

# **pianod2 User Guide**

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Pianod2 User Guide

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# Playing Music

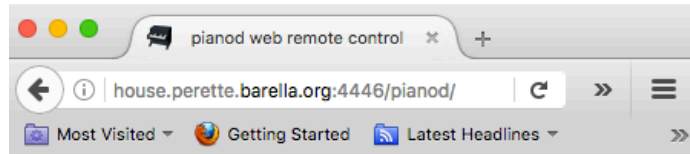
## 1. Connecting

Connect to pianod with a your favorite web browser. Reasonably modern versions of Firefox, Chrome, Safari, Edge, Opera and Epiphany are known to work.

When you've typed in the correct URL, the page shown to the right appears.

If you simply want to see what's playing, click *Viewer* or the *Guest* button.

To control playback, enter the username and password provided by your administrator, then click *Login*.



### pianod web remote control

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Username

Password

☒ Store password

[Console](#) • [Viewer](#)

Secure connections require TLS certificates and keys be set up.

Session ended.

## 2. Playing Music: Track View

### Playlist Selector

*Changes to “Now Playing” button when viewing previously played/upcoming songs.*

Play/Pause

Current point in song

Track name

*Links to track information*

Artist/Album name

*Searches on name*

Song’s originating playlist

*Links to seed view*

Show additional actions

View upcoming songs

Song duration

Seed controls

*Adds/removes track, artist or album as seed for originating playlist.*

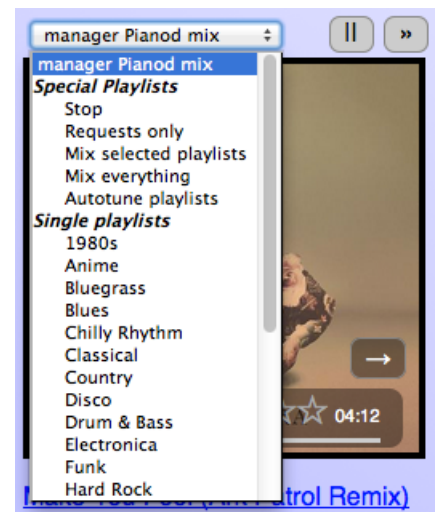
Volume



### Playlist Selector

Use playlist selector to choose music to listen to. Playback will start after choosing a playlist.

- *Stop*—Stops playing *after the current song*.
- *Requests only*—Only play requests, nothing random.
- *Mix selected playlist*—Plays selections from playlists “in the mix” (see Playlist View). When selecting this, the selected source *is applied*.
- *Mix everything*—Plays selections from all playlists in the selected source.
- *Autotune playlists*—Chooses playlists automatically based on user playlist ratings and who is logged in.
- *Single playlists*—Plays music from the list chosen. The list shown reflects the selected source.



When playing music, requests are always prioritized over random selections.

### Rating Songs

To rate a song, click the number of stars you want to give it. Three stars = neutral (you could take it or



leave it). The rating range is 1/2 to 5 star, with 5 being best. However, not all sources support this granularity. When necessary, ratings will be rounded to the closest supported rating.

Some sources (such as Pandora) allow only the owner to rate their songs, whereas others (filesystem) allow each user to rate all songs.

## Additional Actions

The additional actions pop-up is activated via the gear in the upper-right of track view.

- *Skip song*—When viewing the current track playing, you may cancel the remainder and skip to the next track.
- *Dequeue*—Offered instead of skip when viewing a song in the queue, this allows removal. This may be used for both requests or random selections; skip limits may apply.
- *Request song*—Offered for completed tracks, this allows you to request a track play again. Requires a source have request capability.
- *Clear requests*—Clears all pending requests in the queue. Random selections are unaltered.
- *Shuffle/Randomization mode*—Chooses one of five methods in which pianod will pick random selections. Basically, these are shuffle by song, shuffle by album, shuffle by artist, shuffle by playlist, and shuffle by the 4 other *shuffle modes*.

*Note:* Randomizing by song and playlist are always supported. Album and artist modes are only functional in some sources; when not available, they instead provide an assortment of songs.

- *Crossfade duration & level*—These adjust overlap between songs<sup>1</sup>. As a song ends, playback of the next song starts *duration* seconds before its end, overlapping the two. During the overlap, the old song's volume is faded by *-level* decibels. Setting *duration* to 0 prevents crossfading.
- *Room selector*—*Not shown*—If pianod is playing in a multi-zone house, a room selector appears. Each room has its own music, history, and queue; but all rooms share all sources. Use the room selector to select the room you are controlling.



