

Fretspace

User Guide

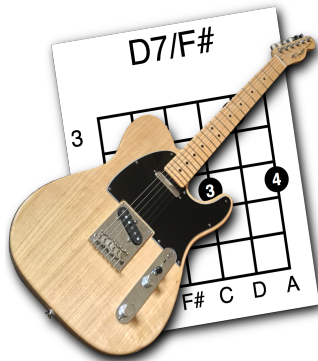


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Introduction

About Fretspace

Fretspace is a chord and scale editor for guitars and other fretted instruments. It allows you to create charts of chord, scale, and arpeggio shapes, and can be used to create charts for any fretted instrument in any tuning. You can create your own shapes by clicking to add and remove dots that represent fretted notes, or you can modify shapes by moving them around the fretboard or by inverting them to create new inversions. Fretspace will identify and label any chord or scale that you have created. Playing around with shapes in Fretspace is a great way to understand how the fretboard works for a particular instrument or tuning!

There are also chord and scale pickers that allow you to choose virtually any chord, scale, or arpeggio that is possible in the current tuning. Fretspace calculates fingerings for chord and scale shapes, and also allows you to change the fingering if you wish to do so. There are options for labelling the notes and degrees in a chord or scale shape, and for coloring the root notes. Charts can be printed, and shapes can be copied and pasted in PDF format to other programs. Most of the chord and scale shapes in this manual were copied directly out of Fretspace and pasted into Nisus Writer.

System requirements

Fretspace should run on any Mac with macOS 10.11 or later.

Help and support

Help and support are available from the **Help** menu.

Documentation

Select **Welcome** from the **Help** menu to display the **Welcome to Fretspace** dialog, which contains a **Readme** file and **Release Notes**.

Select **Fretspace User Guide** from the **Help** menu to view this manual on screen.

Select **Fretspace Tutorial** from the **Help** menu to display the *Using Fretspace* tutorial.

Support

Support is provided via a discussion forum where you can ask for help from other users and from the developer. To access this forum, click on **Support** in the **Help** menu. The discussion forum is also a place where you can discuss Fretspace and provide feedback.

About this manual

This is a reference manual, which provides detailed information about Fretspace functionality. If you are new to Fretspace, you might want to start by reading the accompanying tutorial, *Using Fretspace: A Guided Tour* (select **Fretspace Tutorial** from the **Help** menu).

If you are reading the manual or tutorial on screen, you can navigate around it by clicking on items within the Table of Contents, or by clicking on cross-references in the text. You can also navigate back to your starting place using the **Back** command (normal shortcut: ⌘[). Use the **Search** command in your PDF viewer to find items within the Table of Contents and elsewhere.

Typographical conventions

This manual (and the accompanying tutorial) uses a different font to identify words and phrases that represent user-interface items or keyboard shortcuts. Examples include: the **Copy** command in the **Edit** menu and its associated keyboard shortcut ⌘C.

In this example the symbol ⌘ represents the Command key, which is normally next to the space bar on keyboards. This is a modifier key, which you hold down while pressing the following key (C). Other keyboard symbols include:

- ⌘ The Command key, also labelled as `cmd`
- ⌥ The Option key, also labelled as `alt`
- ⌃ The Control key, usually labelled as `ctrl`
- ⇧ The Shift key
- ⌫ The Escape key, usually labelled as `esc`

Using Fretspace

Fretspace is a program for serious guitarists (and for anyone who is serious about playing any other kind of fretted instrument) at any level of ability: beginner, intermediate, or advanced. Making music with a guitar or similar instrument is one of the most fun things that you can do, and it gets more fun as you get better at it! Fretspace helps you to unlock the fretboard and find new ways to play chords and scales and see how they are related to each other.

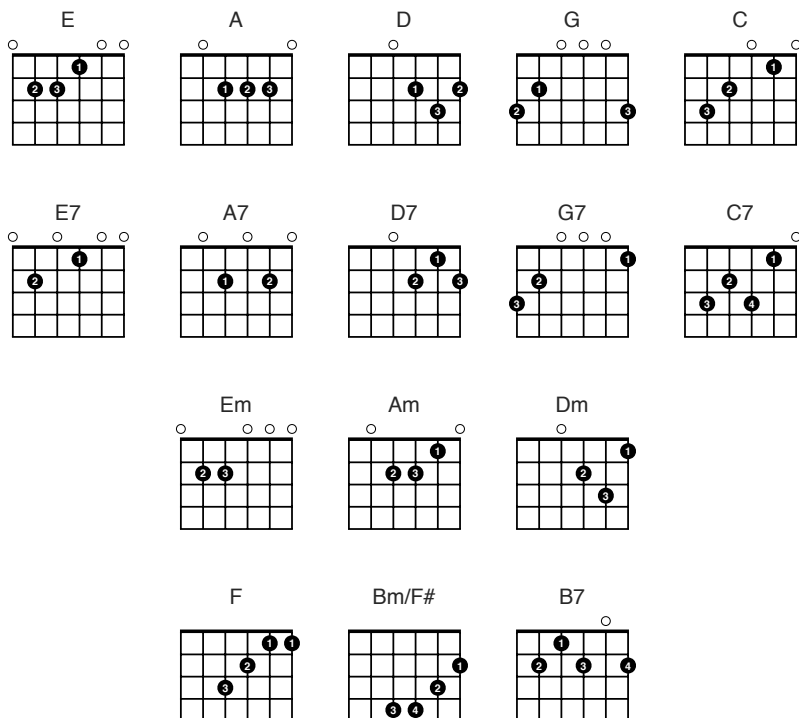
Fretspace contains chord and scale pickers that allow you to choose shapes for almost any possible chord or scale. Don't be intimidated! You don't need to be able to play every chord and scale that Fretspace offers. Fretspace includes exotic scales—such as the Double Harmonic scale—that few guitarists (or other musicians) play or have even heard of. If you are an advanced musician, or you are interested in exotic scales and chords, you can use Fretspace to explore them. Otherwise you can just ignore them.

A good way to use Fretspace is to create and print your own charts of any chords and scales that you wish to learn. See [Setting page size, orientation and scale](#) on page 26 if you want to print a chart at a larger scale so that you can read it more easily.

Fretspace for beginners

Playing chords

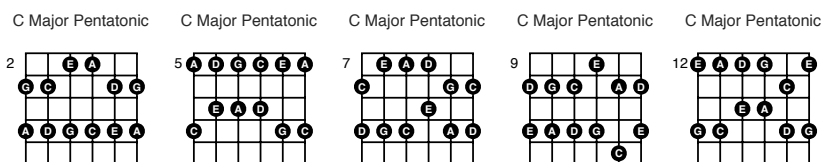
If you are a beginner, start with easy chords in first-fret position, such as the following guitar chords.



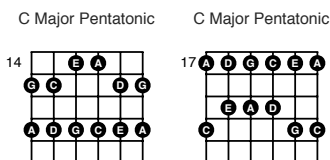
You can use Fretspace to print out your own version of this chart, and perhaps add some other chords, such as Em7, Am7, and Dm7 and alternative versions of E7 and A7.

Playing melodies

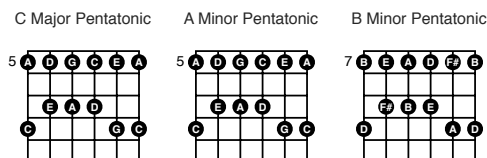
If you are interested in playing lead guitar, start by learning easy forms of the (standard) Pentatonic scale and move on from there to the Blues scale, which has one additional note. There are five main shapes of the Pentatonic scale, and these can be used to play melodies, fills and, riffs anywhere on the fretboard.



These shapes are repeated in the second octave of the fretboard. Here are the first two shapes in a higher octave.

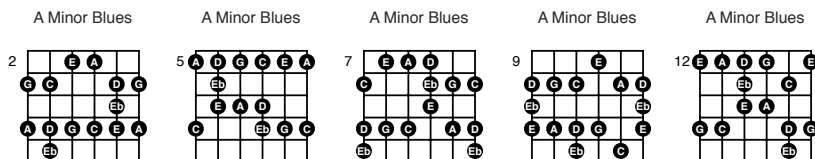


Notice that an A Minor Pentatonic scale is the same as a C Major Pentatonic scale, and that other scales can be created by moving these shapes along the fretboard: a B Minor Pentatonic scale is the same as an A Minor Pentatonic scale, two frets higher.

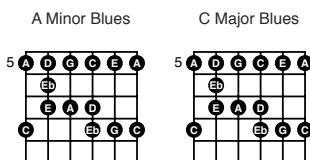


Effectively, this means that knowing five simple pentatonic shapes allows you to play in any key (major or minor) anywhere on the fretboard.

The five main shapes of the Blues scale are similar to the five main shapes of the Pentatonic scale, but they contain an extra (chromatic) blues note. Here are the five main shapes of the A Minor Blues scale.



The extra note in this scale is a flattened fifth (Eb). This gives an additional bluesy flavor to the sound of this scale. Notice that an A Minor Blues scale contains the same notes as a C Major Blues scale, where the extra chromatic note (Eb) is now a minor third.



You can use these shapes to play lead guitar for any blues song. The basic rules for playing blues leads are simple.

1. If the song is in the key of A minor or A major, you can use an A Minor Pentatonic or Blues scale over the entire song. Ditto for any other key: use a G Minor Pentatonic or Blues scale for songs in G minor, and so on.
2. If the song is in the key of A major, you can also use an A Major Pentatonic or Blues scale, although an A Minor Pentatonic or Blues scale sounds best over D chords. Ditto for any other key: you can use a G Major Pentatonic or Blues scale over the chords of a G major blues song, although G minor scales sound best over C chords.

The reason that an A Minor Pentatonic/Blues scale sounds best over D chords (in the key of A major) is because it contains the flattened seventh (C) of a D7

chord. By analogy, you can also use an E Minor Pentatonic scale over A7 chords and a B Minor Pentatonic scale over E7 chords.

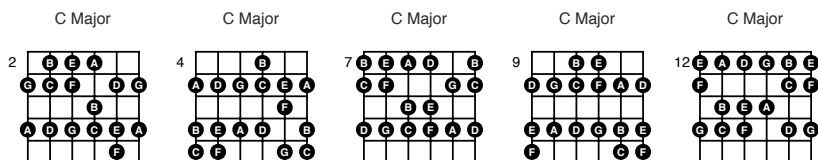
Other useful scale shapes include diagonal pentatonic shapes that allow you to move between different box positions, and are also helpful for memorizing note positions on the fretboard. See *Diagonal shapes* on page 80.

Use Fretspace to print out your own scale charts to learn from.

Fretspace for intermediate players

If you are at an intermediate level, you might want to look at different chord inversions and different types of chord, or you might want to use different tunings such as Drop-D and DADGAD, which are popular with folk guitarists. Listen to Davey Graham if you are interested in DADGAD!

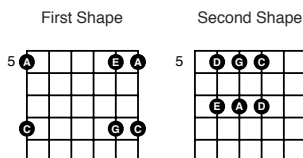
You could also move on from Pentatonic and Blues scales and learn the Major scale, starting with shapes that are most similar to the Pentatonic shapes that you already know. Use Fretspace to create your own chart with the following shapes.



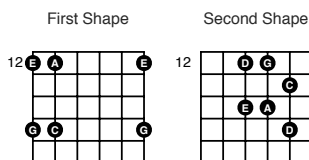
Analyzing scale shapes

It's worth noting that scales can be reduced to a collection of single-string shapes. The standard Pentatonic guitar shapes that are listed in the *Fretspace for beginners* section can be reduced to just two single-string shapes that are repeated on different strings. For the C Major Pentatonic scale, the two string shapes that are repeated are (1) E-G, A-C and (2) D-E, G-A, C-D. The same string shapes occur in scale shapes at different fret positions, and the sequence of string shapes remains the same, although the starting point changes. If we take the scale shape that is played at the fifth fret position, the first of these

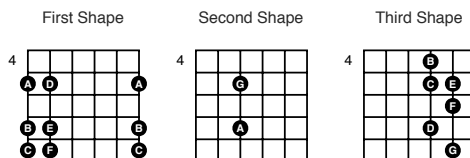
string shapes is played on the second and first strings (and duplicated on the sixth string), and the second shape is played on the fifth, fourth, and third strings.



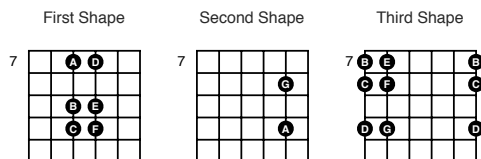
The same string shapes are used for scale shapes at other fret positions. Here they are at the twelfth fret position: the first string shape is played on the sixth and fifth strings (and duplicated on the first string), and the second shape is played on the fourth, third, and second strings.



Seven-note Major scale shapes (for guitar) can also be reduced to three single-string shapes. For the C Major scale the string shapes are: (1) A-B-C, D-E-F, (2) G-A, and (3) B-C-D, E-F-G. If we take the shape that is played at the fourth fret position, the first of these shapes is played on the sixth and fifth strings (and duplicated on the first string), the second shape is played on the fourth string, and the third shape is played on the third and second strings.



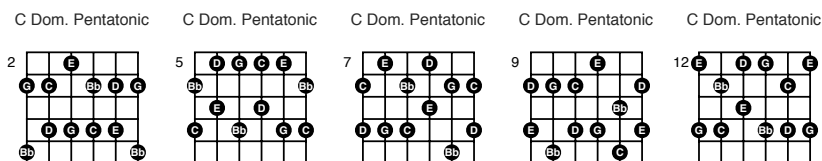
Here are the same shapes at the seventh fret position.



