

The screenshot shows the iTunes application window. On the left is a sidebar with navigation options: Search, Library (Release Years, Collection Years, Last Played Years, Audio Formats), Browse (Artists, Groups, Composers, Conductors, Genres, Labels), and Audio Devices (MacBook Pro Speakers, External Headphones, Studio Display Speakers). The main area displays a grid of album covers, categorized by audio format (DSD and PCM). The playback bar at the bottom shows the current track: Ludwig van Beethoven – Piano Sonata No. 32 in C minor, Op. 111 – II. Arietta, performed by Mikhail Pletnev.

**Audio Formats**

- DSD 3
  - DSD 64 2
  - DSD 256 1
- PCM 27

**DSD**

- Arabella Steinbacher: 4 Estaciones Porteñas: Primavera Porteña (Arr. for...)
- The Beach Boys: Surfin' Safari

**PCM**

- Argerich, Kremer, Bashmet, & Maisky: Brahms: Piano Quartett; Sch...
- Alexander Arroyo, Janet Baker, Julius Patzak, Danish State Radio Chorus, Danish Radio Symphony & Concert Orchestra, Royal Philharmonic Orchestra, János Ferencsik, Norman Del Mar: Schoenberg: Gurrelieder, etc.
- Curzon, Vienna Philharmonic Orchestra, & Knappertsbusch: Beethoven: Piano Concerto...
- Dietrich Fischer-Dieskau: Schubert: Winterreise
- Felix Ayo & I Musici: Vivaldi: The Four Seasons & L'amoroso
- Glenn Gould: Bach, Scarlatti, C.P.E. Bach
- Hania Rani: Esja
- Hania Rani: Music for Film and Theatre
- Janet Baker, etc.: Berlioz: Les nuits d'été, La Mort de Cléopâtre, Les Troyens...
- Jascha Heifetz: Bach: Sonatas & Partitas
- Mikhail Pletnev: Scriabin: Pletnev

**Playback Bar:** 10:17 | Ludwig van Beethoven – Piano Sonata No. 32 in C minor, Op. 111 – II. Arietta | Mikhail Pletnev | -6:20

**Tonal**  
Listen different.



Music experience is phenomenological, but music player is not.

Here is a *simple but reliable* framework to evaluate every music player on the market:

1. Does it make your library uniform and clean?
2. How to grade its advertised “audiophile-grade”?
3. From where comes the music metadata?

TONAL is a rule-breaker for *all* these questions. Read the next page to discover how TONAL works and to decide if TONAL is a good fit for you (the answer may be no).

I.

## COLLECT BEFORE PLAY

You can collect music in various lossless formats (FLAC / WAVPACK / MONKEY'S AUDIO / APPLE LOSSLESS / .DSF / .DFF / .ISO / .AIFF / .WAV, etc.) into TONAL.

There's one caveat: Red Book audio must pass the AccurateRip verification.

**i** Don't worry: **CUETools** is integrated into Tonal to save broken rips at its best.

You no longer need to manage your folders, sub-folders, and files; TONAL manages them for you neatly.

**i** Tonal collects music into .tonal audio files – a lightweight archival container containing pure lossless PCM or DSD data of a complete disc in standard FLAC or WavPack encoding.

2.

## AUDIOPHILE- GRADE PLAYBACK

TONAL is engineered *bottom-up* from a bit-perfect engine that contains only 4 SLOC in C – usually one to three orders of magnitude less compared to competitors.

**i** Tonal performs no sample-rate-conversions. To play a release, the selected audio device must support the source format natively.

TONAL is absolutely *configuration-free*. Playback parameters are measured and *optimized* automatically before the first note.

3.

## MUSIC TAGS METADATA

TONAL audio files contain no music tag, making it stable once created – you can even store them on read-only media.

Edits to music metadata are made in the browser-based TONAL EDITOR, which pushes updates to the TONAL APP in real-time.

Collective music collection building powered by community collaborations on music metadata is *finally* possible.

**i** The third part of the manual focuses on music metadata editing.

# LOCAL-FIRST

TONAL is and will always be local-first, which means:

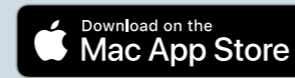
1. You don't create any account for TONAL.
2. You can play your collection without a network connection — audio data is stored on your internal SSD, external drive, SD card, or home NAS.
3. You can migrate or rebuild your entire library with TONAL SERVICES offline — music metadata is stored on iCloud.



Tonal Services are always required to collect music.  
Tonal Editor is always required to edit music metadata.

# PAY-ONCE

TONAL is available from the MAC APP STORE. The app is sandboxed, which means it can not access your private data.



There is no subscription fee. Buy it and own it.



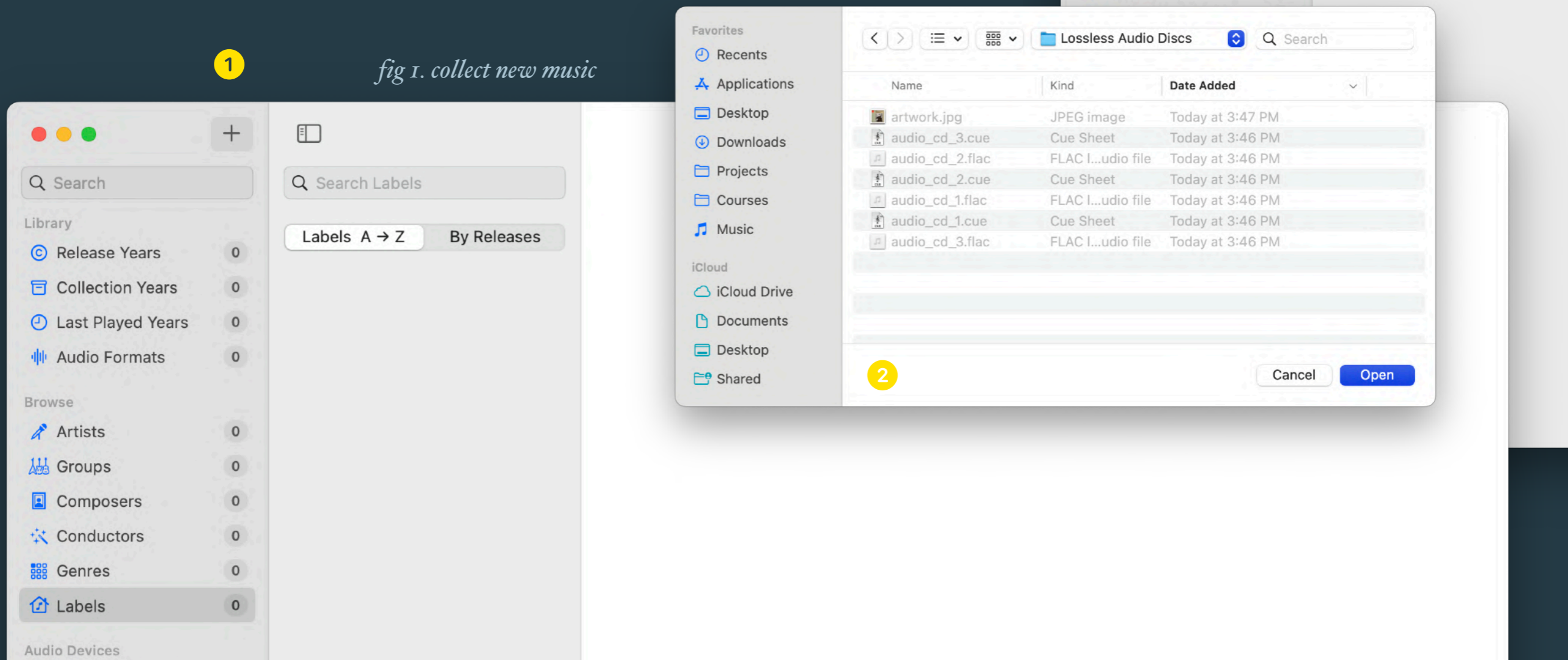
# ADD MUSIC TO YOUR LIBRARY

Click the top-left [+ ] button in the sidebar to collect music into TONAL by selecting a directory containing one or more *complete audio discs*.

**i** Selecting a directory of fewer than 10 discs is recommended otherwise it will take lots of time.

**i** Your library is located at [home]/Music/Tonal/ by default. You can choose another location from the "Library" menu at any time.

A log file will be opened after the collection process is completed. Find more detail there. Collected releases will be shown in your library.



# YOUR LIBRARY

In the “Library” section, you can filter your library by:

