Fortare
meno (slower)	meno mosso meno allegro meno animato	Slower	Moins animé Moins vite Moins vif Plus lent	Ruhiger Langsamer Breiter	

APPENDIX D | Troubleshooting

Igor Engraver is designed to work without problems on any system. However, like when working with all other computer applications there may be situations when you have to turn to the Troubleshooting chapter. In here you will find answers to the most commonly asked questions. Remember also to take a look at the FAQ page on www.noteheads.com for the latest information. The URL is <http://dev.noteheads.com/faq.php>.

Questions	Answers
Installation	
When I try to download Igor Engraver, my modem hangs up on me. What should I do?	You have a bad connection. Try again, or order a CD-ROM for a low cost, from this URL: http://www.noteheads.com/downloads/fs_cd.html
The installer seems corrupt. What should I do?	Maybe you are behind a firewall. Try to download Igor Engraver to another computer and copy it to your computer. If this does not work, order a CD-ROM as explained above.
I can't unpack the Igor Engraver installer. Is there anything I can do about this?	Do you have Alladin StuffIt Expander on your system? If not, you can download it for free from www.alladinsys.com . Or you might have a corrupt installer (see above).
Why can't I click 'OK' in the authorisation dialog?	Make sure you have filled in all the fields. If your Response Code is wrong, OK will remain dimmed. Take care to copy and paste the Response Code correctly.
Why don't I get a response email from you when I have submitted the challenge form?	This probably has to do with your reply-to address: either you typed it wrong, or your email software has wrong reply-to email address (we have seen quite a few of these!). Otherwise, something strange may have happened during transmission over the Internet – then simply submit the information again.
I think my demo period has ended. Do I need to download Igor Engraver again?	Do not worry. Expired versions of Igor Engraver will start up showing the registration dialog, so you will still be able to register.

Questions	Answers
I can't figure out how the Challenge-Response system works. What should I do?	You find information about how the system works in the last pages of the Installation chapter. Information is also available in the Installation Guide.
How much RAM do I need to run Igor Engraver?	To run Igor Engraver, we recommend that you have at least 32MB of free RAM. This is in addition to the System's memory requirements. Therefore, at least 64MB of total RAM in the machine is preferable; however, you can also use virtual memory. As a general rule, the more physical memory you have, and the more memory you allocate to Igor Engraver, the faster the program will run. For professional use with large scores, we suggest using a memory partition of 50MB or more.
Will I lose my authorisation if my computer crashes or if I reformat the disk?	No. Your Response Code is stored within Igor Engraver itself, so if you restore a backup copy after having reformatted the disk, Igor Engraver will run as usual. If you are installing a fresh copy, simply re-enter the Response Code when asked to (it's a good idea to save the e-mail containing it in a safe place) and if need be, your personal info. Only if you do a low-level format (the kind which takes a very long time) will you lose your authorisation. Even then it is not a big deal - you get two authorisation codes, so you only have to contact purchase@noteheads.com . On purchase matters, remember to tell us your transaction ID and your new challenge code (if you need a new authorisation).
I get a dialog box saying "The application 'Igor Engraver' can't be opened because 'Igor Engraver' can't be found". Then nothing happens. What can I do?	This is MacOS getting confused - it's nothing to do with Igor Engraver. First of all, make sure that there is enough memory available, and that memory isn't fragmented - some programs, notably some Internet browsers, fragment memory during use. Such programs may make it necessary to restart your computer after use, since MacOS can't reclaim fragmented memory (though this will change under MacOS X). If there is simply not to much RAM to run Igor Engraver, add more RAM or turn Virtual Memory on. If RAM issues do not seem to be the problem, try rebuilding your desktop by restarting your computer and pressing the Option and Command (⌘) keys until you see a message asking you to confirm that you want to rebuild the desktop database.
Igor crashes at startup - I get the splash screen and Initialising fonts , then Igor Engraver crashes. What should I do?	You seem to have some corrupt fonts, so you may want to check your fonts folder with software like Norton Utilities, or some other utility that can check the state of your fonts.