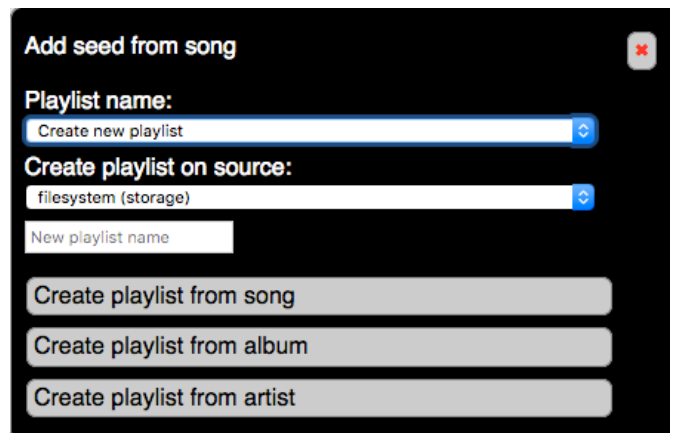
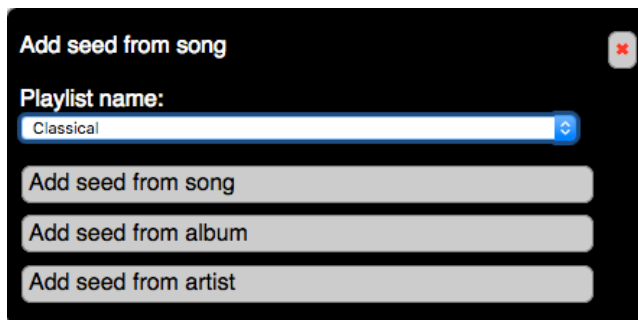
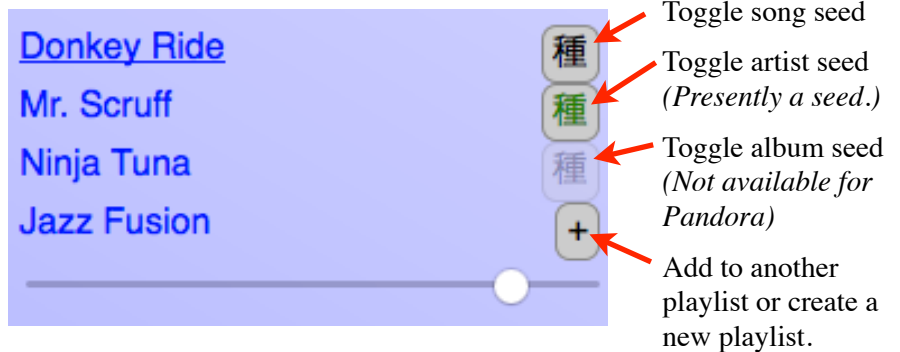
<sup>1</sup> The SDL audio driver does not support cross-fading, and will report playback errors on every other song.

## Seed controls

Seed controls are only available to a source's owner.

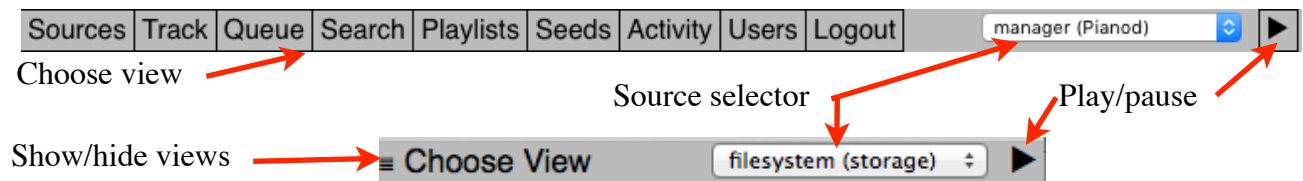
There are 4 seed controls.

- The 3 kanji buttons toggle seeds for a song, artist, or album from the associated playlist. If a song does not have an associated playlist (possible with requests or when mixing everything), these are disabled.
- The fourth seed control (“+”) shows a dialog to add the displayed track to another playlist, or create an entirely new playlist:



## 3. Navigation Bar

The navigation bar appears at the top, changing form depending on screen or window size:



When choosing a view, it may take the entire window or only use a portion, retaining other views.

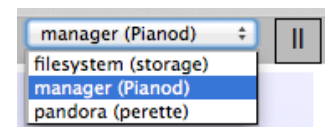
### Source Selector

The drop-down menu in the navigation is the *source selector*. A *source* is like an input for a stereo, but instead of a turntable, tape deck and CD player, sources may be your Pandora account, your roommate's Pandora account, and the mp3 collection.

Sources are identified by *type* and *name*. Your stereo may have two tape decks, which you could name 1 and 2; here, there might be Bob's and Tom's Pandora accounts. Bob's Pandora account would appear in the source selector as "pandora (bob)".

Source *types* are:

- filesystem—a collection of music on your hard drive





- Pandora
- manager—a meta-source which aggregates all other sources

The source selector starts on *manager (Pianod)*. When searching, the selector chooses which sources are queried. When playlist are shown, the selector chooses which source's playlists are shown. Likewise, when mixing playlists, the selector chooses which source's playlists will form the mix.

Most of the time you'll want the source selector set to the manager, but selecting specific sources is handy for limiting search results or long lists of playlists.

## 4. Queue View

The Queue view shows played, current, and upcoming songs in chronological order. Ordering is fixed.

The screenshot shows a 'Queue' interface with a list of songs. Annotations with arrows point to specific elements:

- Past songs**: A green box highlights the first two songs, which are faded blue. Annotation: *Listed in faded blue.*
- Request a song again.**: An arrow points to the '+Que' button next to the second song.
- Current song, and a button to skip it.**: An arrow points to the 'Skip' button next to the third song, which is bolded.
- Upcoming songs.**: A green box highlights the remaining songs in the queue. An arrow points to the 'Cancel' button next to the fourth song.
- Cancel an upcoming song.**: An arrow points to the 'Cancel' button next to the fifth song.

Artist	Album	Song	Genre	Year	Duration	Buttons
Saja Marimba Band	For Animals Only	For Animals Only	Jazz	Jazz	2:00	+Que
mikkas	50 Techno Trance Anthems Vol. 3 WEB	a beautiful world (mikkas' global gathering rmx)	Trance	2009 Trance	6:08	+Que
Mr. Scruff	Ninja Tuna	<b>Donkey Ride</b>	Jazz Fusion		5:14	Skip
Mythos	Purity	Icarus	Classified Rock		4:38	Cancel
Worm Quartet	SumoPhobia Alpha 2 Ex Super Championship Turbo Edition	Maplight 01	Pop	2006 Humor	2:01	Cancel
Electrostatic		Moonchild v.1	Electronic Electronica	1999 Electronica	4:26	Cancel
The Thrillseekers	Synaesthesia (Single)	Synaesthesia (Paul Van Dyk Remix)		Trance	10:13	Cancel
Donald Fagen	The Nightfly	Walk Between The Raindrops	Jazz	1982 Jazz	2:38	Cancel
Tom Lehrer	Revisited	I Wanna Go Back To Dixie		Funny shit	2:56	Cancel

Past songs are shown in faded blue to indicate they are done, while the current track (if any) is shown in bold.