1. Release Year (fig 2)
2. Collection Year
3. Last Played Year
4. Audio Format (fig 3)

fig 2. filter by release year

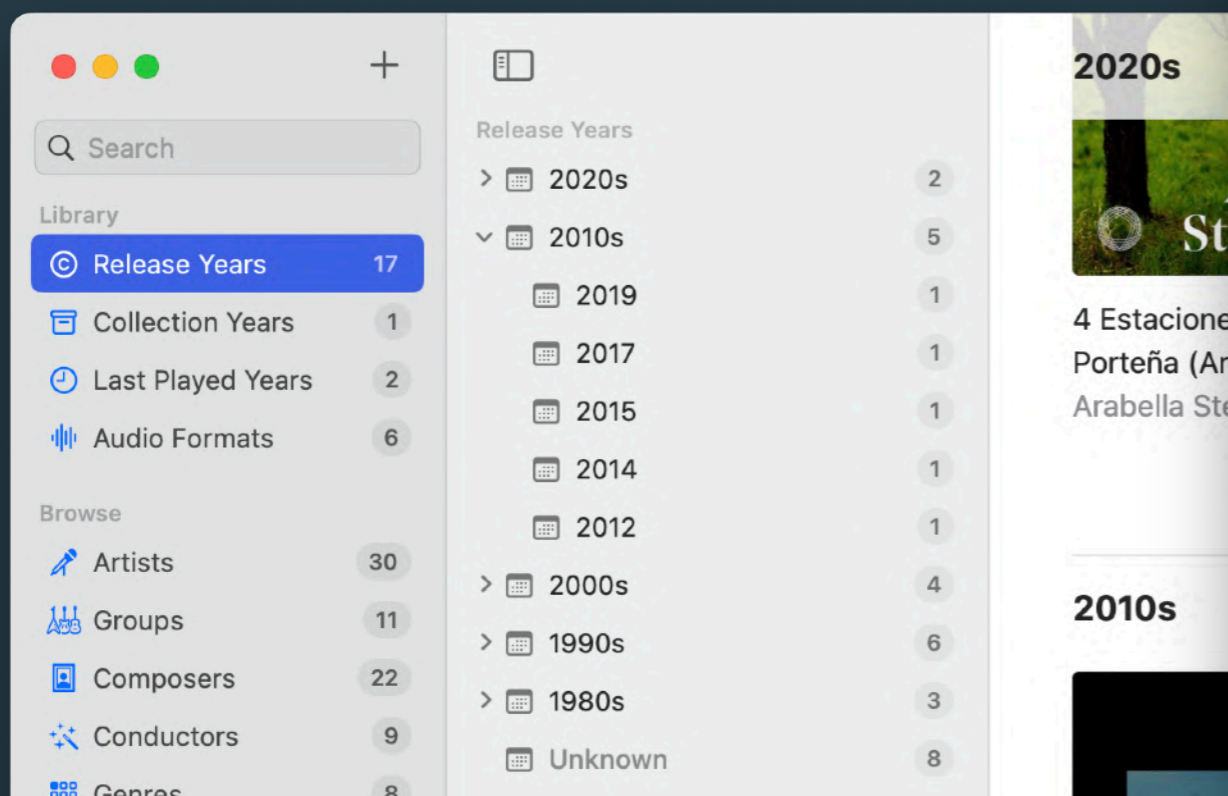
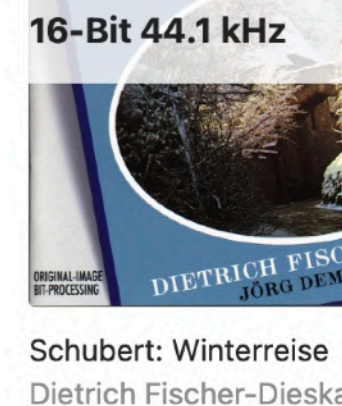
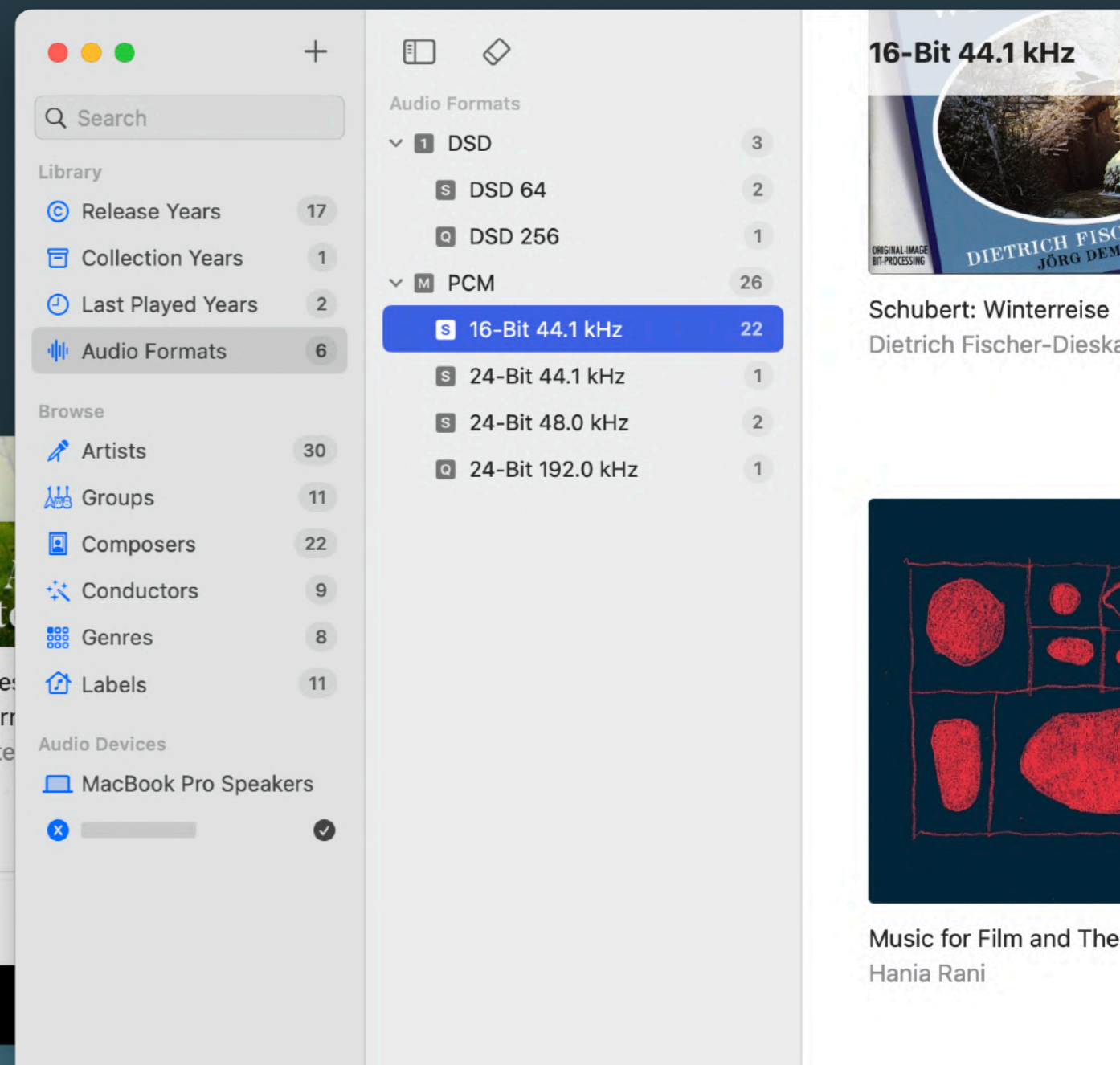


fig 3. filter by audio format



Schubert: Winterreise  
Dietrich Fischer-Dieskau



Music for Film and Theatrical Productions  
Hania Rani



# NAVIGATE YOUR LIBRARY

In the “Browse” sidebar section, you can navigate your library by:

