Contents
Welcome to
Cakewalk Professional 5.0

While using Cakewalk Professional, you may get context-sensitive help -- help about what you're currently working on -- at any time.   Press the **F1** function key, or, press the **Help** button of any dialog box.   This help system will pop up and take you directly to the relevant topic.

You may point and click on any of the following items for help:

• **What's New in Cakewalk Professional 5.0**
• **Answers to Common Questions** (Save yourself a call to Tech Support!)
• **Keyboard Shortcuts**
• **Glossary**

Help on Menus:
File   **Edit**   **View**   **Insert**   **Realtime** **GoTo**   **Track**   **Tools**   **Settings**   **Window**

http://www.cakewalk.com

How to upgrade

Twelve Tone Systems carries a complete line of complementary products: music file and drum pattern collections, Cakewalk video tutorials, MIDI interfaces, and more.

For the latest information about Cakewalk Pro Audio and other products from Twelve Tone Systems, please call:

Sales:	(800) 234-1171	10 AM to 6 PM EST
General:	(617) 926-2480	10 AM to 6 PM EST
Fax:	(617) 924-6657	24 hours
WWW:	http://www.cakewalk.com	

Cakewalk Pro Audio offers you even more powerful features -- all in the same, easy-to-use style that has made Cakewalk music software the industry leader.   When you upgrade to Cakewalk Pro Audio™ you get all the power and flexibility of   Cakewalk Professional, plus:

Unlimited tracks of digital audio.   Record, edit, and play back as many tracks as your computer can handle.

Advanced audio editing functions. Cakewalk Pro Audio gives you additional audio editing features, including: Parametric EQ; Cross-Fade with customized fade curves; Normalize; Remove Silence; Use Extract Timing from audio sources to create tempo maps or groove templates; Groove Quantize audio-to-MIDI, MIDI-to-audio, or audio-to-audio!

High-end digital audio hardware support.   Cakewalk Pro Audio supports high-end audio systems including the Digidesign Session 8™, the Digidesign Audiomedia III™, and the Soundscape SSHDR1™.

For the ultimate upgrade, there's Cakewalk Pro Audio Deluxe with the Musician's Toolbox™ CD-ROM.

The Musician's Toolbox includes over 600 MB of fully-licensed multimedia tools, grooves, tutorials, and accessory software.   The Q Up Arts Audio Library™; DNA Groove Templates™ from WC Music Research; Route 66 Audio Jams™;   Dr Solo's Outrageous Rhythm Tracks™; the CanvasMan™ GS patch editor/librarian; Steve Luongo's House of Drums™; The Hy-phen-a-tor™; and 12 additional Cakewalk TECHniques tutorials on advanced editing functions.

What's New in Cakewalk Professional 5.0?

Here are just some of the new features and changes in **Cakewalk Professional 5.0**:

- Record, edit, and playback <u>digital audio</u>.

- Visually build song structures using <u>clips</u>.

- Chord, expression text, and hairpin events.   You may view and edit these using the <u>Staff</u> and <u>Event List</u> views.

- Multiple-level <u>Undo</u> and <u>Redo</u> let you back out of multiple edit operations in a row, as well as redo them -- even with digital audio!

- New ways to select individual events in the <u>Piano Roll</u>, <u>Controllers</u>, <u>Staff</u>, and <u>Event List</u> views.

Please refer to README.WRI for additional information.

Keyboard shortcuts

This is a list of shortcut keys available from every Cakewalk view.   For shortcuts specific to each view, see the online help for that view.   Some icon buttons have keyboard shortcuts: Rest the the mouse cursor over the button until a tooltip pops up and describes the shortcut key.

Function Keys	
F1	**Help** (context-sensitive)
ALT+F1	**Undo**
F2	**Copy**
CTRL+F2	**Cut**
SHIFT+F2	**Paste**
F3	**Search Next**
SHIFT+F3	**Step record**
CTRL+F4	Close child window
ALT+F4	**Exit**
F5	**(GoTo) Time**
(The F6 keys work only with **View|Options|DOS F6 Keys** *on:)*	
F6	Switch to Track pane of **Track/Measure view**
SHIFT+F6	Switch to Measure pane of **Track/Measure view**
CTRL+F6	Open or switch to **Event List view**
ALT+F6	Open or switch to **Piano Roll view**
F7	**(GoTo) From**
F8	**(GoTo) Thru**
F9	**From=Now**
CTRL+F9	**From=Start**
F10	**Thru=Now**
CTRL+F10	**Thru=End**
Other Keys	
CTRL+O	**Open**
CTRL+S	**Save**
CTRL+Z	**Undo**
CTRL+A	**Redo**
CTRL+C	**Copy** (Also copies text in notepads/dialogs)
CTRL+X	**Cut** (Also cuts text in notepads/dialogs)
CTRL+V	**Paste** (Also pastes text in notepads/dialogs)
CTRL+TAB	Next child window.
SHIFT+CTRL+TAB	Previous child window
CTRL+NumPad5	**Select All**
NumPad5	**Select None**
SHIFT+NumPad5	**Select By Filter**

README.WRI

This file contains important information about changes since the printed documentation went to press.   You should read this file.

Cakewalk SETUP installs an icon for README.WRI that you can double-click on.

Or, choose the **View README.WRI** command from the **Help** menu.

Save changes?

You are quitting Cakewalk or loading a new file, but your changes to the current file have not been saved.

- To save your changes before quitting or loading a new file, press **Yes**.

- To simply quit or load another file, press **No**.   Your changes will be lost.

- To back out of quitting or loading a new file, press **Cancel**.

Cannot Undo later

The action you are about to take cannot be reversed later using the **Undo** command.

- If you are unsure about proceeding and you haven't saved your work, press **Cancel**. Use **Save** to save your workfile now, then take this action again.

- To proceed anyway, press **OK**.

WINCAKE.INI

This file is located in the directory where you installed Cakewalk Pro Audio (if you accepted the directory which Cakewalk SETUP proposed, this is C:\CAKEAUD).   It contains information that Cakewalk needs to store between sessions, for example, your preferences.   Many items are stored here from choices you make in Cakewalk's menus and dialog boxes.   But some items can be changed only by directly editing this file using the Windows Notepad application, or, for items in the [WINCAKE] section, by using **Initialization Files**.

If you make changes to this file, they will not take effect until the next time you start Cakewalk.   Also, when you quit Cakewalk it writes some information about your preferences to this file.   So if you need to directly edit WINCAKE.INI, it is best to quit Cakewalk, make your changes, then restart Cakewalk.

WINCAKE.INI is divided into sections.   The section beginning with the line

        [WINCAKE]

is where you should add information if no particular section is mentioned.   For example, if you are advised to, "add the line AskSysxAutoSend=1 to WINCAKE.INI", you should put it on the line under [WINCAKE], like this:

        [WINCAKE]
        AskSysxAutoSend=1

notepad

When you're using a view that has a standard Windows notepad, remember that you can cut, copy, and paste text between Cakewalk and other programs by using the standard shortcut keys:

CTRL+C   Copy
CTRL+X   Cut
CTRL+V   Paste

These keys work even with small, single-line text boxes in any Windows program.

File menu

The **File** menu contains mostly commands for relating to files, plus a few others.

New	Wipe out the whole work and start fresh.
Open	Load a work from a disk file
Save	Save a work to a disk file
Save As	Save a work to a disk file under a new name
Merge	Load a work's events into the Scrap buffer
Extract	Save the Scrap buffer into a work file
Info	View comments and other information.
Compact Audio Data	Minimize the amount of disk storage taken up by this song's audio.
Clean Audio Disk	Scan for unused audio files, optionally deleting them.
Export Audio to Wave	Create a stereo RIFF .WAV file from the selected audio events.
Print Preview	Print the current view to the screen
Print	Print the current view
Print Setup	Change the current printer and/or printer settings
Send	Mail the current file.
Exit	Exit the program

New (File menu)

Use this command to start a new work.   If your current work has changed since you saved it, you will be given a chance to save it first.   Next, pick from a list of file templates to create a new work.

See Also:
File Menu
"New" in the *User's Guide* for help with templates.

Open (File menu)

Use this command to load Cakewalk workfiles or Standard MIDI Files.

Loading a file replaces the file currently in memory.   If you have made changes since it was last saved, you will be given a chance to save it before loading the new work.

Shortcut
    Key: **CTRL+O**

System Exclusive auto send banks.
If you load a Cakewalk workfile containing **System Exclusive auto send banks**, you will be asked whether you want to send them.   Answer "No" if you are loading a file from someone else that may contain unknown System Exclusive data.   Doing so will prevent your synthesizer configuration from being changed.

If you want Cakewalk always to send the banks and never to ask you, add the following line to your Cakewalk **initialization file**:

       AskSysxAutoSend=0

Dropping files from the File Manager
You can also load files by dragging them from the Windows 3.1 File Manager and dropping them anywhere on Cakewalk's window.   If Cakewalk is playing when you drop the file, playback will stop, the new file will be loaded, and playback will be turned back on again.

See Also:
File Menu

Save (File menu)

Use this command to save a changed file under its existing name.

If you created a brand-new work using the **New** command, it has no name.   In that case, the **Save As**. dialog appears.

Shortcut
   Key: **CTRL+S**

See Also:
File Menu

Save As (File menu)

Use this command to save your work as a Cakewalk workfile or as a Standard MIDI File.   By default, a new song file is saved as a Cakewalk .WRK workfile (Normal).

If you do not supply an extension for the file name, the ".WRK" or ".MID" file extension will be automatically appended to your name, depending on the type of file you've selected.

> **Note:** The Standard MIDI File format is in industry standard for moving files between different MIDI programs.   MIDI Files cannot represent all of the information that Cakewalk can store in its own, native files.   Therefore, generally you will want to save your work as Cakewalk files.   Use **Save As** to create an additional MIDI File on occasions when you need to export your work to another program that reads MIDI Files.

MIDI File Options
These options are stored inside a Cakewalk file (.WRK).   They control how the file is saved when you also save it as a MIDI File (.MID).   Ordinarily you will want to save a MIDI File as **Format 1**, and *not* check the **Mark for Microsoft Media Player** option.   However, please see the "MIDI Files" appendix in the *User's Guide* for more information about MIDI Files.

Cakewalk 3.0 .WRK File
When you save a song in Cakewalk 3.0 format, multiple clips on the same track are merged into one long clip on that track.   The older file format organizes data only by track, and does not provide the finer granularity that clips offer.

Cakewalk Bundle File
Bundle files (.BUN) are a way to create a single file, containing a .WRK file and all of the audio data used by it, that you may easily back up to tape or transport to another computer.

See Also:
File Menu

Merge (File menu)

Use this command to load a file into the clipboard.   Next, use **Paste** to place the material where you want.

See Also:
File Menu

Extract (File menu)

Use this command to save the clipboard to a file.   Use this after you have used the **Copy** or **Cut** command.

See Also:
File Menu

Info (File menu)

Use this command to set and view special text to describe your work.

Title: The title for your work.   This text appears at the top of the page when printing the **Staff** and **Event List**.

Subtitle: Also referred to as the "dedication".   This text appears in the Staff view print-out centered below the Title on the first page.

Instructions: These are performance instructions.   This text appears in the Staff view print-out left-aligned near the top of the first page.

Author: If you created the work, you probably want to put your name here.   If this field is blank in a file, Cakewalk will use whatever name you provided SETUP.   This text appears in the Staff view print-out, right-aligned near the top of the first page.

Copyright: A copyright notice.   A default Copyright is proposed based on the name you provided SETUP (like the Author field) and using the current year (e.g. 1996): "Copyright 1996 by <username>").   This text appears in the Staff view print-out below the Author.

Key Words: Supply any phrases you wish to describe the work or its style.   For example, "RAGTIME JOPLIN". This will assist searching for files based on the Key Words, using a future feature of Cakewalk or other programs. This text does not appear when you print, except for printing this file information using the **Info** dialog **Print** button.

Comments: Free-form comments you can write using a notepad.   This text does not appear when you print, except for printing this file information using the **Info** dialog **Print** button.

Pop Up on Open: If this is checked, this **Info** dialog will be displayed when a user loads the file.

Statistics
This button provides some additional information, which is calculated each time you save the file.   A file that has not yet been saved (or not saved with Cakewalk 2.0) won't have this information.   If you use **Save As** to create a new file -- even if you're writing over an existing file -- this information will be reset.

Editing time: The total time that you've had the file open in Cakewalk -- from the time it was created to the last time it was saved.   This does not include time spent editing the file since you last saved it; if you want to update this value, save the file.

Revision: Each time you save a file that's been changed, Cakewalk increases this number.   If you load a file, do *not* change it, and save it, Cakewalk does *not* increase the revision number.   You can tell whether a file has changed by looking for an asterisk "*" after its name in the Cakewalk window caption.

Creation time and date.

See Also:
File Menu

Print Preview (File menu)

Use this command to preview printing of the **Staff**, **Event List**, and **Lyrics** views.   Activate the window, then choose this command.

See Also:
File Menu

Print (File menu)

Use this command to print the **Staff**, **Event List**, and **Lyrics** views.   Activate the window, then choose this command.

See Also:
File Menu

Print Setup (File menu)

Use this command to choose which printer you want to use and to configure it.

See Also:
File Menu

Send (File menu)

Use this command to mail the current file.

If your work has changed since you last saved it, you will be asked to save it before Send can proceed.

When there is no current file to mail, this command is disabled.

> Note: If your system does not have a MAPI-compliant e-mail system installed, the Send command is not included on the File menu at all.

See Also:
File Menu

Exit (File menu)

Use this command to exit Cakewalk.   If your work has changed since you last saved it, you will be asked if you want to save it before Cakewalk exits.

See Also:
File Menu

Edit menu

Undo   Undo the most recent edit or action.
Redo   Redo the most recent edit or action.
History   Navigate the Undo, Redo history.

Select menu   Commands for selecting.

Copy   Copy a region to the scrap buffer.
Cut   Move a region to the scrap buffer.
Paste   Move scrap buffer back to the work.
Delete   Delete the selected items.
Create Clips   Create new clips from the selected events.

Audio menu   Commands to modify Audio events.

Quantize   Round off the starting times of events.
Groove Quantize Apply the "groove" or "feel" of one track to other tracks.
Length   Change temporal length of region.
Slide   Slide a region ahead or back in time.
Interpolate   Scale values; "search-and-replace".
Retrograde   Reverse the order of events in region.
Transpose   Transpose pitches of Note and/or KeyAft events.
Scale Velocities   Change note velocities over time to a set value or percentage.
Fit to Time   Adjust tempos to make region last specified amount of time.
Fit Improvisation Insert tempos to fit free-form playing to time grid.
Run CAL…   Run a CAL (Cakewalk Application Language) program.

Edit | Select menu

Select All	Select all events.
Select None	Select nothing.
Select by Filter	Narrow an existing selection, based on criteria you supply in an "Event Filter".
Select by Time	Select all event between two times.
From = Now	Set the From marker to the current time.
Thru = Now	Set the Thru marker to the current time.
From = Start	Set the From marker to the start of the song (1:1:0).
Thru = End	Set the Thru marker to the end of the song.

See Also:
Edit Menu

Edit | Select | All

Use this command to select everything.

Shortcut
    Key: **CTRL+NumPad5**

See Also:
Edit | Select | By Time

Edit | Select | None

Use this command to select nothing.

Shortcut
    Key: **NumPad5**

See Also:
Edit | Select | By Time

Edit | Select | By Filter

Use this command to narrow an existing selection, based on criteria you supply in an "Event Filter".

Shortcut
   Key: **SHIFT+NumPad5**

Once you select some events, you may choose **Edit | Select | By Filter**.   Specify the criteria you want, and press **OK**.   Of the events you had originally selected, only those meeting your criteria will remain selected.

The way this works is almost as if **Select By Filter** went around and **CTRL**+clicked each event that didn't meet your rule, to un-select it.   Once the command is done, you are free to revise the selection, manually.   If you wish to add or remove a few items (if your rule was close but not exactly what you need), you may **CTRL**+click each one to do so.

If no events met your criteria and could remain selected, Cakewalk tells you.

Tip: You can choose **Edit | Select | All** first.   This selects *all* events.   Next you can use **Edit | Select | By Filter** to reduce this.

See Also:
Edit | Select | By Time

Edit | Select | By Time

Use this command to select all items between the two times.

See Also:
Edit | Select | By Filter

From = Now (Edit | Select menu)

Use this command to set the start of the selection.

Shortcut
    Key: **F9**

See Also:
Edit | Select | By Time

Thru = Now (Edit | Select menu)

Use this command to set the end of the selection.

Shortcut
   Key: **F10**

See Also:
Edit | Select | By Time

From = Start (Edit | Select menu)

Use this command to set or extend the selection to the start of the work (1:1:0).

Shortcut
    Key: **CTRL+F9**

See Also:
Edit | Select | By Time

Thru = End (Edit | Select menu)

Use this command to set or extend the selection to the start end of the work.

Shortcut
Key: **CTRL+F10**

See Also:
Edit | Select | By Time

Undo (Edit menu)

Use this command to reverse the most recent command or operation.

You may choose Undo multiple times in a row to undo a series of actions.

See Also:
Redo
Undo Redo History
Edit Menu

Redo (Edit menu)

Use this command to redo the most-recently undone action.

You may choose Redo multiple times in a row to redo a series of actions.

See Also:
Undo
Undo Redo History
Edit Menu

History (Edit menu)

Use this command to view and navigate the **Undo** **Redo** history.

Cakewalk offers multiple levels of Undo capability.   Not only can you undo your most recent command or action, you can wind back even further.   If you find you've backed up too far, you can "redo" actions.   However, once you choose a new command or action, you lose the ability to redo.   The history, in other words, can have only one "future".

The **History** dialog shows you the series of steps you have taken.   You may pick a point in the history list and press OK.   Cakewalk will perform the necessary number of Undo or Redo actions to get you to that point.

Memory Requirements

Depending on the commands or actions, maintaining the ability to undo multiple times may require a great deal of memory.   The **Clear** button lets you release this memory if you're sure you won't need to Undo.   In addition, if Windows notifies Cakewalk that it is low on memory, Cakewalk will ask you if you would like to release the Undo history.

Choosing **Open** or **New** to begin working with a brand-new file clears the Undo history.

The number of levels of Undo available is subject to available memory and the types of actions you take (which can vary from deleting a single event to quantizing hundreds of thousands of events).   To avoid consuming too much memory, Cakewalk places a limit on the number of levels you can Undo.   Once that limit is reached, each new action pushes out the oldest item in the Undo history.

By default, no more than the 32 most-recent commands or actions may be undone.   However, you may raise or lower this number.   See the *User's Guide* for more information.

See Also:
Undo
Redo
Edit Menu

Cakewalk Windows Clipboard Formats

The **<u>Cut</u>**, **<u>Copy</u>**, and **<u>Paste</u>** commands work with music data on the Windows Clipboard in several formats.

Standard MIDI Files

One format is MIDI File format: the data on the Clipboard is a memory image of a Standard MIDI File.   Any other application capable of understanding MIDI Files and recognizing this Clipboard format can exchange data with Cakewalk.   You can copy and paste data to and from Cakewalk and the other application.   This is faster than creating an actual Standard MIDI File on disk, and there is no temporary file for you to delete later if it was a temporary transfer.

> <u>Note to programmers:</u> Cakewalk calls **RegisterClipboardFormat()** with the string "Standard MIDI File". The handle that you put on or get from the Clipboard is a block of memory from **GlobalAlloc()** that contains nothing more or less than the exact image of a Format 0 or 1 Standard MIDI File.   Please help our mutual customers by supporting this simple protocol for data exchange under Microsoft *Windows*.

Private format

A private format is recognized by Twelve Tone Systems applications.   For example, if you are running two copies of Cakewalk for Windows at once, and copy-and-paste music data between them, the recipient will use the private format simply because it is faster.

Cut (Edit menu)

This command lets you cut out a region of the song. The cut material is put on the Clipboard. Later, you can paste the material somewhere else, or just forget about it if all you wanted to do was delete it (it is overwritten the next time something else is put on the Clipboard). However, when you do want only to delete material without also placing it on the Clipboard for later reuse, you should use the Delete command.

Events in Tracks
Tempo Changes
Meter/Key Changes
Markers

These items allow you to specify exactly which kinds of data should be cut..   If any of these items are grayed-out (disabled), it means the selection does not contain any of that kind of data.

Split Audio Events

If this item is selected, only the audio data that lies between From and Thru will be cut.   If this item is not selected, audio events will be cut in their entirety, but only if their start time is between From and Thru.

Delete Hole

Selecting this item will cause any selected material which follows the cut range to be shifted backwards in time, filling the hole created by the Cut command.

Align To Measures

This item is enabled only when **Delete Hole** has been chosen.   Selecting this item causes the start and end times of hole created by the Cut command to be rounded to the closest measure boundary.

Shortcut
Key: **CTRL+X**

See Also:
Copy
Paste
Edit Menu
Cakewalk Windows Clipboard formats

Copy (Edit menu)

This command works much like the Cut command, except that the current selection is not deleted; rather, a copy of it is placed on the Clipboard.

Like the Cut command, Copy overwrites the current contents of the Clipboard and replaces it with the new material you are copying.

Events in Tracks
Tempo Changes
Meter/Key Changes
Markers

These items allow you to specify exactly which kinds of data should be copied..   If any of these items are grayed-out (disabled), it means the selection does not contain any of that kind of data.

Split Audio Events

If this item is selected, only the audio data that lies between From and Thru will be copied.   If this item is not selected, audio events will be copied in their entirety, but only if their start time is between From and Thru.

Shortcut
    Key: **CTRL+C**

See Also:
Cut
Paste
Edit Menu
Cakewalk Windows Clipboard formats

Paste (Edit menu)

This command opens the Paste dialog box, in which you specify how the events are to be pasted. By default, only basic Paste options are presented in the dialog box.   For access to advanced Paste options, click on the **Advanced** button.

In all views except the Track view , the default values in the Paste dialog box paste events back to the tracks they were originally cut or copied from, starting at a time equal to the Now time. In other words, if you cut events from tracks 1, 5, and 7, and then issued the Paste command, initially the Time item in the dialog box contains the Now time, and the Track item contains 1. Thus, events cut from track 1 are pasted back to track 1, events cut from track 5 are pasted back to track 5, and events cut from track 7 are pasted back to track 7. This lets you cut out measures from many tracks at once and move them some place else in the same tracks.

In the Track view, the current track is used as the default value for the Track item.   In terms of the example just given, if the current Track in the Track view is 2, then the material originally from tracks 1, 5, and 7 would be pasted to tracks 2, 6, and 8.   This lets you cut measures from many tracks at once and quickly move them to new tracks.

However, you can use the Starting at options to paste the events to different tracks and at a different starting time.

The contents of the Clipboard are not erased by pasting, so you can paste the same material somewhere else again.

Starting at Time

This item lets you specify the insertion point   the starting time for the events you are pasting. By default, the value of the Now marker is here. This default makes it easy to move to the point where you want to start pasting before you call up the command.

Repetitions

This item lets you repeat the material any number of times. The default value is 1 (that is, no extra occurrences of the pasted material).

Starting at Track

Use the Track item to specify the first destination track for the pasted events. In terms of the example given above, if you changed the Track to 2, then the material originally from tracks 1, 5, and 7 would be pasted to tracks 2, 6, and 8.

Paste to One Track

By default, the track structure of the material on the Clipboard is maintained when you paste it. The Paste to One Track option lets you override this default, so that the pasted events will all occupy the same track. You can use this option to merge events from several clips into one clip (possibly a new one).

Clicking on the **Advanced** button provides access the following advanced Paste options.   Clicking on this button while the Paste dialog box is in its advanced mode will collapse the dialog box back to its basic state.

Align to Measures

This item causes each paste interval to be aligned to an exact measure boundary.   This item also ensures that if you're sliding existing material over to make room (see below), the material is slid an exact number of measures.

Aligning to measures is useful is your pasted material contains pick-up notes or sustained ending notes, yet is still conceptually a fixed number of measures in length.

Interval

This item lets you specify the duration after which repetitions should occur.

Blend Old and New

This item causes the Paste command to merge what you're pasting with what's already in the track.

Replace Old with New

This item causes the Paste command to first delete what's in the range being pasted to, and then to paste the new material.

Slide Over Old to Make Room

This item causes the Paste command to first shift over existing material to make room, and then to paste the new material.

Split Audio Events

This item is enabled only if either the **Replace** or **Slide** options are chosen.   If this item is selected with the **Replace** option, only the audio data which lies within the paste time range is replaced.   If this item is selected with the **Slide** option, audio events will be split at the start and end of the paste time range before making room.

Events/Clips
Tempo Changes
Meter/Key Changes
Markers

These items allow you to specify exactly which kinds of data should be pasted..   If any of these items are grayed-out (disabled), it means the clipboard does not contain any of that kind of data.

Paste as New Clips

When this radio button is selected (the default), pasted material is placed in new clips. If you originally copied entire clips, then the same number of new clips are created, provided you have not checked Paste to One Track. If you have checked Paste to One Track, the pasted events are contained in a single new clip.

