

SEK'D Samplitude 2496 Readme

V 5.53 12/23/99

If you use older CD-ROMs than V5.30 please contact SEK'D to get an updated Online Help and ReadMe file, e.g. from www.sekd.com!

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This text contains new features and bug fixes which are not contained in the printed documentation!

To install this V5.5 version simply copy all files into the directory of a correctly installed version Samplitude 2496 V5.20 or 5.30. On first start the original floppy is needed.

TrackSpeed:

The count of simultaneous playing tracks has been considerably increased by the *TrackSpeed* technology. You can play 32 stereo tracks on systems with fast standard hard disks and 64+ stereo tracks on RAID0-systems.

TrackSpeed uses the RAM of the PC to pre-load the needed audio data in an intelligent and effective manner.

When using *TrackSpeed*, the internal audio engine works with a large number of stereo tracks and very small internal audio buffers (8000 samples or less) without any loss of performance. This results in very short response times when modifying settings in VIPs (mixer, object editor effects).

You can optimize *Track Speed* to adjust it to your own needs with the menu option 'Project > Preferences > TrackSpeed'.

The TrackSpeed Dialog has the following options:

Cache size up to 8 (16,32,>32) tracks: This setting allows you to change the size of the cache memory used by *TrackSpeed*. Cache sizes of 0.25 MB per track increase the playback. However, most hard disks show the best performance with 1 MB per Track. This means you need 32 MB cache for 32 tracks.

Please make sure that your PC has sufficient RAM installed before configuring TrackSpeed. For optimum performance use half of your computer's RAM for the file cache. (Max. 32 MB on a system with 64 MB RAM)

HD read size: This allows you to adjust the balance between the best operating performance of the hard disk and the security reserve of the cache.

The option 'Best stability' uses a part of the cache to handle short overloads.

Scrubbing Optimize: When this option is checked, *TrackSpeed* uses half of the cache memory to store the last played audio samples. This allows for fast scrubbing (key 0 on the numeric keypad), even in projects with a large number of tracks.

Play Start Optimize: This setting causes the file cache to pre-loaded after moving the play cursor position. This is indicated in the status line: 'Cache Preloaded'. The playback engine will start the playback at the exact time location since the audio data is already contained in the RAM of your computer.

Show cache while playing: This option shows *TrackSpeed* at work in a graphical way during playing. You can see the cached region of every track. Additional information will be shown in the status line (the 'hit rate' of the cache, the actual size of the hard disk access).

New fade options:

Samplitude 5.5 now contains enhanced fade functionality without the loss of simplicity and quickness when doing editing.

Fade offset: The position of the Fade-In and the Fade-Out can be changed relative to the object in the Object-And-Crossfade-Editor. The fades can lie completely within the object limits, between the Object-In-Handle and Object-Out-Handle. This 'old' mode is now the default preset mode.

Also, Fades can be positioned symmetrically to the object limits. The Object-In position stays independent of the fade length. You can change the fade length, but the cut position remains.

The fade offset for new cuts can be changed with the function 'Set global crossfade'.

Please note: The object alignment (snapping) functionality stops at the Object-In or Object-Out position. The position represents the beginning or the end of the fade, depending on the fade offset (Mode 'Fade within the object'). If you use the mode 'Fades symmetrical to the fade edges', the position is the middle of the fade.

Asymmetrical fades: Crossfades between two objects in the same track can now be asymmetrical. The Fade-In and Fade-Out have different fade length and fade positions. By default the fades are symmetrical (Default preset). If you want to edit a fade asymmetrally, right-click on the crossfade region and choose 'Asymmetrical crossfade'. This mode activates additional fade handles to edit all parameters of the Fade-In and Fade-Out independently.

New wave form display options in the VIP:

We have included some new VIP display options in version 5.5 to improve the display of the audio material and the new fade options. You can activate these options in the menu 'View -> VIP display mode -> Definitions' or by pressing the keys 'Shift + Tab'.

The dialog has been changed to clearly arrange the old and new options into groups.

