

CUBASE

VST

Tape Tracks – Controlling
Tape Recorders



Steinberg

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Tape Tracks – Controlling Tape Recorders

Introduction

Cubase VST can control tape recorders and similar devices via MIDI. This feature makes MIDI and analog audio recording an integrated environment!

What Cubase VST Can Do with Tape Recorders

Basically, Cubase VST allows you to do two things with the tape recorders it supports:

- Control the tape recorder's transport control from Cubase VST's Transport Bar. That is, Cubase VST can make the tape recorder start, stop, rewind etc.,
- Set tracks to record ready on the tape recorder and activate recording on these tracks. You can even use all of Cubase VST's recording features (punch in/out, Cycled recording etc), to control the tape recorder!

About Sync and Tape Recorder Control

Controlling Tape recorders is a two way process:

- Cubase VST sends out commands to the tape recorder, asking it to Locate to certain positions and activate recording etc.
- The tape recorder delivers synchronization information (in most cases in the form of MIDI Time Code) to Cubase VST. In other words, playback timing in Cubase VST is synchronized to the tape recorder (see the Synchronization chapter for the complete picture).

Even though it appears as if Cubase VST is controlling the tape recorder completely, it is important to remember that Cubase VST is being synchronized to the tape recorder's playback speed, not vice versa.

MIDI Machine Control

Cubase VST uses a standard MIDI protocol for controlling tape transports, called MIDI Machine Control. There are a number of tape recorders and hard disk recording systems on the market that support this protocol. Included with Cubase VST is a driver for using Cubase VST with MIDI Machine Control compatible tape recorders.

Using MIDI Machine Control and ASIO Positioning Protocol

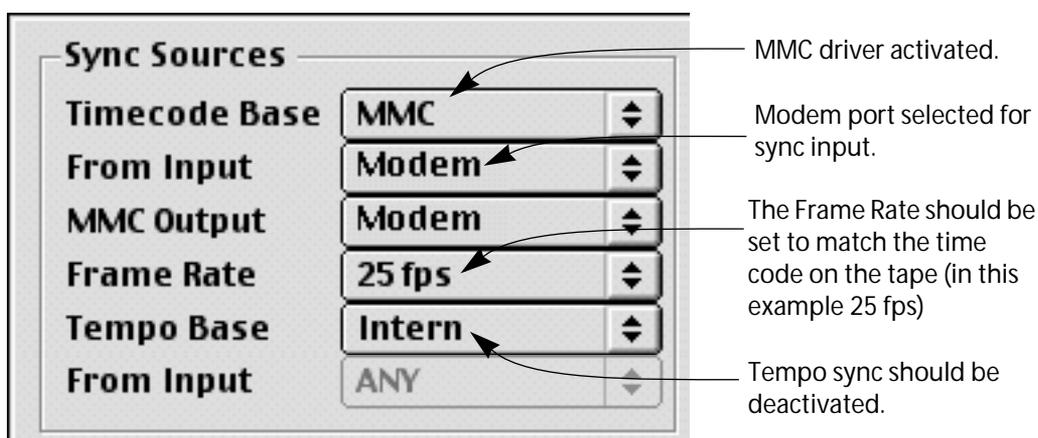
You may want to use MMC (MIDI Machine Control) to control the transport of the sync master, even when using ASIO 2.0. This is no different from using MMC with regular synchronization. Just note the following points:

- **To enable MIDI machine Control, select "ASIO 2.0/MMC" from the Timecode base pop-up in the Synchronization dialog.**
- **Select an MMC Output (on the Output pop-up menu in the Sync Source section of the Synchronization dialog) that corresponds to the device you want to control.**
This may be an external hardware MMC converter. It may also be a "virtual MIDI device", if the device is controlled directly from your computer.

