

The karaKB Handbook

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The karaKB Handbook

by Alexandre Oberlin

version 0.33

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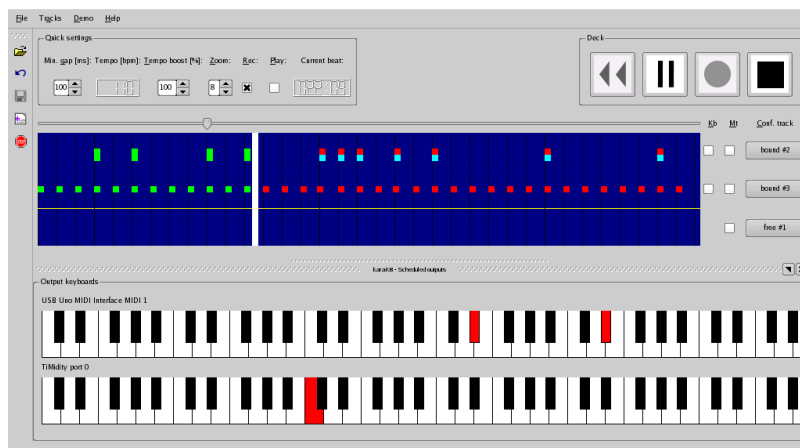
Abstract

karaKB is a helper and entertainer program for frustrated piano students.

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Chapter 1. Introduction



Screenshot of karaKB's main window

karaKB is a non-academic tool that will allow you to have an incredible fun with your MIDI files and MIDI instrument! Rather than listening passively to your music or having a hard time training on your keyboard, you can readily play/record one or more tracks of your choice *with your own feel!* The funny thing is that *you don't need to be able to play piano at all:* at the time you press a key (any key) on your MIDI keyboard, karaKB will play the right note(s) from the appropriate track(s), as specified in the MIDI file.

Now if you want to be able one day to play piano and would like some training, karaKB can still help you thanks to its extensive set of options. karaKB will alleviate your interpretation task in the exact way and to the right degree you want.

You can choose either to let the computer render specific elements contained in the MIDI file, or to play them yourself instead .

Such elements include:

- duration of notes;
- velocity of notes;
- pitchbend;
- MIDI controller effects;
- aftertouch and pressure events (polyphonic or global);

When you are almost ready to do everything by yourself, just configure the program so that it will only *show* you the notes to play, and expect you to play all of them, not just trigger them with a single keystroke.

Another important parameter you'll want to act upon is the choice of tracks. Some tracks will be left to the program, and some to you or your fellows musicians (and non musicians, since karaKB transforms everyone in a spontaneous and infallible interpreter). Most of the MIDI files are made up of several tracks, which will allow optimal flexibility in your learning curve.

You further have the possibility to improvise and add/remove/merge tracks as you would with any MIDI sequencer. In that case you could for example play the accompaniment chords with single key-strokes of the left hand, letting karaKB retrieve the notes just in time from the MIDI file. At the same time you could play an improvisation, on the same keyboard if you split it, or on another MIDI instrument of any kind connected to your PC. You could actually be a *band playing together*, while you all have different skills and levels! Each player would customize his/her track(s) to have more or less help from the computer.

Of course you can sing at the same time since karaKB will display any lyrics included in your MIDI file (i.e. Karaoke files).

So finally you need *absolutely no musical knowledge* to come up with your own interpretation of ANY music you can find in a MIDI format, and there are *loads* of them on the web!

Here is a minimal sampling of web addresses where you can find MIDI files by the score.

Search engines for MIDI files

MIDIsite - MIDI Files Search Engine [<http://www.midisite.co.uk/>]

vanBasco's MIDI Search [<http://www.vanBasco.com/search.html>]

Searching the Internet for a Certain MIDI File [<http://www.manythings.org/midi/search.html>]

MIDI resources lists

MIDI / Synthesizers [<http://www.cactusjack.com/midi.html>]

CLASSICAL MUSIC ARCHIVES [<http://www.classicalarchives.com/>]

The MIDI Farm Internet [<http://www.midifarm.com/>]

Harmony Central: MIDI Tools and Resources [<http://www.harmony-central.com/MIDI/>]

Classical MIDI Resources [<http://www.classicalmidiresource.com>] ★★ ★★ ★★ ★★

Classical MIDI [http://www.broadwaymidi.com/classical_midi.shtml]

Naamloos [<http://www1.tip.nl/~t249768/2guitarras.htm>]

The Classical MIDI Connection: The Baroque Period [<http://www.classicalmidiconnection.com/cmc/baroque.html>]

'Perfessor' Bill Edwards Ragtime MIDI and Sheet Music Covers [<http://www.perfessorbill.com/index2.htm>] ★★ ★★ ★★ ★★

Stefan's Ragtime Parlor - My Rag MIDIs [http://home1.swipnet.se/ragtime/my_midis.html]

Collection of MIDI with lyrics [<http://www.olgris.kiev.ua/des/midi%20lat.html>]

Standard MIDI Files on the Net [<http://www.manythings.org/midi/>]

All MIDI files site [<http://www.allmidifiles.com/artists/>]

Chapter 2. Using karaKB's main window

In this section, we describe the elements of the main window so that you can quickly begin to play with options set to their default values.

A Glossary of terms used in karaKB is also included.

The Karaoke pane

karaKB includes a simple Karaoke functionality.

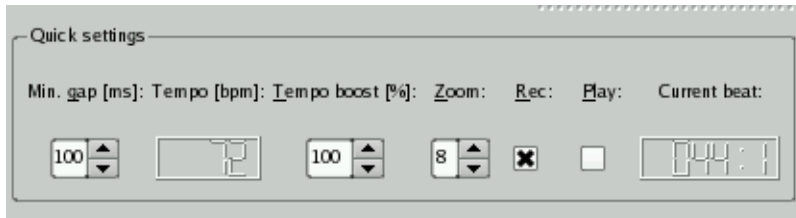


Screenshot of karaKB's Karaoke pane

If your MIDI file has lyrics stored in it, they will be highlighted as the song is playing, so that you can read and sing them in time. Otherwise, if you have lyrics in another file (i.e. text or HTML), you can open this file using the context menu of the Karaoke pane. In such case though, the words will not be highlighted as the song goes.

