PreSonus®

NOTION

■ ■ ■ ■ ■ MOBILE

USER GUIDE

V3.3

Table of Contents

Introduction

Thank you for downloading Notion™ Mobile, and welcome to the Notion Mobile 3.3 User Guide.To view this guide as a PDF document, please download from here:**https://presonus.com/products/Notion-Mobile/downloads**

In the iOS App Store for over 10 years, Notion iOS has now become Notion Mobile — adding new platforms, new devices and new opportunities. You can now truly compose anywhere on any device, including those running iOS (iPhone and iPad), Android (phones, tablets and Chromebooks), Windows (tablets, Surface, computers) and macOS. Notion Mobile is available from the major app stores: Google Play Store, Apple iOS and macOS App Stores, Amazon App Store, Samsung Galaxy Store, and Microsoft Store.

Notion Mobile is fully compatible with Notion files created in Notion iOS, and in Notion Desktop (macOS, Windows). With the new network transfer feature (part of the optional Feature Bundle) Notion can also directly transfer scores between any device on the same network (regardless of platform) that is running Notion Mobile, Notion 6 desktop, or Studio One 6.

Quickstart

Check out this series of **Quickstart tutorials** on YouTube.

Notion Mobile

PreSonus Audio Electronics

8 videos · 3,596 views · Last updated on Oct 18, 2022

▶ Play all ⤫ Shuffle

Notion Mobile is a free, industry-leading music composition tool for iOS, iPadOS®, MacOS, Android™, Windows®, Chrome OS™, and Fire OS mobile devices. You'll effortlessly create dynamic compositions in traditional musical notation or tablature with its intuitive touch-based interface and incredibly broad editing capabilities.

1. Notion® Mobile: FREE on-the-go music creation and notation application
   PreSonus Audio Electronics · 5.3K views · 3 months ago

2. Introducing Notion Mobile
   PreSonus Audio Electronics · 6.3K views · 3 months ago

3. Notion Mobile New Features Overview
   PreSonus Audio Electronics · 7.5K views · 3 months ago

4. Notion Mobile Quick Start Lesson 1: Getting the App
   PreSonus Audio Electronics · 2.5K views · 3 months ago

5. Notion Mobile Quick Start Lesson 2: Score Setup and Note Entry
   PreSonus Audio Electronics · 4.6K views · 3 months ago

6. Notion Mobile Quick Start Lesson 3: Playback
   PreSonus Audio Electronics · 1.9K views · 3 months ago

Do More…

You can unlock more features and sounds in Notion Mobile either by purchasing the Feature Bundle on any platform, or by simply signing in with your Studio One+ membership.

Notion 6 Desktop is our flagship notation product, with more notation features, layout control, third-party VST instrument and effects support, live performance mode, video windows, sequencer staff, Score Library, a deeper sound library, and more. It's available for purchase for macOS and Windows, or comes as part of a Studio One+ membership.

- **Learn more about Notion Desktop here.**

What is Studio One+?

Studio One+ is the ultimate toolkit for composers, and includes Studio One Professional, our flagship DAW (Digital Audio Workstation), Notion Desktop for macOS and Windows, tons of Add-ons sounds and content, community collaboration functions, exclusive training videos, and more.

- **Learn more about Studio One+ here.**

PreSonus is committed to constant product improvement, and we value your suggestions highly. We believe the best way to achieve our goal of constant improvement is by listening to the real experts: our valued customers. We appreciate the support you have shown us through the purchase of this software.

See the **Quickstart Tutorial here:**

Installation and Activation

Installing Notion Mobile From an App Store

To get Notion Mobile on your device, follow these links or log in to your device's respective app store:

- iOS Devices: **Apple App Store**
- macOS Devices: **Apple Mac App Store**
- Windows Devices: **Microsoft Store**
- Android Devices: **Google Play Store** or Samsung Galaxy Store
- Amazon Devices: **Amazon App Store**

Once you've opened your device's app store, search for "Notion Music."

Look for the Notion Mobile app (and its distinctive icon) in the search results, tap "Get" or "Install."

To save space on your device, the initial app will download with just the Steinway piano sound — the rest of the sounds can be added/removed later as you wish (see below: Installing Sounds)

Updates

Updates to Notion Mobile are handled via your respective App Store — go to your account or search again for Notion Mobile within the app store to download an update. Alternatively, set your apps to automatically update whenever an update is available — this setting can be usually found in your app store.

Welcome Page
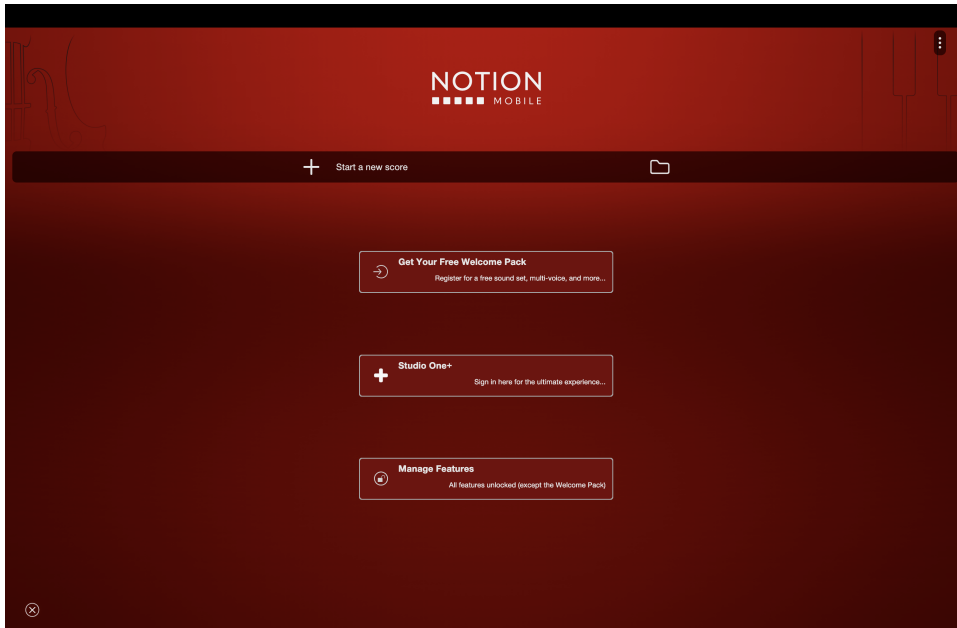
On first open, Notion Mobile will display a Welcome Page. From here, you can quickly create your first score by hitting the plus button or try out one of the included demo scores. Or you take a moment to unlock all of Notion Mobile's optional features and sounds by purchasing the in-app purchase, or signing in with your Studio One+ membership.

Installing Sounds
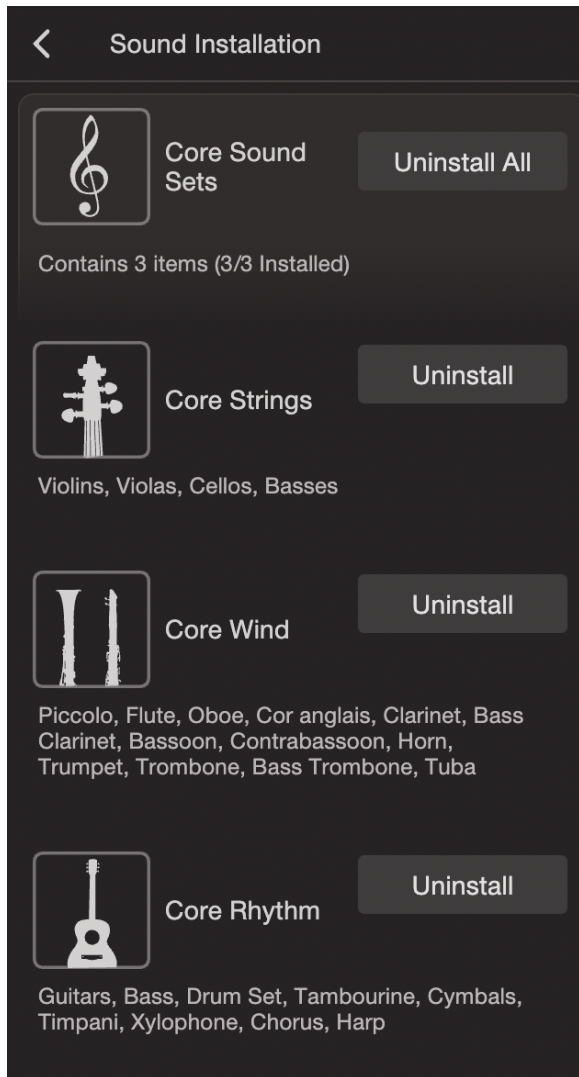
Notion Mobile comes bundled with a core set of specially recorded sample instruments - to install them, navigate to the Application Menu>Sound Installation. You can either install the available Core sounds, or just the individual Core Soundsets that you want. You can also install the Soundsets from your Score Setup menu — just click the download icon. If you want to free up space on your device, you can also remove Soundsets from this menu.

To unlock the expansion sounds, you can either make the single in-app purchase from the link provided, or sign-in with your Studio One+ membership. (See below)

The Welcome Pack soundset is available as a reward once Notion has been registered at my.presonus.com — there is no charge for registering Notion. (See below)

Welcome Pack

To receive the Welcome Pack (which includes an exclusive soundset, multi-voice input, and access to the Notion forums, you will need to register your app with PreSonus — there is no charge for doing so.

Click the button on the Welcome Page, or go to Application Menu>Account>Register. Then sign-in with your My.PreSonus account, or click the link to create a free account if you don't already have one.

Unlock with Studio One+/ In-app purchase

To unlock optional features and content, you will need to either make the in-app purchase on each platform you use Notion (e.g. Android, Windows, macOS, iOS), or sign in with your Studio One+ Membership.

This purchase includes: handwriting recognition, layout controls, network transfer for device-to-device sharing of scores, all expansion Soundsets, and exciting new features to arrive in the future!

Can I remove/delete my my.presonus account?

Yes you can, you can download all your data and permanently delete your my.presonus account. Please bear in mind that this will delete your account and any hardware or software registered product keys will be irretrievably deleted. **Full instructions here**.

Restore purchases

If you have made the optional in-app purchase and you can't see your previously unlocked features or sounds, then you may need to refresh the purchase state of the app.

- First, make sure you are signed in to the device with the same account that you purchased with (this is the number 1 reason for this issue to happen!)
- Next, make sure you actually made the purchase on the platform you are currently using — note the in-app purchases are per platform (i.e. an in-app purchase made on Android will not carry over to Apple iOS).
- Finally, just tap "Restore Purchase" from: Application Menu >> Manage Features

Choosing your language

The language in which your device is set will generally dictate which language Notion will display in. You may be able to override this at the app level, depending on the platform. Go to the Application Menu >> Language to do so.

For starting a new score by clicking the plus button, **click here**.

Start Page

Notion Mobile's Start Page gives you quick access to your most recently opened files. You can remove files from this Recents List as well as permanently delete them — hit the Edit button and make a selection to either remove or delete.

Depending on the platform, you can also right click the filename, and then elect to remove from the Recents List, or open the file's location.

To find a file in your Recents List, tap the Search icon, and start typing until a match is found.

To open an existing Notion file or import a MIDI or MusicXML or MXL file, tap the File Browser button. This will open up your system's browser where you can navigate to the location of your desired document. Notion will open or import the file, and then save any changes in the original location or in place — it won't move the files into another location.

The Application Menu in the top right of the Start Page, gives you access to Global options for Notion. These include:

- **Audio Setup Options** including sample rate and audio device selection where possible. Visit the Playback chapter to learn more about setting up your **audio devices**.
- **Appearance Options** including dark/light, icon size, palette size and side. Visit the **Layout Setup** chapter to learn more.
- **Edit Options** including automatic mode switching when using supported styli, and auditioning notes on input. Visit the **Selecting and Entering Notes** chapter to learn more.
- **Network Options** to allow Notion and Studio One documents to be received sent over the network Audio options, including sample rate, audio device selection where possible. Visit the **Export and Print Scores** chapter to learn more.
- **Sound Installation** lets you manage which of the included Core soundsets you wish to download or remove, as well as download the optional Expansion soundsets. Visit the **Installation and Activation** chapter to learn more.
- **Manage Features** for optionally registering with PreSonus to receive your welcome pack, as well as signing in with your Studio One+ membership to unlock all features and content. Visit the **Installation and Activation** chapter to learn more.
- **Language** to change the application language
- The **About** screen displays your current version number.

See the **Quickstart Tutorial here:**
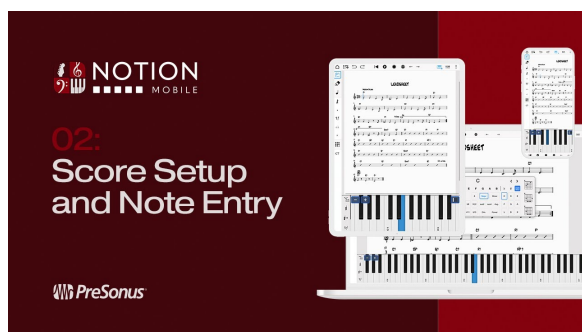
Score Setup

Creating a new Score
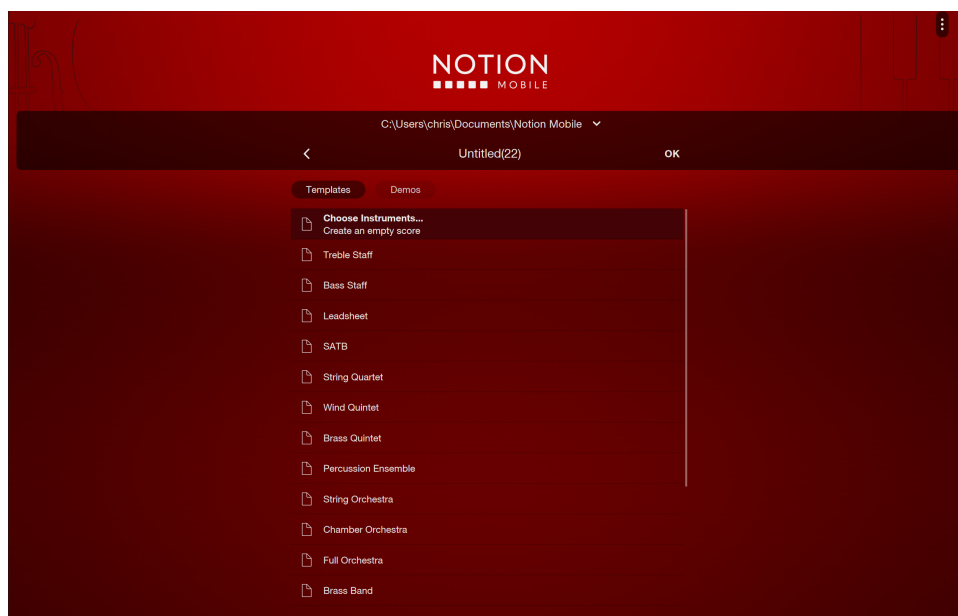
To create a new score, tap the 'plus' (+) icon on the Start Page.