Clicking the artist, album, or song—shown in blue—triggers a search on that item.

- Searching on an artist lists the artist's album and any compilation songs.
- Searching on an album lists the tracks on the album.
- Searching by a song lists any songs of the same name by the same or other artists. <sup>2</sup>

<sup>2</sup> Note: Clicking a title named "Oasis" with a large Jazz collection may respond slowly due to excessive results.

## 5. Searching, Requesting, and Adding Music

**Search for music**

Find

Method

Matching

Artist	Album	Actions
Fleetwood Mac		<input type="button" value="+Seed"/>
Fleetwood Mac		<input type="button" value="+Que"/> <input type="button" value="+Seed"/>
The Romantics; The Pretenders; The Pointer Sisters; Rocky Burnette; Olivia Newton-John; Kool and the Gang; Jermaine Jackson; Gary Numan; Fleetwood Mac; John, Elton; Donna Summer; Christopher Cross	Sounds of the Eighties - 1980	<input type="button" value="+Que"/> <input type="button" value="+Seed"/>
Traffic; The Moody Blues; the band; T. Rex; Steve Miller Band; Mott The Hoople; Moby Grape; Little Feat; Jimmy Cliff; Fleetwood Mac; Doug Sahm and Band; Crazy Horse	Sounds of the Seventies - FM Rock	<input type="button" value="+Que"/> <input type="button" value="+Seed"/>

### Search Methods

The easiest search is with *Find = Any* and *Method = Match Words*, which does a fuzzy search on your query. However, you can set these two to target your search more precisely.

*Find* indicates what field to search in: any, artist, album, song or genre. The remaining option, *Requestable Songs Only*, searches all fields but only matches songs, and only from sources which allow requests.

*Method* has 3 options:

- *Match words*—Match items with all search words, disregarding order. For example, “Fleetwood Stop” would find Fleetwood Mac’s Don’t Stop if searching on *Any*.
- *Match phrase*—Match items with the whole phrase, as entered. “Best of Rave” would match “The Best of Rave” but **not** “Best of the Ravens.”
- *Expression*—Performs advanced searches using filter grammar. See below.

The source selector applies when searching. The media manager queries all sources; others, just the one.

### Using Search Results

Like Queue View, you can click an artist, album or title to “drill down” into results (when a source is capable). For example, clicking an artist shows albums, and clicking an album shows its tracks.

Results can be resorted by clicking a column title.

Actions for individual results are listed to the right of the items:

- *+Que*—Request the item. For albums, songs are requested in track numerical order, if known. Requesting is not available for sources without play-on-demand semantics, such as Pandora.

- **+Seed**—Create a new playlist from the item, or add a seed to an existing playlist. Seeds may be added to sources other than that on which the search was performed (assuming the item exists and identifiable in the target source’s collection).

## Result Set Actions

You can also use the full result set generated by your query.

- **Request All**—This button queues the entire result set. If done in error, use track view’s additional actions pop-up (the gear in the upper right) to clear all requests.
- **Create playlist**—Creates a new playlist composed of all results. *Standard* playlists are created with all the results as individual seeds. *Smart* playlists embed the selection criteria in the playlist so when new albums are added to your collection, they will be automatically reflected in smart playlists if selection criteria match. (Standard seeds can be used to supplement a smart playlist’s expression.)

The Client

**Sounds of the Eighties - 1980 (album)**

filesystem (storage)

**Add seed from search result**

Playlist name:

Select playlist...

Add seed to playlist

**Create playlist from search result**

Create playlist on source:

filesystem (storage)

New playlist name

Create playlist

**Create playlist (all search results)**  
(applies to target source)

**Create playlist from search result**

Create playlist on source:

filesystem (storage)

New playlist name

☒ Standard playlist ☐ Smart playlist

Create playlist

## Advanced Searches: Using Expressions

Expressions are powerful, but more complicated than other search options. Here is an introduction:

- **Field = “Value”**—Match if field *is equal* to value, wildcards allowed at the end. Fields are artist, album, title/song, playlist, genre. *Genre = “jazz”*
- **“Search Text”**—Match if quoted text is contained in *any* field. Avoid when creating smart playlists; it may match unexpectedly and takes longer to evaluate. *“Fleetwood Mac”*
- **Field =~ Value**—Match if field *contains* value. *Artist =~ “Goodman”*
- **A & B**—Match only if both A and B are true. Also &&: *“Fleetwood Mac” && “dance”*
- **A | B**—Match if either A or B is true. *“Praga” || artist == “Lords of Acid\*”*
- **(grouping)**—Forces evaluation order in complex expressions:  
*(genre = “swing” || genre = “jazz”) && (“Goodman” || “Dorsey”)*

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- Field  $\leq$  value—Match if field is less, equal, to, or greater than value Fields are year, rating.  
*year  $\geq 1980$  && year  $\leq 1989$  && rating  $> 4.0$*
- Type = value—Match only a certain type. *Artist = “Thomas Dolby” && type = song*

See Filter Mechanism in the [pianod2 technical documentation](#) for complete filter grammar.

## 6. Choosing Music: Playlist View

Use Playlist view to choose a playlist, set a mix, or rate playlists. The list of playlists shown changes with the selected source.

