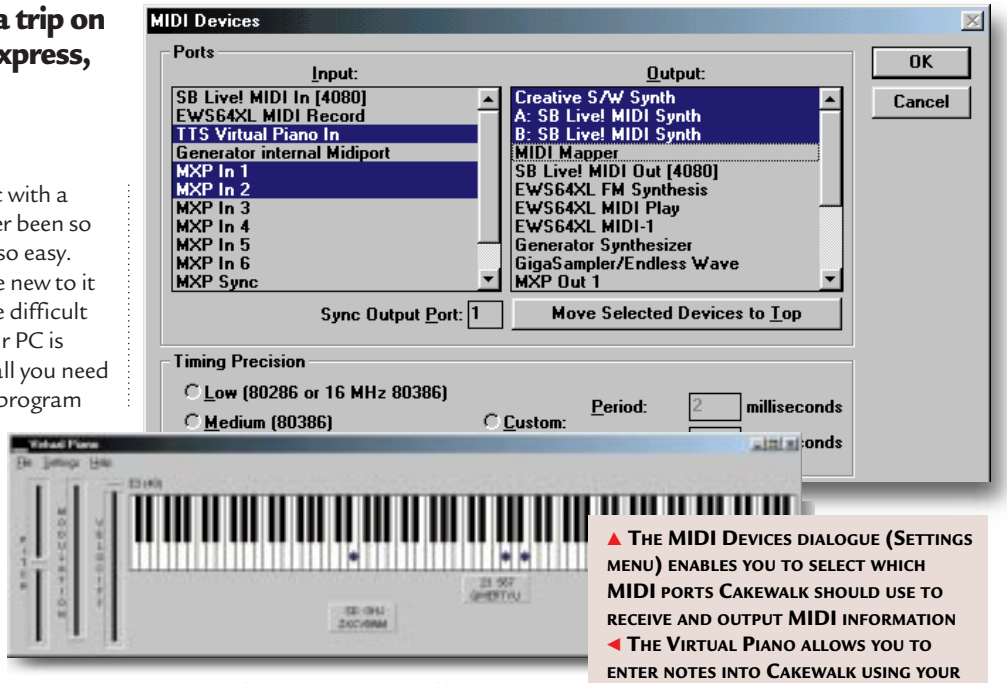
Express delivery

Steven Helstrip takes a trip on board the Cakewalk Express, the easy-to-use sound sequencing program.



▲ THE MIDI DEVICES DIALOGUE (SETTINGS MENU) ENABLES YOU TO SELECT WHICH MIDI PORTS CAKEWALK SHOULD USE TO RECEIVE AND OUTPUT MIDI INFORMATION
◀ THE VIRTUAL PIANO ALLOWS YOU TO ENTER NOTES INTO CAKEWALK USING YOUR PC'S KEYBOARD AND MOUSE

Making music with a PC has never been so popular or so easy. But if you're new to it all, it can be difficult to know where to begin. If your PC is equipped with a sound card, all you need to get started is a sequencing program like Twelve Tone's Cakewalk Express, featured on this month's cover CD. And to help you start making music right away, we're going to show you everything you need to know, from setting up, through to recording and editing your own MIDI tracks.

Although Cakewalk Express is an entry-level program, it does have some sophisticated features to offer. For example, it includes:

- **notation and piano roll** windows for editing your performances;
- **lets you balance** your recordings via an on-screen virtual mixing console; and
- **includes support** for MCI (Media Control Interface) commands, which means you can synchronise your music to video (.avi files) and integrate digital audio files (.wav) within your arrangements.

1 **Installing Cakewalk Express** couldn't be easier — simply load-up this month's cover CD and follow the on-screen instructions. The setup program will install a Virtual Piano onto your system to allow you to use your PC's keyboard to play-in notes. You will need to restart your system before you can use it, though.

2 **Before running Cakewalk** it's a good idea to check that your sound card is set up to play back MIDI correctly, otherwise you won't be able to hear anything. The easiest way to do this is with the Windows Media Player, which can be launched by typing "mplayer" from the Start menu's Run command. First select MIDI sequencer from the Device menu, then load up a MIDI file (*.mid). If there are no MIDI files on your PC's hard disc, then check out the ones on this month's cover CD.

3 **If the tune plays back** smoothly, you're almost ready to start making music of your own. If nothing is heard, the most probable cause is that MIDI playback is turned down, or muted, in your sound card's mixer applet or control panel. You can launch the mixer by double-clicking on the speaker icon in the Task Bar. If it isn't there, go to Multimedia Properties in the Control Panel and tick the box marked Show Volume Control on the Taskbar.