The Quick Settings

Here are the most common settings you'll want to change on the fly. To permanently store these settings, and many other, please check with the configuration panes lower.



Screenshot of the Quick Settings area of the main window

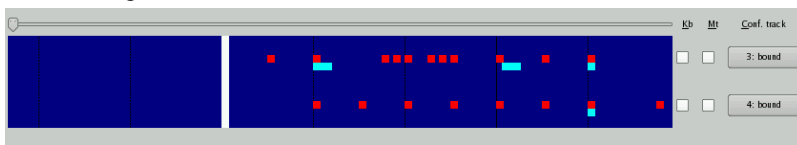
These settings are immediately effective on the currently opened MIDI file.

- | | |
|-----------------|---|
| Min. gap [ms] | This is the time limit for consecutive notes to be considered as belonging to the same cluster. In cluster modes (e.g. One key hit per cluster) a cluster is played with one keystroke. See details about this setting in Options DB / General : Min. time gap [ms] |
| Tempo [bpm] | This is a read-only box that indicates the current effective tempo on the song. The tempo is indicated in beats by minute. For instance if you have a tempo of 120 bpm in a 4/4 song, then thirty measures of the song will be played in one minute. To change the tempi encountered in a file by a constant factor, modify the tempo boost lower. Any tempo event encountered in the MIDI file will modify the tempo value displayed here as well. |
| Tempo boost [%] | You may want to play a song slower than the tempo stored in the MIDI file, especially to get automatisms when you play a new song. You can as well play a song faster than indicated as you wish. Values greater than 100% will speed up the play, while values smaller than 100% will slow it down accordingly. |

Zoom	See details about this setting in Options DB / General : Zoom
Rec	Check this box if you want to hear the metronome beats will recording your interpretation of a track.
Play	Check this box if you want to hear the metronome beats while playing your interpretation of a track, or even just hearing a song.
Current beat	This is a read-only box that indicates the current measure and beat in the song. When you are not playing or recording, you can go to a different position in the song using the scrollbar.

The Tracks diagram

Here the MIDI tracks are displayed as they play. Each track may have its own settings by clicking on its configuration button.



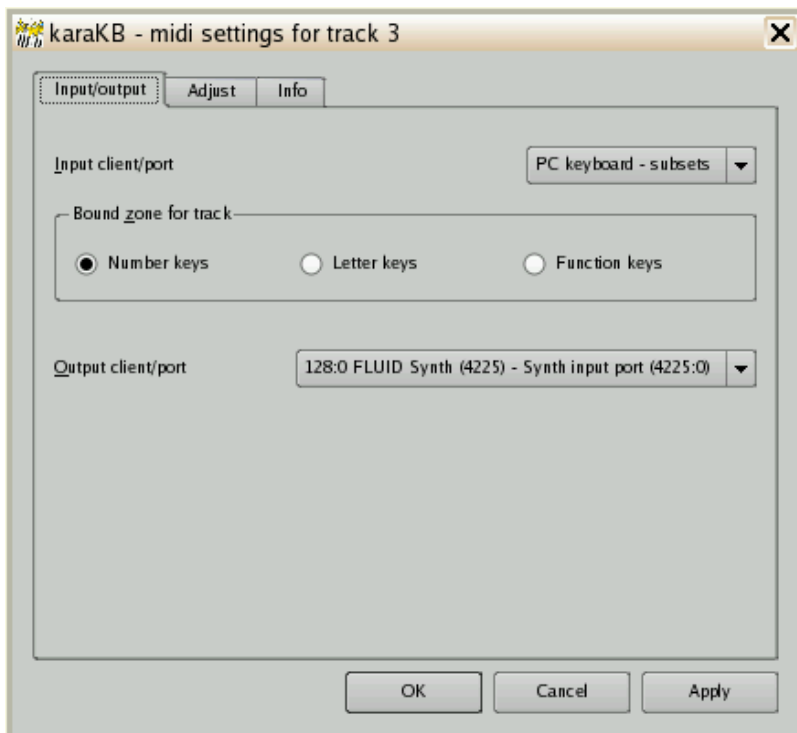
Screenshot of the Tracks diagram area in the main window

The per track settings are immediately effective on the currently opened MIDI file.

- Kb Keyboard: check this box to make this track interactive.
- Mt Mute: check this box to mute this track.
- Conf. track Click to set options particular to this track. See next section Configure track

Configure track

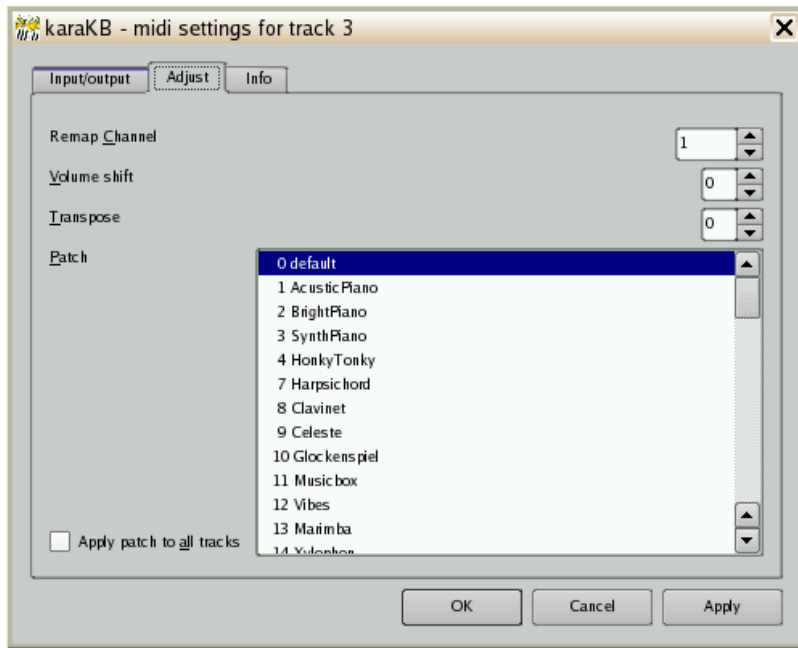
The Input/output tab lets you redirect input and output streams individually for each track.



Screenshot of Configure track / Input/output

- Input client/port Select the input client/port from which to get events (e.g. MIDI keyboard).
- Bound zone for track Select zone for bound KB interaction with this track (if splitting is enabled for this input in Devices setup, or if this is the PC keyboard).
- Output client/port Select the output client/port where to send sequencer events.

