VERSION 4.0

NOVEMBER 2023

(Includes "StringMaster App Family")

# String Master

**FRETLIGHT**®
**READY**

Table of Contents

# INTRODUCTION

StringMaster is a suite of advanced iPad & Mac applications suitable for relative beginner through to advanced Guitarists and other fretted instrument Musicians. There are 5 versions of the app with different feature focusses, though they are all ultimately upgradable to StringMaster Pro which supports all the features of all the other versions of the app combined.

This documentation provides a complete picture of the full set of features available in StringMaster, though some capabilities described are not available in every version.

StringMaster Pro supports a wide range of instruments including:

- Guitar - Acoustic, Classical
- Guitar - Electric (including 7 String)
- Bass Guitar (including 5 String)
- Banjo (including 4/5 String)
- Mandolin
- Ukulele (Soprano/Concert/Tenor/Baritone)
- Piano
- Balalaika (Prima/Tenor/Bass)

StringMaster supports a rich sound library, with the option to apply distortion and reverb, or use a Piano sound for any with any instrument.

StringMaster's chord building and detection, comparison between instruments, a fretboard learning system, scales and advanced song writing tools are all supported with any instrument in any orientation, and with tremendously flexible alternate tuning and capo support. In addition, the integrated Tuner and Metronome make it a complete learning tool.

StringMaster 4 also adds Piano keyboard support, allowing mapping of guitar chords to the piano keyboard.

Key Features:

- Play and discover a wide range of chords and fingering, all with beautiful natural tone.

- Display and play scales, including scale runs up the fretboard

- Display chord notes or suggested fingering as well as Chord Tones

- Unique Note Finding capability to learn notes & their relative positions on the fretboard.

- Integrated Chromatic Tuner

- Integrated Metronome that may be played in the background while using the application

- Using a set of complex musical algorithms, StringMaster will show you the name of a chord based on the finger positions you define!

- StringMaster's easy-to-use Song Writer recommends which chords sound best together making it easy to write and store killer songs and progressions, including individual notes

- Explore and learn the fretboard, Chords & sounds of a range of instruments

- Learn to play a new instrument by comparing it with one you already know. Select a chord on one instrument, then display the equivalent chord pattern and fingering on any of the many other instruments.

- Output MIDI from any notes played in the application

- Play along with MIDI tracks, or the inbuilt library

## FRETLIGHT GUITAR SUPPORT

There are two versions of StringMaster, with the "Fretlight Edition" enabling all its features on the Fretlight Bluetooth Guitars, or USB Fretlight Guitars connected bridged to Bluetooth. The "Fretlight Edition" also includes an additional screen called the "Canvas", for directly writing to the Fretlight fretboard.

Note: Fretlight Ready™ designates that an app can send its data over Bluetooth to a Fretlight® guitar and light its fretboard. To learn more about Fretlight guitars go to http://www.fretlight.com

## STRINGMASTER BASICS

StringMaster is an application that integrates several different functions that come together to form a core set of tools for any fretted instrument musician. There are 5 different tabs, each of which are accessed by selecting its icon on the tab bar at the bottom of the screen. The StringMaster tabs are:

### Chords
This is the home screen of StringMaster for exploring and learning chords
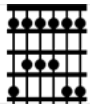
### Scales
Display and play scales and scale runs on the fretboard

### Song Writer
Explore scales & use chords that sound good together in a scale to write songs

### Compare
Compare chords on 2 different instruments at once

### Note Finder
Learn relative positions of notes on the Fretboard

### Fretboard Game
Tool to help learn the notes of the Fretboard

### Canvas (When Fretlight support is enabled only)

The Canvas screen provides the capability to write directly to a Fretlight Guitar fretboard including playing the game of life, generating sine waves and writing text. StringMaster Fretlight edition is built to support Fretlight Bluetooth Guitars, or traditional, USB Fretlight guitars, exposed by a Bluetooth Bridge such as "Guitar Connect for Fretlight" on the Mac App Store.

This Application is developed and maintained by an independent developer for use with the Fretlight Guitar. Optek Music Systems, the owner of the Fretlight Guitar brand, accepts no responsibility for the development, maintenance or support for this Application.

### Jam

Jam is a tool that lets you play along to MIDI tracks, showing the scales, chords or chord tones for that track on the fretboard.

## MENUS & NAVIGATION

StringMaster "Features" and capabilities are accessed through regular Menus on the Mac, or through a popup menu on the iPad, that groups the options in a similar fashion to the menus on the Mac. The menu illustrated below shows some of the commonly accessed functions in StringMaster. Note that the available menu items change according to the "Feature" being used.

StringMaster's additional features and capabilities are available though a hamburger style menu on iOS and through regular menus on the Mac. The clicking on the Menu Name in iOS will reveal the available functions for the current context. The Mac menus will also dynamically change according to the current feature being used.

The Settings Option lets you access a range of settings for StringMaster including fretboard configuration, advanced options and more. See Settings section for detail.

If Fretlight guitar support is enable, click here to connect to the guitar and configure Fretlight Options.

Where Applicable, the Chord Fingering option toggles whether the suggested fingering for a chord, or the notes of the chord are shown on the fretboard. Fingering is shown when the icon is lit.

A Capo may be enabled through a pinch gesture on iOS, or toggled on or off through the Fretboard Menu. Chord patterns in the chord picker will be adjusted accordingly. The Capo can be moved by pinching in a new location (iOS) or by selecting the clear space just behind it and dragging it up and down the fretboard.
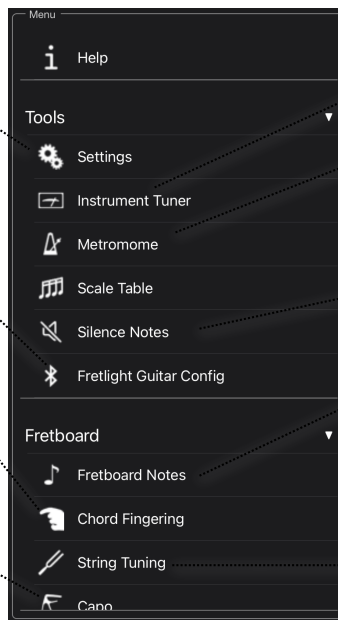
Click here to access the Chromatic Instrument Tuner.

Click here to access the Metronome.

Click here to bring up the Scale reference table showing the notes of the current ( and other scales)

Click hereto stop playing any current notes

The Fretboard Notes option allows you to cycle between 3 modes of displaying notes on the fretboard: 1) Chord Only 2 ) Notes that are part of the selected chord (blue) or 3) All notes (green).

Click here for flexible alternate tuning of the selected instrument – Each string may be tuned up or down by 6 semi-tones

**Menu**

- ℹ Help

**Tools** ▾
- ⚙ Settings
- ⇥ Instrument Tuner
- 𝄞 Metromome
- 🎹 Scale Table
- 🔇 Silence Notes
- ✳ Fretlight Guitar Config

**Fretboard** ▾
- ♪ Fretboard Notes
- Chord Fingering
- ✎ String Tuning
- Capo

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## THE FRETBOARD

The fretboard is a core component of every StringMaster screen, and is used to display Chords, Scales, Chord Tones and more according to the currently selected mode of operation. Note that regular notes of the scale are shown in Blue, root notes are shown in Red and "Alternate" notes such as those in the Blues scale are shown in green.