Previous/Next page  
of playlists

### Mode

Select single playlists,  
manual mix, everything,  
or autotune mode.

When mixing, music is  
played from checked  
playlists.



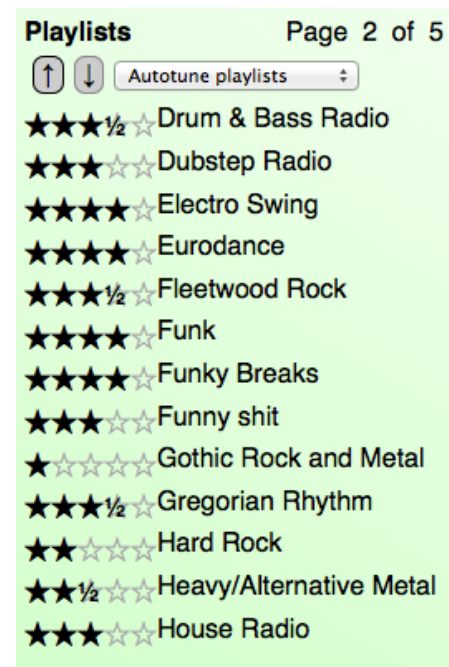
- To select a single playlist, set the mode to “Select playlist” and click on a playlist name.
- To adjust the mix, set the mode to “Manual mix” and check/uncheck the playlists you want to hear. (If automixing or autotuning, these will intermittently update automatically.)
- To let pianod choose a playlist mix based on who is listening, set the mode to “Autotune playlists.”

### Using Autotuning

With autotuning, listeners rate playlists and the software picks a reasonable mix based on who is around, and adjusts it as listeners arrive or leave. Presence is usually determined by who is logged into the music server (i.e., has a client window open).

Each user can rate all playlists, regardless of ownership.

*Unrated vs. neutral:* If nobody has rated a playlist, its average rating is neutral. If there are ratings, however, users who have not rated the song are excluded from the calculation. For best operation, then, it behooves listeners to rate all playlists. For example, roommate 1 gives Funk 5 stars. Roommates 2 and 3 are “meh” on Funk. If they don’t rate the playlist, autotuning includes it because its average rating is 5: it’s great! But if everyone rates it, Funk gets a 3.67: acceptable, if need be, but if there are better choices it can be disregarded.



# Managing Music

## 1. Seed View

### Revise playlists

Playlist

Jazz

Artist	Title	Seed Type	Actions
Bobby Darin & Richard Wess	Bobby Darin - Richard Wess_Mack the Knife	seed	*Remove seed
Herb Alpert		artistseed	*Remove seed
Spyro Gyra		artistseed	*Remove seed
Vince Guaraldi Trio		artistseed	*Remove seed
Remove playlist entirely			

To view or remove playlist seeds, use seed view. Use the drop-down to choose the playlist shown; as always, the source selector regulates the list of playlists shown.

Clicking a selection's originating playlist name in Track View will display Seed View with the corresponding playlist shown.

Some sources include song ratings with their seeds. Removing these changes them to unrated or neutral, depending on the source.

## 2. Source View

Sources are added via Source view. After choosing the source type, fill in the required details and click "Add Source".

### Adding a Pandora Source

- *Pandora Plus*: Enabling this uses high-quality encoding from Pandora (and correspondingly more bandwidth). You *may* check this if you have a paid Pandora account. Non-paid accounts won't work with this checked.
- *Sharing*: Regulates who can use, view, or alter the source.
- *Substitutions*: If you have both a source that provides substitutions and one that accepts substitutions, pianod will transparently substitute media for playback.
- *Remember this*: Stores the source parameters for later reuse via "Use existing source." Passwords are only lightly obscured, so don't use remember on sources that share a password with your banking or investment accounts. (Which you're not doing anyway, right?)
- *Name for source*: If left blank, one will be assigned.

Pandora sources add quickly.

### Sources

▼ Add a new source

Type of source:

pandora

Service user name

foo@bar.com

Service password

.....

☒ Pandora One

Default sharing

Accepts substitutions

☒ Remember this

Name for source

blank for default

Add source

## Adding a Filesystem Source

- *Directory/Path/Folder for media*: Type or cut-and-paste the full path to for your media files. Safari users can also drag-and-drop a folder to this input.
- *Rating Bias Level*: If enabled, controls how much ratings effect song selection. At the left, none; at the right,  $\pm 10\times$ .
- *Recent Bias Level*: If enabled, controls how much recent play effects song selection. At the left, none; at the right, long-unplayed songs are preferred over recent plays.
- *Rescan Interval*: Controls when pianod will search for new media. *Never* is only on the first load, *Once* is only on this load, *Always* is on every load, and *periodically* is daily.

Filesystem sources index the media files before first use, which can take some time—especially on slow hardware or if files are accessible via network. If there are other sources, you can play music from them while the filesystem is indexing.

The index is saved after it is built, so later uses of the source do no incur delay.

## Adding a Tonegenerator Source

- *Include left & right tones*: When checked, left- and right-channel versions of the tones are available in addition to the usual stereo (well, dual-channel mono) versions. Useful tones for testing include the 440Hz “A” note and 1KHz tone. The most socially useful tone is the intergalactic computer distress signal, which will almost assuredly prompt clueless party guests to head home if you put it on repeat.

## Using an Existing Source

Source View’s *Use Existing Source* allows reuse of a “remembered” source. Select a source from the drop-down by source type and name, then click “Use source”.

When reusing a source you may choose to change some of its settings. If you don’t set these, stored settings are used.