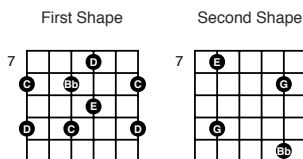
In this way, five different shapes of the Major scale are reduced to three single-string shapes, which always occur in the same order: a three-note shape repeated twice (A-B-C and D-E-F), a two-note shape (G-A), and another three-note shape repeated twice (B-C-D and E-F-G). The sequence then repeats, so that the third string shape is followed by the first string shape. The same sequence of string shapes is used at different fret positions, although the starting point differs.

Dominant Pentatonic scale

Another scale that you might want to learn is the Dominant Pentatonic scale. Use Fretspace to create your own version of the following chart.



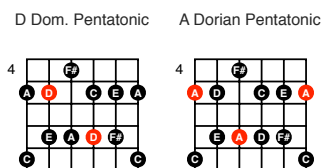
The C Dominant Pentatonic scale contains the same notes as a C Major Pentatonic scale, except that A is replaced by Bb, the dominant seventh note of a C7 chord. You can use a dominant pentatonic scale over any dominant chord from the same root (C Dominant Pentatonic over C7 and so on). There are two string shapes in this scale. At the seventh fret position they are:



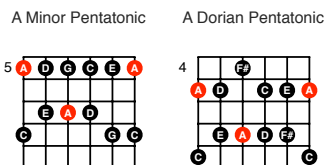
The first shape is used on the sixth, fourth, and third strings (and repeated on the first string) and the second shape is used on the fifth and second strings.

Dorian Pentatonic scale

Another useful pentatonic scale is the Dorian Pentatonic scale. This is related to the Dominant Pentatonic scale in that an A Dorian Pentatonic scale contains the same notes as a D Dominant Pentatonic scale: in music terminology they are two modes of the same scale.



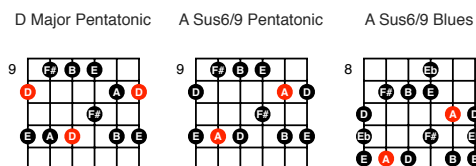
The Dorian Pentatonic scale can also be seen as a Minor Pentatonic scale in which the minor seventh note has been replaced by a major sixth:



The Dorian Pentatonic is used by blues guitarists such as Robben Ford to give a jazzy flavor to blues solos. There is a matching blues scale (the Dorian Blues scale) which adds a flattened fifth.

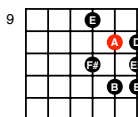
Sus6/9 Pentatonic scale and the B. B. King blues box

The Sus6/9 Pentatonic scale is one of the modes of the standard Pentatonic scale: an A Sus6/9 Pentatonic scale contains the same notes as a D Major Pentatonic scale, and can be converted into an A Sus6/9 Blues scale with the addition of a flattened fifth:



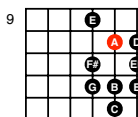
This particular shape is interesting, because the notes on the top three strings correspond to a shape that B. B. King used, which has become known as the B. B. King blues box.

A Blues Box



This shape is particularly useful for blues solos, because it contains notes that are not in the standard Minor Blues scale and which add color to that scale: specifically the second (or ninth) note (B in this case) and the sixth note (F# in this case). In addition, these two notes can also be bent by a semitone to add two notes from the standard Minor Blues scale: bending B to C in this case gives us a minor third, and bending F# to G gives us a minor seventh. Bending also gives us other notes: the second note (B) can be bent by two semitones to add a major third (C#) or by three semitones for a fourth (D), and the sixth note (F#) can be bent by two semitones to add a major seventh (G#), which you might use over an E chord. The minor third and minor seventh of the standard Minor Blues scale can also be added as fretted notes:

A Blues Box



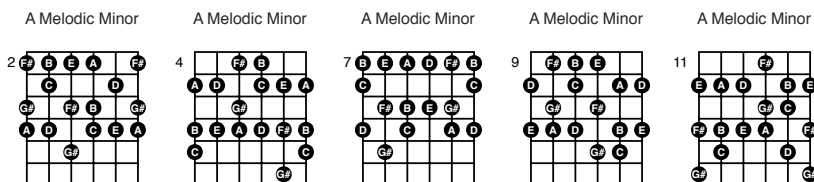
You can use the B. B. King blues box with blues songs that use major or dominant chords, but you should generally avoid using it with minor progressions: in an A minor blues with Am, Dm, and Em chords the F# will clash with the F natural of Dm.

Fretspace for advanced players

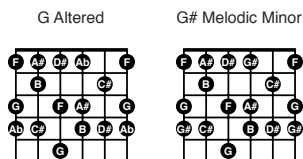
If you are an advanced player, you can use Fretspace to explore additional chords and scales. You might want to learn altered dominant chords, and your next step after the Major scale (and its modes) might be the Melodic Minor scale and its modes.

Melodic Minor and other scales

Use Fretspace to create your own chart with the following shapes.



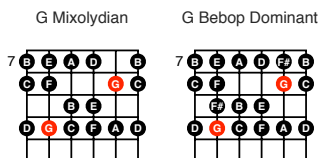
The seventh mode of the Melodic Minor is the scale that jazz guitarists commonly play over an altered dominant chord. An Altered scale is the same as a Melodic Minor scale that is a semitone higher.



Other useful scales include: the Harmonic Minor and its modes, the Harmonic Major and its modes, the Diminished scale, the Whole-Tone scale, and Bebop scales. You might also want to experiment with exotic scales, such as the Double Harmonic scale or the Neapolitan scales.

Bebop scales

Bebop scales are eight-note scales that have a chromatic passing note, typically between the minor seventh and root of the scale, or between the fifth and sixth if there isn't a minor seventh. This additional note is helpful when improvising, because it makes it easy to outline chord tones: if you start a Bebop scale with a chord tone, every second note in the scale will also be a chord tone. For example, if you play an ascending Bebop Dominant scale starting on the root, successive alternate notes will fall on the third, fifth, seventh, and octave of a dominant seventh chord: G, B, D, F, and G in the case of the G Bebop Dominant scale. The G Bebop Dominant scale is identical to a G Mixolydian scale with the addition of a chromatic passing note (F#) between the seventh note (F) and the root (G):



Arpeggios

If you feel that your playing is too scalar, you can break up scale runs by using arpeggio shapes, which contain larger intervals and emphasize chord tones.

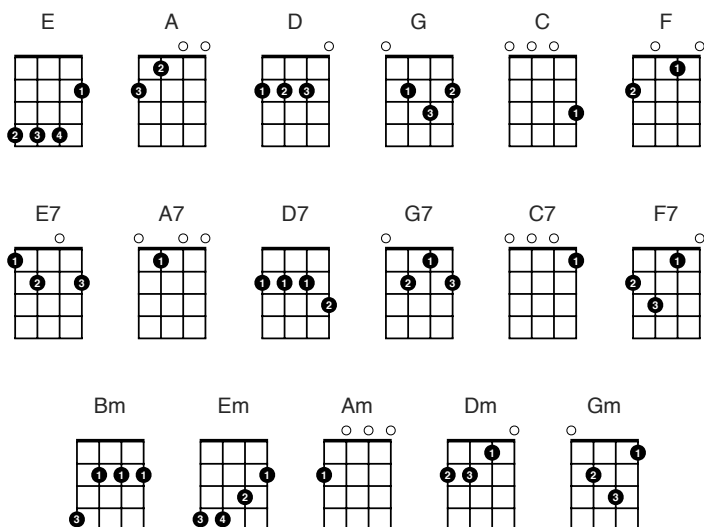
You can use Fretspace to create charts of common arpeggios, such as m7, 7, and maj7 arpeggios.

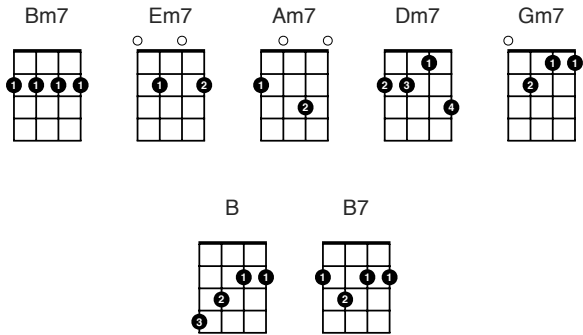
Unusual tunings

Alternatively, if you are interested in unusual guitar tunings, such as Fourths or “New Standard Tuning” (see [6-string tunings](#) on page 42), you can use Fretspace to explore them!

Fretspace for non-guitarists

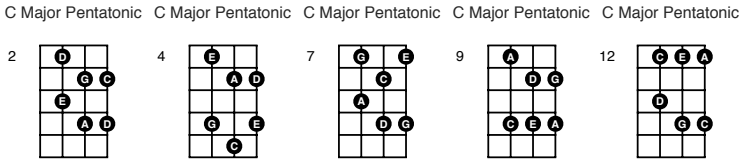
Fretspace can be used to explore chords and scales on any fretted instrument. This manual mostly uses examples from standard guitar tuning, but you can make up your own examples for other instruments. Here are some ukulele chord shapes.





If you play ukulele, you could use Fretspace to create your own version of this chart, and print it out to use while practicing.

Here are the five main pentatonic ukulele scale shapes.



If you play a different instrument, you can use Fretspace to create chord and scale charts for that instrument.

Chapter 1: Documents

Managing documents

Options for managing documents can be found in the File menu. These are standard options that behave the same way in most Mac programs.

Creating a new document

Select **New** from the File menu (or use the keyboard shortcut **⌘N**) to create a new document.

Opening an existing document

Select **Open...** from the File menu (shortcut: **⌘O**) to open an existing document. Alternatively, select **Open Recent** from the File menu to open a recent document.

Closing and saving documents

Select **Close** from the File menu (shortcut: **⌘W**) to close a document. Fretspace will prompt you if you have unsaved changes. To close all documents, hold down the Option key and select **Close All** from the File menu (shortcut: **⌘W**). An alternative way of closing a document is to click on the red button at the top left of the window. If a window contains several tabs, select **Close Tab** (shortcut: **⌘W**) to close the document that is currently displayed. You can also close tabs by clicking on the x icon on the left of a tab.

Select **Save** from the File menu (shortcut: **⌘S**) to save a document. If you have not previously saved this document, Fretspace will display a dialog asking you for a file name and a location to save the document.

Like most other modern Mac programs, Fretspace automatically saves any documents that you are working on, so there is no need for you to keep saving them manually. However, saving a document manually creates a “version” of

the document. You can revert to previous versions using the **Revert** command (see *Reverting a document*, below).

Duplicating documents

Select **Duplicate...** from the **File** menu (shortcut: ⌘⌘S) to duplicate the current document. To save the current document under a new name, hold down the **Option** key and select **Save As...** (shortcut: ⌘⇧S) from the **File** menu.

Renaming a document

Select **Rename...** from the **File** menu to rename a document. You can also rename a document by clicking on its name in the title bar of the window and typing a new name in the popup dialog.

Moving a document

Select **Move To...** from the **File** menu to move a document to a different location. You can also move a document by clicking on its name in the title bar of the window and choosing a new location in the popup dialog.

Reverting a document

Select **Revert To** from the **File** menu if you wish to revert to an earlier version of a document. You can easily revert to the last saved version, or the last opened version, or you can choose **Browse All Versions...** to revert to any previous version.

Printing documents

Setting page size, orientation and scale

Select **Page Setup...** from the **File** menu (shortcut: ⌘⌘P) to define the size, orientation, and scale of a printed page or exported PDF file.

This is an important command because it determines how much content you can fit on a page, and how large the content will be when it is printed. You

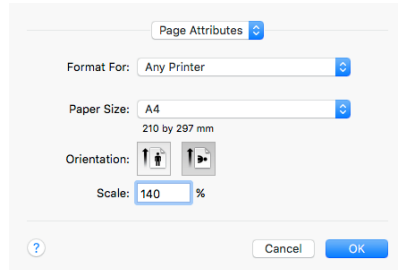
might want the content to be larger, so that you can read it more easily, or you might want it to be smaller, so that you can fit more on a page.

Paper Size should be the size of paper that you intend to print on.

Orientation allows you to choose whether to print in portrait orientation (this is the first option and is the normal way of orienting a page, so that its height is greater than its width) or landscape orientation (this is the second option: the page is turned on its side so that its width is greater than its height).

Scale defines the scale at which content is printed. Choose a smaller scale if you wish to fit more content on a page, or a larger scale if you want the content to be larger.

If you want to print at a larger scale, and you normally print on A4 paper, you could increase the scale to 140% and choose landscape orientation. This will fit the same number of items on a line, but there will be fewer lines on a page.



Alternatively, if you have an A3 printer, you could select A3 paper size and 140% scale. This will format pages so that they look identical to A4 pages at 100% scale, except that the items on the printed page will be larger.¹

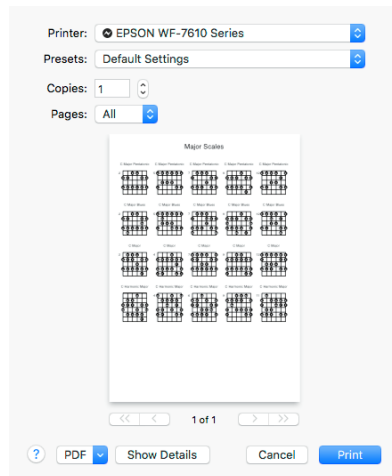
The size, orientation, and scale that you select determine the way that charts are printed, and they also determine the way that charts are displayed on

1. If you want to print at a smaller scale, you might logically choose A5 paper and set the scale to 70% (half of 140%). However, you might find that this causes charts to be reformatted, because the imageable width of A5 paper is slightly less than half the imageable width of A3 paper when borders are added. If this happens, try using a slightly smaller scale, such as 69%.

screen when **Fixed Layout** (the default layout option) is selected in the **Chart** menu. With this option selected, charts are divided into separate pages that are laid out identically on screen to the way that they will be printed. If you want to fit more content on a page, and you don't mind the content being smaller when it is printed, choose a scale that is smaller than 100% and see how the content is formatted in Fretspace (with **Fixed Layout** selected). Adjust the scale until you are happy with the way that the content is formatted.