The Hamburger Menu Button (iOS only) lets you access help as well as a range of tools, functions and settings. The menus are contextual for each screen, though also include commonly accessible functions

Strum the open strings up or down to play the selected chord. Strings being played will vibrate. Strumming over open space will play notes of the selected chord
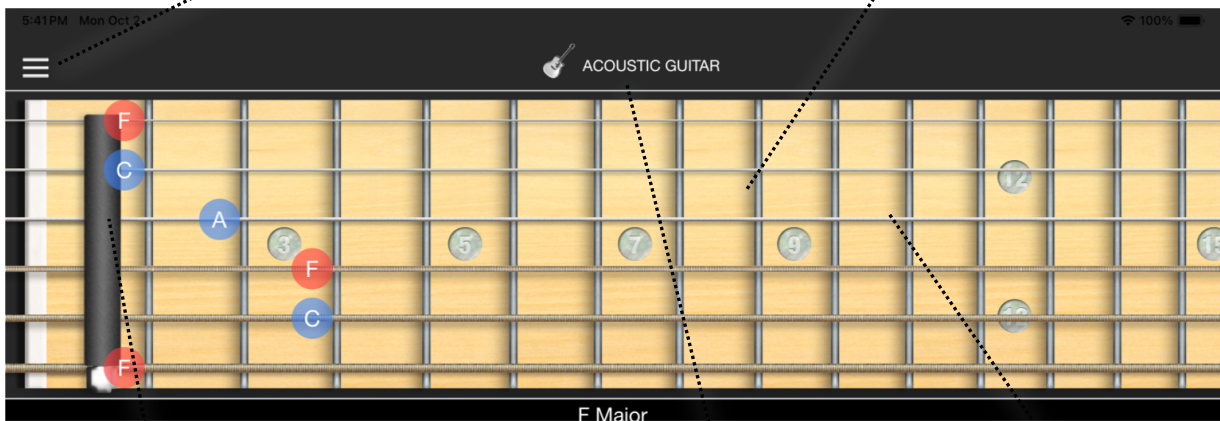


Pinch the fretboard on a fret to enable the Capo.  Chord patterns in the chord picker will be adjusted accordingly. Pinch the Capo to remove it. The Capo can be moved by pinching in a new location or by selecting the clear space just behind it and dragging it up and down the fretboard.

Click here to select a different instrument

Press individual notes on the fretboard to play them, or press and flick down on a note to strum the chord shown on the fretboard.

## THE PIANO KEYBOARD

StringMaster 4.0 includes a "Piano" instrument which, when selected, shows a keyboard in place of the usual fretboard. When Chords, Scales or notes are played when the Piano is selected, the notes that would have been played on the fretboard are illustrated on the keyboard instead.

The Keyboard can me moved left and right by flicking it with your finger on an iPad, with two fingers on a Mac trackpad, or on a Mac by clicking and dragging. Playing a chord with the Play button on the Chords screen will play the notes on the keyboard, illustrating the selected keys with altered shading and a faint white dot as illustrated below. The notes played will be the same notes that would be heard playing the same chord configuration on a 6-string guitar.
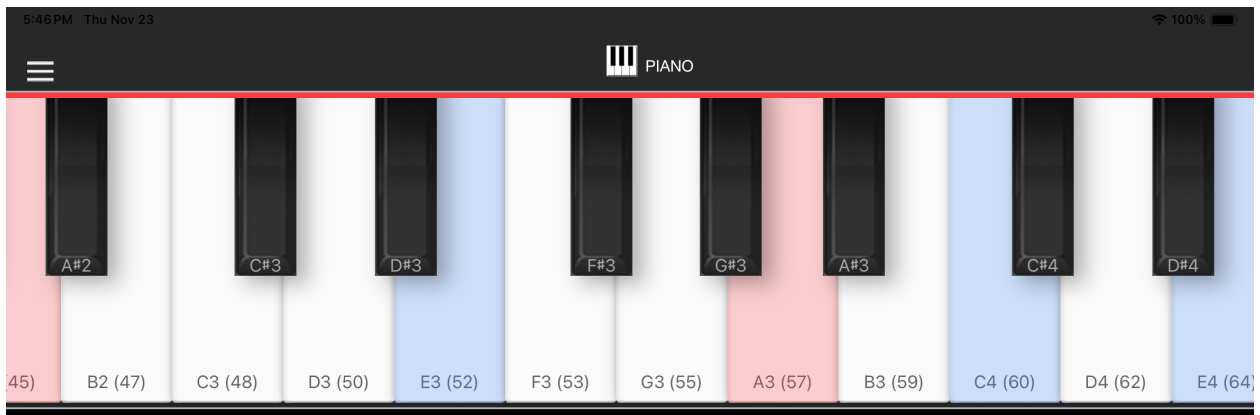
# CHORDS

The Chords tab is the main/home screen of StringMaster designed to explore chords and the fretboard. From here, you can also access settings, set up the capo, define new instruments and tuning, and set other options that apply across the other screens in the application.

By default, the Chords screen will show how to play any chord selected from the picker at the bottom of the screen. When new key and/or Chord Types are selected, the list of possible ways to play the chord is also updated. Selecting any of these options from the list will display that pattern on the main fretboard.

Clicking on the Play button will re-play the current selection. Selecting the Chord Detective option will allow you select notes and have StringMaster determine the chord being played. When the Capo is enabled (by pinching the fretboard), Transposer option will be displayed which essentially changes the Chord picker into a shape picker, and the chord description in the centre bar of the screen will indicate what chord that translates to.

Turning on the Chord Detective turns the fretboard into a calculator which will work out chords based on the notes you select. You can use existing chords as a base, or just press your own notes on the fretbaord to work out what a chord is. The results are shown in the chord indicator in the middle of the screen.

Move up or down through the list of chord shapes

Play the currently selected chord

The Chord Tones Option shows all the notes from the currently selected chord.

When you have a capo selected, the button changes to a Chord Transposer button, allowing you to use the chord selector to select a chord shape rather than a key. This allows you to see what chord you are actually playing when, for example, you play a "C" chord shape with a capo on the 5th fret.

Major and Minor buttons provide quick access to Major and Minor chord definitions for the selected note.

Use this picker to select a Key, Chord Type or Chord Pattern. It will display it on the fretboard and play the notes.

Select a Key/Chord Type here to update the chord shapes shown in the chord picker. In the Advanced Mode, a significantly larger set of chord types will be shown.

The Chord Picker shows all possible chord combinations for the selected instrument and Key/Chord Type. The root fret is shown for each diagram. Chords are ordered by relevance, playability and sound quality.

In addition to the main cords for the Key/Chord Type, inversions ( slash cords ) may also be shown. Inversions are illustrated in the chord diagram by showing the inversion note, followed by a slash. E.g. an E over C Major Chord would show an "/E" in front of the chord diagram. For instruments with 6 or more strings, Inversions are ordered by their position in the scale and shown after the pure versions of the chord. For Instruments with less than 6 strings, inversions will be interwoven based on playability, with primary chords in the chord list.

Return home to the top of the Chord shape list (generally the most common or easiest to play)

## SCALES

The Scales tab is used to explore scales on the fretboard. After selecting a key and scale type, a default pattern of the scale will be shown on the fretboard. Other possible ways to play the scale may also be selected from the picker in a similar way to selecting chords.

On the right-hand side of the screen there are forward and back play buttons and a stop button to play the scale from the lowest root note to the highest root note and visa versa. The Stop button is used to stop all currently playing sequences.

On the left-hand side of the screen, the "Modes" button enables you to select modes for any scale.



Pressing the reverse play button will play from the highest root note to the lowest.

Pressing the forward play button will play from the lowest root note to the highest. Note: If the metronome is running in the background, playback will synchronise to metronome beats.

When the Repeat option is selected, when a scale is played it will play up then down repeatedly until the repeat mode is disabled or play is stopped.

The Stop button stops playing any sequences currently being played and also stops a repeated sequence

This Indicator shows the Key and Scale being Displayed, the notes of that scale and their intervals and if the Modes Option is selected, also the Mode name.

Selecting the Modes button enables the Plus and Minus mode selection buttons allowing you to select different modes for any key.

Use this picker to select a Key and scale type.

Select a Scale Type here to update the scale shapes shown in the scale picker.

The scale picker illustrates possible scale patterns up the neck of the instrument. Scale runs up the neck are interspersed with straight up and down patterns. Selecting a pattern here will cause it to be displayed on the fretboard. Root notes are shown in red, regular notes in blue, and "alternate" notes such as blues notes, which are typically transient notes, are shown in green.

# SCALES REFERENCE

The Scales screen also has a "Reference" button in the tool bar at the top, which shows both the notes and names of notes for the currently selected key and scale type, as well as providing a general reference for all notes of all scales. The Scale reference window is illustrated below.

The bottom section of the screen is a general reference chart for scale notes for all keys. Highlighted columns show the reference note positions for notes of the Major scale from which other scale positions can be derived.