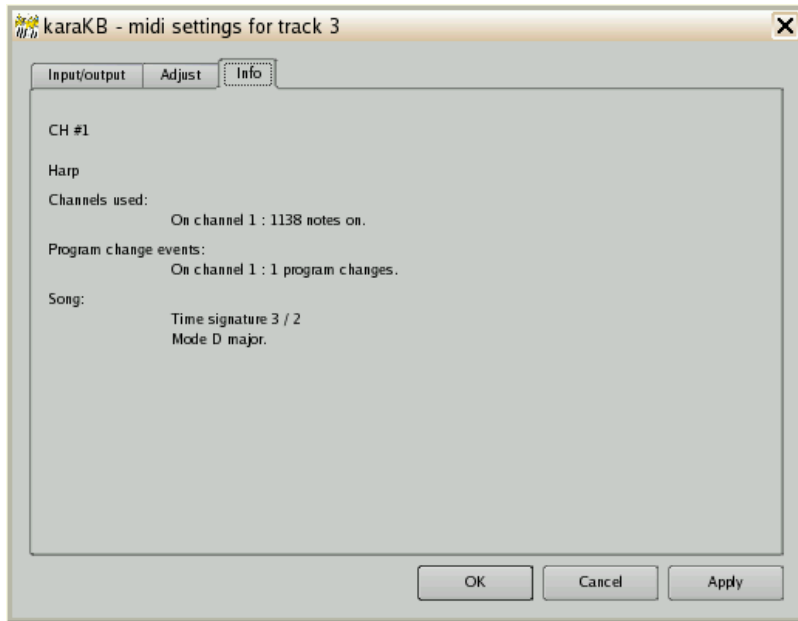
The Adjust tab lets you set individual volume shifts, transposition values and patch for each track.



Screenshot of Configure track / Adjust

- Remap Channel Send track events to a different MIDI channel than the one specified in the MIDI file.
- Volume shift Increase or decrease track volume.
- Transpose Transposition for track in +/- halftones.
- Patch Replacement patch for track.

The Info tab displays some information about each track, e.g. channels and patches used.

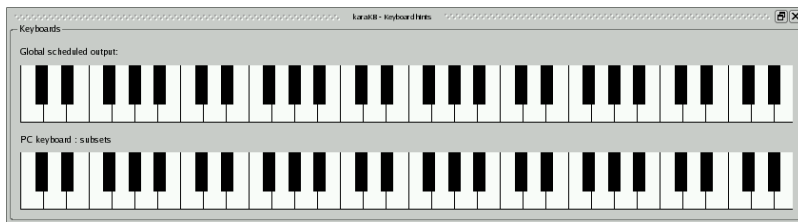


Screenshot of Configure track / Info

Track name	Track name found in MIDI file or free track number.
Channels used	Number of notes on channel is indicated.
Program change events	Number of patch changes in track is indicated.
Song	Time signature and mode are indicated as specified in file.

The Piano widgets

The Piano widgets are used to show the notes to play on the track(s) selected for interactive use as well as other tracks. It also highlights keys that are being interpreted as a user improvisation by karaKB.



Screenshot of the Piano widgets dock window.

Global scheduled output	Here are visualised all notes that are automatically played by karaKB's sequencer. Those notes may be played on a sound card attached to the computer, on an expander or any MIDI module. In any of the interactive modes, notes are displayed on the corresponding input instrument (see below).
PC keyboard : subsets	Here we see the notes as they are triggered by a single keystroke on the PC keyboard, provided that one or more track is bound to such device. The PC keyboard is split into three areas, theoretically allowing three players or hands to share it. Those areas are the number keys (or keypad with numlock on), function keys or letter keys. Each note is displayed in a (user editable) color specific of the PC keyboard zone it is issued from. The PC keyboard

Yamaha SY 55

cannot offer you all the features of karaKB, so you'll typically use it only when you have no MIDI keyboard at hand.

For each of the following Piano widgets, we see the notes in relation to one particular MIDI input device. The behaviour of the widget differs according to the mode of the MIDI input device it is dedicated to. If MIDI Kb interaction mode is One key hit per cluster, the notes are only displayed when the user hits a key on the keyboard. The actual note played by the user is not relevant, provided that it comes from the specified instrument. If the instrument has Keyboard Splitting enabled, each of the three possible zones has its own (user editable) color for notes issued from it, so that for instance you can see the notes triggered by each of two or three players sharing one MIDI keyboard. If MIDI Kb interaction mode is All cluster notes in any order, then the notes to play are presented to the user as a hint. The user must play all the clustered notes to be able to go on. The false notes do not produce a sound, only a flash. Each time a note that is part of the chord (or cluster) is played, it is erased from the display, until there are no more left in the current cluster and the user can play ahead.

Chapter 3. Configuration

The configuration file

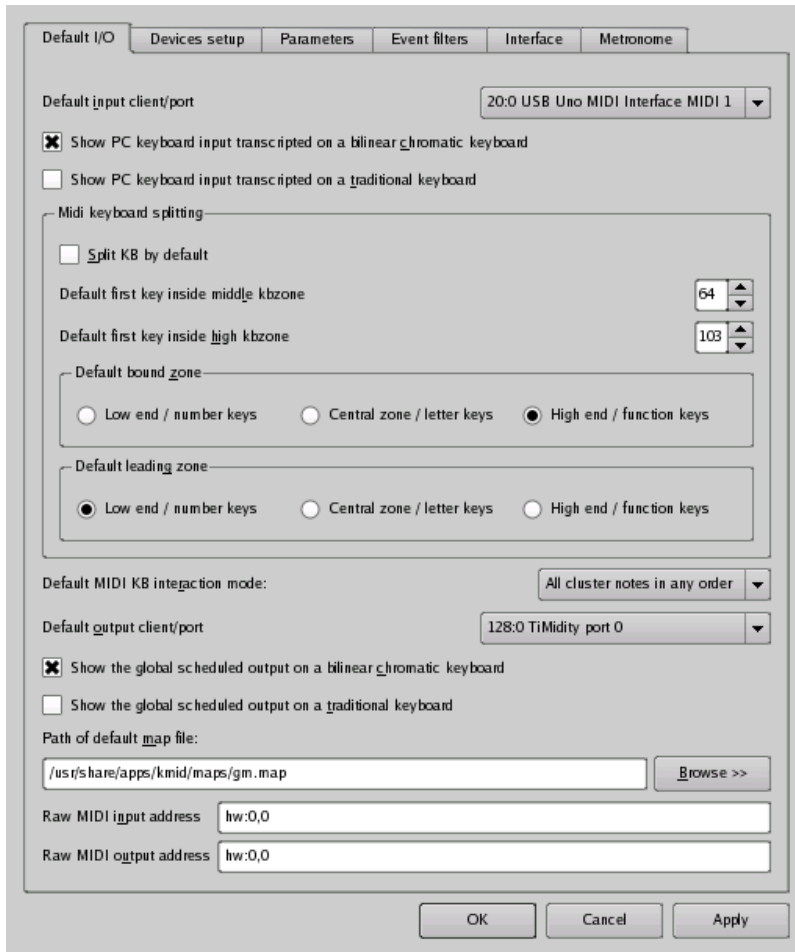
All configuration values are written to a configuration file named `~/.config/migo.info/karakb-en.conf`.