Paste as Events in Existing Clips

When this radio button is selected, pasted events are placed in existing clips, extending their length as necessary. If there is no existing clip in a track to which some events are pasted, then a new clip is created in that track.

Shortcut
    Key: **CTRL+V**

See Also:
Edit Menu
Cakewalk Windows Clipboard formats

Delete (Edit menu)

Use this command to delete the items you have selected.

Events in Tracks
Tempo Changes
Meter/Key Changes
Markers

These items allow you to specify exactly which kinds of data should be deleted..   If any of these items are grayed-out (disabled), it means the selection does not contain any of that kind of data.

Split Audio Events

If this item is selected, only the audio data that lies between From and Thru will be deleted.   If this item is not selected, audio events will be deleted in their entirety, but only if their start time is between From and Thru.

Delete Hole

Selecting this item will cause any selected material which follows the delete range to be shifted backwards in time, filling the hole created by the Delete command.

Align To Measures

This item is enabled only when **Delete Hole** has been chosen.   Selecting this item causes the start and end times of hole created by the Delete command to be rounded to the closest measure boundary.

See Also:
Edit Menu

Create Clips (Edit menu)

Use this command to create a new clip for each track, containing whatever events are currently selected in that track.

See Also:
Edit Menu

Quantize (Edit menu)

Use this command to round off the starting times and/or durations of note events.

Durations are given a value of the resolution amount minus one.   That way, notes do not run into each other, legato-style, causing problems on some synthesizers. Durations smaller than the resolution amount will be rounded *up* to the resolution minus one -- not down to zero.

Quantize normally affects only note, audio and lyric events in the selection.   This behavior may be changed by clearing the checkbox labeled **Notes, Lyrics, Audio Only**.

Resolution
Quantize lays a grid over your music, then moves your notes to line up on the grid.   The grid spacing is determined by the Resolution option.   For example, a Resolution of an eighth note will use a grid with a point every eighth note.

A rule of thumb is a Resolution matching the smallest note in the region you're quantizing.   If the notes are all sixteenth notes, choose that for the Resolution.   If the notes are a mix of sixteenth and eighth notes, you would still choose sixteenth notes.

Strength
You may control how far Quantize should move notes toward the grid lines.   A Strength of 100% will move the notes fully to the line.   If the Strength is only 50%, the notes will be moved only halfway.

Use a Strength of 100% to make your timing "perfect", but mechanical-sounding.   Use lesser strengths to "tighten" the timing without making it sound as mechanical.

Swing
The timing grid can be "distorted" such that every pair of grid points is spaced unevenly.   If the Swing option is 50% (the default), then every pair is the same size.   If the Swing option is 66%, then the first of each pair is twice as big as the second.   A Swing amount greater than 50% will give you a musical "swing" feel.   When eighth notes are played with a swing feel, the first of each pair lasts longer than the first.
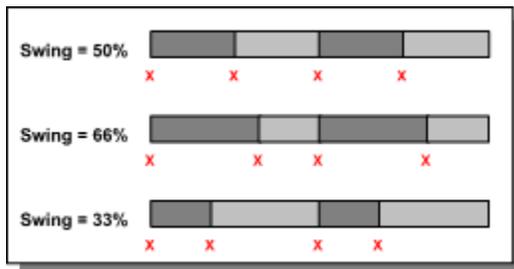
Window
There may be situations where notes that are very far from the grid should not be moved at all.   The Window option lets you say how close to the resolution grid point a note must be for quantize to move it.   A Window of 100% includes all notes.   A Window of 50% includes all notes that are halfway on either side of the grid point.

Offset
Normally the resolution grid is aligned with the start of measures and beats.   You may shift the grid by a number of ticks earlier or later.   If the Resolution is a quarter-note, and you've set the Offset to +3 ticks, then a note near 1:1:0 would end up at 1:1:003 -- three ticks later.

See Also:
Edit Menu

Groove Quantize (Edit menu)

Use this command to synchronize events in separate tracks with each other, or with a predefined pattern.

Groove Quantize aligns the start times and durations of events in the selected tracks with events in the groove source.   It can also emphasize accented beats, detected through variations in note velocities.

Timing and accenting can be adjusted to match a sample of music taken from the clipboard data or from a library of predefined grooves.   You can create your own groove patterns and add them to your library.

Durations are given a value of the resolution amount minus one.   That way, notes do not run into each other, legato-style, causing problems on some synthesizers. Durations smaller than the resolution amount will be rounded up to the resolution minus one -- not down to zero.

Groove Quantize normally affects only note, audio and lyric events in the selection.   This behavior may be changed by clearing the checkbox labeled **Notes, Lyrics, Audio Only**.

If the groove pattern is shorter than the selected range, it will be repeated as many times as necessary to cover the range.

Groove Source   **Strength**

Resolution   **Define**

Window   **Tips and Examples**

Groove Source (Groove Quantize)
Groove Quantize needs a sample snippet of music to use as the timing and accent reference.   This is the Groove Source.   The source may be material on the Clipboard, or, a pattern in your library.

The Clipboard choice allows you to use the **<u>Copy</u>** command before using **Groove Quantize**.   Copy a region of an existing track.   Then choose **Groove Quantize** and select the Clipboard as the source.   You may think of this like copying a groove from one place, and "pasting" it onto another section.

Resolution (Groove Quantize)

Groove Quantize lays a grid over the groove sample, then moves your notes to line up on the grid.   You specify how often to look for a reference event with the Resolution option.

Use the **Resolution** option to specify how frequently the tracks should be synchronized.   Cakewalk will interpolate between actual events in the reference material to determine the probable location of notes of a specified duration.

For example, you might have recorded quarter notes, but you would like a run of sixteenth notes to align with it.   By selecting a resolution of "sixteenth", you instruct Cakewalk to determine when you would have played sixteenth notes between the actual reference note events.   This is intended to allow intricate tracks of short notes to be synchronized with more fundamental tracks containing fewer events.   This also allows Cakewalk to compensate when your groove source contains regions of silence where other tracks contain music.

A rule of thumb is to use a Resolution matching the smallest note in the region you're quantizing.   If the notes are all sixteenth notes, choose that for the Resolution.   If the notes are a mix of sixteenth and eighth notes, you would still choose sixteenth notes.

Window (Groove Quantize)
There may be situations where notes that are very far from the reference points should not be moved at all.   Use the **Window** option to specify how close to the reference point a note must be for quantize to move it.   A Window of 100% includes all notes.   A Window of 50% includes all notes that are halfway on either side of the reference point.

If Outside Window
Use this option to control how events that are between reference points should be handled:

Do Not Change.   Note events that are outside the window of the nearest reference point will be unaffected by the edit operation.

Straight Quantize.   A regular quantization grid will be assumed between actual reference points in the pattern.   The Resolution option controls the spacing of the assumed points.

Move to Nearest.   Ignore the window setting, and move all events toward the nearest reference event, regardless of how far.

Stretch Time.   Uses the error of nearby "in window" points to adjust the gaps proportionally.   The starting times and durations of notes are stretched or compressed to maintain relative spacing to neighboring events.

Strength (Groove Quantize)
You may control how far **Groove Quantize** should move notes toward the groove points.   A Strength of 100% will move the notes fully to the point.   If the Strength is only 50%, the notes will be moved only halfway.

You can provide strengths for timing, duration, and velocity independent of one another.

Use Strengths of 100% to make your synchronization "perfect", but mechanical-sounding.   Use lesser Strengths to "tighten" the timing without losing all of the original human performance.   Use 0% to disable a particular kind of quantization.

For example, you could make your music sound "about 85% tighter" by setting the Time and Duration percentages accordingly.   Or, you could opt to modify only the note velocities by setting the Time and Duration strengths to 0%.

Define (Groove Quantize)
Use this button save the currently selected groove source to a groove pattern library file.

To create a groove from a portion of the current song:

1. **<u>Copy</u>** a portion of a track.

2. Pick **Clipboard** as the **<u>Groove Source</u>**.

2. Press **Define** and use the **<u>Define Groove dialog</u>**.

To copy an existing groove to another library file:

1. Pick it as the **<u>Groove Source</u>**.

2. Press **Define** and use the **<u>Define Groove dialog</u>**.

Tips and Examples (Groove Quantize)

Aligning sloppy tracks with a good one.   Select the portion of the "good" track which you want to apply to the "sloppy" tracks.   Choose the **<u>Copy</u>** command.   Next, select the portion of the sloppy tracks you want to modify. Choose **Groove Quantize**, be sure to pick **Clipboard** for the **Groove Source**, and press **OK**.

Imposing a new feeling on an old tune.   You can impose a real human "feel" onto an otherwise sterile composition.   Any MIDI data that you can get into the clipboard can be cloned into a groove pattern and either used immediately, or saved into a library.   You can capture complex rhythmic nuance in an easily useable and distributable format.   A carefully-defined groove pattern can translate an old song to a new musical genre.

Accenting beats in each measure.   Create a sample measure containing note events at the desired accent points. Center the velocities around 64, with accented notes having greater velocities and diminished notes having lesser. Select the measure, choose the **<u>Copy</u>** command, then choose **Groove Quantize**.   Make sure the **Velocity Strength** option is set to a non-zero value.   After you press **OK**, note event velocities in the selected edit range will be adjusted to be louder or quieter on the specific beats.

Stealing that feeling.   Suppose you have a dry piece that was composed and entered into Cakewalk with a rigid sense of timing.   Then you record a bass line which has exactly the off-beat rhythmic dynamic you'd been searching for.   You'd like to force your other tracks to share that same feel.   Using the bass track as the reference, choose a resolution roughly on the order of the duration of the bass notes, and a window of 100%.   Cakewalk will align the melody note events with the nearest bass notes.   Use the Strength parameter to control the resulting "tightness" of the piece; the higher the strength, the tighter the piece.

Synchronizing rhythm and solo tracks.   If you want to preserve the unique rhythm of each track, but you want to synchronize them together in time, you might use a larger resolution and a smaller window.   For example, suppose you have one track with a highly stylized drum beat, and another track containing a jazz solo with some very nice runs in it.   The drum beats fall primarily on quarter notes, but the solo consists of runs of fast notes that aren't quite 16th triplets.   Using the drum track as the reference, you could use a quarter note resolution and a small window of perhaps 10%.   Cakewalk will align the solo notes near the quarter note drum beats, but will maintain the feel of the solo during the fast runs of notes in between.

Correcting off-tempo tracks.   Suppose you have both rhythm and melody tracks recorded, but the melody was played erratically.   If you use a whole note resolution and a window of around 25%, and select the **Stretch Time** option, **Groove Quantize** will synchronize each selected track with the groove source at roughly measure boundaries.   All events in the middle of the measure will be stretched or compressed in time such that they still fill the measure and still have the same rhythm.

You will probably notice that the starting time of note events has more of an effect on the rhythmic feel of the track than does the duration.   For this reason, the Change Starting Times option has a more noticeable effect on most material than does the Change Durations.   However, you will encounter situations where your notes will overlap (legato) or unwanted rests will be inserted (staccato) if you don't opt to change both.

You can experiment with these parameters and then audition the result.   Use Cakewalk's multi-level **<u>Undo</u>** and **<u>Redo</u>** capability to try many different quantizations before committing to one.

See Also:
<u>Quantize</u>
<u>Edit Menu</u>

Define Groove dialog

Use this dialog box to manage a collection of predefined groove patterns.   To create a new entry in your library, choose **Groove Quantize**, select the desired Groove Source, and press the **Define** button.

This dialog lets you browse through your collection of groove pattern files.   You can select an existing file or type the name of a new file.   You also can select an existing pattern to replace, or type a new pattern name.   Press **OK** to write the pattern to the file.

To delete a pattern from your collection, select it and press **Delete**.

Cakewalk supports two types of groove files:

• The non-Cakewalk format is compatible with some other software and third-party groove pattern files.

• Cakewalk's native format allows longer gaps between quantization points, and also allows the storage of velocity accent information.

Cakewalk looks for files with the .GRV extension in the same directory as WINCAKE.EXE.   You may use a different directory by setting "GrooveFilesDir=" in the [WINCAKE] section of your WINCAKE.INI file.   All patterns found in the directory will be available during the Groove Quantize operation.

See Also:
Quantize
Edit Menu

Interpolate (Edit menu)

Interpolate is a powerful command that lets you search for certain events and replace their parameters with new, interpolated values.

This command presents you with two <u>Event Filter</u> dialogs.   The first dialog works like a normal Event Filter, except how you specify the ranges is important.   The second Event Filter is used only for its range fields.   The replacement scales parameter values from the first range to the second range.

See Also:
<u>Edit Menu</u>

Length (Edit menu)

Use this command to stretch or shrink the starting times and/or the durations of note events by a percentage that you pick.   You specify this as a percentage of the original values.   For example, 200% would make things twice as long, 50% would make them half as long.

This command does *not* change the tempo map.   Instead, it modifies the actual starting times and durations of the events.

See Also:
Edit Menu

Retrograde (Edit menu)

Use this command to reverse the order of events.   The first shall be last and the last shall be first.

See Also:
<u>Edit Menu</u>

Transpose (Edit menu)

Use this command to change the pitches of Note and/or KeyAft events up or down by the amount you specify.

Diatonic math option...	The **Amount** to transpose by is...
Checked	The number of diatonic steps (based on the current key signature)
Not checked	The number of half-steps (chromatic)

Unless you check the **Use event filter** option to exclude one of the two kinds, both Note and KeyAft events' pitches are affected by **Transpose**.

See Also:
Edit Menu

Slide (Edit menu)

Use this command to move a region earlier or later.   This is similar to the **Time+** track parameter, but this permanently changes the event times.

> **Note:**   You cannot slide a region earlier than 1:1:0.   The From time must be at least as big as the amount of time you are sliding.   Otherwise you will simply get an error message.

Example: If From is 1:1:30, you cannot give an amount less than -30.

See Also:
Edit Menu

Scale Velocities (Edit menu)

Use this command to change <u>velocities</u> of notes events over time.   The **Begin** and **End** values are either velocity values or percentages by which to change existing velocities, depending on whether the **Percentages** option is checked.

If the **Percentages** option is *not* checked, then the **Begin** and **End** values are the starting and ending velocities.   A note at the beginning of the time range will have the **Begin** velocity and a note at the end will have the **End** velocity. Notes in between will be changed to values interpolated between **Begin** and **End** over the time range.

If the **Percentages** option *is* checked, then the **Begin** and **End** values are percentages by which to multiply the notes' present velocities. A note at the beginning of the time range will have its velocity multiplied by the **Begin** percentage and a note at the end will be multiplied by the **End** percentage.   Notes in between will be multiplied by percentages interpolated between **Begin** and **End** over the time range.

You can also edit note velocities by drawing in the velocity pane of the **<u>Piano Roll view</u>**, which lets you draw shapes other than straight line changes.

See Also:
<u>Edit Menu</u>

Fit to Time (Edit menu)

Use this command to make a region last a specific amount of real-world time.   **Fit to Time** changes the absolute-time duration of the region by changing the Tempo map to speed up or slow down, without changing the musical (measure:beat:tick) times of the events in the region.

See Also:
Tempo view
Length
Edit Menu

Fit Improvisation (Edit menu)

Use this command to fit a free-form improvisation into the Measure:Beat:Tick timing grid, without altering how it sounds, by both changing the event times and inserting offsetting tempo changes.   You must record a "reference track" that marks the beats before choosing this command.

See Also:
Edit Menu
"Fit Improvisation" in the *User's Guide* for a full description of the steps needed to prepare for this command.

Run CAL… (Edit menu)

Use this command to run a CAL program. CAL programs work on events the same way as built-in Cakewalk editing commands: they change only selected events.   CAL programs may also execute certain other Cakewalk commands.

See Also:
Edit Menu
Creating and Modifying CAL Programs

Split clips (Track view right-click menu)

Use this command to split the selected clip(s) into smaller pieces (into more clips).

Note: This command is available only when you are using clip-select mode in the **Track view**.

Four options are available:

- **Split Once At Time.**   Use this option to split the clip(s) once, at the time you specify.

- **Split Repeatedly at Intervals.**   Use this to split clips at regular intervals, for example, every four measures.

- **Split At Marker Times.**   If the song contains any **Markers**, use this option to split clips at the time of each marker. This option is disabled if the song contains no markers.

- **Split When Silent at Least N Measures.**   Use this option when you want to split clips whenever there is one or more blank measures.   Although this option uses the word "silence", in fact any type of event will cause a measure to be considered "not silent" -- including events that don't make any sound by themselves like Patch or Controller.

Combine clips (Track view right-click menu)

Use this command to combine all of the selected clips into a single clip.

Note: This command is available only when you are using clip-select mode in the **Track view**.

If you select clips from more than one track, they will be combined into a single clip on one track.   To combine clips on only one track at a time, select each track's clips and choose Combine for each track.

Name clips (Track view right-click menu)

Use this command to set the name of the selected clip(s).

Note: This command is available only when you are using clip-select mode in the **Track view**.

View menu

Cakewalk has a variety of views.

Track	View of track parameters and measures.
Tempo	Graphical view of tempo changes.
Meter/Key	List of meter (time signature) changes.
System Exclusive	System Exclusive data generic librarian.
Markers	Markers for times.
Faders	Graphical faders.
Play List	Play a list of songs automatically.
Big Time	Display a window with current time.
Audio Meters	Monitor input levels and free disk space for audio recording.
CAL	CAL program editor.
MIDI Activity	Monitor MIDI input and output.

Views to edit events in tracks:

Piano Roll	Graphical view of a track's notes.
Audio	Graphical view of multiple tracks audio events.
Event List	List of a track's events (all kinds, not just notes).
Controllers	Graphical view of a track's controller data.
Staff	Notes from multiple tracks transcribed on a staff.
Lyric	Page view of a track's Lyric events.

View options:

Auto Activate	Graphical view of a track's notes.
DOS F6 View Keys	Use Cakewalk for DOS F6 shortcut keys
Remember Layout	Save your window positions and sizes.
ToolTips	Turn ToolTips on or off.
Colors	

Track view

The Track view is your main window in Cakewalk.   The window is divided into two main sections (or "panes"):

• On the left is the **Track pane**, where you can view and change track parameters.

• On the right is the **Clips pane**, where you can see and modify the structure of your song, which is reflected in the **clips** on each track.

When you move the cursor over the border between the two panes, it changes to a left/right arrow.   Click and drag the border left or right.

If you double-click on the border, you can toggle the parameters section size between its maximum and whatever other size you had last set by dragging.   (This is similar to maximizing *vs*. restoring a window.)

See Also:
View Menu

Track pane

Use the Track pane to view and change track properties.

To Enter New Values

<u>With the mouse</u>   Double-click on a field

<u>With the keyboard</u>   Use the arrow keys to move the highlight to the field,
                        then press ENTER.

This will let you type in new information directly on the screen, or, it may call up the **<u>Track Properties dialog</u>**.

To Increase and Decrease Values

<u>With the mouse</u>   Click on a field and drag the mouse toward you or
                        away from you.

<u>With the keyboard</u>   Press **+** and   - to add and subtract by 1.
                        Press **]** and **[** to add and subtract by 10.

To Customize the Layout
You can arrange the position and width of the columns using the mouse.   Click in the header row to drag a column to a new position.   If you click near the right edge of a column, you can change its width.

To Edit a Track
Click on a track with the right button, and a popup menu will appear listing the different kinds of Cakewalk track editing views.   Select the type you want, and the view will open for that track.   The menu also contains other common commands.

See Also:
<u>Track parameters</u>
<u>Clips pane</u>
<u>View Menu</u>

Clips pane

Use the clips pane to see and modify the structure of your song, which is reflected in the **clips** on each track.

To Open a View Window
Click on a track with the **RIGHT** mouse button, and a pop up menu will appear listing the different kinds of Cakewalk track editing views.   Select the type you want, and the view will open for that track.   The menu also contains other common commands.

Selecting single clips
You can select a clip in either of two ways:

• Click the mouse button anywhere in the central area of the clip.

-or-

• Position the pointer away from any clip and drag a selection rectangle (also called a lasso) to completely enclose the clip you want to select.

Note: You can also start a lasso by pointing along the outside edges of a clip.   (The mouse cursor changes to indicate which area you are in.)   Clicking here is like clicking on empty space, as if no clip were there.   This is handy for starting a lasso in an area that is very crowded with clips.

If you click on a clip that is not selected, any selected clip will be dropped.

Selecting multiple clips
To select multiple clips (that is, to create a multiple selection):

• Drag a selection rectangle completely around the clips you want to select.

-and/or-

• To add to a selection of one or more clips, hold down the **SHIFT** key as you select additional clips either by clicking them or by dragging a selection rectangle around them.

If you click one clip in a multiple selection, it will remain selected (as will all the other clips in the selection).

If you click a clip that is *not* part of a multiple selection, it will be selected and the multiple selection will be dropped.

To remove a selected clip from a multiple selection, hold the **CTRL** key and click on the clip.

If you hold the **CTRL** key while dragging a selection rectangle around clips, this toggles the selected state of each clip. Selected clips become not selected, and vice versa.

Selecting all or no clips belonging to a track
To select all clips belonging to a track, click on the track's number (the leftmost column) in the Track pane.   If all the clips for that track are already selected, this will select none of them.

Drag and drop of selected clips
After one or more clips are specifically selected, you may drag them to a new location:

1 Click on any selected clip. A rectangle is drawn around all the selected clips.

2 Drag to a new location. The rectangle moves. The clips remain drawn in their original location.

3 Release the mouse button. If the **CTRL** key is held when you release the mouse button, a copy of the clips will be dropped at the new location.. Otherwise, the original clips will be moved to the new location.

Drag and drop works during playback: You do not have to stop first.

Time Selection
• While holding the **ALT** key, click and drag a lasso to select a range of time and a range of tracks.

-and/or-

• Click and drag in the time ruler near the top of the window to select a range of time.

You may click on the track numbers (in the left pane) to add or remove additional tracks from the selection.

In addition some shortcut keys are available:

Shortcuts
    • To set the selection start time ("From") to the current position ("Now"):
    Keyboard: Press **F9**.
    • To set the selection start time ("From") to the start of the song (1:1:0):
    Keyboard: Press **CTRL+F9**.
    • To set the selection end time ("Thru") to the current position ("Now"):
    Keyboard: Press **F10**.
    • To set the selection end time ("Thru") to the end of the song:
    Keyboard: Press **CTRL+F10**.

See Also:
Parameters pane
View Menu

Track properties dialog

Use this dialog box to change many related **track properties**.   Double-clicking or pressing ENTER on the Port, Channel, or Patch fields brings up this dialog.

Changes here happen immediately, before you press OK. This dialog is handy for "orchestrating" while a song plays back, because you can hear the results while you change the "destination" -- port, channel, patch -- and also parameters like key and <u>velocity</u> offset, pan and volume.   You can freely experiment with all of them because pressing Cancel restores all of the original track parameters.   Press OK to keep your changes.

Press the **Configure** button for the **<u>Instruments</u>** command.

What are "clips"?

Each track contains clips.   Each clip contains events.

Instead of events living directly in tracks, events live in clips.   Tracks don't contain events directly -- instead, tracks contain clips, and the clips actually contain the events.

You may use clips to organize material in whatever groups you find meaningful and useful.   Often the music in a track consists of definite sections: Four bars of this theme, four bars of another.   By making each section a clip, you get several benefits.   You can see the "structure" of your song at a glance.   It is easy to select clips by clicking on them, then dragging to move or copy them to another track or time.

When you <u>record</u> something, it is placed in the track as a new clip.

You may split or combine clips in the **<u>Clips pane</u>** of the Track view.   To do so, select the clips, click the right mouse button, and choose **<u>Split</u>** or **<u>Combine</u>** from the popup menu.

Event List view

Use the Event List view to see and edit events from one or more tracks in an alpha-numeric list format.   It is not graphical, but it packs a lot of information into a small space.   In addition, it is the only view which lets you see and edit all types of events -- notes, controllers, patch changes, wave events, text events, etc.

Shortcut
> • To open an Event List from the Track view:
> Mouse: Press the **RIGHT** mouse button and choose **Event List**.

Multiple tracks
Each Event List includes whatever tracks were selected (including the current track) when you opened the window.   To view a different group of tracks, select them, then open a new Event List window.

To insert an event
Press the INSERT key.   Change the event properties.

To delete an event
Press the DELETE key.   This deletes only the event that the cursor is on.   To delete all selected events, choose **Delete** from the Edit menu.

To select events using the mouse

• Click in the leftmost column.   Clicking toggles the selected state of the event.

-or-

• Click and drag up/down in the leftmost column.   This works much like clicking on track numbers in the Track view: If the event you first clicked on became selected, so will the ones you drag over.   If the event you first clicked on became unselected, so will the ones you drag over.

-or-

• Hold the SHIFT key and click to extend the selection from the event with the highlight on it, to the event where you clicked.   This can be quicker than dragging over a long range of events: Set the anchor at one end, scroll, and SHIFT+click to set the other selection end point.

To select events using the keyboard

• Hold the SHIFT key while pressing the UP and DOWN cursor keys.

-or-

• Use CTRL+NumPad5 to **Select All** or NumPad5 to **Select None**.

