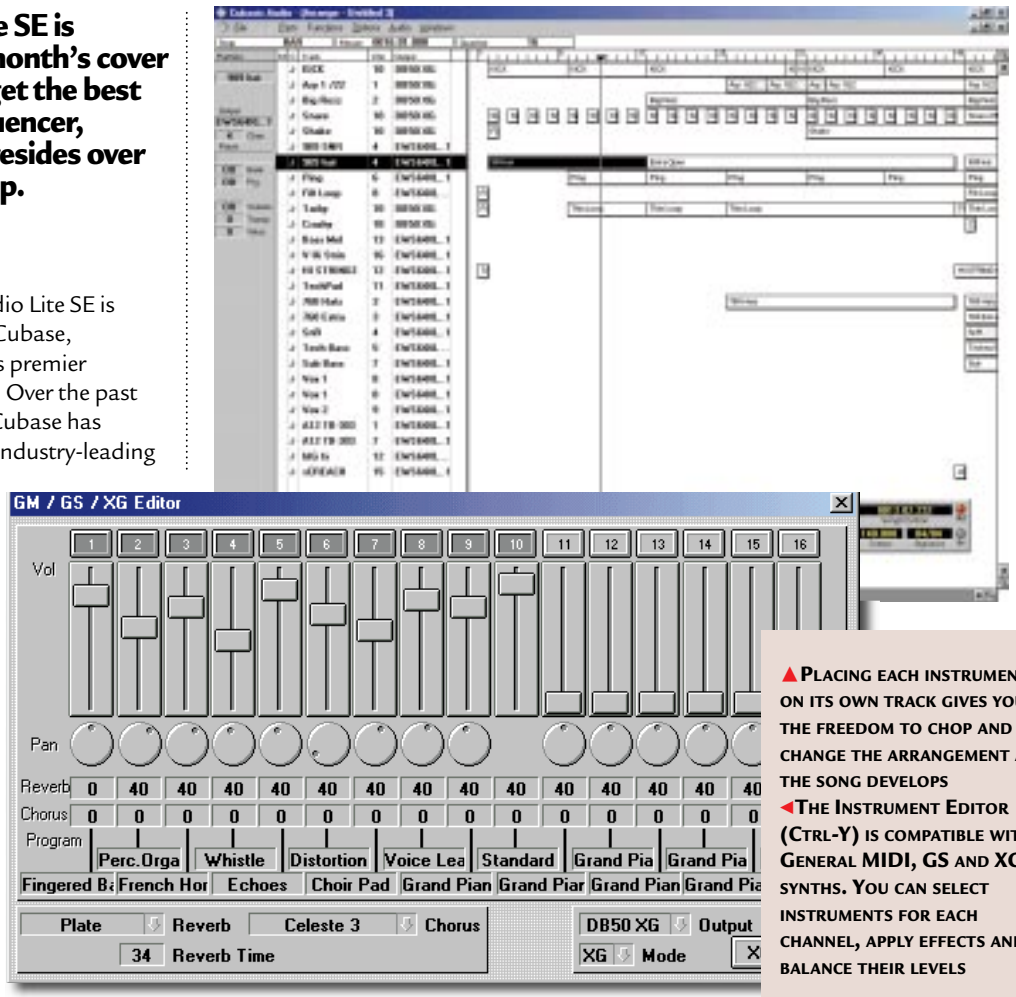
Lite fantastic

Cubasis Audio Lite SE is featured on this month's cover disc. To help you get the best from this top sequencer, Steven Helstrip presides over a special workshop.



▲ PLACING EACH INSTRUMENT ON ITS OWN TRACK GIVES YOU THE FREEDOM TO CHOP AND CHANGE THE ARRANGEMENT AS THE SONG DEVELOPS

◀ THE INSTRUMENT EDITOR (CTRL-Y) IS COMPATIBLE WITH GENERAL MIDI, GS AND XG SYNTHS. YOU CAN SELECT INSTRUMENTS FOR EACH CHANNEL, APPLY EFFECTS AND BALANCE THEIR LEVELS

Cubasis Audio Lite SE is based on Cubase, Steinberg's premier sequencer. Over the past ten years Cubase has established itself as the industry-leading package. What started life as a modest MIDI sequencer for the Atari ST has developed into a professional, all-in-one studio solution, providing up to 32 tracks for audio playback with real-time digital effects. If you're new to sequencing or thinking of arranging your own compositions, Cubasis has a wide range of features to get you started.

What you get

● **The main arrange window** looks and feels similar to Cubase and provides two channels for audio and up to 32 tracks for MIDI. One of the attractions of the Cubase range is its ease of use, partly due to its intuitive arranging tools and seamless integration of audio and MIDI.

● **Recorded parts, or clips**, can be treated equally in the arrange window, from copying and moving parts around, to splicing and joining parts together.

● **One of the limitations of Cubasis** is that there is no Piano Roll editor, which leaves just two editors at your disposal: Score and List. If you're used to working with traditional notation, Score edit will probably be the better choice for you.

