

Cubase SX 2.0

New Product Guide
August 2003



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Tagline

“Music Creation & Production System”

Positioning Statement

“Once again, Steinberg raises the bar with the introduction of Cubase SX 2.0 offering more than 100 fantastic new features. Cubase SX 2.0 offers Steinberg's next generation VST Audio Engine which combines superb 32-bit audio resolution, true multi-channel surround and full cross-platform compatibility into the most powerful native music workstation system available today.”

Product Summary

Cubase SX is Steinberg's top-of-the-line professional cross-platform Music Creation & Production System. Version 2.0 introduces more than 100 new features, including:

- Next generation VST 2.3 audio engine with 32-bit floating point resolution, true multi-channel audio path, and full latency compensation across all channels
- New and improved look and feel, including configurable toolbar and track controls
- Improved handling of multiple audio or midi parts in editors
- Groove Quantize and Match Quantize
- Improved Import/Export, including SMF, OMF, Windows Media 9, and track exchange
- New configurable Transport bar with jog/shuttle, volume control, CPU and level meters
- Redesigned configurable mixer with new FX return channels
- Full multi-channel audio path (entire signal path up to 6 channels wide)
- New VST connections window with input and output objects
- Freeze function for VST Instruments dramatically improves CPU performance
- New Time Warp Tool for creating complex tempo maps right from the project window or any editor
- Automation data can move with audio events
- New Score features including MIDI interpretation of dynamics symbols

Competitive Comparison

Feature	Cubase SX 2.0	Emagic Logic Platinum 6	MOTU DP4	Cakewalk Sonar XL 2.2
Supported Platforms	Mac OSX / Windows	Mac OSX	Mac OSX	Windows
Audio Tracks	unlimited	up to 128 tracks with single hardware	unlimited	unlimited
MIDI Tracks	unlimited	unlimited	unlimited	unlimited
VST Instruments	64	64 with Wrapper	unlimited with Wrapper	unlimited with Wrapper
Full latency compensation	x	only partly	o	x
Full multi-channel audio path	x	o	x	o
OMF Support	x	x	x	x
Freeze	x	x	only partly automated	o
Configurable Toolbar, Track Controls & Transport	x	o	x	x
WMA pro	x	o	o	o
Price (retail)	\$799 (incl. VAT)	€999 (incl. VAT)	\$795 (incl. VAT)	\$599 (incl. VAT)

Target Customers

>> Existing Cubase SX User

Cubase SX Users will be pleased by the many enhancements and improvements introduced with this new version of Cubase SX. The new VST audio engine with full latency compensation across all channels and complete multi-channel support offer a whole new level of performance. Much anticipated features like FX return channels, custom Input/Output objects and the new "Freeze" function help to accelerate the workflow and optimize CPU usage – especially for complex projects.

>> Existing Cubase VST User

Many Cubase users who are still working with VST5 will find this new version of Cubase SX hard to resist. Much requested features like multiple audio or MIDI parts in editors, drag-and-drop of MIDI files, or Groove/Match Quantize underline Steinberg's commitment to support long-time Cubase users. In addition, VST users will find lots and lots of minor changes and additions that will look very familiar.

Steinberg will continue to add "classic" Cubase features to Cubase SX in the future, while at the same time create all-new tools for even better performance.

>> Switcher from other platforms

The music technology industry is in a constant mode of change and transition. Many professional music producers are irritated by business manoeuvres and platform discussions. In all these times of change, Steinberg has always thrived to create products for users, not for platforms or operating systems. Steinberg is currently the only manufacturer to offer a professional music production workstation for both Windows and Macintosh. The audio technology used in our native VST engine is the best sounding and most advanced of its kind, offering 32-bit floating point audio, full latency compensation on all channels and true multi-channel surround in every track, channel, bus, or send. And because it's native, users are free to choose the audio interface and control surface hardware they want - at any time and any price.

Applications

>> Music Composition

Cubase SX 2.0 is the perfect environment for any composer, songwriter, and music producer. Regardless of how a creative person approaches music – Cubase SX 2.0 offers the right tools for music creation. The clearly-structured arrange window combined with the powerful editing tools support many different methods of music composition. Add features like cycle recording, multiple-lane editing, scale-corrected transpose or simply the huge collection of VST effects and instruments, and you're looking at one of the most powerful music workstations ever designed. And because Cubase SX 2.0 is hardware-independent and cross-platform, working with other producers in other studios becomes a simple task.