The top section of the reference screen shows notes of the currently selected key and scale with their position in the scale.

Dark cells represent title data including columns for the interval (or position in the 12 note scale), common name for that interval, the Degree (the position of the note within the Major scale), and a row for each note. Note that the first interval of a note is the note itself.

Greyed out columns represent notes that are not part of the major scale

**Scale Reference for G Major**

| Name: | Root | ♭2nd/9th | 2nd/9th | #2nd/9th | 3rd | 4th/11th | #4th | 5th | #5th | 6th/13th | #6th/13th | 7th |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Notes: | G | | A | | B | C | | D | | E | | F# |

**Generic Scale/Interval Reference Table**

| Interval: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Name: | 1st | m2nd | M2nd | m3rd | M3rd | 4th | Tritone | 5th | m6th | M6th | m7th | M7th |
| Degree: | 1 | | 2/9 | | 3 | 4/11 | | 5 | | 6/13 | | 7 |
| A | A | A#/B♭ | B | C | C#/D♭ | D | D#/E♭ | E | F | F#/G♭ | G | G#/A♭ |
| A#/B♭ | A#/B♭ | B | C | C#/D♭ | D | D#/E♭ | E | F | F#/G♭ | G | G#/A♭ | A |
| B | B | C | C#/D♭ | D | D#/E♭ | E | F | F#/G♭ | G | G#/A♭ | A | A#/B♭ |
| C | C | C#/D♭ | D | D#/E♭ | E | F | F#/G♭ | G | G#/A♭ | A | A#/B♭ | B |
| C#/D♭ | C#/D♭ | D | D#/E♭ | E | F | F#/G♭ | G | G#/A♭ | A | A#/B♭ | B | C |
| D | D | D#/E♭ | E | F | F#/G♭ | G | G#/A♭ | A | A#/B♭ | B | C | C#/D♭ |
| D#/E♭ | D#/E♭ | E | F | F#/G♭ | G | G#/A♭ | A | A#/B♭ | B | C | C#/D♭ | D |
| E | E | F | F#/G♭ | G | G#/A♭ | A | A#/B♭ | B | C | C#/D♭ | D | D#/E♭ |
| F | F | F#/G♭ | G | G#/A♭ | A | A#/B♭ | B | C | C#/D♭ | D | D#/E♭ | E |
| F#/G♭ | F#/G♭ | G | G#/A♭ | A | A#/B♭ | B | C | C#/D♭ | D | D#/E♭ | E | F |
| G | G | G#/A♭ | A | A#/B♭ | B | C | C#/D♭ | D | D#/E♭ | E | F | F#/G♭ |
| G#/A♭ | G#/A♭ | A | A#/B♭ | B | C | C#/D♭ | D | D#/E♭ | E | F | F#/G♭ | G |

## SONG WRITER

The Song Writer is a tool to allow you to explore scales, and the chords that go together in those scales. This allows you to easily compose and record great sounding chord progressions, play them back later.

The first step in using the Song Writer is to select a key for your song from the Key selector at the top left of the screen. This will set up the rest of the screen to be in that key. The Primary and alternate notes of Chord buttons at the left of the screen are used to play chord sequences. Any of the chords shown on these buttons will sound good together, though the Songwriter helps you further by highlighting more common combinations in green and, and less common combinations in amber. As you press a chord button, the chord will be played, the notes of the chord shown on the fretboard, and the text on the other chord buttons will change to reflect the next logical notes.

Select the base key for your song here. Note: the selection shows Sharp and Flat Keys separately.

7th Chords can be interchanged with any chord in the classic chord sequence. Select this to add a one off 7th sound to the sequence.

Songs are major scale by default. Select Minor (m) mode to have a sadder, minor sound.

This section shows a traditional fretboard, or "Song Detail" (as illustrated) when the Song Detail button is highlighted. The fretboard shows the note positions of the "Now Playing" chord on the selected Instrument. Fingering will be displayed instead of this option was enabled on the Chords screen.

Loop playback of the current song when playing.

These buttons represent all the best sounding chords for your selected key and scale. Any lit button can be selected, though the more common follow-on chords are shown in green, with less common chords being shown in Amber.

To commence recording, press the Record Button, which will light up Red when recording is in progress. Both the Chords being selected and the intervals between them will be recorded, as well as any notes selected on the fretboard. Pressing the record button while recording will stop recording. Both the Chord buttons at the top left of the screen and the example chord patterns are recorded.

For the minor scale, 6 alternate chords are also shown (and just 1 note for Major which is a flat 7th). The chords below the line are less common. The scale degree of the note is shown in the bottom right hand corner of the button.

Press the "Save" button to save the current recording. A new entry will be added to the list showing the Key, the date and time, and the number of notes recorded.

Selecting the Mode buttons will show Mode selection buttons and allow Mode selection for the scales, in addition to the basic Major or Minor Key.

Press Stop button to stop playback or recording.

This portion of the screen shows either a fretboard, or the Song Detail and song list. When the Song Detail button is selected, this list shows the list of songs you have recorded showing their key, time of recording and the number of notes they contain. This is a scrollable list, so you can flick up and down through recordings. Note: Selecting a song from the list will overwrite any current recording that you have not yet saved.
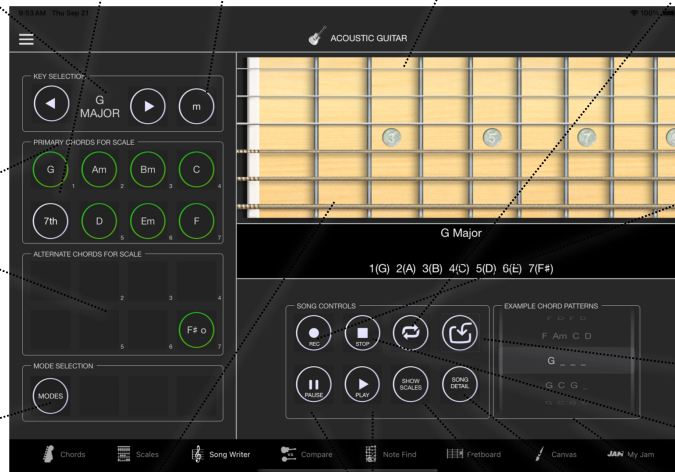
Songs can be renamed by entering a new name in the song name box at the top of the detail view. To permanently remove unwanted recordings select the track and swipe left reveal a delete button. Press "Delete" to permanently remove the recording.

Press the Play button to play back the last (current) recording or the recording selected from the list. Press the pause button to pause playback or recording.

Show the current scale rather than chords on the fretboard view – Typically used for soloing on a Fretlight Guitar.

This picker shows hundreds of combinations that sound good together. Select them to play the four chord sequence illustrated.

The Song Detail button toggles the Song Detail view (illustrated) which shows the chords and notes of the song in a TAB like form

The "Example Chord Patterns" picker at the right, bottom of the screen lists many examples of 4 bar chord combinations that sound good. Use these to get ideas of the chord sequences you may like to play using the chord buttons.

The bottom middle side of the screen contains controls to allow you to record, play back and save your songs. Underneath the Save button is the Song Detail button, which shows the Song Detail view in the top right-hand corner of the screen.

Selecting the Instrument Icon for the song will bring up the Instrument Selection box to allow you to change the Instrument for the song.

The "Song Detail" view is shown when the Song Detail button is highlighted. The fretboard shows the note positions of the "Now Playing" chord on the selected Instrument. Fingering will be displayed instead of this option was enabled on the Chords screen.
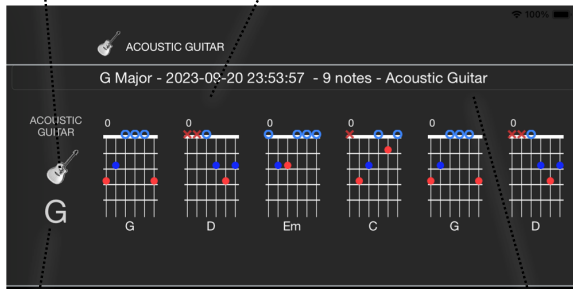


You can change the key of the recorder song by clicking here,

Make any changes to the Song Name here.