Check the *Save changes* box to make changes permanent; otherwise, they apply only the once and future uses will revert to saved values.

### Sources

▼ Add a new source

Type of source:  
filesystem

Directory/Path/Folder for media  
/Users/myuser/Music/iTunes/iTunes Music

☒ Rating bias level

☒ Recently played bias level

Periodically

Default sharing

Provides substitutions

☒ Remember this

Name for source  
blank for default

Add source

### Sources

► Add a new source

▼ Use existing source

filesystem (storage)

☐ Rating bias level

☐ Recently played bias level

Retain current rescan interval

Retain current sharing behavior

☐ Save changes

Use source

► Remove source



### 3. Activity View

Activity view shows what's been happening, including who has been changing or requesting music and actions taken by autotuning.

View first page

View previous/  
next page

Messages, most  
recent on top.

Comment on the  
music. Shared in  
activity, but not  
reviewed.

**Recent Activity** Page 1 of 2

**Live** ↑ ↓

- perette added to the mix: Angry Germans Yelling
- perette removed from the mix: Disco
- Retrieved new playlist
- perette signed in
- Retrieved new playlist
- perette signed in

Enter message

**Yell it**



# Understanding Pianod2

Because pianod is a multisource, shared music player, it behaves differently from “personal” players such as iTunes. This section provides more depth on the concepts of sources, the media manager, seeds and ratings, and the queue. This is not essential to use pianod, but may provide a better understanding for those that want it.

## 1. Sources

A source is something music comes from. It can be an Internet-based streaming media service (Pandora), a collection of music on your hard drive, or pianod’s tone generator. If you want an analogy, a source is like a phonograph, tape deck or CD player, and the amplifier/tuner has buttons to choose the input.

A source is registered with pianod by providing your account credentials, the location of the media files, or similar information. Pianod does not *create* sources or media, it only uses existing ones you tell it about. When you register a source, you are assigned ownership. With the default Shared mode, others can see and use your source, but they cannot change your source. Alternate modes are:

Mode	Creator can reuse/alter	“Use existing” by others	Others can view seeds	Others can alter seeds
Unowned	No	No	No	No
Private	Yes	No	No	No
Shared	Yes	Yes	No	No
Published	Yes	Yes	Yes	No
Public	Yes	Yes	Yes	Yes

When you set up a source it is registered with pianod’s media manager. With one source, this doesn’t do anything meaningful. But if you add multiple sources, the media manager amalgamates the sources and presents all available music as one collection.

## 2. Playlists

pianod operates around *playlists* rather than the *collection* (in most cases, anyway). A source usually contains several playlists, each a subset of the collection available from that source. For Pandora, a playlist equates to a station.

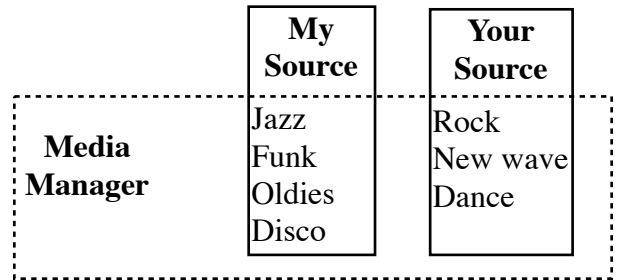
You can choose to listen to:

- A single playlist
- A mix of playlists. You choose which to include, which to leave out.
- Everything. The meaning of “everything” varies; for Pandora it means to mix from all playlists, whereas the filesystem source chooses from the full collection, including songs not assigned to playlists.
- An autotuned mix, in which pianod picks a mix of playlists based on user likes and dislikes.

## The Media Manager vs individual sources

By default, pianod presents things from the media manager’s perspective. However, you can change this to an individual source.

Imagine I have a source with jazz, funk, oldies and disco playlists. You add one with rock, new wave and dance playlists. If the media manager is your selected source, you will see 7 playlists. If you choose my source, you will see only my 4, and yours will have your 3.



You can choose to listen to a single playlist, a mix of playlists, or everything from each of these “views”.

If you select your source and choose to mix playlists, pianod will mix only chosen playlists from that source, omitting mine.

Usually it’s easiest to use the media manager and let it hide source details. However, if there are numerous playlists it may be easier to find one by choosing its source to pare down the list.

There are certain actions, such as creating a playlist, which require a “real” source: you cannot add add playlists to the media manager, since it does not have a collection of its own.

Playing from a single source can also be handy at times: if large file transfers or some guy with a backhoe are causing Internet congestion, for example, you can switch to a local filesystem source until the troubles are resolved.

## 3. Seeds and Ratings

Pianod has a concept of both seeds and ratings.

A *seed* can apply to an artist, album, or song, and **always** relates to a playlist. For example, I could add an artist seed for *KC and the Sunshine Band* to my Disco playlist. *KC* may subsequently play if I’m listening to Disco. Because seeds change playlist definition, they are restricted to a source’s owner.

Not all sources have all 3 seed types; Pandora, for instance, does not have album seeds. Behavior varies, too; Pandora, is fuzzy about meanings (it looks for “similar” music), whereas the filesystem source uses precise matches.

A *rating* applies to a song or playlist.

*Song rating* behavior varies by source type.

- *Pandora*: only the owner of a source manipulate it. You can’t alter my Pandora stations, and vice-versa, because that would alter the station programming. Furthermore, the rating is tied to the song’s originating playlist: I may rate *The Beegees* poorly when they show up on the Jazz station, but good on the Disco station; there are 2 separate ratings.
- The filesystem source, on the other hand, allows both of us to rate songs, maintaining separate ratings for each of us. Ratings are stored for the collection as a whole; if I rate *The Beegees* poorly on Jazz, the rating for Disco changes too. Ratings effect song selection probability, but not originating playlist—seeds do that.