>> Surround Music Production and Mixing

A lot has been written and said about surround music. Almost every music workstation today offers some sort of "surround compatibility", but are they really multi-channel? Mixing mono or stereo sources through mono or stereo effects into a multi-channel bus isn't exactly what we would call "multi-channel". With Steinberg's next generation VST 2.3 audio engine, Cubase SX 2.0 becomes the first native music workstation to offer full multi-channel audio paths with up to six channels from the source tracks through the entire mixer, all sends and busses, and into the master outputs. And with the support of Microsoft's new WMA Pro standard, Cubase SX 2.0 offers the latest technology for multi-channel audio delivery and distribution, even across the internet – right out of the box.

Once you have started thinking in more than two channels, you will realize how powerful this system is for multi-channel applications. In addition, Steinberg offers dedicated effects solutions with the optional Steinberg Surround Edition.

>> Music for Picture

Music production has long gone beyond the boundaries of just music. A lot of producers are now working on music for picture, music for games, or music for multimedia presentations. Cubase SX has offered elegant support of video right from the beginning. The video thumbnail track, full-frame video output via FireWire (Mac OSX only) and support for all leading digital video formats (including Windows Media and QuickTime) are standard features for Cubase SX users. Now with version 2.0, it offers powerful new tempo editing and matching tools. The unique new Time Warp Tool represents a whole new approach to matching music and picture. Import and export of tempo maps, user-definable frame-rates and support of multiple timelines in the arrange window will become irreplaceable tools for multimedia producers.

Last but not least, Cubase SX users may crossgrade to Nuendo 2 at any time, if projects become more demanding and full post production features are required.

Product Facts



New Arrange Window with track inspector, new transport and configurable tool bar



New Transport bar with CPU meter, jog/shuttle, marker window, level control and metering



VST Instruments Rack with new "Freeze" button (left column)

All New Features in Cubase SX 2.0¹

New and improved look and feel

2.0 comes with new “Skins” and “Appearance” controls, which allow the user to customize the colour scheme of Cubase. In addition, many graphics improvements have been made to the arrange and mixer windows, as well as menu bars, tool bars and transport window.

Complete MIDI File import/export

MIDI File Import and Export is now completely implemented, including drag-and-drop of MIDI files from desktop to arrange window.

Define active part (when multiple parts are selected)

A new menu item allows toggling between parts when multiple parts are selected for editing in a single window.

Add velocity in info line

Velocity values can now be edited individually or in groups directly from the info line.

Improved grid in key editor (pitch visible)

The background grid in the key editor now has dark and light bars reflecting the pitch in a keyboard-style.

Add Controller # to Names

Controllers are now displayed with names and numbers.

Multiple audio parts combined in audio editor

Multiple audio parts can now be combined and edited together, an often requested “classic” VST feature.

Select options (invert, equal pitch)

New options for selecting events in editors or toggling the selection

Shortcut Events in drum editor (with predefined velocity values)

A Set of new key commands allows creating events with pre-defined velocity values.

Drag & Drop of MIDI Files into project window

MIDI Files can now be dragged directly into the project window. New MIDI tracks are created automatically. Another “classic” Cubase feature.

Chord recognition in editor windows

Moving the cursor over a chord in the key editor displays the chord in the menu bar.

Transpose: scale correction

Automatic Scale Correction can be activated in the transpose window for any MIDI part. A list of pre-defined scales is available.

Import/Export Tempo Maps

Tempo Maps can now be ported from one project to another. Important for any music-for-picture work, especially in workgroups.

Key Command to nudge SPP bar-wise (“step bar”)

A new key command “Step Bar” allows to nudge the Song Position Pointer in bars.

Repeat events/parts using pencil tool

Alt-Clicking a part in the right bottom corner and dragging creates copies of the part and repeats the events

List Editor: multiple tracks open in single window

Multiple parts from multiple tracks can be opened in a single list editor window by shift clicking the parts to make a multi-part selection and then opening the list editor. Parts can either be selected by clicking the associated events or by selecting a part from the part list.

¹ Not available in Nuendo 2.0

Open tool-box with right-click

Right-clicking in any editor window opens the tool box (new preference entry under "editing"), cntrl-right-click opens the regular context menu in this setting.

Time Warp Tool: New Mastertrack with timeline editing and tap tempo function

A new tool called "Time Warp" allows the user to edit the tempo track by dragging a timecode or bar position to a specific event or hitpoint, thereby creating a new tempo track entry. Use Time Warp to create a complex tempo map for free-form audio or MIDI on the fly, or to match MIDI music to picture without complex re-arranging. All this happens directly from the project page or editor windows. This dramatically expands the tempo editing features of Cubase.