Overview of the new options:

Waveform View - Display waveform with fades/curves: This is the default mode. The waveform is scaled with the Fade-In/Out or volume curves. This allows you to see the Fade-Out or the volume variations caused by the volume curves directly on the waveform display. This mode enables you to get a good overview of how the volume changes affect the audio material. See also: Display modes 'Envelope', 'Transparent' and 'Interleaved' for an optimized representation of crossfades.

Waveform View – Envelope only: This option shows only the envelope curve of the waveform. This gives you a better representation of a crossfade between two objects.

Waveform View – Transparent: This view mode adds a colored representation of the overlapped and therefore affected section of a crossfade. Amplitude changes the background to black to make the display more obvious. Please combine this option with the option 'Waveform color > Alter red/blue' to show the affected audio section between the crossfades.

Waveform View - Interleaved: This mode interleaves the crossfade-affected sections of the objects to give a better representation of the crossfade overlap. This is especially helpful if both objects are of the same color. You may also want to use the option 'Red/Blue Alternation' to further enhance the display of the crossfade.

Waveform Color – Red/Blue Alternation: This option changes the color of the adjacent objects red or blue to optimize the view of a crossfade. It is only functional when the options 'Transparent' or 'Interleaved' are active.

Waveform Color - Comparison Colors: This mode uses a patented algorithm from Comparisonics™ to show color-coded audio material in the object. Every segment of the audio material will be calculated and shown in a special color dependent on the tone and other parameters.

Deep sounds are represented by blue or very dark colors, while shades of green-yellow-red colors are used for high sounds.

Clear colors are used for tonal material; material that contains more noise uses gray colors.

This makes it tremendously more useful to pinpoint the different tones of a saxophone solo for example, or to display the subtleties of signal interference. This is usually not possible in an envelope only curve view.

The segment size for the color calculation can be entered in the field 'Comparisonics Audio Segment Size'. Sizes of 50 ms and more are suggested to make enough material available for the

color match.

Based on the Comparisonics colors we implemented an absolute novel audio search procedure to very quickly find regions with the same or similar audio material. This feature can be found in the menu 'Range > Comparisonics Audio Search'.

You can find out more about the Comparisonics algorithm on the Internet at:

<http://www.comparisonics.com>

Comparisonics Audio Search:

This function (Menu 'Range') works based on the patented Comparisonics algorithm. This allows you to find the same or similar sounding regions in an audio file very quickly - a revolutionary feature!

It is assumed that a HD wave project is already open. First, mark a region you want to find and copy the region in the clipboard (Key 'c'). Now start the audio search function in the menu 'Range > Comparisonics Audio Search'.

This dialog allows you to change the sensitivity for the algorithm. During the adjustment of the sensitivity level, Samplitude displays match markers on positions the algorithm has identified as a match to similar audio material. Use a lower zoom level (display) to follow the process.

After closing the dialog, the identified markers can be located by clicking the mouse on them.

This also works during playback.

New Scrubbing Features:

Samplitude has new scrubbing features to make it easier to find/mark/cut audio passages during playback.

Also the moving of object handles and range borders can be done while playback the exact handle positions. Please note, that the resolution of the scrubbing depends on the HDP buffer size (system dialog - Key 'c'). The preset is 4000 samples. On systems with qualified audio cards the setting can be changed to 2000 or 1000 samples to improve the scrubbing.

The new functions are:

Scrub Mouse Mode: This new mouse mode can be accessed in the mouse mode toolbar (menu 'Window'). When active, the scrub mouse mode plays the audio underneath the current mouse position. Playback starts by clicking on any position within a VIP. The kind of scrubbing depends on the scrub mode. You can change the scrub mode in the Play Parameter dialog (Key 'p').

While using the scrub mode, the handles (for object fades, volume and panorama curves) can be moved during playback. This is a great tool to help you find those hard to see positions in the audio material!

Scrubbing Mode Absolute: This mode (Play Parameter dialog - Key 'p') plays the material directly under the mouse cursor.