To Step Play Events
With the   Press **SHIFT+SPACEBAR** to play the highlighted event.   If it's a Note
keyboard   event, the sound will sustain as long as you hold down the
                SPACEBAR.   When you release the **SPACEBAR**, you are
                automatically advanced to the next event.

With the   **CTRL**+click on an event.   If it's a Note event, the sound will sustain
mouse   as long as you hold down the mouse button.

Note: Audio events will not be heard during step-play.

Bank/Patch change dialog

The list of patch names you may pick from depends on the port and MIDI channel of the event.   If the track has a forced MIDI channel, the channel stored for the event is ignored.

You can change which patch names are used for various ports and channels by pressing the **Configure** button, which calls up the **Instruments** command.

See Also:
Event list
View Menu

Event kind dialog

Use this dialog box to change an event from one type to another.   If you are inserting events in the **Event list** view, typically you press the INSERT key to duplicate an existing event, then change its values.

There are various kinds of events.   Cakewalk provides you with standard MIDI events like Notes, Patch changes, and so on.   Plus there are special events that aren't part of MIDI.

MIDI events contain only a small amount of data.   For example, a Note event has a key number (pitch), velocity, and duration.   Cakewalk stores normal MIDI events in such a way that you can cycle among the various kinds without losing data peculiar to a certain kind.   In fact, by temporarily changing a Note event into a KeyAft event, you can get a different view of the same data: you can see the raw MIDI key number instead of Cakewalk's pitch name like "C#4". You can do this using the plus or minus keys or dragging with the mouse, and avoid calling up this dialog box.

But the special kinds of events require more data -- Wave events, for example, require very large amounts of memory!   Cakewalk cannot preserve this data and must release it when you change to another kind of event.   To make sure that's what you intend, Cakewalk makes you press ENTER and use this dialog box if you want to change an event to or from one of these special event types.

See Also:
View Menu

Piano Roll view

The Piano Roll window has two main panes (sections): note and velocity.   When you first open a Piano Roll window, the note pane may be full size and the velocity pane hidden at the bottom.   You can double-click on the gray border bar to "maximize" the velocity pane or drag the gray border to whatever position you wish.

The Piano Roll view shows you whatever was the current track when you first opened it.   To change which track you're viewing, press 🔢 or the **T** key.

Shortcut
   • To open a Piano Roll from the Track view:
   Mouse: Press the RIGHT mouse button and choose **Piano Roll**.

Working in the note pane
There are several tools available:

Mode	Button	Shortcut Key
Select	▶	S
Draw	✎	D
Scrub	⊕	B
Erase	⊘	E

▶   Use **Selection** mode.
✎   Use **Draw** mode to insert brand-new notes and change existing notes.   The **Snap-to** button lets you pick a round-off amount for when you drag and change note start times and durations.
To change an existing note: Which part of the note you click on   -- left, middle, or right -- determines what you can change.
To change...   click on...

Starting time	left third	Drag the note left or right to a new time without affecting the pitch.
Pitch	middle third	Drag the note up or down to a new pitch without affecting the starting time. In this mode, the note will sound as you move to each new pitch step.
Duration	right third	Drag left or right to change the length of the note.

To copy an existing note: Hold the CTRL key and click on the existing note.   Drag the copy to the desired location. The copy will have the same duration and MIDI channel as the original.

⊕   Use **Scrub** mode to drag horizontally over time to hear notes.   This can be handy to find the time where a bad note is, to test how an entire chord sounds after changing the pitch of one of its notes, or to test notes after adjusting their velocities in the velocity pane (see below).
⊘   Use **Erase** mode to erase notes. Drag over the events you wish to erase.
To change other note parameters: Click on a note using the RIGHT mouse button.   A dialog box lets you edit all note parameters, including some that the Piano Roll view doesn't display graphically, like MIDI channel.

Working in the velocity pane:
The velocity pane graphs the velocities of notes appearing above in the note pane.   To modify velocities, click and drag the shape you want.   Remember that velocities are not a separate type of event, they are an attribute of note

events, just like pitch and duration.   So in the velocity pane you are shaping the velocities of existing note events, not creating or destroying "velocity events" (there's no such thing).

To draw a straight line: Hold the **SHIFT** key while clicking, and you can draw a straight line.

Working with percussion parts
Ordinarily the Piano Roll view shows you a picture of a piano keyboard along the left edge of the screen.   A percussion mode is also available.

	Regular Mode	**Drum Mode**
Notes	Drawn as horizontal lines, with varying duration.	Drawn as "diamond" shapes, duration is not displayed.
Labels on the left	A picture of a piano keyboard.	A list of Note Names.

See Also:
Note Names and Drum Mode dialog
View Menu

Note Names and Drum Mode dialog (Piano Roll view)

If you are editing a track that is routed to a percussion instrument, the Piano Roll view will automatically configure itself in drum mode.

Example: Track 5 is assigned to Port 1, Channel 10.   Using the **Instruments** command, you have assigned Port 1, Channel 10 to use the "General MIDI Drums" instrument definition.   That instrument is a drum instrument.   As a result, when you open a Piano Roll view for track 5, the view will automatically configure itself in drum mode.   In addition, that instrument defines names for notes, which are drum kit parts like "Kick", "Snare", and so on.   So the Piano Roll view will list those names along the left edge of the window, instead of drawing a piano keyboard.

You may override the automatic configuration by pointing to the keyboard (or drum note names) along the left edge of the screen, and pressing the RIGHT mouse button.

In the **Note Names and Drum Mode** dialog, choose either of two options:

> **Use the Assigned Instrument Settings.**   This is the default when you open a Piano Roll.   The view follows the settings for whatever Instrument definition is assigned to the track's Port and Channel destination.

> **Use These Settings Instead.**   If you choose this option, you can pick a specific list of Note Names to use. Also, you may turn Drum Mode on or off.   These special settings remain in effect only for the current Piano Roll window.   Whenever you open a new Piano Roll view, the automatic option (**Use the Assigned Instrument Settings**) is used.

See Also:
Piano Roll view

Controllers view

Use the Controllers view to edit <u>Control</u>, Pitch Wheel, and Channel Aftertouch events in a graphical format.   Usually these events occur in groups which describe a shape, for example, a series of Pitch Wheel events with increasing values that create an upward pitch bend.

Shortcuts
     • To open a Controllers view from the Track view:
     Mouse: Press the RIGHT mouse button and choose **Controllers**.

The Controllers view shows you whatever was the current track when you first opened it.   To change which track you're viewing, press 🔼 or the **T** key.

There are several tools available:

<u>Mode</u>	Button	Shortcut Key
Select	▸	S
Draw	✎	D
Line	╲	L
Erase	⊘	E

▸   Use **Selection** mode.
✎   Use **Draw** mode to draw new events of the type and MIDI channel you have selected.   Any existing events of that type are replaced by what you draw.
╲   Use **Straight-line** mode to draw straight lines more easily.   Click and drag to draw the line.
⊘   Use **Erase** mode to erase events.   Drag over the events you wish to erase.
See Also:
<u>View Menu</u>

Staff view

The Staff view presents MIDI sequencer data as staff notation, with interactive editing capabilities.   It is not intended to be a replacement for full-featured music publishing software that addresses the many possible nuances of conventional music notation.   On the other hand, it does an excellent job of converting inexact human performances into notation displaying what you *meant*, rather than the exact timing of what you played.

Shortcuts
  • To open a Staff view from the Track view:
Mouse: Press the RIGHT mouse button and choose **Staff**.

<u>Tools</u>

<u>Simplifying options</u>

<u>Note colors</u>

See Also:
<u>View Menu</u>

Tools (Staff view)
There are several tools available:

Mode	Button	Shortcut Key
Select	↖	S
Draw	✐	D
Erase	⊘	E
Scrub	⬤	B

↖ Use **Select** mode to select events and move them around multiply.   Hold down the **SHIFT** key during selection to extend the existing selection.   For move, all events change by the same delta time, delta pitch and delta track as the "anchor" event clicked on.   Hold down the **CTRL** key during move to copy.   Tap the right mouse button during move to toggle between diatonic (default) and chromatic pitch transposition.   Press **ESCAPE** while moving to quit with no changes.   Press **DELETE** while moving to delete the selected events.

✐ Use **Draw** mode to add, delete, and move individual events.   The type of event is specified by these buttons:

Button	Meaning	Shortcut Key(s)
○	**Whole**	1
𝅝	**Half**	2
♩	**Quarter**	4
♪	**Eighth**	8
♬	**Sixteenth**	6
𝅘𝅥𝅲	**Thirty-second**	3
·	**Dotted**	PERIOD
3	**Triplet**	T
L	**Lyric**	none
C	**Chord**	none
f	**Expression**	none
＜	**Hairpin**	none
℗	**Pedal**	none

The non-note events belong in special, horizontal areas above or below the staff. Exactly how far above or below the staff varies: It depends on what other items (for example, notes) already exist nearby.   The special area might need to move up or down to make room.

To draw a new Chord event, be sure to point to the area *above* the staff. Similarly, to draw a new Lyric, Expression, Hairpin, or Pedal event, point *below* the staff.   As you move the cursor up or down into the correct area, the cursor will change to a pencil and you may click to draw the new item.   A no-drop cursor means you are not at a valid location for the current event type.   An arrow cursor means you're positioned on an existing event.

Note: When the *3* button is on to insert triplet notes, three notes are inserted at once for you -- a complete set of three triplets. Click where you want the first of the three to be located, and release the mouse button.   Next, click and drag each of the other two notes to whatever pitches you want.

Note: When the Pedal button is on, two events are inserted at once for you -- a pedal down and a pedal up. Click where you want the pedal down to be located, and release the mouse button.   Next, click and drag the pedal up to another time if you want.

To copy an existing event: Hold the **CTRL** key and click on the existing note.   Drag the copy to the desired location.   The copy will have the same duration and MIDI channel.

Tap the right mouse button during move to toggle between diatonic (default) and chromatic pitch transposition. Press **ESCAPE** while moving to quit with no changes.   Press **DELETE** while moving to delete the selected events.

⊘   Use **Erase** mode to erase notes.   Drag over the events you wish to erase, or click on them.

Use **Scrub** mode to drag horizontally over time to hear notes.   This can be handy to find the time where a bad note is, to test how an entire chord sounds after changing the pitch of one of its notes, or to test notes after adjusting their velocities in the velocity pane (see below).

To change other event parameters: Click on an event using the **RIGHT** mouse button.   Use the dialog box to edit all parameters, including some that the Staff view doesn't display graphically, like the MIDI channel for a note.

Duration.   The duration in ticks is displayed to the right of the note size buttons as a numeric field.   It resets automatically to match notehead size.   You can also click on the duration numeric field to change it.

Snap.   "Snap" defines fixed legal time positions to round to when you insert new events.   If the Snap checkbox is checked, this feature is enabled.   The Snap amount, the spacing between time positions, is displayed as a numeric field just below the Snap checkbox.   The Snap amount resets automatically to match notehead size and event type. You can also click on the Snap amount numeric field to change it.

See Also:
Staff view

"Simplifying" options (Staff view)
Several options help you display inexact human performances without making the notation too terribly complex.   You may not want to see very small noteheads (like 32nd notes) or separate layers.   The following options are alternatives to using the **Quantize** command to round-off the actual times and durations of the notes: you can preserve the human feel without getting horribly complicated notation.

Fill.   Use the Fill option to round durations up to the next beat (if there would otherwise be a rest).   This is especially effective with chords, because the notes may be released at different times.   However, you may want to turn this off if you are entering notes using the mouse.   Otherwise, you may be confused when you insert an eighth-note in 4/4 time and it looks like a quarter-note, at least until you insert another eighth note immediately following it.

Trim.   Use the Trim option to cut off durations if they extend only a little way past the start of the next note.   This technique helps with legato parts.   As with Fill, you may wish to turn off Trim if you're entering notes precisely using the mouse.

Resolution.   This is similar to **Quantize**, but works on-the-fly without affecting the actual notes' timing for playback.   Also, it uses a different approach to rounding-off the timing that is more appropriate for notation.

See Also:
Staff view

Note colors (Staff view)
Notes change color while they are being played (when you can hear them).   Notes change color this way during playback, and when you drag them or scrub them.   Non-note events change color as well, to indicate the range of music they affect.

To change the color, choose the **View|Options|Colors** command.   The **Screen Element** is called **Note that is on**. Whatever color you pick for that will be used to color the notes in the Staff view.

See Also:
Staff view

Staff printing configuration

Engravers have standardized nine sizes of the five-line staff.   The vertical distance between the lines of each staff is called its *rastral* measurement.   Each rastral size has a number and is used for a specific genre of musical composition by publishers.

The bigger the rastral number, the smaller the size.

	Trade names	Genre usage
0	**Commercial** or **Public**	Wire-bound manuscript
1	**Giant** or **English**	Elementary band and orchestra books; instruction booklets
2	**Regular, Common,** or **Ordinary**	Sheet music, concertos, classics
3	*Same as rastral 2*	Used for works which contain a greater density of symbols
4	**Peter**	Folios, works for organ, etc.
5	**Large middle**	Band/wind ensemble music; sheet music
6	**Small middle**	Chorals; condensed sheet music
7	**Cadenza**	Pocket editions; cues in piano parts; military marches
8	**Pearl**	Thematic advertisement; ossia clarification

See Also:
Staff view
View Menu

Lyrics view

Use this view to create many Lyric events at once, automatically matched to existing notes. Also use this view as a karaoke "teleprompter" which highlights each syllable during playback.

Lyric events are similar to Text events. Like any other event, they occur at a particular time. Like general-purpose Text events, they contain text. But typically a Lyric event contains only a single word (or syllable of a word), and should be at the same time as a corresponding Note event. The Lyrics view makes it easy to type text and split it into individual Lyric events matching Note event times automatically.

Typing lyrics
Type your Lyrics, complete with hyphens (-) between syllables. Use additional hyphens to indicate a syllable sustained over additional notes.

Example:

```
Oh - say can you see, by the dawn's ear-ly light,
What so proud-ly we hailed, at the twi-light's last gleam-ing?
```

The hyphen after the word "Oh" indicates that "Oh" is held over the second note, too. The remaining hyphens in this example simply join the syllables that make up a word.

Example:

Lyrics View:
```
One - - - Five
```

Staff view:

The three hyphens after the word "One" indicate that "One" is held over three additional notes.

Example:

Lyrics View:
```
For--got-ten
```

Staff view:
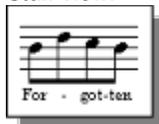
The first hyphen after the syllable "For" will be printed in the Staff view. The second hyphen indicates that "For" should be held over an additional note. The syllable "got" falls on the third note.

> **Tip:** Open a **<u>Staff view</u>** for the same track while you're using the Lyrics view. As you make changes in either window, the other window will update to reflect those changes. Rather than be too concerned about exactly how many hyphens to use, simply experiment and you'll quickly learn to get the results you want.

Flowing to match Note events
As you type, Cakewalk waits until you pause for about one second. Then it automatically creates (or updates) Lyric events in the track. This way the text in the Lyrics view stays "in sync" with the multiple Lyric events in the tracks. Similarly, if you add or change events in the track using another Cakewalk view, the Lyrics view will update to reflect the change.

Cakewalk takes each syllable, finds a note event for it, and creates Lyric event at the same time.   If you have more syllables than notes to match them to, Cakewalk simply assigns the extra lyrics times at quarter-note intervals.   After you later add enough note events, return to the Lyrics view and delete any hyphen ('-') placeholders to force the Lyric event times to be rematched.

You may also view and edit Lyric events one by one in the **<u>Staff</u>** and **<u>Event List</u>** views.

Fonts
The Lyrics view has two different uses: to edit lyrics and to view them during playback.   Thus you may pick two different fonts, and choose between them quickly.   Typically you will choose a smaller font for editing lyrics, and a much bigger font for viewing them.

Printing
The **<u>Print</u>** and **<u>Print Preview</u>** commands are available for the Lyrics view.   All hyphens are automatically removed for printing.

See Also:
<u>View Menu</u>

System Exclusive view

This provides 256 banks for MIDI <u>System Exclusive</u> data.

Each bank can hold any number of System Exclusive messages (up to available memory in Windows 386 Enhanced Mode; up to 1 MB in Windows Standard Mode).

A bank may be marked as **Auto**, which means it will be automatically sent whenever you load the file.   Usually you will want to mark your patch and configuration data bank as **Auto** so your instruments are set up automatically for the song.

See Also:
View Menu

CAL view

Use this view to create <u>CAL</u> programs using a <u>notepad</u>.

Creating "macros" using CAL
You may also **Record** a CAL program, because CAL has many functions which correspond to Cakewalk commands. For example, press the **Record** button in the **CAL view**.   The **Record** button changes to **/Stop/**, to indicate that you're recording a CAL program.   Choose the Open command from the File menu, type in the name of a file ("DEMO.WRK"), and press OK.   Now return to the **CAL view** and press **/Stop/**.   A statement will appear in the notepad, replacing the current selection:

> (FileOpen "DEMO.WRK")

If you now press **Run**, the Open command will be executed just as if you'd chosen it from the menu and typed in the name of the file.

To assign a shortcut key (either a computer keyboard key or MIDI keyboard key) to a Cakewalk command or to a CAL program file, use the **<u>Key Bindings</u>** command.

See Also:
<u>CAL Function Reference</u>
<u>View Menu</u>

Markers view

Markers are a way of associating text with a time.   The time can be a normal musical time, or locked to an absolute real-world time so that if the tempo changes, they will still refer to the same real-world time.   Locked times are useful for indicating cue points when creating music to accompany visuals (film scores, ad jingles, multimedia presentations, etc.)

Anyplace that you can enter a time in a Cakewalk dialog box, you may also select from the list of markers by pressing F5.   The predefined Now, From, and Thru markers are in this list along with any markers that you've defined.   Pick a marker and press OK.   The marker time will be supplied.

See Also:
View Menu

Faders view

The Faders view provides graphical faders (sliders, knobs, and buttons) that generate MIDI <u>controller</u> or Note events as you move them.   The events may also be recorded into tracks.

Fader Properties   **Recording faders movements**

Faders and tracks   **Groups**

Controller and Note events   **Files and Import**

Taking Snapshots   **Fader labels**

See Also:
View Menu

Fader properties (Faders view)
Point to a fader and press the RIGHT mouse button to change its properties:

Track

Controller

Group

Faders and tracks (Faders view)
Each fader is associated with a particular track.   This association has several roles:

(1)   The fader will transmit its MIDI events to the **Port** and **Channel** of the track.   If you want to record fader movements into a particular track -- see below -- then you should associate the fader with that track.

> **Note:** A track can be set to no particular MIDI Channel ("---").   A fader assigned to such a track will be disabled.   There must be some particular channel assigned to a track so that the fader knows where to transmit MIDI events.

(2)   If the track contains events of the fader's type (for example, Volume), then the faders will update as the current time changes: either during playback or when you manually move to a new time.   The fader shows the value for the most recent controller value in the fader's track.   (To disable this, you may remove the check from the **Update** option.)

(3) You may create events in each fader's track in two ways: by taking a snapshot of all the faders or by interactively recording your fader movements.

Controller and Note events (Faders view)
Sliders and **knobs** transmit Controller events as you move them.

Slider and knobs also have a "preview" feature.   Move the cursor directly over the slider's black slot or inside a knob's circle.   The value will temporarily change to show you what value would take effect *if* you clicked.   This is handy for making instant jumps without generating lots of events with values in between the old and new positions.

Buttons transmit Note On and Off events.   Automated mixing consoles respond to these by muting and unmuting mixer channels.

Taking a snapshot of fader positions (Faders view)
When you have arranged the faders the way you want, you may take a snapshot of their positions by pressing the camera button ![camera].   This inserts an event capturing the position of each fader into each fader's track, at the current time.   (If the current time is the beginning, 1:1:0, then faders for Volume or Pan will change their track's corresponding Volume or Pan parameter instead of inserting an event.)

> **Tip:** When you are using the Faders view to create snapshots, remove the check from the **Update** option.   Otherwise, as you move through your song, the faders may change to show you the values at the various times.   That is undesirable if you are trying to set the fader positions, listen to the settings during playback, then create a snapshot -- because the fader positions may change during playback if **Update** is enabled.

Recording faders movements (Faders view)
You can record your fader movements into tracks.   To do so, check the **Record** option in the Faders view.   Start playback.   Now, when you click on a fader, recording starts.   As you drag the fader, each position is recorded into the track as a controller event.   When you release the fader, recording stops.   (Playback continues, so that you may later click to record another series of fader movements.)

If the fader is part of a Group (see below), then all of the other faders in the group will move and be recorded, too.

This recording works in a special "punch-in" mode: controllers of that kind will be muted in the fader's track, and replaced by the new controllers you record.   (Other kinds of events in the track are not muted or replaced, so it's safe to mix controller events and notes in the same track.)   You can click on as many faders as you want; each one will be a separate recording segment for each fader's destination track.

Groups (Faders view)
Each fader may belong to a *group*.   There are sixteen available groups, named **A** through **P**.   Each group may contain any number of faders.   Clicking on any fader that is part of a group will move all of the faders in that group.

Group and Ranges
Each fader has a *range*.   The range determines how the fader moves in relation to other faders in a group.   As you move one fader through its range, the position of each other fader in the group is "interpolated" based on the ranges. By setting the range for each fader, you may construct a variety of interesting relationships between the faders in a group (see Examples).

When you first add a fader to a group, its range is set for you automatically:

- The minimum is set to zero.

- The maximum is set to whatever is required to produce the fader's current position relative to the rest of the group.

In other words, when you add a fader to a group, its range is set to retain the current position, and arrive at zero with the rest of the group.   If you are working with volumes, that is probably exactly the relationship you want, and you may never need to adjust the range.

To adjust a fader's range.
Use the **SHIFT** key to click and drag the fader to a new position.   Its range will be recalculated, so that the fader will be in that position whenever the group is at its current position.   Whether its minimum or maximum position is set depends on whether the entire group is closer to its minimum or maximum.

To set a fader to move in the opposite direction.
1.   Move the whole group to its maximum position (for example, the highest slider is 127).

2.   Hold the **SHIFT** key and click to drag the fader to your desired minimum position (for example, 0).

3.   Move the whole group to its minimum position (for example, the lowest slider is 0).   Use another fader to do this, not the fader whose range you are setting. At this point, the fader may not move at all, because its range may be restricted to a single value.

4.   Hold the **SHIFT** key and click to drag the fader to your desired maximum position (for example, 127).

As a result, this fader will move in a direction opposite of the rest of the group.   When the group is at its maximum position, this fader will be at its minimum.

Group Examples (Faders view)
Following are some examples of interesting fader relationships.   For simplicity, the examples involve a group containing only two faders.

• **Fixed offsets.**   The ranges may be offset.

	Min	Max
Fader #1	0	63
Fader #2	64	127

As you move Fader #1 from 0 through 63, Fader #2 moves from 64 through 127.

• **Fade-outs and fade-ins.**   Faders may have different maximum values, but if their minimum values are set to be zero, they will all approach zero and arrive there at the same time.   Similarly, you may drag them all to zero, then drag them up to the maximum levels -- they will all approach their maximum values and arrive there at the same time.

	Min	Max
Fader #1	0	127
Fader #2	0	100

As you move Fader #1 down from 127 to 0, Fader #2 moves down from 100 to 0.

• **Cross-fades.**   The Minimum value may be greater than the Maximum value.

	Min	Max
Fader #1	0	127
Fader #2	127	0

As you may Fader #1, Fader #2 moves in the opposite direction.

Faders and files (Faders view)
Faders settings are stored in workfiles.   Each workfile contains one Faders view.   You may store Faders settings in template files like NORMAL.TPL so that each new file you create starts with those settings.

Use the **Import** button to steal the Faders view settings from another file.   The faders may be assigned to tracks using an offset.   For example, if the faders in the file are for track 1 through 32, you may specify track 10 as the starting track when you import.   That way, the faders will be assigned to tracks 11 through 42.

Fader labels (Faders view)
A fader is connected to a track.   A track is assigned to a Port and Channel.   Each Port/Channel has an Instrument definition assigned to it.   The Instrument definition provides information about the Controller names the instrument uses.

Fader   Track: Port 1, Chan 16   Instrument for Port 1, Chan 16
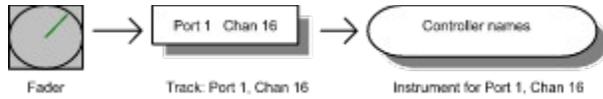
Example: You are using an XYZ synthesizer.   You have connected it to Port 1 and set it to respond to Channel 16.
(1) Use the **Instruments** command to assign the "XYZ" instrument definition to Port 1/Channel 16.   You only need to do this once and it will remain set up for the future.

(2) Now, create a track and set it to Port 1, Channel 16.

(3) Any faders for that track will automatically display the XYZ's Controller names.

Tempo view

Use this view to draw tempo changes.