1. Artist (fig. 4)
2. (Music) Group
3. Composer (fig. 5)
4. Conductor
5. Genre
6. Label AND Series (fig. 6)

fig 4. browse artists

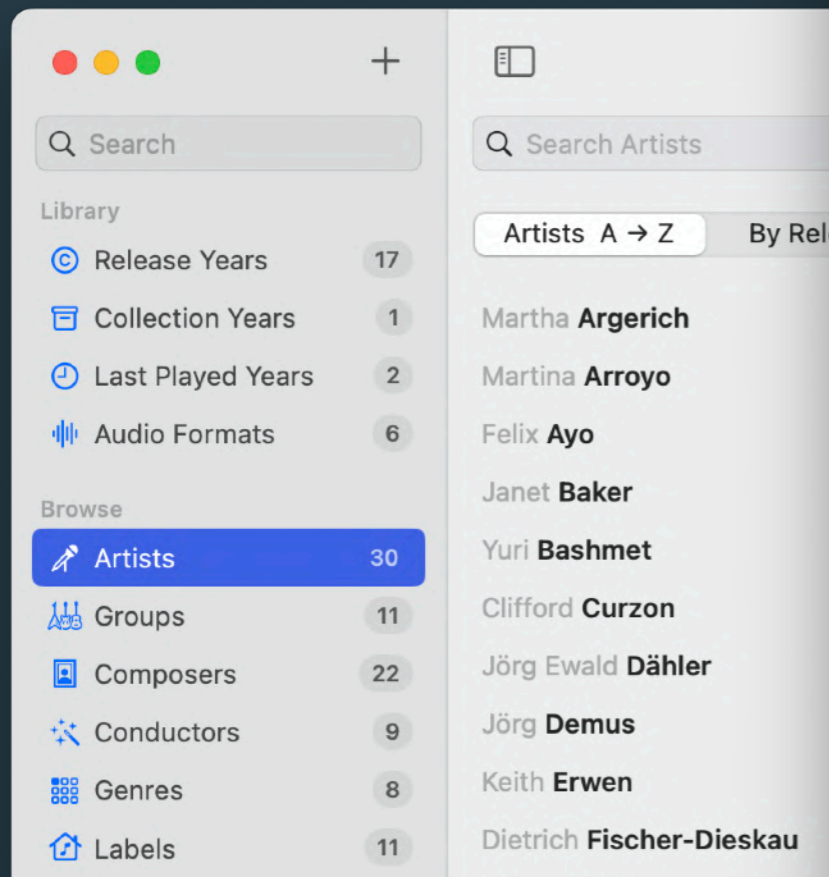


fig 5. browse composers

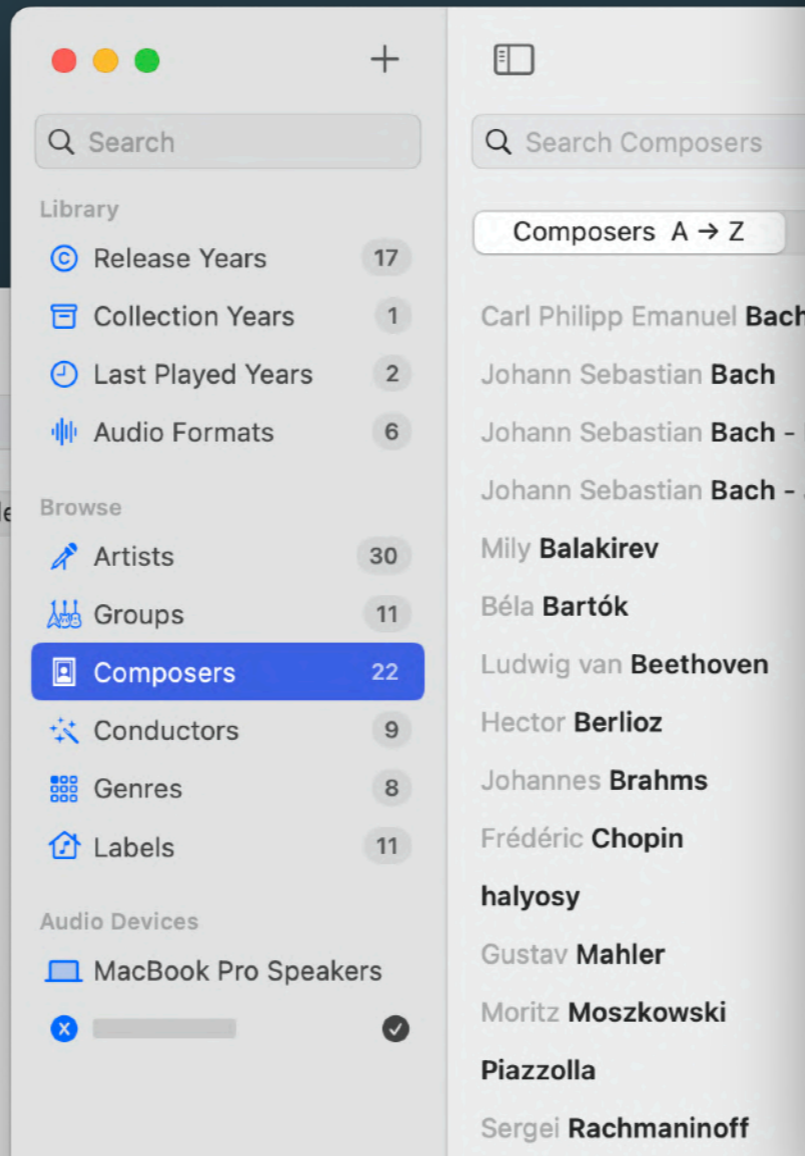
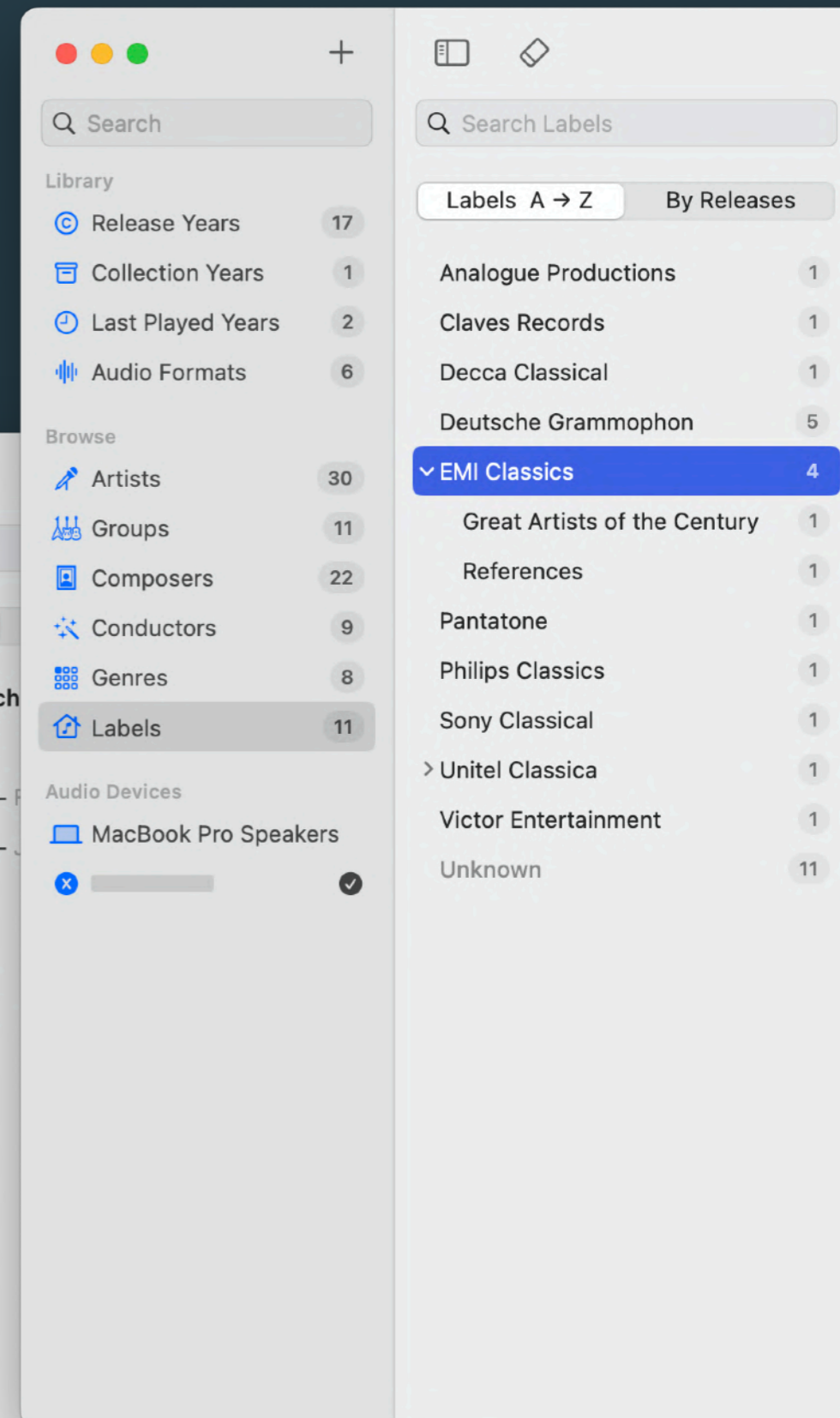


fig 6. browse labels and series



# KNOW YOUR AUDIO DEVICES

A filled checkmark indicates the selected audio device. You can switch to another device by clicking the checkmark next to it.

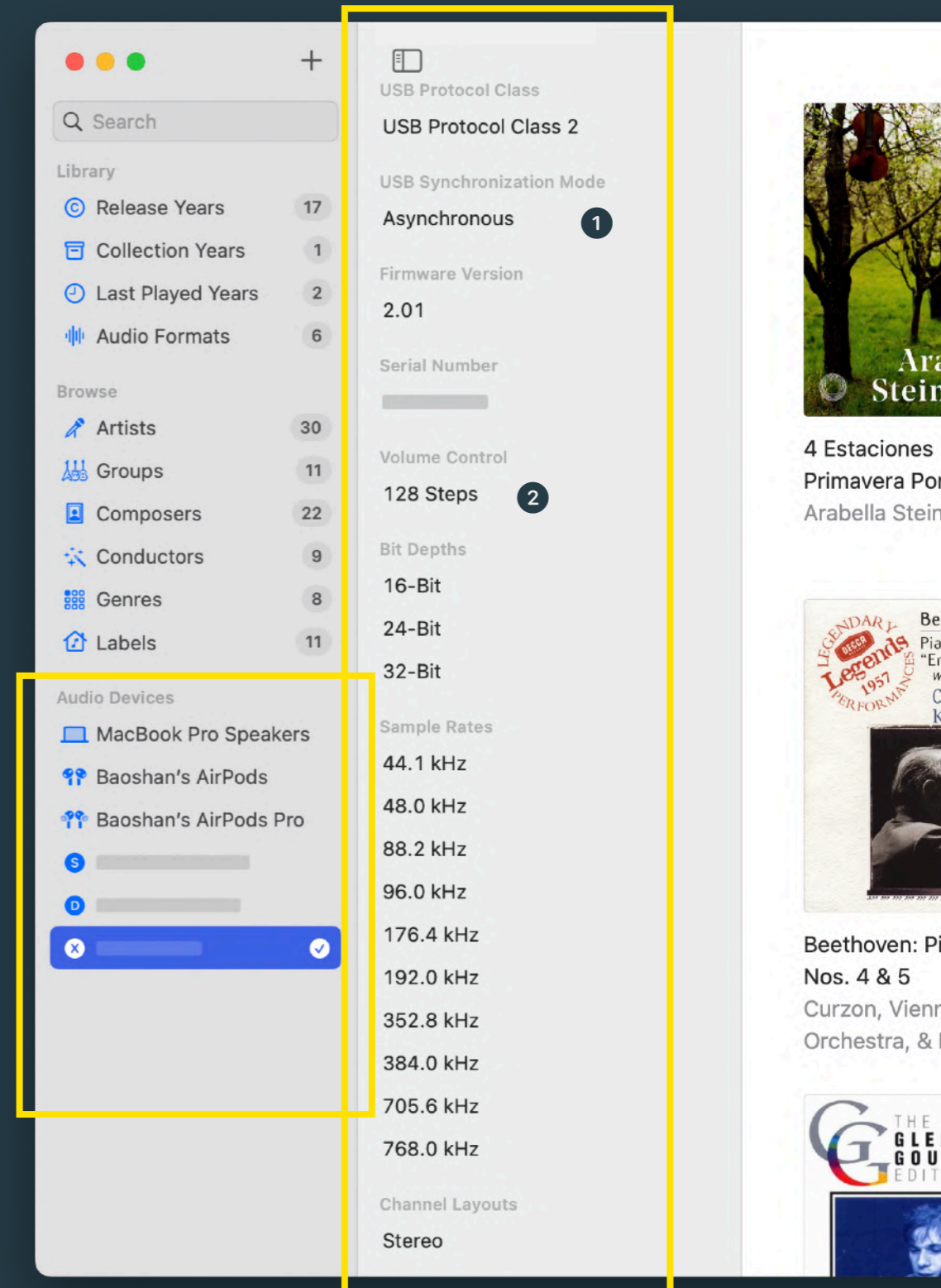
The symbol before an USB device suggests its max sample rate:

S	single	1x	44.1/48 kHz
D	dual	2x	88.2/96 kHz
Q	quad	4x	176.4/192 kHz
O	octa	8x	352.8/384 kHz
X	hexadecimal	16x	705.6/768 kHz

Select an audio device to inspect its tech specs in detail. Two things might be of special interest:

1. **USB SYNCHRONIZATION MODE** indicates if the device is running in *synchronous*, *adaptive*, or *asynchronous* mode.
2. **VOLUME CONTROL** indicates the number of supported volume steps. **TONAL** adjusts the volume in the finest resolution when using the **COMMAND** (⌘) + ▲/▼ keyboard command.

fig 7. output devices are listed in the “audio devices” sidebar section



# BROWSE YOUR RELEASES

Clicking a release tile in the release grid reveals the release in the detail area.

The left column lists collected tracks of the release. Double-click a row (or click the leading play/pause button) to start playing from a specific track, composer, work, section, or disc.



To delete a release:

1. Switch to the “discs and files” section under the artwork.
2. Right-click an audio file.
3. Select “Delete Audio File”.

A release will be removed from your library once all its audio files are removed.