Printing a chart

Select **Print...** from the **File** menu (shortcut: **⌘P**) to print the current chart. The printed chart will look the same as it does on screen (if you have the **Fixed Layout** option selected) except that boxes that are drawn in blue on screen (to show that they are selected) will be printed in black, and paragraph symbols are not printed. The **Print** dialog shows a preview of what the printed chart will look like.

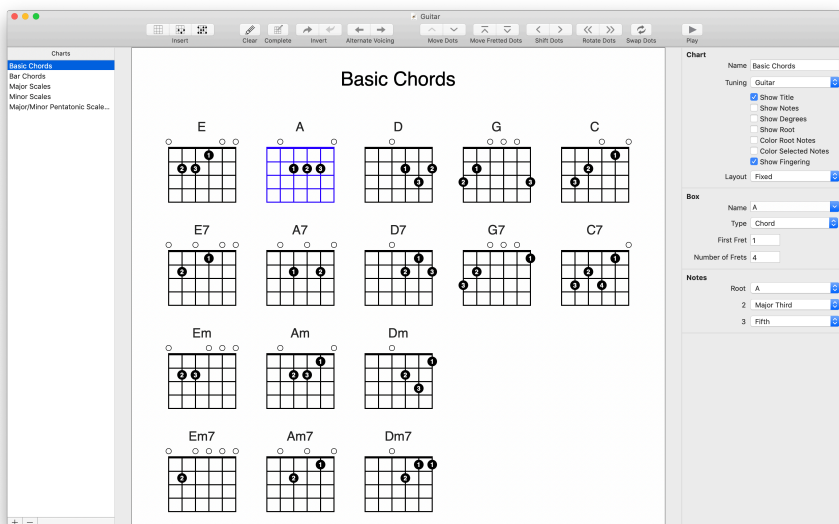


You can print multiple copies of a chart by typing the number of copies that you wish to print in the **Copies** field of the dialog.

Chapter 2: Windows

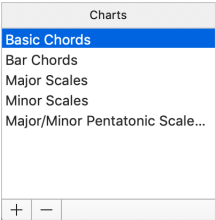
Window areas

The Charts panel, main area, and Inspector panel

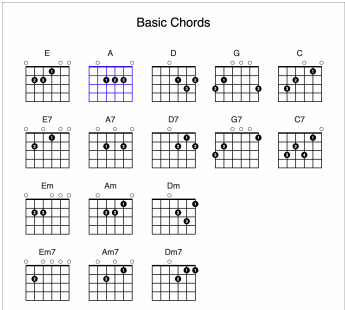


Fretspace windows are divided into three main areas:

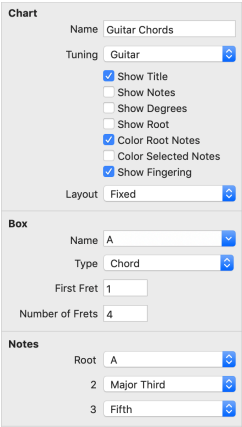
1. The left of the window contains the Charts panel, which lists all the charts that are in the current document. You can add new charts by clicking on the + (plus) button at the bottom of this panel, and you can delete charts by clicking on the - (minus) button at the bottom of the panel. You can switch between charts by selecting the chart that you wish to be displayed. You can also reorder charts by dragging them to a different position within the Charts panel.



2. The area in the middle of a window displays charts containing chord, scale, and arpeggio shapes (blue indicates a selected shape).



3. An Inspector panel to the right of the window displays information about charts and boxes, and allows you to change their properties.



Toolbar

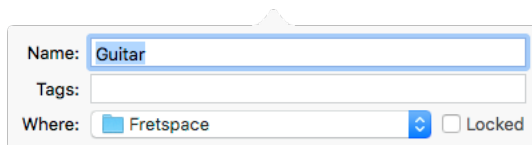
Fretspace displays a toolbar near the top of the window.



This contains tools that allow you to perform common operations. You can hide the toolbar by selecting **Hide Toolbar** (shortcut ⌘T) from the **View** menu, and you can show it again by selecting **Show Toolbar** (same shortcut). You can also customize the toolbar by selecting **Customize Toolbar...** from the **View** menu.

Title bar

The top of a window contains a title bar which displays the title of the current document. If you click on this, it displays a pop-up dialog that allows you to rename the current document or move it to a different location.



The title bar also displays information about whether a document has been edited since it was last saved.

At the left of the title bar are three standard window buttons: a red button which closes the window, an amber button which minimizes it, and a green button that switches into full-screen mode (or zooms the window to maximum size if you hold down the **Option** key).

Full-screen mode

If you wish to use Fretspace in full-screen mode, select **Enter Full Screen** (shortcut: ⌘F) from the **View** menu or click on the green button at the top left of the window. This resizes the current window so that it takes up the whole of the screen, with the menu bar hidden unless you move the mouse to the top

of the screen. You can exit from full-screen mode by selecting **Exit Full Screen** (same shortcut: `⌘F`) from the **View** menu after moving the mouse to the top of the screen, or by pressing the **Escape** key, or by clicking a second time on the green window button (after moving the mouse to the top of the screen).

Managing windows

Minimizing windows

Select **Minimize** from the **Window** window (shortcut: `⌘M`) to minimize windows. A minimized window is shrunk and placed in the Dock. An alternative way to minimize windows is to click on the amber button near the top left of the window.

Zooming windows

Select **Zoom** from the **Window** menu to zoom windows. Zooming a window sets it to its maximum size, or returns it to its previous size if you select it a second time. An alternative way to zoom windows is to hold down the **Option** key and click on the green button near the top left of the window.

Switching windows

You can switch between windows by selecting them from the **Window** menu. You can also cycle between windows by pressing `⌘~`.

Switching tabs

If a window contains several tabs, you can switch between them by pressing `⌘⇧T` (Control-Tab) to move to the next tab or `⌘⇧⇧T` (Control-Shift-Tab) to move to the previous tab.

Chapter 3: Charts

Managing charts

A Fretspace document contains charts of chord, scale, and arpeggio shapes. You can manage charts using the **Charts** panel on the left of the window, or by selecting options from the **Chart** menu, or by changing properties in the **Chart** section of the **Inspector** panel.

Creating a new chart

You can create a new chart by selecting **New Chart** (shortcut: `⌘N`) from the **Chart** menu, or by clicking on the **+** button at the bottom of the **Charts** panel.

Naming a chart

You will generally want to give charts a descriptive name, so that you can identify them easily. You can do this by clicking on the name of the chart in the **Charts** panel, after first selecting it, or by entering a name in the **Name** field of the **Chart** section of the **Inspector** panel.

If you don't name charts, Fretspace numbers them as "Chart 1", "Chart 2" etc. according to their order within the **Charts** panel.

Reordering charts

You can reorder charts by dragging them to a different position in the **Charts** panel.

Deleting a chart

You can delete a chart by selecting it and clicking on the **-** (minus) button at the bottom of the **Charts** panel, or by choosing **Delete** from the **Edit** menu (shortcut: `Backspace`).

Copying and pasting charts

Use the standard Cut (shortcut: ⌘X), Copy (shortcut: ⌘C), and Paste (shortcut: ⌘V) commands in the Edit menu to cut, copy, and paste selected charts. You can also copy charts by dragging them onto the Charts panel of another document.

Duplicating charts

Select Duplicate from the Edit menu (shortcut: ⌘D) to duplicate selected charts. Another way to duplicate a chart is to click on it in the Charts panel and drag it while holding the Option key. A plus sign is displayed next to the mouse cursor to indicate that the chart will be duplicated instead of moved.

Adding content

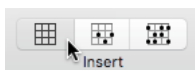
The second section of the Chart menu contains commands for adding content to a chart. There are options for adding boxes, chord shapes, scale and arpeggio shapes, and paragraph breaks. Some of this functionality is also duplicated by tools in the toolbar.

Insert Box	⌘B
Insert Chord...	⌘K
Insert Scale / Arpeggio...	⌘L
Insert Break	↶

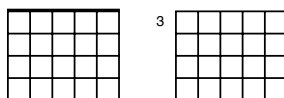
Boxes and other content are inserted after the currently selected item, or after the last selected item if more than one item is selected, or at the end of the chart if no items are currently selected.

Adding a box

Select Insert Box from the Chart menu (shortcut: ⌘B) to add an empty box. Alternatively, click on the Insert Box tool in the toolbar.



Boxes represent areas of the fretboard, with vertical lines representing strings and horizontal lines representing frets. A box which starts at the first fret has a thick line above it which represents the nut (at the start of the fretboard). The second horizontal line is the first fret at which notes can be fretted. A box which starts after the first fret displays a fret number to the left of (and above) the second line. There are 24 possible fret positions, but this is a maximum number, since many instruments contain fewer than 24 frets.



The number of frets and strings in a newly added box depends upon the currently selected tuning. For standard guitar tuning, Fretspace inserts boxes that contain six strings and four frets starting at the first fret.

Adding chords

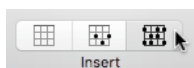
Select Insert Chord from the Chart menu (shortcut: ⌘K) to add a chord shape. Alternatively, click on the Insert Chord tool in the toolbar.



Fretspace displays a chord picker that allows you to choose virtually any chord that can be played in the current tuning. The chord picker is described in detail in [Chapter 5: Chord Picker](#) on page 69.

Adding scales and arpeggios

Select Insert Scale / Arpeggio from the Chart menu (shortcut: ⌘L) to add a scale or arpeggio shape. Alternatively, click on the Insert Scale / Arpeggio tool in the toolbar.



Fretspace displays a scale and arpeggio picker that allows you to choose almost any scale or arpeggio that can be played in the current tuning. The scale and arpeggio picker is described in detail in [Chapter 6: Scale/Arpeggio Picker](#) on page 77.

Adding a paragraph break

Press **Return** or select **Insert Break** from the **Chart** menu to add a paragraph break. This ends the current section of boxes, so that the next box after a break is displayed on a new line.

Paragraph breaks are normally invisible, unless they are selected, in which case they are drawn with a paragraph symbol (¶).

Selecting content

You can select boxes and other content that you wish to edit, copy, delete, move, or duplicate. Selected boxes are drawn in blue instead of black, and selected paragraph breaks are drawn with a blue paragraph symbol instead of being invisible.

Selecting content with the mouse

You can select boxes and other content by clicking on them. This will normally deselect the previously selected item or items, but you can select multiple items by holding down the **Shift** or **Command** key while clicking. **Command**-clicking selects item you click on in addition to previously selected items. **Shift**-clicking is similar, except that it also selects all items between the clicked item and the most recently selected item.

You can also select multiple items by dragging a rectangle around them as you would in the **Finder**. Once again, you can use the **Shift** or **Command** key to add these items to a previous selection.

Selecting content with arrow keys

You can also select content using arrow keys.

← (left-arrow) selects the item before the currently selected item, or after the most recently selected item if there is more than one selected item, or the last item in a chart if there is no currently selected item.

→ (right-arrow) selects the item after the currently selected item, or after the most recently selected item if there is more than one selected item, or the first item in a chart if there is no currently selected item.

↑ (up-arrow) selects the item above the currently selected item or above the most recently selected item if there is more than one selected item, or the last item in a chart if there is no currently selected item.

↓ (down-arrow) selects the item below the currently selected item or below the most recently selected item if there is more than one selected item, or the first item in a chart if there is no currently selected item.

If you hold the Shift key while pressing one of the arrow keys, Fretspace adds new items to the current selection. If you hold down the Option key while pressing one of the arrow keys, the selection is moved (or extended) to the start of the chart (Option ↑), end of the chart (Option ↓), start of the current line (Option ←), or end of the current line (Option →).

Selecting all content

Choose Select All from the Edit menu (shortcut: ⌘A) to select all content in a chart.

Deleting content

You can delete selected content by pressing Backspace or by choosing Delete from the Edit menu.

Deleting a paragraph break

You can delete paragraph breaks in the same way that you delete other content. Select the break by clicking on it or by using arrow keys to select it, then press Backspace or choose Delete from the Edit menu.

Moving content

You can move items within a chart by clicking on them and dragging them to a new position. Fretspace displays an insertion point that shows where the content will be positioned if you stop dragging.

Duplicating content

Duplicating items with Duplicate

Select **Duplicate** from the **Edit** menu (shortcut: ⌘D) to duplicate selected items.

Duplicating items with Option-drag

Another way of duplicating items is to click on them and drag them while holding the **Option** key. A plus sign is displayed next to the mouse cursor to indicate that the items will be duplicated instead of moved.

Copying and pasting content

Use the standard **Cut** (shortcut: ⌘X), **Copy** (shortcut: ⌘C), and **Paste** (shortcut: ⌘V) commands in the **Edit** menu to cut, copy, and paste selected items.