There are several tools available:

Mode	Button	Shortcut Key
Select		S
Draw		D
Line		L
Erase		E

Use **Selection** mode.
   Tip: If you do this to prepare for using the **Copy** or **Cut** commands, remember to check **Tempo Changes** in the dialog box, and possibly remove the check from the **Track Events** and **Meter Changes** options.   These commands can work on any or all of these.

Use **Draw** mode to draw new events of the type and MIDI channel you have selected.   Any existing events of that type are replaced by what you draw.

Use **Straight-line** mode to draw straight lines more easily.   Click and drag to draw the line.

Use **Erase** mode to erase events.   Drag over the events you wish to erase.

See Also:
View Menu

Meter/Key view

Meter and key signature changes can occur only on measure boundaries.   You can insert, delete, or change any entry in the meter/key map.   The map always has at least one entry, for measure 1, because there must always be some meter and key signature.

Meters
The meter describes how to divide time.   You pick the number of beats per measure, and the value of each beat.

Key signatures
The key signature controls how Cakewalk displays notes.

In the **Event List view** and some dialog boxes, Cakewalk converts the MIDI pitch number to labels like "C#2", or the C-sharp in the 2nd octave.   (Octave 0 corresponds to MIDI pitch number 0, Octave 1 to pitch number 12, and so on. You can change this through the BaseOctave variable in the Cakewalk **initialization file**).

And of course the **Staff view**   needs to know the key signature.

Changing the key signature only changes how Cakewalk displays notes.   To actually transpose pitches, use the **Transpose** command.

See Also:
View Menu

Play List view

Use the **Play List** view to build a list of up to 128 songs.   While one song is playing the next song is pre-loaded from disk, so that it's ready to start without delay when the first one finishes.   Song files may be either Cakewalk files (*.WRK) or Standard MIDI Files (*.MID, *.MFF).

Be sure to check the **On** item if you want playback to follow the list.   Otherwise, Cakewalk will play the current song -- which appears in the caption of the main Cakewalk window.

Changes to songs are not saved
If you make any changes to a song while the play list is **On**, you will *not* be asked if you want to save the changes.   The play list is designed for live performance and will not interrupt list playback to ask this question.   Also, this enables you to make temporary changes to a song while it's playing back for a particular performance, without worrying about changing the actual song file.

For example, you may save a song with a certain section set to **Auto Shuttle**.   This section may be for an open-ended solo or dancing.   The song will repeat that section indefinitely, until you press the Loop button to turn off Auto Shuttle.   Then the song continues on past the section to finish.   Even though the song is changed, you don't want to save the song with looping turned off, and you don't want Cakewalk even to bother asking you about this.   You want to know the original song file is unchanged, ready for your next performance.

Other options
You may set an initial **Delay** for each song.   The delay may be for a number of seconds or be a pause until you press a key to begin the song.

While one song is playing, you may stop it and immediately advance to the next song by pressing the **Next** button.

You may cause Cakewalk to move to a different spot in the list by double-clicking on a particular song.   Whatever song was already loaded and standing by (marked "READY") will be discarded, and the song on which you double-clicked will become the next song instead.   If playback is not underway, then double-clicking simply loads that song as the current song.   You may use the rest of Cakewalk to edit the song.

In addition to using **Add** and **Delete** to change the list, you may drag and drop songs to different places in the list:

To move a song to a new position, click and drag it.
To copy a song to a new position, hold the CONTROL key while you click and drag.

See Also:
View Menu

Big Time view

Use this to display a window with the current time in a large font for high visibility.

To Change the Time Format
Point anywhere in the window and click the **left** mouse button.   The format will change between musical (Measure:Beat:Tick) and SMPTE/MTC (Hours:Minutes:Seconds:Frames) formats.

To Change the Font
Point anywhere in the window and click the **right** mouse button.   Enter the name, size, and color of the font.   Other font attributes in this standard Choose Font dialog box are ignored.

See Also:
View Menu

Auto Activate (View | Options menu)

Normally you <u>activate</u> windows by clicking on them.   With this option enabled, you don't have to click: merely moving the mouse cursor over any window activates it.

You may want to turn off **Auto Activate** if you don't like this behavior, or if your machine is too slow redrawing the windows as they're activated.   If you are using Windows utility software that already provides auto activation ("floating windows") you will also want to add the line WinEat1stClick=0 to the Cakewalk **initialization file**.   You may want to put it below the line "WinAutoActivate=<0 or 1>", which is how Cakewalk stores your preference for **Auto Activate** being off or on.

See Also:
<u>View Menu</u>

DOS F6 View Keys (View | Options menu)

This option is intended for people familiar with Cakewalk for DOS.   It makes the F6 keystrokes act like they do in Cakewalk in DOS.   (This emulation isn't perfect because Cakewalk for Windows has more kinds of "views" and many of them can be visible at once.)

Keystroke	Action
F6	If the active window is an Event list or Piano Roll window, it is closed.
	Activates the parameters pane ("Track View") of the Track view (the "Track View" and "Measure View" are combined in Cakewalk for Windows).
SHIFT+F6	If the active window is an Event list or Piano Roll window, it is closed.
	Activates the clips pane ("Measure View") of the Track view (the "Track View" and "Measure View" are combined in Cakewalk for Windows).
CTRL+F6	Opens an Event list window ("Event View"), or, if one is already open, activates it.
ALT+F6	Opens a Piano Roll window ("Note View"), or, if one is already open, activates it.

___
* Normally in Windows programs, **CTRL+F6** takes you to the next window in an application.   That standard meaning is ignored when this option is enabled.

See Also:
View Menu

Remember Layout (View | Options menu)

While this option is on, whenever you exit Cakewalk it saves the size and position of your windows.   They are restored the next time you start Cakewalk.   (Windows associated with particular tracks for editing -- the Staff, Piano Roll, Event List, and Controller views, are not saved.   These change each time you load a different file.)

When you turn this option off, Cakewalk asks if you want to restore the "factory default" layout.   If you answer *Yes*, then the "factory default" window positions will be used the next time you start Cakewalk.   If you answer *No*, Cakewalk use whatever layout was last saved.

To set up a layout and protect it from changing:
1.   Turn *on* **Remember Layout**.

2.   Arrange your windows as desired.

3.   Use **Exit** to quit Cakewalk.

4.   Turn *off* **Remember Layout**, and answer *No* to the "Restore 'factory default' layout?" question.

See Also:
View Menu

ToolTips (View | Options menu)

Use this command to turn ToolTips on or off.

ToolTips are text explanations that appear when the pointer is placed over a graphical button.

See Also:
View Menu

Colors (View | Options menu)

You may choose what colors Cakewalk will use for various kinds of screen elements in many of its views.

The dialog box presents two lists.   The **Screen Elements** are categories of things that Cakewalk displays on the screen.   Select an element.   Then use the list on the right, **Colors**, to select which color you want used for that element.

You may restore all of the screen elements to their factory default settings by pressing the **Default** button.

There are two kinds of colors: *direct* colors like Black, Blue, and Red, and *system* colors, like "System Color: Window text" and "System Color: Button Face".   The system colors correspond to some of the colors you set using Windows Control Panel's Colors icon.   For example, out of the box, for the screen element "Window Text" Cakewalk uses the system color "System Color: Window text" .   That way, Cakewalk uses the same color for text as all of your Windows programs.

Screen Elements
Except where noted below, the views which follow this color scheme are the Track, Piano Roll, Controllers, Event List and Tempo views.   Dialog boxes and other views use their own, hardwired colors, although these usually follow the colors you've set for those kinds of screen elements as defined by Windows in Control Panel.

> **Tip***: Don't set any other screen element to the same color as that used by "Window Background", or you'll make the screen element invisible!

Screen element	Explanation
Window Background	Background color
Window Text	Text color
Rules	Rules (lines used to mark values or time)
Major Rules	Major lines (lines used to mark larger intervals of values or time)
Values	Color of notes and velocities in Piano Roll view, controllers in Controllers view, and tempo changes in Tempo view.
Drawing	Color used to show your drawing in Piano Roll, Controllers, and Tempo views.
Erasing	Color used to show your erasing in Piano Roll, Controllers, and Tempo views.
Event List Note	Color of Note events in Event List view
Event List KeyAft	Color of KeyAft events in Event List view
Event List Control	Color of Control events in Event List view
Event List Patch	Color of Patch events in Event List view
Event List ChanAft	Color of ChanAft events in Event List view
Event List Wheel	Color of Wheel events in Event List view
Event List Sysx	Color of Sysx events in Event List view
Event List 'Special'	Color of other, 'Special' events in Event List view
Note that is on	Color of notes that are highlighted in the Staff view while they are being played

See Also:
View Menu

Insert menu

Commands on the insert menu let you insert things into your song.

Bank/Patch	Insert a Bank/Patch change.
Wave File	Insert a digital audio .WAV file.
Tempo	Insert a Tempo change.
Meter/Key	Insert a Meter/Key change.
Series of Controllers	Insert a series of <u>controller</u> events.
Series of Tempos	Insert a series of Tempo changes.

Bank/Patch (Insert menu)

Use this command to add a Bank/Patch change to the current track at the current time.   This is a shortcut for inserting the event in a track using the **Event List view**.   After you insert an event, you may change or delete it using the Event List view.

> **Note:** If the current time is the beginning of your song -- 1:1:0 -- then this command will change the current track's Bank and Patch parameters.   Using these track parameters is better than inserting an event at 1:1:0.   Cakewalk sends the parameters before playback begins.   This gives your instruments more time to respond and have the desired sound ready.

See Also:
Insert Menu

Wave File (Insert menu)

Use this command to create audio event(s) from a .WAV file, and insert the events into the current track at the current time.   This is a shortcut for inserting the event in a track using the **Event List view**.

If the .WAV file is stereo, you have a choice of splitting the left and right channels into two separate events, or merging the left and right channels into a mono event.   If you opt for splitting the channels, then the left channels event will be placed in the current track, and the right channels event will be placed in the next consecutive track.

Inserting a .WAV will automatically route the track(s) to an audio destination if necessary.

See Also:
Insert Menu
Audio View

Tempo (Insert menu)

Use this command to modify the most recent tempo change, or, to insert a brand new tempo at a specified time.

To modify the most recent tempo change
(1) Specify the tempo you want.   Either:

    (a) Type a value in the **Tempo** field

    - or -

    (b) Click the **Click here to tap tempo** item at the desired rate.

(2) Choose **Change the Most Recent Tempo**.

(3) Press **OK**.

To insert a brand new tempo change

(1) Specify the tempo you want.   Either:

    (a) Type a value in the **Tempo** field

    - or -

    (b) Click the **Click here to tap tempo** item at the desired rate.

(2) Choose **Insert a New Tempo**.

(3) Type a time for it to occur in the **Starting at Time** item.

(4) Press **OK**.

You can also create tempo changes by drawing in the **Tempo view**.   The **Insert Series of Tempos** command is a way to insert a whole series of tempos, for example, an accelerando or ritard.

See Also:
Insert Menu

Meter/Key (Insert menu)

Use this command to insert a single Meter/Key Signature change.

You can also add, change, and delete Meter/Key Signatures using the **Meter/Key view**.

See Also:
Insert Menu

Series of Controllers (Insert menu)

Use this command to insert a series of MIDI <u>controller</u> or pitch wheel events.   The data values can range from one value to another over time.

In the dialog box, you pick a controller type, a MIDI channel, a starting and ending value for the controller, and a starting and ending time (the size of the selection is proposed as a default).   Cakewalk inserts a series of controller events so that the value changes smoothly over time from the starting to the ending value.   **Insert Series of Controllers** never inserts more than one event on the same tick.   If there are any existing controllers of that type in the time region, they are deleted before the new ones are inserted.

You can also create controller changes by drawing in the **<u>Controllers view</u>**.   Drawing is more flexible: you can draw any shape, whereas **Insert Series of Controllers** creates only linear (straight line) changes.   However, **Insert Series of Controllers** can create a smooth change over a very long period of time, which might be difficult to draw by hand.

See Also:
<u>Insert Menu</u>

Series of Tempos (Insert menu)

Use this command to insert a series of tempo changes.

In the dialog box, you pick a starting and ending tempo, a step value, and a starting and ending time (the size of the selection is proposed as a default).   Cakewalk inserts a series of tempo changes so that the values change smoothly over time from the starting to the ending value.   **Series of Tempos** never inserts more than one tempo on the same tick.   If there are any existing tempo changes in the time region, they are deleted before the new ones are inserted.

You can also create tempo changes by drawing in the **Tempo view**.   Drawing is more flexible: you can draw any shape, whereas **Series of Tempos** creates only linear (straight line) changes.   However, **Series of Tempos** can create an even change over a very long period of time, which might be difficult for you to draw by hand.

See Also:
Insert Menu

Tempo Ratio

Use this command to control the current tempo ratio.

The tempo ratios are values by which the base tempo is multiplied during playback.   For example, a ratio of 0.50 makes the real tempo one-half the base tempo, while a ratio of 2.00 makes it twice as fast.   The ratios do not change the shape of the underlying tempo graph; they affect all the changes by the same ratio.

> **Tip:** Use the three tempo ratios for a slow, normal, and fast forward facility.   The default ratio values are set for that use.

> **Note:** Tempo ratios have no effect during SMPTE\MTC sync because the real tempo values are used for tick-to-frame conversions.   Similarly, tempo ratios have no effect when the clock source is MIDI Sync.

See Also:
View Menu

Snap-To

The Snap button lets you pick a round-off amount for start times and durations.   When you move or copy a selection using drag and drop, the start time of the entire selection is rounded to the nearest Snap-To duration.

In the Snap-To dialog box, select the note resolution and click OK.   You can choose from the predetermined note resolution or enter a numeric value between 1 and the whole-note tick resolution.

MIDI Activity (View menu)

Cakewalk provides an optional MIDI activity monitor which is displayed on the Windows 95 task bar.   Use this command to enable or disable this feature.

The display is an image of a keyboard with two tiny light bulbs:

- The **left** bulb lights up whenever MIDI data is being **received**.

- The **right** bulb lights up whenever MIDI data is being **sent**.

This activity pertains only to MIDI ports which are currently open by Cakewalk.   To change these ports, choose the **MIDI Devices** command on the **Settings** menu.

See Also:
View Menu

Realtime menu

The Realtime menu contains commands relating to recording and playback.

Play
Record
Rewind
Step Record   Record notes one step at a time
Auto Shuttle   Set rewind, stop, and restart times
Record Mode   Whether recorded material is blended with or overwrites existing material.
Reject Loop Take   Reject the last loop recording take.
Update Patch Cache   Update patches on sound cards which require "caching".
Panic   Turn off all notes, lift all pedals, and center all wheels.

Play (Realtime menu)

Use this command to start and stop playback.

Shortcuts

Toolbar: ▶

Keys: SPACEBAR

The "panic" button on the control bar also stops playback -- plus it turns all notes off and zeroes all continuous controllers.

The loop button on the control bar is a short-cut for selecting **Auto Shuttle** and checking all the options. *Double*-clicking this button (when it's off) calls up the full **Auto Shuttle** dialog.

See Also:

Realtime Menu

Record (Realtime menu)

Use this command to start and stop recording.

Shortcuts
Toolbar: ⬤
Keys: R

Anytime during playback, you may press the **Record** button to begin recording. You may press it again to stop recording but let playback continue.   You may repeat this indefinitely (starting and stopping recording while letting playback continue) to record multiple segments of material.

When you stop recording and playback, if anything was recorded it is automatically kept. You can change your mind using **Undo** and **Redo**.

Layered loop recording

If you have full looping set using **Auto Shuttle**, then you may accumulate many record takes, layering them on top of each other.

If you record anything during a loop, you will hear it play back immediately on the next loop.   Until you record something new (or until you stop recording), that is the most recent take, and you may reject it using **Reject Loop Take** without stopping recording.

Changing tracks while recording

With both normal and loop recording, you may switch to a new track in the Track view.   Cakewalk will place whatever you record during that segment on that track.   For example, during loop recording you may move the cursor to a new track.   All loop takes from that point on will be destined for that track.   With normal recording, you may move the cursor to a different track for each time you turn on recording.

See Also:
Auto Shuttle
Record Mode
Realtime Menu

Rewind (Realtime menu)

Use this command to rewind to the beginning, or, to the optional **Auto Shuttle** rewind time.   This command also stops playback.

Shortcuts
Toolbar: ◄◄
Keys: W

See Also:
Realtime Menu

Step Record (Realtime menu)

Use this command to record music one rhythmic step at a time.

Note that you step-record while *inside* the step-record dialog box.   Once you exit the dialog, you are no longer in step-record mode.

Shortcuts

Toolbar:

Keys: SHIFT+F3

See Also:

Realtime Menu

"Step Record" in the *User's Guide* for details.

Auto Shuttle (Realtime menu)

Auto Shuttle provides various options for automatically stopping, rewinding, and restarting playback under certain conditions.

Rewind To rewinds to a time you specify whenever playback or recording is stopped.

Stop At stops playback or recording at a time you specify.

Restart restarts playback whenever it is stopped -- except when you stop playback manually.   For example, it restarts if playback was stopped automatically by **Stop At**, if the end of the work was reached, or if you pressed the Rewind button.

Full looping
If all three options are enabled, this results in looping of all tracks between the rewind time to the stop time.   This looping may have a slight delay associated with it, especially if you have certain **MIDI Out** settings turned on.

If you **Record** with full looping, you may layer multiple takes.

Shortcuts
    Toolbar: ⬚
    Keys: none

Auto Shuttle and synchronization
If the clock is set to **MIDI Sync or SMPTE/MTC Sync**, checking the **Restart** option is handy for a "chase mode": when playback stops, Cakewalk will restart, which means waiting for sync mode.   You can start and stop playback on the tape deck or drum machine and Cakewalk will follow.   (The **Stop At** and **Rewind To** are ignored when you are using synchronization.

See Also:
Realtime Menu

Record Mode (Realtime menu)

There are three modes available for recording.

Sound On Sound
Existing material is not erased.   The new material is blended with it.

Overwrite Mode
Existing material is erased.

Auto Punch
Auto Punch is a form of overwrite mode where you specify the times to start and stop recording.   Use this when you want to be careful that you record new material only within a specified time range, and when you want the new material to overwrite the existing material.

Once you have set the **Punch In Time** and **Punch Out Time**, you are ready to begin recording:

Press the **Record** button ⏺ on the Control bar.

  (1) Cakewalk deletes any existing material between the **Punch In Time** and **Punch Out Time**.

  (2) Even though recording appears to be on, nothing you play on the keyboard *before* the **Punch In Time** or *after* the **Punch Out Time** will actually be recorded.   Only what you play in *between* those times is recorded.

When you stop recording, you may decide to change your mind.   Choosing **Undo** both (1) restores the original events that had been deleted and (2) discards any new events that had been recorded.

Recording Digital Audio
Digital audio is always recorded using Sound on Sound mode.   Also, digital audio recording commences as soon as the record button is pressed, even if Auto Punch mode is active.

See Also:
Realtime Menu

Reject Loop Take (Realtime menu)

If you **Record** with full looping (using **Auto Shuttle**), then you may accumulate many record takes, layering them on top of each other.

If you record anything during a loop, you will hear it play back immediately on the next loop.   Until you record something new, that is the most recent take, and you may reject it using **Reject Loop Take** without stopping recording.

This command is enabled if there is a prior loop take to reject, and you haven't stopped recording and playback. Once you stop, this command is disabled: then, you may use **Undo** to reject <u>all</u> of the material you recorded.

Shortcut
    Key: CTRL+SPACEBAR

See Also:
Realtime Menu

Update Patch Cache (Realtime menu)

This command is enabled only if you're using one or more sound cards which require "patch caching".   After making changes to your song which result in patch change events being added, changed, or deleted, you may need to choose **Update Patch Cache** to force the sound card to load the required sounds from disk storage.

See Also:
Realtime Menu

Panic (Realtime menu)

Use this command to silence everything.   **Panic** turns off all notes, lifts the sustain pedal, and centers pitch bend and modulation wheels.

See Also:
Realtime Menu

GoTo menu

The **GoTo** menu contains commands for going to a different time in the work.

Time	Enter a specific time to go to
From	Go to the time in the From marker
Thru	Go to the time in the Thru marker
Beginning	Go to the start of the work (1:1:0)
End	Go to the end of the work
Previous Measure	Go to start of this or previous measure
Next Measure	Go to end of this or next measure
Search	Go to the next event that meets criteria you supply
Search Next	Find the next event that meets the criteria you specified in the last Search.

Time (GoTo menu)

Use this command to enter a specific time to go to.   The Now marker reflects the change.

Shortcut
    Key: **F5**

See Also:
GoTo Menu

From (GoTo menu)

Use this command to go to the time of the earliest selected item.

Shortcut
    Key: **F7**

See Also:
GoTo Menu

Thru (GoTo menu)

Use this command to go to the time of the latest selected item.

Shortcut
    Key: **F8**

See Also:
GoTo Menu

Beginning (GoTo menu)

Use this command to go to the beginning (1:1:0).

Shortcut
    Key: **CTRL+HOME**

See Also:
GoTo Menu

End (GoTo menu)

Use this command to go to the end (the time of the latest event among all of the tracks).

Shortcut
Key: **CTRL+END**

See Also:
GoTo Menu

Previous Measure (GoTo menu)

If you are in the middle of a measure, this takes you to the start of that measure.

If you are already at the start of the measure, takes you to the start of the previous measure.

Shortcut
    Key: **CTRL+PAGEUP**

See Also:
GoTo Menu

Next Measure (GoTo menu)

If you are in the middle of a measure, this takes you to the end of that measure.

If you are already at the end of the measure, takes you to the end of the next measure.

Shortcut
    Key: **CTRL+PAGEDOWN**

See Also:
GoTo Menu

Search (GoTo menu)

Use this command to find an event at or later than the current time which meets certain criteria that you specify in an Event Filter.

See Also:
GoTo Menu

Search Next (GoTo menu)

Use this command to find the next event that matches your previous **Search** command.

Shortcut
    Key: **F3**

See Also:
GoTo Menu

Track menu

Most of the Track commands correspond to properties in the **Track pane** of the Track/Measure view.   The advantage of these command equivalents is that they let you change a property for many tracks at once.   The following topics discuss each track property:

Name
Status
Archive
Key+
Vel+
Time+
Port
Channel
Bank
Patch
Pan
Volume

The following commands do not correspond to track parameters.   They are commands that operate on tracks:

Solo	Mute all tracks except the current track.
Un-solo	Restore the muted settings of tracks.
Clone	Back up a track, putting a clone of it on another track.
Wipe	Delete all events; don't reset track parameters.
Kill	Delete all events and reset all parameters to defaults.
Sort	Sort tracks.

Name (Track menu)

Each track has a name, which you may use for any purpose you wish.

Use this command to change the name of all the selected tracks at once.

See Also:
Track Menu

Status (Track menu)

Muted tracks are silent, but may be un-muted instantly during playback.

Use this command to toggle the muted status of all selected tracks at once.   "Toggle" means that non-muted tracks become muted, and vice versa.

See Also:
Archive
Track Menu

Archive (Track menu)

Archived tracks are "super-muted": they can't be un-muted during playback.

Why would you want to do this?   If you have a large number of muted tracks (for instance, with different versions of solos, or bits of thematic material), you may encounter timing problems.   Cakewalk still processes muted tracks during playback so that it can be ready to un-mute them instantly at your command.   Archiving them means you "promise" not to un-mute those tracks during playback.   Thus they can be ignored, possibly improving performance.

Use this command to toggle the archived status of all selected tracks at once.   "Toggle" means that non-Archived tracks become Archived, and vice versa.

See Also:
Status (muting tracks)
Track Menu

Key+ (Track menu)

The **Key+** parameter is an amount added to the MIDI key number (pitch) of all note events in the track.   It is an on-the-fly transposition that does *not* change the key number that is actually stored for each note event.   **Transpose** lets you do the latter.

Use this command to change the Key+ parameter for all selected tracks at once.

See Also:
Track Menu

Vel+ (Track menu)

The **Vel+** parameter is an amount added to the <u>velocity</u> of all note events in the track.   This parameter is an on-the-fly transposition that does *not* change the velocity that is actually stored for each note event.

Use this command to change the Vel+ parameter for all selected tracks at once.

See Also:
<u>Track Menu</u>

Time+ (Track menu)

The **Time+** parameter is an amount added to the starting time of all the events in the track.   This parameter is an on-the-fly transposition that does *not* change the time actually stored for each event.   (The **Slide** command lets you do the latter.)

Use this command to change the Time+ parameter for all selected tracks at once.

See Also:
Track Menu

Port (Track menu)

The **Port** parameter controls which port tracks will be routed to.   Ports correspond to one or more MIDI Out devices that you've set up using **MIDI Devices**.

Use this command to change the Port parameter of all selected tracks at once.

See Also:
Track Menu

Channel (Track menu)

The **Channel** parameter forces all events in a track to be transmitted to a particular MIDI channel.   Each event has a MIDI channel stored actually stored with it, so the Channel parameter can also be none ("--"), which allows a track to contain events for multiple MIDI channels.

Use this command to change the Channel parameter of all selected track(s) at once.