You will then be prompted to enter a filename:

- You don't need to enter anything here, you can just use "Untitled."
- The initial filename set will also show as the Title in the score itself
- The Title can later be independently edited if needed by double tapping it
- Changing the Title does not change the filename (and vice versa, if you later change the filename, this won't affect the Title)

Above the filename, is the location that the new file will be saved in. Tap the down arrow for more options:

- **Select…** opens the device file browser. You can then navigate to the location where you want to save the file. Depending on the platform, not all cloud locations will be available for a new score — but a score can be moved once created, and then opened in place from that cloud location
- **Select Default** selects the default location for Notion scores on your platform

Choose Instruments… is selected by default — once you tap OK, this will then open the instrument picker. However, you can elect to use a template score...

Using a Template Score

- Hide the on-screen keyboard if it is still showing after entering your filename (if applicable) to see the whole Template list
- Select the Template you want
- Tap OK in the top right
- You can also add your own Templates to this list — Save, Export and Print Scores

Opening a Demo Score

Once you've tapped the 'plus' (+) icon on the Start Page, you'll be able to see a 'Demos' tab, alongside 'Templates'

Tap to show a list of included demo scores - select one to open and start playing. If you make a change to the demo score, this will automatically create a copy in your default save folder and be added to the Recents List on the Start Page. (The original demo score is not changed)
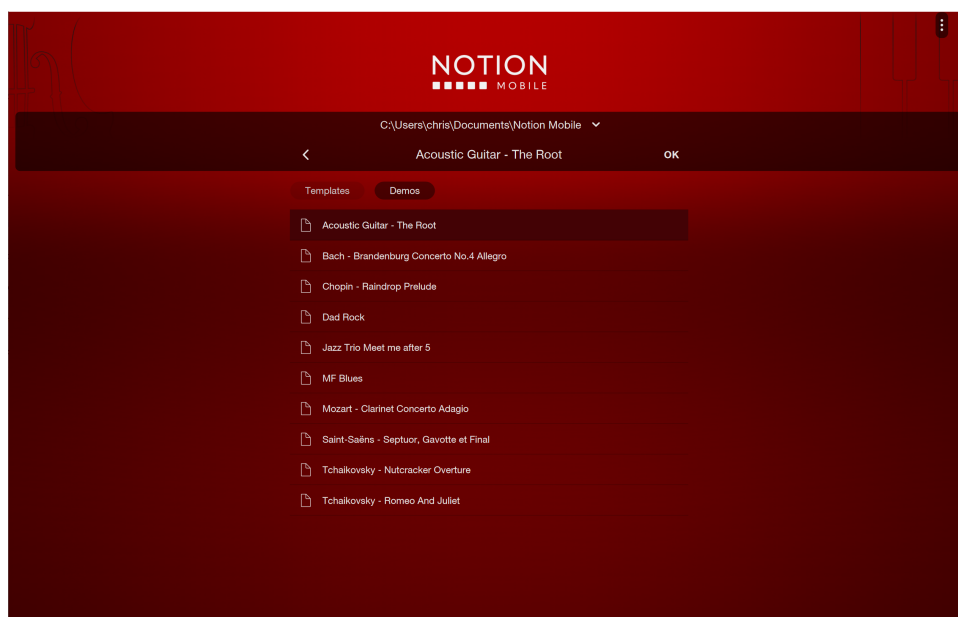
Add Instruments
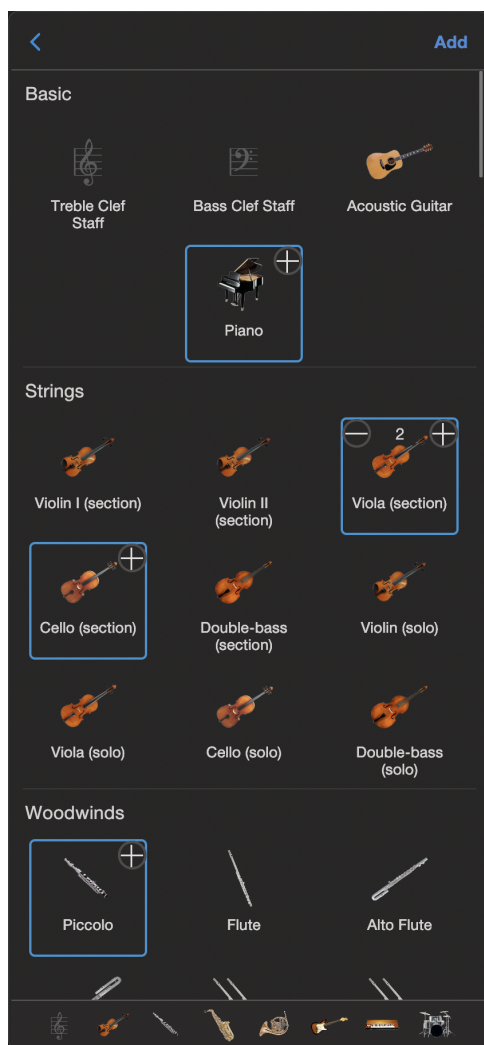
Once you've clicked OK and selected **Choose Instruments**, the score will open and Instrument picker will automatically open up

- Scroll up or down this list of instruments. You can also use the fixed row of instrument family shortcut icons at the bottom of this picker to jump to the right place
- Tap an instrument to select — tap again to deselect
- To select more than one of each instrument, tap the plus icon in the corner of the instrument.
- When you are done, tap **Add** in the top right corner

The selected instruments will be added to the score. The Score Setup window is now in view — here you can change various aspects of the instruments and the order (see below), but if everything looks good, tap **OK** in the top right corner, or tap away from the window to dismiss it.

Add and Edit Instruments
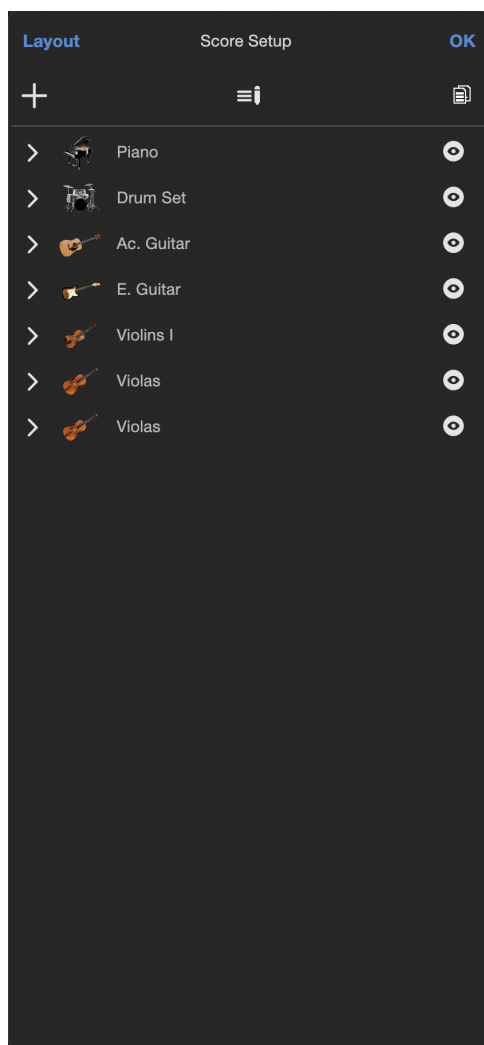
In the Score Setup window, if you wish to add more instruments, tap the + (plus) icon — this will open the instrument picker again.

Tap the **Edit** icon to remove instruments — tap the instrument(s) to select, then tap **Delete**. To change the score order of instruments, use the three-line icon on the right to grab and drag instruments into your desired order

On the right hand side of Score Setup, is a **Score / Part** toggle — this will allow you to switch to viewing either the full score or an individual part. When viewing a part, use the **eye** icon next to each instrument to change the part currently viewed. When viewing the Full Score, the **eye** icon is used to show/hide parts in the full score itself.

If you don't have the sound sample pack installed for an instrument you have selected, a blue round Download icon will appear — tap to download the containing Soundset. Note you don't need to have the sound downloaded / purchased to be able to write for that instrument, as Notion will default to a piano sound if it's not present.

Instrument Setup

In the Score Setup window, tap the arrow to the left of one of your chosen instruments to see more setup options. They include:

- **Instrument** - tap to change the instrument of the staff
- **Name** - change the full instrument name
- **Short Name** - change the abbreviated name
- **Staff Type** - select which type of staff to show for the instrument
    - **Standard** - single 5-line staff
    - **Tablature** - guitar tablature with a line for every instrument string and numbers instead of noteheads

- **Standard+TAB** - two linked staves allowing you to simultaneously see both standard and tablature notation for a single instrument
- **Grand staff** - two linked staves representing left and right hands
- **Drumset** - a five-line staff with percussion clef
- **Single Line** - a one-line staff
- **Tab Options** (only shows if a tablature option is selected above)
  - **Tab type** - choose from a selection of instrument presets and tunings
  - **Tab strings** - displays the tuning of the instrument, but can be overtyped for a custom tuning
  - **Circles in TAB** - option to show a circle around whole or half notes
  - **Show Stems in TAB** - option to hide rhythmic stems for tablature notes
- **Voice Stem Mode** - if there are multiple voices in a staff, this allows you to decide how the stems should be handled
  - **Separate Up/Down** - the default treatment of every upper voice note points up and every lower voice note points down.
  - **Joined Stems** - wherever the two voices share the same rhythm, join the two notes with a stem in the same direction. At points where there are rhythmic differences, return to default separate up/down treatment.
  - **Separate per Measure** will treat the voices as a joined stem option, but whenever there is an exception anywhere in a measure, then the entire measure is treated as Separate up/down.
- **Show Key Signature** this will hide the key signature at the start of each system, and automatically add accidentals to notes where necessary. This is most commonly used for French Horns.
- **Transposition** (only shown if a pitched instrument is selected) - Notion will automatically set this up for you when you select a transposing instrument from score setup. However you can also manually choose what note should sound and in what octave when a notated C is played. E.g. A French Horn in F playing a notated C, would sound F in the same octave lower. A Tenor Saxophone in Bb playing a notated C, would sound Bb one octave lower.
- **Show Instrument Key** (only shown if a pitched instrument is selected) will show/hide the displayed key of the instrument, e.g. Clarinet *in Bb* / Cl.1 *in Bb*

Layout Setup

View Options

You can switch between three different views for composing in Notion Mobile. Tap the **Score Setup** in the top left of the screen, then **Layout**. Then select one of the three views, and whether to view score or part — this will immediately change the view of the score in the background.

- **Screen view [F8]** - a borderless view, with systems scrolling up/down
- **Print view [F7**] - allows you to see the page outlines as it will print, depending on the page size you have set. Repeatedly pressing the keyboard shortcut **[F7]** will toggle between Print View with pages horizontally across and pages vertically down.
- **Continuous view [F6]** - a continuous fixed system, scrolling from left to right
- **Full Screen / Single Part view [F5]** - toggle between showing the full score or a single part

Various display options are then available below. These options will apply to whatever the currently selected view is — not all options apply to all views, these will be grayed out as appropriate.

Tap the desired view you wish to adjust first (Screen / Print / Continuous / Full Score or Part), then the options will update appropriately:

- **View Options**
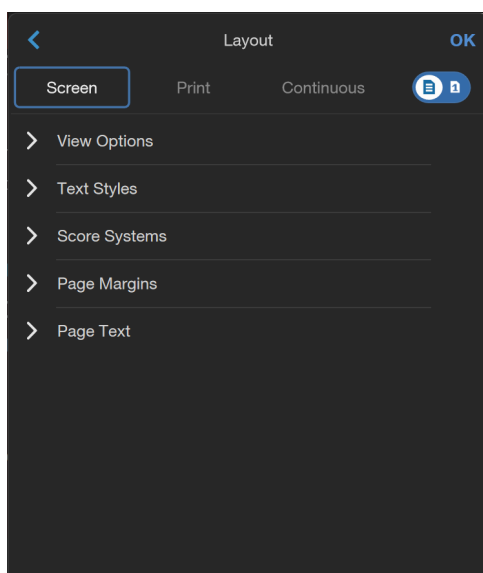
- **Notation Zoom** - this changes the display size in Screen view
- **Notation Font** - switch between standard font and jazz font for the notation
- **Notation Size** - adjust size of the notation font
- **Paper Format** - change the paper size or add a custom size (cm)
- **Orientation** - switch between portrait or landscape orientation
- **Transpose Mode** - switch between viewing instruments in their transposed key, in concert tuning (score in C with octave transposing instruments shown in their written octave), or concert pitch (score in C with octave transposing instruments shown in their sounding octave)
- **Print Cue Notes** - choose to show or hide cue notes when physically printing
- **Chord Summary** - if your score has chords in it, you can choose to show a summary of all the chords automatically, at the bottom of the first page
- **Hide Cuts** - will collapse any marked cuts so they are hidden, ready for printing
- **Reveal Hidden Items** - will reveal any score elements (e.g. dynamics) that have previously been hidden
- **Multi-measure rests** (Parts view only) - this will collate multiple measure rests in a part, into a single multi-measure rest. Select the minimum number of individual measure rests to be shown, before they are collated

- **Show Out of Range Notes** - will turn out-of-range notes red for a given instrument. Notes will still print black
- **Show Voice Colors** - will show the four voices in different colors for ease of identification
    - Voice 1 notation remains in a standard black color.
    - Voice 2 notation appears in a dark purple color.
    - Voice 3 notation appears in a light fuchsia color.
    - Voice 4 notation appears in a green color.
- **Text Styles** - this will change the appearance of lyric text. Choose the font, the style and size.
    - **Lyrics** - this will change the global appearance of lyric text. Choose the font, the style and size. Individual lyrics can still be given a custom style - right click the word(s) and select Context Menu>Text
    - **Text** - this will change the appearance of lyric text. Choose the font, the style and size. Individual text boxes can still be given a custom style - right click the word(s) and select Context Menu>Text
- **Score Systems**
    - **Titles First System** - choose whether to show instrument full names on the first system, or name abbreviations or none at all.
    - **Titles Following System** - choose whether to show instrument full names from the second system onward, or name abbreviations, or none at all.
    - **Staff Spacing** - adjust the vertical spacing between staves
    - **System Spacing** - adjust the vertical spacing between systems
    - **Break marks** - choose to hide or show the optional system break mark symbol (the two diagonal lines that sit between systems)
    - **Measure Limit** - adjust how many measures will be displayed on each system. Note that fewer measures may be shown if there are too many notes to fit - adjust the notation font size as described above if this is a problem.
    - **Measure Numbers** - choose whether measure numbers are shown per system, per measure, or not at all. To renumber measures, double tap the measure number and type in what number you wish to continue from. Notion will then adjust all subsequent numbers and stops if it encounters a measure you had re-numbered at an earlier time.
- **Page Margins** - adjust the page margins (in inches).
- **Page Text** - you can add and edit the style of special text items, such as Title, Copyright, Subtitle, Composer etc, as well as add new text elements. To add a line break, use Enter or Shift+Enter (depending on platform).
    - **Add Page Text**
        - **Type**
        - **Text**
        - **Placement**
        - **Show on Pages**
        - **Font**
        - **Font style**
        - **Font size**
    - To remove a page text entry, tap it, then tap **Remove Selected.**

Layout Controls

Further layout features are available as part of the optional Feature Bundle - available via the in-app purchase, or with a valid Studio One+ membership.