Tempo Record slider in Tempo Track Editor

A slider has been added to the Tempo Track Editor which allows realtime tempo changes to be recorded on the fly.

Precount from tempo track

User can specify whether a precount before a tempo change will have the old or the new tempo.

Freeze!

A new "Freeze" button has been added to the VST instrument rack. Selecting "Freeze" for an instrument disables the instrument and replaces any MIDI tracks played by the instrument with invisible audio tracks. These are generated offline and held in a separate "Freeze" folder within the project folder. Instrument and associated tracks are disabled. MIDI Channel's volume/pan can still be changed. "Unfreezing" an instrument re-enables the midi tracks and the instrument and deletes the freeze files.

New Score Features:

- MIDI Meaning
- More definable guitar symbols
- Tabulators for 12 strings
- Colorize notes
- Lyrics assigned to verse
- Paste lyrics from clipboard
- Copy chord symbols
- Auto layout improvements

Groove/Match Quantize

Right-click a MIDI part accesses a new command "advanced quantize > part to groove". A new groove template is created and appears in the quantize window. Patterns can be edited from within the quantize menu.

Smooth Cycle

Cycle can be activated/deactivated while sequencer plays. Cycle plays uninterrupted even when the cycle is moved while sequencer plays. Exception: when moving the cycle before the current play position, the song will continue to play.

Chase MIDI Events improvements

Chasing Controller data and sending reset messages has been optimized resulting in better overall chase performance.

Key Features & Benefits

Feature	Benefit
New VST 2.3 audio engine	Cubase SX 2.0 is based on the same audio engine as Steinberg's high-end media workstation Nuendo 2.0. The new engine supports 32-bit floating point audio, true multi-channel audio paths, full latency compensation, a new VST Connections window for defining input and output objects, as well as dozens of major improvements and enhancements made to the VST Mixer.
Complete multi-channel audio path	Instead of just mixing mono or stereo sources into a multi-channel bus, Cubase SX 2.0 is true multi-channel surround with up to six channels across its entire signal path. A single audio track can hold a multi-channel audio file (interleaved or separate), sends and inserts can be up to six channels wide.
Full latency compensation	Whenever a plug-in is inserted into the signal path, its delay is automatically compensated by the system, meaning that any other signals are automatically delayed by the same amount. This ensures sample-accurate timing along the entire audio path, including aux sends, group channels and fx-return channels.
Multiple parts in editors	Multiple audio parts are displayed as individual lanes in the part editor. Great for assembling multiple vocal takes into one take without leaving the editor. In addition, multiple MIDI parts can be displayed within a single editing window.
New Time Warp Tool	A new tool has been added to the toolbox, called "Time Warp". It is now possible to drag time-code markers to event positions, thus creating tempo changes reflected in the tempo track. Example: if audio or MIDI has been recorded in free form, the Time Warp tool can be used to move bar-lines to events or hitpoints, directly from the project page or any editor. Tempo changes are created automatically.
FX return channels	The VST effects rack has been replaced by FX return channels. Each send effect now has its own return channel, offering the same tools as any other audio channel – including EQ, inserts and automation. A reverb can now have EQ. A single aux send can now run the signal through a whole line of effects. This is true multi-effects processing!
User-definable Input and Output busses	In the new VST Connections window, users can define their own input and output bus objects. Any source connected to the audio hardware can be defined as an input object in the VST mixer. This object can then be used as a source for an audio track. Great for defining complex multi-channel objects which can then be assigned by a single click.
New "Freeze" function for VST Instruments	The new Freeze function in the VST Instrument rack dramatically improves CPU performance with just a single click! Whenever CPU performance reaches a critical limit due to extensive use of VST Instruments, individual VST Instruments can be disabled and their MIDI tracks be replaced by invisible audio tracks using only minimal amounts of CPU power. The whole process is non-destructive, completely transparent and instantly reversible.
WMA Pro integration	The new Microsoft WMA Pro audio format represents the next generation of multi-channel audio and media export and delivery, not just for multimedia applications. With WMA Pro, producers can encode their multi-channel surround mixes into a compact and easy-to-use multimedia file, which can be played on any PC with Windows Media Player 9 installed. Future consumer audio products will also support WMA Pro.
OMF support	OMF (Open Media Framework) is the de-facto standard for import/export of multitrack audio projects between different workstation platforms and systems (Cubase, Nuendo, ProTools, Pyramix, ...). OMF helps to bridge the gap between systems otherwise incompatible. It does not translate all the information embedded within a project, but it does keep all the edits, event gain, fades, etc. OMF is the tool to exchange project data between Cubase SX 2.0 and ProTools.