● **Notes can be inserted on a stave** with the click of a mouse and are just as easily removed or altered. You might decide, say, to change a note's pitch, length, or the velocity at which it is played.

● **List edit is less graphical** and slightly trickier to use, although with a bit of practice you can still get most jobs done, from inserting MIDI events to fine-tuning your performances.

● **MIDI data is presented sequentially** in a list format. Perhaps the greatest advantage of this style of editor is that all types of MIDI data can be displayed and edited, from basic note-on and sustain pedal information, through to more complex controller and system-exclusive events.

● **Once you have recorded** a performance, basic quantising is available, from the Functions menu, to let you fix any timing errors. It works by shifting notes to the nearest subdivision in a musical bar. The number of divisions is determined by the quantise resolution, which is set with a pop-up menu common to all windows. The resolution is selectable between a whole bar, right down to a 64th note. Triplet and dotted values are available, too.

What you need

Cubasis works with any 16-bit Windows-compatible sound card, enabling audio playback through the wave device and MIDI tracks via the internal synthesiser. To record MIDI into Cubase you need a MIDI controller such as a keyboard [Fig 1]. This can be hooked up to your sound card's joystick/MIDI connector, or via a dedicated MIDI interface.

▲ Fig 1 If you need a MIDI controller keyboard, Evolution has five products in its range starting from £35 (ex VAT). The MK-149, shown here, is a full-size four-octave keyboard with assignable modulation and pitch-bend wheels

You don't need a whizzy PC to get started. The minimum suggested specification is a 486DX/66 with 16Mb RAM, although you'll need a large hard disk to store audio files. (See "More about audio", page 244.)

Setting up

After installation, one of the first things to do is to optimise the audio settings for your sound card, to ensure that audio and MIDI tracks are tightly synchronised.

1 LOCATE THE CUBASIS FOLDER in the Start menu and run the Sync Test utility. When you hit the Start button, the program automatically detects the DMA block size for your sound card's record and playback wave devices. Unless you install a new sound card, you need only do this once.

2 TO ALLOW AUDIO AND MIDI tracks to be heard simultaneously, ensure their levels are set to maximum in your sound card's mixer applet. If you do not plan to record audio from an external source, such as a CD player or microphone, mute the mic and line inputs to keep noise levels to a minimum. If you have an AWE-64 sound card there's further tweaking to be done. The AWE-64 features a software-based synthesiser that uses the card's audio channel to play back its instruments. When this channel is in use, Cubasis will not be able to access your sound card properly and will report an error on loading.

3 USING THE SETUP MME program, which can also be found in the Cubasis folder, the softsynth can be disabled: in the MIDI output section, select the WaveSynth and AWE MIDI Mapper drivers in turn and hit the Inactive button. You will need to restart your PC for the effects to take place.

4 THE SETUP MME PROGRAM enables you to rename and set the order in which MIDI devices appear in Cubasis. The rename facility is particularly useful because, rather than selecting, say, SB16 MIDI Out (330) to play the instruments on a WaveTable daughterboard, the device can be given a "real" name, like DB50XG. If the same MIDI port is the one you're likely to use most frequently, set this as your primary device using the move up and move down buttons.

Keyboard shortcuts

Keyboard shortcuts are invaluable in Cubasis. Perhaps the most important and most frequently used are those to operate the transport controls. Using the numeric keypad, these are:

Play	Enter
Stop	0
Rewind	Page down
(shift)	
Fast forward	Page up (shift)
Record	*
Go to left locator	1
Go to right locator	2
Cycle on/off	/
More useful shortcuts available in all windows:	
Quantise	Q
Quantise and snap resolution	1 to 6
Solo	S
Metronome	C
Horizontal zoom	G/H
Vertical zoom	G/H (shift)

Cu-basics

When Cubasis loads, you're presented with the Arrange window [Fig 2, page 244]. This is where most recording and arranging takes place.

- **The screen is divided** into two sections: on the left is the track list and track info column, and to the right is the part display. The default arrangement contains 18 empty tracks: two for audio, and 16 for MIDI.
- **The MIDI channel for any track** can be changed at any time by clicking in the Chn column. It's worth noting at this point that all values in Cubasis are decreased with the left button and increased with the right. This goes against standard Windows conventions, but makes logical sense.
- **To the right of the channel column** is the MIDI output, or port, assignment. Most sound cards have three ports to select either the main WaveTable synth, the FM synth or an external MIDI device. Unless you have an external tone module, select the WaveTable output for the highest-quality playback.
- **The track info column** on the far-left of the screen enables you to select an instrument for each track using bank and program change parameters.
- **There are three more parameters**: Volume, Transpose and Velocity. Volume doesn't need much explaining, apart from the fact that values can be set for the whole track or individual parts. If no parts are selected (i.e. highlighted), values are applied to the whole track. Transpose enables you to shift the pitch of instruments up or down in semi-tone steps. If your keyboard has only two or three octaves, Transpose can be used to reach notes beyond its range. This is particularly useful when working with percussion and drum kits on MIDI channel 10, since each key has a different instrument assigned to it. ➨