Copying and pasting within Fretspace

When you paste items within Fretspace, they are pasted after the currently selected item, or after the last selected item if more than one item is selected, or at the end of the chart if no item is currently selected.

Copying and pasting to other applications

You can copy and paste boxes from Fretspace to other applications. In this case the boxes are copied as vector graphics in PDF format, which means that they can be rescaled in other applications (such as a word processor or page-layout program) without being degraded. Most of the chord and scale shapes in this

manual were copied directly out of Fretspace and pasted into Nisus Writer (where they were rescaled).

Exporting content

Exporting a chart

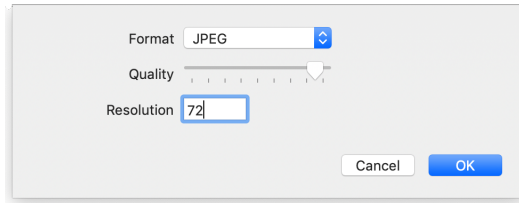
You can export a chart in PDF format by choosing **Export Chart** from the **File** menu. The PDF page size is determined by the **Page Setup** dialog. See [Setting page size, orientation and scale](#) on page 26.

Fretspace will ask you to choose a folder where the exported file will be saved. The file is named after the chart title, except that spaces are replaced by underscores and forward slashes (which are not valid within file names) are replaced by percent symbols. If you export two charts with the same name, or export the same chart twice, Fretspace will append an underscore followed by a digit to the second file (e.g. a second “Guitar Scales” PDF will be named `Guitar_Scales_2.pdf`).

Exporting boxes

You can export boxes as PDF, PNG, or JPEG graphics. Select the boxes that you wish to export, and choose **Export Boxes...** from the **File** menu. The menu title specifies the number of boxes that are currently selected (e.g. **Export 4 Boxes...**)

Fretspace will display a dialog that allows you to choose a file format. This may be PDF, which is a vector format that is resolution-independent and can be used in word processors and layout programs, or it can be a bitmap format such as PNG or JPEG. If you choose a bitmap format, you can change the bitmap resolution from 72 pixels per inch (standard resolution) to 144 pixels per inch (high resolution) or some other value. If you choose JPEG format, you can also specify the quality of the JPEG image: the default quality is 85%, but choosing a lower quality will create smaller files.



Once you have chosen a format and other options, Fretsplace will ask you to choose a folder where the exported images will be saved. Images are named after the box label, except that spaces are replaced by underscores and forward slashes (which are not valid within file names) are replaced by percent symbols. If you export two boxes with the same name, Fretsplace will add an underscore followed by a digit to the second file name (e.g. a second “E7” PNG file will be named E7_2.png).

Undo and redo

Undoing changes

Select Undo from the Edit menu (shortcut: ⌘Z) if you wish to undo changes that you have made. Almost anything that you do in Fretsplace can be undone, and you can undo multiple changes by choosing Undo repeatedly. The title of the Undo option normally identifies the operation that can be undone: if you delete a chart, it will say Undo Delete Chart; if you duplicate a box it will say Undo Duplicate Box (and so on).

Redoing changes

Select Redo from the Edit menu (shortcut: ⇧⌘Z) if you wish to redo an operation that you have previously undone. As with Undo, the title of the Redo option normally identifies the operation that can be redone.

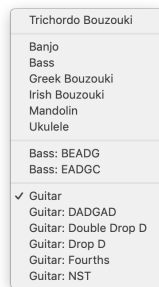
Chart tunings

Charts have a tuning which identifies the instrument and tuning for which they are intended. When you add a box, or chord, or scale, or arpeggio to a chart, it will default to this tuning. It is possible to have a chart that contains multiple tunings, and there are a few cases where this can be useful, but generally it is less confusing for all boxes within a chart to use the same tuning.

Fretspace initially defaults to standard guitar tuning. If you normally use a different guitar tuning, or play a different instrument, use the the **Default Tuning** popup in the **General** section of the **Preferences** dialog to select your preferred tuning.

Changing a chart tuning

When you create a new chart, it uses the default tuning (as specified in the **General** section of the **Preferences** dialog). You can use the **Tuning** popup in the **Chart** section of the **Inspector** panel to change the chart tuning.



The **Tuning** menu groups tunings into different sections according to the number of strings (or pairs of strings) that are used. Within each section, tunings are ordered alphabetically.

Fretspace provides the following pre-defined tunings:

3-string tunings

Trichordo Bouzouki : standard DAD tuning for bouzouki with three pairs of strings

4-string tunings

Banjo : standard DGBD tuning for the first four strings of a five-string banjo. Banjos commonly have five rather than four strings, and the fifth string starts five frets above the other strings. Since it is usually not fretted, banjo shapes are typically shown with four strings rather than five strings.²

Bass : standard EADG tuning for bass guitar.

Greek Bouzouki : standard CFAD tuning for Greek bouzouki.

Irish Bouzouki : standard GDAD tuning for Irish bouzouki.

Mandolin : standard GDAE mandolin tuning.

Ukulele : standard GCEA ukulele tuning.

5-string tunings

Bass: BEADG : BEADG tuning for five-string bass guitar.

Bass: EADGC : EADGC tuning for five-string bass guitar.

6-string tunings

Guitar : Standard EADGBE guitar tuning.

2. If you wish to use banjo shapes that include all five strings, starting at the fifth fret or higher, you can do this by creating a Banjo tuning with **D4** as the pitch of the fifth string. The actual pitch of the fifth string is G4, but since the string starts at the fifth fret, **D4** will give the correct note values for chord shapes in which the fifth string is fretted. If the fifth string is not fretted, you can either use a four-string tuning or create another five-string tuning in which the fifth string is **G4** (but don't place any dots on it). Fretspace allows you to mix boxes with different tunings on the same page. Normally this would be confusing, but this is one situation where you might legitimately wish to do so.

Guitar: DADGAD : DADGAD guitar tuning.

Guitar: Double Drop D : DADGBD guitar tuning (first and last strings are dropped two semitones from E to D).

Guitar: Drop D : DADGBE guitar tuning (bass string is dropped to D).

Guitar: Fourths : EADGCF guitar tuning (all strings are tuned a fourth apart).

Guitar: NST : CGDAEG guitar tuning. NST stands for “New Standard Tuning”. This tuning was invented by Robert Fripp (King Crimson guitarist) and taught in Guitar Craft and Guitar Circle courses. Most strings are tuned a fifth apart, except for the first string, which is tuned a minor third from the second string.

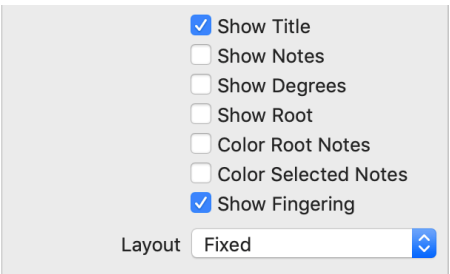
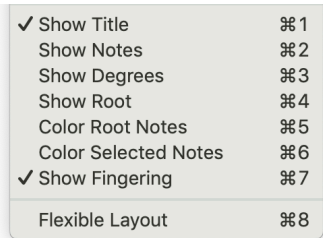
If you use a tuning that isn’t listed here, you can add a new tuning using the Tunings section of the Preferences dialog (see [Tunings Preferences](#) on page 84).

If you change the tuning of a chart that already contains content, Fretspace will change the boxes in the chart to reflect the new tuning, and any existing chord and scale shapes might or might not make much sense in the new tuning (depending on how similar the tunings are).

On the other hand, if you paste a box whose tuning does not match the chart tuning, Fretspace will assume that you know what you are doing and will allow you to have boxes with different tunings in the same chart. Boxes whose tuning doesn’t match the chart tuning will display their own Tuning popup, so you can change the tuning to match the chart tuning if you wish to.

Chart display options

The options that follow the Tuning popup in the Chart section of the Inspector panel can be used to change the way that a chart and its content are displayed. Except for Layout these options also change the way that charts are printed, so that what you see on screen matches what you see when a chart is printed. These options are also found in the Chart menu.



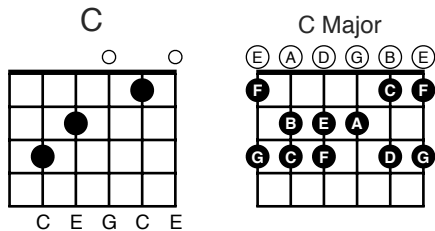
Show Title

Selecting this option causes the title of a chart to be displayed at the top of a chart. This is a useful way of identifying charts when they are printed. When titles are shown, they can also be edited directly on the page (as well as in the Name field of the Inspector panel and in the Charts panel).

Another way to select this option is to choose Show Title from the Chart menu (shortcut: ⌘1).

Show Notes

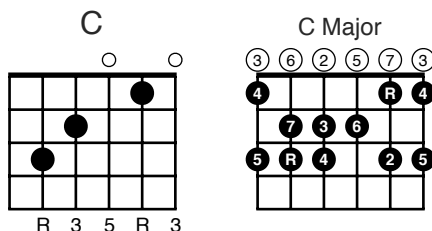
It is often useful to see which notes are used in a chord or scale or arpeggio. The Show Notes option causes notes to be displayed underneath a chord box, or inside the dots of a scale or arpeggio box. If you previously selected Show Degrees or Show Root, these options will be deselected, since it is not possible to show notes and degrees simultaneously.



Another way to select this option is to choose **Show Notes** from the **Chart** menu (shortcut: ⌘2).

Show Degrees

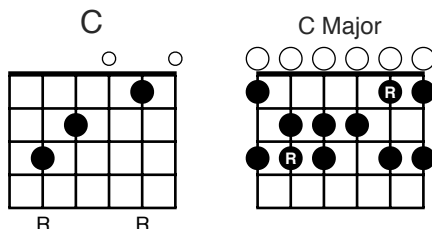
Instead of displaying notes, you might choose to display the chord or scale degrees (second, third etc.) of a chord, scale, or arpeggio. Chord degrees are displayed underneath the box, while scale and arpeggio degrees are displayed inside the note dots. If you previously selected **Show Notes** or **Show Root**, these options will be deselected.



Another way to select this option is to choose **Show Degrees** from the **Chart** menu (shortcut: ⌘3).

Show Root

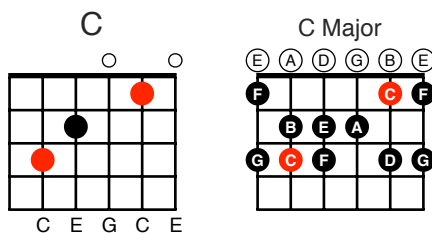
This option is similar to **Show Degrees**, except that it only indicates the root of a shape. If you previously selected **Show Notes** or **Show Degrees**, these options will be deselected.



Another way to select this option is to choose **Show Root** from the Chart menu (shortcut: ⌘4).

Color Root Notes

This option identifies root notes by coloring them red. In contrast to the **Show Root** option, it can be combined with **Show Degrees** or **Show Notes**.



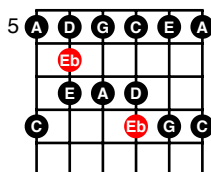
Another way to select this option is to choose **Color Root Notes** from the Chart menu (shortcut: ⌘5).

Color Selected Notes

This option can be used in conjunction with the **Select Notes** option in the **Box** section of the **Inspector** panel. It allows you to color notes other than the root note (e.g. flattened notes in Blues scales).

Another way to select this option is to choose **Color Selected Notes** from the Chart menu (shortcut: ⌘6).

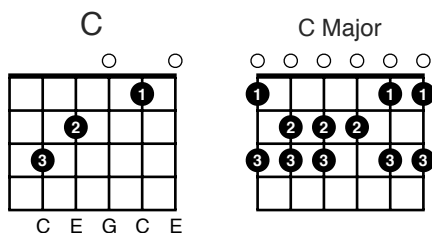
A Minor Blues



Show Fingering

This option shows the fingering for a chord, scale, or arpeggio shape. Fretspace calculates fingerings automatically, but you can change this to reflect your own preferred fingering by selecting *Edit Fingering...* from the **Box** menu (see *Editing fingering* on page 65).

In the case of chord shapes, where notes and degree values are displayed beneath a box, it is possible to display fingerings alongside notes or degrees. In the case of scales and arpeggios, fingerings are not displayed when notes or degrees are displayed.



Another way to select this option is to choose **Show Fingering** from the **Chart** menu (shortcut: ⌘7).

Layout

The final option in the Chart section of the Inspector panel allows you to choose between **Fixed** and **Flexible** layout. **Fixed** layout uses the same layout that is used when a chart is printed, so that what you see on screen matches what you will see on printing. With this layout option, charts are displayed within one or more pages that match the size, scale, and orientation of printed pages. (See *Setting page size, orientation and scale* on page 26.)

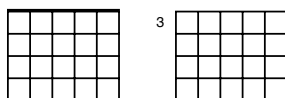
Flexible layout is an alternative layout option that may be more useful for viewing charts on screen. With flexible layout, charts are displayed within a single page that resizes to fit the size of the window on screen—if you make a window smaller or larger, the content will be rearranged to fit the new size. Note that this has no effect on the way that charts are printed. If you intend to print a chart, you might wish to switch back to **Fixed** layout in order to see how the chart will appear when it is printed.

Another way to select this option is to choose **Flexible Layout** or **Fixed Layout** from the **Chart** menu (shortcut: ⌘8).