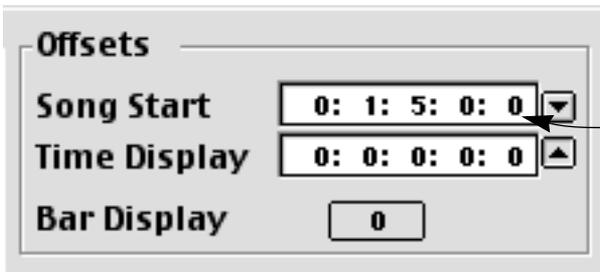
Standard MIDI Machine Control

If you have a tape transport that supports the MIDI Machine Control standard, proceed as follows:

1. Copy the file "MIDI Machine Control" included on one of your Cubase VST disks to the same folder as your Cubase VST program icon.
 2. If Cubase VST is currently running, Quit it and start it again.
 1. Connect the MIDI Out on the tape recorder to a MIDI In on the Modem port.
If you have a multi-port interface, such as the MIDI Time Piece, 4 or Studio 5, connect the MIDI Out of the tape recorder, to the first MIDI In on the interface (MIDI In #1).
 2. Connect the MIDI In on the tape recorder to a MIDI Out on the Modem Port on the Macintosh.
If you have a multi-port interface, use the first MIDI Out on the interface (MIDI Out #1).
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- ❑ It is extremely important that you follow the instruction above about which computer port and MIDI connectors to use, or things won't work!
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3. Make sure you have time code recorded on the tape recorder, and that is set up to transmit this as MIDI Time Code via its MIDI out.
 4. Also make sure the tape recorder is set to transmit and receive MIDI Machine Control commands.
 5. Pull down the Options menu and select Synchronization.
 6. Pull down the "Timecode Base" Sync menu in this dialog box and select MMC.
If you can't find the correct option on the menu, the driver hasn't been loaded for some reason.
 7. Use the "From Input" pop-up menu below "Timecode Base" to select the "Modem" port.
 8. Use the Output menu to select to which MIDI port Cubase VST should send its MIDI Machine Control messages.
 9. Select the correct frame rate from the "Frame Rate" pop-up menu.



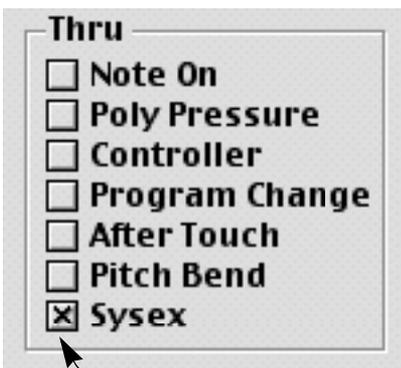
10. Set the "Song Start" value to the position on the tape where you want Cubase VST to start (the reference to Song Position 1. 1. 0).



The Song Start should be set to match the position on the tape where you want the Song to start.

11. Close the dialog box.

12. Open the MIDI Filter dialog and make sure the MIDI Machine Control System Exclusive messages are not echoed back to the tape recorder.



System Exclusive should not be Thru-put.

13. Close the MIDI Filter dialog.

14. Click on the Sync button on the transport bar (or press [X]).

Cubase VST is now expecting sync to come from an external source, in this case the tape recorder.

15. Press PLAY on the tape recorder and let the tape roll for a few seconds, so Cubase VST can "learn" about the time code positions on the tape. Stop the tape recorder.

16. Now activate play from Cubase VST.

The tape recorder should wind the tape to a position just before the Song Position in Cubase VST and go into Play. After a short while, Cubase VST should start, in sync.

Try to Stop, Fast Forward and Rewind from Cubase VST and activate Play from different positions in the Song. The tape recorder should follow. Record something sequenced from Cubase VST onto an audio track and make sure that what you hear "live" from Cubase VST and taped on the tape recorder is in perfect sync from all positions.