Selecting the instrument Icon brings up the instrument selection popover, allowing you to change the instrument for the song, and clicking on the Key of the song, under the instrument icon, brings up a Key selection popover allowing you to transpose the key of the song. Note that both changing the instrument and the key of the song, effectively creates a new song and you will need to save it if you want to keep it. Song names may be edited in place by clicking on the name in the details screen.

## OPENING SAVED SONGS

Previously saved songs may be accessed by selecting "Open Song" from the Song Writer section of the File Menu on the Mac, or from the File section of the iPad menu.

This window shows the songs you have created and saved in the Song Writer. It is accessed via the Songwriter Open Song menu option in the File menu.
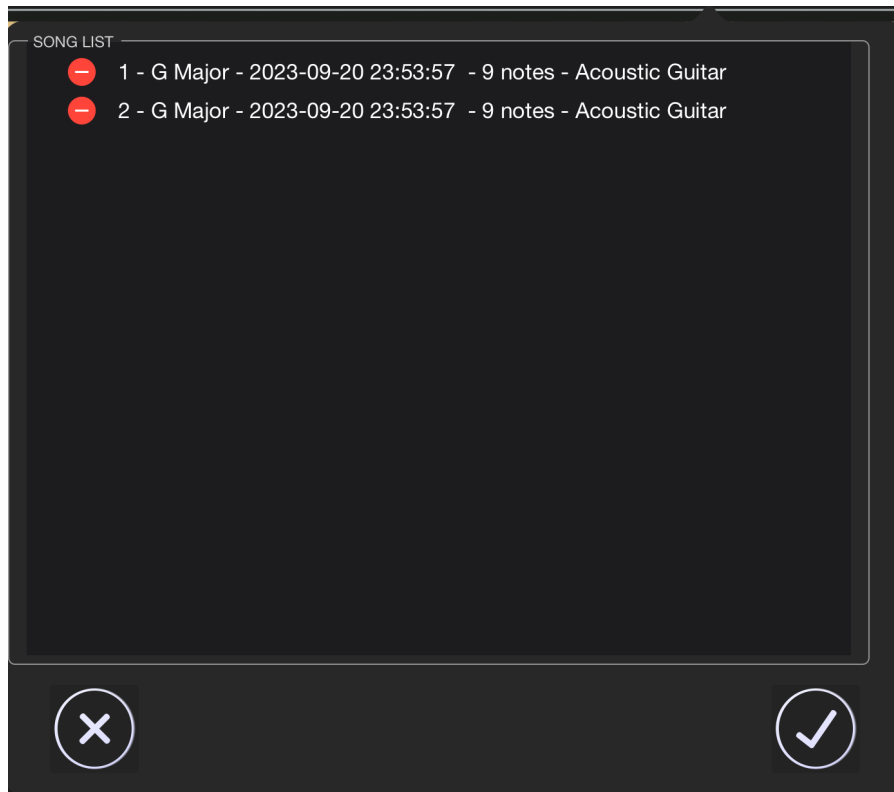


Click on a track in the list and Click on the Ok button to select it.

## INSTRUMENT COMPARISON

The Comparison tab allows you to compare chords and notes on two different instruments. This is particularly useful to work out chords on a new instrument. The screen is divided into 3 sections: A top and bottom instrument section, and a Key and Chord Type picker section on the right-hand side of the screen. Selecting a Chord Type or Key from the picker will play and display the chord on both instruments, and update the list of chord shapes for each of the instruments.

Note that settings made on the Chords tab (such as instrument selection and capo position) will be reflected in the top instrument on this screen, and conversely, changes made here to the top instrument will also be reflected when returning to other screens.

The Tuning and Instrument buttons to the top left-centre of the screen relate to the top/main instrument, and the bottom/secondary instrument buttons are to the right of centre.

Click on the instrument name buttons to change either instrument. The top button is the top instrument, and the bottom button is the bottom instrument.

String tuning and the caop is adjustable for each instrument separately and these functions are accessible through the Fretboard menu. Select the Left tuning button for the top instrument, and the right button for the bottom instrument.
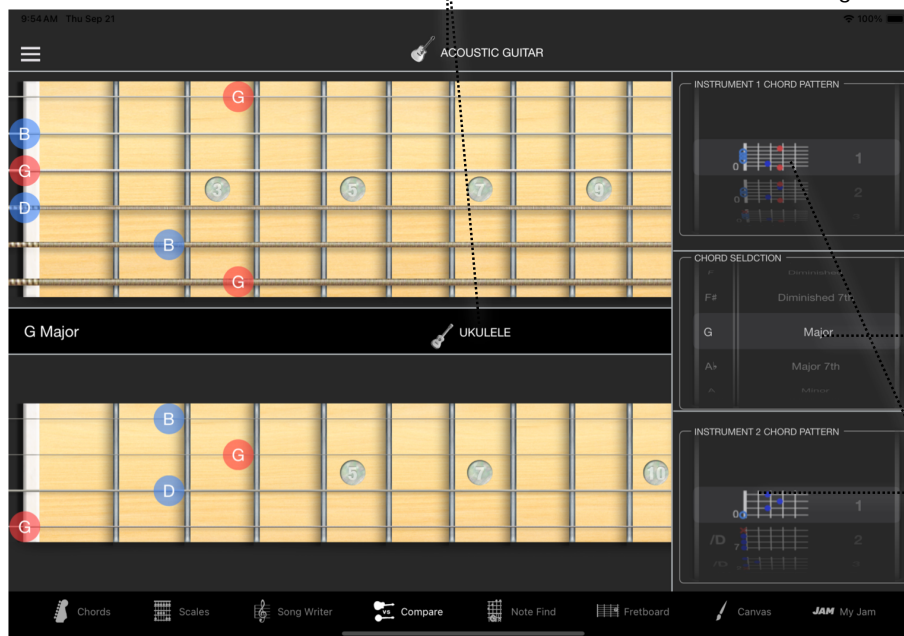


This screen shows two Pickers which show the possible chord combinations for the associated Instrument with the Key & Chord Type selected from the Key/Chord Type Picker. See the description of the Chord Picker on the main screen for more details

Select a Key/Chord Type here to update the available chord lists for both Instruments. Note Advanced mode in settings enables many more chord types.

# NOTE FINDER

Note Finder is a tool to allow you to select a key and scale, then selectively show or hide relative notes based on their interval, highlighting patterns on the fretboard.



Notes of the scale enabled and disabled by buttons with corresponding colour glow on the bottom right o the screen.

Start of Key marker to create a reference point for the start of the pattern.

This Indicator shows the Key and Scale being Displayed, the notes of that scale and their intervals.

Buttons to quick selection turn either show or hide all notes (except the root note), or just show the main notes of the scale (1, 3 & 5 notes)

Quick selection of Major and Minor Scales

Use this picker to select a Key and scale type.

Select a Scale Type here to update the scale shapes shown in the scale picker.

The scale picker illustrates possible scale patterns up the neck of the instrument. Scale runs up the neck are interspersed with straight up and down patterns. Selecting a pattern here will cause it to be displayed on the fretboard. Root notes are shown in red, 3rd notes in blue, and 5th notes shown in green.