This file has eight sections:

- The [Font] section holds the specification of the font used to display text, mainly lyrics.
- The [Display] section retains preferred window layout and colors.
- The [EventFilters] section is used to discard unwanted MIDI events found in MIDI files.
- The [Interface] section deals with directories and interface options.
- The [Parameters] section contains various user preferences pertaining to the behaviour of the program.
- The [Geometry] section remembers the main window's position and size.
- The [Metronome] section allows to fine tune the metronome's behaviour and sound.
- The [Midi] section keeps information about your MIDI setup and keyboard usage.

The items in the Geometry section, as well as some of the paths in the Interface section, are not meant to be set through an option box, but rather through the normal operation of the program. As to the Font section, its items are accessible through the context menu of the Lyrics pane. The six tabs appearing in the Options dialog are Default I/O, Devices setup, Parameters, Event filters, Interface and Metronome. Everything is configurable from within the application through the Options dialog box. You can safely start to play with the default options, and will quickly learn to fine tune them.

The Default I/O tab



Screenshot of Options DB / Default I/O

The Default I/O tab

This tab gives different default value, most of which are used to set a default behaviour for an instrument, when no particular setting for this instrument has been set by the user in the current session or saved in a previous session.

Default input client/port

Select the default input client/port from which to get user interaction (e.g. MIDI keyboard). This is used to set the input instrument of the (bound) tracks upon opening a new MIDI file. As to the free tracks however, one is created for every MIDI input instrument found.

Show PC keyboard input transcribed on a bilinear chromatic keyboard

Real or virtual input will be shown on a bilinear chromatic keyboard when the PC keyboard is used instead or a true MIDI instrument.

Show PC keyboard input transcribed on a traditional keyboard

Real or virtual input will be shown on a traditional keyboard when the PC keyboard is used instead or a true MIDI instrument.

MIDI keyboard splitting

All the settings in this group box pertain to the splitting of the MIDI or PC keyboard, aimed at allowing several hands/users of karaKB to share one keyboard.

Split KB by default

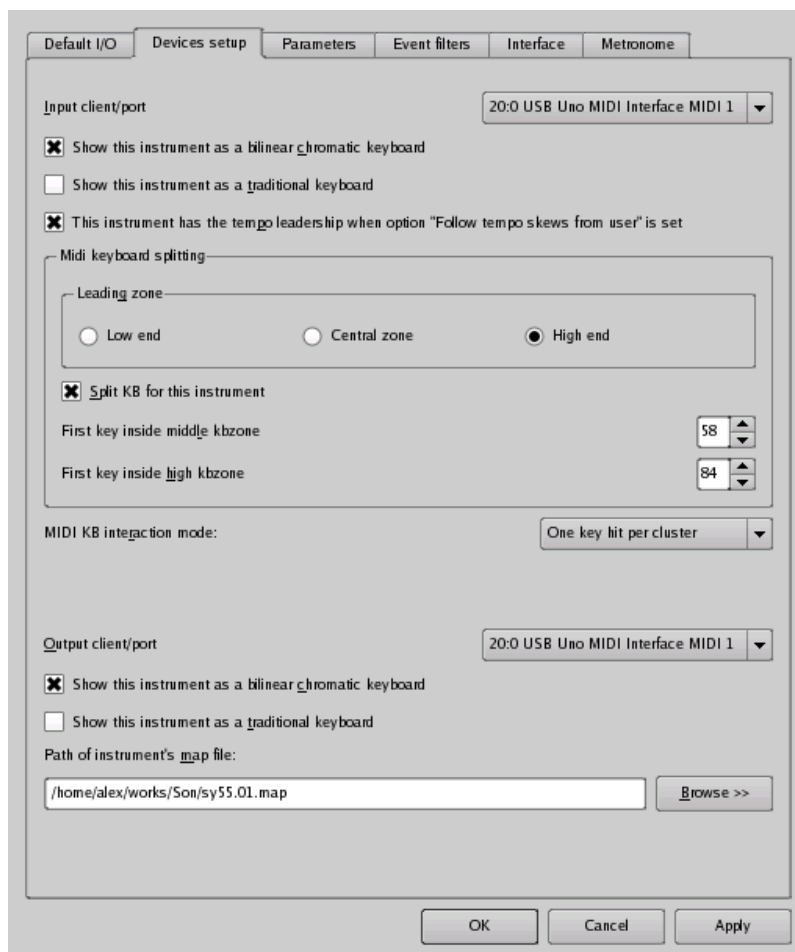
If checked, bound tracks will by default be triggered only by hitting one zone of the MIDI keyboards, allowing up to three