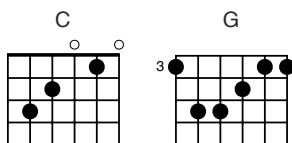
Chapter 4: Boxes

Working with boxes

Fretboard boxes are a standard way of representing chord, scale, and arpeggio shapes for guitars and other fretted instruments. A box contains a number of vertical lines, which represent the strings of the instrument (six on a standard guitar), and a number of horizontal lines which represent the frets. If a box starts with the first fret, there is a thick line at the top of the box which represents the nut of the instrument—this is a piece of hard material over which strings run from the headstock onto the fretboard. When looking at a box, you should imagine that the instrument is being held vertically and there is an imaginary headstock just above the nut. If a box starts further along the fretboard, the nut is not shown, and there is a thin horizontal line at the top of the box which represents the previous fret. The first actual fret of the box is indicated by a fret number to the left of the box.



Boxes normally contain dots, which represent the notes that are played. There are two types of dot: open dots—which represent open notes—and filled dots—which represent fretted notes. Open notes are strings that are played without being fretted. These are represented by an open circle that is drawn above the nut and is typically smaller than a filled dot (unless it also contains a note or degree value). Fretted notes are notes that are fretted by placing a finger just before a fret, so that the vibrating length of the string is shortened and the pitch is changed. These are represented by filled (normally black) dots that are placed before the line that represents the fret at which the note is played.



Types of box

There are two main types of box within Fretspace: chord boxes and scale/arpeggio boxes. The essential difference between chords and scales (or arpeggios) is that chord notes are played simultaneously (or almost simultaneously) so that it is not possible to have more than one chord note on the same string, while scale and arpeggio notes are played sequentially, so that it is possible to have several scale or arpeggio notes on the same string. If you add a dot to a chord shape, Fretspace will therefore remove any dots that were previously used on the same string, but if you add dots to a scale or arpeggio shape, Fretspace will not remove any existing dots.

Another difference between chord and scale/arpeggio boxes is that Fretspace uses a smaller font for scale/arpeggio names, since they are often longer than chord names.

Chord boxes can be converted into scale/arpeggio boxes and vice versa (see [Changing the type of a box](#) below).

MIDI playback

Click on the **Play** tool in the toolbar, or press **Space**, to play the notes in any box that is currently selected. The **Play** tool changes to a **Stop** tool during playback: click a second time (or press **Space** a second time) to stop playback.



Hold down the **Option** key if you want to play arpeggiated notes in a chord, or if you want to play a scale or arpeggio starting from (and ending on) its root note. You can also play chords and scales/arpeggios in the chord and scale/

arpeggio pickers by clicking on the Play/Stop buttons (or pressing Space) in these dialogs.

The Preferences dialog can be used to configure playback preferences, including whether scales and arpeggios are played in ascending or descending order (or both) and the tempo at which they are played (see [Playback Preferences](#) on page 88).

Editing boxes

There are various ways of editing boxes in Fretspace, either by adding and removing notes, or by changing a box in some other way. In order to edit a box you must first select it, so that it is displayed in blue. Some options can be used to edit multiple boxes at the same time.

Anything that you do to a box can be undone. Select Undo from the Edit menu (shortcut: ⌘Z) to undo a change, or select Redo (shortcut: ⇧⌘Z) to redo a change. You can undo and redo multiple operations.

Changing the type of a box

Use the Type popup in the Box section of the Inspector panel to change the type of a box, or select Change Type from the Box menu (shortcut: ⌘T).

When you change a chord box to a scale/arpeggio box, the chord is converted into an arpeggio (or broken chord) and the notes are unchanged. When you convert a scale/arpeggio box into a chord box, Fretspace removes all but the first dot on a string. See [Completing a shape](#) (below) for information on converting chords into full arpeggio shapes.

Adding and removing notes

You can add notes to a box by clicking on one of the vertical lines that represent strings, just before one of the horizontal lines that represent frets—or above the thick horizontal line that represents the nut if you wish to add an open note. Fretspace adds a dot to the box at the place where you clicked. If

you are editing a chord box, Fretspace will remove any other dots that are on the same string as the dot you added.

To remove notes, simply click a second time on an existing dot.

If you are adding or removing notes in a scale/arpeggio box, you can hold down **Option** in order to add or remove equivalent notes at other points in the scale or arpeggio. For example, you could convert an A Minor Pentatonic scale into an A Minor Blues scale by holding **Option** while clicking to add an Eb note.

Removing all the notes in a box

Select **Clear** from the **Box** menu (shortcut: ⌘Backspace) to remove all the dots in a box. Another way to do this is to click on the **Clear** tool in the toolbar.

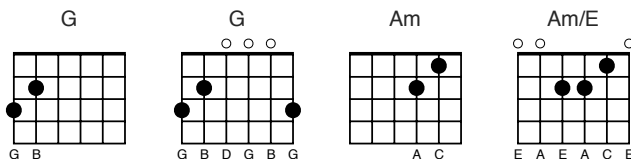


Completing a shape

Select **Complete** from the **Box** menu (shortcut: ⌘Return) to complete a shape by adding notes. Alternatively, click on the **Complete** tool in the toolbar.

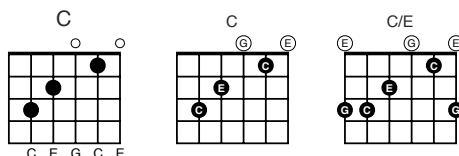


In the case of scales and arpeggios, **Complete** extends the sequence above and below existing notes, and adds missing notes within the sequence. With chords, it duplicates notes on other strings, and adds fifths to major/minor triads and dominant/minor sevenths. Here are some examples of two-note chords that have been completed in this way:

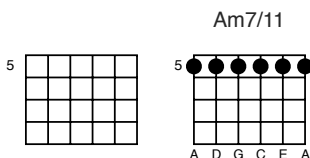


If a box is completely empty, so that there are no notes to extend or duplicate, **Complete** adds open or barred notes on each string depending on whether the box is in open position (the first fret is 1) or not (the first fret is 2 or higher). If the box is a scale/arpeggio box it then duplicates these notes at other positions to create an arpeggio or scale. In standard guitar tuning (which contains the notes of a standard pentatonic scale) this will create a G Major (E Minor) Pentatonic scale in an open-position box (first fret is 1), or a C Major (A Minor) Pentatonic scale when the first fret is 5.

The **Complete** command can also be used to convert chords into arpeggios. If you want to convert a chord into an arpeggio that contains the chord notes in a complete sequence, change the box **Type** to **Scale/Arpeggio** and then **Complete** it: in guitar tuning, a first-position C chord with five notes (C-E-G-C-E) will be converted into a full arpeggio shape with all the notes that are playable in this position (E-G-C-E-G-C-E-G).



Complete can also be used to draw a barred chord in an empty box: set the first fret of the box to be greater than 1 and then use **Complete** to draw a bar at that fret position (if the box is in open position, **Complete** will add open dots, but **Move Dots Down** will convert these into a bar at the first fret).

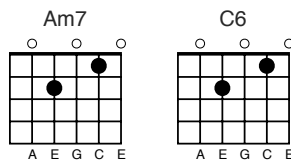


Naming boxes

Fretspace automatically calculates the name of any shape that you draw or create—this is a great way to identify shapes that you might already play without knowing exactly what they are called!

However, it is possible for the same shape to have different names depending on how it is used. Most guitarists know that an Am7 shape can also be used to play a C6 chord. In much the same way, a C major scale shape can be used to play a variety of different modes, such as A Aeolian (a natural minor scale) D Dorian (another minor scale) or G Mixolydian (a dominant scale).

In cases where a shape has different names, you can use the **Name** control in the **Box** section of the **Inspector** panel to choose between different names that can be applied.



If you wish to use a name that Fretspace doesn't offer, you can type a name into the text part of the **Name** control, or you can click on the name that is displayed above the box and type a new name there. Once you do this, Fretspace hands over responsibility for naming this box and will no longer calculate names for it, even if you subsequently change it to a different shape, although it will take the first letter of the name that you have assigned as a hint when it calculates the root of the shape. If you wish to go back and have Fretspace calculate the name automatically, you do this by deleting whatever name you previously typed.

Box tunings

Normally, all the boxes in a chart use the same tuning, but occasionally you might want to have boxes with different tunings in the same chart (see

footnote 2 on page 42 for an example of when this might be useful). If you want to add boxes with a different tuning, you can create them in a chart that has that tuning and then copy them into a chart with the other tuning.

If a chart contains boxes with different tunings, Fretspace will display a second Tuning popup in the Box section of the Inspector panel.

See *Chart tunings* on page 41 for more information on tunings.

Changing the size and position of a box

Boxes represent a view of part of the fretboard. You can change the first fret of a box and the number of frets that it contains. Fretspace allows for 24 possible frets—so the maximum size of a box that starts at the first fret is 24 frets. (Most instruments have fewer than 24 frets.)

Changing the first fret of a box

Use the First Fret text field in the Box section of the Inspector panel to change the first fret of a box, or select Set First Fret... from the Box menu (shortcut: ⌘[). You cannot set the first fret to be greater than the first fretted dot, and the last fret within a box cannot be greater than 24.

Changing the number of frets in a box

Use the Number of Frets text field in the Box section of the Inspector panel to change the number of frets in a box, or select Set Number of Frets... from the Box menu (shortcut: ⌘]). You cannot set the number of frets to be smaller than the number of frets used by fretted dots, and the last fret within a box cannot be greater than 24.

Selecting notes in a scale box

Select the Select Notes checkbox in the Box section of the Inspector panel if you wish to select scale notes that will be colored when Color Selected Notes is chosen in the Chart section of the Inspector panel (or Chart menu). This

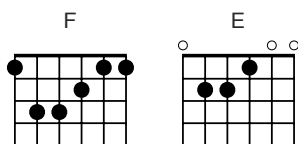
displays a row of buttons that you can use to color specific degrees of a scale, such as flattened (blues) notes in Blues scales.

Moving dots

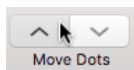
You can create new chords, scales, and arpeggios by moving shapes around the fretboard. Fretspace contains a number of commands that allow you to do this by moving dots to different strings or to a different fret position. In most cases, this results in a shape that is transposed to a different key but contains the same chord or scale degrees as the original shape.

Moving dots up

Select **Move Dots Up** from the **Box** menu (shortcut: $\text{⌘}\uparrow$) to move dots up within a box, so that they are one fret closer to the nut (and one semitone lower in pitch). Any notes that are fretted at the first fret will become open (unfretted) notes, so that an F major barred chord will become an E major unbarred chord. It is not possible to move dots up if a box already contains open notes.



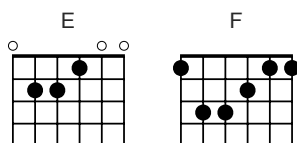
Alternatively, click on the **Move Dots Up** tool in the toolbar.



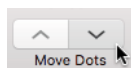
Holding down the **Shift** key when choosing **Move Dots Up** (or when clicking on the **Move Dots Up** tool) will allow you to move shapes up by 12 frets. You can also use the keyboard shortcut $\text{⇧}\text{⌘}\uparrow$.

Moving dots down

Select Move Dots Down from the Box menu (shortcut: $\text{⌘}\downarrow$) to move dots down within a box, so that they are one fret further away from the nut (and one semitone higher in pitch). Any open notes will be moved to the first fret, so that the open notes of an E major guitar chord will become barred notes in an F major chord. It is not possible to move dots down beyond the 24th fret.



Alternatively, click on the Move Dots Down tool in the toolbar.



Holding down the Shift key when choosing Move Dots Down (or when clicking on the Move Dots Down tool) will allow you to move shapes down by 12 frets. You can also use the keyboard shortcut $\text{⌘}\downarrow$.

Moving fretted dots up

Select Move Fretted Dots Up from the Box menu (shortcut: $\text{⌘}\uparrow$) to move fretted dots up within a box.

Alternatively, click on the Move Fretted Dots Up tool in the toolbar.

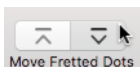


In contrast to Move Dots Up, this command moves fretted dots while leaving open dots where they are, thereby changing the relationship of fretted dots to unfretted dots and the type of chord or arpeggio that they represent. It is not possible to move dots up if they are fretted at the first fret, since that would change their relationship to other fretted dots.

Moving fretted dots down

Select **Move Fretted Dots Down** from the **Box** menu (shortcut: $\text{⌘} \downarrow$) to move fretted dots down within a box.

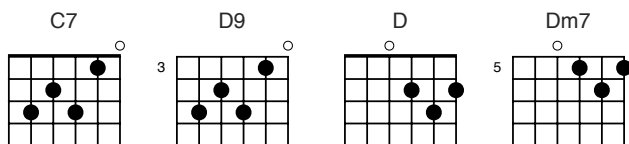
Alternatively, click on the **Move Fretted Dots Down** tool in the toolbar.



In contrast to **Move Dots Down**, this command moves fretted dots while leaving open dots where they are, thereby changing the relationship of fretted dots to unfretted dots and the type of chord or arpeggio that they represent.

Moving the fretted dots of a first-position open chord can be used as a way of creating unusual open chords that combine open notes with notes that are fretted some distance from the first fret. This can create chords that have distinctive intervals and sound different to other types of guitar chord.

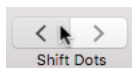
As an example, the fretted dots of a C7 guitar chord can be moved down by two frets to create a D9 chord. Similarly the fretted dots of a D guitar chord can be moved three frets down to create a Dm7 chord.



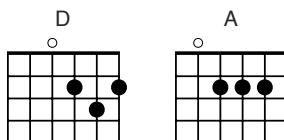
Shifting dots left

Select **Shift Dots Left** from the **Box** menu (shortcut: $\text{⌘} \leftarrow$) to shift dots to the left within a box, so that they are moved onto adjacent strings, away from the first (rightmost) string.