Scrubbing Mode '2 Speed': This mode (Play Parameter dialog - Key 'p') uses two fixed play speeds - 'fast' with the normal speed and 'slow' with an editable factor (for example 0.125 -> 1/8 or 3 octaves lower). The distance between play cursor and mouse cursor determines the speed – if the distance is smaller than the defined value, the slower speed will be used, otherwise the faster scrubbing speed is used. This is the default mode for the scrubbing feature. It was chosen, because it is better suited for an acoustic search of special passages by the relative constant of the playback speed during scrubbing.

Please note: This mode doesn't depend on the optical zoom level, because the mouse move determines the play speed and play direction only. Audio positions can also be exactly marked in lower zoom levels (1 minute and more).

Scrubbing Mode 'Jogging': This mode (Play Parameter dialog - Key 'p') uses the mouse to

control the playback speed. The mode corresponds to the scrubbing mode 'Relative' in older Samplitude versions.

MIDI Controller Curves

Samplitude version 5.5 supports freely draw-able and editable curves for controlling MIDI data. For every curve you can change the MIDI controller or Sys-Ex parameter (up to 32 bytes per datum).

Possible application areas are:

- Automation of external mixers using MIDI controller (for example: Yamaha 01V, O3D)
- Automation of external mixers using Sys-Ex data (for example: Yamaha O2R)
- Automation during multi-tasking, working with programs like CMexx C-Console through virtual MIDI driver
- Controlling parameters of external effect devices through MIDI controller

The controller curves can be recorded and played in real-time. An update mode is available. This mode records fader updates during playback and integrates the update into the curve.

Incoming controller data can be automatically assigned to the curves or recognized 'manually'.

The extraction of controller curves is possible from recorded or imported MIDI objects.

Event chasing is done for controller curves. The value of all active curves will be transmitted at every play start position to set a pre-defined start value.

This option can be found in the Track-Info dialog (left-click on button '?' next to every track).

Record Controller Curves on this track while playback: This option must be active to record controller curves during normal playback. The same adjustments are valid for In/Out/Thru devices and any MIDI recordings.

The functions of the MIDI Controller Curves dialog (right-click on button '?' next to every track):

Name: Here you can enter the name of the respective controller or the name will be displayed, if you use a pre-defined setup.

Visible: This allows you to change the visibility of the curve of the track.

Active: Activates and deactivates the curve. This is equal to muting and un-muting the curve events.

Controller: Allows you to can change the controller number.

Channel: Changes the MIDI channel.

Color: Changes the color of the respective curve.

Automatic Controller Track Arrangement: In this section you can select which track should record controller data automatically.

You can choose between:

None – No automatic controller assignment; only manual assigned controllers are recorded.

Tracks with activated Recod Controller Curves – All tracks are used for controller recording when this option is active in the track info dialog.

All tracks with the same Input Device – All tracks with the same MIDI recording device are used for controller recording.

Especially developed for the cooperation with CMexx C-Console software are the following options:

Actual track + MIDI channel: The track corresponding to the received MIDI channel is used for controller recording. This lets you automatically assign mixer channels of C-Console to Samplitude tracks (when used as Mono tracks).

Actual track + MIDI-Channel / 2: The track corresponding to the received MIDI channel divided by 2 is used for controller recording. When using stereo tracks, this setting lets you

automatically assign mixer channels of C-Console to Samplitude tracks.

New Controller Name: You can choose between three modes for automatic naming of controllers, e.g. numbers only, General MIDI and C-Console.

Learn: This button starts the controller or Sys-Ex learning process. The button turns red, which means that all arriving MIDI data is analyzed. Next, move the fader etc. – the recognized controller is displayed in the dialog. This ends the learning process.

Global Options:

MIDI Resolution: This setting lets you set the resolution of the MIDI events generated by the controller curves. To receive accurate MIDI timing, select 20 ms or faster. To avoid MIDI overload select a slower resolution.

Timeout for User Input: This value lets you select how much of the already existing controller events is deleted during user updates of controller curves.

Send Automation Data: This lets you activate or deactivate the sending of controller data.

Show received data automatically: Activates or deactivates the display of recorded controller data.