Show Layout Handles

This tool can be found in Score Setup>Layout>View Options, or by using the keyboard shortcut Cmd+Shift+L on macOS and iOS, or Ctrl+Shift+L on other platforms.

Once enabled, squares (or drag handles) are now visible - these allow staves and systems to be dragged vertically, and measure lines to be dragged horizontally. Note that these handles are only visible in Print View.
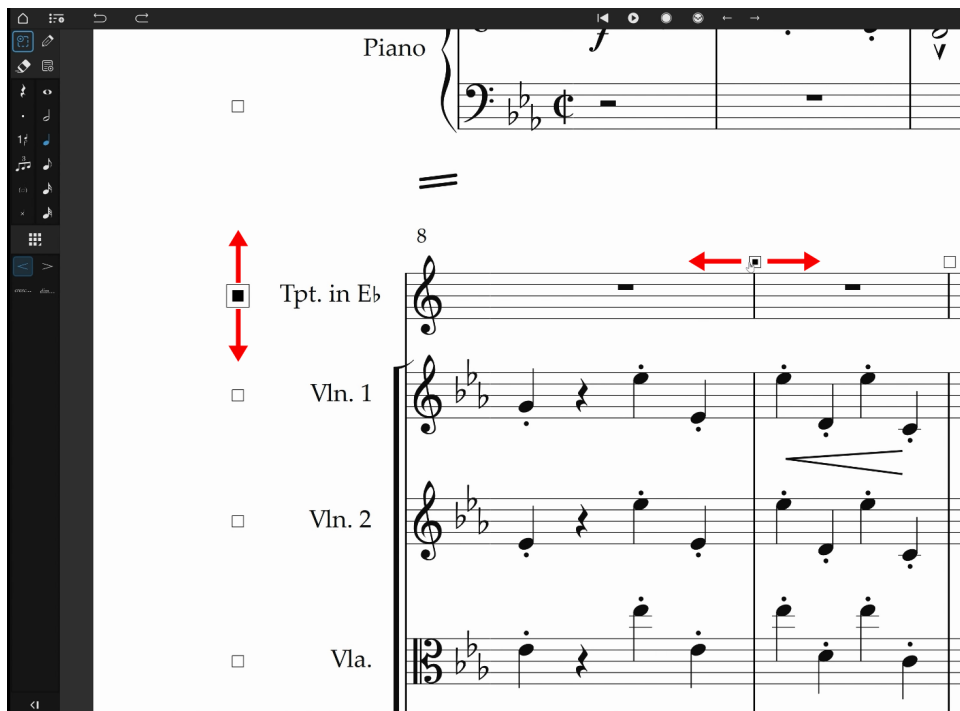
If a handle has been dragged, then the square is filled in to show that a manual adjustment has been made. Layout is independent between full score and parts and between individual parts.

Reset Spacing

Simply select the layout handles square, and hit Delete or the eraser icon.

Hairpin Angles

With the Layout Tool active, you can also change the opening angle of a hairpin (crescendo or diminuendo), or its overall angle. This can be done in Print View and Screen View.
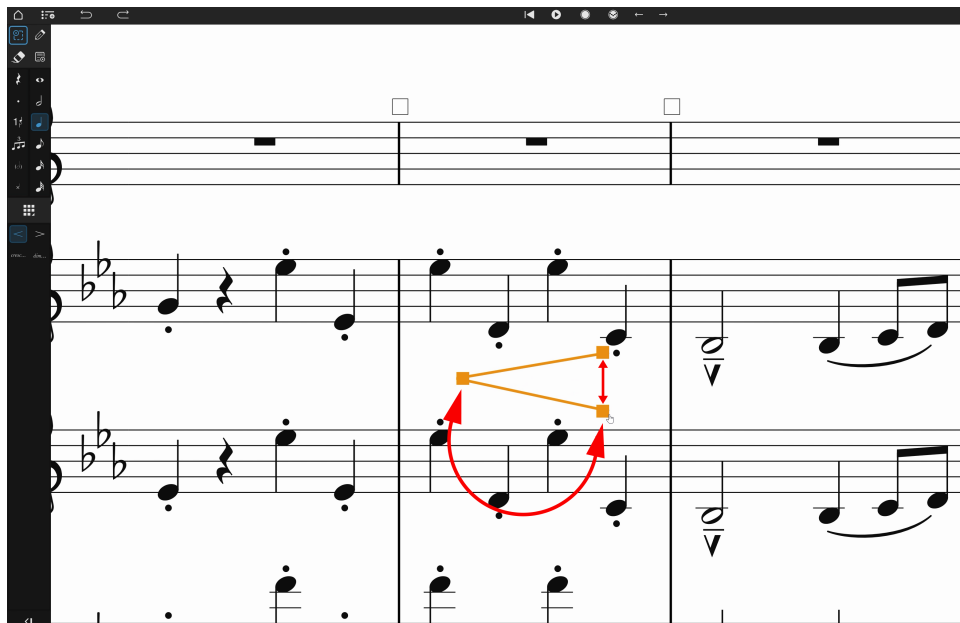
Customize View

As well as the notation layout options seen in Layout Setup, Notion Mobile has several general Appearance Options, to customize the app to your preferences and workflow.

Tap the **Application Menu** (the three-dot menu icon on the right-hand side) and select Options.

Here you will see the following options:

- **Light Color Scheme** The default for scheme for the app is a dark mode, but you can elect to have light colors for the menu bar, palette, dialogs and menus
- **Dark Score** This inverts the colors of the actual score area, giving light notes on a dark background - great for minimizing screen glare in low light environments
- **Right Side Tools** You can choose to put the vertical Tools palette onto the right hand side of the screen, rather than the left
- **Small UI** This decreases the size of the icons in the palette and in the transport, giving you even more space for your score, whatever the size of screen.

Extended Palette

Tap the icon at the bottom of the palette to change the number of visible columns. If you have space on your screen, you can see two columns. Note that his view includes a permanent 'Handwriting Tool' icon, so if you don't have a stylus that automatically switches (such as the Apple Pencil or Surface Pen), this is where you can enter/exit handwriting mode
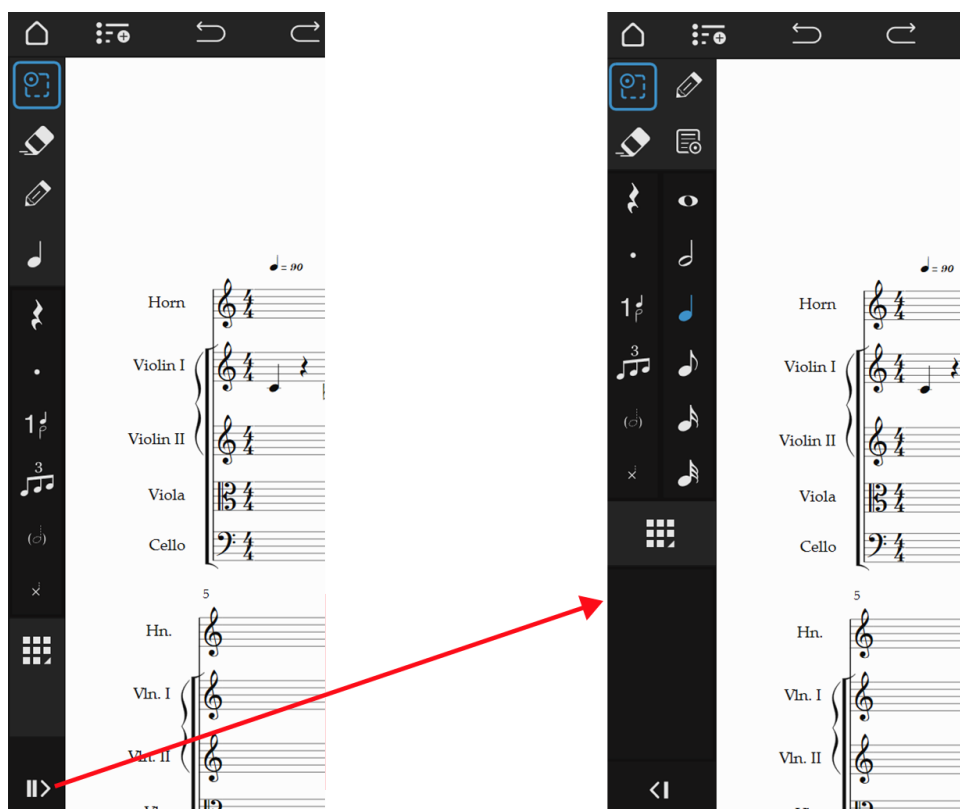
Extended Palette

You can change the width of the piano keys on the onscreen keyboard to three different widths — see **Entering Notes** for more information.
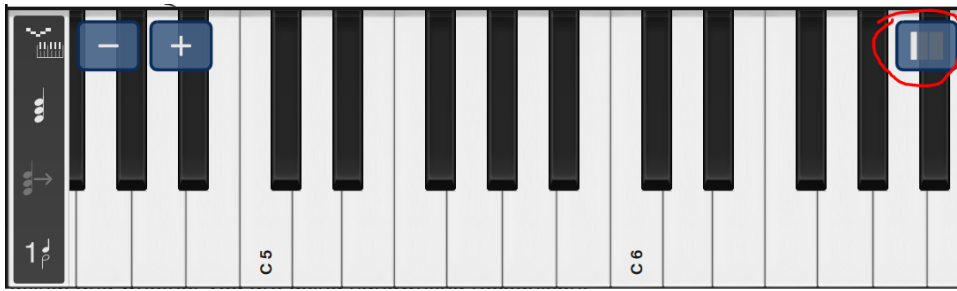
Move / Zoom

You can move the page around and zoom in or out freely — to do so depends on what type of device you are using, and whether you are using handwriting recognition.

- On a touchscreen when in normal entry or in automatic handwriting mode (i.e. using an Apple Pencil or Surface Pen):
    - To zoom, pinch two fingers together to zoom out, or apart to zoom in
    - To scroll, use one finger to drag the page around
- On a touchscreen when in manual handwriting mode (i.e. using a normal stylus or finger to handwrite notes):
    - To zoom, pinch two fingers together to zoom out, or apart to zoom in
    - To scroll, use **two** fingers to drag the page around
- With a keyboard shortcut:
    - To zoom in, use **[Ctrl +]**
    - To zoom out, use **[Ctrl -]**
    - (For macOS and iOS, substitute Cmd for Ctrl)
- With a mouse scroll wheel on desktop:
    - Use the scroll wheel to move vertically up/down
    - Use **[Shift+Scroll Wheel]** to move horizontally left/right*
    - Use **[Ctrl+Scroll Wheel]** to zoom in/out

*Note: if this is not working, check if Scroll Lock is on.

See the **Quickstart Tutorial here:**
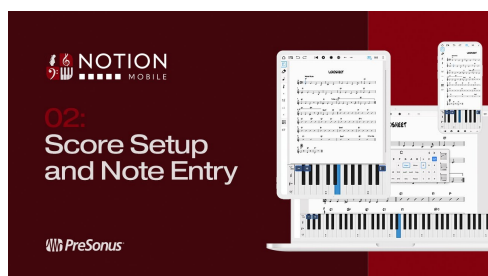
Entering Notes

There are a number of methods for getting notes into Notion Mobile, including playing in real time, handwriting, importing MusicXML, or simply tapping notes in. The note entry method you choose will depend on not just your preference, but also on the context — fast, florid passages are quicker and more accurately entered with step-time, for example. It will also depend on what peripherals you might have — for example, you can draw with an Apple Pencil, enter keyboard shortcuts with an attached keyboard, or play note pitches with a MIDI Bluetooth piano keyboard.

- **Tap (or click) notes in**.

This is the easiest way to get started entering notes.

- Tap the **Note Tool** in the tool palette.
- Tap in the score by hand where you want to enter the note.
- That's it!

Changing Durations
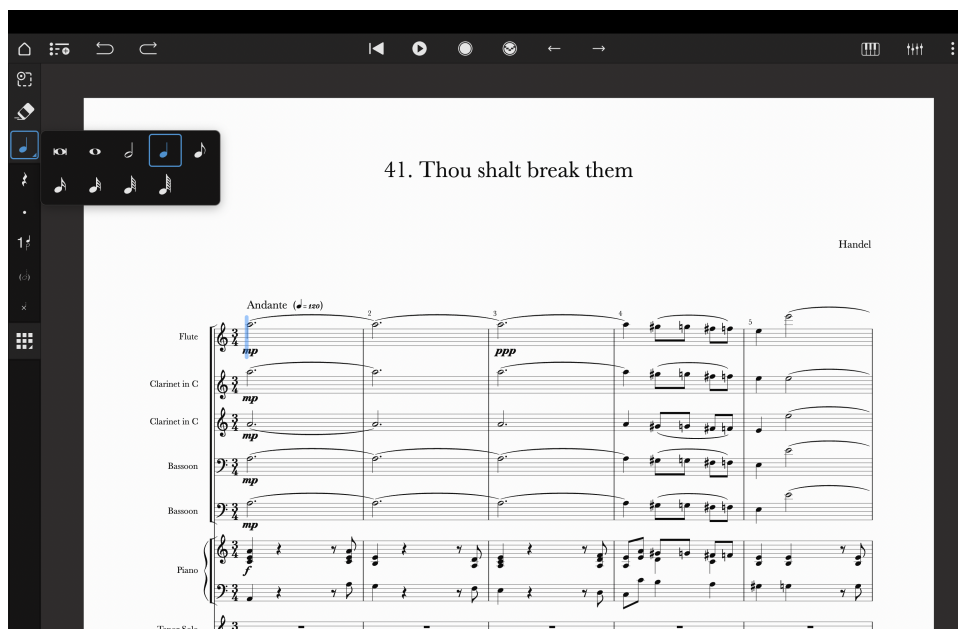
- Tap the **Note Tool** once to select the currently-shown duration.
- Tap again to show all options to select a different duration.

- To quickly change duration in a single gesture, press+swipe the Note Tool to open it, then release on the desired duration. This works whether you are tapping a touchscreen or clicking with a mouse.
- If you have an attached keyboard (either wired or Bluetooth), then you can also use **Keyboard shortcuts** to change the note duration.