**Live at Carnegie Hall**  
**Mikhail Pletnev**

**Ludwig van Beethoven**  
**Piano Sonata No. 32 in C minor, Op. 111**

- I. Maestoso 9:54
- II. Arietta 16:37

**Frédéric Chopin**

- Scherzo No. 1 in B minor, Op. 20 10:03
- Scherzo No. 2 in B flat minor, Op. 31 10:32
- Scherzo No. 3 in C sharp minor, Op. 39 7:49
- Scherzo No. 4 in E, Op. 54 10:38

**DISC 2** 22:05

**Sergei Rachmaninoff**

- Etude-tableau, Op. 39 No.5 5:25

**Alexander Scriabin**

- Poèmes, Op. 32 No. 1 3:27

**Domenico Scarlatti**

Genre: Classical, Label: Deutsche Grammophon, Release Date: November 2000, Catalogue Number: 471 157-2, Total Time: 1:42:01, Format: 16-Bit 44.1 kHz

Mikhail Pletnev, piano

Recording: November 2000 in Carnegie Hall, New York City, Live Recording

fig 8. release detail view  
(with sidebar collapsed)




The right column shows the artwork and release-level music metadata such as genre, label, crediting artists, and recording info.

Clicking the artwork to maximize it.

# THE PLAYER BAR

TONAL's playback engine is *configuration free*, which means there is no settings panel and the performance is always predictable. Under the hood, TONAL performs an *automatic optimization process* before playback starts and before switching to a new audio format.

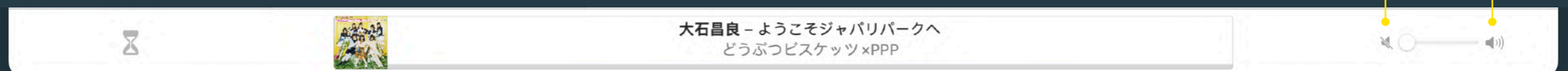
Some icons in the player bar indicate the player is in a special automatic transient state:

	hogging	< 1 seconds
	optimizing	< 2 seconds
	releasing	< 1 seconds

When the player bar is visible, the selected audio device is hogged (or being hogged) — no other process including the system can use it.

Stop the playback by *long-press* the ▶ or || button, or using the Command(⌘) + Period(.) keyboard shortcut — the selected audio device will be released once the player is stopped.

Hover over the track to reveal played/total/remaining time; click the progress bar to seek to a specified position.





Click the artwork in the player bar will navigate the detail area to the playing release.

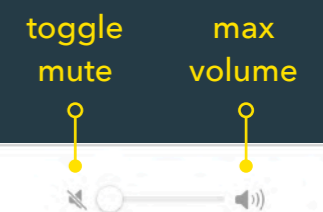
A *toggle mute* button and a *max volume* button are placed on the left and right side of the volume slider.

Here are all the related keyboard shortcuts in the “control” menu:

Action	Shortcut
Space bar	Play or Pause
Command(⌘)-Period	Stop
Command(⌘)-Left Arrow(◀)	Previous Track
Command(⌘)-Right Arrow(▶)	Next Track
Command(⌘)-Up Arrow(▲)	Volume Up
Command(⌘)-Down Arrow(▼)	Volume Down
Command(⌘)-Left Bracket([)	(Navigate) Back

 Volume Up/Down keyboard shortcuts adjust the volume in the audio device's native resolution.

 Tonal asks “Accessibility” permission to handle media keys (volume up/down, next/prev, etc.).

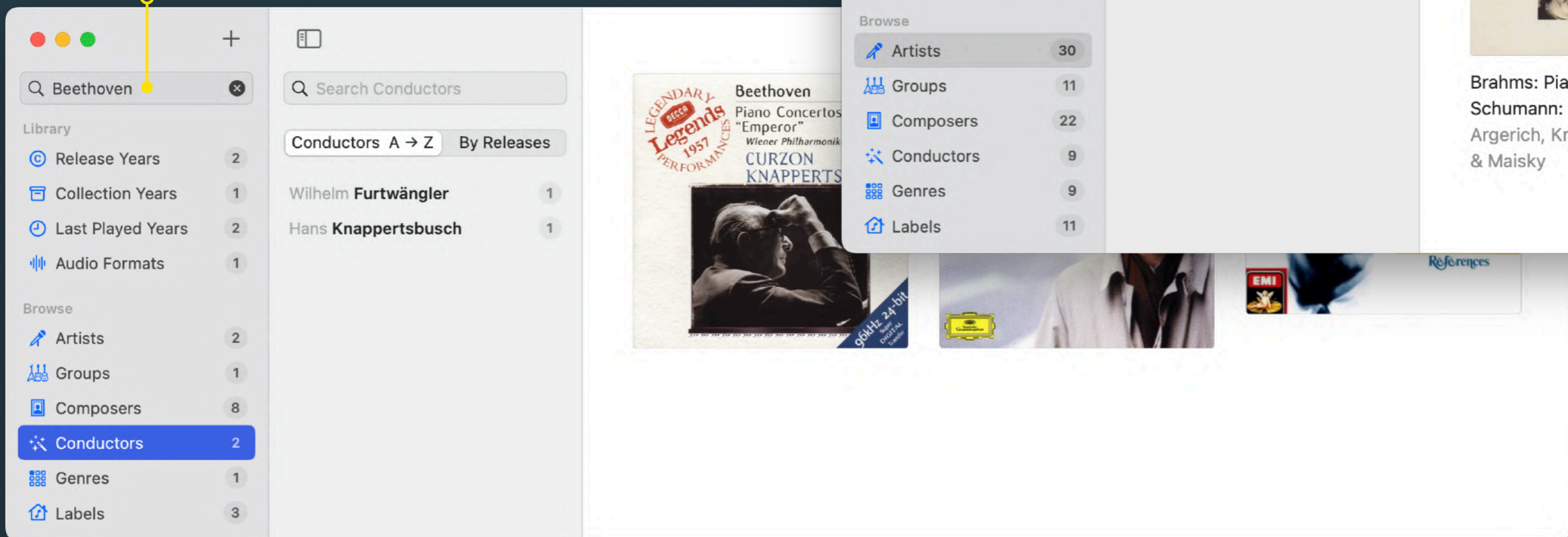


# SEARCH

The search field in the sidebar offers a powerful *global search* experience:

1. Search for a composer to browse artists, groups, conductors, and labels associated with the composer in the middle column, with releases in the detail area.
2. Search for an artist, group, or conductor to browse (collaborating) artists, groups, composers, and labels in the middle column, with releases in the detail area.
3. Composite patterns like composer + artist, composer + conductors, label + composers, etc. are also supported.

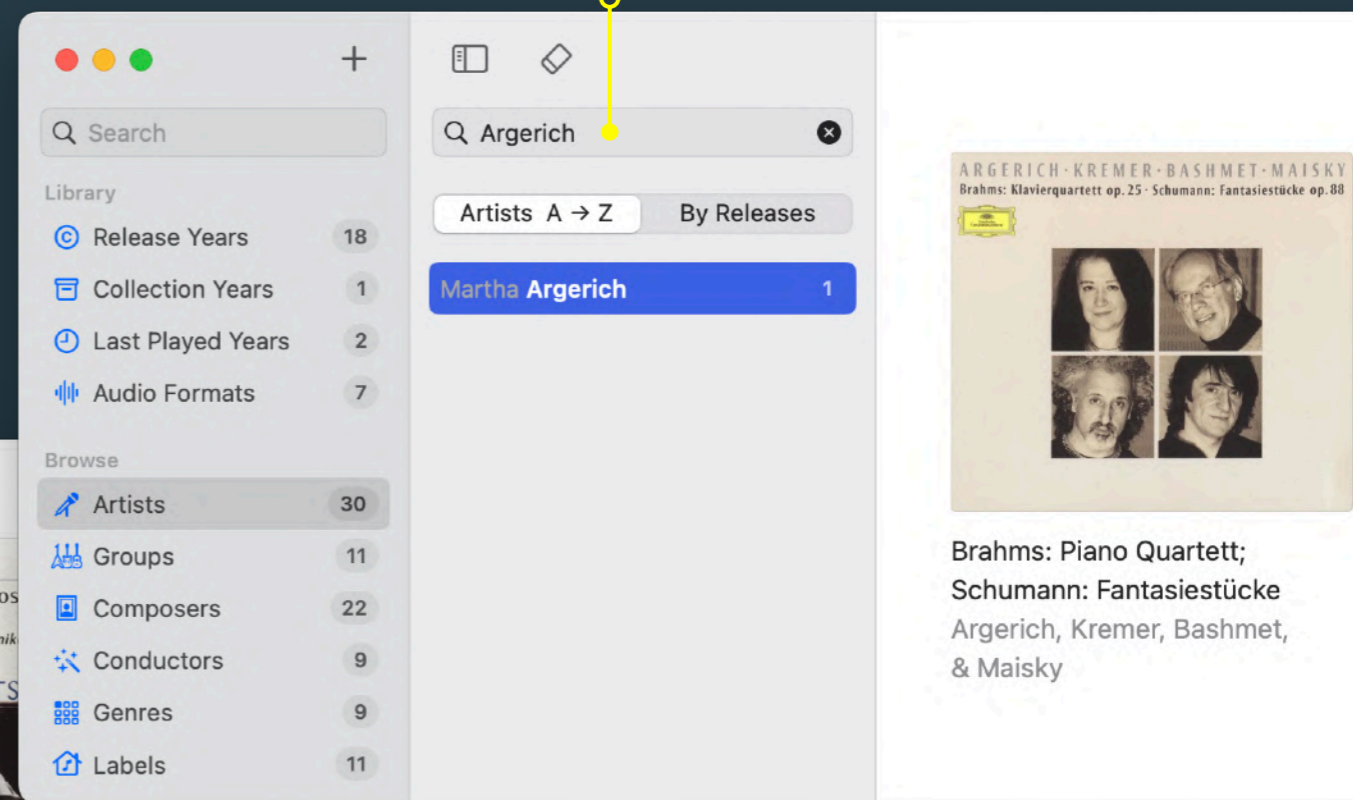
fig 9. global search



There is also a *scoped search* field in the middle column to search for a specific artist, group, composer, conductor, genre, or label.