Cubase SX 2.0: Complete List of New Features

Mixing

FX return channels

Multiple input & output bus objects with sub busses

Complete signal flow in mixer up to 6 (5.1) channels wide

Plug-in delay compensation in complete signal path

Patch editor for routing plug-in channels in surround channels

Surround Panner in channel sends

Unlimited number of VSTi & group channels

Unlimited number of Rewire 2 channels

Narrow, Wide and Extended mixer views

Phase reverse and gain per input channel

VST Connection window: Routing between ASIO device and all system Input/Output Busses

All mixer audio channels can be routed from and to any input & output bus

Multiple output configurations (speaker arrangements)

Three stereo panning modes: Balance, Dual Pan and Combined Pan

EQ and insert FX for FX recording

8 Insert slots per channel (2 post fader)

Hold channel LED peak forever

Post fader VU

Global VU peak reset

Plug-in FX bypass function

New Automation modes: Trim, Overwrite

Automation data moves with the audio events

Files and Formats (Import and Export)

Wave64 - Breaking the 2 GB barrier when recording

WMV and WMV Pro (Video and Audio)

Export of multi-channel files as split or interleaved

Ability to convert multi-channel interleaved files into mono-files during import

Track Exchange

OMF import/export, Video information is converted to markers

Sample-rate and Bit-rate conforming

Real-time export

Import/Export Tempo Maps

Recording and playback

Record files can be up to 6 channels wide

Long file recording using 64 Bit WAV format

Multiple user definable record destinations per track

New record mode: keep last

Local Loop functionality (in editor windows only)

Project Scrubbing

Project Shuttle

Smooth Cycle

Various shuttle speeds can be triggered with key commands

Enhanced marker Management

Editing

Time Warp Tool: New Mastertrack with timeline editing and tap tempo function

Tempo Record slider in Tempo Track Editor

Unlimited view/zoom undo/redo

Open tool-box with right-click

Groove/Match Quantize

Multiple selections allowed in Info Line

List Editor: multiple tracks open in single window

Second Track List with fixed tracks (for video thumbnail, timeline and marker tracks only)

Real-time non-destructive cross-fades

Auto-fade and Auto-cross-fades with user definable fade times

Separate FX return mixdown

Sync points scrub the audio

Drag and drop Regions from the sample editor to the Arrange window

Framerate display locked to project setting

Option to move cycle selection with key modifier

Option to link L/R locators to the Range tool (cycle follows selection)

Auto-select events under cursor on selected Track

Fade from cursor to event end and Fade from event begin to cursor

Remove unused tracks

Open default editor for active track when no events are selected

Multiple audio parts combined in audio editor

Define active part (when multiple parts are selected)

Improved grid in key editor (pitch visible)

No selection after event cut

Draw Tools in Controller Editor Lanes

Add Controller # to Names

Select options (invert, equal pitch)

Shortcut Events in drum editor (with predefined velocity values)

Key Command to nudge SPP bar-wise ("step bar")

Repeat events/parts using pencil tool

General

New VST 2.3 audio engine: 32-bit floating point audio, true multi-channel surround, improved I/O routing of plug-ins, full latency compensation

All-new and improved look and feel

Hyper-Threading Support for optimum performance

Multi-Processor support – dynamically spread for maximum CPU performance

User-definable frame-rate option for multimedia applications

Double display counters in transport and tool bar

Configurable toolbar

Key command sets can be stored & recalled selectively

Key commands open with last action selected

Preferences can be stored & recalled selectively

Single Preference entries can be switched with toggled by key commands

Configurable track controls

Plug-ins

Multiple VST plug-in directories

Q

SurroundDither

Integrated Waveshell support for Waves plug-ins

Mix Delay

Magneto

MIDI & Music

Drag & Drop of MIDI Files into project window

Chord recognition in editor windows

Convert "Tap in MIDI Track" to tempo track

Metronome Settings: Precount from tempo track

Transpose: scale correction

User definable PPQ display resolution

Bar offset in ruler

Chase MIDI Events (improvements)

Score

MIDI Meaning

More definable guitar symbols

Tabulators for 12 strings

Colorize notes

Lyrics assigned to verse

Paste lyrics from clipboard

Copy chord symbols

Auto layout improvements

Various

MMC Slave

Advanced Search field with preview option

Time stamping relative to start time

Audio Re-sampling offline process

Activate/deactivate offline process in process history

Notepad

** Please note that few of the features listed above are Operating System specific and can only be available on OSX or Windows machines.*