See Also:
<u>Track Menu</u>

Bank (Track menu)

The **Bank** parameter is for transmitting a Bank Select message before playback starts.   Tracks may contain actual bank/patch change events, for example to change sounds midway through a track.   For that, use the **Insert Bank/Patch** command or the **Event List view**.   Using the Patch parameter is easier when a track uses the same patch for its entire length.

If you want to use the Bank parameter, you must also give the track a forced MIDI channel using the **Channel** parameter.   Otherwise Cakewalk won't know what MIDI channel to use for the bank select.

Use this command to change the Bank parameter of all selected tracks at once.

See Also:
Track Menu

Patch (Track menu)

The **Patch** parameter is for transmitting a <u>patch change</u> before playback starts.   Tracks may contain actual patch change events, for example to change patches midway through a track.   For that, use the **Insert Bank/Patch** command or the **Event List view**.   Using the Patch parameter is easier when a track uses the same patch for its entire length.

If you want to use the Patch parameter, you must also give the track a forced MIDI channel using the **Channel** parameter.   Otherwise Cakewalk won't know what MIDI channel to use for the patch change.

Use this command to change the Patch parameter of all selected tracks at once.

See Also:
Track Menu

Pan (Track menu)

The **Pan** parameter is for transmitting a MIDI Pan (10) <u>controller</u> event before playback starts.   Tracks may contain actual pan events, for example to change panning midway through a track.   For that, use the **<u>Controllers view</u>**.   But using the Pan parameter is easier when a track needs only a single pan setting for its whole length.

If you want to use the Pan parameter, you must also give the track a forced MIDI channel using the **<u>Channel</u>** parameter.   Otherwise Cakewalk won't know what MIDI channel to use for the pan event.

Use this command to change the Pan parameter of all selected tracks at once.

See Also:
<u>Track Menu</u>

Volume (Track menu)

The **Volume** parameter is for transmitting a MIDI Volume (7) <u>controller</u> event before playback starts.   Tracks may contain actual volume events, for example to change volume midway through a track.   For that, use the **<u>Controllers view</u>**.   But using the Volume parameter is easier when a track needs only a single volume setting for its whole length.

If you want to use the Volume parameter, you must also give the track a forced MIDI channel using the **<u>Channel</u>** parameter.   Otherwise Cakewalk won't know what MIDI channel to use for the volume event.

Use this command to change the Volume parameter of all selected tracks at once.

See Also:
<u>Track Menu</u>

Solo (Track menu)

Use this command to mute all tracks except the current track.

The original track muted settings are restored when you select **Un-solo**.

Shortcut
    Key: **/ (SLASH)**

See Also:
Track Menu

Un-solo (Track menu)

Use this command to restore the track mute settings that were in effect before you used **Solo**.

Shortcut
    Key: **\ (BACKSLASH KEY)**

See Also:
Track Menu

Wipe (Track menu)

Use this command to deletes all events from all selected tracks.

Unlike **Kill**, **Wipe** preserves the tracks' parameters like the Name, Port, Patch, and so on.

Like **Kill**, the events are not Cut to the scrap buffer, they are simply deleted.   The From and Thru markers are ignored -- *all* events in the selected track(s) are wiped out.

See Also:
Track Menu

Kill (Track menu)

Use this command to clear all selected tracks.   The events are not Cut to the scrap buffer, they are simply deleted. The From and Thru markers are ignored -- *all* events in the selected track(s) are killed.

See Also:
Wipe
Track Menu

Clone (Track menu)

Use this command to copy the selected track's events and/or all its parameters to another track.

Useful for quickly making a back-up copy of a track before embarking on some major editing operation, or to double a part on a different MIDI channel.

See Also:
Track Menu

Sort (Track menu)

Use this command to sort tracks using one of the track parameters as the sort key.

Example 1: Pick *Name* for the key to **Sort By** and *Ascending* for the sort **Order**.   Tracks will be sorted alphabetically by name.

Example 2: Pick *Size* for the key to **Sort By** and *Descending* for the sort **Order**.   Tracks will be sorted in order from those with the most to those with the fewest events.

Sort uses a "stable" sort method, which means that it tends to preserve the ordering from the previous sort.   For instance, if you performed the two example sorts listed above, tracks would be sorted by decreasing Size, but any two tracks with the same Size would be sorted alphabetically by Name.   That's because the sort by Size tends to preserve the earlier sort by Name.

Blank tracks -- those with no parameters or events -- are moved to the end when sorting.

See Also:
Track Menu

Window menu

Tile in Rows
Tile in Columns
Cascade
Arrange Icons
Close All
Minimize All

Tile In Rows (Window menu)

Use this command to arrange all windows so that they're side-by-side (tiled) in rows.   This way, windows tend to be wider than they are higher.

See Also:
Window Menu

Tile In Columns (Window menu)

Use this command to arrange all windows so that they're side-by-side (tiled) in columns.   This way, windows tend to be higher than they are wider.

See Also:
Window Menu

Cascade (Window menu)

Use this command to arrange windows stacked over one another but with at least the caption bar of each window visible.

See Also:
Window Menu

Arrange Icons (Window menu)

Use this command to arrange icons (minimized windows) so that they're in a neat row starting at the bottom left corner.

See Also:
Window Menu

Close All (Window menu)

Use this command to close all windows except the Track/Measure view.

See Also:
Window Menu

Minimize All (Window menu)

Use this command to minimize (make into an icon) all windows except the Track/Measure view.

See Also:
Window Menu

Tools menu

The Tools menu contains commands for starting other programs and utilities.

Depending on the options you chose when you installed Cakewalk, you may have the following two items on the Tools menu:

Virtual Piano	Start or switch to the Virtual Piano accessory program.
Virtual Jukebox	Start the Virtual Jukebox accessory program.

You may see additional items on this menu: Cakewalk provides a way for software from other companies to add itself to this menu.   For example, certain wave editor applications may do this.

Note: This version of Cakewalk does not provide a way for you to modify this menu.   Currently this capability is provided only for other software programs.

Virtual Piano (Realtime menu)

Use the Virtual Piano's software keyboard to record music when you do not have a MIDI keyboard.

The Virtual Piano is a separate accessory program.   When you choose this command, Cakewalk starts the Virtual Piano.   If the Virtual Piano is already started, Cakewalk activates it.

Shortcut
- To start or switch to Virtual Piano:
Keyboard: **CTRL+K**.
- To switch back to Cakewalk:
Keyboard: **CTRL+K**.

See Also:
Tools Menu

Settings menu

The Settings menu contains commands for setting various parameters and options.

Clock
Metronome
Timebase
MIDI Devices
MIDI Output
MIDI Echo
Channel Filter
Type Filter
Channel Table
Time Format
Assign Instruments
Key Bindings
Initialization Files
Auto Save

Clock (Settings menu)

Use this command to change the clock source to one of the following:

Internal Clock
This follows the computer's internal clock.

MIDI Sync
MIDI <u>synchronization</u> makes Cakewalk follow another device that is sending MIDI Sync to the computer's MIDI In port.

SMPTE/MTC
SMPTE/MTC <u>synchronization</u> makes Cakewalk follow another device that is sending SMPTE/MTC timecode to the computer's MIDI In port.   Some MIDI interfaces have a special SMPTE jack to read timecode directly.   You may also use a device that converts SMPTE to MTC for sending over a MIDI cable.

Audio
Use Audio synchronization when your song contains any audio events.   Cakewalk will follow the clock rate of the digital audio hardware.

Shortcut
    Toolbar: A single button advances through these options as you click it:

            Internal Clock

   MIDI Sync

   SMPTE/MTC

   Audio
See Also:
Settings Menu
"Synchronization" appendix in the *User's Guide*, for a full discussion of synchronization methods.

Metronome (Settings menu)

Use this command to control the sound of the metronome.

The left column of items lets you pick various options about when you want to hear the metronome.   (Even if **Recording** is not checked, the metronome will be heard during the **Count-in**, if any, then will stop once recording actually begins.)

The right section lets you specify two MIDI notes that will be played as metronome "ticks".   On note is played on the first beat, the other on other beats.   The default key numbers are those used by most drum machines for a kick drum and a closed hi-hat.   MIDI channel 10 is a popular convention for drum machines, so that is also provided as a default.

Metronome and Audio Sync
The **Count-in** value is ignored during Audio Sync mode.

See Also:
Settings Menu

Timebase (Settings menu)

Use this command to set the timing resolution.

The timebase is also known as PPQ: "Pulses Per Quarter-note".   This is the number of clock ticks that a quarter-note is worth.   Generally, higher values provide more precision, but many people are not sensitive to much improvement using a timebase greater than 120 PPQ.   The computer has to work harder to provide higher timebases, so if you cannot hear the difference, it is probably best to stick with the default value of 120 PPQ.

See Also:
Settings Menu

MIDI Devices (Settings menu)

Use this command to select MIDI input and output devices.

Input and Output devices
You may pick any number of available MIDI input and output devices.   However:

- For **playback** to work, you must select at least one **Output** device.

- For **recording** to work, you must select at least one **Input** device.

The lists of devices show drivers which you have already installed using the "Drivers" icon of the Windows Control Panel.   Cakewalk lists only MIDI input and output devices, not other kinds of devices.

MIDI Out devices are assigned to Cakewalk port numbers in the order they are listed.   For example, if "MPU-401" is above "Sound Blaster" in the list and you select both, port 1 in Cakewalk is the MPU-401 and port 2 is the Sound Blaster.   To rearrange the order, select one or more items, then press the **Move Selected to Top** button.

See Also:
Settings Menu
README.WRI file -- which you may view using **Help/View README.WRI** -- may contain specific instructions and tips for the kind of devices you're using.

Assign Instruments (Settings menu)

Use this command to assign an instrument definition to each port and channel.

Because you may have different kinds of instruments connected to various ports and channels, Cakewalk lets you specify an "instrument definition" for each port and channel.   Once you set this up, a number of features throughout Cakewalk will work automatically.   The instrument definition tells Cakewalk a number of things about the synthesizer, including:

- What names to use for patches, notes, and controllers.

- Whether the instrument provides drum sounds.

- What Bank Select method the instrument uses.

Using the dialog box
You can select more than one item at a time in the **Port / Channel** list on the left.   If they share the same instrument definition, its name will be selected (highlighted) in the list on right.   To change the assignments, first select one or more items from the **Port / Channel** list on the left, then click on the desired Instrument on the right.

If your instrument is not in the list, you may want to try using the General MIDI and General MIDI Drums instrument definitions.   You may also create your own instrument definitions, by pressing the **Define** button.

Many synthesizers have a special channel -- usually channel 10 -- which acts like a percussion instrument.   Be sure to assign a drum instrument (if available) to that channel.

Example: Assign channel 10 to use the "General MIDI Drums" instrument.   Assign all of the other channels to use the "General MIDI" instrument.

Save changes
If you want your changes to be remembered the next time you run Cakewalk, make sure the **Save Changes For Next Session** option is checked before pressing **OK**.   Otherwise, to make only temporary changes, be sure to remove the check from that option.

See Also:
Defining your own instruments
Defining your own names
Settings Menu

Define Instruments dialog

Use this dialog box to create, change, rename, or delete an instrument definition.

Instrument
Use this dropdown list to select the instrument definition you want to work on.

New.   Use this button to create a new instrument definition.   Supply a title for the new instrument definition.

Copy.   Use this button to create a new instrument definition that is a copy of an existing instrument definition.   Select the instrument definition you want to make a copy of, then press this button.   Supply a title for the new instrument definition.

Rename.   Use this button to give an existing instrument definition a new title.   Select the instrument definition you want to rename, then press this button.

Delete.   Use this button to delete an existing instrument definition.   If the instrument definition is in use by a Port/Channel, you will be warned.   (If you delete it anyway, the Port/Channel will be changed to use the "General MIDI" instrument definition.)

Instrument Definition
An instrument definition describes an instrument in ways that make it easier to work with using Cakewalk.

Remember that MIDI allows an instrument to support up to 16,384 **banks** of 128 **patches** each.   Cakewalk permits each instrument to have 16,384 unique sets of Patch Names.   In addition, each patch may have its own set of 128 Note Names, so Cakewalk permits each instrument to have 2 million (16,384 times 128) unique sets of Note Names. In practice, of course, you are unlikely to come close to these limits.
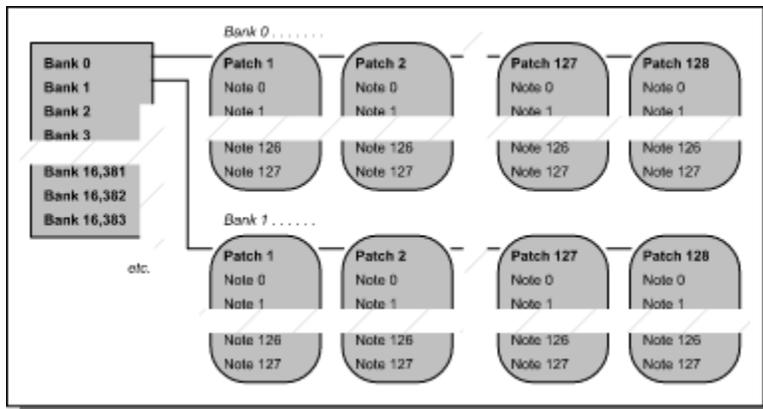
Mapping of Banks to Patch Names
For each bank, you may select a list of Patch Names to use.   The special choice, **[All]**, lets you specify a Patch Name list to use for all the other banks (the ones which you haven't assigned a specific list.)

Bank	Uses Patch Name list
[All]	"0..127"
0	"Bank A"
1	"Bank B"
	"Bank C"
16,382	none
16,383	none

"Bank A"
0=Piano
1=Bass
2=Harpsichord
...
127=Gun shot

"Bank B"
0=Elec Piano
1=Dist Guitar
2=Sitar
...
127=Homer "Doh"
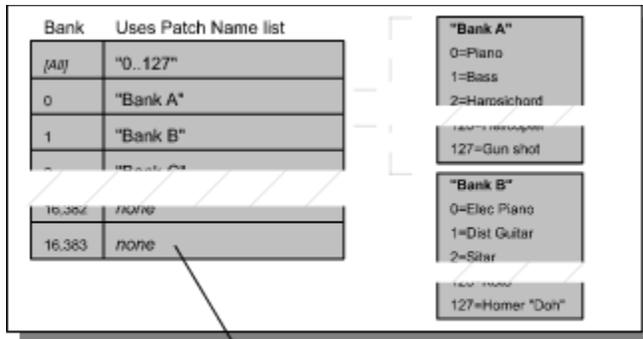
Since no names are assigned to this bank, it will use the names assigned to the special choice, [All]. Thus it will use the names "0..127".

Patch Names. A synthesizer may have one or more banks of <u>patches</u>, with 128 patches in each bank. Patches may have names, like "Piano" for patch number 0, "Bass" for number 1, and so on. Because each bank may have a different set of patches, each bank may need a different set of patch names.

Mapping of Patches to Note Names and Drum settings

For each patch, you may select a list of Note Names and whether or not the patch represents a set of drum sounds. The special choice, **[All]**, lets you specify a Note Name list and Drum attribute to use for all the other patches (the ones which you haven't assigned specifically.

Patch	Uses Note Name list
[All]	"0..127"
Acoustic	"Acoustic Kit"
Power Rock	"Power Rock Kit"
Helicopter	none
Gunshot	none

"Acousitc Kit"
36=Kick
38=Brush Snare
42=Closed Hat

"Power Rock Kit"
36=Power Kick
38=Snare
42=Closed Hat
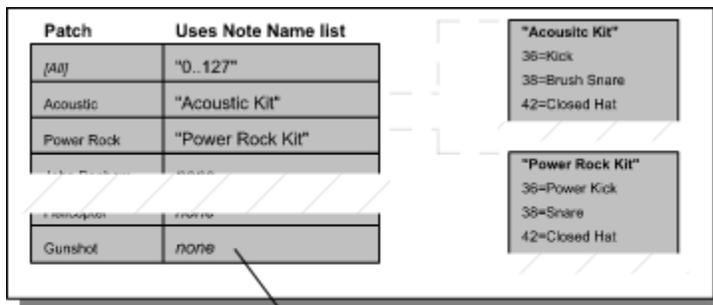
Since no names are assigned to this patch, it will use the names assigned to the special choice, [All]. Thus it will use the names from the list "0..127".

Note Names. Each patch may have a list of names for notes. Usually, note names are labels for percussion instruments. For example, the pitch C3 may really be "Kick Drum", and D3 may be "Snare". Because a drum machine may provide different drum kits for each patch, Cakewalk lets you specify a different list of note names for each patch. The **Piano Roll** and **Event List** views show you these note names.

Drums? This attribute is either on or off, and instructs other parts of Cakewalk how to work. For example, if you open a **Piano Roll** view for a track, and the track is assigned to a Port and Channel with a drum instrument, the Piano Roll will automatically work in a way that's more appropriate for editing drum notes.

Example 1: On your E-mu Proteus certain patches are drum kits, but most are not. Any MIDI channel can act like a drum machine (or not) depending on which Patch is selected. Create a "Proteus" instrument definition. For the **Patch**, select "[All]", and make sure the **Drum** item is *not* checked. Next, select each patch which *is* a drum kit and make sure the **Drum** item *is* checked.

Example 2: On your Alesis HR-16 drum machine, all of the patches are drum kits. For the **Patch**, select "[All]", and make sure the **Drum** item *is* checked. There is no need to change the Drum attribute for each of the 128 patches. The "[All]" setting takes care of that.

Example 3: On your Roland MT-32, you configure it to act like a drum machine on a certain channel (the default is channel 10). The remaining channels do not provide drum sounds. In effect, the MT-32 acts like two different kinds of instruments, always set to particular MIDI channels, which happen to be in the same box. Create two instruments definitions, "MT-32" and "MT-32 Drums". In the "MT-32" definition, select "[All]" for the **Patch** and make sure the **Drum** item is *not* checked. In the "MT-32 Drums" definition, select "[All]" for the **Patch** and make sure the **Drum** item *is* checked.

Other definition items
The remaining items are the same for an instrument, regardless of which bank or patch is in effect.

Controller Names.   Cakewalk lets each instrument have its own list of names for Controllers.   There is only one list per instrument.

Bank Select Method.   Although an official Bank Select method is now part of the MIDI standard, it wasn't always. Cakewalk supports several popular methods of bank select.

Once you choose a method here, you can forget about it.   This lets you simply work with bank numbers, and let Cakewalk worry about translating that into whatever the synthesizer requires.

Save changes
If you want your changes to be remembered the next time you run Cakewalk, make sure the **Save Changes For Next Session** option is checked before pressing **OK**.   Otherwise, to make only temporary changes, be sure to remove the check from that option.

See Also:
Defining your own names
Settings Menu

Define Names dialog

Use this dialog box to create, change, rename, or delete a list of Patch Names, Note Names, or Controller Names for use by instrument definitions.

Type of Names

This dialog lets you work with three different kinds of names.

Patch Names.   Click this button to work with Patch Name lists.   These are names for patches ("timbres") on a synthesizer, like "Piano", "Bass", etc.

Note Names.   Click this button to work with Note Name lists.   These are names for notes (pitches) on a synthesizer. Note Names are most frequently used to name drum notes, like "Kick", "Snare", etc.

Controller Names.   Click this button to work with Controller Name lists.   These are names for continuous controllers, like "Volume", "Pan", etc.

List

Use this dropdown list to select the list you want to work on.

New.   Use this button to create a new list.   Supply a title for the new list.

Copy.   Use this button to create a new list that is a copy of an existing list.   Select the list you want to make a copy of, then press this button.   Supply a title for the new list.

Rename.   Use this button to give an existing list a new title.   Select the list you want to rename, then press this button.

Delete.   Use this button to delete an existing list.   If the list is being used by an instrument definition, you will be warned.   (If you delete it anyway, the instrument will be changed to refer to another list of names.)

Based On List

Use this to choose a list upon which to *base* another list.

Frequently a synthesizer will have two sets of names which are mostly the same, except for a small number of names.   For example, two banks may have the same patches 0..100, but patch numbers 101..127 are different.   In that case, you can save time by creating one complete list.   Next, create the second list and base it on the first one. In the second list, define only the names which differ from the first one.

When a name is not defined in a list, Cakewalk will look at the list it is based on (if any), and use the corresponding name from that list.

Names

Use this listbox to edit the names in the list.   Each list consists of 128 names.

If a list is based on another list, the names will be drawn differently to help you distinguish which names are really defined in the current list from those which come from the base list.   Names that are really defined the current list will be shown in **bold** type.   Names that come from the base list, it will be shown in non-bold type.

See Also:
Defining your own instruments
Settings Menu

Update Instruments?

You have installed a new version of Cakewalk.

The new version contains new or changed Instrument definitions.   To merge this new information in your instrument database, press **Yes**.   Otherwise, press **No**.

If an Instrument definition will replace an existing definition, you will have a chance to approve each replacement individually.   For example, if you have customized a particular definition, you may choose not to replace it.

See Also:
   Instruments

Channel Filter (Settings menu)

Use this command to instruct Cakewalk to accept or ignore input on each MIDI channel.   Remove the check for each channel which you want to be ignored.   When input is ignored, it won't be **recorded** or echoed by **MIDI Echo**.

See Also:
Settings Menu

MIDI Output (Settings menu)

Use this command to set various options related to information that Cakewalk sends to the MIDI Out port(s).

Send MIDI Start/Continue/Stop/Clock controls whether Cakewalk will transmit MIDI Sync.   If you are not synchronizing another device like a drum machine to Cakewalk, leave this disabled.

Use Start, Never Continue lets you force Cakewalk to send a MIDI Start even when playback begins from other than the start (1:1:0).

Send MIDI SPP enables sending MIDI Song Position Pointer.   This message lets devices synchronizing to Cakewalk jump to the correct spot.

Locate Delay for SPP Recipient can be set higher than zero to give slow devices more time to jump to the correct spot.

Zero Continuous Controllers sends messages every time playback stops to lift up the sustain pedal, center pitch bend wheels, and zero modulation wheels.   It also sends a "reset all continuous controllers" message.   Because this is sent for every MIDI channel of every port, it can take awhile.

Patch/Controller Searchback makes Cakewalk do some extra work before playback starts.   It searches for the most recent patch change, pitch bend wheel, and controller events on each MIDI channel of each MIDI port and sends them.   This ensures that even if you jump to an arbitrary point in your song, any intervening patch, wheel, and controller settings will be acted on.   This option could take a significant time to complete if your song is very long and you jump near the end and begin playback.

See Also:
Settings Menu

MIDI Echo (Settings menu)

Use this command to set options controlling how MIDI input is transformed and echoed to the MIDI output.   Auto mode, the default, is the most convenient.   It routes things based on the Port, Channel, Key+ and Vel+ parameters of the track you currently have the cursor on in the **Track/Measure view**.

See Also:
Settings Menu
"MIDI Echo" in the *User's Guide* for a description of all Thru modes and options.

Type Filter (Settings menu)

Use this command to avoid recording certain types of MIDI events.   By default, Aftertouch events are filtered and will not be recorded.

See Also:
<u>Settings Menu</u>

Channel Table (Settings menu)

Use this command to map MIDI channels to tracks when recording.

Normally, when you record, events are placed on the current track.   Using this option, events on particular channels will end up on one or more specific tracks.   This is most useful when "dumping" a sequence from another sequencer, or working with a guitar controller that transmits on multiple channels at once.

> **Note:** Cakewalk permits each track to contain events from multiple MIDI channels. You are not required to split things onto separate tracks.   You may find it more convenient.

The dialog box has a checkbox for enabling/disabling the channel table and for assigning a track number to each MIDI channel.   The "Fill" button can save you typing: it looks at the number in the field you have the cursor on, and fills in the remaining fields with increasing values.

See Also:
Settings Menu

Time Format (Settings menu)

Use this command to select a SMPTE/MTC format.

The "Offset" option lets you specify a SMPTE time that will correspond to the beginning of your work.   In other words, this is the SMPTE time corresponding to musical time 1:1:0.

Hint: If you are synching to SMPTE/MTC, you should stripe your tape beginning with SMPTE/MTC time 0:0:0:0 and set an offset of at least 2-3 seconds, or 0:0:3:0.   This gives the SMPTE tape reader enough time to establish a good sync lock-up before your song starts.

See Also:
Settings Menu
"Synchronization" Appendix in the *User's Guide*, for a full discussion of synchronization methods.

Key Bindings (Settings menu)

Use this command to assign commands that you frequently use to keys.

There are two types of "keys" you may use: computer keyboard keys and MIDI keyboard keys.   When you bind computer keyboard keys to commands, this is like the kind of "macro hotkey" feature you may be familiar with in other software.   Using your MIDI keyboard is more novel, but the same basic idea: it provides "remote control" of Cakewalk from your MIDI keyboard.

You make both types of key bindings using the same dialog box: select which set you want to work with by picking one of the radio buttons at the top.

Computer keys

The available hotkeys include CTRL in combination with the A through Z keys, and the function keys (F1 through F12) by themselves or with CTRL or ALT pressed also.   If you use choose a hotkey which Cakewalk has already assigned to a command, your binding will override Cakewalk's.