Questions	Answers
Editing in Igor Engraver	
When I choose New Piece... I do not see any empty sheets. What is this really?	Well... Open the Instrument library window from the Windows menu, and drag an instrument to the Musician symbol in the Piece window, which appeared when you opened the new piece. Double-click the Layout icon in the Piece window's left column to open the part layout. Double-click the staff (somewhere in the middle) to be able to enter music. The appropriate Input mode keys are found in the Input menu that appeared when you double-clicked the staff. Or – read the manual.
I am not satisfied with having parts unconsolidated (having multibar rests) / A3 and B4 as default printing formats / the default lyrics font, the 4/4 sign instead of the C sign... How can I change this?	Simply make the changes you want in the Settings for new pieces... window (this window can be opened from the Edit menu if you make the Instrument Library active, for instance). These settings will occur in new pieces.
I can't find a certain font on Igor Engraver's Font menu. Why?	Igor Engraver supports outline fonts (e.g. PostScript and TrueType fonts) which contain mathematical descriptions of all curves and lines in the font. This allows text to be scaled freely, giving excellent and professional results at all point sizes. Outline fonts are the norm within the publishing industry. Igor Engraver does not support bitmapped fonts without outline information, where the characters are described as a collection of black dots. Such fonts are intended for screen use only: due to their low resolution they cannot be scaled smoothly and do not look good in print. Therefore, bitmapped fonts are not included in Igor Engraver's Font menu.
Playback and recording	
How can I get playback to work correctly?	Make sure that you have selected a synth for playback in the Edit-->MIDI-->Synth settings dialogue. On Mac computers, first install OMS. Then make sure everything works fine in OMS. Igor Engraver relies on OMS for playback on a Mac– if your OMS Setup works as it should, Igor Engraver should too (apart from a few issues – see below).
How can I improve playback of Igor Engraver?	Igor Engraver uses MIDI for playback. In other words – the more suitable MIDI device you have, the better output you get.

Questions	Answers
<p>My Roland JV-series synthesiser sounds strange. Why?</p>	<p>You need to manually remove one of the synth matrices from the Synths folder. If you do not have an Orchestral expansion card, remove the matrix with the suffix "orch"; if you do have an Orchestral expansion card installed, remove the other matrix.</p>
<p>My Roland JV-series synthesiser sometimes changes Performance during playback. What can I do about it?</p>	<p>If you are experiencing problems when using a Roland JV-1080, 2080, 1010 or similar unit with Igor, there is a quick fix available. Try switching off the Control Channel, which is done in the following manner:</p> <p>First, Set up the unit in the usual way for Igor (Performance #27) Now, Press the "System" button on the front panel Next, Set the "Control Channel" to OFF by turning the Value knob past channel 16. Last, Press the "System" button once more.</p> <p>The JV series synthesisers are preset to use channel 16 in a special way: any control changes on this channel will change the selected performance. This is only rarely useful, and never with a notation/sequencing program such as Igor. Any patch changes sent on the Control Channel will result in Performance changes, which in Igor Engraver is not what you want. The reason this crops up in Igor Engraver and not in other programs is due to the fact that Igor Engraver may change the patch assignments quite frequently - when this is done on channel 16, you get an unwanted Performance change.</p>
<p>How do I get Igor Engraver to recognise my MIDI keyboard during input?</p>	<p>First of all check that your MIDI keyboard is connected to your computer, and that you get MIDI input into the computer (Read the documentation for your MIDI interface to learn more about this.) If this works as it should, select "MIDI keyboard Input Device" from the MIDI submenu on the Edit menu. Choose your keyboard unit from the popup menu. Also check that "Smart MIDI feedback" is selected. Mac users also need to make sure that OMS is set up to recognise the keyboard properly by using OMS Setup's "Test Studio" command: when you press a key on your MIDI keyboard, you should hear OMS acknowledge it verbally by speaking the words "MIDI received".</p>
<p>How come recording does not start when I press the Record button?</p>	<p>To make things easier for those who have their MIDI devices a few feet away from the computer, we have implemented a Recording trigger: press a key on your MIDI keyboard (or the like) to start countdown.</p>