	<p>hands/players on one keyboard. This can be changed for each input MIDI device through the Devices setup tab of the options dialog.</p>
Default first key inside middle kbzone	<p>Default lowest key for medium keyboard zone.</p> <p>Since you have the option to split MIDI keyboards to allow up to three hands/users on each instrument, the exact position of the 3 zones must be defined by specifying two key values at limits. Here is the default value for this splitting. It can be modified on an instrument by instrument basis in the Devices setup tab.</p>
Default first key inside high kbzone	<p>Default lowest key for high keyboard zone.</p> <p>Since you have the option to split MIDI keyboards to allow up to three hands/users on each instrument, the exact position of the 3 zones must be defined by specifying two key values. Here is the default value for this splitting. It can be modified on an instrument by instrument basis in the Devices setup tab.</p>
Default bound zone	<p>Default keyboard zone assigned to bound tracks. This can be changed on a track by track basis in the Input/output tab of the Configure track dialog box.</p> <p>Low end, Central zone, High end refer to a MIDI keyboard. Number keys, letter keys, function keys refer to the PC keyboard.</p>
Default leading zone	<p>Default keyboard zone giving control of the tempo when option Follow tempo skews from user is set. This can be changed for each input MIDI device in the Devices setup tab of the options dialog.</p> <p>Note that only one input device and keyboard zone are allowed to act upon the tempo in real time by playing slower or faster than indicated. To enable this feature, you must set the Follow tempo skews from user option in the Parameters tab</p> <p>Low end, Central zone, High end refer to a MIDI keyboard. Number keys, letter keys, function keys refer to the PC keyboard.</p>
Default MIDI KB interaction mode	<p>Select the action required by default from the player in order to play a note cluster. This can be changed for each input MIDI device in the Devices setup tab of the options dialog.</p> <p>In current version 0.33 of karaKB, the two following modes are proposed.</p> <p>One key hit per cluster means that you don't want at all to practice the fingering, only the rythm. You will have to strike one and only one key to trigger a full chord or cluster of notes.</p> <p>All cluster notes in any order means that you want to practice the fingering rather than the rythm. Before each chord or note cluster, karaKB will show you the right notes on the input keyboard widget corresponding to the instrument you are currently playing, and wait for you to hit all the notes of the chord or cluster. Note that in version 0.33 you need to have a real MIDI</p>

input instrument to use this mode. It is possible though to apply a bilinear chromatic layout to a PC keyboard and play it like a true keyboard instrument. There will be serious limitations on the pitch range (reduced to two octaves), the effects will be absent and the dynamic will lack completely, albeit using e.g. the mouse wheel to change it. This is planned for a future release, but it will never come close to the use of a real MIDI instrument.

Default output client/port	Select the default output client/port where to send sequencer events. This is used to set the output instrument of the tracks upon opening a new MIDI file.
Show the global scheduled output on a bilinear chromatic keyboard	Cumulative scheduled output will be shown on a bilinear chromatic keyboard.
Show the global scheduled output on a traditional keyboard	Cumulative scheduled output will be shown on a traditional keyboard.
Path of default map file	Path of default map file, useful for instruments not having a General MIDI mapping.
Raw MIDI input address	Select the raw input (currently unused).
Raw MIDI output address	Select the raw input (currently unused).

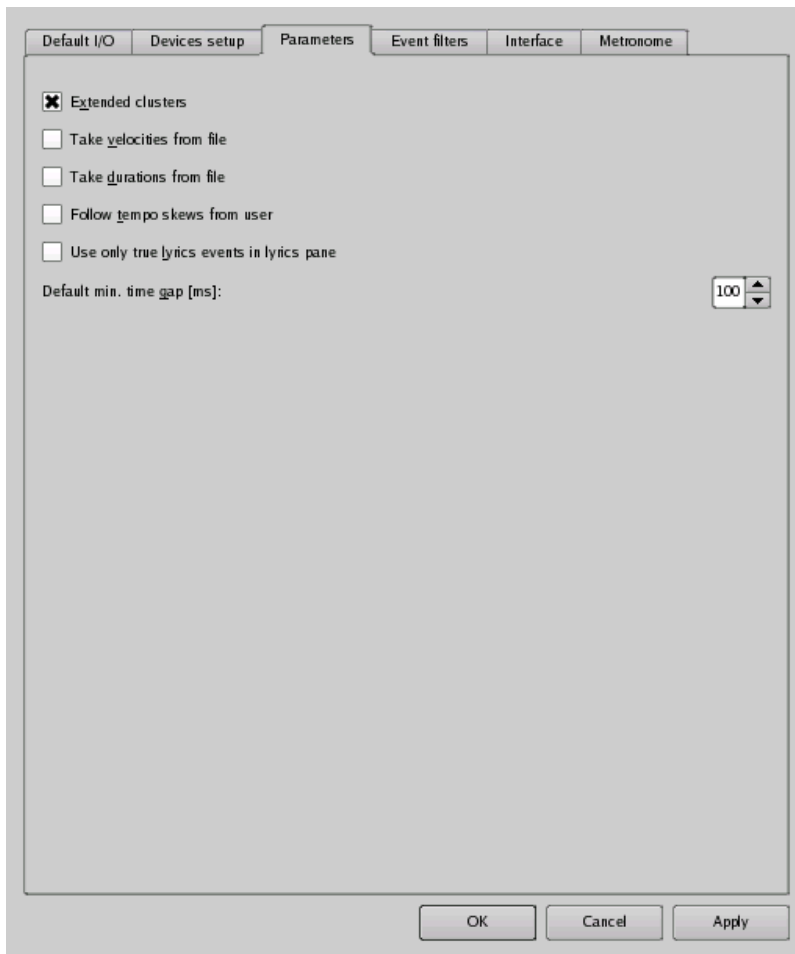
The Devices setup tab



Screenshot of Options DB / Default I/O

Input client/port	Select an input client/port (e.g. MIDI keyboard) to setup.
This instrument has the tempo leadership when option "Follow tempo skews from user" is set	If this is checked, and option Follow tempo skews from user in Parameters tab is checked also, then the player of this instrument (on the specified kbzone if any) will be the only one to dynamically change the tempo of all the tracks by playing slower or faster. One could see him or her as the director.
MIDI keyboard splitting	All the settings in this group box pertain to the splitting of the MIDI keyboard, aimed at allowing several users of karaKB to share one MIDI instrument.
Leading zone	Instrument zone giving tempo leadership, when keyboard is split.
Split KB for this instrument	If checked, bound tracks will be triggered only by hitting one zone of this MIDI keyboard, allowing up to three hands/players on one keyboard.
First key inside middle kbzone	Lowest key for medium keyboard zone. Since you have the option to split MIDI keyboards to allow up to three hands/users on each instrument, the exact position of the 3 zones must be defined by specifying two key values.
First key inside high kbzone	Lowest key for high keyboard zone. Since you have the option to split MIDI keyboards to allow up to three hands/users on each instrument, the exact position of the 3 zones must be defined by specifying two key values.
MIDI KB interaction mode	Select action required from the player in order to play a note cluster from this instrument.
Output client/port	Select an output client/port (e.g. sound card port or expander) to setup.
Path of instrument's map file	Path of instrument's map file, if not a General MIDI mapping.