These buttons show the intervals of the scale and allows them to be turned on or off individually on the fretboard.
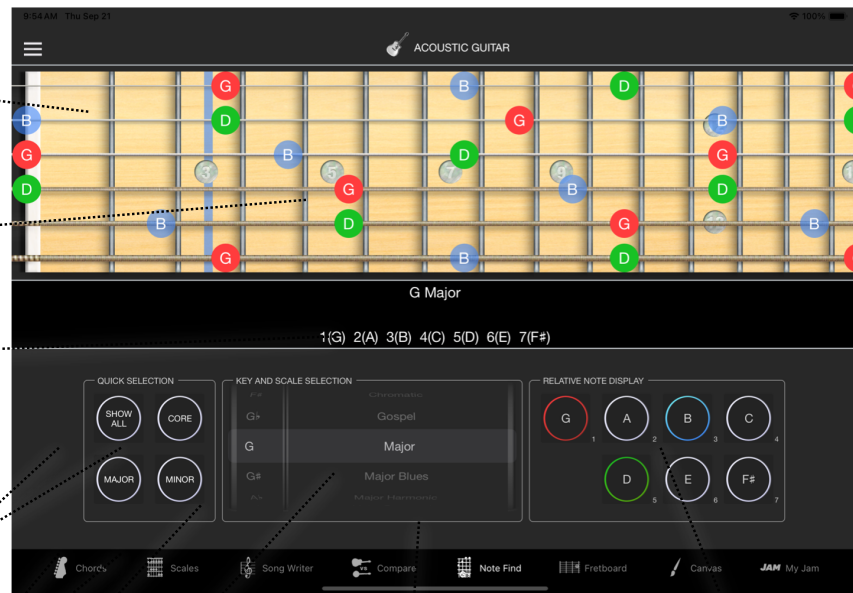
## FRETBOARD MASTER GAME

The Fretboard Master tab is a simple game to help you learn the notes of the fretboard. It supports any of StringMaster's instruments, in any orientation you prefer, and also allows you to select alternate tuning. The musical key of the game may be altered by clicking the "key selection" button (with the treble clef), located at the top right-hand corner of the screen. Selecting a different key will determine if notes are shown as sharps or flats and the game also allows exclusion of notes outside the major scale of the selected key.

The currently selected key is displayed here. This determines the notes displayed and notes that may be excluded from the game

Pinch the fretboard on a fret to enable the Capo and re-pinch or drag it to the nut to remove it. The Capo position can be moved by pinching in a new location or by selecting the clear space just behind it and dragging it up and down the fretboard. When a Capo is in place, only notes between the Capo position and the 12th fret will be displayed.

Once the game starts, you will be asked to select the note displayed on the fretboard.

Before starting the game, select the string at the nut position to enable or disable it for the game. This allows you to focus on learning individual strings. All strings are enabled by default.

Right answers are shown in Green, and wrong answers in Red.

Your number of correct and Incorrect answers, current score and your best overall score are shown.

Remaining time in the game is shown here

Guess the note by selecting these note buttons. If your answer is wrong, buttons will remain highlighted in Red until you guess right.

Click here to start or pause the game.

Click here to reset the game information

Select the note displayed on the fretboard as soon as possible to maximize your score. You lose points for incorrect answers.

Use the time button to set the duration of the your game from 15 seconds to a maximum of 10 minutes (in 15 second increments). Click on the time display buttons to set the session time.
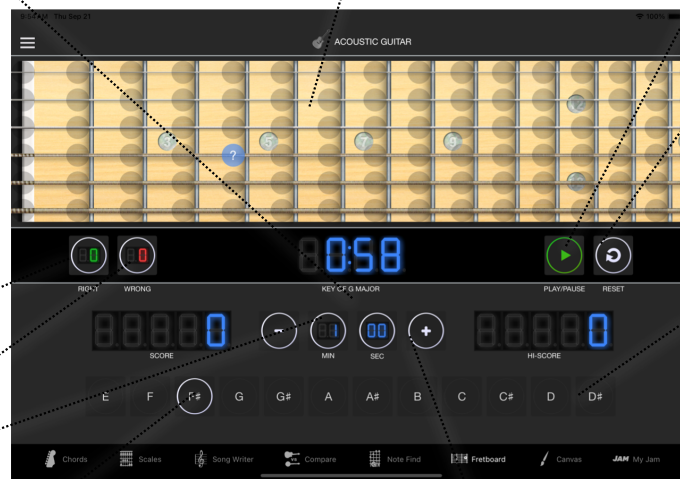
## GAME OPTIONS

The Fretboard Game has two basic modes of operation 'Note Guess' and 'Find Notes on Fretboard'.

The Note Guess mode shows a question mark on the fretboard and you need to select the correct note from the note buttons at the bottom of the screen as quickly as possible. The 'Find Notes on Fretboard' mode selects a random key and note from that key, then highlights it in green on the note selection buttons. The aim is to find all instances of that note on the first 12 frets of the fretboard as quickly as possible.

## Common Options

Both modes allow you reconfigure the note selection buttons in a 4x3 cluster allowing them to be accessed with one hand (though these are read only in the Find Notes option). There is also an option to show sharp or flat notes on the fretboard as a guide.

### Note Guess Options

### Key Selection

The Note Guess mode of the FretMaster game allow you to select a different key for the fretboard game, and limit the notes shown to that key. Selecting a different key will determine if notes are shown as sharps or flats and there is also an option that allows exclusion of notes outside the major scale of the selected key.

### Start Note Selection

The Start Note Selection allows you to configure the note on which the buttons start. By default, this is the note at the nut of the base string.

Select a the base key for your game. This will determine how sharp/flat notes will be displayed, and can also be used to limit the note selection for the game Note: the selection shows Sharp and Flat Keys separately.

This option allows you to set the maximum fret for the game. This allows you to focus on a segment of the fretboard. Note the Capo can be used to set the minimum fret value.

This option changes the mode of the game to use the note buttons to show a note that must then be found on each string of the fretboard as quickly as possible.
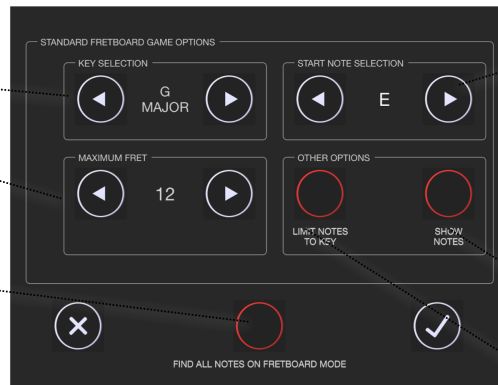
This option changes the start note for the note buttons. The default start note is the base note of the base string, though changing this value will set a default for each time the game is launched.

This option allows you display the sharp or flat notes on the fretboard (depending on the selected key) while playing the game.

This option allows you to limit the notes shown in game to be those of the selected key. Notes outside the key will be disabled.

STANDARD FRETBOARD GAME OPTIONS

KEY SELECTION
◀ G MAJOR ▶

START NOTE SELECTION
◀ E ▶

MAXIMUM FRET
◀ 12 ▶

OTHER OPTIONS
○ LIMIT NOTES TO KEY    ○ SHOW NOTES

✕    ○    ✓

FIND ALL NOTES ON FRETBOARD MODE

## FRETBOARD CANVAS

The "Fretlight Edition" of StringMaster supports a "Canvas" screen, which includes options for displaying or text, showing sine waves, playing the game of life, or just lighting up fret positions on the Fretlight Guitar. Notes are directly lit on the Fretlight by touching them on the on-screen fretboard. If the "Flash Root Notes" option is selected from the Settings, these notes will be highlighted in red on screen, and flash on the guitar. Simply tap again on a lit note to turn it off.

This Fretboard mirrors the Fretlight fretboard, and also allows direct drawing by touching notes. When the "Flash" notes button is selected, notes will appear in red on the screen and flash on the Fretlight.

Text Entry box. Text displayed here can be either sent to the Fretlight as static text via the "Send" button or as scrolling text via the "Scroll" button.

When this option is selected, notes touched on the Fretboard will show up red, and Flash on the Fretlight Guitar

Click here to stop the current animations - leaving the Fretboard lit as it is currently.

Reset and Clear the Fretboard, stopping all animations.

Invoke the Game of Life on the fretboard. This will continue until all the generations have died out or the game is stopped.

Adjust the text scrolling speed of scrolling text here (in frames per second). Note that scrolling must be stopped and restarted in order for changes to take affect
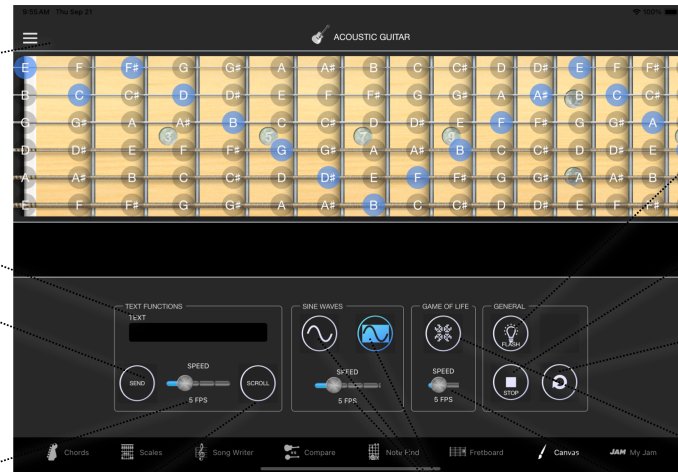
Click here to scroll the text, in the text box, on the fretboard (note this will appear upside down on the screen)

Generate a sine wave on the fretboard. The right button shows the wave inversed on the Fretlight. The slider is used to adjust the speed.