Songs also have a rating for “overplayed”. This rating temporarily eliminates them from play for about a month, and restricts their request frequency during the interval. (*Request frequency limiting is a future feature.*)

*Playlist ratings* are available to any authenticated pianod user. Each user has their own set of playlists ratings, which are used by pianod’s autotuning to choose playlists that best fits the current listeners.

Ratings are always limited to one source, so if you’ve rated *Boogie Wonderland* or *Disco* poorly in my source, another source with those may still choose the song or playlist.

## 4. The Queue

Personal players immediately do what you tell them because you’re the only one listening. pianod does not.

pianod has a queue. The queue is composed of two sections: requests and random selections. When playing, pianod plays items in request order; if there are no requests, it plays selections from the random queue. (Random selections are dropped if their playlist is not the current playlist/in the mix.) When the random queue is empty, pianod refills the queue with new selections from the currently selected playlist(s).

### Biasing & Song Selection

The filesystem and tonegenerator sources have biasing controls that influence queue selections. Both range from 1–100, and are set when the source is initialized. At the lower end (1), the biases have no effect; at the upper end (100), biases alter selection probability by roughly 0.1–10× normal.

- Ratings bias: Increases the probability of higher-rated songs (based on ratings of users present), and decreases the probability of poorly-rated songs. Adjustments are relative to “neutral” (3 star) rating, which is the default probability.
- Recent bias: Reduces probability for recently played songs, and increases them for long unplayed ones. Adjustments are relative to the average time since last play for the library (or some reasonable limit).

Effects of the two biases are cumulative, yielding selection biases of roughly 0.01–100× normal.

### ***Neutral vs. unrated***

When calculating biases, users who have not rated a song are disregarded. The average of {2.5, *unrated*, and 4} = 3.25; the average of {2.5, *neutral* (3.0), and 4} = 3.16.

## 5. Using Multiple Sources

### Cross-Source Weirdness

pianod does its best to eliminate distinctions between sources, but this is not always possible. For example, if you try to add a song seed to Pandora for a song playing from a filesystem source, pianod will attempt to find a unique matching item on Pandora. If it cannot (perhaps it’s a regional band that isn’t in their collection, or maybe there are several variations of the song by the artist with no way to distinguish them) then the request will fail.

## **Substitutions (a/k/a song proxies)**

When creating a new source, it can optionally *Provide Substitutes* or *Accept Substitutes*. When preparing to cue a song, if its source accepts substitutes, pianod checks provider sources for identical media. If found, the provider's media is used; if not, no substitution is performed.

Despite the substitution, in other respects the song appears to come from the original source. Ratings, seeding, and other actions will take place on the original source. The only way you can tell a substitution occurred is looking at logs.

There are several reasons you might want to use substitutions:

- Reducing network utilization
- Preferring a source that is more reliable
- Preferring a source with better media
- Avoiding per-use royalties when you've already paid flat-rate use rights.

# Source Properties

Property	Filesystem	Pandora	Spotify	Tonegenerator
Requests	Yes	No		Yes
Skips	Unlimited	per-source skip/hour limit		Unlimited
Song ratings	Full range	2, 4, neutral		Full range
Playlist ratings	<i>Always supported—not source-specific behavior.</i>			
Artist seeds	Yes	Yes		Yes
Album seeds	Yes	No		Yes
Song seeds	Yes	Yes		Yes
Seed behavior	Precise	Fuzzy		Precise
Artist search	Yes	No		Yes
Album search	Yes	No		Yes
Song search	Yes	Yes		Yes
Filter query complexity	Any	relatively simple	moderate	Any

## 1. Filesystem Source Properties

### File Scanning

The filesystem metadata reader performs an (almost) in-order traversal of the directory tree. Files are expected to be named in /path/to/library/artist/album/song.mp3 format; some effort to conserve memory is made by storing paths relative to parent objects when possible.

File scanning relies heavily on identification metadata (ID3 data) in tracks. File names are used as a last resort. The arrangement of tracks on media is unrelated to playlists or seeds within pianod. See the section on *Managing Music: Seed View* and *Understanding Pianod: Seeds & Ratings* for more information.

# Administrating pianod

## 1. User Maintenance

On the Users pane, you will find options to change your password and create, alter and kick users. Only administrators can perform user changes, other than changing one's own password.

### Creating Users & Shadowing

To create a user, provide a username and initial password. Alternately, the shadowing (-S) command-line option may be used to allow any one with a user account to login to pianod using their system user ID and password; by default, they are created with *Disabled* rank. You can set a "template" user; see the section on the console below.

When creating a user, you can set their rank but not privileges. To set privileges or change rank, use Alter Users.

### Reset password and Alter/delete users

Select the user from the drop down, then change the rank drop-down or privilege checkboxes. Changes take effect immediately; there is no confirmation button. *Note:* If you remove your own administrator privilege, you won't have rank to get it back.

Other actions are:

- *Reset password:* After confirmation, clears the user's password so they can change it on next login.
- *Delete user:* After confirmation, removes the pianod user. If shadowing is enabled and a corresponding system user account exists, the pianod user will be recreated if they login. To keep them out, you may instead set their rank to "Disabled".

▼ Alter a user

Username  
perette

Rank & Privileges  
Administrator

☒ Add, remove or borrow sources  
☒ Influence autotuned playlists

Reset password Delete user

Take care not to remove administrator rank from all users, which will leave you without an administrator.

### Kicking users

Kicking a user terminates any login sessions they are using; kicking visitors disconnects anyone not authenticated. Kicking a user does not prevent them from logging in again.