The Parameters tab



Screenshot of Options DB / Parameters

Store all events

Take velocities from file

Check to use note velocities from MIDI file in interactive cluster notes. When using a MIDI instrument for input, you can choose whether you want to use the note velocities (hit strength, closely related to sound volume) as they are stored in the MIDI file or apply the velocity from the strength with which you actually strike the keys on your MIDI instrument. When using the PC keyboard, velocities always come from the file.

Take durations from file

Check to use note durations from MIDI file in interactive cluster notes. You can choose whether you want to use the note durations as they are stored in the MIDI file or if you want to control this through the actual time you maintain the key pressed. In the last case all the notes of the cluster will be released at the same time, that is the time when you release the key which triggered the cluster.

Follow tempo skews from user

Check to have the accompanying tracks (i.e. non interactive) follow your tempo skew (e.g. rubato)

Use only true lyrics events in lyrics pane

Uncheck this box if a song's lyrics have been mistakenly stored as ordinary text events.

Target channel for user improvisation tracks

Redirection channel for unconstrained MIDI events sent from MIDI keyboard.

Default min. time gap [ms]

This is the time limit for consecutive notes to be considered as belonging to the same cluster. In other words, it is the maximum time gap between consecutive notes from which they will require 2 distinct keystrokes. With a small value, you might have to press a key several times to get e.g. a lengthy arpeggiated chord. On the opposite, with a large value, a series of 32nd notes may turn out to be played without user intervention. Default value of 100 ms is fine for most use. Still, experimenting with this value may help with relatively complex music pieces.

Since in One key hit per cluster mode, karaKB will play notes closer than this value at a single keystroke, you not only don't need to play the right notes, but you need only hit one key to play a complex chord. In this case the small time intervals between the notes of the chord are taken from the MIDI file, and altered according to the current tempo boost.



Note

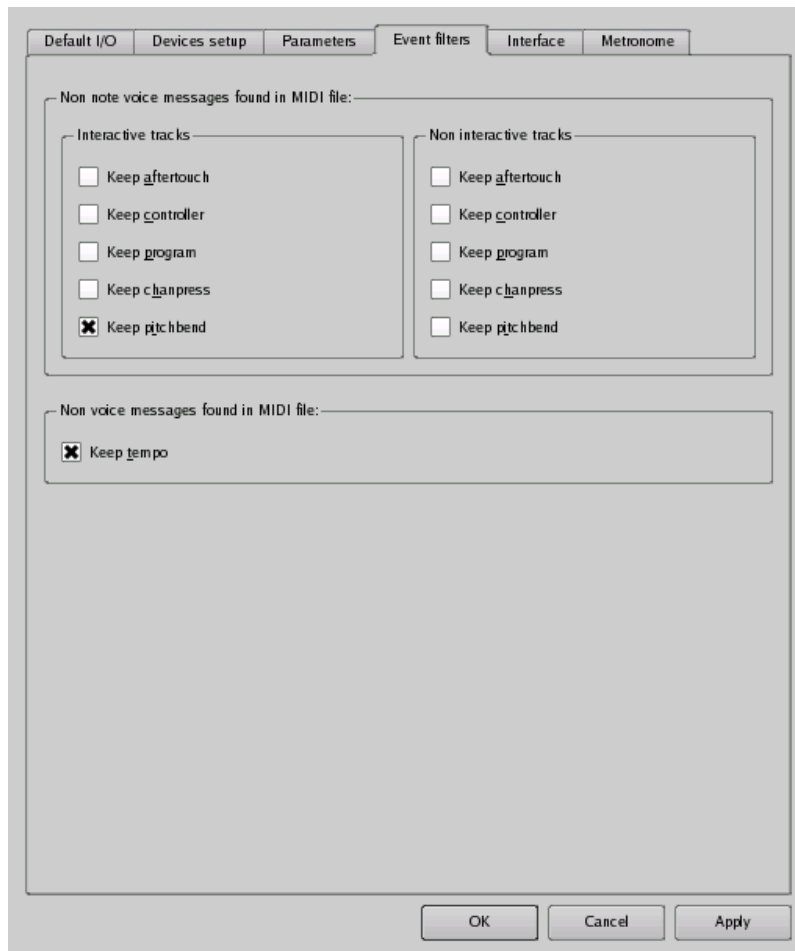
Important notice: Do not try to change this value if your intent is to play all the notes and just use karaKB to help you in your keyboard practice. What you must do then is change the keyboard interaction mode of the instrument you are playing, choosing e.g. All cluster notes in any order. This is done in the Devices setup tab of the Options dialog box.



Note

The value stored here is the default value applied when opening or creating a MIDI file. It can be changed for the current file in the Quick Settings area of the main window.

The Event Filters tab



Screenshot of Options DB / Event Filters

The Event Filters tab deals with controller events found in the open MIDI file. You can filter out some events found in your MIDI file according to their types. The filters make a distinction between the interactive tracks, which are the tracks that are triggered by your keystrokes, and the scheduled tracks, which karaKB plays just like any MIDI sequencer would do.

For instance you might want to discard the aftertouch, pitchbend or program change events on the interactive tracks, so that those effects are only controlled by you from the MIDI keyboard you are playing. On the other hand if your keyboard has a basic design or you don't feel like carrying out those extra (optional) tasks manually, you might want to keep the original effects.

As to the scheduled tracks, the channel events filters are meant to let you get rid of expression rendering or patch selections that you don't like or care about.