These bindings execute the command they're assigned to only when you could choose the command normally from the menu.   If Cakewalk's menu is not available (for example when you're in a dialog box) or if the command is disabled, then the keys won't work either.

MIDI keys

The MIDI option uses a "shift" event to signal whether your MIDI keys should be treated as hotkeys.   That way, you can still use all the MIDI keys to play notes.   For this shift event, you may choose to use either a MIDI key (typically, the very lowest or highest key on your MIDI keyboard) or a controller event (typically, one of the pedals).

You may also temporarily disable MIDI macros by un-checking the **Enable** box, without having to clear all of the MIDI bindings.

Temporary changes

If you want your changes to be remembered the next time you run Cakewalk, make sure the **Save Changes For Next Session** option is checked before pressing **OK**.   Otherwise, to make only temporary changes, be sure to remove the check from that option.

See Also:
Settings Menu

Initialization Files (Settings menu)

Use this command to view and change certain options in Cakewalk <u>initialization files</u>.   You may also change initialization files by opening and editing them in Windows Notepad, but you may find using **Initialization Files** easier.

To set or delete an option:
1.   Type the name of the option in the **Option** field.

   If the option already exists, you may pick it in the list of **Current Settings**, and that will fill in the **Option** and **Value** fields for you.

2.   If you want to delete the option, press the **Delete** button.
   or
   If you want to set the option, type in the value for it in the **Value** field, then press the **Set** button.

3.   When you are done viewing or changing options, press the **Close** button.

<u>IMPORTANT:</u>   For most of these settings, Cakewalk looks at the initialization files only when it starts up.   Therefore, to ensure that all of your changes take effect, you must exit Cakewalk and restart it.

See Also:
<u>**Settings Menu**</u>

Auto Save (Settings menu)

Use this command to automatically save your work to a special back-up file, named AUTOSAVE.WRK.   You may control this using two options.

- Use the **Minutes** item to say how many minutes may pass before Cakewalk automatically saves your file (assuming it's changed since last saved).   Set **Minutes** to zero to disable this.

- Use the **Changes** item to say how many changes you may make to the file before Cakewalk automatically saves it.   Set **Changes** to zero to disable this.
If both **Minutes** and **Changes** are set to zero, no automatic save will occur.   If both items are set to something other than zero, than whichever condition becomes true first will cause an automatic save to occur.

Your work is saved to a work file called AUTOSAVE.WRK.   If you should need to retrieve your work after an error or system crash, use **Open** to load AUTOSAVE.WRK.   You may then use **Save As** to save this using the name of the file you were originally working on.   **Warning:** If you don't re-save soon, then **Auto Save** may write over AUTOSAVE.WRK!   To avoid this possibility completely, you may wish to rename AUTOSAVE.WRK before restarting Cakewalk at all, using the Windows File Manager or the DOS RENAME command.

See Also:
Settings Menu

Drag & Drop Options (Settings menu)

Use this command to set the Drag and Drop options.

Out of the box, Cakewalk presents this dialog to you every time you drag and drop.   If you remove the check from the **Ask This Every Time** item, it will simply continue to use the options youve chosen.   In that case, the only way to get back to the dialog is to choose this command.

Blend Old and New

This item causes Drag & Drop to merge what you're pasting with what's already in the track.

Replace Old with New

This item causes Drag & Drop to first delete what's in the range being dropped to, and then to drop the new material.

Slide Over Old to Make Room

This item causes Drag & Drop to first shift over existing material to make room, and then to drop the new material.

Align to Measures

This item ensures that if you're sliding existing material over to make room, the material is slid an exact number of measures.

Aligning to measures is useful is your material contains pick-up notes or sustained ending notes, yet is still conceptually a fixed number of measures in length.

Split Audio Events

If this item is selected, only the audio data that lies between From and Thru will be dragged.   If this item is not selected, audio events will be dragged in their entirety, but only if their start time is between From and Thru.

If this item is selected with the **Replace** option, only the audio data which lies within the range being dropped to is replaced.   If this item is selected with the **Slide** option, audio events will be split at the start and end of the time range before making room.

See Also:
Settings Menu

Cakewalk on the World Wide Web

Visit Cakewalk on the World Wide Web!   You can find us at:

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http://www.cakewalk.com
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Learn all you want to know about Cakewalk Music Software: Technical support documents, upgrade information, new products, and more.

Edit | Audio menu

The Edit | Audio menu contains commands relating to editing selected digital audio.

Split	Split an audio event into two audio events.
Combine	Combine selected audio events into a single event.
Graphic EQ	Apply a graphic equalizer to the audio.
3dB Louder	Increase audio volume by 3dB.
3dB Quieter	Decrease audio volume by 3dB.
Event Properties	Edit an audio event's properties.

Audio view

The Audio view allows waveform editing on audio events.   The Audio view consists of a single pane where all the events are drawn, a horizontal ruler to provide a timescale, and a vertical ruler to distinguish between different tracks in the view.

Shortcut
   • To open an Audio View from the **Track view**:
   Mouse: Press the RIGHT mouse button and choose **Audio**.

Working in the Audio view

There are several tools available:

Mode	Button	Shortcut Key
Selection	▶	**S**
Scissors	✂	**C**
Draw Volume	＼	**L**
Scrub	◁ι	**B**

▶ Use **Selection** mode to select one or more audio events.   You may select events by dragging a lasso that encloses them, or by clicking on them directly.
To add or remove events from the event selection: Hold the **CTRL** key down while clicking on the event, or while lassoing events.
To select a range of time, including events in the track that are not visible in the Audio view: Click and drag the time ruler at the top of the window.   (You can do this even when another tool is active.)
To select a range of time and tracks: Hold the **ALT** key and drag a rectangle.
To add or remove a track from the time selection: Click on the track number on the vertical ruler.
✂ Use **Scissors** mode to break long audio events into smaller ones.   Clicking on an audio event will split it at the click position.   Lassoing audio events will split the events along the left and right edges of the lasso.
＼ Use **Draw Volume** mode to quickly perform a linear volume on the selected audio.   As you drag the cursor in this mode, you will see a visual preview of the volume fade.   When you release the mouse button, the fade will be performed.
To change the volume of an entire track at once: Click and drag the cursor in the vertical (track numbers) ruler.
◁ι Use **Scrub** mode to drag horizontally over time to hear audio.   This can be handy to find the exact instant in time where a sound begins, or to test how audio sounds after being edited.   As you move the scrub cursor to a new track, you will hear only the audio contained in that track.
To scrub all tracks at once: Click and drag the scrub cursor in the horizontal ruler.
To change audio event parameters: Click on an audio event using the RIGHT mouse button.   The **Audio Event Properties** dialog box will appear, where you can set the audio event's name, starting time and velocity.
To change audio event velocities: Move the cursor over the small volume knob located at the lower-left corner of the audio event.   The cursor should change to an up/down arrow.   Click the LEFT mouse button, and drag the mouse up and down to adjust the velocity.   When you release the mouse button, the change will take effect.

To change an audio event name: Move the cursor towards the upper-left corner of the audio event, until it changes shape to an "I-beam".   Click the LEFT mouse button, and enter the new event name.   Press **ENTER** or click anywhere else in the Audio View to save your change.

The Audio view ruler

The ruler helps you locate audio events (and the mouse) in time.   Its units are switchable between samples and Measure:Beat:Tick.   The following shortcut keys are available for the ruler.

Action	Shortcut Key

Sample units　　　　　　　　**A**

Meas:Beat:Tick units　　　　**M**

To select a range of time, including events in the track that are not visible in the Audio view: Click and drag the time ruler at the top of the window.   (You can do this when any tool is active.)

Snap in the Audio view

Setting snap values in the audio view makes it easier to select and drag audio events to precise locations.   When you use snap, the Audio view will automatically adjust the position of mouse clicks and drags to the nearest snap position.   For example, if the snap resolution is set to Half, every mouse click or drag is aligned to the nearest half-note.

Snap affects the following mouse gestures in the Audio view:
- Clicking and lassoing with the **Scissors** tool.
- Dragging a lasso to select.
- Drag/Move and Drag/Copy with the **Selection** tool.
- Drawing volumes with the **Draw Volume** tool.

Resolution	Description
Events	Mouse gestures are snapped to the nearest start or end time among all the audio events in the Audio view. This setting makes it easy to butt-join several audio events simply by dragging them into position.
Samples	Mouse gestures are snapped to the nearest sample. This setting allows you freely drag or select with the highest possible precision. Because a sample represents the smallest usable unit of time in the Audio view, this setting is equivalent to having no snap at all.
Whole, Half, etc.	Mouse gestures are snapped to the nearest whole-note, half-note, quarter-note, etc. This setting makes it easy to construct musical rhythms out of short audio events simply by dragging them into position.

Audio Meters view

The audio meters view allows you to monitor input levels and free disk space for audio recording.

To adjust input levels for recording: Click on the **Test** button, and audition the material you intend to record.   The input meters will indicate the incoming audio level.

See Also:
Audio view
Audio events and disk space

Compact Audio Data (File | Utilities menu)

Use this command to collect all of the audio data used by the current sequence, and write it into a new disk file.   Any audio data which is not being used by the sequence (such as data on the Undo history) is deleted, and its disk storage is reclaimed.

To fully reclaim the disk space that was recovered by this command, you must run the **Clean Audio Disk** command.

Example:

Suppose you've begun a brand new song, and recorded a 10 minute jam session onto two tracks.   After some work, you've cut the jam down to a single 4-bar loop, and decided to build your song around that loop instead of the entire jam.

Since most of the original 10 minute jam is no longer required for your song, there's no reason to keep the data on the disk.   The **Compact Audio Data** command will create a new file containing only the loop you need, making the old 10 minute file available for deletion.

See Also:
File Menu
Clean Audio Disk
Audio events and disk space

Clean Audio Disk (File | Utilities menu)

Use this command to reclaim the disk storage belonging to orphaned audio files.

Audio files can become orphaned when a .WRK file is deleted, or as a result of running the **Compact Audio Data** command.   Once an audio file becomes orphaned, there is usually no reason to keep it on the disk.

See Also:
File Menu
Compact Audio Data
Audio events and disk space

Export Audio to Wave (File | Utilities menu)

This command will create a stereo .WAV file out of the audio data in your song.   If no audio events are selected, then the entire song is processed.   Otherwise, only the selected audio events are processed.

If you're using Cakewalk with a Windows sound card, then the audio produced by this command should sound exactly the same as it does when you press **Play**.

If you're using Cakewalk with a dedicated hard disk recording system, the audio produced by this command may be too loud or too soft.   This is because Cakewalk is mixing the audio internally, rather than using dedicated audio hardware.

See Also:
File Menu
Audio events and disk space

Split (Edit | Audio menu)

Use this command to split the selected audio events with sample-accuracy.   When performing this command, you may choose the exact sample position for the split.   The default position is the value of the Now marker..

Note: This command is available only from the Audio View inspector (right-click) menu.

See Also:
Edit | Audio menu

Combine (Edit | Audio menu)

This command combines many selected audio events into a single event.   All events are combined track by track, i.e., you cannot combine events across different tracks.   The resulting audio event will have the same name and position as the first selected event in the track.

You are free to combine overlapping audio events, but doing this requires you to choose how the overlapping portions should be combined.   You may choose to combine them *polyphonically*, which mixes the overlapping audio; or *monophonically*, which preempts overlapping audio.

See Also:
Edit | Audio menu

Graphic EQ (Edit | Audio menu)
Graphic EQ

Graphic EQ allows you to adjust the equalization of your audio across ten frequency bands.   The width of each frequency band doubles as you go from low to high frequencies.   In other words, **Graphic EQ** provides you with ten *octaves* of equalization.

To use the Graphic EQ, simply set one more of the frequency sliders to the desired amount of gain or boost.   If you make a mistake and would like start over from a "flat" equalization curve, click the **Reset** button.   Once you've set all the sliders, press **OK** and the equalization will be applied.

Note that clipping or distortion may occur if a frequency range is boosted too high.

See Also:
Edit | Audio menu

3dB Louder (Edit | Audio menu)

Use this command to increase the volume of the selected audio by 3dB (50%).

See Also:
Edit | Audio menu
3dB Quieter

3dB Quieter (Edit | Audio menu)

Use this command to decrease the volume of the selected audio by 3dB (50%).

See Also:
Edit | Audio menu
3dB Louder

Reverse (Edit | Audio menu)

Use this command to reverse the audio data in each selected audio event.

Note that this command does not reverse the musical start time of a series of audio events.   To do that, use the **Retrograde** command.

See Also:
Edit | Audio menu

Event Properties (Edit | Audio menu)

Use this command to edit the name, starting time or velocity of an audio event.

Note: This command is available only from the Audio View inspector (right-click) menu.

See Also:
Edit | Audio menu

Audio Events

Audio events contain digital audio data.

Because digital audio requires a large amount of memory, audio is stored in disk files. On a dedicated system like Session8, the files are stored on a hard disk (or multiple disks) under the control of that system. These are "remote" drives and files. With a sound card, the digital audio is stored in the form of standard Windows .WAV format files on your computer's regular hard drive.

Only 16-bit digital audio is supported (not 8-bit). For sound card systems, all digital audio in the same song must be at the same sampling rate (for instance, 44.1 kHz). Some dedicated audio systems do permit mixing sample rates in the same song; Cakewalk can do this if the system permits it.

Audio events are always mono.   You may record stereo to a pair of mono Audio events.   Use the **Audio Meters** view to check your analog input levels.   After you complete recording, a pair of Audio events will be automatically created and placed in the two tracks. You may assign each track an audio port for the respective left or right channel.

Audio events also have a *velocity* property, much like Note events.   You may use this to adjust the loudness of individual events in rough increments, without actually changing the wave data.   Cakewalk uses the velocity while mixing Audio events during playback.   The velocity value ranges from 0 to 127.   The value 64 means "normal", that is, the loudness of the actual wave data.   The velocity is grainy: There are actually only 16 levels of loudness.   For instance, velocities 119..127 (a range of 8) are really all the same loudness.

Of course, you may also modify the loudness of the wave data itself, using the line/pencil tool in the **Audio view**, or the various **Edit | Audio** commands.

See Also:
Audio events and disk space

Audio Events and Disk Space

Audio events automatically share as much backing disk space as possible. Assume one Audio event is copied. Both the original and the copy share the same disk space. A change to a portion of one event will cause the corresponding portion of the backing storage to become unshared. The portion of the two events that remains identical, however, will continue to be backed by shared storage.

For speed and to support non-destructive editing, Cakewalk may store a single Audio event in pieces split across more than one .WAV file. Use the **Export Audio to Wave** command if you need to create a single contiguous .WAV file for use by another product.

The net result of this is that you don't have to play the role of "disk-space manager" like you do with some products. With such products, you are acutely aware of how much disk space audio requires and must manage it carefully.   If you want to reuse a portion of audio elsewhere, you must be careful to create a "region" that refers to a portion of the same sound file. And if you make a destructive edit to the sound file, it will affect all regions, whether or not this is what you intended or wanted.

In Cakewalk, by contrast, you can work as though audio were more "lightweight". Disk-space optimization is handled for you. You can think of Audio events as independent events just like notes, and freely copy and modify them. Cakewalk will do the work of conserving disk space by trying to share storage among similar audio events. Computers are good at boring tasks like this. Computers should do them so you don't have to.

In cases where you *do* want to make the same modification to many identical Audio events, simply select all of them, and make the modification.   Cakewalk is "smart" enough to optimize such operations and continue to maintain shared backing store as much as possible.

See Also:
Audio events
Compact Audio Data
Clean Audio Disk
Export Audio to Wave

Audio channels and polyphony

As explained in the **Track Port** topic, tracks containing audio events should be set to output to audio ports.

Audio ports correspond to audio outputs in the audio hardware. The actual number of available outputs depends on the type of audio hardware you are using.

Each audio port may be capable of playing multiple audio events at the same time ("polyphony"). How many simultaneous events are possible is hardware-dependent. In the case of dedicated systems like Session8, this number is determined by the capabilities of that system. In the case of sound cards, the number depends on the speed of your CPU and hard disk.

Each audio port has only one Volume and Pan setting that may be in effect at any time. Regardless of how many sound files are being played, they all share the same Volume and Pan setting in effect at that moment for the port. (This is similar to multiple notes playing on a specific MIDI channel: there is a single Volume and Pan setting in effect for all notes on that same MIDI channel).

Glossary

activate
Activating a window means to make it the topmost, current window.   The window caption changes to show that it is the active window.   If an application's main window is active, then one of its "child" windows may be active, too.

event filters
Event filters let you specify criteria that an event must meet in order to be affected by some operation.   Each row specifies a kind of event to include or not.   If you check including a kind of event, the rest of the row indicates certain values that an event must have to still be included.

velocity

In MIDI, how fast you strike a key is called the velocity.   Each note event has a velocity stored with it.   Usually the velocity controls how loud and/or "bright" the sound of the note is, just like with a real piano.   But this depends on the synthesizer or sound card: velocity can sometimes have no effect (as with an "organ" patch) or set to control other characteristics of the sound.

patch changes

A type of MIDI command that tells an instrument to use a different sound.   Numbers from 0 to 127 each select a different sound -- *what* sound depends on the synthesizer: MIDI doesn't require that certain numbers mean certain kinds of sounds.   This flexibility has many benefits.   But an optional "General MIDI" specification does assign sounds (like "Grand Piano") to particular numbers, making it easier to distribute MIDI Files that will sound similar on different equipment.

Note that manufacturers use an incredible variety of jargon for "patch", including "program", "voice", "preset", and other terms.   We stick with "patch" because it's one of the oldest phrases and one which doesn't have other meanings for electronic music.

synchronization
A mode of playback where Cakewalk follows an external source of timing instead of its internal clock.

Now marker
Shows the current time.   As you play or record, this will change to reflect the current time.   While not playing or recording, as you move through screens you will change the current time.   Some editing commands -- like Paste -- also propose using the Now marker for a time.

controller

MIDI uses controller messages for a variety of things. Each controller message has a **number** for what it controls. The MIDI spec assigns many controller numbers to standard functions. For example, controller 1 is the Modulation Wheel, controller 7 is Volume, controller 10 is Pan, and controller 64 is sustain pedal. However, not every synthesizer responds to every assigned controller number. And some synthesizers have special functions assigned to other numbers. You need to check the manual for a synthesizer to see what it responds to. Each controller message also has a **value**. For instance, 0 for Modulation Wheel means no modulation, and 127 means full modulation. The Sustain Pedal is an "on/off" controller, so 0 means no pedal and anything else means the pedal is down.

System Exclusive
MIDI data that is understood only by a particular brand/model of synthesizer and ignored by everyone else.   Each manufacturer gets a unique ID code with which to tag their System Exclusive messages.   Typically used to save/restore data describing patches (sounds) and/or configuration information for a synthesizer.   Cakewalk can receive this data, store it, and transmit it, but cannot understand what it means.

layers (Staff view)
When a staff contains other than chordal harmony -- that is, overlapping notes with different durations -- separate layers must be created.   Each layer has its own stem direction, beaming, and rests.   Cakewalk has no internal limit to the number of layers, but aesthetics will impose a practical limit.   If too many notes, too close in pitch are crammed together; Cakewalk cannot resolve these "aesthetic errors".   You can help by moving parts to different tracks, so they can have a staff to themselves.

CAL

Cakewalk Application Language.   CAL is an interpreted language for writing custom editing commands.   CAL programs can get user input, display messages, and insert, delete, and modify events in tracks.

Answers to common questions

Here are answers to some of the most common questions about Cakewalk Professional.   Checking this list may save you a phone call to technical support!

Setup
- Why can't I hear anything on my synthesizer (no MIDI output)?   Answer
- Why can't I record anything? (no MIDI input)?   Answer
- How do I get a driver for my brand of MIDI interface?   Answer

Audio
- I have Audio events: Why can't I hear them play?   Answer
- Why is my audio playback distorted?   Answer
- How do "Audio" events differ from version 3.0's "Wave" events?   Answer
- I'm using Audio sync, and the MIDI playback is erratic: Why?   Answer
- Why can't I play digital audio using my MPU-401 or other MIDI interface card?   Answer

Printing
- Why do I get a "General Protection Fault" when I try to print?   Answer
- How can I print to a file? Answer

Customization
- How do I create my own set of Patch Names?   Answer
- How do I use my own Patch Names I created with version 1.0 or 2.0?   Answer
- How and why should I use the Microsoft MIDI Mapper?   Answer

Synchronization
- Why won't my drum machine sync to Cakewalk?   Answer

Miscellaneous
- Why do I get the error message, "Cannot open timer", when I start Cakewalk?   Answer
- What is the meaning of life?   Answer

"Cannot open timer"

If you start Windows from a directory containing Cakewalk 4.0 (for DOS), then Windows will mistake Cakewalk 4.0's TIMER.DRV file for its own TIMER.DRV file located in the Windows system directory.   Windows silently fails to load its timer driver, and you discover the failure only when trying to use a program that needs the timing services, like Cakewalk for Windows.

To work around this problem with Windows, simply start Windows from another directory (for example, from the root directory or the Windows directory).

This message may also be caused if you are using the OS/2 operating system.   Contact IBM for a maintenance update.   (You may also try replacing the TIMER.DRV file supplied with older revisions of OS/2 with the original TIMER.DRV file supplied with Windows.)

Other common questions....

"General Protection Fault" (GPF) while printing

Solution: Contact the manufacturer of your printer and make sure you have the *most recent* version of their driver for Windows.   If not, obtain and install it.

Explanation: When Cakewalk prints, it uses the printer driver that you've installed in Windows.   Many printer drivers have problems ("bugs") which appear only when certain applications use them, even when the application is using them correctly.   Unfortunately, Cakewalk's intensive use of TrueType fonts may flush out a problem with a printer driver which is not apparent when you're using other programs.   The printer driver may crash.   You can tell this because the error message identifies the printer driver as the program which crashed, not Cakewalk.

We have investigated this problem thoroughly.   In all cases so far, we have not found any way in which to modify Cakewalk to avoid a printer driver problem.   The only solution, unfortunately, is to obtain a fixed version of the driver. The good news is that many printer manufacturers update their drivers frequently, and newer versions of many will work fine with Cakewalk.

Hint: Sometimes a driver for a similar printer will work and will not cause a GPF.

Example: A manufacturer makes similar ink jet printers.   One printer is black & white only, the other is color.   The color printer is "backward compatible" with the B&W one, so the driver for the B&W one will also print correctly with the color printer.   The B&W driver does *not* cause a GPF crash.   Solution: Use the B&W driver to print from Cakewalk to the color printer.   Music notation is all black & white anyway!

This does *not* mean you lose the ability to print in color from other programs when you need to.   Windows lets you install more than one printer driver for the same printer port.   You may choose among drivers from each Windows program's **Print Setup** dialog.   Install *both* the B&W and color drivers.   Choose the B&W driver when printing from Cakewalk and choose the color driver when you need to print in color from other programs.

Example: If you have a printer "model number 4", the driver for "model number 3" may work with model 4 and may not cause a GPF.   As described in the previous example, you may install both drivers and select either as needed.

Please see README.WRI.   There may be additional information about specific printer models and driver version numbers.

Other common questions....

Required hardware for digital audio

There are basically three functions that multimedia audio hardware can provide:

   (1) MIDI interface (cable connection to external synthesizers)

   (2) Tone generators (on-board synthesizers)

   (3) Digital audio (wave audio, like a CD or DAT recorder/player)

Various multimedia audio cards provide one or more of these three functions.   MIDI interfaces like the MPU-401 provide only the first.   Products like Sound Blaster combine all three functions in a single card.

To use digital audio, you must install a sound card with digital audio capabilities and install a wave driver for the card using Windows Control Panel.   For more information, consult the manufacturer of the sound card you own or are considering purchasing.

<u>Other common questions....</u>

No MIDI output

If you aren't getting any MIDI output, please run through this checklist:

1.   Make sure you've connected your cables properly.   See the instructions in the Cakewalk *Users Guide*.

2.   Make sure you install a MIDI driver for your interface using Windows Control Panel.   See the instructions in the Cakewalk *Users Guide*.   Make sure you specify the correct configuration information -- like IRQ and base port address -- in the driver's setup dialog box.

3.   Now the driver is available for Windows programs to use.   Next, you need to tell Cakewalk to use it. Choose the **MIDI Devices** command on the **Settings** menu and make sure the device is selected (highlighted) in the MIDI Out list.   Click on the device name to be sure it is selected; if the name only has a dotted box around it but isn't drawn in reverse video, then it is not selected!

4.   Try loading and playing a sample workfile included with Cakewalk.   Make sure that each track is set to a **Port** and **Channel** to which you've connected a synthesizer.   Because you can change the Port and Channel during playback, you can experiment with different settings easily until you hear a sound.

Other common questions....

No MIDI input

If you aren't getting any MIDI input, please run through this checklist:

1. Make sure you've connected your cables properly. See the instructions in the Cakewalk *Users Guide*.

2. Make sure you install a MIDI driver for your interface using Windows Control Panel. See the instructions in the Cakewalk *Users Guide*. Make sure you specify the correct configuration information -- like IRQ and base port address -- in the driver's setup dialog box.