Changing Pitch when Entering Notes

- On touchscreens, a long press on the score will display a crosshair under your finger. You can now accurately drag up and down to get the pitch you desire before letting go to enter the note.
- During this long press, you can also drag slightly left or right — this will add an accidental to your note, sharpening or flattening it accordingly.
- If you are entering drum notes on a drumset staff, the drum label will also appear under your finger with the crosshairs (e.g. "Tom 14") — you can also drag slightly left or right which will add a variation and change the notehead or stem. (e.g. "e.g. Tom 14 Rim-shot")
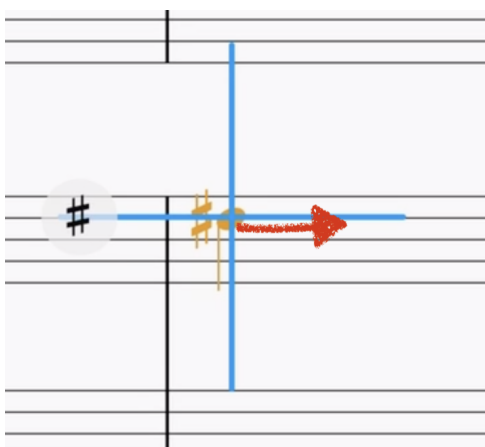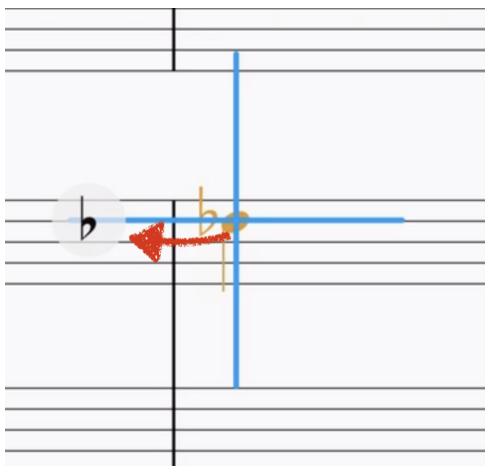
Enter a Note on Tablature

- Select the duration you want, then tap on the string required.
- A text box will appear and if you're using a touchscreen, the on-screen keyboard will appear.
- Enter the fret number and tap Enter.

Enter a Rest

- Select a duration with the Note Tool.
- Tap the rest icon.

- To go back to note entry, tap the rest icon again or the Note Tool.

- Rests can also be selected with keyboard shortcuts — the shortcut for the duration simply toggles between Note and Rest as you repeatedly press it.

- You also change existing notes to rests and vice versa — just select the passage or item(s) and then select Notes>Toggle Note or Rest. Alternatively, simply tap Shift+Backspace.

Step Entry

Step Entry allows you to enter notes step by step, one after the other, in arbitrary time. The rhythmic duration is entered either by selecting from the Note Tool in the palette or with keyboard shortcuts (if you have a keyboard connected). There are then various ways of entering the pitch:

Step Entry with an Onscreen Instrument
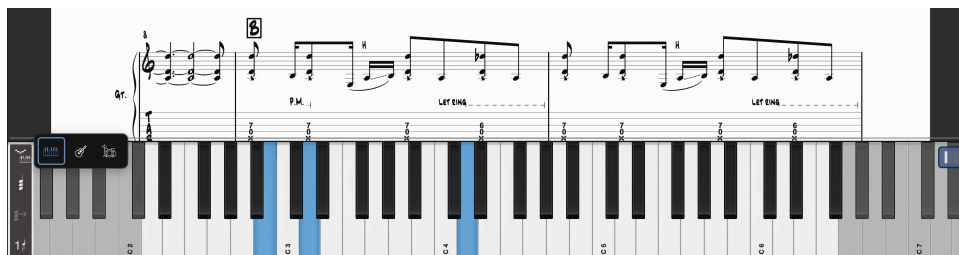
- Tap the onscreen instrument **piano icon** in the top right corner.

- When the icon is blue, long press or swipe the icon to quickly change from piano keyboard to either a guitar fretboard or drum pads. (You can also change the shown instrument by swiping on the Step Entry icon on the instrument itself — see below).

- Tap either of the Step Entry icons — there is one in the main transport area at the top of the screen in the middle, and one at the bottom, at the left of the onscreen instrument.

- Select the desired duration from the **Note Tool** or with a keyboard shortcut.

- Tap the onscreen instrument to enter the notes.

- To enter a chord rather than single notes, tap the chord icon in the instrument then build the chord in the instrument. Tap the right arrow icon in the transport to enter.

- To repeat the previously entered chord, tap the chord icon with an arrow — this will be able to be selected once the first chord has been entered.

- To enter a rest during Step Time, select the desired duration, then either tap the rest icon in the palette or use the keyboard shortcut; Space Bar.

- To add a tie during Step Time, enter the first note of the tie, then either tap the **Tie Tool** in the palette, or use the keyboard shortcut; **T** . Then enter the second note of the tie.

- To navigate left and right, use the right and left arrow icons in the transport area or use the navigation keyboard shortcuts.

- If you are entering notes for a transposing instrument into a transposing score, you can choose to play the sounding pitch (transposing yourself), or let Notion transpose for you. Go to Record Setup>Transpose Input.

Piano Keyboard

- To shift octaves, either tap the **+/- icons**, or swipe the keyboard at the top of the keys. A blue swipe area will then appear which will allow you to drag the keyboard left and right, even while you are using it for real-time recording (see below).

- You can adjust the width of the keys to suit your screen size and personal preference. There are three different widths — tap the width icon to toggle between them.

Guitar Fretboard

- To shift the fretboard, tap the **+/- icon**s.

Drum Pads
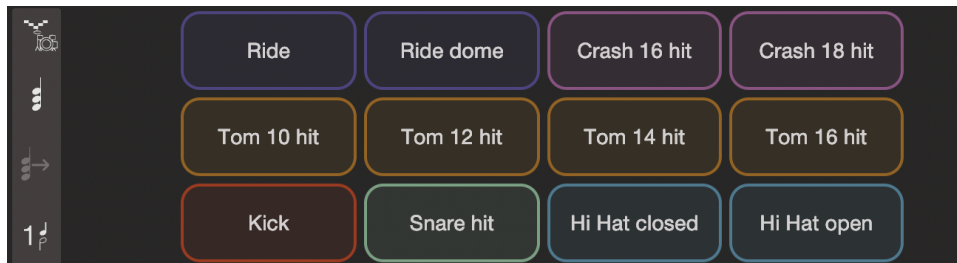
- A set of 12 colour-coded Drum Pads are available when a drum instrument is selected. Tap the Drum Pads to enter — the respective noteheads and e.g. tremolos will be added automatically.

- To change which drums are shown on the pads, right click or long press on a pad, and make your selection. Scroll down the list to select 'Reset Pads' to go back to the default.

- If a pitched instrument is selected, the Drum Pads will show pitches and their octaves instead (e.g. A4) - these can be entered by tapping. To change the octave, tap the Up / Down Pads.
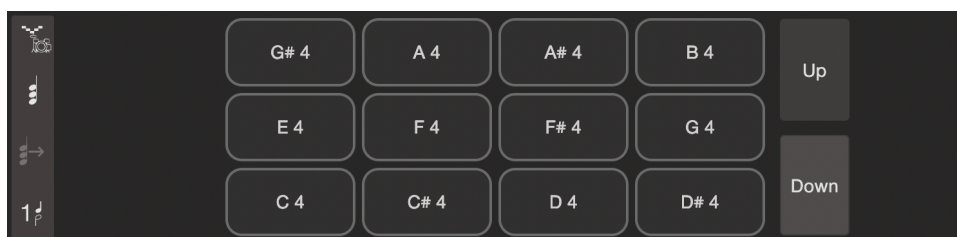
Step Entry with a MIDI instrument

- Connect your MIDI instrument to your device, either wired or via Bluetooth.

- In Notion, go to the Application Menu>Record Setup, and select your MIDI instrument from the drop-down list.

- Tap the Step Entry icons at the top of the screen in the transport area.

- Select the desired duration from the Note Tool or with a keyboard shortcut.

- Enter your notes / chords with the attached keyboard.

- To enter a rest during Step Time, select the desired duration, then either tap the rest icon in the palette or use the keyboard short-cut; **Space bar**.

- To add a tie during Step Time, enter the first note of the tie, then either tap the **Tie Tool** in the palette, or use the keyboard short-cut; **T**. Then enter the second note of the tie.

- To navigate left and right, use the right and left arrow icons in the transport area or use the navigation keyboard shortcuts.

- If you are entering notes for a transposing instrument into a transposing score, you can choose to play the sounding pitch (transposing yourself), or let Notion transpose for you. Go to Record Setup>Transpose Input.

Real Time Recording

Real time recording is possible with Notion, allowing you to enter notes and durations while playing to a metronome click. This method is best for simple music — if a passage is intricate, then change the metronome mark to reduce the tempo for input, or use a different note

entry method, such as Step Entry. You can use either the onscreen instruments or an attached MIDI instrument for entry — hit the record button in the transport and play. Once you have stopped, Notion will analyse your performance and turn it into notation.

Setting Record Options

- Go to the Application Menu>Record Options.

- Select the connected MIDI instrument if desired.

- Switch metronome click on or off — this is for both recording and playback.

- Select how many bars Notion will count in before you start recording.

- Select 'Transpose Input' to adjust whether Notion should transpose your MIDI instrument on note entry.

- The next options determine how Notion analyses your performance. By default this is set up to optimise MIDI keyboard entry — tap the Presets button to switch between MIDI Guitar and MIDI keyboard.

  - **Min Velocity** sets the minimum MIDI velocity of a note from 1 to 127. Notion will disregard notes under the level set here.

  - **Min Duration** sets the minimum duration in milliseconds of a note. Notion will disregard notes under the duration set.

  - **Split Point**: If you are entering notes on a Grand Staff (where a single instrument has two staves, one for each hand e.g. piano, harp, marimba), you can set the split point at which Notion will send and notate notes to either hand. This is by default set for piano at C4, middle C.

  - **Tuplets** determine whether Notion should use tuplets in its analysis (tuplets can mean not just triplet notes, but other groups too).

  - **Multi-channel guitar**: if you have a multi-channel MIDI guitar controller, this tells Notion to listen for one channel per string.

Default metronome click duration
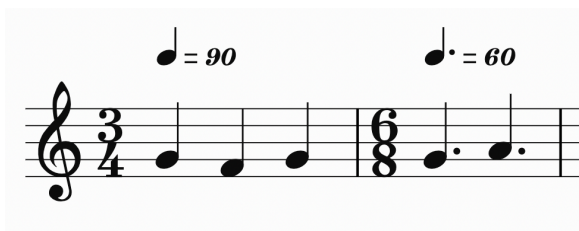
Notion will follow the printed metronome mark when playing the metronome click. This is important to remember, especially if there's a change of time signature later in the piece. For example, a piece could start at **quarter note = 90** in 3/4, but then later change to 6/8. Unless a new metronome mark is added, then the metronome will continue clicking at 3x quarter notes per measure. In this case, a new metronome mark should be added at the change of time signature, to **dotted quarter note = 60** — you will then hear two clicks per measure as expected.

Handwriting Recognition

You can also use your own handwriting as a note entry tool. Notion's handwriting engine is powered by MyScript™ which has analyzed thousands of different music handwriting styles — this means there are no custom gestures to learn nor does the software need to "learn" your own personal style. Notion can convert notes, rests, chords, articulations, measure lines, accidentals, time signatures, measure lines, ledger lines, slurs, ties, clefs. See below for a full diagram of items. Handwriting is supported on all platforms (Windows, macOS, iOS, Android) and all devices (phone, tablet, computer) and you can use a stylus or even your finger. Pressure sensitivity is also supported for active styli. If you are not using Notion Mobile on a touchscreen, you can optionally use a graphics tablet for handwriting too.

Handwriting recognition is available on standard 5-line notation staves (i.e. not single-line percussion staves nor tablature) — it is a paid feature unlockable via the in-app purchase, or by signing in with your Studio One+ account.

Handwriting With an Active Stylus (e.g. Apple Pencil / Microsoft Surface Pen)

Notion can automatically detect the difference between an active stylus and a finger.

- If you are using this type of stylus, then by default, handwriting is automatically engaged for your stylus leaving your finger free for normal note input and score navigation.

- You can still opt to manually switch between modes - go to Application Menu>Options and select Pencil Handwriting 'Off'. You can then manually switch modes by using the Handwriting Tool icon which is visible in the Extended Palette view (Application Menu>Options>Extended Palette).

- Pressure sensitivity is enabled for these type of styli, meaning that as you draw, the line thickness varies depending on how hard you press. Although this information is ultimately discarded on conversion, drawing feels much more natural, and is also more accurate.

- With an Apple Pencil 2nd generation, you can double tap outside of a measure to force the recognition process, instead of waiting for the fixed length timer.

- With an active stylus you can also 'lasso' select whilst in handwriting mode, by drawing around multiple objects. Notion will automatically detect freehand selection compared to handwritten notation, and switch mode accordingly.

Handwriting with Finger / Standard Stylus

- Tap the Handwriting Tool in the palette (the 'pencil' icon).

- You can now draw into your score.

- After a short period of inactivity, Notion will analyze your handwriting and turn it into digital notation.

- To navigate or zoom your score whilst in Handwriting mode without drawing unwanted lines, drag and pinch using two fingers at the same time.

Delete

To delete whilst in handwriting mode, just scribble over the notehead to remove the note completely, or scribble over the individual attached element (e.g. an accent). Alternatively, you can select the item and use the Erase Tool as normal — but that's not as therapeutic.

Voices

You can write in different voices with handwriting — just select the voice first with the Voice Tool (see below).

Drums / percussion

Writing is also possible for drumset and percussion instruments that use a 5-line staff - on recognition the nearest note/-technique/notehead will be entered. For example, if you write a quarter note on the top line of a drumset staff (i.e. for a hi-hat), on recognition it will convert to a crosshead notehead automatically.

Handwriting Recognition Delay

You can adjust the period of time between the writing of the last note and the conversion to digital notation. The conversion delay ranges from 0 seconds (or instantaneous conversion), up to 10 seconds after the period of inactivity has started.

- Go to Application Menu>Options>Recognition Delay.

- Adjust the slider and try different levels until you find one that works for you.

Handy Handwriting Hints

- Zoom in a little if you are having trouble entering notes and symbols accurately.

- Supported active styli are more accurate than your finger, and as they are pressure sensitive, they feel more like real writing.

- Experiment with the handwriting timer to suit your own preference.

- Mix up note entry methods — for example, use your finger or Step Entry to enter notes, then whip out your Apple Pencil to handwrite the articulations. Notion will automatically detect your finger and Apple Pencil and switch modes accordingly.

- If you are adding notes to a bar that already has existing notes, then Notion will reanalyse the whole bar - this may be fine, but if there are existing elements that are not supported by the handwriting engine (such as grace notes) then these will be ignored and even discarded. In this case it would be better to use another note entry method to avoid having to re-enter these elements.

- For Grand Staff instruments that use multiple staves for a single instrument (e.g. harp/piano) it's recommended to draw notes into one staff at a time.

- Remember —drum, percussion and tablature staves are not supported!