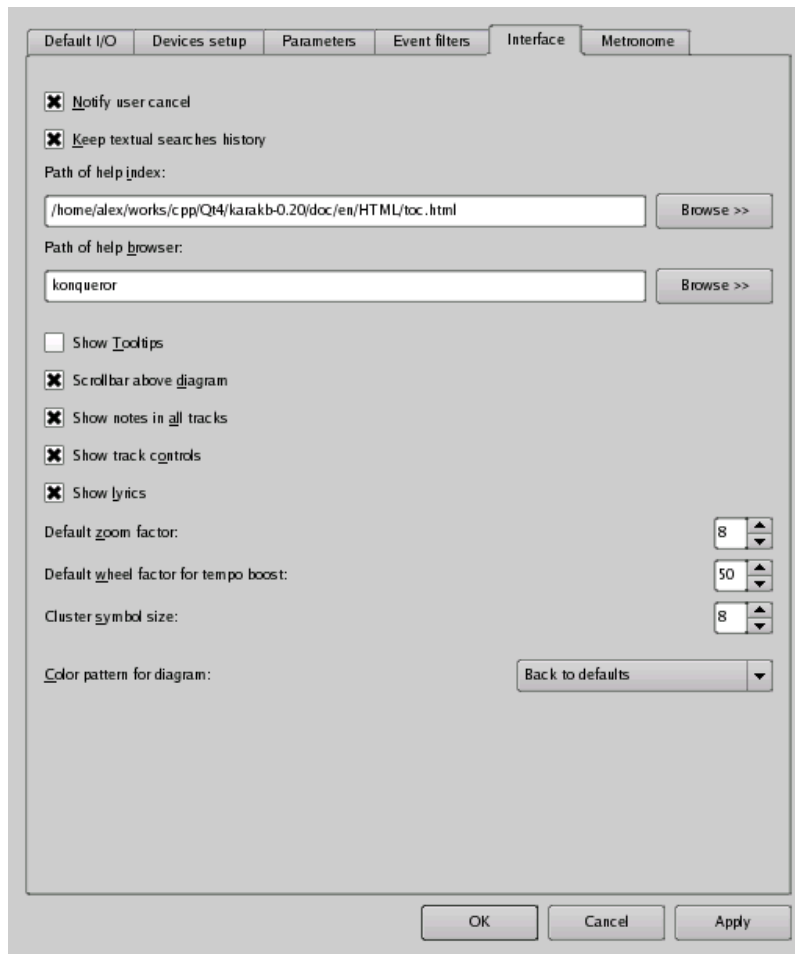
The actual controls sent by the user from a given MIDI input are always processed, whatever be the Event Filters settings. They are accepted as is (channel not modified from the value set by the input instrument) and sent to the corresponding output if one unmuted free track has its input set to the instrument.

Voice messages	The settings in this group box pertain to voice messages only.
Interactive tracks	The settings in this group box pertain to voice messages inside interactive tracks only.
Keep aftertouch	Uncheck to skip polyphonic aftertouch information from MIDI file in interactive tracks.

Configuration

Keep controller	Uncheck to skip controller events from MIDI file in interactive tracks.
Keep program	Uncheck to skip patch change events from MIDI file in interactive tracks.
Keep chanpress	Uncheck to skip overall pressure events from MIDI file in interactive tracks.
Keep pitchbend	Uncheck to skip pitchbend events from MIDI file in interactive tracks.
Non interactive tracks	The settings in this group box pertain to voice messages inside non-interactive tracks only.
Keep aftertouch	Uncheck to skip polyphonic aftertouch information from MIDI file in scheduled tracks.
Keep controller	Uncheck to skip controller events from MIDI file in scheduled tracks.
Keep program	Uncheck to skip patch change events from MIDI file in scheduled tracks.
Keep chanpress	Uncheck to skip overall pressure events from MIDI file in scheduled tracks.
Keep pitchbend	Uncheck to skip pitchbend events from MIDI file in scheduled tracks.
Non voice messages	The settings in this gearbox pertain to non voice messages only.
Keep tempo	Uncheck to skip tempo messages from MIDI file.

The Interface tab

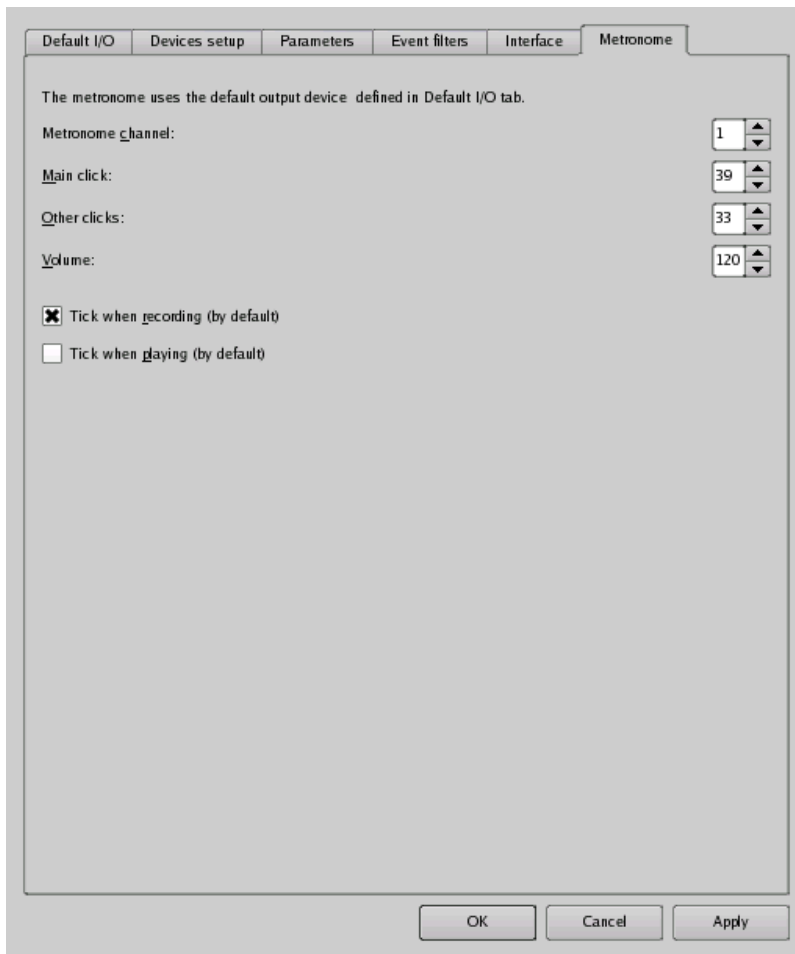


Screenshot of Options DB / Interface

Notify user cancel	Set this to true if you want a notification message to be displayed when you cancel a command.
Keep textual searches history	Set this to true if you want karaKB to remember your 8 last textual searches in the Lyrics pane between sessions.
Path of help index	Enter the full path where karaKB's main HTML help file is installed.
Path of help browser	Enter the full path of the HTML browser you intend to use to display karaKB's handbook.
Show Tooltips	If set to true, the main command widgets will give you basic info on their purpose when pointed to by the mouse. You might want to disable the tooltips when you get used to karaKB.
Scrollbar above diagram	Check to display the song scroller above the Tracks diagram.
Show notes in all tracks	Defaults to true. Uncheck to hide notes in non currently interactive tracks. This option is useful to alleviate the processing of graphics when using complex MIDI files with sparse resources. Beware when unchecking this option that the tracks will appear empty on the diagrams as long as you did not set them to interactive mode (aka KB mode).