Hints for the cooperation of Samplitude and C-Console V1.3:

Requirements:

You need two virtual MIDI loopback devices to automate the C-Console parameters with the controller curves of Samplitude. Samplitude and C-Console exchange the controller data through these devices.

We recommend installing the tool ‘Hubis MIDI Loopback’, which can be found in the tool folder of the SEK'D CD-ROM. The following description uses the installed loopback devices ‘LB1’ and ‘LB2’. You may also use other virtual MIDI devices.

Preparations in Samplitude:

- Open a VIP with 16 tracks
- Open the Track-Info-Dialog by left-clicking on the ‘?’ button next to the track
- Change the MIDI Playback Device to ‘LB1’ and click on ‘All tracks’ to activate this device for all tracks
- Change the MIDI Input Device to ‘LB2’ and click on ‘All tracks’ to activate this device for all tracks
- Activate ‘Record controller curves on this track while playing’
- Close the Track-Info-Dialog
- Right-click on the button ‘?’ to open the Controller-Curves-Dialog
- Activate the mode ‘Current track+ MIDI channel’ as record destination
- Activate ‘C-Console’ as controller name
- Close the Controller-Curves-Dialog
- If you want to control Start/Stop/Position in C-Console, open the synchronization dialog (Key ‘g’)
- Activate the ‘SMPTE/MTC Input’ and set 30 frames per second
- Select the MTC Input Device ‘LB2’
- Close the Synchronisation-Dialog
- Save the VIP to store the preferences for other projects

Preparations in C-Console:

- Start C-Console and load the session file ‘Samplitude.ccs’ (folder ‘Tools\C-Console’ on the SEK'D CD-ROM)
- Open the dialog ‘Setup -> MIDI-Remote’, option ‘Connection Setup’

- Deactivate 'Online'
- Change the MIDI-In-Ports to 'LB1'
- Change the MIDI-Out-Ports to 'LB2'
- Activate 'Online'
- Close the dialog
- To control Samplitude by C-Console activate the dialog 'Sync -> Connection'
- Change the MIDI-Out-Device to 'LB2'
- Activate the button 'Send MTC'
- Set the frame rate to 30 fps
- Close the Sync-Dialog

Working with the Controller Configuration:

- Start playback in Samplitude
- Go to C-Console
- Move the fader or buttons
- Controller curves are recorded in Samplitude
- The positions of the controller in C-Console will be updated by every playback of a controller curve.
- You can move the concerning fader with the mouse to update recorded curves.

MIDI System Exclusive Data Record/Playback: Samplitude version 5.5 can record and play System Exclusive Data. The data is stored in the standard MIDI file format to guarantee the compatibility to other programs.

Please note that the SysEx data of single parameters can also be assigned to controller curves. They can be directly edited and displayed through the audio waveform.

MIDI Editor:

Samplitude V5.5 has a simple MIDI Editor to allow editing of note values and other MIDI events.

The main editing area of the MIDI Editor is the 'Piano Roll', a graphical view of the MIDI notes over time. The MIDI Editor displays three octaves vertically. The pitch can be transposed in octave intervals. You can zoom in horizontally to see the complete MIDI object or a single note. MIDI notes can be selected with the mouse to move them via drag-and-drop to other time or note positions. You can change the length of a note by dragging the end of the note object. New notes can be created by clicking the mouse on an empty area.

You can select two or more notes with while holding the CTRL-key and clicking on the desired notes. Once the notes are selected they can be moved or deleted.

Any selected object can be edited numerically in the lower section of the editor.

With the help of the filter function you can hide unwanted MIDI tracks (when using MIDI file format 1) and unwanted MIDI channels.

The 'Quantize' function can be used to quantize the MIDI notes against the display grid.

New Features in V5.5:

- There is a new SMPTE generator (menu Special) which generates wave files containing SMPTE LTC time code at various frame rates. These waves can be placed at any VIP track and routed to a separate audio output (e.g. using multi card mode). This way you get a very

stabile SMPTE master sync, even when using varipitch and scrubbing!