Handwriting diagrams

Clefs	Barlines / repeats

Note durations	Chords / Accidentals

Rest durations	Ties / Slurs

Tuplets	Articulations

Time signatures	Ledger lines

Voice Tool

You can enter up to four voices per staff in Notion Mobile (Voices 3 and 4 are available as part of the Welcome Pack — register for free to unlock it). Notes in all entry methods will default into Voice 1. If you wish to enter in a different voice, tap the Voice Tool — you can access the Voice Tool either in the main palette, or on the left hand side of an onscreen instrument. This will toggle between the last two voices you select for quick switching. To select the other voices, just long press to open the options, or **press+swipe+release**.

- You can also choose voices with a keyboard shortcut.

- For existing notes, you can select the note, and then opt to send it to a specific voice. Open the Context Menu, then choose **Tools>Send to Voice X**.

- If you have two voices already written and you want to swap the notes between them, just select the passage, open the Context Menu, then choose Tools>Swap Voices.

See the **Quickstart Tutorial here:**

Selecting and Editing Notes

You can quickly select and edit in Notion Mobile, and there are various methods of doing so to suit your preferred workflow. Once a selection has been made you can: drag to move the pitch; copy/cut/duplicate; apply an articulation to all notes; change notes to rests; add a dynamic to the left hand side of the selection; change durations by tapping the duration palette; and much more.

Making a selection

Selecting individual elements
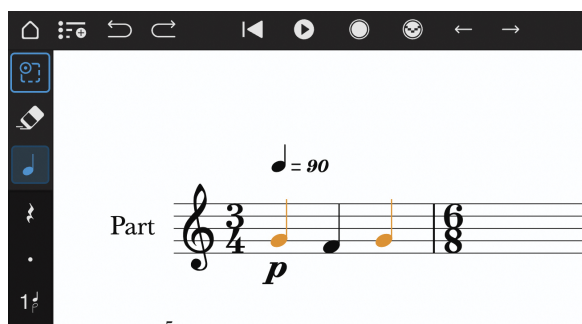
- Tap the **Selection Tool** .
  - Tap an element (e.g. note, rest, dynamic etc) to select it - the element will turn orange.
  - To select multiple non-contiguous elements (i.e. notes that are not next to each other), hold **Shift** as you click the noteheads.

Selecting a range

- With a mouse: Click and drag over the elements you want to select.
- With a touchscreen: Tap the screen and hold briefly, then drag your finger over the elements you want to select.
- To quickly select a whole measure, double-tap or double-click the measure.
- To increase the range, drag the two round handles of the selected area, or hold down Shift while you click to extend the range to the measure you clicked in.
- With an active stylus (or 'lasso select): whilst in Handwriting Mode, use your active stylus (e.g. Apple Pencil or Surface Pen) to draw around selected elements. Notion will automatically select them.

Remove items from a selection

- **[Shift+Click]** the individual elements
- **[Opt+Shift+Drag]** to remove multiple elements from the selection.

Select All / Part

- To select the whole score, go to Context Menu>Select>Select All (Ctrl+A).

- To select the whole of the current part go to Context Menu>Select>Select Part (Ctrl+Shift+A).

- To Deselect all click away from the selected range, or go to Context Menu>Select>Deselect All (Ctrl+D) (See below for Context Menu).

Changing pitch of a selection

Note that by default, Notion Mobile auditions notes as you drag them so you can hear your changes. You can disable this in Application Menu>Options>Play Notes on Navigation.

Changing pitch of an individual note

- Tap and drag the note up/down to change pitch.

- Tap and drag the note left/right to change the accidental.

- For drumset, tap and drag the note left/right to change the notated playing technique.

Changing pitch of a selection of notes

- Tap on the note head or stem of one of the selected notes then drag up / down to change pitch diatonically.

Adjusting pitch with keyboard shortcuts

- Hold **[Alt/Option]** whilst dragging note(s) up or down to change **only** the accidental whilst keeping the pitch letter the same.
- **[Up/Down]** moves the notes diatonically.
- **[Ctrl/Cmd + Up/Down arrows]** moves the notes chromatically.
- **[Shift+Up/Down arrows]** moves the note(s) by an octave.

Using the Enharmonic tool

- To change enharmonics (e.g. to switch from F# to Gb) for selected note(s), open the Tools Grid, and tap the Enharmonics tool. Alternatively, use the keyboard shortcut; [**E].**

Changing the duration of a selection

- Tap a rhythmic duration in the palette to change the duration of the selected note(s).

- Use the keyboard shortcut for durations to change the duration of the selected note(s), e.g. **E** for eighth note (note you can use letters or numbers for durations — see Chapter 16, **Keyboard Shortcuts** for more information.

Toggling between notes or rests

- You can quickly make existing notes into rests and vice versa, by using the **Toggle Note or Rest** tool. Make a selection, then go to Context Menu>Tools>Toggle Note or Rest, or use the keyboard shortcut; [**Shift + Del].**

- When going from rest to note, Notion creates pitches on the middle line — you can then repitch as you wish (see above).

Copy & Paste & More…

You can do a number of things with individually-selected elements or a range of objects. Make your selection first (see above), then:

Edit Dialog
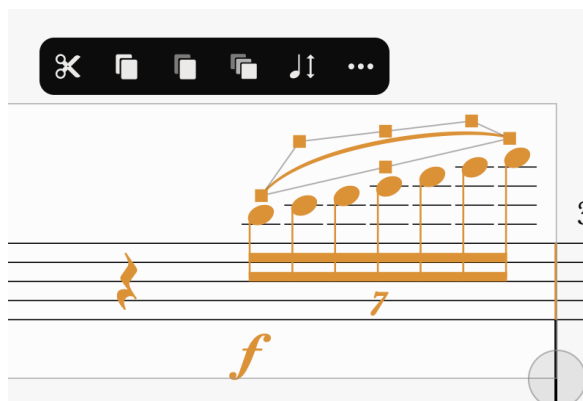
If you've double-tapped a measure to select it, an editing shortcuts dialog pops up. This is a quick way to access the most-used tools once a selection has been made.

- **Cut** cuts the selected music but keeps it on the clipboard ready to be pasted.
- **Copy** copies the selected music, ready to be then pasted where required.
- **Paste** pastes the cut or copied selection at the current cursor position.
- **Duplicate** makes a copy of the current selection and pastes it at the end of the selection
- **Transpose** opens the Transpose dialog.
- **…** Opens the full Context Menu (see below).

Note that there are keyboard shortcuts for: Cut **[Ctrl+X]** , Copy **[Ctrl+C]** , Paste **[Ctrl+V]** , Paste Insert **[Ctrl+Shift+V]** and Duplicate **[D]** .

Paste Reflow
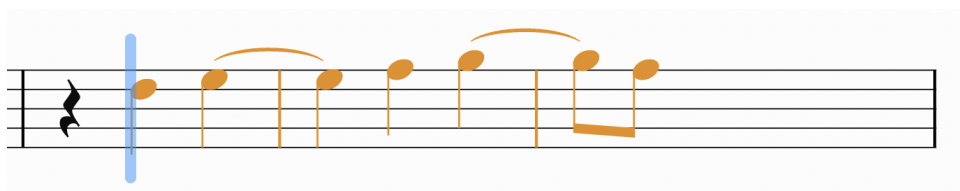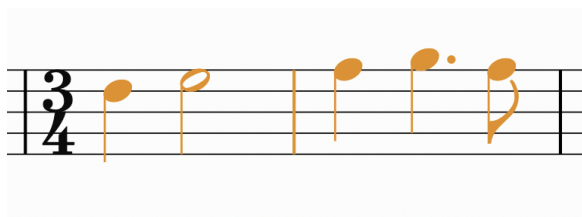
When pasting a copied or cut selection in a different rhythmic position to the original, Notion will reflow the music over the barlines. Notion will rewrite durations and add/remove ties as necessary.

Context Menu
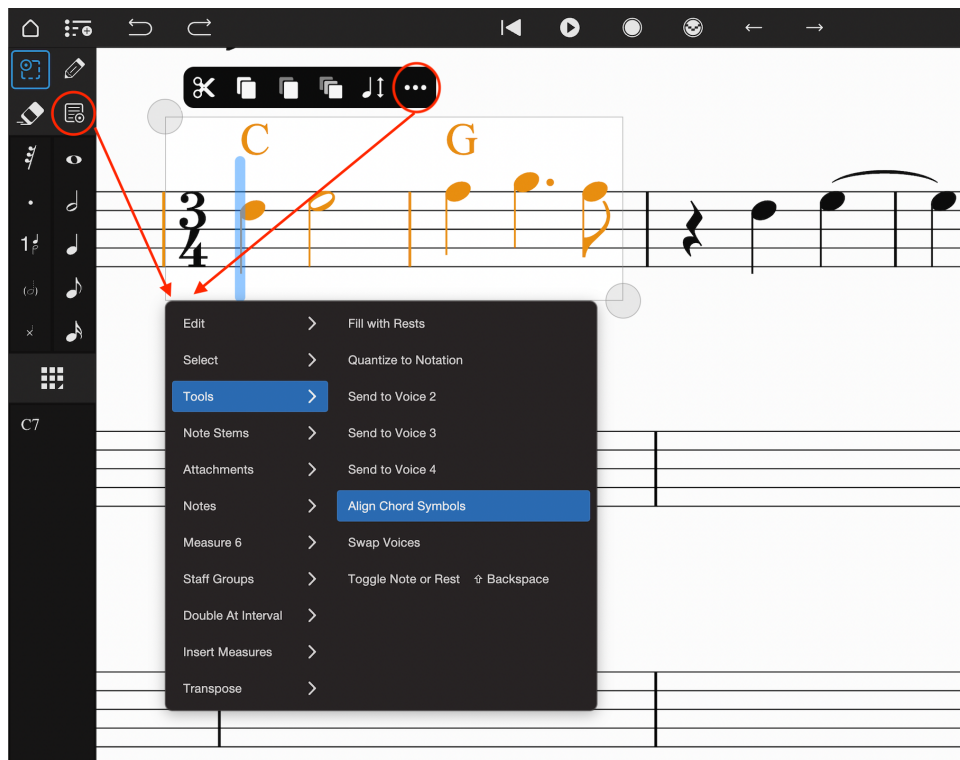
To open the Context Menu, you can either:

1. Right click (or long press on a touchscreen).
2. Double-tap to make a rectangle selection, then tap the three-dot icon. **[...]**
3. In the Extended palette, tap the Context Menu icon. (To view the two-column Extended Palette, go the the Application Menu>Options)

The Context Menu is adaptive and it will only display tools that are relevant to the contents of the selection — for example, **Align Chord Symbols** in the Tool menu is only visible if there are actually two or more chord symbols within the selection.

Context Menu options include:

Edit

In addition to Cut/Paste/Copy/Duplicate, from the Edit menu you can also:

- **Delete** deletes the selection. Alternatively, use the keyboard shortcut; **[Delete]** , or tap the eraser icon on the palette.
- **Paste Insert** pastes without overwriting any following notes.
- **Paste into Voice x** pastes into another voice. Voices 3 and 4 are available as part of the Welcome pack, available for free on registration.
- **Delete Measures** deletes all measures within a selection.

Select

- **Select All**
- **Deselect All**
- **Select Part**
- **Select Chord Symbols**
- **Select Lyrics**
- **Select Voice x** , where x is voice 1 to 4.
- **Select Highest Notes** - selects the highest notes of chords in a selection.
- **Select Lowest Notes** - selects the lowest notes of chords in a selection.

Tools

- **Fill with Rests** fills the currently-selected region with rests.
- **Fill with Rhythm Slashes** fills the currently selected region with stemless rhythm slashes.
- **Make Tuplet** makes selected notes into a tuplet.
- **Remove Tuplet** removes tuplet from selected notes.
- **Quantize to Notation** adjusts recorded MIDI duration and rhythm to match exactly the notation.
- **Send to Voice x** sends the selected notes into the desired voice. Voices 3 and 4 are available as part of the Welcome pack, available for free on registration.
- **Switch Staff** moves notes from one hand to another in a grand staff instrument. (Note this is not the same as 'Cross-staff' notation where a note is still part of one staff but shows in another - this is available from the palette)
- **Align Fingerings** vertically aligns 2 or more fingering marks.
- **Align Chord Symbols** vertically aligns 2 or more chord symbols above the staff.
- **Swap Voices** if there are two voices present in a selection, this tool will swap notes between the voices.
- **Reset Tab numbers** centers tablature numbers to around the 5th fret.
- **Toggle Note / Rest** turns all selected notes into their equivalent value rest, and vice versa. Or use the keyboard shortcut Shift + Backspace.
- **Remove Measure Rests** removes whole measure rests in a selection.
- **Show/Hide Rests** shows or hides rests.

Articulations

- **Articulations Above / Default / Below** adjusts what side of the notehead an articulation should be shown in the selection
- **Remove Articulations** removes articulations from selection (or keyboard shortcut; **[Ctrl+Backspace])**

Note Stems

- **Stems Up / Default / Below** changes which side of the notehead the stem should be.
- **Show Stems** shows/hides stems of a note.

Attachments

- **Attachments Above / Default / Below** adjusts what side of the notehead an attachment should be shown in the selection.
- **Show / Hide attachments** shows or hides attachments.
- **Shorten Tempo Marks** abbreviates metronome marks where many may be displayed per measure (after having been imported from a MIDI Tempo Track for example).
- **Remove Tempo Marks**

Notes

- **Show as Rhythm Slash** changes notes to rhythm slashes. Any chord symbols above rhythm slashes will sound in playback. You can also hide the stems of quarter note slashes using Note Stems>Hide Stems as above.
- **Show as Cues** changes notes to cue note size.
- **Show as Ghost Notes** changes notes to ghost notes.
- **Show as Grace Notes** changes notes to Grace Notes.
- **Show Grace Slash** shows/hides the slash on the grace note (=appoggiatura).
- **Set as Tacet** when tacet, the notes will not playback (but still print normally).
- **Remove Accidentals** removes all accidentals from selection of notes.

Measure x (where x is the current measure number)

- **Always / Never Show Measure Number** forces display of the measure number. Even measure numbering is switched off in the overall document options (and vice versa).
- **Force New System** forces a new system from the selected measure
- **Force New Page** forces a new page from the selected measure (in Print View only).
- **Link to Next Measure** always keeps the current measure and the one that follows together in the same system.
- **Regular Measure** turns the measure into a regular measure.

- **Pickup Measure** turns the measure into a pickup measure (or anacrusis). Then enter as many notes or rests you need in the pickup measure.
- **Partial Measure** turns the measure into a partial measure, which enables you to split a long bar over a system for example.

Staff Groups

If you have more than one instrument staff selected, you can group them together in the following ways:

- **Brace Group** creates a 'curly' brace at the start of the system, usually for a grand staff instrument such as piano.
- **Bracket Group** creates a straight bracket at the start of the system, usually to group instruments of the same family together.
- **Barline Group** extends the barline through a number of staves, usually through instruments of the same family.
- **Show Tempo Information** optionally duplicates the metronome mark at the top of each group.