Alternatively, click on the **Shift Dots Left** tool in the toolbar.



In standard guitar tuning, **Shift Dots Left** creates a shape that is a fourth (five semitones) lower in pitch than the original shape. Fretspace preserves the musical intervals between the notes when dots are shifted in this way, and the shape may change as a result, depending upon the current tuning. In standard guitar tuning, most strings are tuned to be a fourth (five frets) higher than the previous string, but the second string is tuned a major third (four frets) higher than the third string. So (for standard guitar tuning) Fretspace preserves the distance between notes by moving dots one fret closer to the nut when they are moved from the second string to the third string. If you shift the dots of a standard D guitar chord by one position to the left, Fretspace creates a chord that looks like a standard A chord, although it doesn't contain a note on the first string unless you add it or use the **Complete** command to do this.



If a tuning contains the same interval between all strings (as is the case with standard mandolin tuning) the shape will not change.

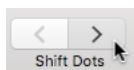
It is not possible to shift dots left if that would require an open dot to be moved to a negative fret position. For example, you cannot shift the dots of a standard E guitar chord to the left, because it is not possible for the open B of the second string to be changed to an F# on the third (G) string!

If you hold down the **Shift** key when choosing **Shift Dots Left** (or when clicking on the **Shift Dots Left** tool) Fretspace will adjust the fret position so that the shape isn't transposed to a different root. You can also use the keyboard shortcut $\hat{\text{⌘}} \leftarrow$.

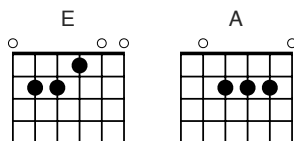
Shifting dots right

Select **Shift Dots Right** from the **Box** menu (shortcut: $\text{⌘} \rightarrow$) to shift dots to the right within a box, so that they are moved onto adjacent strings, away from the last (leftmost) string.

Alternatively, click on the Shift Dots Right tool in the toolbar.



In standard guitar tuning, this creates a shape that is a fourth (five semitones) higher in pitch than the original shape. Fretspace preserves the musical intervals between the notes when dots are shifted in this way, and the shape may change as a result depending upon the current tuning. In standard guitar tuning, Fretspace preserves the distance between notes by moving dots one fret further away from the nut when they are moved from the third string to the second string. If you shift the dots of a standard E guitar chord by one position to the right, Fretspace creates a standard A chord.



It is not possible to shift dots right if that would require a dot to be moved to a negative fret position. This doesn't happen with right-handed shapes in standard guitar tuning.

If you hold down the Shift key when choosing Shift Dots Right (or when clicking on the Shift Dots Right tool) Fretspace will adjust the fret position so that the shape isn't transposed to a different root. You can also use the keyboard shortcut $\hat{\text{H}} \text{ } \text{H} \rightarrow$.

Rotating dots

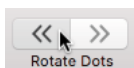
Rotating dots is similar to shifting dots left and right, except that it exploits the fact that in standard guitar tuning the first and last strings are tuned to different pitches of the same note: so after dots have been moved left or right the dot that is now on the bottom or top string is duplicated and added to the string on the opposite side. This only works for tunings where the first and

last strings are tuned to the same note value, or are within a few semitones of each other.

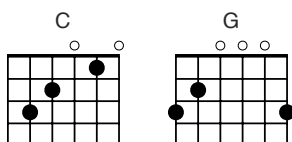
Rotating dots left

Select **Rotate Dots Left** from the **Box** menu (shortcut: $\backslash \text{⌘} \leftarrow$) to rotate dots to the left within a box.

Alternatively, click on the **Rotate Dots Left** tool in the toolbar.



In normal guitar tuning, this will change a standard C chord into a standard G chord.

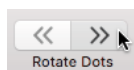


If you hold down the **Shift** key when choosing **Rotate Dots Left** (or when clicking on the **Rotate Dots Left** tool) Fretspace will adjust the fret position so that the shape isn't transposed to a different root. You can also use the keyboard shortcut $\backslash \text{⇧} \text{⌘} \leftarrow$.

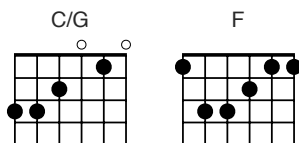
Rotating dots right

Select **Rotate Dots Right** from the **Box** menu (shortcut: $\backslash \text{⌘} \rightarrow$) to rotate dots to the right within a box.

Alternatively, click on the **Rotate Dots Right** tool in the toolbar.



In normal guitar tuning, this will change an open C/G chord into an F chord.



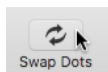
If you hold down the Shift key when choosing **Rotate Dots Right** (or when clicking on the **Rotate Dots Right** tool) Fretspace will adjust the fret position so that the shape isn't transposed to a different root. You can also use the keyboard shortcut $\backslash \uparrow \text{⌘} \rightarrow$.

Swapping dots

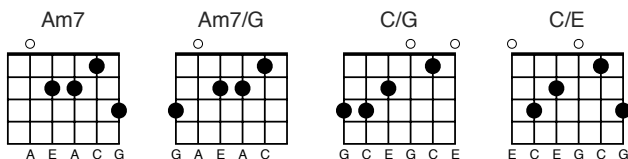
Swap Dots swaps the dots that are on the top and bottom strings. This is useful in finding alternative ways to play chords, especially with tunings (such as standard guitar tuning) where the top and bottom strings are tuned to the same note value, or are within a few semitones of each other. It is not particularly useful (and is therefore disabled) for scales. It is also disabled for chords which have the same note on the top and bottom strings, where swapping would have no effect.

Select **Swap Dots** from the **Box** menu (shortcut: $\text{⌘} /$) to swap dots on the top and bottom strings.

Alternatively, click on the **Swap Dots** tool in the toolbar.



Here are some examples of chords with notes that can be swapped in this way:



Inverting shapes

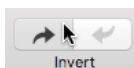
Chords and other shapes can be inverted so that they start from a different bass note. For example, a C chord can be played with a C in the bass (root position), or with an E in the bass (first inversion), or with a G in the bass (second inversion). A C7 chord can also be played with a Bb in the bass (third inversion).

One way to create chord inversions is to move the notes along the fretboard so that each note is replaced by the next chord note. If we replace each note in a C triad (C-E-G) with the next chord note, we will arrive at a first inversion (E-G-C), and if we do that a second time we will have a second inversion (G-C-E). Fretspace has two **Invert** commands that invert shapes in this way.

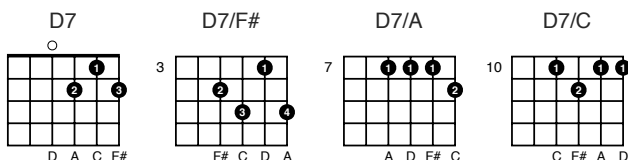
Next Inversion

Choose **Next Inversion** from the **Box** menu (shortcut: $\mathbb{K}1$) to transform a shape into its next inversion. You cannot invert a shape to the next inversion if that would require notes that are higher than the 24th fret.

Alternatively, click on the **Next Inversion** tool in the toolbar.



A good example of chord inversions is to take a standard D7 guitar chord and invert it to D7/F# (first inversion), D7/A (second inversion), and D7/C (third inversion). This gives us a series of chord inversions that provide alternatives to the standard D7 shape.



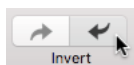
Three-note and four-note chord inversions are used by jazz guitarists to play chordal melodies, and can also be used to create moving bass lines. They're

also a good way to create variants of standard root-position chords. Any chord can be inverted, but inversions of some chords may be difficult to play.

Previous Inversion

Choose Previous Inversion from the Box menu (shortcut: $\hat{\cup} \mathbb{K} \text{I}$) to transform a shape into its previous inversion. You cannot invert a chord to the previous inversion if that would require notes that are lower in pitch than the unfretted pitch of a string.

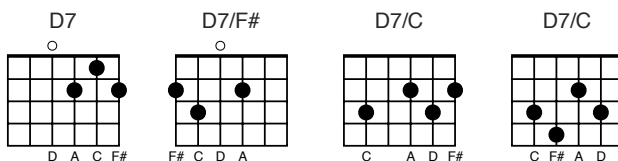
Alternatively, click on the Previous Inversion tool in the toolbar.



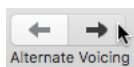
Alternate voicings

Notes in a chord can also be rearranged without necessarily being inverted. Alternative arrangements are known as voicings, and Fretspace provides a tool which generates alternate voicings. In contrast to the Invert tool, which moves shapes up and down the fretboard, this moves notes to other strings in the same part of the fretboard. Alternative voicings may also be inversions, if the bass note changes.

Here are some alternate D7 voicings:



To cycle through alternate voicings, choose Next Alternate Voicing (shortcut: $\mathbb{K} \text{U}$) or Previous Alternate Voicing (shortcut: $\hat{\cup} \mathbb{K} \text{U}$) from the Box menu, or click on the equivalent tool in the toolbar.



Alternate Voicings is disabled for scale and arpeggio shapes: it doesn't make any sense to rearrange their notes in this way!

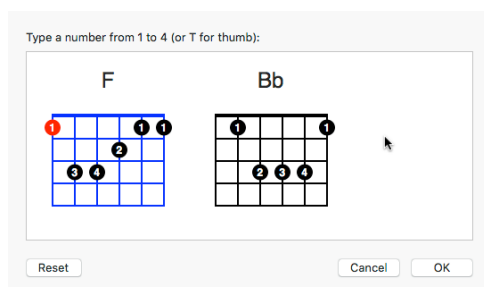
Fingerings

Fretspace automatically calculates fingerings for chord, scale, and arpeggio shapes, unless it thinks that a shape is impossible to play with four fingers (and a thumb). It normally chooses fingerings that do not require you to use your thumb, but it will occasionally use a thumb if it is needed for a particular shape. If Fretspace thinks that a shape is impossible to play, it will not display a fingering for that shape when Show Fingering is selected.

Editing fingering

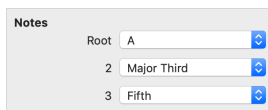
If you prefer to use a different fingering from the one that Fretspace calculates, you can do this by choosing Edit Fingering from the Box menu (shortcut: ⌘Y).

When you choose this option, Fretspace displays a drop-down dialog that contains all the shapes that are currently selected, and displays their current fingering, with the first dot drawn in red to show that it is selected. To change the fingering of the note that is selected, simply press a number between 1 and 4, or T for thumb. You can move between shapes within the dialog by using arrow keys or by clicking on them (as you would within a chart), and you can move between dots by tabbing or by clicking. Once you have changed a fingering value, Fretspace automatically selects the next dot.



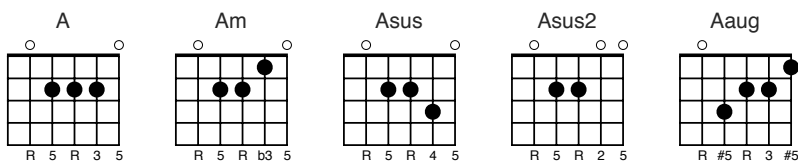
Notes Inspector

The **Notes** section of the **Inspector** panel displays the root note and degrees of the current chord, scale, or arpeggio, and allows you to change them using popup menus.

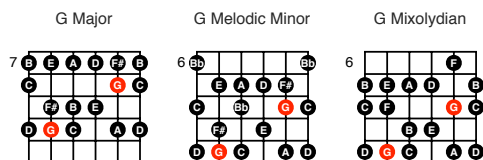


Changing the root note of a shape transposes it to a different position on the fretboard that is as close as possible to its current position.

Changing one or more degrees after the root changes the type of a chord, scale, or arpeggio. For example, a major chord (with root, major third, and fifth degrees) can be converted into a minor chord by changing its second note from Major Third to Minor Third. We could also convert it into a suspended chord by changing Major Third to Suspended Fourth. (Changing Major Third to Suspended Second will create a sus2 chord.) Changing the third note of a major chord from Fifth to Augmented Fifth will create an augmented chord, while changing the third note of a minor chord from Fifth to Diminished Fifth will create a diminished chord. Similarly, a dominant seventh chord can be converted into a major seventh or major sixth chord by changing Minor Seventh to Major Seventh or Sixth. Here are some examples of chords that have been converted in this way, starting from a standard A major chord:



Scales can be converted in the same way. For example, a Major scale can be converted into a Melodic Minor scale by changing its third note from Major Third to Minor Third, or into a Mixolydian scale by changing its seventh note from Major Seventh to Minor Seventh.

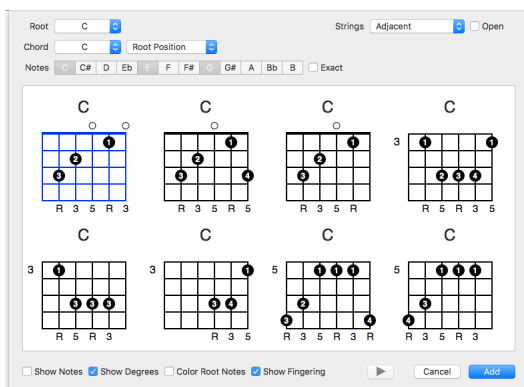


Menu options are disabled if it isn't possible to convert a shape in its current position: a major third that is on an open string cannot be converted into a minor third because that would require a negative fret position.