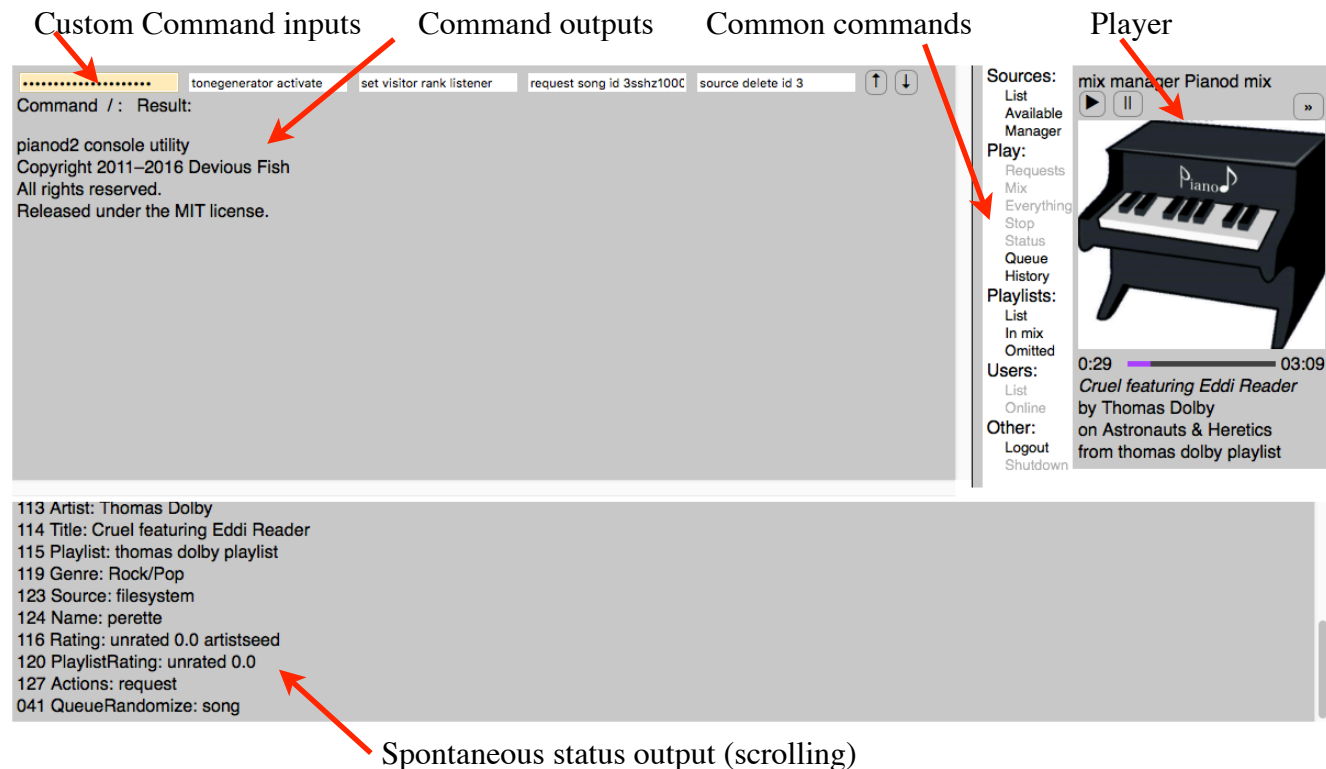
## 2. The Console

Designed for testing and debugging, console allows you to submit commands directly to pianod and presents the results in a tabular format. Use the console to learn more about how pianod works, or make adjustments to things that can't be done from the usual client (yet?).

To get to the console, use the "Console" link toward the bottom of the login pane. This does not authenticate you; you start off in console as a guest.

## Administrating Pianod

The console works best with a large window or screen; it doesn't adapt to smaller presentations:



Spontaneous status output (scrolling)

## Authenticating

To authenticate with the console, enter into the left-most input<sup>3</sup>:

```
USER yourname yourpassword
```

If you have spaces in your name or password, you will need to add quotes:

```
USER "your name" "your password"
```

To trigger the command, hit enter or return; there is no button to active a command. The results of your attempt are displayed in the command output window.

Entered commands are retained for future reuse.

## Commands

To perform one of the common commands, simply click its name. For a single response-record, the arrangement is with labels along left, one line per field. When there are multiple response-records, the results are tabular formatted:

<sup>3</sup> Any of the inputs will work for logging in, but the left-most one is obscured to prevent observation of your credentials. Note these are insecurely stored in local storage, and can be accessed using the browser's inspector or JavaScript console.

..... tonegenerator activate set visitor rank admin request song id 3sshz100C source delete id 3 ↑

↓

Command 1/1: "HISTORY" "LIST" Result: 204

112	113	114	115	116	119	124	126	127
Album	Artist	Title	Playlist	Rating	Genre	Name	Duration	Actions
Astronauts & Heretics	Thomas Dolby	Silk Pyjamas	thomas dolby playlist	unrated 0.0 artistseed	Rock/Pop	perette		request
Kodo Vs. Yosuke Yamashita	Kodo/Yosuke Yamashita	The Secret of Basement Room	jazz	unrated 0.0	Jazz	perette	11:15	request
Buddha-Bar XII, La Vie En Rose	Massivan	4 Generations	Ambient/Chill	unrated 0.0 albumseed	Lounge	perette		request
Four Corners	Yellowjackets	Wildlife	jazz	unrated 0.0	Jazz	perette		request
Four Corners	Yellowjackets	Past Ports	jazz	unrated 0.0	Jazz	perette		request

111  
☒ 112  
☒ 113  
☒ 114  
☒ 115  
☒ 116  
☒ 119  
☐ 120  
☐ 123  
☒ 124  
☒ 126  
☒ 127

Checkboxes for all fields contained in the response are shown to the right of the results. You can hide or show columns by changing these checkboxes.