-  Clear any applied filter by clicking the **eraser** button.

fig 10. scoped search

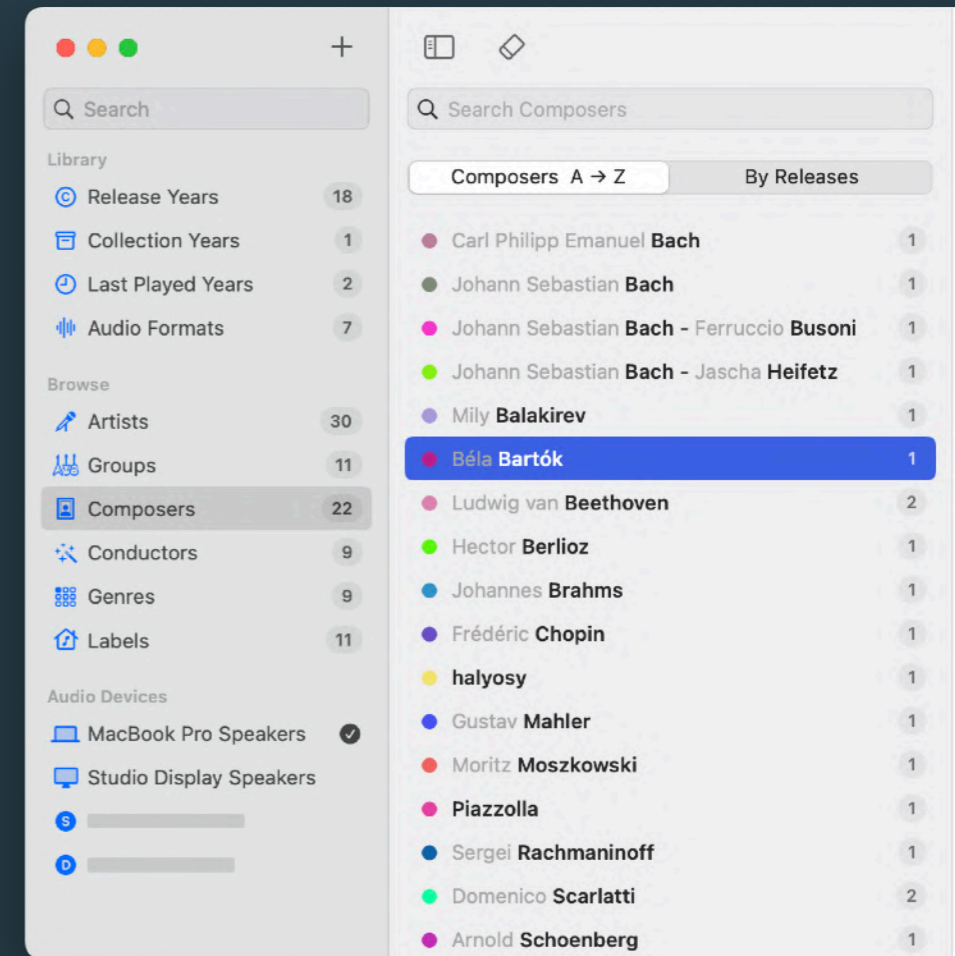


Brahms: Piano Quartett;  
Schumann: Fantasiestücke  
Argerich, Kremer, Bashmet,  
& Maisky

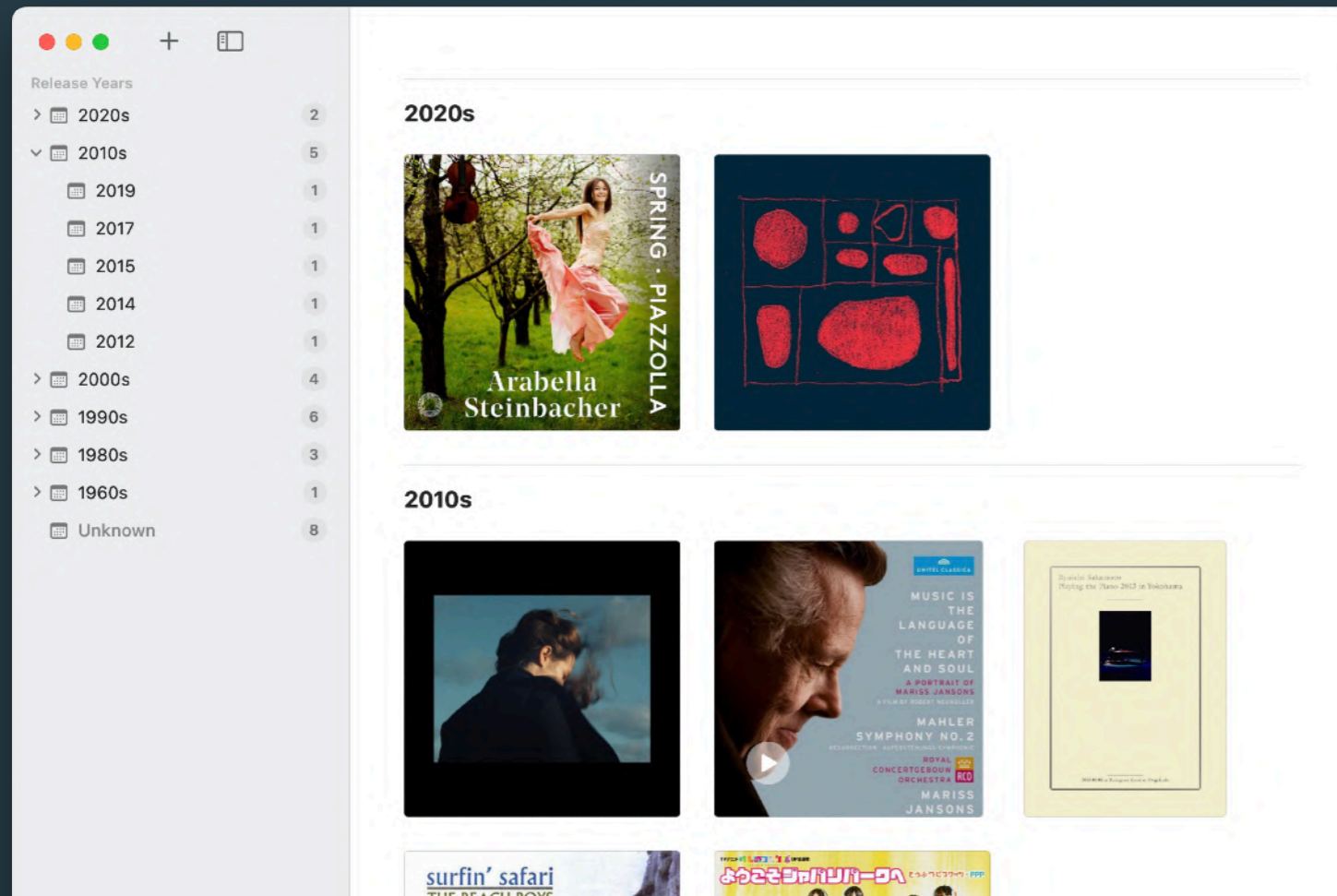
# MISC FEATURES

Some features are provided for your convenience:

1. The release grid has two modes: compact vs standard. Compact mode is useful for small screens. Toggle release grid mode using the View > Show Standard / Compact Grid menu command or the equivalent Control(^)-Command(⌘)-G keyboard shortcut.
2. Color tags can be shown or hidden when browsing artists, groups, composers, conductors, genres, or labels using the View > Show / Hide Color Tag menu command or the equivalent Control(^)-Command(⌘)-T keyboard shortcut.



*fig 12. color tags can be shown when browsing artists, groups, composers, conductors, genres, or labels*



*fig 11. compact grid hides release title and artists*

# MISC FEATURES *CONT.*

- When browsing artists, composers, and conductors, you can choose first name first or last name first, using the View > First / Last Name First menu command or the equivalent Control(^)-Command(⌘)-N keyboard shortcut (fig. 13).
- Use the Control > Enable / Disable Media Key Control menu command to enable or disable playback and volume control via media (top row function) keys. For the first time, you must grant “Accessibility” permission (fig. 14) in System Settings > Privacy and Security to let TONAL captures media key presses. TONAL supports fine volume control using volume up/down media (top row function) keys (fig. 15) when media key control is enabled.

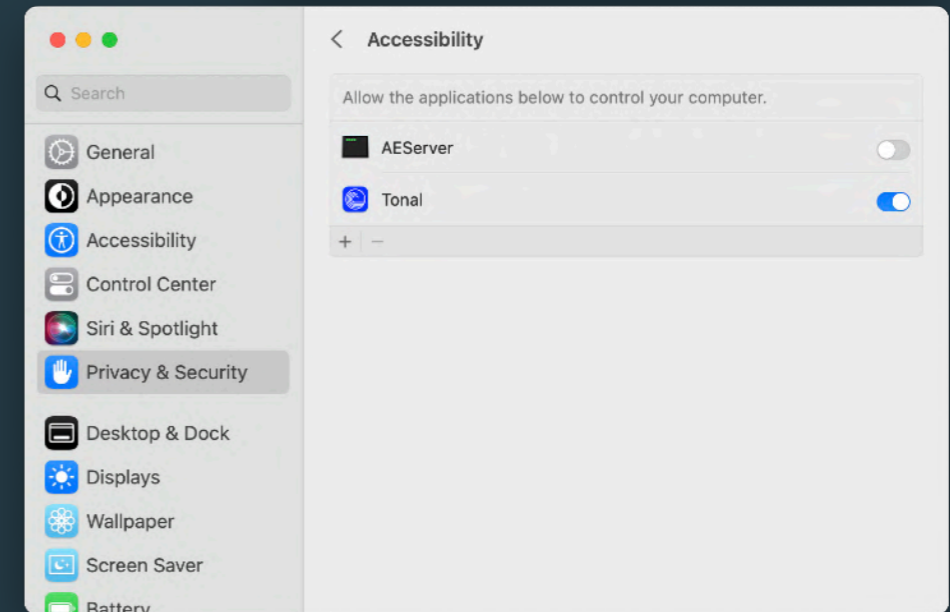
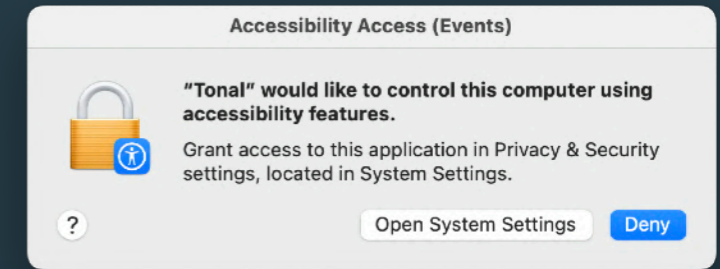