Adjust Dynamics

- **Dynamic Adjustment** adjusts the playback level of printed dynamics. Each whole number represents a dynamic step (e.g. mf, f, ff).
- **Adjust Notated Dynamics** optionally also changes the printed dynamics. If off then this allows you to playback a different dynamic to the printed one.
- **Double at Interval** adds notes to the current selection either above or below the existing notes
    - Choose the interval, the interval quality, and in which octave to add them.
- **Insert Measures** inserts specified number of empty measures into the score.
- **Text Style** can be used to adjust the font, font size and style of the selected text
    - Use Layout Style - uses the default global text style
- **Transpose**
    - Choose the interval, the interval quality, and by how many octaves to transpose
    - Transpose key signature option - if every stave in a system is selected, then you can elect to transpose the key signature as well as the notes.
- **Tuplet** menu allows creation of custom tuplets. (For simple tuplets, use the 'Make Tuplet' command from the Tools menu, or Ctrl+T)
    - Turn a group of notes into a custom tuplet - e.g. fit 5 notes into the space of 4
    - Opt to show just the number (e.g. 5), as a ratio (e.g. 5:4), or not at all
    - Opt to show or hide brackets over the tuplet
    - Opt to force tuplet numbers and brackets either above, below, or on their default side.

Using the Tools Grid

Tap the Tools Grid icon to open, then tap the tool you wish to use. Alternatively — and more quickly — swipe open the Tools Grid while keeping your finger on the screen, then release on the tool you wish to use. Each tool also has its own keyboard shortcut, e.g. **[C]** for Clef Tool. You can also use left/right arrow keys to navigate around the Tools Grid and tap Enter to select a tool.

If a selected tool has further options, these will then appear under the Tools Grid. By default, these are arranged in a single column, but if you have a larger device, you can opt to use the Extended Palette which uses two columns — tap the icon at the bottom of the palette to toggle between one or two columns. The further options when displayed, also have keyboard shortcuts — these use numbers 1-9. You can also use **[Alt+Left/Right arrow keys]** to navigate the further options, or simply repeatedly press the main tool keyboard shortcut to toggle around the options

Example using keyboard shortcuts to select a bass clef:

- Type **[C]** for clef, and then **[2]** for Bass Clef, or
- Type **[CC]**

Once selected, tap on the score where you want to use the tool, whether it's adding a time signature change or adding a staccato to an existing note for example

Some of the tools can be applied to a selection of existing notes — for example, if you select a range of 16th notes you can then tap the staccato articulation to apply to all of them. Same with dynamics — select the tool and tap an individual note to add a forté for example, or make a selection of different instrument staves first before tapping the dynamic. Forté will then be added to the left of the selection for each of the instruments in the selection.

To clear the tool selection, tap the selection icon at the top of the palette, or press the keyboard shortcut **[Esc].**

Tool List:

- **Tie**
    - Select the tool then click on the first of two notes of the same pitch to either add or remove a tie.
- **Articulations**
    - Accent, Tenuto, and Staccato articulations
- **Accidentals**
    - Sharps, Flats, Double / Raised / Lowered (Quarter tones)
- **Enharmonic**
    - Use on a selected note, or select the tool first then tap on the note - this changes the enharmonic spelling of a note, i.e. will change an F# to a Gb.
- **Slur**
    - Tap and drag to enter, or make a selection first and tap the tool
- **Dynamics**
    - Tap to enter, or make a selection first to enter on multiple instrument staves
- **Crescendi**
    - Tap and drag to enter, or make a selection first and tap the tool
- **Sforzandos**
- **Clef**
    - Select the tool and tap the measure where you wish to change clef. Or double tap an existing clef to change it.
- **Key Signature**
    - Select the tool and tap the measure where you wish to change key signature or double tap an existing time signature to edit it. You can elect to show cancellation naturals alongside the new key signature, as well as whether to insert a key signature only for the instrument staff selected
    - If a key signature occurs at the beginning of a new system or page, then a courtesy key signature will appear at the end of the previous system. If you wish to hide this, then long press or right click the key signature then go to Tools>Show End of System Courtesies.

- **Time Signatures**
  - Select the tool and tap the measure where you wish to change time signature. Or double tap an existing time signature to edit it. You can elect to show 4/4 as a common time symbol (c) or 2/2 as a cut time symbol (¢) as well as whether to insert a time signature only for the instrument staff selected.
  - You can also specify a beaming pattern. For example, to beam eighth notes automatically in a 'three plus two plus two' pattern in 7/8, enter "3+2+2". If you add too many beats in the pattern, the numbers will turn red as a warning.
  - If a time signature occurs at the beginning of a new system or page, then a courtesy time signature will appear at the end of the previous system. If you wish to hide this, then long press or right click the time signature then go to Tools>Show End of System Courtesies.
  - To hide a time signature completely, long press or right click the time signature, then go to Tools>Hide Time Signature.
- **Tempo**
  - Metronome mark
  - Swing Control
  - Accel / Rit.
- **Barline**
  - Tap a barline type to change an existing barline
  - To insert more measures, select the single barline and tap into the score where you want more measures to occur. Or to the Context Menu>Insert Measures
  - To renumber measures, double tap the measure number and type in what number you wish to continue from. Notion will then adjust all subsequent numbers and stops if it encounters a measure you had re-numbered at an earlier time.
- **Repeats**
  - Double tap end repeat line for multiple repeat marking.
  - Double tap first-time ending line for multiple first-time ending.
- **Text**
  - Text box. To add a line break, use Enter or Shift+Enter (depending on platform)
  - Lyrics. To add lyrics, select the tool then tap under the note you wish to begin. Start to type, or select 'Paste' if you have text copied to the system clipboard that you wish to use in Notion. You can add hyphens for syllables, and underscores for melisma on the final syllable of a word. To add further verses, tap under an existing verse - there is no limit to the number of verses you can add.
  - Rehearsal marks
- **Chord**
  - Chord symbols and guitar chord diagrams
- **Trills**
- **Tremolo**
- **Arpeggio Line**
- **Octave Line**
- **Glissandi**
- **Jazz Falls / Scoops**
- **Navigation flow** (DC, Coda etc)
  - For successful playback, all flow instructions need to be added in the correct order, for example:
    - Segno>Fine>DS al Fine
    - Segno>To Coda>DS al Coda>Coda
- **Fingering Numbers**
  - You can add fingering numbers to single notes, or stack multiple fingerings vertically above or below chords. To enter a finger substitution, hold 'Shift' as you enter the second number (depending on platform). You can re-align multiple fingerings by making a selection of two or more fingerings then Context Menu>Tools>Align Fingerings.
- **Ornaments**

- **Fermata**
    - Select the tool and tap it into the score.
    - To adjust the playback of a fermata/caesura/breath mark/tenuto, double tap the symbol once it is in the score. You can then adjust the playback length either by note duration, or by seconds.
- **Beaming**
- **Cross Staff**
    - Beams a note across a grand staff instrument (such as piano or harp) into another hand.
- **Instrument Change**
    - This allows you to change an instrument within the same staff, for example, a woodwind player changing from flute to saxophone, or Bb Clarinet to A Clarinet. Tap where you want the change, then select the new instrument. Notion will change the sound and transposition if required, adding a new key signature as appropriate. Notion will also add a new channel in the mixer allowing instruments in the same staff to be mixed differently.
- **Instrument Family Techniques**
    - Techniques that pertain across the family of instruments that the currently selected staff belongs to e.g. pizz, arco
- **Instrument Specific Techniques**
    - Techniques that pertain only to the currently selected instrument staff, e.g. straight mute
- **Guitar Specific Technique**

    Guitars have a larger number of specific techniques than other instruments. These are visible when a guitar staff is selected.
    - Hammer On, Pull-off, Fretboard Tap, Pinch & Tap Harmonics, Palm mute, Slap
    - Slide Up / Down
    - Bends, Whammy bar, Vibrato. Drag and adjust bends up/down to adjust the range of the bend, and drag left/right to adjust the timing
    - String numbers
    - pimac fingering
    - Up / down stroke, harmonic, open
    - Fingered, Normale
- **Harp Specific Technique**

    These additional options for harp are visible in the Tools Grid when a harp staff is selected.
    - Harmonic symbol / l.v. (laissez vibrez)
    - Harp Pedal Diagram (Ctrl+H). Use the dialog to select the tuning required - the top row for flat, middle row for natural, and bottom row for sharp. The diagram will show letter names, but if you select 'Show as Diagram' then a standard harp pedal diagram will be displayed. The position of the blocks indicate the pedal positions, with D, C and B operated by the left foot, and E, F, G and A operated by the right foot. Notion will play back harp glissandi according to the pedals set.
    - Harp Pedal Help: If there are red notes in the harp part following a harp diagram, these indicate that further pedal changes are required. With the harp pedal tool active, click the red note. The pedal dialog then opens with a suggested solution automatically notated. If the harp diagram itself turns red, it indicates that the player needs more time to change the pedals than written.. Pull the diagram ahead of time or rewrite the passage

See the **Quickstart Tutorial here:**

Playback
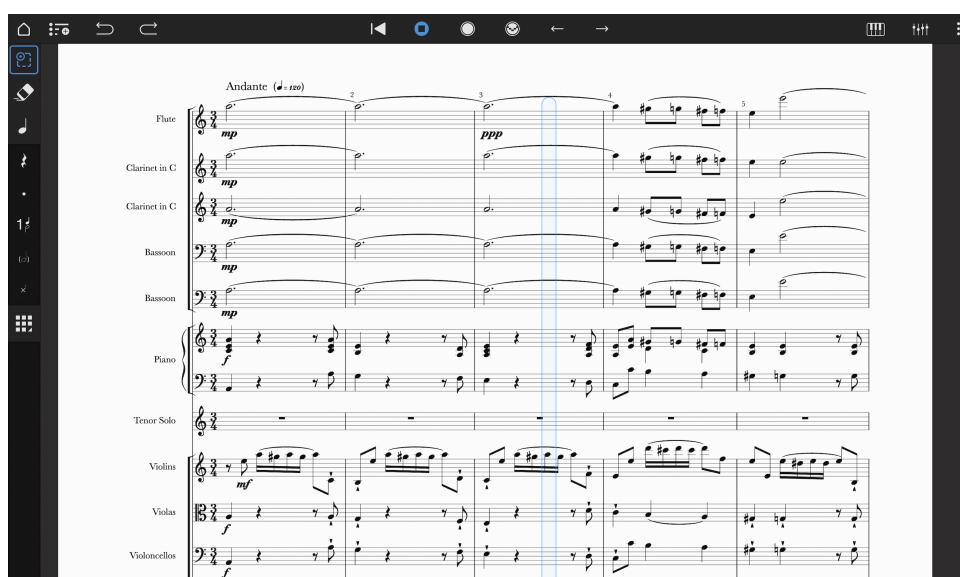
Notion Mobile comes with its own bespoke sample library — recorded by Notion for Notion, with the London Symphony Orchestra at Abbey Road Studios.

- List of Sounds.
- See the Quickstart Tutorial here: .

Notion Mobile has the same instruments available as Notion Desktop, but in a smaller-sized library to save space on your mobile device. Notion Desktop has all dynamic layers, articulations, and techniques included with a subset of those included in Notion Mobile.

If a particular Soundset is not installed on your device, then Notion will fall back on the Steinway Grand Piano to play any notes for that given instrument. This way you can still compose on the go, without installing the full library with you on every device — just keep the piano only, for example, on your phone to save space for photos and funny cat videos — but keep the full library on your tablet.

To play a score, place the cursor where you want to begin and then just hit the **Play** button, or use the keyboard shortcut; **[Spacebar]** . Playback will commence from the blue cursor. To stop, tap the same button again.

To go back to the place you last started playback at, tap the **Rewind** button (either during playback or once stopped). To go back to the beginning of the score (or **Return to Zero**), tap the **Rewind** button twice or use the keyboard shortcut; **[,]** .

To stop the score from scrolling during playback, just manually drag the score once you've pressed **Play** .

If you only want to hear a few instruments, you can manually Mute or Solo in the Mixer, or simply make a selection in the score - Notion will only play back the instruments and notes within the selection.

To turn the metronome on or off in playback, go to Application Menu>Record Setup>Metronome.

Chord Symbol Playback

Chord symbols that are placed over rhythm slashes will sound during playback, following their rhythm. You can also add articulations, ties and dynamic marks to slashes to affect

playback. To stop chords from playing back, make a selection and **Set as Tacet** (as below).

Set as Tacet

Make a selection, then open the Context Menu and choose Notes>Set as Tacet. The notes will show in a grey color and will not playback nor export to audio. (The notes will still print normally in black).

Swing
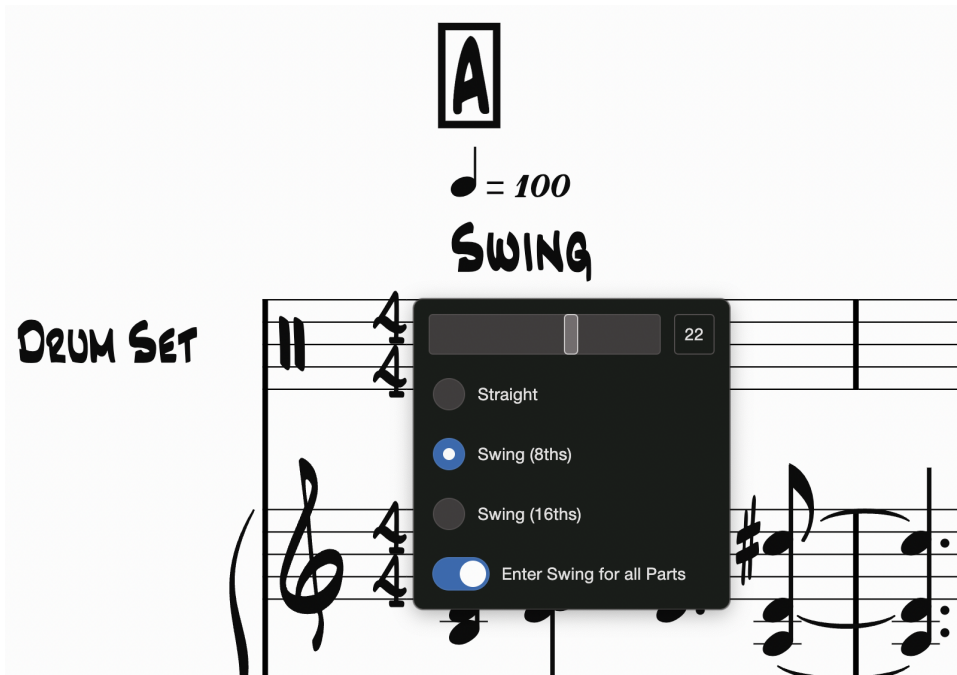
You can elect to have Notion play in a swing style — regular written 8th or 16th notes will be swung with a triplet feel. Open the Tools Grid and select the metronome mark palette — you will then see the Swing tool icon underneath (a 'shadow' quarter note). Or use the keyboard shortcut; **[Shift+S].**

Tap on the score where you want the Swing feel to start. The Swing dialog will open — you can choose whether to swing 8ths or 16ths, and can choose to apply Swing for all staves or just the staff you are attaching the Swing marking to. You can adjust the level of swing, with straight being in the centre (value 0).