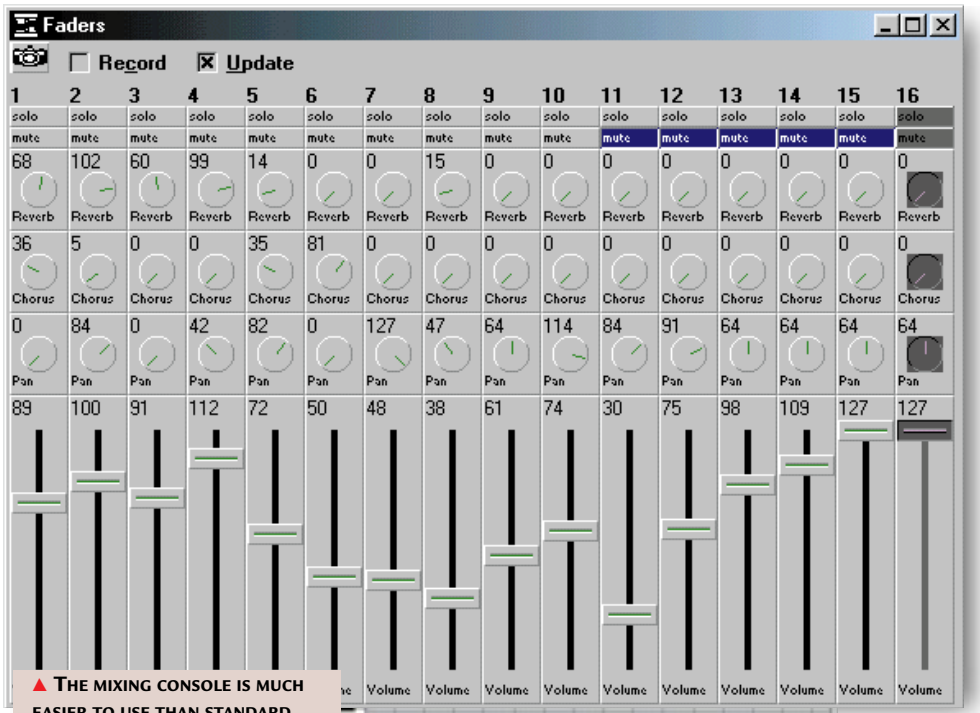
4 **To achieve** the best possible signal-to-noise ratio (less noise, more sound), ensure that the volume controls for MIDI and master levels are set to maximum. And if you want to go the whole hog, why not hook up your sound card to a hi-fi system? To do this, simply connect the line output of your sound card to your hi-fi's auxiliary input. If your hi-fi doesn't have auxiliary connectors, try the tape input instead.

5 **When Cakewalk loads** for the first time, the MIDI settings dialogue will start automatically. This enables you to choose which MIDI devices Cakewalk should use to receive and output MIDI information. You'll need to select at least one MIDI output — preferably your sound card's WaveTable synthesiser — and an input device. If you don't have a MIDI keyboard connected to your PC, don't worry: just choose the Virtual Piano driver (TTS Virtual Piano In).

Take in the view

The Cakewalk screen is divided into three main areas: the Control bar, the Track view and the Measure view [Fig 1, page 242]. The default screen layout also includes the Notation window, which can be used to insert and edit notes. If your music theory is a tad rusty, you may prefer to use the Piano Roll view instead.

- **The Control bar** sits along the top of the screen and provides buttons for some of the more frequently used commands like the transport controls (play, rewind, record, etc.). We'll look at the other main features in more detail later.
- **The Track view** is where settings are made for each track, such as which MIDI channel a part should play on. It is also possible from here to select an instrument for each track, change its volume and position it somewhere between the left and right speakers, which is known as "panning". To select a track parameter you can either click on it with your mouse, or navigate with the cursor keys as you would in a spreadsheet. Most parameters in



▲ THE MIXING CONSOLE IS MUCH EASIER TO USE THAN STANDARD TRACK PARAMETERS. IT'S IN THE VIEW MENU

▶ CAKEWALK'S PIANO ROLL VIEW ENABLES YOU TO EASILY ENTER, DELETE AND MOVE NOTES AROUND

Cakewalk can be changed in one of three ways: double-clicking on a value enables you to key-in a number; you can use the +/- keys on the numeric keypad to step up and down incrementally; or, if you prefer to work with just the mouse, click and hold the left button on a parameter and drag your mouse up or down.