Chapter 5: Chord Picker

Using the chord picker

The chord picker is displayed when you select Insert Chord... from the Chart menu or click on the Insert Chord tool in the toolbar. It contains an extensive selection of chords from which you can choose a chord or group of chords that will be inserted into the current chart. What Fretspace actually does is to calculate almost every possible shape that can be used to play a particular chord in the current tuning. However, it's important to note that what is possible for one person may be difficult or impossible for another. It's best to ignore any shapes that you find difficult to play, or practice them gently for short periods. *Don't strain your hands or fingers trying to play shapes that you can't play comfortably.* You don't need to play every possible shape when there are easier alternatives that might also sound better in many contexts.



The chord picker is a dialog that drops down from the top of the current window. It can be resized to show a greater or smaller number of chord

shapes. The chord shapes are arranged logically, so that shapes at lower frets are displayed before shapes at higher frets, and (for each fret position) similar shapes are grouped together: shapes with lower notes are displayed before shapes with higher or unplayed notes (starting with the lowest note on the lowest string).

If you wish to hear what a chord sounds like before you add it to a chart, select it within the chord picker and click on the **Play** button or press **Space**.



Choosing a chord root

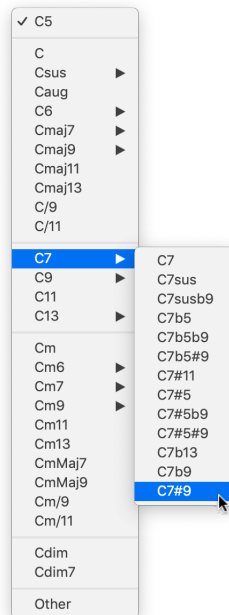
Use the Root popup near the top left of the chord picker to choose the root of a chord. This can be any note.

Choosing a chord type

Use the Chord popup (underneath the Root popup) to choose the type of chord that you are interested in. This displays a menu that gives you a wide choice of different types of chord that are playable in the current tuning.

The Chord menu is logically divided into six sections:

1. Power chords, such as C5. These are neutral chords that contain a root and a fifth but do not contain a third.
2. Major chords, such as C or Cmaj7. This section also includes suspended chords that can be used as major or minor chords but are grouped here for convenience.
3. Dominant chords such as C7 or C9.
4. Minor chords, such as Cm or Cm7.
5. Diminished chords such as Cdim or Cdim7.
6. Any other chord (see below).



Within these sections, submenus are used to group similar chords together and make the menu more manageable than it would be if it was presented as a single long menu. For example, various kinds of altered dominant seventh chords are listed in a single submenu together with standard dominant seventh chords. Ditto for major sevenths, minor sevenths, dominant ninths, and other types of chord. Note that the chord from which other variants are derived is always the first item in a submenu, and you can also select it directly from the menu item to which the submenu is attached (e.g. click on C7 in the menu to which the C7 submenu is attached).

Minor seventh chords that have a flattened fifth are also known as half-diminished chords. Dominant sevenths with a sharp ninth (e.g. C7#9) are sometimes known as “Hendrix chords” (Hendrix used them for their dissonant bluesy sound).

Choosing a chord inversion

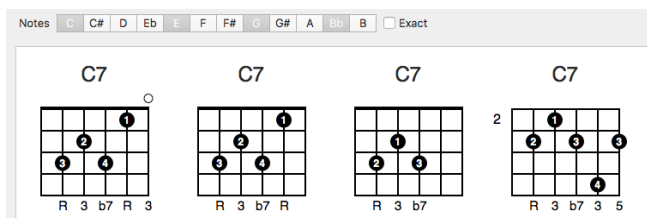
Use the Inversion popup (next to the Chord popup) to choose which inversion of a chord will be displayed. You can choose to display Root Position chords (which have the chord root as their lowest note) or First Inversion, Second Inversion, or Third Inversion chords (which have the third, fifth or seventh of the chord as their lowest note). You can also choose to display Any Inversion (which also includes the root position).

Fretspace defaults to showing Root Position chords for guitar tunings and Any Inversion chords for instruments that have fewer strings, because these tunings have fewer possible shapes and inversions are less important.

Choosing a chord by its notes

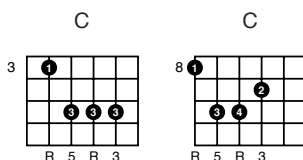
You can also choose a chord by the notes that it contains. This allows you to choose any chord, including ones that are not listed in the Chord menu, or whose name you do not know. To choose a chord by its notes, simply click on notes in the row of Notes buttons below the Chords popup. If Fretspace recognizes these notes as belonging to one of the chords that are listed in the Chord popup, it will select that chord. If not, it will select the Other option (and will usually rename with the name of the chord whose notes you have selected).

When you choose notes in this way, Fretspace assumes that you want to see chords that contain these exact notes. On the other hand, when you select chords from the Chord menu, Fretspace allows for the fact that chords do not always contain all their notes—less important notes, such as the fifth degree, may be omitted. This happens, for example, with the shape that is most commonly used to play C7. If you want to include these variant forms when you have selected notes from the Notes buttons, you can do so by deselecting the Exact checkbox. This allows variant forms to be displayed, including the the first three C7 shapes shown below, which lack a fifth degree.

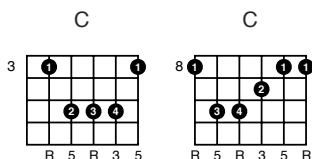


Choosing a string-type

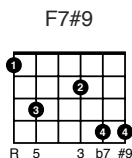
Use the **Strings** popup near the top right of the dialog to choose which strings chords should be played on. The first three options allow you to choose between chords that are played on any combination of strings, chords that are played on adjacent strings, and “full” chords that are played on most strings, including the top strings. The **Full Chord** option selects chords that don’t have any unplayed strings after the first played strings, and that use a minimum of four strings (three on three-string tunings). These are the chords that most people start with. The **Adjacent** option is similar to the **Full Chord** option: it requires that all played strings should be next to each other, but it includes chords that have fewer than four notes, and it also allows unplayed strings to follow played strings, as in the following example:



These are common shapes for playing a C chord. They can be thought of as simplified bar chords, where the first finger frets the lowest note, but does not bar any following notes. Here are the barred equivalents:



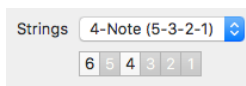
Any is the most general option. This includes shapes that are played on any combination of strings. When this option is selected, Fretspace displays shapes for almost every possible way that a chord can be played. Chords that have unplayed strings in between played strings can be played by finger-picking each string or by muting unplayed strings. This is typically done with a finger that is also fretting a nearby string: by resting part of this finger against the unplayed string, you can prevent it from sounding. A famous chord that is played on non-adjacent strings is the so-called “Gretty chord”, which the Beatles used in Michelle and in other songs. It looks like this:



The fourth string is muted by ensuring that the third finger (playing the fifth string) also rests against the fourth string. With this particular shape, it's actually easier to mute the fourth string than not mute it!

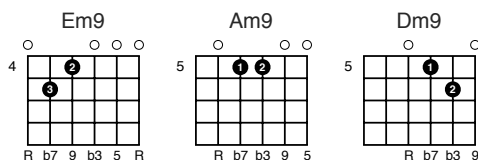
You can also choose to display chords that are played on a more limited set of strings. 4-Note and 3-Note chords (on instruments that have more than four or three strings) use a subset of available strings. 4-Note (Any), 4-Note (Adjacent), 3-Note (Any), and 3-Note (Adjacent) are similar to the previous (Any and Adjacent) options, except that they are limited to chords that have (exactly) four or three notes. The other options display chords that are played on a particular set of strings,, such as the first four strings (4-3-2-1) or the first three strings and the fifth string (5-3-2-1) and other variations. Three-note and four-note chords are used by jazz guitarists to play chordal melodies, and can also be used to create moving bass lines.

If you wish to display chords that use a combination of strings that is not listed as a menu option, you can specify the strings that you wish to use by selecting string numbers in the row of buttons that is displayed beneath the Strings popup when you choose a specific 4-Note or 3-Note option, or Other.



Choosing open chords

Select the Open checkbox if you wish to display chords that use open notes along with fretted notes that are further away from the nut than normal first-position open chords. This kind of chord will sometimes combine close and wide intervals and have a distinctive ringing sound. Here are some minor 9th chords:



Displaying chord notes, degrees, and fingering

You can use the checkboxes at the bottom of the chord picker to choose whether the picker should display chord notes, or chord degrees (or neither) and whether it should display fingering. You can also choose whether to color root notes.

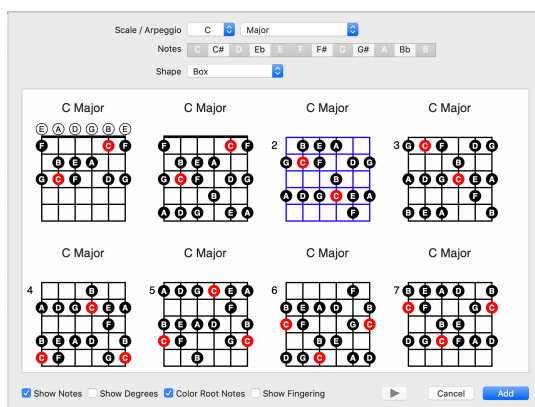
Adding chords

To add a chord to the current chart, select it and click on the Add button. You can also choose and add multiple chords, or double-click to select and add chords without clicking on the Add button.

Chapter 6: Scale/Arpeggio Picker

Using the scale/arpeggio picker

The scale/arpeggio picker is displayed when you choose Insert Scale/Arpeggio... from the Chart menu or click on the Insert Scale/Arpeggio tool in the toolbar. It contains an extensive selection of scales and arpeggios from which you can choose the scales and arpeggios that you wish to be inserted into the current chart. Fretspace calculates almost any scale or arpeggio shape that can be played in box positions across the fretboard.



The scale picker is a dialog that drops down from the top of the current window. It can be resized to show a greater a or smaller number of scale and arpeggio shapes. The shapes are arranged logically, so that shapes at lower frets are displayed before shapes at higher frets, and (for each fret position) shapes that are easier to play are generally displayed before shapes that are more difficult to play.

To hear what a scale or arpeggio sounds like, select it within the scale picker and click on the Play button or press Space.

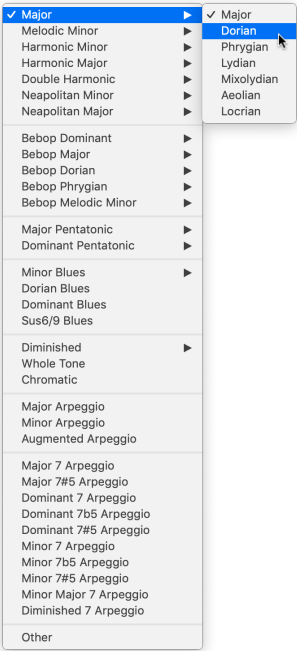


Choosing a scale or arpeggio root

Use the first popup after the Scale/Arpeggio label at the top of the dialog to choose the root of a scale or arpeggio. This can be any note.

Choosing a scale or arpeggio type

Use the second popup after the Scale/Arpeggio label at the top of the dialog to choose the type of scale or arpeggio that you wish to view.



The Scale menu organizes scales and arpeggios into logical groups:

1. Seven-note scales and their modes, starting with the major scale and continuing through other less common scales, including some fairly exotic scales and modes—such as the Neapolitan Major scale, which despite its name is actually a minor scale (there is also a different minor scale known as the Neapolitan Minor.)
2. Bebop scales, which can be regarded as seven-note scales that have been modified by the addition of a chromatic jazz note.
3. Pentatonic scales, including the standard Major and Minor Pentatonic scales (which are actually modes of each other), and other modes of the Major Pentatonic scale. Two other pentatonic scales, the Dominant Pentatonic scale and the Dorian Pentatonic scale, are also modes of each other.
4. Blues scales, including the standard Major and Minor Blues scales (also modes of each other). These can be regarded as pentatonic scales that have been modified by the addition of a chromatic blues note: flattened third for Major Blues scales, and flattened fifth for Minor Blues scales. Other blues scales include: the Dorian Blues scale (Dorian Pentatonic plus flattened fifth), the Dominant Blues scale (Dominant Pentatonic plus flattened third), and the Sus6/9 Blues scale (Sus 6/9 Pentatonic plus flattened third).
5. Non-diatonic scales (scales that do not logically belong to a particular key) such as the Diminished, Whole Tone, and Chromatic scales.
6. Three-note arpeggios.
7. Four-note arpeggios.
8. Any other scale or arpeggio (see next section).

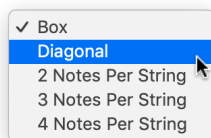
Choosing a scale or arpeggio by its notes

You can also choose a scale or arpeggio by the notes that it contains. This allows you to choose any scale or arpeggio, including ones that are not listed in the **Scale** menu, or whose name you do not know. To choose a scale or arpeggio by its notes, simply click on notes in the row of **Notes** buttons that

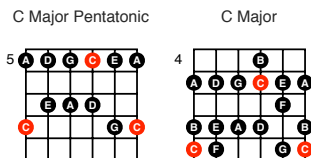
follows the **Scale** popup. If Fretspace recognizes these notes as belonging to one of the scales or arpeggios that is listed in the **Scale** popup, it will select that scale or arpeggio. If not, it will display **Other** in the **Scale** popup.

Choosing a scale shape

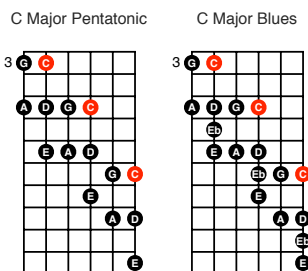
The **Shape** popup allows you to choose between different scale shapes.