Things to note before proceeding

- Make up an Autoload Song with all sync settings as they are now. This will make Cubase VST control the tape recorder right after startup.
- When you record the next song on the tape, advance the “Song Start” value to a position that corresponds to some position on the tape after this first song. By doing so you have shifted forward Cubase VST’s Song Position 1. 1. 0 to that position. When you later save this second Song, this “Song Start” value is saved with it so that the tape recorder always will wind to the correct position for this Song.
- Each time you start up your tape recorder, you may have to activate play from its front panel for a couple of seconds. If you don’t, Cubase VST has no chance of “knowing” where to wind the first time, since it doesn’t know what time code is recorded on the tape.

Using the Synchronization Setup

The tape transport of your tape recorder can now be controlled from Cubase VST’s Transport bar, no matter which window is up on the screen, as long as Sync is activated on the Transport bar.

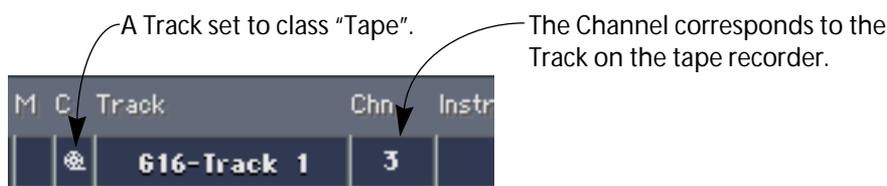
Whenever you want to turn off the synchronization between the tape recorder and Cubase VST, simply deactivate Sync on the Transport Bar.

Using Tape Tracks

Tape Tracks allow you to activate recording on your tape recorder from the Arrange window. This is done identically, regardless of which of the supported tape recorders and available drivers you use:

1. Create a new Track and set its class to Tape.
2. Use the Channel column in Cubase VST to select the tape recorder track you wish to record on.

For example, to record on track 3 on the tape recorder, set the Tape Track to Channel 3.



3. If you wish, make up tape Tracks for as many of your actual tape recorder tracks as you like. You can move the Tracks and create new Tracks at will, it is only the channel setting that decides which track on the tape recorder each Cubase VST Tape Track controls.

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- ❑ We strongly recommend that you *don't* create a Cubase VST Tape Track for the tape recorder track on which you have the time code (SMPTE), since recording over the time code can be disastrous. Retrieving a lost sync track is very hard. To avoid confusion, do not set two Tape Tracks to the same channel.
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Setting Tracks to Record Ready

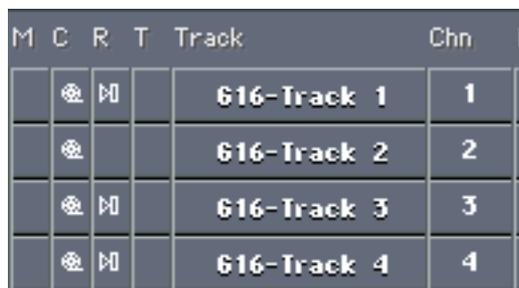
One Track at a Time

- To activate Recording on *one* Track, simply select it.
The corresponding tape recorder track is set to Record Ready mode.

Multiple Tracks

To activate recording on multiple Tracks, proceed as follows:

1. Activate Multi Recording in Merge mode.
See the Multi Track Recording chapter for details.



Track 1, 3 and 4 set to record ready.

2. Use the "R" column to set as many Tape Tracks as desired to record ready.
The corresponding tracks on the tape recorder are put into Record Ready mode.

Performing the recording

When you activate recording in Cubase VST, recording immediately starts on the track(s) on the tape recorder.

You can use all of Cubase VST's manual and automatic punch in and out options to control recording on as many Tape Tracks as you like. You can also record in Cycle mode, but you will have to wait some time for the tape recorder to rewind at the end of each "lap".

About the Parts

When you record on a Tape Track, Parts appear between the positions you punch in and out, just as with for example MIDI Tracks.

However, these Parts do not contain any data and can not be opened in any editor.

The Tape Track Parts are instead only used as visual guides to where on the Track you have actually recorded anything, on the tape. For example, if you are doing background vocals for a number of choruses in a Song, the Tape Track Parts are great guides to which choruses you have recorded anything on yet, and which you have not.