The Measure view is where recorded parts are displayed, arranged and often rearranged once you have a tune you can work with. Single measures can be selected for editing just by clicking on them, or you can highlight multiple measures on several tracks for editing larger sections of a song. *Tip: you can jump between Track and Measure views with the Tab key.*

Getting started

Now that we know about the basic features of the program, it's time to face the music.

1 **To get a feel** for how Cakewalk works, load the file prelude3.wrk. The File Information dialogue will appear to let you know who wrote the piece (in this case, JS Bach, although I'm sure he didn't program it personally). This is followed by a second dialogue that says "File has System Exclusive auto send banks. Send them now?" Answer yes to this. To play the sequence, simply press the space bar or click on the play icon.

The piece is set up to play back on a harpsichord, as it would have been in Bach's day. The instrument can easily be changed, though, by clicking in the Patch column. Why not hear what it sounds like being played by a sitar, or even bagpipes? Give the volume and pan parameters a tweak as well, which are the next two columns to the right.

2 **The tempo, or speed** of the piece can be altered by clicking the Tempo Offset display on the Control bar. A dialogue box will pop up, from where you can enter a tempo in BPM (beats per minute) or use your mouse to tap-in a tempo. The three buttons beneath the Tempo display change the tempo ratio. By default, these are set to 0.5, 1 and 2 times the current tempo setting. They're really useful if you want to fast forward to a particular part in your arrangement, like you would with a video recorder, or you need to hear a part played back slowly. You can modify the ratios by clicking on them and entering new values. Note that if you're recording a track that is too difficult to play in real-time, find a tempo you are comfortable with and store the setting as a tempo ratio for later use.

3 **The staff icon** to the right enables you to set the key and time signatures, and the icon furthest to the right is the Panic button. Clicking this stops playback and sends note-off messages, and other reset commands, to every MIDI device. It's particularly useful when notes continue to play, or hang, even after you've pressed Stop.

From the top

If you have a MIDI keyboard connected to your PC, you should be able to play and record straight into Cakewalk. For those of you without, the next best option is to load up the Virtual Piano (Ctrl-K). You may find it easier to work with the two programs simultaneously if the "Always on top" option is enabled in the Settings menu.

Keyboard shortcuts for Cakewalk

Keyboard shortcuts can help you work more efficiently with Cakewalk. Here are the most common ones, which include transport and locator commands.

Play/Stop	Space
Record	R
Rewind to Start	W
Rewind	Ctrl-Page Up
Fast Forward	Ctrl-Page Down
Virtual Piano	Ctrl-K
Step Record	Shift-F3
Go to start of selection	F7
Go to end of selection	F8
Set start of selection	F9
Set end of selection	F10