3. Now the driver is available for Windows programs to use. Next, you need to tell Cakewalk to use it. Choose the **MIDI Devices** command on the **Settings** menu and make sure the device is selected (highlighted) in the MIDI In list. Click on the device name to be sure it is selected; if the name only has a dotted box around it but isn't drawn in reverse video, then it is not selected!

Other common questions....

Microsoft MIDI Mapper

The Microsoft MIDI Mapper is intended to help make MIDI song files be "portable" from one system to the next by mapping patch numbers, key numbers, and so on from a standard General MIDI layout to whatever synthesizer a particular user has.   If you are not preparing or using MIDI song files for multimedia distribution purposes, you may not need to use the MIDI Mapper at all: it may be solving a problem that you don't have and needlessly complicating your setup.

If you *do* need the Microsoft MIDI Mapper, be sure to read Microsoft's documentation for it.   Also, feel free to call Microsoft Windows Technical Support for assistance using their product.

To get you started, however: One key point is that you have Cakewalk use the MIDI Mapper instead of directly using the device.   The whole idea is for the MIDI Mapper to sit between Cakewalk and the device and map data on the way.   For example, in Cakewalk's **MIDI Devices** list you would select "Microsoft MIDI Mapper" but not select "Sound Blaster".   Instead, select "Sound Blaster" in the MIDI Mapper, using the Windows Control Panel.   So you set up a chain: Cakewalk sends data to the MIDI Mapper, the MIDI Mapper transforms the data and sends it to the Sound Blaster.

Other common questions....

Creating your own patch names list

Use the **<u>Instruments</u>** command on the Settings menu to create custom patch names.

Using Patch Names in your PATCHES.INI from version 1.0 or 2.0

This section matters only if you created your own patch name lists for version 2.0 or earlier.   This section tells you how to move those lists into version 3.0.

Version 3.0 has a more sophisticated feature.   The **Settings | Patch Names** command has been replaced with **Settings | Instruments**.   Instrument definitions include a set of patch names, plus other information like controller names and note names (see the *User's Guide* for a full explanation).

To move your custom patch name lists into version 3.0:

<u>Overview:</u>   MASTER.INS is a new file used by version 3.0 that contains all patch names, controller names, note names, and bank select information.   In other words, MASTER.INS contains complete instrument definitions.

When converting custom patch name lists from your PATCHES.INI file to be included in MASTER.INS, you will need to use a text editor.

Following are the steps you need to take:

1.   Copy your `PATCHES.INI` to a file with an `.INS` extension.   For example, `OLD.INS`.

2.   Open the file in a text editor to perform the remaining steps.

3.   Delete everything from the file except the patch names you created.   In other words, delete all the patch name lists that were supplied with version 2.0, leaving behind only the patch name lists that you added.   This will save time in the following steps.

Note: You may also wish to check whether version 3.0 supplies patch names that you needed to create for version 2.0.   A number of new ones have been added.

4.   Add this line to the very start of the file -- before all of your patch name lists:

        `.Patch Names`

It is important that you include the period ('**.**') at the start of the phrase, and place this line at the very start of your file.

5.   Add this line to the very end of your file -- after all of your patch name lists:

        `.Instrument Definitions`

It is important that you include the period ('**.**') at the start of the phrase, and place this line at the end of the file.

6.   Below the `.Instrument Definitions` line, you must add a small instrument definition for each patch name list.   For example, if you have a patch name list titled "Whizbang 100", add the following instrument definition:

        `[Whizbang 100]`
        `Patch[*]=Whizbang 100`

The character between the brackets [ ] is an asterisk: *****.

Now, you have created an instrument definition that uses your patch name list.   You may use the same title ("Whizbang 100") both for the patch name list and for the instrument definition.

Repeat this step for each patch name list represented in the `.Patch Names` section.

7. Once you have completed step 6, start Cakewalk Professional 3.0 and import the file:

(a) Choose **Settings | Instruments**.

(b) In the **Assign Instruments** dialog, press the **Define Instruments** button.

(c) In the **Define Instruments** dialog, press the Import button.

(d) Supply the name of your file.   In our example, this is `OLD.INS`.

(e) Press **OK**.

(f) If the titles of any of your own instrument definition or patch name lists have the same name as those supplied with version 3.0, you will be asked if you want to replace the existing definition.   You may wish to answer **No**.   Version 3.0 supplies instrument definitions that are more complete than simply a set of patch names.

(g) When the import completes, press **OK** to return to the **Assign Instruments** dialog.   Assign your new instrument definition(s) to whatever Port/Channels you wish.   Press **OK**.

Other common questions....

Devices and drivers

Windows 3.1 provides the Multimedia Extensions.   Manufacturers of MIDI interfaces, sound cards, and other multimedia hardware can create drivers.   Any Windows program can use these drivers to know how to work with a particular model of sound device.   Cakewalk uses these standard drivers.

We have supplied a couple drivers with Cakewalk only as an interim provision to help the owners of a few of the most popular MIDI interfaces.   Eventually even these drivers will be available directly from the maker of the MIDI interface.

If your MIDI interface is not in this list, you need to contact its manufacturer to obtain a Windows driver for it, otherwise Cakewalk will not know how to work with it.

Other common questions....

How do "Audio" events differ from version 3.0's "Wave" events?

The old **Wave** events in Cakewalk 3.0 were embedded .WAV files. These files could be in any format (any sampling rate and either 8- or 16-bit) supported by your sound card. During playback, Cakewalk 3.0 would trigger the .WAV file to start playing, at roughly the correct time. The audio   played at its own rate, and could gradually drift out of sync with the MIDI. Only one .WAV file could play at the same time.

The new **Audio** events in this version refer to audio files that are external to the .WRK file. These files must be 16-bit audio, at the same sampling rate (for example, 44.1 KHz). Cakewalk monitors the digital audio as it is played, derives timing information and synchronizes MIDI to the digital audio. With sound cards, Cakewalk can play as many Audio events at the same time as the speed of your computer and its hard drive permit.

<u>Other common questions....</u>

I'm using Audio sync, and the MIDI playback is erratic: Why?
Choose **Settings | Audio** and confirm that the **DMA Size** and **DMA Offset** items are set to the correct values for your sound card. Cakewalk needs to know the exact way in which your sound card processes blocks of audio.   If you are not sure what these values should be, click the **Wave Profiler** button. Cakewalk will try to determine these settings for you automatically. When it finishes profiling your hardware, it will ask you if you'd like it to update `AUDMM.INI`, and you should answer Yes.

Other common questions....

I have Audio events: Why can't I hear them play?

Any combination of the following might be the reason:

- In the **Track view**, make sure the track containing the Audio events is set to an audio port, such as "Audio Left+Right".

- Try the usual suspects (volume knobs, cables, etc.).

Other common questions....

Why is my audio playback distorted?

Distortion happens when too many digital audio events are played simultaneously.   You are essentially overloading the dynamic range of the digital audio mixer.

This problem can be corrected by reducing the velocity property of audio events, using any of the following methods:

• In the **Audio view** or **Event List view**, reduce the velocity stored with each audio event.

• Turn down the **Volume** of each audio track in the **Track view**.

• In the **Track view**, set the **Vel+** property of each audio track to values less than zero.   For every audio event in that track, this subtracts that amount from the velocity stored with the audio event. In other words, if audio events already have different velocities relative to each other, this will preserve those relationships while making all of the velocities lower by the same amount.   This reduction happens only during playback.   The events continue to store the original velocities.

• Select one or more audio events, and choose the **Interpolate** or **Velocity Scale** commands to reduce the events' velocity.

Other common questions....

Slaving drum machines to Cakewalk's MIDI Sync

Cakewalk can either slave to MIDI Sync, or be the master providing MIDI Sync for something else to sync to. For the latter -- for example, if you are using a drum machine which you want to follow Cakewalk -- go through the following checklist:

1.   On most models of drum machines, you can select whether or not it should slave to MIDI Sync. Make sure this is turned **ON**.

2.   Double-check the connection from your computer's MIDI OUT jack to the drum machine's MIDI IN.

3.   If you are using more than one MIDI output port on your computer, you need to tell Cakewalk which of these ports to send MIDI Sync info to. Do this in the **MIDI Devices** dialog's **Sync Output Port** item: specify the port to which you've connected the drum machine.

4.   Choose **MIDI Out**, and make sure the **Transmit MIDI Start/Continue/Stop/Clock** option is <u>ON</u>. This must be turned on for each new workfile you create: it is off by default.

Other common questions....

How can I print to a file?

There may be situations where you want to print from Cakewalk, but don't have a printer connected to your computer. If so, you can print to a file.   You can take this file to a computer which does have a printer attached, and print from there.   This other computer does not need to have Cakewalk installed.

This technqiue may be used with any Microsoft Windows program, not just Cakewalk.   It is explained in your general Microsoft Windows documentation, but we will explain it here for your convenience.

One-time step: Install a printer driver

You must perform the following steps once to install a special printer choice.   When you choose this printer, Cakewalk will print to a disk file instead of to a real printer port like `LPT1`.

1. Determine the make and model of the printer to which you want to print.

2. Start Windows Control Panel.

3. Double-click the **Printers** icon.

4. Press the **Add** button.

5. Select the driver that most closely matches your printer and press **OK**.

Note: Control Panel will probably ask you to insert one of your original Windows diskettes.

Tip: If you are not sure which printer to pick, see what printer driver is installed in Windows on the machine to which the printer is connected.   Use the same driver on your machine.

6. Once the printer driver has been installed, select this driver in the Printers dialog and press the **Connect..** button.

7. Under Ports, select `FILE:`, press **OK**, and then press **Close**.   This will add `FILE:` to the end of the printer driver name.

This completes the one-time installation.

Printing to a file from Cakewalk

Whenever you want to print to a disk file, perform the following steps:

1. Choose the **Print** command from the **File** menu.

If the printer you installed above isn't listed as the default **Printer**, press the **Setup** button to pick it.

2. Press **OK**.

3. You will be asked for a file name, to which Cakewalk will print.   For example, supply the name, `MYFILE.PRN`. Press **OK**.

Printing from a file

1. Insert the floppy disk into the computer.

2. At the DOS Prompt prompt, type:

```
COPY A:\MYFILE.PRN LPT1
```

This example assumes the printer is connected to the `LPT1` port.

Note: You must ensure that you have the appropriate print driver selected.   For example, if you print to a file based using the HP LaserJet 4 driver, you can only print on computers connected to a HP LaserJet 4.   Choosing a driver that is not consistent with the printer connected may result in garbage output on the printer.

<u>Other common questions....</u>

What is the Meaning of Life?

Just seeing if you're paying attention.

This is indeed a very common question, but the answer is not available with this version of Cakewalk.   We hope to include it in a future version.   Please return your registration card today so we will be able to contact you.

<u>Other common questions....</u>

CAL Function Reference
General CAL functions

CAL functions corresponding to Cakewalk user commands

See Also:
CAL view

File menu CAL functions

[FileNew](#)
[FileOpen](#)
[FileSave](#)
[FileSaveAs](#)
[FileMerge](#)
[FileExtract](#)

These correspond to commands available on the **File menu**.

See Also:
CAL Function Reference

(FileNew)
`(FileNew [<szTemplate>])`

If *szTemplate* argument is omitted, then the user is prompted for the name of a template.   The *szTemplate* argument is a string and should contain only the base name of the template, without an extension.   For example "Normal" is correct but "NORMAL.TPL" is not.

Returns: FALSE if the template was not found and loaded.   This could be either because of an error reading the file or because the user pressed Cancel in the dialog.   The "Normal" template always works: if no NORMAL.TPL file is found, a blank work is created with the normal program defaults.

See Also:
New
CAL Function Reference

(FileOpen)

`(FileOpen [<szPathname>])`

If *szPathname* argument is omitted, then the user is prompted for the name.

Returns: FALSE if file was not loaded.   This could be either because of an error reading the file or because the user pressed Cancel in the dialog.

See Also:
Open
CAL Function Reference

(FileMerge)

(FileMerge [<szPathname>])

If *szPathname* argument is omitted, then the user is prompted for the name.

Returns: FALSE if file was not loaded.   This could be either because of an error reading the file or because the user pressed Cancel in the dialog.

See Also:
Merge
CAL Function Reference

(FileSaveAs)

`(FileSaveAs [<szPathname>])`

If *szPathname* argument is omitted, then the user is prompted for the name.

If *szPathname* already exists, then user is warned and given the ability to enter a different name.

Returns: FALSE if file was not saved.   This could be either because of an error writing the file or because the user pressed Cancel in the dialog.

See Also:
Save As
CAL Function Reference

(FileSave)

(FileSave)

Returns: FALSE if file was not saved due to an error writing the file.

See Also:
Save
CAL Function Reference

(FileExtract)

(FileExtract [<szPathname>])

If *szPathname* argument is omitted, then the user is prompted for the name.

If *szPathname* already exists, then user is warned and given the ability to enter a different name.

Returns: FALSE if file was not saved.   This could be either because of an error writing the file or because the user pressed Cancel in the dialog.

See Also:
Extract
CAL Function Reference

Edit menu CAL functions

Function	3.0 compatible equivalent
EditCopy40	EditCopy
EditCut40	EditCut
EditPaste40	EditPaste EditPasteToTrack
EditQuantize40	EditQuantize
EditGrooveQuantize40	EditGrooveQuantize
EditSlide40	EditSlide
EditTranspose40	EditTranspose
EditLength40	EditLength
EditRetrograde40	EditRetrograde
EditControlFill	
EditVelocityScale40	EditVelocityScale
EditFitImprov	
EditFitToTime	
EditInterpolate	
ResetFilter	
SetFilterKind	
SetFilterRange	

These correspond to commands available on the **Edit menu**.

Each argument to a command function corresponds to items in the command's dialog box.

Version 4.0 introduces new versions of many Edit functions.   This is because 4.0 has a richer selection capability than version 3.0.   The new versions have a "40" suffix in their name, for example, **EditCut40** is the new version of the **EditCut** function.

The old forms of the functions hardcode "From", "Thru" and "use event filter" values as arguments to the functions. This is incompatible with operating on a more-complex selection created by the user.   For example, the user may now select any combination of discontiguous notes in the Piano Roll and Staff views.   In addition, there is no longer a single global selection: Each view has its own selection.   Whichever view is active determines which selection is used by commands.

The old functions are still supported by means of a selection object private to CAL.   This works much like the time-select mode in the Track view.   The TrackSelect function modifies the CAL selection object only, and thus only affects the old 3.0 compatible versions of these functions.

The Record button in the CAL view always records the new versions of these functions.   The goal is to support both the richer selection methods in 4.0, while preserving compatibility with older CAL programs.   Most older CAL programs should yield the same results as before.   In some cases it may be preferable to update them to use the new versions of the CAL functions: That way they will operate on exactly what the user has selected prior to running the CAL program.

See Also:
CAL Function Reference

(EditCopy)

`(EditCopy [<tFrom> <tThru> <bEvents> <bEvtFilt> <bTempos> <bMeters> <bMarkers>])`

This is the CAL 3.0 compatible function corresponding to the **Copy** command.

See Also:
Contrast with **EditCopy40**
Edit menu CAL functions
CAL Function Reference

(EditCopy40)

`(EditCopy40 [<bEvents> <bTempos> <bMeters> <bMarkers>])`

This is the new CAL 4.0 function corresponding to the **Copy** command.

See Also:
Contrast with **EditCopy** [CAL 3.0 compatible]
Edit menu CAL functions
Copy
CAL Function Reference

(EditCut)

`(EditCut [<tFrom> <tThru> <bEvents> <bEvtFilt> <bTempos> <bMeters> <bMarkers> <bDelHole>])`

This is the CAL 3.0 compatible function corresponding to the **Cut** command.

See Also:
Contrast with **EditCut40**
Edit menu CAL functions
CAL Function Reference

(EditCut40)

(EditCut40 [<bEvents> <bTempos> <bMeters> <bMarkers> <bDelHole>])

This is the new CAL 4.0 function corresponding to the **Cut** command.

See Also:
Contrast with **EditCut** [CAL 3.0 compatible]
Edit menu CAL functions
Cut
CAL Function Reference

(EditPaste)

(EditPaste [<tTo> <wReps> <nHoleKind> <bEvents> <bTempos> <bMeters> <bMarkers>])

This is the CAL 3.0 compatible function corresponding to the **Paste** command.

nHoleKind is ignored.

See Also:
Contrast with **EditPaste40**
Edit menu CAL functions
CAL Function Reference

(EditPasteToTrack)

`(EditPasteToTrack [<tTo> <wReps> <nHoleKind> <bEvents> <bTempos> <bMeters> <bMarkers> <nTrack>])`

This is the CAL 3.0 compatible function corresponding to the **Paste** command.

nHoleKind is ignored.

Material is pasted into tracks beginning with *nTrack*.

See Also:
Contrast with **EditPaste40**
Edit menu CAL functions
CAL Function Reference

(EditPaste40)

`(EditPaste40 [<tToTime> <nToTrack> <bOneTrack> <nReps> <tRepLen> <bAsNewClips>`
`<bEvents> <bTempos> <bMeters> <bMarkers>])`

This is the new CAL 4.0 function corresponding to the **Paste** command.

Arguments correspond to their similarly-named items in the Paste dialog box.

See Also:
Contrast with **EditPaste** and **EditPasteToTrack** [CAL 3.0 compatible]
Edit menu CAL functions
CAL Function Reference

(EditQuantize)

(EditQuantize [<tFrom> <tThru> <bEvtFilt> <wRes> <nPct> <bTimes> <bDurs>])

This is the CAL 3.0 compatible function corresponding to the **Quantize** command.

See Also:
Contrast with **EditQuantize40**
Edit menu CAL functions
CAL Function Reference

(EditQuantize40)

`(EditQuantize40 [<wResolution> <nPercent> <bTimes> <bDurations> <nSwingPct> <nWindow> <nOffset> <bNoteLyricAudioOnly>])`

This is the new CAL 4.0 function corresponding to the **Quantize** command.

See Also:
Contrast with **EditQuantize** [CAL 3.0 compatible]
Edit menu CAL functions
CAL Function Reference

(EditGrooveQuantize)

`(EditGrooveQuantize [<tFrom> <tThru> <bEvtFilt> <wRes> <nWindow> <nTimePct> <nDurPct> <nVelPct> <OutOfWindowMode> <szFilePattern>])`

This is the CAL 3.0 compatible function corresponding to the **Groove Quantize** command.

See Also:
Contrast with **EditGrooveQuantize40**
Edit menu CAL functions
CAL Function Reference

(EditGrooveQuantize40)

`(EditGrooveQuantize40 [<wRes> <nWindow> <nTimePct> <nDurPct> <nVelPct> <OutOfWindowMode> <szFile> <szPattern> <bNoteLyricAudioOnly>]`

This is the new CAL 4.0 function corresponding to the **Groove Quantize** command.

See Also:
Contrast with **EditGrooveQuantize** [CAL 3.0 compatible]
Edit menu CAL functions
CAL Function Reference

(EditSlide)
(EditSlide [<tFrom> <tThru> <bEvtFilt> <nAmount> <bUnitTicks>])

This is the CAL 3.0 compatible function corresponding to the **Slide** command.

If *bUnitTicks* is TRUE, then *nAmount* is treated as ticks; otherwise it is treated as measures.

See Also:
Contrast with **EditSlide40**
Edit menu CAL functions
CAL Function Reference

(EditSlide40)

`(EditSlide40 [<nAmount> <bUnitTicks>])`

This is the new CAL 4.0 function corresponding to the **<u>Slide</u>** command.

If *bUnitTicks* is TRUE, then *nAmount* is treated as ticks; otherwise it is treated as measures.

See Also:
Contrast with **<u>EditSlide</u>** [CAL 3.0 compatible]
<u>Edit menu CAL functions</u>
<u>CAL Function Reference</u>

(EditTranspose)

`(EditTranspose [<tFrom> <tThru> <bEvtFilt> <nAmount> <bDiatonic>)`

This is the CAL 3.0 compatible function corresponding to the **Transpose** command.

See Also:
Contrast with **EditTranspose40**
Edit menu CAL functions
CAL Function Reference

(EditTranspose40)

`(EditTranspose40 [<nAmount> <bDiatonic>)`

This is the new CAL 4.0 function corresponding to the **Transpose** command.

See Also:
Contrast with **EditTranspose** [CAL 3.0 compatible]
Edit menu CAL functions
CAL Function Reference

(EditLength)

(EditLength [<tFrom> <tThru> <bEvtFilt> <nPercent> <bStartTimes> <bDurations>])

This is the CAL 3.0 compatible function corresponding to the **Length** command.

See Also:
Contrast with **EditLength40**
Edit menu CAL functions
CAL Function Reference

(EditLength40)

`(EditLength40 [<nPercent> <bStartTimes> <bDurations>])`

This is the new CAL 4.0 function corresponding to the **Length** command.

See Also:
Contrast with **EditLength** [CAL 3.0 compatible]
Edit menu CAL functions
CAL Function Reference

(EditRetrograde)

`(EditRetrograde [<tFrom> <tThru> <bEvtFilt>])`

This is the CAL 3.0 compatible function corresponding to the **Retrograde** command.

See Also:
Contrast with **EditRetrograde40** [CAL 3.0 compatible]
Edit menu CAL functions
CAL Function Reference

(EditRetrograde40)

(EditRetrograde40)

This is the new CAL 4.0 compatible function corresponding to the **Retrograde** command.

See Also:
Contrast with **EditRetrograde** [CAL 3.0 compatible]
Edit menu CAL functions
CAL Function Reference

(EditControlFill)

`(EditControlFill [<tFrom> <tThru> <nCtrl> <nChan> <nBeg> <nEnd>])`

nChan is from 1..16.

nBeg and *nEnd* must be 0..127.

See Also:
Series of Controllers
Edit menu CAL functions
CAL Function Reference

(EditVelocityScale)

(EditVelocityScale [<tFrom> <tThru> <bEvtFilter> <nBeg> <nEnd> <bUnitsPercent])

This is the CAL 3.0 compatible function corresponding to the **Velocity Scale** command.

bUnitsPercent if TRUE indicates that *nBeg* and *nEnd* are percentages, otherwise if FALSE that they are velocity values.

See Also:
Contrast with **EditVelocityScale40**
Edit menu CAL functions
CAL Function Reference

(EditVelocityScale40)

(EditVelocityScale40 [<nBeg> <nEnd> <bUnitsPercent])

This is the new CAL 4.0 function corresponding to the **Velocity Scale** command.

bUnitsPercent if TRUE indicates that *nBeg* and *nEnd* are percentages, otherwise if FALSE that they are velocity values.

See Also:
Contrast with **EditVelocityScale** [CAL 3.0 compatible]
Edit menu CAL functions
CAL Function Reference

(EditFitImprov)

(EditFitImprov [<nReferenceTrack>])

See Also:
Fit Improvisation
Edit menu CAL functions
CAL Function Reference

(EditFitToTime)

(EditFitToTime [<tFrom> <tThru> <tNewThru> <nMethod>])

See Also:
Fit To Time
Edit menu CAL functions
CAL Function Reference

(EditInterpolate)

(EditInterpolate)

This never presents dialog boxes to the user.   It presumes the search (1) and replace (2) filters have already been set as desired.

See Also:
Interpolate
ResetFilter
SetFilterKind
SetFilterRange
Edit menu CAL functions
CAL Function Reference

(ResetFilter)

(ResetFilter <nFilter> <bEverything>)

nFilter is one of the following:

0	Used in all Edit menu commands except Interpolate
1	Interpolate's Search filter
2	Interpolate's Replace filter

See Also:
Edit menu CAL functions
CAL Function Reference

(SetFilterKind)

(SetFilterKind <nFilter> <nKind> <bInclude>)

nFilter is one of the following:

0	Used in all Edit menu commands except Interpolate
1	Interpolate's Search filter
2	Interpolate's Replace filter

nKind is one of the following kind-of-event constants:

NOTE
KEYAFT
CONTROL
PATCH
CHANAFT
WHEEL
SYSX   *[new in 3.0]*
TEXT   *[new in 3.0]*
LYRIC   *[new in 3.0]*
WAVE   *[new in 3.0]*
MCI   *[new in 3.0]*

bInclude says whether to include this kind of event.

See Also:
Edit menu CAL functions
CAL Function Reference

(SetFilterRange)
(SetFilterRange <nFilter> <nRange> <bInRange> <wMin> <wMax>)

nFilter is one of the following:

0	Used in all Edit menu commands except Interpolate
1	Interpolate's Search filter
2	Interpolate's Replace filter

nRange is one of the following:

0	Note - Key	
1	Note - Velocity	
2	Note - Duration	
3	KeyAft - Key	
4	KeyAft - Amount	
5	Control - Controller Number	
6	Control - Value	
7	Patch - Patch Number	
8	ChanAft - Amount	
9	Wheel - Value	
10	Channel	
11	Beat	
12	Tick	
13	Patch - Bank Number	*[new in 3.0]*

bInRange is the *opposite* of the Not checkbox: FALSE means Not is checked, TRUE means it's not checked.

wMin, *wMax* are the minimum and maximum values for the range.