- To cancel the Swing playback, select **Straight** in the dialog.
- To adjust an existing Swing marking, tap it once for quick access to the swing control level, or twice to reopen the swing tool dialog.

Mixer
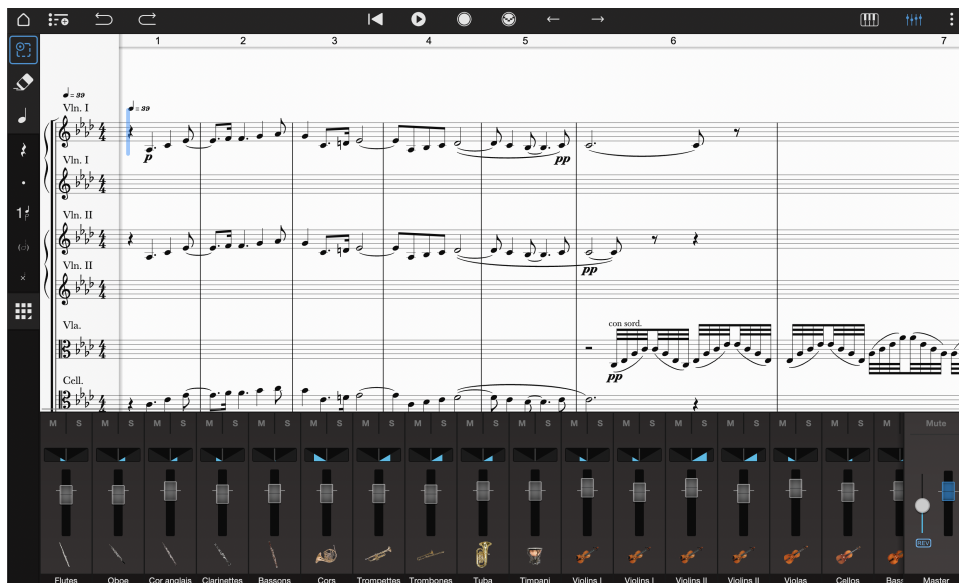
To open, tap the Mixer icon in the top right of the screen, or use the keyboard shortcut **[Ctrl/Cmd+M].**

On the right of the mixer, you will see the master channel with overall volume and reverb controls as well as a global mute button.

Each instrument you add to your score will have a separate channel to the left of the master channel. For large scores you can swipe the mixer left/right to view all the instruments — the master channel always remains visible on top on the right hand side.

Channel Controls:

- Solo or mute
- Adjust the panning of the instrument to adjust where it sounds between left and right
- The volume of the instrument

In addition, for electric guitar, there is also a Drive control to affect the amount of distortion in playback.

For fine tuning of Pan and Volume values, hold down Shift if you have a keyboard attached, while you drag.

Audio Devices

When using Notion Mobile on Windows or macOS, you can manually select the audio device to use for playback. Go to Application Menu>Audio Setup to select your desired audio device.

For other devices and platforms, Notion Mobile will follow the default audio device.

Save, Export and Print Scores

With Notion Mobile can print, share, export and transmit your score in various formats.

Save

Notion will automatically save your progress as you compose, to allow you to recover your work should a problem occur. Further save options can be found in the Application Menu:

1. **Save**
   - This allows you to manually save at any time. You can also use the keyboard shortcut **Ctrl/Cmd+S**

2. **Save As**
   - This creates a copy of the document in which you then continue to work, thus preserving the original document. You can also use the keyboard shortcut **Ctrl/Cmd+Shift+S**. This differs from the Export feature below whereby a copy is created, but with the original document still open.

Print

To print, go to the Application Menu and select Print. Or use the keyboard shortcut **Ctrl/Cmd+P**.This will bring up the system print dialog.

Export

To export, go to the Application Menu and select Export Score or use the keyboard shortcut **Ctrl/Cmd+E**. You can change the name of the exported document in the File Name field, or just keep it the same as your original.

There is then a choice of Actions:

- **Store File** Exports to a location of your choice, in the required Format.
- **Share…** On mobile devices only, this brings up the standard device Share menu provided by the operating system. This allows: saving to cloud providers; sending via email or social media; or sending to another app where supported.
- **Save as Template** This saves the score in its current form as a Notion template for you to select from the template list in the New Score dialog.
- **Transmit** Part of the optional Feature Bundle, this allows you to directly transmit to any device in the same network running a PreSonus application, including Notion Mobile, Notion Desktop, and Studio One Professional. Once unlocked, be sure to allow the network transfer in each application — in Notion Mobile, go to Application Menu>Options>Network>Allow receiving documents.

The export Formats available then correspond to your choice of Action above .

- **Score**
  - Notion file
  - MusicXML file
  - Compressed MusicXML file (mxl)
  - MIDI file
  - PDF file
    - Full score
    - Single PDF containing all parts
    - Single PDF containing full score and all parts
- **Audio**
  - WAV
  - Mp3
  - Audio formats available with the Feature Bundle:
    - FLAC
    - Opus

- M4a

Each audio format will show further export options as relevant to the selected format; bitrate, resolution, sample rate, compression, etc.

Keyboard shortcuts

Notion Mobile includes cross-platform keyboard shortcuts.

- Numbers 1-9 are not just for note durations – they can directly choose any options of a selected tool
    - e.g. Type **[C]** for clef, and then **[2]** for Bass Clef
    - e.g. Type **[<]** for hairpin and then **[4]** for *'decresc…'*
- **[Esc]** takes you back to the Select Tool, and clears your cursor
- A legacy set of Notion duration shortcuts (e.g. **[E]** for eighth note) is included in Application Menu>Options>Edit>Letters for Duration
- For Mac, in the below shortcuts substitute **[Ctrl]** for **[Cmd]** and **[Opt]** for **[Alt].**

Keyboard Shortcuts - Durations		
Default	Alternative (Options Menu> Letters for Duration)	Duration (Toggle key for rest)
1		Double whole note / rest
2	*w*	Whole note / rest
3	*h*	Half note / rest
4	*q*	Quarter note / rest
5	*e*	Eighth note / rest
6	*s*	Sixteenth note / rest
7	*t*	32nd note / rest
8		64th note / rest
9		128th note / rest
.		Augmentation dot / dots
T	*Alt + t*	Tie
Alt + 2-9		Tuplet Entry
Alt + 1		Clear Tuplet Entry

Keyboard Shortcuts – ALL	
Esc	Selection Tool
1 to 9	Tool Options (inc. Note / Rest Durations, long to short)

Alt + Left/Right Cursor	Select previous/next tool
A	Arpeggios
B	Toggle flats
C	Clefs
D	Duplicate
E (or Alt + E if using duration letters)	Enharmonic
F	Toggle Fortes
G	Toggle Grace / Ghost
H (or Alt + H if using duration letters)	Tremolos (Slashes)
I	Barlines
J	Tempo Tool
K	Key Signature
L	Lyric
M	Time Signature
O	Octave
P	Toggle Pianos
R	Tempo Change
S (or Alt + S if using duration letters)	Slur
T (or Alt + T if using duration letters)	Tie
W (or Alt + W if using duration letters)	Fingering
X	Toggle Noteheads
Shift + B	Beam Tool
Shift + C	Chord
Shift + D	Pauses
Shift + F	Mezzo Forte

Shift + G	Bends
Shift + H	Tremolos (Beams)
Shift + I	Instrument Change
Shift + J	Jump Marks
Shift + K	Text Box
Shift + L	Gliss Port.
Shift + M	Metronome
Shift + N	Guitar Technique
Shift + O	String Techniques
Shift + P	Mezzo Piano
Shift + Q	Plucking
Shift + R	Rehearsal Mark
Shift + S	Swing
Shift + T	Trills
Shift + U	Jazz Bends
Shift + V	Vibrato
Shift + W	Whammy Bar
Shift + X	Cross Staff
Shift + Y	Slides
Shift + Z	Arco Pizz.
Ctrl + A	Select All
Ctrl + Shift + A	Select Part
Ctrl + B	Repeat last chord (in Step Time)
Ctrl + C	Copy
Ctrl + D	Deselect All
Ctrl + E	Export
Ctrl + Shift + F	Flip Attachment

Ctrl + G	Score Setup
Ctrl + H	Harp Diagram
Ctrl + L	Layout / View Menu
Ctrl + Shift + L	Show Layout Handles
Ctrl + M	Mixer
Ctrl + N	New
Ctrl + O	Open
Ctrl + P	Print
Ctrl + Q	Quit
Ctrl + R	Step Record
Ctrl + Shift + R	Real-time Record
Ctrl + S	Save
Ctrl + Shift + S	Save As
Ctrl + T	Make Tuplet
Ctrl + V	Paste
Ctrl + Shift + V	Paste Insert
Ctrl + W	Close
Ctrl + X	Cut
Ctrl + Y / Ctrl + Shift + Z	Redo
Ctrl + Z	Undo
0	Naturals
#	Sharps
-	Tenuto
^	Accents
.	Augmentation Dots / Staccato
<	Crescendos
>	Diminuendos

Ctrl + 1	Voice 1
Ctrl + 2	Voice 2
Ctrl + 3	Voice 3
Ctrl + 4	Voice 4
Ctrl + .	Add augmentation dot to selected notes
Del	Delete
Backspace	Delete
Shift + Backspace	Toggle Notes and Rests
Cursor arrows	Navigate by note
Ctrl + Backspace	Clear Articulations
Ctrl + Cursor arrows	Navigate by measure
Cursor up/down when note(s) selected	Transpose note(s) diatonically
Ctrl + cursor up/down when note(s) selected	Transpose note(s) chromatically
Shift + cursor up/down when note(s) selected	Transpose note(s) by an octave
Alt + drag notes up/down	Changes accidental only
Alt + Home (or Alt+Fn+left arrow)	Home Page
Ctrl + +	Zoom in
Ctrl + -	Zoom out
[F5]	Toggle score and selected part
[F6]	Continuous View
[F7]	Toggle Page Views
[F8]	Screen View
[Space]	Start/Stop
,	Return to Zero
:	Repeat Ending

%	Toggle Measure Repeats
*	Toggle Pedal Marks

List of Sounds

Notion Mobile's sound library was recorded exclusively for Notion by the London Symphony Orchestra at Abbey Road Studios, where the Steinway piano and classical guitar were also sampled. Other guitars and drum samples were recorded by Grammy-winning artists in studios in the USA. Pipe organ and choir sounds are licensed from Soundiron.

Core Soundsets and the Welcome Pack are available to download for free from the Sound Installation menu. Add-on Soundsets are available as part of the Feature Bundle — unlocked either through the in-app purchase, or by logging in with a valid Studio One+ membership. Check out the See the Quickstart Tutorial here: chapter for more info.

Soundset Name / Contents

Built-in

- Grand Piano (Steinway)

Welcome Pack - Register for free to download

- Solo Violin (1698 Antonius Stradivarius)
- Solo Viola (16th Century Antonio Brenzi)
- Solo Cello (c.1710 Matteo Gofriller)
- Solo Bass (1840's Thomas Kennedy)
- Alto Saxophone (Selmer)
- Tenor Saxophone (Selmer)
- Glockenspiel (Bergerault)

Core Strings (free)

- **Violins I & Violins II** (section includes: 1698 Antonius Stradivarius, 1701 Johannes Tononi, 1708 Daniel Parker, 1725 Antonio Maria Lavazza, 1725 Spiritus Sarsana, 1730 Paulo Antonio Testore, 1736 Guarneri, 1764 Richard Duke, 18th century Jean-Baptiste Viullaume, 1907 Pierre Hel, 2003 Alexander Tzankow)
- **Violas** (section includes: 1876 Boullangier, 1823 Matthew Hardi, 1880s Joseph Hill (the grandson of "The Joseph Hill"), 1998 John Dilworth, 1912 Antoniazzi Romeo, 1756 North Italian Instrument, 1975 Antonio Capela, 1900 Nicholas Malthuis – Orleans, late 16th century Antonio Brenzi).
- **Cellos** (section includes: 1899 Briggs, 1793 Celianatis, 1821 Thomas Kennedy – London, 1804 William Forster, 1822 Gilkes, 2000 Robert Hawsell, c.1710 Matteo Gofriller)
- **Basses** (section includes: 1840's Thomas Kennedy, 1770 Forster, 1870 Shaw, 1839 Thomas Kennedy, 1850 Vuillaume, 1765 Lorenzo Carcassi)

Core Wind (free)

- Piccolo (Zentner black wood)
- Flute (Yamaha)
- Oboe (Howarth)
- Cor anglais (Howarth)
- Clarinet (Buffet RC Prestige)
- Bass Clarinet (Buffet)
- Bassoon (Heckel)
- Contrabassoon (Mollenhauer)
- Horn (Paxman)
- Trumpet (Yamaha Xeno)
- Trombone (Conn)

- Bass Trombone (King)
- Tuba (Besson Sovereign)

Core Rhythm / Percussion (free)

- Acoustic Guitar
- Electric Bass
- Electric Guitar
- Drum Set
- Tambourine
- Snare Drum (Ludwig)
- Suspended Cymbal (Zildjian)
- Crash Cymbals (Zildjian)
- Bass Drum (B+H)
- Timpani
- Xylophone (Adams)
- Chorus (Olympus Micro Choir by Soundiron)
- Harp (Horngacher)

Section Sounds (add-on)

- Bassoon Duo
- Clarinet Duo
- Clarinet Section
- Flute Duo (Powell / Yamaha)
- Flute Section
- Oboe Duo
- Horn Section
- Trombone Section (Conn / King)
- Trumpet Section

Wind (add-on)

- Eb Clarinet (Buffet + glass mouthpiece)
- Alto Flute (Yamaha)
- Bass Flute
- Contrabass Clarinet
- Basset Horn
- Oboe d'amore
- Bass Oboe
- Baritone Saxophone (Selmer)
- Sopranino Saxophone (Selmer)
- Soprano Saxophone (Selmer)
- Contrabass Saxophone (Tubax)
- Euphonium (Besson)
- Piccolo Trumpet
- Bass Trumpet

- Soprano Trumpet
- Flugelhorn
- Cornet
- Wagner Tuba
- Alto Trombone

Jazz Woodwind (add-on)

- Jazz Alto Saxophone (Selmer)
- Jazz Baritone Saxophone
- Jazz Clarinet
- Jazz Soprano Saxophone
- Jazz Tenor Saxophone (Selmer)

Jazz Brass (add-on)

- Jazz Trumpet 1
- Jazz Trumpet 2
- Jazz Bass Trombone
- Jazz Tenor Trombone

Keyboards + More Guitars (add-on)