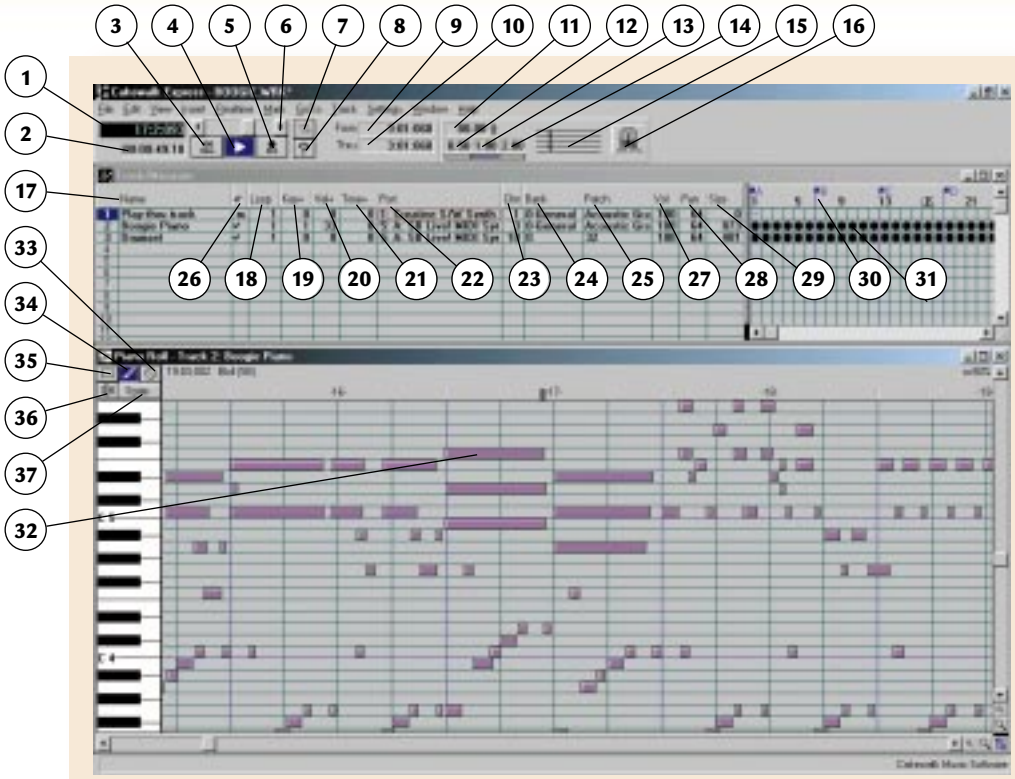


FIG 1 A WALK THROUGH CAKEWALK

1 CURRENT SONG POSITION, BARS: BEATS: TICKS
2 CURRENT SONG POSITION, HR: MN: SC: FR
3 REWIND TO START
4 PLAY
5 RECORD
6 SONG POSITION SLIDER
7 STEP RECORD
8 HELP
9 CURRENT SELECTION START POINT
10 CURRENT SELECTION END POINT
11 TEMPO
12 PLAY HALF TEMPO
13 PLAY CORRECT TEMPO
14 PLAY DOUBLE TEMPO
15 TIME AND KEY SIGNATURE
16 PANIC BUTTON (ALL NOTES OFF)
17 TRACK NAME
18 NUMBER OF TIMES THE TRACK PLAYS
19 PITCH TRANSPOSE
20 VELOCITY OFFSET
21 DELAY OFFSET
22 MIDI OUTPUT PORT
23 MIDI CHANNEL
24 BANK SELECT
25 PATCH (INSTRUMENT SELECTOR)
26 TRACK MUTE/ENABLE
27 MIDI VOLUME
28 PAN
29 NUMBER OF EVENTS THE TRACK HOLDS
30 TRACK MARKER
31 MEASURE CONTAINING DATA
32 MIDI EVENT
33 ERASE TOOL
34 INSERT/DRAW TOOL
35 SELECTION TOOL
36 SCRUB TOOL
37 SETS SNAP VALUE

In addition to pitch bend and modulation, the piano has a sustain pedal feature that is activated by holding down Shift.

1 Each MIDI port provides 16 discrete channels for playing-back instruments, and only one instrument patch may be selected on each. This doesn't limit you to just 16 tracks, however; any number of tracks can be assigned to the same MIDI channel.

The exception to this rule is drum and percussion parts, which are configured to receive on MIDI channel 10, since each key has a different instrument assigned to it.

2 To record a part into Cakewalk, first select an appropriate instrument on the track that you want to record to. After pressing the record button, or R on the keyboard, wait for the Metronome count-in of one bar and off you go. Don't worry if you make a few mistakes at this stage, because you can easily edit them out later on.

3 You can correct any timing errors by applying quantise from the Edit menu. It works by moving notes to the nearest sub-division in a musical bar. The number of divisions is determined by the quantise resolution, which is selectable between a whole bar, right down to a 32nd note. For a less rigid feel, reduce the quantise strength to around 50 percent.

4 There are four editing windows available in Cakewalk Express, which are launched via the View menu or by right-clicking in the Track view. We only have the space to cover the Piano Roll view here, but don't forget to try out the others.

In the Piano Roll view the mouse is used for entering, deleting and moving notes around. It's all very intuitive, so it doesn't need too much explaining.The screen is split into two sections: the lower half displays note-on velocities (how hard each key was struck), while the main area shows the notes themselves. Bars and beats are shown across the top of the screen similar to the Measure view, and pitch is represented by the piano keyboard in the far-left column. When you first open the Piano Roll, the note velocity pane is hidden at the bottom of the screen. To view it, drag the horizontal dividing bar upwards.

The Draw tool (pencil icon) is used to insert, lengthen and change the pitch of notes by dragging them around the screen, and you can right-click on a note to modify its properties. Notes will always "snap" to the current grid resolution, which is selectable from a whole note through to individual ticks (120 ticks = a quarter note).

If you want to know more about using Cakewalk, check out www.ping.at/users/akainz/midimani.htm for further tips, tutorials and links to other useful sites.

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