Frequency of update may be changed via the slider.

When available, connecting and configuring options for the Fretlight guitar is done by selecting the "Fretlight Config" option in the Tools" menu.

## JAM

Based on the concept of the "Improviser" app from Fretlight, Jam is a tool that lets you play along to MIDI tracks, including the 150 included tracks across a broad range of styles. Jam is built to support Fretlight Bluetooth Guitars, or traditional, USB Fretlight guitars, exposed by a Bluetooth Bridge such as "Guitar Connect for Fretlight" on the Mac App Store.

Key features of Jam are accessed from the main screen as follows:

Pinch the fretboard on a fret to enable the Capo, which will affect how chords are displayed. The Capo can be moved by pinching in a new location or by selecting the clear space just behind it and dragging it up and down the nut.

The Settings Button lets you access a range of settings for MyJam including pairing the Fterlight Guitar. See Settings section for detail.

The Chord Fingering button toggles whether the suggested fingering for a chord, or the notes of the chord are shown on the fretboard when in chord mode. Fingering is shown when the icon is lit.

This part of the screen shows detail of the track being played. Note this will be limited for external MIDI tracks.

Play functions to play, pause, restart and stop functions. FF and rew buttons move forward and back a measure at a time, and repeat function.

Mode selection determine what is displayed on the fretboard. Scale mode shows the currently selected scale and Scale Auto progress automatically to the next position on the fretboard every 8 bars (configurable in settings). Chord tones show the notes of the currently played chords on the fretboard, and chord mode shows the recommended way to play the current chord.

The Tempo slider allows the track playback to be speeded up or slowed down. Clicking on the % value will toggle between 100 and 50% of the default rate.

Click here to select the track to play – either one of the internal 150 tracks, or your own MIDI tracks.

Click here to select a different instrument which defines the fretboard layout and sound.

This button allows you to cycle between 3 modes of displaying notes on the fretboard: 1) Chord Only 2 ) Notes that are part of the selected chord (blue) or 3) All notes (green).

Click here for flexible alternate tuning of the selected instrument – Each string may be tuned up or down by 6 semi-tones. This allows you to change the tuning of your guitar and have the chords and scales shown match that tuning.

Details of the currently playing track are shown here.

These handles allow the start and end position of the track to be selected. If playback is looped it will loop between these positions.

Force scale Auto Increment mode to cycle between scale positions.

Move up or down through the list of scale positions
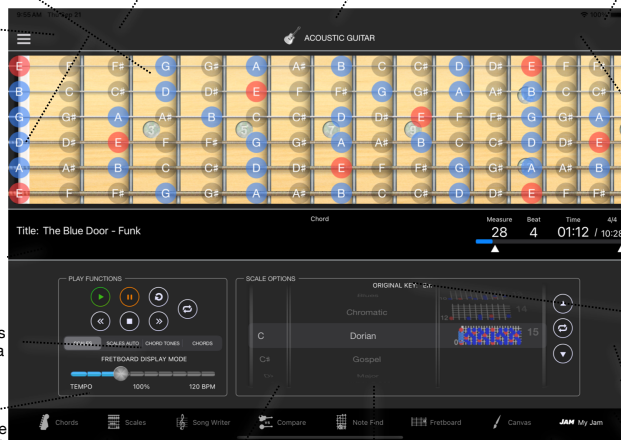
Change the key of the currently selected song by selecting a new key here.

Select a Scale Type here to update the scale shapes shown in the scale picker.

The scale picker illustrates possible scale patterns up the neck of the instrument. Scale runs up the neck are interspersed with straight up and down patterns. Selecting a pattern here will cause it to be displayed on the fretboard. Root notes are shown in red, regular notes in blue, and "alternate" notes such as blues notes, which are typically transient notes, are shown in green.

## OPENING MIDI FILES

Jam lets you play along to midi tracks. This screen is used to select the track to play

My Jam has 150 inbuilt tracks to chose from. These all have track information, and defined chords and scales.

This section shows any metadata from the selected track. This information is likely to be scant for your own MIDI Tracks.

Press Cancel to close the window, ignoring your new selection
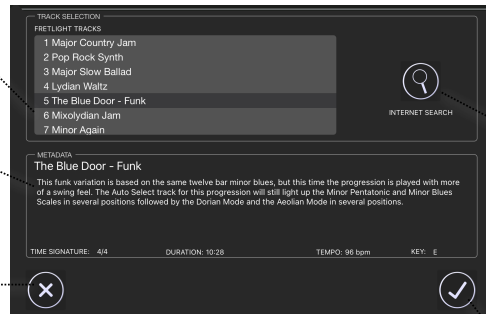
Click here to open a web search for external MIDI tracks. This will open a browser to freemidi.org by default. When you find the track you want, clock do download it, then select the "Open MIDI File" option to open it in My Jam

Press Ok to switch to the currently selected track.



## JAM INSTRUMENT/TRACK SELECTION

Once a MIDI Track has been selected, the Track selection option allows you to turn on or off particular instruments during playback

The "Enable / Disable MIDI Tracks from the My Jam section of the File Menu shows this window allowing you to select the MIDI tracks (instruments) to play or not play by clicking here.

Track selection icon allows you to disable or enable MIDI tracks so you only hear the instruments you want to listen to.

Press Cancel to close the window, ignoring your new settings
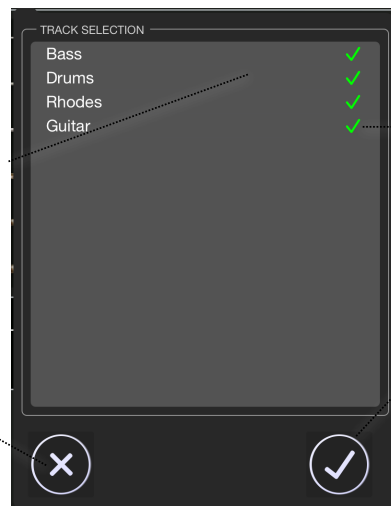
Tap on on instrument to enable/disable it. Instruments with a tick will be played in the track.

Press Ok to apply your settings and close the settings window.

# STRINGMASTER SETTINGS & OTHER OPTIONS

The available settings are described below.

Make fretboard left handed with strings extending from the left. In this mode, chord diagrams in the chord picker will also be displayed with this orientation.

When the Advanced Mode option is switched on, a wider range of chord types may be selected from the chord type list. Chords may also span 5 frets instead of 4. Advanced mode also enables the Mode selection capability in the Songwriter.

Selecting the Advanced Option also turns on the Show Inversion option by Default.

The Flip Fretboard option allows the instrument to be flipped over to learn play like Hendrix, Play a right handed guitar left handed or left handed guitar right handed!

MIDI Output will enable StringMaster to send MIDI notes to any connected MIDI devices listening on the selected channel. With this option enabled, any notes played in StringMaster will also be sent as MIDI. The MIDI channel may be set using the +/- buttons and will be shown in Red if MIDI output is disabled.

Inversions are chords with the same notes as the selected chord, though the first note is not the root note of the chord. For instruments with less than 6 Strings, inversions are often the default way of playing a chord, and therefore they are always shown. This option allows inversions to be displayed in the chord picker for the instruments with 6 or more strings.

Note: For Instruments with less than 6 strings, inversions to be mixed in with regular chords based on playability, rather than being listed in order after the non-inverted chords.

MIDI on an iPad can operate over WiFi, using a computer as a bridge to MIDI devices. This option introduces some latency to the MIDI, though offers tremendous flexibility. See the StringMaster manual (link below) for additional details on setting up the computer end of this connection.