Show track controls	Check to permanently display track controls in addition to diagram's context menu.
Show lyrics	Check to display a window showing lyrics. If the karaoke info is stored in the MIDI file, words will be highlighted accordingly as song progresses.
Default zoom factor	If the note symbols appear too close to each other in the Tracks diagram, increasing this number will add space between them. The note symbols will then seem to move faster, while you'll have a more precise vision of the individual notes, which is useful if you play with a small Min. time gap value (see below). The best choice depend on the particular MIDI file you play and on the eventual speed boost you applied on it. Note that this is the default zoom value applied to newly opened MIDI files, but you can also change it (for the current file only) in the Quick Settings area of the main window.
Default wheel factor for tempo boost	For a more convenient access while playing, the Tempo boost spin box is linked to the mouse wheel. With higher values of this setting, the tempo changes more quickly when the mouse wheel is rotated.
Cluster symbol size	Size in pixels of cluster symbol as appearing in track diagrams. If you work with complex MIDI files, a small size will allow many tracks to fit on screen. You will also see more measures at once.
Color pattern for diagram	Customize your color pattern for the Tracks diagram and Piano. Almost all the colors used in karaKB can be adapted to your taste and convenience.

The Metronome tab



Screenshot of Options DB / Metronome

Metronome channel:	MIDI channel used for metronome clicks.
Main click:	Note number for measure marker clicks.
Other clicks:	Note number for beat marker clicks.
Volume:	Velocity of metronome notes.
Tick when recording (by default)	Default metronome behaviour while recording. You can change this for the current file in the Quick Settings area of the main window.
Tick when playing (by default)	Default metronome behaviour while playing. You can change this for the current file in the Quick Settings area of the main window.

Chapter 4. Appendices

karaKB version 0.33

Program copyright 2018 Alexandre Oberlin <http://www.migo.info/karakb/contact_en.php>

Documentation copyright 2018 Alexandre Oberlin <http://www.migo.info/karakb/contact_en.php>

Appendix A. Installation

How to obtain karaKB

The home page for karaKB is <http://www.migo.info/karakb/>.

Requirements

You will need the following hardware and software in order to use karaKB version 0.33 :

- A sound card with a true (hardware) MIDI synthesizer built-in is highly recommended if you don't have an external MIDI module (expander). A software emulation using a soft synth application like Timidity or Fluidsynth in server mode will give acceptable response times for an interactive usage if your machine has a processor of 2 Ghz or more. On the other hand a simple FM synthesis card will give you a very low latency experience of karaKB, though the sound might not be so attractive at what is currently found on any wave sample device.
- Though not strictly necessary, a MIDI keyboard with velocity and perhaps overall pressure sensing will considerably enhance your experience with karaKB. In such case you may need MPU401 MIDI interface, either independent or built-in in the sound card. Recent master keyboard just plug into the USB port of your computer. A stand alone MPU401 MIDI interface is enough if you have a sound module on your keyboard. And of course you'll need two MIDI (DIN) cables to connect your sound card or MPU401 interface to your external keyboard.
- All software requirements are bundled with the karaKEY USB key.

Appendix B. License

Terms of agreement for karaKB

The home page for karaKB is http://www.migo.info/karakb/index_en.html.

karaKB version 0.33 dated 2018-11-03 is distributed on an USB key (karaKEY) only. On this top brand device is provided a complete distribution of GNU/Linux, customized for the music oriented user and featuring the unique karaKB software, which is not available on any other platform. The USB key can be used on any PC computer having the ability to boot from an USB storage media, which is the case for nearly all computers sold after July 2004. The karaKEY gives you the opportunity to try the GNU/Linux operating system in a context which is 100% risk-free for your current configuration. You can resell or give the USB key at your full discretion, keeping in mind that the karaKB software will only open and modify external MIDI files with the karaKEY inserted in the computer. Otherwise it will only run in demo mode with the set of included demos. By using the karaKEY, you agree not to attempt any reverse engineering or any other operation aimed at circumventing this limitation.

karaKB version 0.33 dated 2018-11-03 is delivered with the following warranty

- 2 years feature upgrade
- unlimited debug upgrade
- 5 years material (USB key) replacement

Glossary

ALSA	Advanced Linux® Sound Architecture; a Linux® sound card driver currently included with the standard kernel source code. karaKB relies on ALSA's capabilities for a low level real-time manipulation of MIDI data.
Bound track	A MIDI sequencer track which is not free for any user input. A bound track can be entirely played by the application (scheduled track) or require user interaction (interactive track).
Free track	A MIDI sequencer track which is entirely available to record any user input. A free track is much like what is find in standard MIDI sequencer applications.
Full Duplex	The ability of a sound card to simultaneously record and play audio.
GUI	Graphical User Interface
IDL	Interface Definition Language; a programming language independent format for specifying interfaces (methods and data).
Interactive track	A MIDI sequencer track which requires user input to produce partially computed output. Synonym : keyboard track or kb track.
MIDI	Musical Instrument Digital Interface; a standard protocol for communication between electronic musical instruments; often also used to refer to a file format for storing MIDI commands.
OSS	Open Sound System; the sound drivers included with the Linux® kernel (sometimes called OSS/Free) or a commercial version sold by 4Front Technologies.
Scheduled track	A MIDI sequencer track which is not available for direct user input like an interactive track is. A scheduled track is entirely played by the application, but still may be indirectly adapted by user action.
Tracks diagram	This is where the piano-roll-like displays of the 3 types of tracks appear. The are a helper to spot his position in the music flow and play in time.