See Also:
Edit menu CAL functions
CAL Function Reference

GoTo menu CAL functions

GotoSearch
GotoSearchNext

Most GoTo menu commands change the current position, which is the Now marker.   CAL expresses these simply as changes to the value of its corresponding *Now* variable.   For example:

```
(=Now 0)
```

is the same thing as the GoTo **Beginning** command, since this command sets the Now marker to the earliest time, 0.

See Also:
CAL Function Reference

(GotoSearch)
(GotoSearch [<NoPrompt>])

The *NoPrompt* argument is simply a syntactic placeholder.   It can be anything.   If there is any argument, the user will not be prompted with the Search dialog.   Instead, Cakewalk will perform the search using the Search Event Filter as-is.

When Cakewalk records this command for you into the CAL notepad, it first uses one or more calls to the ResetFilter, SetFilterKind, and SetFilterRange functions, all using the filter number 1.   Then it adds:

(GotoSearch 1)

The dummy argument "1" means not to prompt the user.

If you are writing a CAL program where you want the user to complete the Search dialog, then call GotoSearch with no arguments:

(GotoSearch)

See Also:
GotoSearchNext
Search
Edit menu CAL functions
CAL Function Reference

(GotoSearchNext)

Repeats the last search.

See Also:
GotoSearch
Search Next
CAL Function Reference

Track menu CAL functions

TrackName
TrackLoop [*obsolete]*
TrackActive
TrackArchive
TrackKey+
TrackVel+
TrackTime+
TrackPort
TrackChan
TrackBank
TrackPatch
TrackVolume
TrackPan
TrackSelect

These generally correspond to commands available on the **Track menu** which are related to specific track parameters.

All of these have a third argument, *nTrack*, which is optional.   If omitted, then all selected, non-blank tracks are affected -- just as the Track menu commands work.   If a specific track number argument is supplied, then only that track is affected, and if the track is blank, it is created prior to applying the setting.

Note: Track numbers are 0 through 255 when you're writing a CAL program, not 1 through 256.

Example 1:   Set the Key+ parameter of all selected, non-blank tracks, to -10.

```
(TrackKey+ -10)
```

Example 2:   Set the Key+ parameter of track 0 only to -10.

```
(TrackKey+ -10 0)
```

See Also:
CAL Function Reference

(TrackName)

(TrackName [<szName> [<nTrack>]])

szName is either a string literal or a string created by the (format) function.

nTrack is a number from 0 to 255.

Example: Set the name of   a track to something including its number in the name:

```
(int nTrack 1)
(getInt nTrack "Number of track to name?" 1 256)
; Give the track the name "Track N", where N is the track number.
; Note that (TrackName) expects a number in the range 0..255, not 1..256.
(TrackName (format "Track " nTrack) (- nTrack 1))
```

See Also:
Name
CAL Function Reference

(TrackLoop)

(TrackLoop [<nReps> [<nTrack>]])

This function is obsolete in CAL VERSION 40.

See Also:
CAL Function Reference

(TrackActive)

(TrackActive [<nActive> [<nTrack>]])

nActive must be be one of the following:

1	playing
0	mute
-1	toggle

See Also:
Status
CAL Function Reference

(TrackArchive)

(TrackArchive [<nArchive> [<nTrack>]])

nArchive must be be one of the following:

1	archive
0	un-archive
-1	toggle

See Also:
CAL Function Reference

(TrackKey+)

(TrackKey+ [<nAmount> [<nTrack>]])

nAmount must be -127..127.

See Also:
Key+
CAL Function Reference

(TrackVel+)

(TrackVel+ [<nAmount> [<nTrack>]])

nAmount must be -127..127.

See Also:
Vel+
CAL Function Reference

(TrackTime+)

(TrackTime+ [<lAmt> [<nTrack>]])

See Also:
Time+
CAL Function Reference

(TrackPort)

(TrackPort [<nPort> [<nTrack>]])

nPort must be 0..15.

See Also:
Port
CAL Function Reference

(TrackChan)

(TrackChan [<nChan> [<nTrack>]])

nChan must be 0..15.

See Also:
Channel
CAL Function Reference

(TrackBank)

`(TrackBank [<nBank> [<nTrack>]])`

nBank must be -1..16384.

See Also:
Bank
CAL Function Reference

(TrackPatch)

(TrackPatch [<nPatch> [<nTrack>]])

nPatch must be -1..127.

See Also:
Patch
CAL Function Reference

(TrackVolume)

(TrackVolume [<nVolume> [<nTrack>]])

nVolume must be -1..127.

See Also:
Volume
CAL Function Reference

(TrackPan)

(TrackPan [<nPan> [<nTrack>]])

nPan must be -1..127.

See Also:
Pan
CAL Function Reference

(TrackSelect)

`(TrackSelect <nState> <nTrack>)`

nState must be one of the following:

1	select
0	un-select
-1	toggle

nTrack may be -1 to mean "all tracks", otherwise it must be from 0 to 255.

Note: This only has an effect on old Cakewalk 3.0 compatible CAL functions.   For example, this will change which tracks EditCut operates on, but not EditCut40.   The latter strictly follows what the user has selected.

See Also:
CAL Function Reference

Settings menu CAL functions

SettingsMetronome
SettingsMidiIn
SettingsMidiThru
SettingsMidiOut
SettingsRecordFilter
SettingsChannelTable

These correspond to some of the commands available on the **Settings menu**.

See Also:
CAL Function Reference

(SettingsMetronome)

`(SettingsMetronome [<bPlay> <bRec> <bAcc> <nCount> <nPort> <nChan> <nKey> <nVel> <wDur> <bBeep>])`

See Also:
Metronome
CAL Function Reference

(SettingsMidiIn)

`(SettingsMidiIn [<n1> <n2> <n3> <n4> <n5> <n6> <n7> <n8> <n9> <n10> <n11> <n12> <n13> <n14> <n15> <n16>])`

n1 through *n16* are MIDI channels.   A value of zero means the channel is not recorded or echoed.   A value of one means that it is.

See Also:
Channel Filter
CAL Function Reference

(SettingsMidiThru)

(SettingsMidiThru [<nMode> <nPort> <nChan> <nKey> <nVel> <nLocalOnPort>])

These arguments correspond to the similarly-named items in the MIDI Thru dialog box.

See Also:
MIDI Thru
CAL Function Reference

(SettingsMidiOut)

`(SettingsMidiOut [<bTxMidiRt> <bSendCont> <bSendSPP> <nSPPDelay> <bCtrlZero> <bCtrlChase>])`

These arguments correspond to the similarly-named items in the MIDI Out dialog box.

See Also:
MIDI Out
CAL Function Reference

(SettingsRecordFilter)

`(SettingsRecordFilter [<bNote> <bKeyAft> <bControl> <bPatch> <bChanAft> <bWheel>])`

These arguments correspond to the similarly-named items in the Record Filter dialog box.

See Also:
Type Filter
CAL Function Reference

(SettingsChannelTable)

(SettingsChannelTable [<bOn> <n1> <n2> <n3> <n4> <n5> <n6> <n7> <n8> <n9> <n10> <n11> <n12> <n13> <n14> <n15> <n16>])

n1 through *n16* are track numbers, 0..255.

See Also:
Channel Table
CAL Function Reference

; (semi-colon)

Use the semi-colon character to place comments in your CAL program.   CAL ignores the semi-colon and everything following it on the same line.

See Also:
CAL Function Reference

NIL

This is a CAL expression that does nothing and has no value.   It may be used as a "place-holder" where CAL syntax requires *some* expression but you have none that you want to supply.

See Also:
CAL Function Reference

CAL Data Types
int
An int is a 16-bit signed integer.   Values range from --32678 to 32767.   (Just like an int in C or an integer in PASCAL.)

word
A word is a 16-bit unsigned integer.   Values range from 0 to 65535.   (Just like an unsigned short int in C.)

long
A long is a 32-bit signed integer.   Values range from about negative 2 billion to positive 2 billion.   (Just like a long int in C.)

dword
A dword is a 32-bit unsigned integer.   Values range from 0 to over 4 billion.   (Just like an unsigned long int in C.)

string
A string is text enclosed in quotes.

Variable declarations
Variables must be declared before they are used.   Variables are declared in the form

```
(<type> <name> [<initial-value>])
```

Examples:

```
(int <variable-name> [initial-value])

(word <variable-name> [initial-value])

(long <variable-name> [initial-value])

(dword <variable-name> [initial-value])

(string <variable-name> [initial-value])

(undef <variable-name>)                    ; un-defines a variable of any type
```

The optional *initial-value* part lets you initialize a variable.   For example, this declares an int variable named "i" and initializes it to zero:

```
(int i 0)
```

If you don't initialize a variable, its value cannot be predicted.

Because of the LISP-like syntax, all CAL needs to delimit variable names is a space.   So, variable names may be any sequence of printable ASCII characters.

See Also:
CAL Function Reference

Math functions

```
(+ <op1> <op2>)             ; add

(- <op1> <op2>)             ; subtract

(* <op1> <op2>)             ; multiply

(/ <op1> <op2>)             ; divide

(% <op1> <op2>)             ; modulo (remainder after division)


(++ <variable>)             ; increment (add 1 to variable)

(-- <variable>)                 ; decrement (subtract 1 from variable)


(random <min> <max>)        ; returns pseudo-random # min..max inclusive
```

See Also:
CAL Function Reference

Relational functions

```
(< <op1> <op2>)              ; less than
(> <op1> <op2>)              ; greater than
(<= <op1> <op2>)             ; less than or equal to
(>= <op1> <op2>)             ; greater than or equal to
(== <op1> <op2>)             ; equal
(!= <op1> <op2>)             ; not equal
```

Relational functions compare two values.   The result is either zero (false) or non-zero (true).   For example:

```
(< 11 12)
```

is true.   Eleven is less than twelve, and the function returns a non-zero number.   On the other hand,

```
(> 11 12)
```

is not true.   Eleven is not less than twelve, and the function returns zero.

See Also:
CAL Function Reference

Boolean functions

```
(&& <op1> <op2>)            ; logical AND.  If both operands are non-zero, returns non-
zero.

(|| <op1> <op2>)            ; logical OR.  If either or both operands are non-zero,
returns non-zero
```

See Also:
CAL Function Reference

Assignment functions

`(= <variable> <expr>)`

This is how you give a variable a value.   For example, to assign a variable named "foobar" the value 12:

`(= foobar 12)                ; foobar is now 12`

To assign "foobar" the value of (+ 10 10):

`(= foobar (+ 10 10))         ; foobar is now 20`

The following assignment operators let you perform an arithmetic operation and an assignment in one fell swoop:

`(+= <variable> <value>)    ; (= <variable> (+ <variable> <value>))`

`(-= <variable> <value>)    ; (= <variable> (- <variable> <value>))`

`(*= <variable> <value>)    ; (= <variable> (* <variable> <value>))`

`(/= <variable> <value>)    ; (= <variable> (/ <variable> <value>))`

`(%= <variable> <value>)    ; (= <variable> (% <variable> <value>))`

Example:

`(+= foobar 1)`

is the same as:

`(= foobar (+ foobar 1))`

See Also:
CAL Function Reference

(forEachEvent)

```
(forEachEvent

        <action>

)
```

The *action* is evaluated for (applied to) each selected event. In other words, the *action* expression is inside of an implicit loop cycling through each of the selected events. The <u>event parameter variables</u> hold the values for the current event.

<u>Example:</u> Ask the user for an amount, then add that amount to the velocity of all selected events which are Note events.

```
(do

        (int amt 0)

        (getInt amt "Amount to add?" -127 127)

        (forEachEvent

                (if (== Event.Kind NOTE)

                        (+= Note.Vel amt)

                )

        )

)
```

See Also:
<u>CAL Function Reference</u>

Event parameter variables

CAL has some predefined "magic" variables that let you access events in Cakewalk Professional's track buffers. These variables work only in the (forEachEvent) expression, where they're automagically set to the value of the current event's parameters.   This is how you get and set event parameters.   You can use them in expressions to find out about the current event.   If you assign them a new value, they automagically change the current event.

Different types of events have different parameters.   For instance, a note event has a key number, a velocity, and a duration, but a patch event has only a patch change number.   Consequently, some of these magic variables are defined only for particular kinds of events, while others -- e.g., the variable for the time of the event --apply to all kinds of events.

Variables for all kinds of events

Event.Chan

The MIDI channel of the event (0..15).

Event.Time

The starting time of the event.   The type of this variable is dword.   See Musical Time Functions for more information.

Event.Kind

The kind of event it is.   One of the following:

        NOTE, PATCH, CONTROL, CHANAFT, KEYAFT, WHEEL, SYSX

Variables for particular kinds of events

The preceding variables apply to all kinds of events.

The following variables let you get or set an event parameter that a particular kind of event has.   So, you should test the value of Event.Kind, then use only the variables that are meaningful for an event of that kind.

Variable	Event.Kind	Meaning	Allowed values
Note.Key	NOTE	Key number (pitch)	0 .. 127
Note.Vel	NOTE	Velocity	0 .. 127
Note.Dur	NOTE	Duration	0 .. 65535
Patch.Num	PATCH	Patch number	0 .. 127
Patch.Bank	PATCH	Bank number	-1 .. 14383
Control.Num	CONTROL	Controller number	0 .. 127
Control.Val	CONTROL	Controller value	0 .. 127
KeyAft.Key	KEYAFT	Key number	0 .. 127
KeyAft.Val	KEYAFT	Value (pressure amount)	0 .. 127
ChanAft.Val	CHANAFT	Value (pressure amount)	0 .. 127
Wheel.Val	WHEEL	Wheel value	-8192 .. 8191

Example: Make sure the event is a note event.   If it is, add two to the key number (raise the pitch two half-steps):

        (if (== Event.Kind NOTE)   ; Is it a NOTE event?

            (= Note.Key (+ Note.Key 2))   ; Yes: change it!

)

See Also:
CAL Function Reference

Marker variables

There are some other "automagical" variables that equate to Cakewalk Professional's From, Now, and Thru markers, and one for the time of the latest event in the song.

```
From    ; From marker
Now             ; Now marker
Thru    ; Thru marker
End             ; the time of the latest event among all tracks
```

You can use them for their values anywhere in the CAL program, but you may not assign new values to them in a forEachEvent expressions.   (You can never assign a value to End; it is read-only.)

Example:

```
(getTime From "Change From marker time:")
```

or, to save, change, and restore:

```
(dword oldFrom From)
(getTime From "Change From marker time:")
(forEachEvent
        ; ... do some stuff ....
)
(= From oldFrom)
```

Note: Cakewalk Professional never allows (> From Thru) or (< Thru From).   Neither does CAL.   When one marker is changed, the other one is automatically adjusted, if necessary, to prevent this.

Note: Changing the Now marker has no effect on what events the forEachEvent operates on.   Changing the From and Thru markers will.

 See Also:
CAL Function Reference

Buffer functions

index

`(index)`

Returns the index of the event in the track buffer.   Events are numbered starting from zero.

delete

`(delete)`

Deletes the current event.   Indexes for subsequent events are automatically decremented.

insert

`(insert <time> <chan> <kind> [ ...data parameters... ])`

Inserts a copy of the event at the specified index.   This function takes a variable number of arguments, depending on the <kind> argument:

```
(insert <time> <MIDI channel> NOTE <key> <velocity> <duration>)

(insert <time> <MIDI channel> KEYAFT <key> <amount>)

(insert <time> <MIDI channel> CONTROL <controller number> <value>)

(insert <time> <MIDI channel> CHANAFT <amount>)

(insert <time> <MIDI channel> PATCH <patch number> [<bank number>])

(insert <time> <MIDI channel> WHEEL <value>)
```

Example:

```
(insert (makeTime 1 1 0) 10 NOTE 60 64 TIMEBASE)
```

This inserts at time 1:1:0 for MIDI channel 10 a note event with a key number of 60, a velocity of 64, and a duration of TIMEBASE.

Hint: The TIMEBASE constant is described in the Musical Time Functions section.

The track that the event is inserted on depends on whether you use it in forEachEvent expression or not.   If you use it in a forEachEvent expression, then the event is inserted in the track which that expression is currently evaluating.   Otherwise, it is inserted in the current track (the track which the cursor is on in the Track/Measure view).

In other words, use (insert) in the forEachEvent   for inserting events in any and all selected tracks.   For example, you might want to add a controller event wherever you find a certain note event.

For commands where you want the user to be able to add events to a single track -- the track the highlight is on in the Track/Measure view -- use (insert) outside a forEachEvent.

Note: The inserted events do not become visible to the CAL program while forEachEvent is evaluated.   It is evaluated only for events existing in tracks before the forEachEvent started.

Note: Because this command adds events, it is possible for it to exhaust free memory.   If that happens, a CAL "out of memory" error message is displayed and the CAL program is terminated.

Note: The *<bank number>* argument when inserting a PATCH event is optional, to provide compatibility with previous versions of Cakewalk and CAL.   If you do not supply it, the value -1 will be used, which means "none" and appears to the user as "----".

 See Also:
CAL Function Reference

Musical time functions
Converting between Measure:Beat:Tick and "raw" times

```
(meas <time>)
```

```
(beat <time>)
```

```
(tick <time>)
```

```
(makeTime <measure> <beat> <tick>)
```

These are conversion functions for dealing with Cakewalk Professional times.

Although Cakewalk Professional displays times to the user in Measure:Beat:Tick format, internally they are stored as a single <u>dword</u>.   CAL variables like Event.Time deal with these "raw" dwords too.

These functions let you convert between the two forms.   (meas <time>), (beat <time>), and (tick <time>) return the measure, beat, and tick for a given raw dword time.   (make time <meas> <beat> <tick>) makes up a dword time from a measure, beat, and tick.   This conversion depends on the current meter, of course, as well as the timebase.

Important: Measures and beats are numbered from 1, not 0.   You will get a "value out of range"   error if you pass (make time) a 0 for the measure or beat arguments.

TIMEBASE constant
TIMEBASE is a variable that is equal to the current timebase as set by the **<u>Timebase</u>** command.   Remember that the timebase is the number of ticks per quarter-note.

See Also:
<u>CAL Function Reference</u>

Output functions
message
```
(message <value> [ [value] ... ])
```

Takes a variable number of arguments, which can be int, word, dword, or string expressions.   Prints the result on Cakewalk Professional's message line (the bottom line of the screen).

Example:

```
(do

      (int foobar 10)

      (message "Foobar is " foobar " and the timebase is " TIMEBASE)

)
```

Assuming that Cakewalk Professional's timebase is set to 120, the preceding CAL code would display the following on the message line:

        Foobar is 10 and the timebase is 120

pause
```
(pause <value> [ [value] ... ])
```

Works just like **(message)** but also pauses for a user keypress or mouse click.   If the user presses escape, the CAL program will terminate.   If the user presses any other key, the CAL program resumes.

Tip: This is handy for debugging CAL programs.   Use **(pause)** to display a variable value; that way you can press Cancel to break out of long loops.

format
```
(format <value> [ [value] ... ])
```

Works just like **(message)** and **(pause)** but simply returns a string, which you may pass to a function like **(TrackName)**.

 See Also:
CAL Function Reference

Input functions

These functions let you prompt the user for input.   They display a standard Cakewalk Professional dialog box.   After the user presses **OK**, the function returns the value.   (If the user presses **Cancel** then the CAL program aborts with the error, "User pressed Cancel.")

`(getInt <int-variable> <prompt> <minimum> <maximum>)`

Returns the int value that the user input.

int-variable is an <u>int</u> variable that will receive the input value.   Its value is displayed as the default value in the dialog box.

prompt is a string item that will be displayed in the dialog box.

minimum and *maximum* are int values; CAL will not let the user input a number less than or greater than these values.

<u>Example:</u> Ask the user to input "A number from 0 through 100", suggesting a default of 50, and assign the result to a variable "i":

```
(do

      (int i 50)

      (getInt i "A number from 0 thru 100" 0 100)

)
```

`(getWord <word-variable> <prompt> <minimum> <maximum>)`

Returns the word value that the user input.

word-variable is an <u>word</u> variable that will receive the input value.   Its value is displayed as the default value in the dialog box.

prompt is a string item that will be displayed in the dialog box.

minimum and *maximum* are word values; CAL will not let the user input a number less than or greater than these values.

`(getTime <dword-variable> <prompt>)`

Returns the dword value that the user input.

dword-variable is a <u>dword</u> variable that will receive the input value.   Its value will be displayed as the default value in the dialog box.

prompt is a string item that will be displayed in the dialog box.

<u>Example:</u> Ask the user to input a "Starting time", suggesting as a default the time of the current event, and assign the result to a variable "t".

```
(do

      (dword t Event.Time)

      (getTime t "Starting time:")

)
```

See Also:
CAL Function Reference

Control flow functions
do
```
(do
            <expr1>
    [       <expr2>
            ...
            <exprN> ]
)
```

Evaluates each expression in sequence, once and only once.

Tip: Use this whenever CAL expects a single expression but you want to use two or more.

if
```
(if <condition>
        <true-expression>
        [<false-expression>]
)
```

If *condition* is non-zero, evaluates the *true-expression*, else evaluates the *false-expression*.   The *false-expression* is optional.

while
```
(while <condition>
        <action>
)
```

So long as *condition* is non-zero, *action* is evaluated.   If *condition* is zero the first time, *action* is never evaluated.

<u>Example:</u> Count-down from 100 to 1:
```
(do
        (int count 100)
        (while (!= count 0)
                (do
                        (message "Count-down is now " count)
                        (-- count)
                )
        )
)
```

switch
```
(switch <index>
            <case1> <case1result>
    [       <case2> <case2result>
            <case3> <case3result>
            ...
            <caseN> <caseNresult> ]
)
```

Evaluates *index*, then compares it to the first of each of the following pairs of expressions.   When it finds the first match, if any, it executes the second half of the pair and returns the result.

CAL doesn't have an explicit "default" or "else" case statement.   But you can achieve the same thing by making *index* itself the very last of the case pairs.   This works because **switch** matches the first pair it finds, then quits.   If nothing matches before the *index* case, why then, *index* always equals itself -- so its consequent will be evaluated if and only if no other pairs matched.   For instance:

```
(switch TIMEBASE
      120                 (pause "120")        ; Is it 120?
      96                  (pause "96")         ; Is it 96?
      TIMEBASE      (pause TIMEBASE)    ; It is anything else not already matched
above
)
```

See Also:
CAL Function Reference

(include)
(include <szPathName>)

Runs another CAL program as if the content of that file were inserted in the program at the point where the (include) function is placed.

Example: Include the file NEED20.CAL, which is one of the supplied example files.   The purpose of NEED20.CAL is to check that CAL version 2.0 or higher is being used, and if not, warn the user and stop the CAL program.

```
(do

        (include "NEED20.CAL")      ; require VERSION >= 20

        ; ... proceed with CAL program

)
```

See Also:
CAL Function Reference

(sendMIDI)

(sendMIDI <nPort> <nChan> <kind> <data1> [<data2>])

This function lets you transmit a MIDI event.

nPort is 0..15, or -1 for "all ports".

nChan is 0..15, or -1 for "all channels".

kind is one of the constants like NOTE, PATCH, and so on.

nData1 is 0..127.

nData2 is 0..127, and is ignored unless *kind* is NOTE, CONTROL, or KEYAFT.

(sendMIDI <nPort> <nChan> SYSX <data bytes>)   ; System Exclusive form

If *kind* is SYSX, then up to a couple hundred data bytes may be supplied.   You may not include any bytes whose value is outside the range 0..127.   In particular, do not include the starting F0 or ending F7 bytes: CAL will supply them for you.   Include only the bytes in between the F0 and the F7.

nChan is ignored.

Note: This new form of the **sendMIDI** function is available on in CAL version 31 and higher.   You can test

        (>= VERSION 31)

to determine if this form of the function may be used.   If the version is <= 30, you should issue a polite error message to the user.

See Also:
CAL Function Reference

(delay)

(delay <dwMilliseconds)

dwMilliseconds is the number of milliseconds (1000th of a second) that **delay** will wait before returning.

See Also:
CAL Function Reference

(DLL)

`(DLL <szLibName> <szProcedureName> [ <arguments> ])`

This function lets you make calls to functions in 16-bit Windows DLLs (Dynamic Link Libaries).

The return value is of type <u>dword</u>, but may be assigned to any other type.

CAL string literals may be passed for LPCSTR arguments.

<u>**WARNING:**</u> Use of this powerful function requires great care.   If you call a DLL function with the wrong number of arguments, you will corrupt the stack and subsequent operation of CAL and Cakewalk will be unpredictable.   There is no error-checking or other protection against this.

<u>Example:</u>

```
(do

      ; Call the Windows USER library function MessageBeep( UINT uBeep ).

      (DLL "USER" "MessageBeep" 0)


      ; Call the Windows USER library function

      ;    MessageBox( HWND hWnd, LPCSTR lpcszTest, LPCSTR lpcsz Caption, UINT uFlags
)

      ; with a NULL HWND argument and  0x40 == 64 decimal for MB_OK flag.

      (DLL "USER" "MessageBox" 0 "This is a message" "Caption" 64)

)
```

See Also:
<u>CAL Function Reference</u>