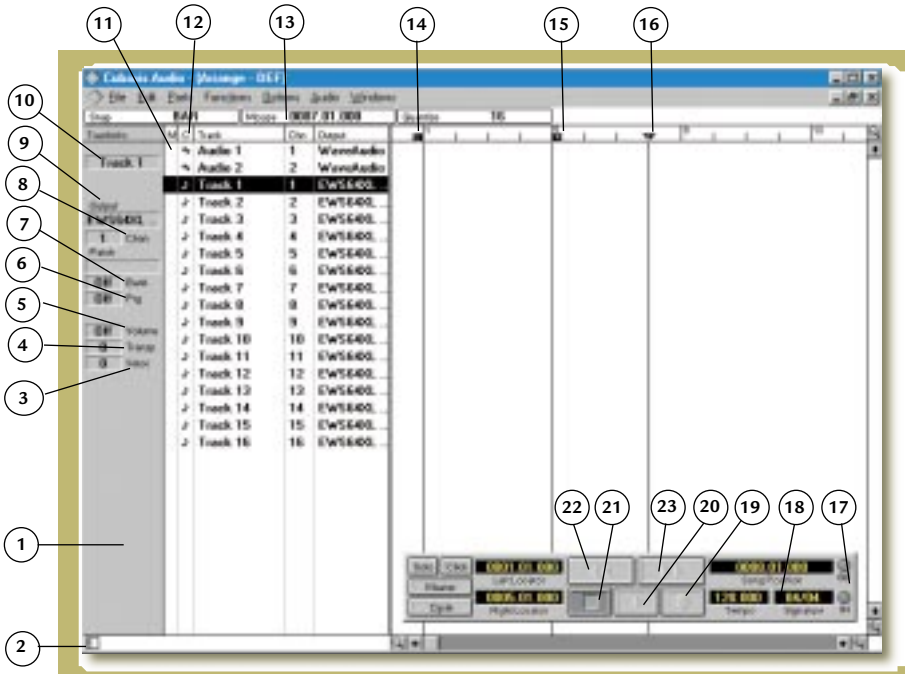


Fig 2

1 Track info column
2 Track info column hide/display
3 Velocity offset
4 Transpose offset
5 Track/part volume
6 Program select
7 Bank select
8 MIDI channel
9 MIDI output
10 Track name
11 Click in this column to mute a track
12 Track class: MIDI or audio
13 Current mouse position
14 Left locator
15 Right locator
16 Song position pointer
17 MIDI activity display
18 Time signature
19 Record
20 Play
21 Stop
22 Rewind
23 Fast Forward

Velocity describes how hard a key was struck. In most cases, this can be used to increase or lower the volume of a part, or track.

● **Before you can record** into Cubasis you first have to set the bars, or measures, where you want to record to. Click on the bar ruler with your left and right mouse buttons. Alternatively, pressing L and R opens the locator boxes shown on the transport bar.

● **Each part is given the same name** as the track on which it is recorded, so it pays to label your tracks before you reach for the red button. It is not uncommon to use 20 or more tracks in a song, and when nothing's labelled properly the parts in the arrange window become tricky to work with. When cycle mode is activated on the transport bar, Cubasis will loop between the left and right locators, which is useful for building-up complex drum patterns or for "jamming" over the chorus section until you're ready to record. The internal metronome is referred to as the "click track" in Cubasis. To toggle between on and off, press C.

Try all the tools available– they offer some valuable shortcuts

● **Audio is recorded** in much the same way as MIDI parts. However, you may want to import a sample that's already stored on your hard disk. To do this, create an empty part on an audio track (Ctrl-P) and double-click on the part. This opens the import sample dialog. Any audio files that are used in an arrangement are stored in the audio pool, which can be found in the Audio menu. Files can be dragged straight into the Arrange window from here, or removed from the song altogether.

The key to efficient programming is in mastering the tools that are available in the arrange and edit pages. To bring up the toolbox at any time, click and hold your right mouse button while using the cursor to select one of the available tools. In the Arrange window, these include an Eraser to delete parts, Scissors to cut or splice parts, a Magnifying Glass to audition parts, a Pencil to lengthen or shorten phrases, and the Glue tool for joining parts together.

Pencil and glue

Many of the tools carry out different tasks when used with the Alt key. For example, extending a part with the Pencil creates copies, and the Glue will join up every part on the track. Try them all — they offer some valuable shortcuts. Different tools are available in the edit pages. Score provides three icons to insert notes, rests and text objects. List has a paintbrush for inserting a series of events.

More about audio

It is possible to record and playback audio on more than two tracks in the arrange window. But because the system is limited to two channels, only two tracks can be heard simultaneously. If two audio parts assigned to the same channel overlap, the part that starts furthest to the right of the screen will always take priority. The quality of audio recordings depends largely on the quality of your sound card, not the software. However, recording at the highest sampling rate (44.1kHz) will produce the best results. This is selected from the Audio menu. Note that one minute of stereo audio recorded at 44.1kHz stereo will eat into 10Mb of hard-disk space. Recording in mono, or lowering the sampling rate to 22kHz, will reduce this by half.

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