fig 14. enable media key control

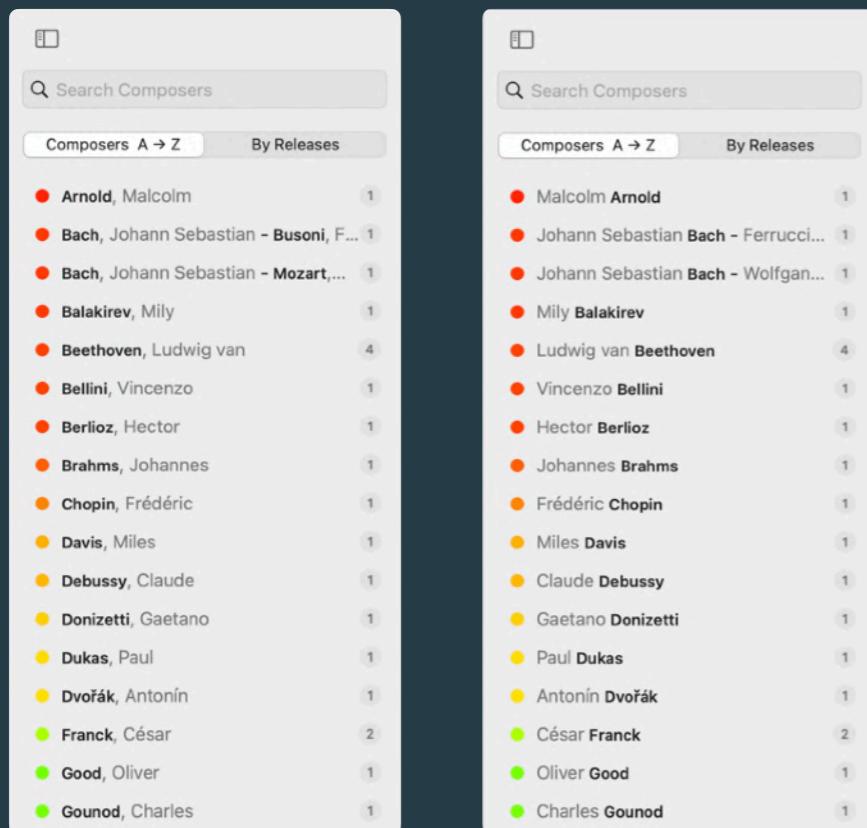


fig 13.  
last name first (left) vs.  
first name first (right)

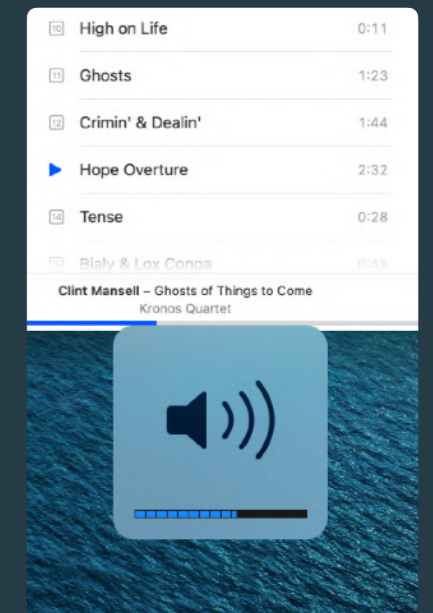


fig 15. fine volume control





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**T**onal offers a first-class music metadata experience even though TONAL audio files contain no music tag. But how?

A database is designed to enable collective music collection building enhanced by community collaborations on music metadata. Although the database is persisted in various mediums, edits are made in the browser-based TONAL EDITOR using TONAL METADATA LANGUAGES.



*fig 1. the flow of music metadata*

As the launch of the TONAL APP, edits are made on a per-disc basis. Try to think of the database as a “*card catalog cabinet*” of recorded music.

More catalogs (*composers, works, etc.*) may be introduced in the next versions.

# I. INTRO



*fig 2.  
a card catalog  
cabinet  
of recorded music*

When a release is shown in your TONAL APP, audio files associated with the release are listed under the Discs and Files section below the artwork image.

To edit the music metadata of a disc, click the rightmost  Open in Tonal Editor link. Your default web browser will open the editor showing the disc.

## 2. THE EDITOR OPEN THE EDITOR

**Live at Carnegie Hall**  
**Mikhail Pletnev**

**DISC 1** 79:56

**Johann Sebastian Bach - Ferruccio Busoni**

- 1 Chaconne in D minor, BWV 1004 14:21

**Ludwig van Beethoven**

**Piano Sonata No. 32 in C minor, Op. 111**

- 2 I. Maestoso 9:54
- 3 II. Arietta 16:37

**Frédéric Chopin**

- 4 Scherzo No. 1 in B minor, Op. 20 10:03
- 5 Scherzo No. 2 in B flat minor, Op. 31 10:32

**pletnev live at carnegie hall**  
bach · busoni · beethoven · chopin

Storage: 2 Files, 346 MB | Collected: 5/11/2023, 2:12 AM

Audio File	Audio Format	Edit
1 bafbb8c82a8ad0...	16-Bit 44.1 kHz	<input checked="" type="checkbox"/>
2 8dfc73089fc6b2...	16-Bit 44.1 kHz	<input checked="" type="checkbox"/>

discs and files

open in tonal editor

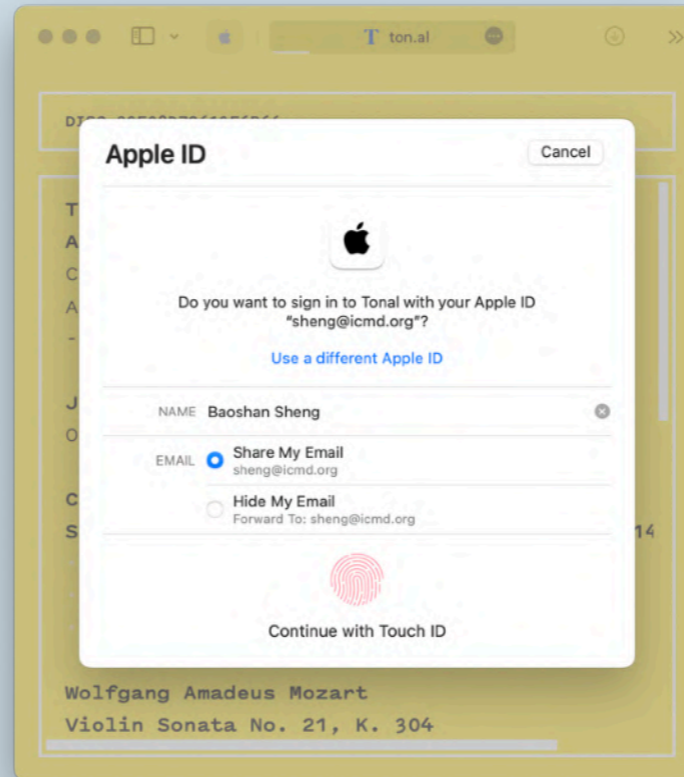
fig 3. open the editor from the Tonal app

**Y**ou need to sign in with your APPLE ID for the first time because all edits (by all contributors) are auditable.

**i** You are free to hide your email. Tonal does not send spam emails.

The TONAL DISC METADATA EDITOR consists 3 zones:

1. the status bar
2. the sidebar
3. the main editor



## 2. THE EDITOR ZONES

*fig 4.*  
*authorize the Tonal app for the first time*



*fig 5.*  
*the Tonal editor*

The status bar contains 3 elements:

- TRACK COUNT of the disc
- DISC ID displayed as 16 hexadecimal characters
- EDITOR STATUS, showing one of the 4 different statuses:



- ① [EMPTY] ..... the document is untouched
- ② MODIFIED ..... the document is modified but unsaved
- ③ SAVING ..... the document is being saved
- ④ SAVED ..... the document is saved with sync status

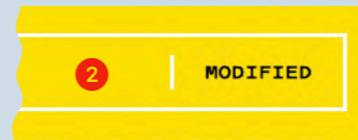


fig 6. screenshots of the status bar in different statuses

The sidebar provides visual guides to the main editor.

- Release separator(s) are automatically aligned with the last line of each release block.
- Lengths of tracks in MM:SS format are aligned with release and track information in the main editor automatically.

 When the browser has a constrained width, sidebar is hidden to leave more room for the main editor.

fig 7. screenshot of the sidebar

## 2.

# THE EDITOR STATUS BAR & SIDEBAR



**M**ain editor is the only zone that takes user input. You can type, select, cut Command(⌘)-X, copy Command(⌘)-C, and paste Command(⌘)-V text in the main editor just like using a plain-text editor.

Although the editor applies some basic styles to the text automatically to make the document easier to scan, there is no need (and no way) to apply styles manually. Only plain text is parsed, checked, and persisted.

! The editor has limited undo/redo support at the moment.



## 2. THE EDITOR MAIN EDITOR

## 3. DOCUMENT STRUCTURE

A DISC METADATA DOCUMENT contains:

- 1 or more *release blocks*
- 1 *tracks block* with 1 or more tracks

This structure reflects the exact nature that a disc has 1 or more tracks and belongs to 1 or more releases (original & reissues). The sidebar helps to reveal the document structure automatically.

*fig 8. screenshot of the main editor*

A release block describes a single release that the disc belongs to. A release block contains 4 content lines and 1 ending separator of 3 hyphens.

The first 2 lines are **RELEASE TITLE** and **RELEASE ARTIST(S)** respectively. These lines are emphasized in bold. The 3<sup>rd</sup> line consists 4 segments separated by vertical bars (|):

1. **GENRE**
2. **LABEL**
3. **RELEASE DATE**
4. **DISC NUMBER** and **DISC COUNT** separated by a slash (/).

The 4<sup>th</sup> line contains an artwork anchor link labeled **ARTWORK** to browse and replace artwork.

Some release properties are optional. To represent a missing value, use the proper placeholder:

Property	Placeholder <i>for</i> missing values
• <b>GENRE</b> .....	GENRE N/A
• <b>LABEL</b> .....	LABEL N/A
• <b>RELEASE DATE</b> ...	RELEASE DATE N/A
• <b>DISC COUNT</b> .....	?
• <b>ARTWORK</b> .....	ARTWORK N/A

Always do your own research and provide release information as complete as you can.

```
Live at Carnegie Hall
Mikhail Pletnev
Classical | Deutsche Grammophon | 2001-02 | 1 / 2
ARTWORK
---
```

example of a release block

- i** You can include multiple genres (separated by commas). You can also add sub-genres (using [space][greater than sign][space]):
  - J-Pop, Anime Song
  - Ambient, Classical > Chamber
- i** You can include series (after a greater-than sign) and catalog number (after a hash sign), like:
  - Deutsche Grammophon > Originals
  - ECM Records > ECM New Series #ECM1405
- i** When a release has only 1 disc, both the disc number and the disc count should be omitted: there is no need to write 1 / 1.