- New option in menu „CD > Set track marker options > Set pause markers on object end“. This sets pause markers on each object end when using „Set Track Markers automatically“.
- CD marker dialog: Apply now also works for ISRC codes, play buttons for play from marker and play loop around marker. VIP display is updated to selected marker.
- CD menu > Offset for Indices on object edges – lets you select an offset for setting the track markers left of object edges
- There are now menu items for the cursor keys in menu „Range“. This lets you edit the keyboards shortcuts for these commands in the shortcut editor (menu „File > Preferences“).
- There is a new MIDI metronom (menu „File > Preferences > MIDI Options/Metronom“. It can be used while recording and/or playback. The tempo (bpm) can be set in the track info dialog, button „Bar Definitions“ or via the snap settings dialog.
- The object editor now has a new mode „2 channel volume“. This lets you select the left and right channel volume of a stereo wave separately.
- There is a new version of the TOC Printer program, which does no longer add the pause times to the track length.
- New CD-R routines for RAW DAO mode – this mode is supported by some newer IDE writers.
- Samplitude runs in Try Out / Demo mode if original floppy is not available.
- QDesign MPEG 1 Layer 2 encoding now supports all available bit rates.
- The new reverb algorithm was optimized and is now also available as an off-line effect. All echo modes now have off-line and preview options.
- Improved fade/crossfade handling, cutting with global crossfade settings now works in all cases.
- In record and multi track record dialogs the remaining time is now displayed, this is the difference between the 2 GB wave file limit and the record time limit, if enabled.
- The VIP window position and zoom and cursor/range positions are now stored in the VIP.
- Lock object now also works with multiple selected objects.
- New VIP dialog now stores the last selected track number
- New setting in system dialog: Use record buffer settings for playback while recording if more than 16 tracks are used. This allows the use of larger buffers for recording.
- Warning message when VIP buffer is set below 8000 and the Dehisser/FFT filter is active
- AVI playback now also continues when selecting different objects during playback
- Text comment is now also stored when switching programs with Alt + Tab etc.
- EQs dialogs now have two more options: lo and hi shelving modes are available in low and hi bands.
- Date stamp of wave files is kept if no destructive or write accesses were done on the file.
- No more CPU load when Samplitude is not working
- Units of measurement of HDPs are now adapted from VIP. All HDPs of a VIP receive the units of the VIP.
- New Sync option ‘Use sample exact reference clock’ – this was standard before, but can now be switched off if sound card does not support ‘WaveOutGetPosition’ command.
- Save in format now also works with 8-bit projects
- Play buffer display is refreshed if Samplitude was covered or minimized
- Space key and other keys now also work when time display is activated
- Jump display to next / previous object border or marker now also works during playback
- Time Stretch dialog now has units of measurement of the VIP

- Internal 'HDP Repair' function – avoids multiple error messages when loading waves with corrupted HDP or H0 files. When detecting inconsistencies between HDP, H0 and WAV the WAV is reloaded.
- Drawmode dialog (Shift + TAB) is cleaned up and re-arranged. New function 'Lock VIP size against Zoom Out' – prevents the VIP for zooming out beyond the last object.

Bugfixes:

- The Surround Panning dialogs now always open in the visible display area. The last position is stored.
- When bouncing audio for AVI videos sometimes mono waves were created - fixed
- Problems with TrackSpeed and loop objects - fixed
- Update problems in the track info dialog with left / right record channels – fixed
- Crashes when recording right channel only - fixed
- Crashes when Scrubbing with AUX enabled - fixed
- Multiband dynamics crashes when leaving with Cancel - fixed
- Remove unused samples caused wrong objects and HDPs – fixed
- TrackSpeed problems – short interrupts after play start – fixed
- TrackSpeed hanging after deleting of objects in preload area - fixed
- AUX DirectX Plug Ins deleted when cutting ranges in VIP – fixed
- Track marker errors after extracting ranges in VIPs – fixed
- When deleting punch in record takes the record track selection was deleted – fixed
- Crash after New VIP dialog fixed