Any available MIDI destinations are displayed here.

Increase or decrease the reference frequency of the application by clicking on the +/- buttons. Click on the display itself to reset to the standard reference frequency of 440Hz. Press and hold to +/- buttons to rapidly increase/decrease values.

Press the Cancel Button to abort your setting changes and close the window.

Option to detune the G string by 1 octave for the Ukulele.

When in Jam Mode, select the number of measures between auto-increment of the scale display when in "Scale Auto" mode. Default is every 8 measures.

Press the Ok to apply your settings and close the window.

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## ALTERNATE TUNING

A "Tuning" button is available on the top right-hand corner of each of StringMaster's screens, with the exception of the Comparison screen, which has a button for each of the two instruments displayed, one on the left side and one on the right. The tuning option allows you to tune each of the strings on the currently selected instrument up or down by 6 semitones.

The top notes in the String Tuning popover are represent the high strings on the instrument

This shows the current base note of each string on the selected instrument.

The tuning buttons increment or decrement the base note of the corresponding string by 1 semitone. Each string may be altered by up to 6 semitones in either direction. The direction buttons will highlight in Red when the limit is reached

Alternately tunes strings are indicated by an amber button and buttons will be disabled and glow red when the limit (6 semitones) is reached.

Press here to reset the current instrument back to default tuning, then press the Ok button to save the changes and close the window

Press the Ok to apply your settings and close the String Tuning window, or click outside the window to abandon any changes. Note – If alternate tuning is applied, the tuning button in the toolbar will highlight in blue.

# INSTRUMENT SELECTION

StringMaster supports multiple fretted instruments, which may be selected by pressing the Instrument Name Button at the top of any screen. The Comparison screen has 2 Instrument selection buttons, one for each fretboard. The instrument selection window is illustrated below.
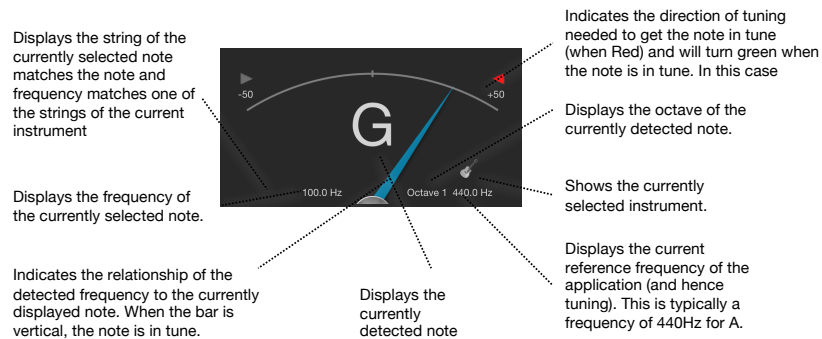
The Instrument Selection option also allows you to select different sounds fretboard material or fret width for each instrument.

Select the desired instrument from the available instruments using the forward or back arrows. As you change the instrument, the sound for the instrument will also be selected to the default for that instrument, though this may be changed independently.

You can add distortion and reverb to the selected Instrument's sound through these knobs.

This section allows you to alter the width of the frets displayed on the screen. The number displayed approximates the number of frets you will see for a full screen fretboard.

A Piano sound may be applied to any instrument by turning it on here.

All Instruments can be displayed with different fretboard materials. Use the left or right arrows to select a new material.

Press Cancel to close the window, ignoring your new settings

Press Ok to apply your settings and close the settings window.

## TUNER

The StringMaster tuner is accessible from the Chords, Scales and Song Writer screens and provides fast, accurate chromatic tuning that is optimised for your selected instrument. The Tuner knows your tuning settings of the currently selected instrument and the reference frequency set for the application, and will show when the detected frequency matches a string with these parameters.

In a quiet environment, the Tuner should sensitive enough to pitch up an unplugged electric instrument if it is close to the microphone of he iPad. However, for best results when tuning, it is recommended that electric instruments be plugged in to the iPad though a device such as an iRig.



Displays the string of the currently selected note matches the note and frequency matches one of the strings of the current instrument

Displays the frequency of the currently selected note.

Indicates the relationship of the detected frequency to the currently displayed note. When the bar is vertical, the note is in tune.

Displays the currently detected note

Indicates the direction of tuning needed to get the note in tune (when Red) and will turn green when the note is in tune. In this case

Displays the octave of the currently detected note.

Shows the currently selected instrument.

Displays the current reference frequency of the application (and hence tuning). This is typically a frequency of 440Hz for A.

# METRONOME

The Metronome provides a flexible mechanism to configure beat patterns, save those and play them in the background while using the rest of the StringMaster application. This is particularly useful for enhancing timing when using the Song Writer, or for playing back scales in a way that follows a pre-defined beat and pace.

Visual beat indicator that oscillates based on the Beats Per Minute (BPM) setting.

Sets the number of beats per bar (also changing the beats shown on the beat display.

Sets the type of beats in the bar from ½ to 16$^{th}$ notes. Combined with the Beats per Bar, this provides a time signature.

Save current settings to the currently selected preset.

Add a new preset to the list with the current settings.

Sets the volume level for the Metronome relative to the rest of the application

Close the metronome and stop playing.

Stop playing the current sequence

Illustrates the number of  quarter notes beats per minute. Tap here to reset to 120bpm.

Close the metronome and though continue playing. If the metronome is not currently playing, this is equivalent to just closing the window, though if the Metronome is playing, it will continue to do so and the Metronome icon will ne highlighted in blue.

Click the + and – buttons to increment or decrement the number of beats per minute by 1.  Press and hold to more rapidly increase or decrease values.

Illustration of the makeup of the beats in the bar. Each is lit in turn as they play, with their colour indicating the type of sound the beat will make.

Red=Kick Drum (Reference)
Green=HiHat (Tick)
Blue=WoodBlock
Clear=Silent (Rest)

Tapping a beat will change its type to the next type in the list, playing that sound.

List of pre-configured time signatures and user presets. Selecting a preset from the list will automatically load it.

Start playing the current sequence. This button will highlight in green when the sequence is playing.

## MIDI SETUP

MIDI (Musical Instrument Device Interface) is a tried and true mechanism for musical instruments and devices to exchange information, allowing exchange of note information including velocity, pitch, etc, and also control other information. StringMaster 4.0 supports MIDI output to allow, for example notes played o StringMaster to trigger the notes to be played on another device, or recorded in a MIDI aware application such as Garage Band.

When using MIDI Output, StringMaster will automatically detect and bind to MIDI destinations connected to the IPad. There is also an option to connect to other MIDI devices using WiFi, so you can enjoy the benefits of MIDI without needing any additional hardware. This is supported natively on the mac, as described below, or requires additional software on a PC such as rtpMIDI.

### Network Midi Setup on the Mac

The "Use Network" option in the StringMaster settings enables this, though it is also necessary to have a computer to act as a receiver and bridge for the MIDI information. If you are running a modern Macintosh running OSX, this is relatively easy to set up.