*feel free to skip this part when you are reading this manual for the first time*

```
Release Title
Release Artist(s)
GENRE N/A | LABEL N/A | RELEASE DATE N/A | 2 / ?
ARTWORK N/A
---
```

example of a release block with all optional properties left empty

Browsing or uploading the artwork starts from clicking the ARTWORK or ARTWORK N/A anchor link in a release block to open the artwork viewer. Click the “Submit a Better Artwork” button to submit a better artwork. Instructions are provided.

The bottom-right of the artwork viewer shows the metadata of the artwork for you to inspect. To close the artwork viewer, click the “Close” button or press the ESCAPE key.

**i** Newly selected artwork is *not* finally saved when the artwork viewer is closed. The only way to save the artwork is by saving the whole disc metadata document by pressing Command(⌘)-S when the artwork view is closed.

## 4. RELEASE BLOCK ARTWORK VIEWER

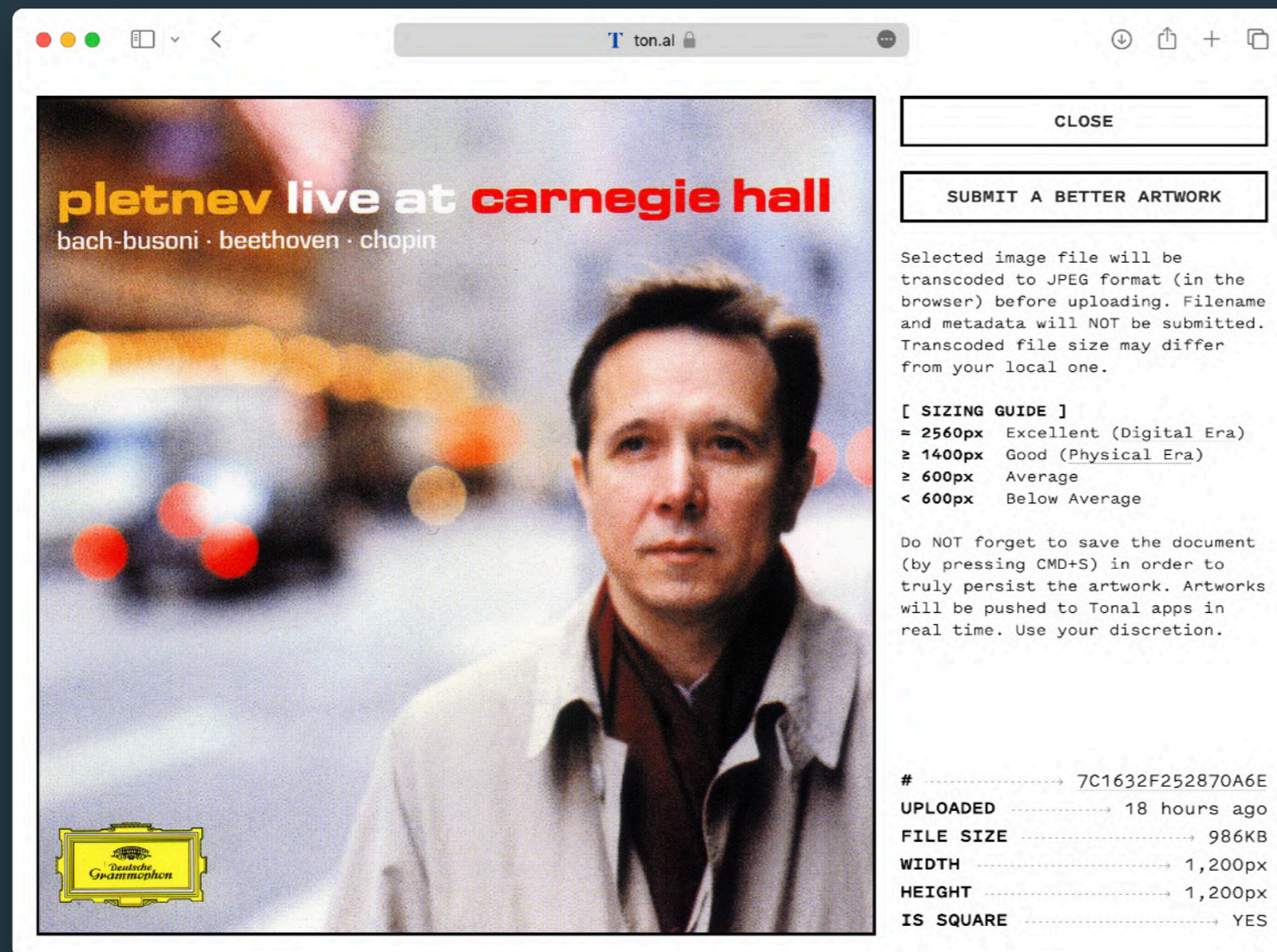


fig 9. screenshot of the artwork viewer



A release has no explicit identifier. To insert discs into slots of the same *multi-disc release*, release blocks of these discs must share the same *identifying properties*.

There are 3 *identifying properties* for multi-disc releases:

- **RELEASE TITLE**                    *there are 4 identifying properties*
- **RELEASE ARTIST(S)**            *for single-disc releases —*
- **DISC COUNT**                    *the track count is also included*

The implications are:

- When you modify any of the *identifying properties* — **RELEASE TITLE**, **RELEASE ARTIST(S)**, or **DISC COUNT** — of a release, other discs of the same release need to be synchronized *manually*.
- When you modify only the *non-identifying properties* — **GENRE**, **LABEL**, **RELEASE DATE**, or **ARTWORK** — of any disc in a multi-disc release, other discs of the same release are synchronized *automatically*.

Use multiple release blocks when the disc belongs to *multiple releases* (e.g., reissued in a box set).

The order of release blocks is insignificant and will be automatically re-sorted (by disc count) once saved.

```
Release Title ①
Release Artist(s) ②
Genre | Label | Release Date | 1 / 2 ③
ARTWORK
---
```

identifying properties of a multi-disc release

```
Original Release Title
Release Artist(s)
Genre | Label | Release Date
ARTWORK
---
```

```
Reissued Release Title
Release Artist(s)
Genre | Label | Release Date | 3 / 10
ARTWORK
---
```

a disc belonging to a single-disc release and a boxset release



## 4. RELEASE BLOCK MULTI-DISC RELEASE & REISSUES


5.

**TRACKS BLOCK**


After the last release block in the document, comes the *tracks block*. It's easier to learn the syntax of the *tracks block* by examples.

Here is a dummy EP of 4 tracks. This block has 4 track lines. Each track line starts with the track number, a dot ( . ) with a space, then followed by the title of the track. This is a valid tracks block in its simplest form.

When all tracks share the same crediting artist(s), list them after the last track with 1 more level of indentation. Each artist line contains only 1 artist.

 **RULE 1:** Artist lines are always indented 1 level deeper than its nearest preceding track.

This block has 4 tracks. Tracks 1-3 are performed by Alice and Bob. Track 4 is performed by Alice.


 **RULE 2:** Artist lines apply to all preceding tracks until another artist line appears.

Rule 2 can be rephrased as: when a track has no artist line that follows it immediately, the track shares the same crediting artist(s) as the next track.

Feel free to skip the next page on diff modifiers when reading this manual for the first time — they are just syntactic sugar!


```
01. Magical Paradise
02. Wait For Flame
03. Gypsy Forest
04. Summer Swing
```

tracks block in its simplest form

 Tonal editor formats track numbers using 2 digits automatically. Feel free to omit the leading 0 when typing.

```
01. Magical Paradise
02. Wait For Flame
03. Gypsy Forest
04. Summer Swing
  ··Alice
  ··Bob
```

all tracks sharing the same crediting artist(s)

 1 level of indentation = 2 spaces. Tonal editor renders indenting spaces as semi-transparent white dots to reveal the indentation level.

```
01. Magical Paradise
02. Wait For Flame
03. Gypsy Forest
  ··Alice
  ··Bob
04. Summer Swing
  ··Alice
```

different crediting artist(s) applied to different tracks

## DIFF MODIFIERS

```
01. Magical Paradise
02. Wait For Flame
  ··Alice
03. Gypsy Forest
  ··Alice
  ··Bob
04. Summer Swing
  ··Alice
```

According to RULE 2, tracks 1, 2, and 4 are performed by Alice (alone) while track 3 is performed by Alice and Bob.

This may be simplify using a plus (+) diff modifier. Because Bob is only involved in track 3, list Bob using a plus (+) diff modifier after track 3.

```
01. Magical Paradise
02. Wait For Flame
03. Gypsy Forest
  ··+ Bob
04. Summer Swing
  ··Alice
```

```
01. Magical Paradise
02. Wait For Flame
  ··Alice
  ··Bob
03. Gypsy Forest
  ··Alice
04. Summer Swing
  ··Alice
  ··Bob
```

According to RULE 2, we know that Alice and Bob performed tracks 1, 2, and 4 while Alice (alone) performed track 3.

This block may be simplify using a minus (-) diff modifier. Because Alice is not involved in track 3, we can list Alice with a minus (-) diff modifier after track 3.

```
01. Magical Paradise
02. Wait For Flame
03. Gypsy Forest
  ··- Alice
04. Summer Swing
  ··Alice
  ··Bob
```

```
01. Magical Paradise
02. Wait For Flame
  ··Alice
  ··Bob
03. Gypsy Forest
  ··Alice
  ··Charlie
04. Summer Swing
  ··Alice
  ··Bob
```

According to RULE 2, Alice and Bob performed track 1, 2, and 4 while Alice and Charlie performed track 3.

Replace Bob with Charlie using the plus (+) and minus (-) diff modifiers together.

```
01. Magical Paradise
02. Wait For Flame
03. Gypsy Forest
  ··- Bob
  ··+ Charlie
04. Summer Swing
  ··Alice
  ··Bob
```

The last page of this chapter covers 3 miscellaneous but common topics.

```
01. Magical Paradise
02. Wait For Flame
03. Gypsy Forest
04. Summer Swing
••Alice, vocal, guitar
••Bob, bass
```

### 1. INSTRUMENTS OR ROLES

Instrument(s) or role(s) an artist plays are listed in the same line following the name of the artist, separated by comma(s).

```
01. Magical Paradise
02. Wait For Flame
••Monochrome Canon
••* Alice, vocal, guitar
••* Bob, bass
••* Charlie, drum
```

### 2. GROUPS AND MEMBERS

A star ( \* ) modifier indicates the artist on the right-side is a member of a group listed preceding the artist line.