Questions	Answers
<p>I think there is something wrong with the tempo when recording. Is there a way to solve this?</p>	<p>Sending Tick Events to the synth sometimes fails. This means that a real-time-recording session can be quantised using a different tempo than that of the metronome, causing a rhythmically incorrect result. Should this happen, a temporary quick work-around is to press Record, then immediately stop a few times and make sure the metronome sounds at the tempo chosen in settings. Also, if you are using Macintosh, you should <i>not</i> use QuickTime for playback of the tick, because of the extreme latency.</p>
<p>Printing and Exporting</p>	
<p>When I print, the spacing does not look optimal. Has this anything to do with Page Setup?</p>	<p>Well, almost. In the Template/Piece Preferences window's General pane, be sure to set the paper size to the one you are actually going to use. For instance, if you can only print A4 sheets, do not use the B4 setting.</p>
<p>When I try to print, the layout gets cropped. How can avoid this?</p>	<p>In the Print window, choose Igor Engraver from the pop-up menu, and choose "Shrink to fit paper", or, if that does not entirely solve your problem, "Shrink to fit imageable area". The reason for this problem may be that the wrong paper size is selected. See above for solution. You can also set the print scale to 99% (maybe smaller) in the Page setup dialog.</p>
<p>On a Mac, Igor Engraver seems to freeze when I try to print. The place where the print dialog was became blank. What is this?</p>	<p>Try pressing Return or Enter. There is no crash but the MacOS fails to display a dialog box requested by Igor Engraver, and is waiting for you to ok it. Pressing Return or Enter will cancel the print command though, so you cannot print, but you will not have to restart.</p>
<p>I have tried the above, but printing still doesn't work!</p>	<p>Another possibility is that the print driver (print monitor) for your printer chokes on the files Igor Engraver sends. This can happen if your printer is not a PostScript printer, in which case Igor Engraver sends bitmap files that will print out with the same quality as the PostScript ones. However, these files can be very large and seem to be problematic for some print drivers. The solution here is to increase the memory for the driver (usually by increasing it in the memory settings in the info dialog for the print monitor for your printer). Increase it by several megabytes. Try 5MB; if that does not work try 10MB. You can also decrease the bitmap resolution in the Igor Engraver pane of the Print window.</p>

Questions	Answers
<p>I am experiencing a problem exporting EPS files. Adobe Illustrator says it is unable to parse the file. Is there a solution?</p>	<p>Yes. Use the Place... command instead of the Open... command in Illustrator's File menu to bring the picture into Illustrator. The problem is that Illustrator only understands a subset of the PostScript language, and Igor Engraver uses a text drawing command that Illustrator does not understand. If you use the Place... command, Illustrator will not try to interpret the PostScript code in the image but just send it to the printer as is, and therefore it does not matter what command is used in the picture.</p>
<p>When I try to create an IGP file, nothings happens. Why?</p>	<p>You need to have the Piece window active. Activate it and try again.</p>

APPENDIX E | Acknowledgements

Peter Bengtson, founder of NoteHeads and the designer of Igor Engraver:

‘Igor Engraver, the results of five years of continuous effort, is a large and extremely rich program. It came about because I had a vision of the perfect music notation tool, and by an odd chance was given the opportunity to make it real. Such a thing can perhaps be the vision of a single person, but turning such a comprehensive vision into reality can never be the work of just one man. Many people have indeed contributed to Igor Engraver. Even if I could, it would be impossible to thank each of those who have been involved in this large and complex project personally, but a few people deserve special mention.

First of all, I would like to thank Johan “Isidor” Kullbom, the principal software engineer involved in creating and developing Igor Engraver’s framework and internal engine which makes all the notational magic possible. A truly inspired and dedicated software artist, Isidor’s brilliance and dedication has meant everything to the project, and Igor Engraver would simply not exist without him.

Johan Lundberg is another person whose contribution cannot be overestimated. He took the administrative reins of the company at a time of dramatic change. He had the clarity of vision to see what we were trying to achieve, and he has since then provided NoteHeads with the continuity and stability it needed.

Many thanks also to the developers, Daniel Ståhl, Mats Ekelund, Johan Granström, Mattias de Zalenski, Jesper Pappmehl, Karl Åström, Håkan Lindström, Samuel Johannesson and Cons T Åhs. Your professionalism and craftsmanship has made Igor Engraver what it is today. You can truly be proud of what we have created together.

Last, but not least, I would also like to thank Tamara, Dolores, Anders and Maria for their support. Thanks for those glasses of wine, those cups of coffee, those dinners and all those warm and supportive words. Other people who have made life enjoyable are Christopher, Anna, Kerstin, Dick and the rest of the bunch. To you all my deepest and most earnest love and gratitude.’

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