- Electric Piano
- Clavinet
- Techno Synth
- Organ (Lakeside Organ by Soundiron)
- Celeste (Schiedmayer)
- Harpsichord (Robert Goble & Son, 1972)
- Banjo
- Classical Guitar (Greg Smallman)
- Mandolin
- Upright Bass
- Ukulele (Collings)

Percussion (add-on)

- **Sound Effects Bundle** (Whip, Cuckoo, Ratchet, Siren, Car horn, Referee whistle, Siren, Whistle, Champagne bottle, Duck call, Handclap, Wind machine, Rainstick, Church bell, Thunder sheet)
- **Percussion Bundle** (Temple blocks, Wine glasses, Hand bells, Concert toms, Saw, Almglocken, Nightingale whistle, Lions roar, Bodhran, Flexatone, Slide whistle, Sizzle cymbal, Guiro, Cabasa, Tam-tam, Maracas, Castanets, Caxixi, Ganza, Drum sticks, Brake drum, Chinese cymbal, Finger cymbals, Bell tree, Hammer, Vibraslap, Flower pots, Cuica, Log Drum, Agogo, Vibrastick, Lead Pipe, Ocean Drum, Train Whistle, Water Gong, Tenor Drum, Piccolo Snare, Anvil, Sand Blocks, Side Drum)
- Crotales
- Marimba (Adams 5 oct)
- Roto Toms
- Tubular Bells (/Chimes) (Musser)
- Tuned Gongs
- Vibraphone (Musser)

- Claves
- Cowbell
- Gong (Paiste)
- Sleigh Bells
- Splash Cymbal
- Triangle
- Woodblocks
- Bongos

Acknowledgements

License information for third-party software used :

- Skia Graphics Library (macOS only)
- libpng
- zlib
- Expat XML Parser
- Perl Compatible Regular Expressions (PCRE)
- Ogg Vorbis libogg
- Ogg Vorbis libvorbis
- Opus Audio Codec
- opusfile Library
- FLAC Free Lossless Audio Codec
- LAME MP3 Encoder
- mpg123 MP3 Decoder
- libsamplerate
- MP4v2 Library
- WavPack Codec
- Apple Lossless Audio Codec (Windows and Android only)
- FDK-AAC Library (Android only)
- Oboe Audio Library (Android only)
- MyScript Handwriting Recognition Technology
- Nimbus Sans Novus Font
- Libre Baskerville Font

Skia Graphics Library

Copyright (c) 2011 Google Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the copyright holder nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

PNG Reference Library License version 2

- Copyright (c) 1995-2019 The PNG Reference Library Authors.
- Copyright (c) 2018-2019 Cosmin Truta.

zlib

Expat XML Parser

PCRE LICENCE

Release 8 of PCRE is distributed under the terms of the "BSD" licence, as specified below. The documentation for PCRE, supplied in the "doc" directory, is distributed under the same terms as the software itself.

The basic library functions are written in C and are freestanding. Also included in the distribution is a set of C++ wrapper functions.

THE BASIC LIBRARY FUNCTIONS

Written by: Philip Hazel

Email local part: ph10

Email domain: cam.ac.uk

University of Cambridge Computing Service,

Cambridge, England.

Copyright (c) 1997-2010 University of Cambridge

All rights reserved.

THE C++ WRAPPER FUNCTIONS

Contributed by: Google Inc.

Copyright (c) 2007-2010, Google Inc.

All rights reserved.

THE "BSD" LICENCE

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of the University of Cambridge nor the name of Google Inc. nor the names of their contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Ogg Vorbis

FLAC Free Lossless Audio Codec

libogg

libvorbis

Copyright (c) 2002-2020 Xiph.org Foundation

- Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the Xiph.org Foundation nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Opus Audio Codec and opusfile Library

Copyright © 2011-2017

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- Neither the name of Internet Society, IETF or IETF Trust, nor the names of specific contributors, may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

LAME MP3 Encoder - lame.sourceforge.net

GNU LIBRARY GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.

59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it.

By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it.

You can use it for your libraries, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you.

You must make sure that they, too, receive or can get the source code.

If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it.

And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library.

If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents.

We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software.

To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs.

This license, the GNU Library General Public License, applies to certain designated libraries.

This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it.

Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program.

However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries.

We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves.

This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them.

(We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow.

Pay close attention to the difference between a "work based on the library" and a "work that uses the library".The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License").

Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms.

A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language.

(Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it.

For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope.

The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it).

Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application.

Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole.

If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works.

But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library.

To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License.

(If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.)

Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library".

Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library".

The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library.

The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work.

(Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License.

You must supply a copy of this License.

If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License.

Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library.

(It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it.

However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system.

Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities.

This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License.

Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License.

However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it.

However, nothing else grants you permission to modify or distribute the Library or its derivative works.

These actions are prohibited by law if you do not accept this License.

Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions.

You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License.

If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all.

For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices.

Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded.

In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number.

If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation.

If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission.

For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this.

Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

mpg123 MP3 Decoder - www.mpg123.de

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed. [This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it.

By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it.

You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights.

These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you.

You must make sure that they, too, receive or can get the source code.

If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it.

And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library.

Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program.

We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder.

Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License.

This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License.

We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library.

The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom.

The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License.

It also provides other free software developers Less of an advantage over competing non-free programs.

These disadvantages are the reason we use the ordinary General Public License for many libraries.

However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard.

To achieve this, non-free programs must be allowed to use the library.

A more frequent case is that a free library does the same job as widely used non-free libraries.

In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software.

For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow.

Pay close attention to the difference between a "work based on the library" and a "work that uses the library".

The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms.

A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language.

(Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it.

For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope.

The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it).

Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application.

Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole.

If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works.

But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library.

To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License.

(If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.)

Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library".

Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library".

The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library.

The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work.

(Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License.

You must supply a copy of this License.

If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License.

Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library.

(It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library.

A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it.

However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system.

Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities.

This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it.

However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License.

If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all.

For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices.

Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice. This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

libsamplerate

Copyright (c) 2012-2016, Erik de Castro Lopo <erikd@mega-nerd.com>

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

MOZILLA PUBLIC LICENSE

Version 1.1

----

1. Definitions.

1.0.1. "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1. "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document. =

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is: A. Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

B. Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for

making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity. 2. Source Code License.

2.1. The Initial Developer Grant.

The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).

(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code;

or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant.

Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and (b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License.

The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You

may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code.

Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications.

You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters (a) Third Party Claims. If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs. If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c)Representations. Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in Exhibit A in each file of the Source Code.

If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A.

You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions.

You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works.

You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation. If it is impossible for You to comply with any of the terms of this

License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be

included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code. 6. Versions of the License.

6.1. New Versions.

Netscape Communications Corporation ("Netscape") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions.

Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Netscape. No one other than Netscape has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works.

If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1.

This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declatory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either: (i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor her eunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY. UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY

INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the MPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A. EXHIBIT A -Mozilla Public License.

``The contents of this file are subject to the Mozilla Public License Version 1.1 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at https://www.mozilla.org/MPL/

Software distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code is MPEG4IP.

The Initial Developer of the Original Code is Cisco Systems Inc.

Portions created by Cisco Systems Inc are

Copyright (C) Cisco Systems Inc. 2001. All Rights Reserved.

MP4v2 Library

Copyright (c) 1998 - 2022 David Bryant

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. Neither the name of Conifer Software nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR

TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Apple Lossless Audio Codec (ALAC)

Apache License

Version 2.0, January 2004

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document. "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types."Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work. 2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

You must give any other recipients of the Work or Derivative Works a copy of this License; and You must cause any modified files to carry prominent notices stating that You changed the files; and You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display

generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in d escribing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

FDK-AAC Library

Software License for The Fraunhofer FDK AAC Codec Library for Android

© Copyright 1995 - 2018 Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V. All rights reserved.

1.INTRODUCTION

The Fraunhofer FDK AAC Codec Library for Android ("FDK AAC Codec") is software that implements the MPEG Advanced Audio Coding ("AAC") encoding and decoding scheme for digital audio. This FDK AAC Codec software is intended to be used on a wide variety of Android devices.

AAC's HE-AAC and HE-AAC v2 versions are regarded as today's most efficient general perceptual audio codecs. AAC-ELD is considered the best-performing full-bandwidth communications codec by independent studies and is widely deployed. AAC has been standardized by ISO and IEC as part of the MPEG specifications.

Patent licenses for necessary patent claims for the FDK AAC Codec (including those of Fraunhofer) may be obtained through Via Licensing (www.vialicensing.com) or through the respective patent owners individually for the purpose of encoding or decoding bit streams in products that are compliant with the ISO/IEC MPEG audio standards. Please note that most manufacturers of Android devices already license these patent claims through Via Licensing or directly from the patent owners, and therefore FDK AAC Codec software may already be covered under those patent licenses when it is used for those licensed purposes only.

Commercially-licensed AAC software libraries, including floating-point versions

with enhanced sound quality, are also available from Fraunhofer. Users are encouraged to check the Fraunhofer website for additional applications

information and documentation.

2.COPYRIGHT LICENSE

Redistribution and use in source and binary forms, with or without modification, are permitted without payment of copyright license fees provided that you satisfy the following conditions: You must retain the complete text of this software license in redistributions of the FDK AAC Codec or your modifications thereto in source code form.

You must retain the complete text of this software license in the documentation and/or other materials provided with redistributions of the FDK AAC Codec or your modifications thereto in binary form. You must make available free of charge copies of the complete source code of the FDK AAC Codec and your modifications thereto to recipients of copies in binary form.

The name of Fraunhofer may not be used to endorse or promote products derived from this library without prior written permission.

You may not charge copyright license fees for anyone to use, copy or distribute the FDK AAC Codec software or your modifications thereto.

Your modified versions of the FDK AAC Codec must carry prominent notices stating that you changed the software and the date of any change. For modified versions of the FDK AAC Codec, the term "Fraunhofer FDK AAC Codec Library for Android" must be replaced by the term "Third-Party Modified Version of the Fraunhofer FDK AAC Codec Library for Android."

3.NO PATENT LICENSE

NO EXPRESS OR IMPLIED LICENSES TO ANY PATENT CLAIMS, including without limitation the patents of Fraunhofer, ARE GRANTED BY THIS SOFTWARE LICENSE. Fraunhofer provides no warranty of patent non-infringement with respect to this software.

You may use this FDK AAC Codec software or modifications thereto only for purposes that are authorized by appropriate patent licenses.

4.DISCLAIMER

This FDK AAC Codec software is provided by Fraunhofer on behalf of the copyright holders and contributors "AS IS" and WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE for any direct, indirect, incidental, special, exemplary, or consequential damages, including but not limited to procurement of substitute goods or services; loss of use, data, or profits, or business interruption, however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence), arising in any way out of the use of this software, even if advised of the possibility of such damage.

5.CONTACT INFORMATION

Fraunhofer Institute for Integrated Circuits IIS

Attention: Audio and Multimedia Departments - FDK AAC LL

Am Wolfsmantel 33

91058 Erlangen, Germany

www.iis.fraunhofer.de/amm

amm-info@iis.fraunhofer.de

Oboe Audio Library

Apache License

Version 2.0, January 2004

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and (b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License

or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

ttp://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

MyScript Handwriting Recognition Technology

© 2014 MyScript. All Rights Reserved. MyScript is trademark of MyScript, registered in the US and in other countries

Nimbus Sans Novus Font

The font and related files in this directory are distributed under the GNU AFFERO GENERAL PUBLIC LICENSE Version 3 (see the file COPYING), with the following exemption:

As a special exception, permission is granted to include these font programs in a Postscript or PDF file that consists of a document that contains text to be displayed or printed using this font, regardless of the conditions or license applying to the document itself.

Libre Baskerville Font

Copyright (c) 2012, Pablo Impallari (www.impallari.com|impallari@gmail.com),

Copyright (c) 2012, Rodrigo Fuenzalida (www.rfuenzalida.com|hello@rfuenzalida.com), with Reserved Font Name Libre Baskerville.

This Font Software is licensed under the SIL Open Font License, Version 1.1.

This license is copied below, and is also available with a FAQ at:

http://scripts.sil.org/OFL

SIL OPEN FONT LICENSE Version 1.1 - 26 February 2007

PREAMBLE

The goals of the Open Font License (OFL) are to stimulate worldwide development of collaborative font projects, to support the font creation efforts of academic and linguistic communities, and to provide a free and open framework in which fonts may be shared and improved in partnership with others.

The OFL allows the licensed fonts to be used, studied, modified and redistributed freely as long as they are not sold by themselves. The fonts, including any derivative works, can be bundled, embedded, redistributed and/or sold with any software provided that any reserved names are not used by derivative works. The fonts and derivatives, however, cannot be released under any other type of license. The requirement for fonts to remain under this license does not apply to any document created using the fonts or their derivatives.

DEFINITIONS

"Font Software" refers to the set of files released by the Copyright Holder(s) under this license and clearly marked as such. This may include source files, build scripts and documentation.

"Reserved Font Name" refers to any names specified as such after the copyright statement(s).

"Original Version" refers to the collection of Font Software components as distributed by the Copyright Holder(s).

"Modified Version" refers to any derivative made by adding to, deleting, or substituting -- in part or in whole -- any of the components of the Original Version, by changing formats or by porting the Font Software to a new environment.

"Author" refers to any designer, engineer, programmer, technical writer or other person who contributed to the Font Software.

PERMISSION & CONDITIONS

Permission is hereby granted, free of charge, to any person obtaining a copy of the Font Software, to use, study, copy, merge, embed, modify, redistribute, and sell modified and unmodified copies of the Font Software, subject to the following conditions:

1) Neither the Font Software nor any of its individual components,in Original or Modified Versions, may be sold by itself.

2) Original or Modified Versions of the Font Software may be bundled, redistributed and/or sold with any software, provided that each copy contains the above copyright notice and this license. These can be included either as stand-alone text files, human-readable headers or in the appropriate machine-readable metadata fields within text or binary files as long as those fields can be easily viewed by the user.

3) No Modified Version of the Font Software may use the Reserved Font Name(s) unless explicit written permission is granted by the corresponding Copyright Holder. This restriction only applies to the primary font name as presented to the users.

4) The name(s) of the Copyright Holder(s) or the Author(s) of the Font Software shall not be used to promote, endorse or advertise any Modified Version, except to acknowledge the contribution(s) of the Copyright Holder(s) and the Author(s) or with their explicit written permission.

5) The Font Software, modified or unmodified, in part or in whole, must be distributed entirely under this license, and must not be distributed under any other license. The requirement for fonts to remain under this license does not apply to any document created using the Font Software.

TERMINATION

This license becomes null and void if any of the above conditions are not met.

DISCLAIMER

THE FONT SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF COPYRIGHT, PATENT, TRADEMARK, OR OTHER RIGHT. IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, INCLUDING ANY GENERAL, SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF THE USE OR INABILITY TO USE THE FONT SOFTWARE OR FROM OTHER DEALINGS IN THE FONT SOFTWARE.

End