When Alice, Bob, and Charlie decide to release the EP under the trio named “*Monochrome Canon*”, revise the tracks block to reflect the fact.

```
01. Applause
••ARTIST N/A
02. Magical Paradise
03. Wait For Flame
••Alice
```

### 3. PLACEHOLDER ARTIST

Because of RULES 2, sometimes we need to cut the connections explicitly when crediting artists are not applicable.

Without the ARTIST N/A placeholder, track 1 Applause is also performed by Alice.

 Congrats! You’ve learned how to edit tracks and crediting artists.


In the next chapter, let’s focus on classical music. Crediting artists are ignored sometimes for brevity. When in doubt, revisit RULE 1 and RULE 2 as they always apply.

6.  
TRACKS BLOCK  
FOR  
CLASSICAL MUSIC

Composers • Works • Movements • Sections • Recording Information

## 6.1 COMPOSERS AND WORKS

Place a *composer line* before the track(s) he/she composed with no leading space.

 **RULE 3:** A *composer line* applies to all the following tracks until another *COMPOSER LINE* appears.

```
George Gershwin
01. Rhapsody in Blue
02. An American in Paris

Paul Dukas
03. The Sorcerer's Apprentice
```

Do *not* include composers' birth and death years. Such information may be obtained programmatically. Keep the document minimal to be future-proof.


```
George Gershwin (1898 - 1937)
01. Rhapsody in Blue
02. An American in Paris


Paul Dukas (1865 - 1935)
03. The Sorcerer's Apprentice
```


A stand-alone *work line* without a track number or leading space represents a multi-movement work of the *nearest preceding composer*.


Tracks for individual movements are indented at level 1 using 2 spaces.

```
George Gershwin
Grand Canyon Suite
  01. I. Sunrise
  02. II. The Painted Desert
  03. III. On the Trail
  New York Philharmonic
  Leonard Bernstein, conductor
```

 Composer and work lines are emphasized in bold automatically. Note the different semantics although they look the same.

 Dots after Roman numerals are aligned automatically on save.

 Note that artist lines are indented at level 2 because the preceding track line is indented at level 1.

 **RULE 4:** A *work line* applies to all the following tracks until another *composer line*, *work line*, or *track line at level 0* breaks the chain.

Below are more examples:

```
George Gershwin
Grand Canyon Suite
  01. I. Sunrise
  02. II. The Painted Desert

Paul Dukas
03. The Sorcerer's Apprentice
```

a multi-movement work and a single-movement work of different composers.

```
George Gershwin
Grand Canyon Suite
  01. I. Sunrise
  02. II. The Painted Desert

Concerto in F
  03. Allegro
  04. Adagio
```

two multi-movement works of the same composer.

```
George Gershwin
Grand Canyon Suite
  01. I. Sunrise
  02. II. The Painted Desert


03. Rhapsody in Blue
```

a multi-movement work and a single-movement work of the same composer.


## 6.2 RECORDING INFORMATION

Use a stand-alone *recording line* to specify recording information (venues and/or dates) for classical and jazz tracks.

A *recording line* starts with the `rec.` keyword (with a dot).

 **RULE 6:** A *recording line* is always indented 1 level deeper than its nearest preceding *track line*.

This is the twin rule of rule 1.

 **RULE 7:** A *recording line* applies to all its preceding tracks until another *recording line* appears.

This is the twin rule of rule 2.

### George Gershwin

01. Rhapsody in Blue  
02. An American in Paris  
••`rec.` 1959-06-23 in N.Y.

### Sergei Prokofiev Romeo and Juliet


••03. Introduction  
••04. Romeo  
••••`rec.` 2018

The middle and right columns on the page discuss 2 less-used features. Feel free to skip when you are reading this manual for the first time.

6.4 PLACEHOLDERS →

6.3 SECTIONS OF TRACKS ↓

A classical work may consist of several sections in the form of *parts*, *books*, *acts*, *scenes*, etc. A *section line* may be placed before its applying tracks (at the same indentation level 1) to group tracks into sections.

 **RULE 5:** A *section line* applies to all the following tracks until another *section line*, *work line*, *track line at level 0*, or *composer line* breaks the chain.

### Sergei Prokofiev Romeo and Juliet

••**Act 1**  
••01. Introduction  
••02. Romeo  
  
••**Act 2**  
••03. Folk Dance

Sometimes we need to cut the inheritance chains explicitly when the *composer*, *section*, or *recording information* of tracks is either unavailable, unknown, or non-applicable using *placeholders*.

### Composer A

01. Track 01

### COMPOSER N/A

02. Track 02

without the `COMPOSER N/A` placeholder, track 2 is also composed by `Composer A`.

### Some Composer Some Work

••**Section 1**  
••01. Track 01  
••**SECTION N/A**  
••02. Track 02

without the `SECTION N/A` placeholder, track 2 is also part of `Section 1`.

01. Track 01

••`rec.` N/A


02. Track 02

••`rec.` 2046 in Hong Kong

without the `rec. N/A` placeholder, track 1 was also recorded 2046 in Hong Kong.




## 7. DISC REDIRECTION

 This is an intermediate topic that you can safely skip when you are reading this manual for the first time.

A `DISC ID` is generated from the length of tracks (measured in units of 1/75th seconds) by default. This is called “`TOC ID AS DISC ID`”.

Multiple audio files with different audio data may be indexed by the same disc metadata document as long as they share the same `TOC ID`.

 It is also possible to switch to “`AUDIO ID AS DISC ID`”. This is an advanced feature not published in the initial version of this manual.

There are discs with slightly different `TOC IDs` but still share the same music metadata (e.g., the CD and SACD layers of a hybrid SACD) — they are the same discs in terms of music metadata. Do not duplicate music metadata across disc metadata documents as `TONAL DATABASE` is duplication free.

Use the *redirection command* to redirect a disc metadata document to another with the compatible length of tracks.

A redirected disc metadata document has only one line containing a redirect sign ( `>` ) and a `TARGET DISC ID` joined by a whitespace:

```
> 0c28d20f0a98c155
```

# 8. ERROR CHECKING

Error checks are performed to ensure data quality. Some checks are performed in the TONAL EDITOR while others are performed in the cloud.

## 8.1 EDITOR-SIDE ERROR CHECKING

When the editor finds common syntactic or semantic errors:

- Red dot(s) are shown in front of the erroneous lines. Hover on to reveal more information.
- The editor won't save the document when pressing Command(⌘)-S

Editor-side errors may be listed here in the next updates.

## 8.2 SERVER-SIDE ERROR CHECKING

Even though the editor reports no error, server-side errors may still be thrown when saving a document:



error indicator



Quiz:  
Can you point out the reason for the error?

- TONAL SERVICES perform more checks with the knowledge of the whole dataset. These checks may raise EXPECTED SERVER-SIDE ERRORS which may be listed here in the next updates.
- UNEXPECTED SERVER-SIDE ERRORS may be thrown when syncing the document to various mediums or due to programming errors. Some UNEXPECTED SERVER-SIDE ERRORS may be resolved by re-saving the document in a few hours. Feel free to [CONTACT US](#) when the error still exists.

## 9. STYLE GUIDE

By using TONAL, you:

1. Become a member of the TONAL METADATA CONTRIBUTORS community.
2. Agree to follow the latest styling guide established by the community when making contributions.
3. Accept the fact that the metadata of your library may be improved by other contributors.

The initial version of this document focuses on the syntax and semantics of the TONAL DISC METADATA LANGUAGE. These WIKIPEDIA's style guides may serve as general style references for the launch moment:


1. [Manual of Style/Music](#)
2. [WikiProject Classical music/Guidelines](#)

More conventions may be listed here in the next updates. Before a dedicated online space exists for contributors, [OPEN AN ISSUE](#) when in doubt.

## 10. SAVE YOUR EDITS

Press Command(⌘)-S to save your modified document.

Your contributions are also reflected in the [TONAL DISC CATALOG](#).

 When the artwork viewer is open, you need to close it by clicking the "Close" button or pressing the Esc (Escape) key before saving the document.

Your edits are expected to be pushed to users of the TONAL APP who collected the disc in real time. Save the final version rather than incremental drafts: GITHUB and CLOUDKIT have both (short-term) rate limits and (long-term) quotas.

If your edits are not synchronized to your TONAL APP, here is a checklist:

1. Ensure the save is successful with a green dot after the APP label in the status bar.
2. Check your network condition. Your ISP or VPN may block certain ports used by APPLE PUSH NETWORK.
3. Ensure that you've enabled iCloud in SYSTEM SETTINGS.

Relaunch the TONAL APP to refresh manually if the problem still exists.

**Thank you**



**for your**

**contribution!**

## II. DATA LICENSING

TONAL DISC CATALOG by TONAL METADATA CONTRIBUTORS is licensed under CC BY-NC-ND 4.0. Please email [SUPPORT@TON.AL](mailto:SUPPORT@TON.AL) for other licensing-related inquiries.

This license requires that reusers give credit to the creator. It allows reusers to copy and distribute the material in any medium or format in unadapted form and for noncommercial purposes only.

The following contents are copyrighted and unlicensed:

- TONAL DISC METADATA in other formats or mediums
- Source code to process metadata
- Other to-be-announced TONAL DATABASES

## I2. CODE OF CONDUCT

TONAL adheres to CONTRIBUTOR COVENANT'S CODE OF CONDUCT. In any forum or discussion group, every community member must follow the rules and values expressed there. Please email [SUPPORT@TON.AL](mailto:SUPPORT@TON.AL) to report any instance of misconduct.

## I3. PRIVACY POLICY

As a local app, the TONAL APP does not require your personal information to function. The local app is enhanced by the online TONAL EDITOR and only exchanges the minimum required information with it.

Here is all the data that the TONAL APP and the TONAL EDITOR collect from you:

- The TONAL APP relies on audio metadata (such as the lengths of tracks) and music metadata (such as titles of tracks) from your audio files to generate (the initial version of) a TONAL DISC METADATA DOCUMENT.
- The TONAL EDITOR associates your edits with your “Sign in with Apple” account for auditing purposes.

## I4. LICENSE AGREEMENT

The TONAL APP is subject to APPLE'S STANDARD END USER LICENSE AGREEMENT (EULA).

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