To perform a command other than those listed, simply type it into one of the inputs. A full list of commands and their syntax is included in the [pianod technical documentation](#). Commands are case blind, although in special circumstances values may be case sensitive (passwords, for example). Some things you might want to do follow<sup>4</sup>:

### Get command help

HELP

To get help on a specific command:

HELP command

playlist song list name "Bak: help "playlist create" find any where "carnaval" tist = "DJ "\*" || artist = "D.J.\*" with source id 3 playlist crei

↑ ↓ ☒ 111 ☒ 118

Command 25/25: help "playlist create" Result: 204

132

**Information**

playlist create name {name} from [type:any|artist|album|song|playlist|genre] <manner:id|name|like|where> {expression} ...

playlist create name {name} where {expression} ...

### Choose a source

To select the source you are working with, use the common Sources→List, then:

SOURCE SELECT ID *id*

*If IDs are not shown for Sources→List, make sure "111" is checked.*

↑ ↓ ☒ 111 ☒ 118

Command 26/26: "SOURCE" "LIST" "ENABLED" Result: 204

111	122	123	124
ID	Owner	Source	Name
2	perette	pandora	perette
6	perette	filesystem	storage
1	manager	Pianod	

<sup>4</sup> Note that because my word processor "helpfully" add smart quotes, cutting and pasting examples won't work.



### **Create a smart playlist**

A smart playlist uses an expression to select contents. Seeds can be subsequently added to supplement the expression's selections. You cannot remove contents chosen by the expression by unseeding, as they aren't seeds. Smart playlists only work on some sources (filesystem, tonegenerator).

To create a smart playlist, select the source (above), then:

```
PLAYLIST CREATE NAME "playlist name" WHERE expression
```

For example:

```
PLAYLIST CREATE NAME "Upbeat" WHERE GENRE = "Electronic*" || GENRE =~ Techno
|| ARTIST = "DJ *" || ARTIST = 'D.J.*' || ALBUM = "Rave *"
```

Or:

```
PLAYLIST CREATE NAME "Best of My Collection" WHERE rating >= 4
```

See *Filter Mechanism* in the [pianod technical documentation](#) for more on expression grammar.

### **Convert a smart playlist to a dumb standard playlist**

Select the source (above), then:

```
PLAYLIST CREATE NAME "TEMPORARY" FROM WHERE TYPE=SONG && PLAYLIST="playlist
name"
```

Sanity check that it did what you expected:

```
SEED LIST PLAYLIST NAME "TEMPORARY"
```

*If you trust it enough to whack the old one right off:*

```
DELETE PLAYLIST NAME "playlist name"
RENAME PLAYLIST NAME "TEMPORARY" TO "playlist name"
```

If you're not quite ready for that level of trust:

```
RENAME PLAYLIST NAME "playlist name" TO "old playlist name to be deleted"
RENAME PLAYLIST NAME "TEMPORARY" TO "playlist name"
```

And later on, when you're confident all is good whack the unwanted one. (You can do that from seed view in the regular client.)

### **See what a playlist matches**

To see what a playlist matches (including the "smart" portion and any seeds):

```
PLAYLIST SONG LIST NAME "playlist name"
```

### **Rescan filesystem source**

This causes the specified source to update its media index to reflect new, updated, or removed media. Find the source ID by using the common Sources→List, then:

```
WITH SOURCE ID id FILESYSTEM RESCAN
```

The rescan happens in the background; pianod will continue playing media while indexing.

### **Temporarily change visitor rank**

Visitors are normally limited to viewing status. If you're having a party and want to let others control music, you can assign a different visitor rank.

```
SET VISITOR RANK newrank
```

Ranks are disabled, listener, user, or admin. To permanently make this change, add the command to pianod's startscript.

### ***Choose a shadow template user***

When performing shadowing, automatically created user accounts can inherit rank and privileges of another user:

```
SET SHADOW USER NAME someuser
```

To prevent templating:

```
SET SHADOW USER NAME ""
```

### ***Statistics***

These are not official protocol, and subject to changing behavior or removal:

```
SOURCE STATISTICS
SOURCE STATISTICS ALL
UPTIME
```

### **Choosing a different pianod server**

The usual client always connects to the pianod instance from which it was served. The console can connect to others. Logout of the console to show the destinations page:

“Here” connects to the pianod instance that served the console.

You can connect to a different instance by typing the hostname or IP address, and port number, into one of the inputs and pressing enter. (The values in each input are preserved for future reuse.)

To connect using a TLS secured connection, prefix the hostname with “wss://” (the scheme for websocket secure) and use port 4447.

## **Pianod2 Console utility**

Not connected—please select a server:

Here
wss://house:4447

Remember port numbers! Specify scheme (wss://) to use TLS.

[Use standard player](#) • [Viewer](#)

# Change History

Date	Status	Comments
2015-12-31	Imported	Starting with pianod document, revised p. 1–9.
2015-01-06	Updated	Updated source view, added console section.
2015-01-22	Styles & reformatting	Style changes and reformatting to reduce apparent complexity per suggestions from M. Daemon. (Thank you!)
2015-01-22	Updated	Added substitutions/song proxies.
2016-03-31	Updated	Added queue randomization (shuffle) mode.
2016-12-30	Updated	Updated screen shots. Added track view additional actions pop-up, queue view, search view create playlist from result set (smart and standard), introduction to expressions.
2017-02-08	Updated	Added “Source properties” section, added add-from-track pop-up dialogs.