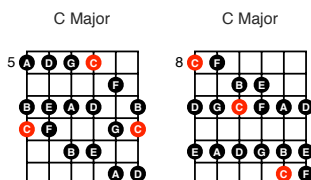
1. Standard **Box** shapes, which are used to play scales in one area (position) of the fretboard.



2. **Diagonal** shapes, in which scales extend diagonally across the fretboard. Diagonal shapes use patterns that repeat across pairs of strings. These are often used to move up and down the fretboard (linking different box shapes) and can also be helpful for memorizing note positions. Diagonal shapes work with tunings that are based on fourths (e.g. most guitar tunings) and are not available for tunings that are based on fifths (e.g. mandolin tuning).



3. 2 Notes Per String, 3 Notes Per String, and 4 Notes Per String scales. These use a fixed number of notes on each string. Two-note-per-string shapes are often used for pentatonic scales. Three-note-per-string and four-note-per-string shapes can be used to play fast scalar runs. Three-note-per-string scales are suited to economy picking techniques, since each three-note sequence begins and ends with a downstroke when playing up the scale or with an upstroke when playing down the scale. Four-note-per-string scales are suited to alternate picking, but they involve large left-hand stretches.



Displaying scale/arpeggio notes, degrees, and fingering

You can use the checkboxes at the bottom of the scale picker to choose whether the picker should display scale notes, or scale degrees, or fingering, or none of these. You can also choose whether to color root notes.

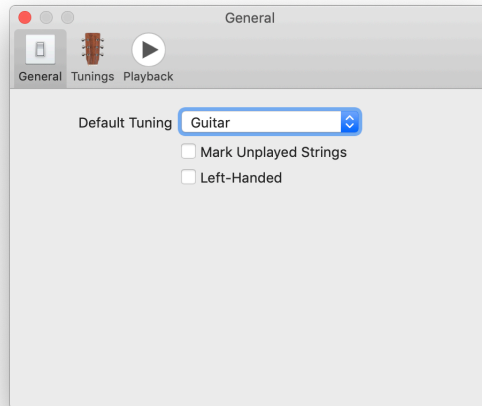
Adding scales and arpeggios

To add a scale or arpeggio to the current chart, select it and click on the **Add** button. You can also choose and add multiple shapes, or double-click to select and add shapes without clicking on the **Add** button.

Chapter 7: Preferences

Select **Preferences** from the **Fretspace** application menu to display the **Preferences** dialog (shortcut ⌘,). This allows you to customize the way that Fretspace behaves.

General Preferences



Default Tuning

The **Default Tuning** option allows you to choose the default tuning that Fretspace will use for new charts.

Mark Unplayed Strings

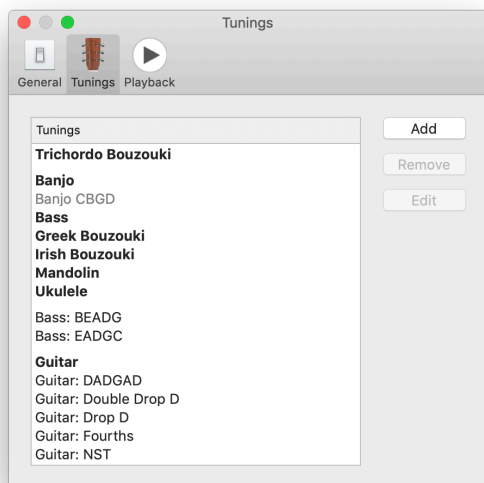
If this option is selected, Fretspace draws a cross at the top of unplayed strings in chord boxes. Otherwise, it can be inferred that any string that does not contain a dot is unplayed.

Left-Handed

Select this option if you want Fretspace to display left-handed shapes (strings are reversed).

Tunings Preferences

The Tunings section of the Preferences dialog allows you to add, remove, and edit tunings.



There are three types of tunings that are displayed in this dialog.

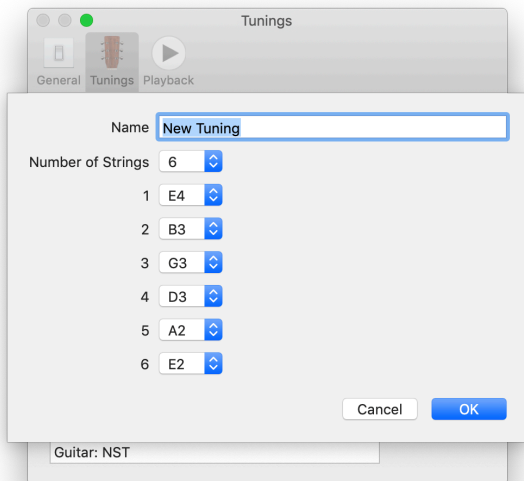
1. Standard tunings are displayed in bold text. These are built-in tunings that cannot be edited or removed.
2. Extra tunings are displayed in normal text. These include built-in tunings that can be removed, along with any other tunings that have been added. Guitar: DADGAD is a built-in tuning that can be removed. If you never use this tuning, you might choose to remove it from the list of tunings that Fretspace displays in its Tuning menus. Guitar: DADGAD is actually a fairly common tuning (among guitarists who use alternative tunings). Less common tunings include Guitar: Fourths and Guitar: NST (see [6-string tunings](#) on page 42).
3. Disabled tunings are displayed in grey text. These are tunings that do not appear in Tuning menus unless they are used in a particular document.

Adding a tuning

Click on the Add button to add tunings. If the currently selected tuning is a disabled (grey) tuning, adding it will cause it to be enabled. Otherwise the Add button will add a new tuning that is based on the currently selected tuning, or on the default tuning if there isn't a current selection. When you add a new tuning in this way, Fretspace displays a dialog in which you can edit the tuning (see next section).

Editing a tuning

You can edit a tuning by clicking on the Edit button or by double-clicking on a tuning. Fretspace displays a dialog where you can edit the tuning's name and the notes that it uses.



Naming a tuning

Use the **Name** field to name tunings. Names should be unique, to avoid confusion. Fretspace will display an alert if you try to save a tuning that has the same name as another tuning.

Setting the number of strings

Use the **Number of Strings** popup to select the number of strings that are used by the new tuning. Unless you are creating a new tuning for a different instrument, you probably don't need to change this.

Defining pitch values

Define the pitch value for each string by selecting from the note menus. Strings are numbered from right to left—string 1 is the first string from the right (high E in standard guitar tuning).

Pitch notes are listed from high to low, with higher pitches towards the top of the menu and lower pitches towards the bottom. Pitch values are defined in Scientific Pitch Notation, which uniquely identifies notes by their pitch. For reference, middle C is C4 and the lowest possible note (in this notation) is C0 (four octaves below middle C).³

Additional tunings must be unique. Fretspace will display an alert if you try to save a tuning that is identical to another tuning (i.e. that uses the same pitch notes).

Creating a tuning

The easiest way to create a new tuning is to choose a tuning that is most similar to the one that you want to use and click on the **Add** button. Then, in the dialog that is displayed, change the pitch of any strings that are different in the new tuning.

For example, to create a Banjo tuning in which the fourth string is tuned down to C, you would click on **Add** after selecting the standard Banjo tuning. Then, in the drop-down dialog that is displayed, change the pitch of the fourth string from D3 to C3 (two notes below in the popup). Name the new tuning “Banjo: CGBD” or “Banjo C” (or any name that you prefer).

Removing a tuning

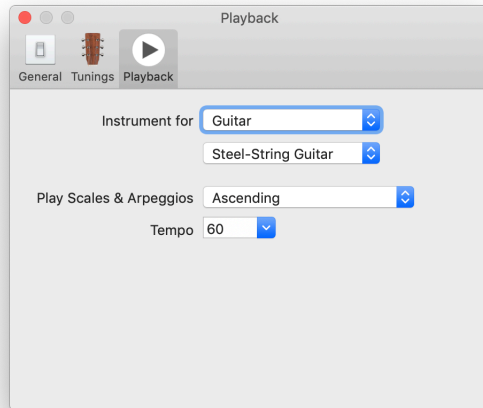
Tunings can be removed by clicking on the **Remove** button or pressing **Backspace**. If they are built-in tunings, or have been used in opened documents, they become disabled (and are displayed in grey). Disabled tunings can be re-enabled by adding them again. Standard tunings (displayed in bold) cannot be removed, so the **Remove** button is disabled when they are selected.

3. Some instruments, including the guitar, are transposed in standard music notation—middle C in guitar notation has a pitch which is actually an octave below middle C (C3 rather than C4). Note values in Fretspace represent actual pitch values rather than music notation values.

Document tunings

Fretspace saves information about the tunings that are used in a document. This allows documents to be shared with other users who might not otherwise have these tunings. This also provides a way to share tunings with other users: if a document that contains an added tuning is opened on another machine, the Tunings panel of the Preferences dialog will display that tuning in grey. It can then be selected and added by clicking on the Add button.

Playback Preferences



Instrument

The Instrument option allows you to choose the MIDI instrument that will be used to play notes in a particular tuning. The top popup selects a tuning and the popup below it selects the instrument that will be used for that tuning.

Play Scales & Arpeggios

This popup allows you to choose whether scales and arpeggios (and arpeggiated chords) are played in ascending or descending order, or ascending and descending, or descending and ascending.

Tempo

This option allows you to choose the tempo at which scales and arpeggios are played. You can choose a standard metronome tempo from the popup, or type other tempos in the adjacent text box. Tempo is measured in beats per minute, and scales and arpeggios are played with four notes per beat.

Appendix: New Features

New features in 1.3

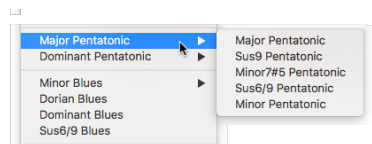
1. There is a preference option for displaying left-handed shapes. See [Left-Handed](#) on page 84.
2. Boxes can be exported in PDF, PNG, or JPEG format. See [Exporting boxes](#) on page 39.
3. Charts can be exported in PDF format via an Export Chart... command. See [Exporting a chart](#) on page 39.
4. It is possible to color selected scale notes in addition to the root note. See [Color Selected Notes](#) on page 46 and [Selecting notes in a scale box](#) on page 55.
5. If you hold down the Shift key when choosing Shift Dots Left or Shift Dots Right (or clicking on the equivalent toolbar items) Fretspace will adjust the fret position so that the shape isn't transposed to a different root. See [Shifting dots left](#) on page 58 and [Shifting dots right](#) on page 59.

New features in 1.2

1. The chord picker contains a set of Notes buttons, which can be used to select any chord by choosing the notes that it contains. These are similar to the Notes buttons in the scale/arpeggio picker. See [Choosing a chord by its notes](#) on page 72.
2. New Pentatonic scales, including all five modes of the Major Pentatonic scale, and the Dorian Pentatonic scale. See [Dorian Pentatonic scale](#) on page 18, and [Choosing a scale or arpeggio type](#) on page 78.
3. New Blues scales, including the Dorian Blues scale, the Dominant Blues scale, and the Sus6/9 Blues scale. See [Dorian Pentatonic scale](#) on page 18,

Sus6/9 Pentatonic scale and the B. B. King blues box on page 19, and *Choosing a scale or arpeggio type* on page 78.

- Other improvements to the scale and chord pickers, including the ability to select a chord or scale without having to use submenus: e.g. clicking on Major Pentatonic in the following example will select the Major Pentatonic scale:



- Alternate Voicing tool, which generates alternative chord voicings. See *Alternate voicings* on page 64.
- Swap Dots tool, which can be used to swap dots between the top and bottom strings. See *Swapping dots* on page 62.
- Holding down the Shift key when choosing Move Dots Up or Move Dots Down from the Box menu (or clicking on the equivalent toolbar items) will allow you to move shapes up or down by 12 frets. You can also use the keyboard shortcuts $\uparrow \text{⌘}$ and $\downarrow \text{⌘}$. See *Moving dots up* on page 56 and *Moving dots down* on page 57.
- The shortcuts for Invert Up and Invert Down have changed to ⌘I and $\uparrow \text{⌘I}$. These are easier to use with non-English keyboards, and perhaps easier to remember.
- Holding down the Option key while pressing one of the arrow keys causes the selection to be moved (or extended) to the start of the chart (Option \uparrow), end of the chart (Option \downarrow), start of the current line (Option \leftarrow), or end of the current line (Option \rightarrow). See *Selecting content with arrow keys* on page 36.

New features in 1.1

- Notes section of the Inspector panel. See *Notes Inspector* on page 66.

2. Playback option. See *MIDI playback* on page 50 and *Playback Preferences* on page 88.
3. Strings popup in the chord picker (replacing the previous Type popup). See *Choosing a string-type* on page 73. This includes a number of new options. If you choose Any from this popup, Fretspace will display shapes that are played on any combination of strings. These include almost every possible shape for a particular chord.
4. Shape popup in the scale picker. See *Choosing a scale shape* on page 80.
5. New Bebop scales. See *Bebop scales* on page 21, and *Choosing a scale or arpeggio type* on page 78.
6. New Blues scales. See *Choosing a scale or arpeggio type* on page 78.
7. Mark Unplayed Strings preference. See *Mark Unplayed Strings* on page 84.
8. Color Root Notes option in chord and scale pickers.
9. Charts can be copied, pasted, and duplicated. See *Copying and pasting charts* on page 34 and *Duplicating charts* on page 34.
10. Option-clicking in a scale/arpeggio box will add or remove matching notes in the scale/arpeggio. See *Adding and removing notes* on page 51.