Step1:

Make sure your mac and iPad are on the same WiFi network, then, on your Mac, open the AudioMIDI Setup app in the Applications->Utilities folder.
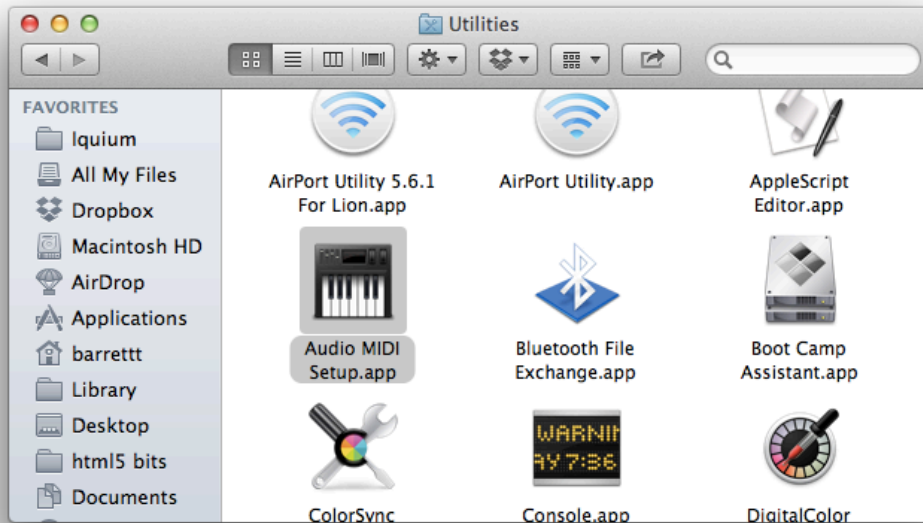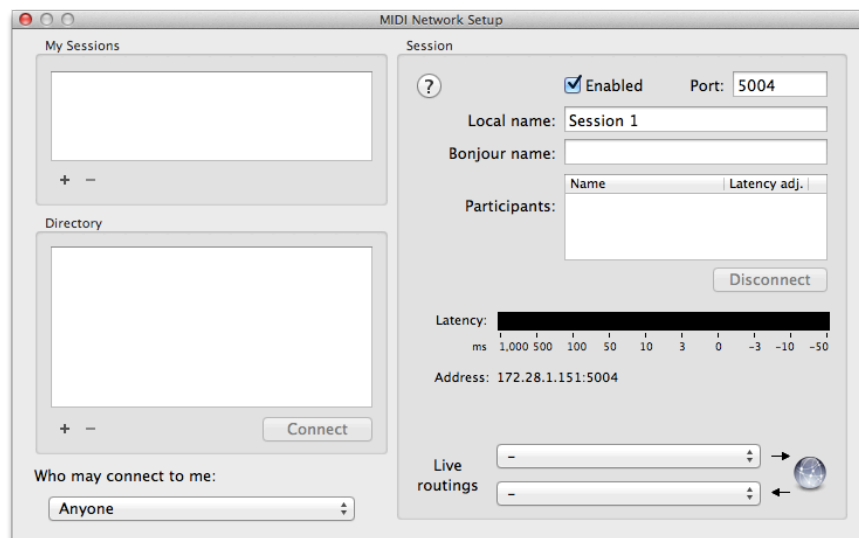
Step 2:

Once the App is running, it should show the Audio setup of the machine. Go to the Window menu and click 'Show MIDI Window' to show the MIDI Studio, which should show the IAC Driver and Network devices as well as other MIDI devices you have connected to the system.

Step 3:

Double click the Network icon to launch the MIDI network setup screen.

Step 4:

If you have not done so already, create a new "Session" by clicking the plus button at the bottom left hand corner of the "My Sessions" panel. Ensure that the "Who may connect to me" dropdown box is set to "Anyone".

Step 5:

Go to the StringMaster Settings and enable midi and "Use Network" options. Within a couple of seconds you should see the MIDI destination change to "NETWORK SESSION 1
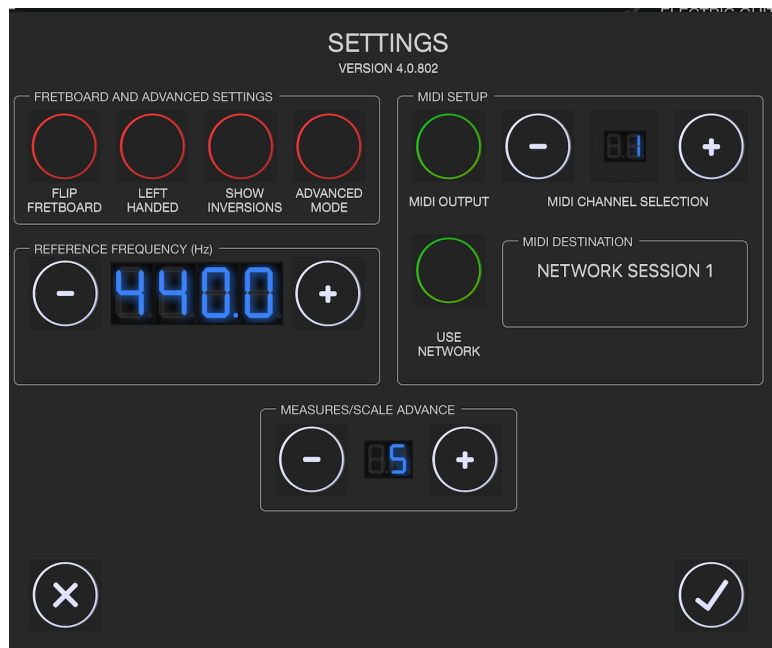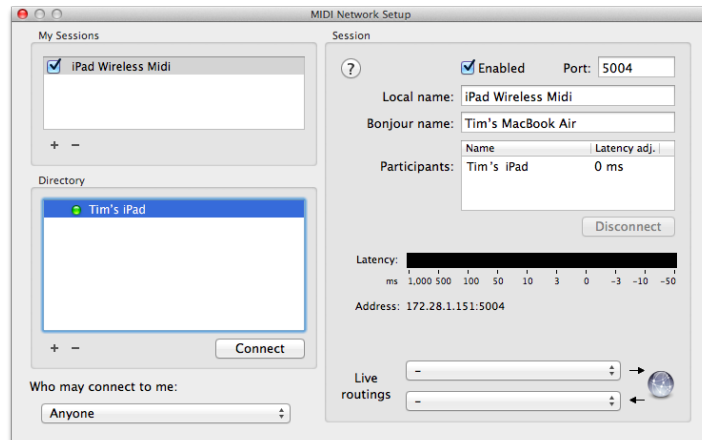


Your iPad should appear in the "Directory" section of the MIDI network Setup window.
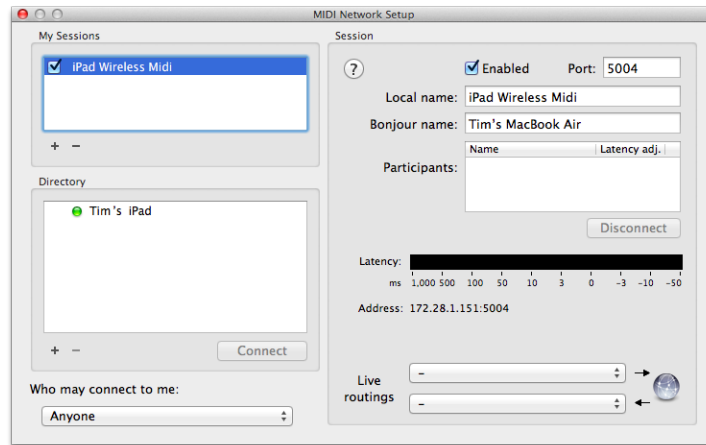
Step 6:

Select your iPad then click on the "Connect" button to complete the wireless setup. If it appears in the Participants section of the window then you are connected.



Step 7:

If you are not using MIDI outside the Mac, then you just need to select the Network Session as a MIDI input such as this example with the Korg Legacy Application:
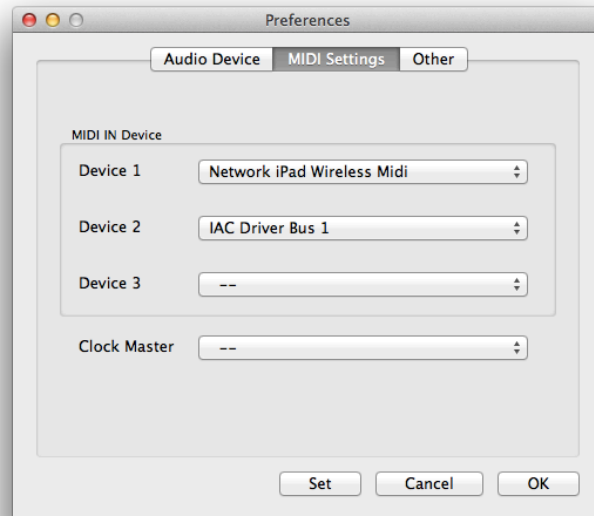
Garage Band should automatically recognize the MIDI connection, and allow you to record MIDI data from StringMaster.

Subsequent connections should only require steps 6 & 7 to reconnect.