Storing, recalling and playback

SE-08-0691

Storing sequences

When you create and edit a sequence, the sequence exists only in computer memory. When you turn off the system, the sequence disappears.

To make a permanent copy of a sequence, you store it on your Winchester or on a floppy disk. You can store the sequence to any catalog or subcatalog in your system.

If you have a Synclavier keyboard, see also instructions for storing from the keyboard control panel in the *Sequence Editing for the Keyboard* manual.

Sequence files

Sequences are stored in special storage areas called **sequence files.** Sequence files contain a specific amount of space and must be created separately before you store sequences in them from the keyboard control panel.

Your Winchester can contain only eight numbered sequence files at the top-level and eight in each subcatalog. Numbered sequence files correspond to the eight numbered buttons under TIMBRE/SEQUENCE STORAGE on the keyboard control panel.

Since you may not want to overwrite the sequences already stored in the top-level of your Winchester, you need to establish a storage system with a number of subcatalogs. Instructions for creating a storage system are in "Basic storage systems" in the manual *Organizing and Storing Sounds.*

You can create your own sequence files in these subcatalogs in one of two ways.

- You can enter the desired subcatalog and type a series of commands from the Monitor module.
- You can enter the desired subcatalog and copy any or all of the sequence files stored on the floppy disk labeled Master Timbre/Sequence Storage Disk.

Both of these procedures are explained in the section "Managing sequence and timbre files" in the manual *Organizing and Storing Sounds.*

Naming the sequence

When you name a sequence file, you can use up to eight letters or characters not including spaces or the following characters:

? ! : ; , / \ < > + = % & * | @

You can name and save a sequence from the Sequence Editor display or from the Sequencer Motion Control panel of the Audio Event Editor.

Storing a sequence from the Sequence Editor

You can store a sequence in the current catalog by number or name.

1. Click on Sequence Files in the Commands panel to bring up the Sequence Files dialog.

2. Select the Save Sequence function by stepping the word Sequence in the Dialog panel.

3. Click on a sequence number or type in a sequence name of eight or fewer character. (See "Naming the sequence.")

4. Click the SAVE SEQUENCE button at the lower left of the Dialog panel.

   A special file, called a sequence or sync file is created and the sequence is saved.

Replacing a sequence from the Sequence Editor

If a sequence with the same name already exists in the current catalog when you click the SAVE SEQUENCE button, a warning message appears at the top of the screen.

> WARNING: File already exists, saving will replace it.

The SAVE SEQUENCE button is replaced with a REPLACE SEQ. button.

- Click the REPLACE SEQ. button to replace the sequence. If you do not want the stored sequence to be replaced by the sequence in memory, click the CANCEL button. You can then save the sequence under a different name.

When you replace a stored sequence with a larger sequence, the sequence file is enlarged.

If you replace a stored sequence with one of smaller size, however, the size of the sequence file is not changed.

Note: Only sequence (sync) files can be replaced from the Sequence Editor.

Storing sequences (con't)

STORE

Storing a sequence from the Audio Event Editor

You can store a sequence into the current catalog by number or name from the Sequencer Motion Control panel of the Audio Event Editor. When you store a sequence that contains Direct-to-Disk cues, the sequence information is saved but the original audio remains with the project on the Direct-to-Disk.

1. On the Sequencer Motion Control panel, click the NAME text field in the upper right hand corner of the panel.
2. If you want to save the sequence under a different name, type the new sequence name in the rectangle that appears.
3. Click on the sequence caption field in the lower right corner of the panel and enter a sequence caption, if desired.
4. Click the STORE button and then click [OK] in the dialog that appears.

   The sequence is stored under the name in the NAME text field.

Protecting a sequence from the Audio Event Editor

You can protect a sequence from accidental erasure or alteration by using the protect button in the upper right corner of the Event List Editor of the Audio Event Editor.

P

1. Click the EVENTS box of the Selection panel to display the Event List Editor panel.
2. Click the "P" button.

   The button lights. The sequence is protected.

All sequence editing features are available while the sequence is protected. But you cannot store, delete or rename the sequence until you click the "P" button again to unprotect the sequence.

The sequence remains protected while you are in the RTP system.

Renaming a sequence from the Audio Event Editor

When you rename the current sequence, you rename the stored version of the sequence.

1. Click the MOTION box of the Selection panel to display the Sequencer Motion Control panel.
2. Click on the NAME text field in the upper right hand corner of the panel.

   A rectangle appears.
3. Click the RENAME button.

   The following dialog appears.

   Enter new name for sequence "sequence name" [CANCEL]
4. Enter a new sequence name.
5. Click the RENAME button again.

   The current and saved versio of the sequence is renamed.

Warning: When you use the RENAME command, you are permanently altering your saved sequence. Not only does the RENAME command give your saved sequence a new name, it also stores the current sequence as the saved sequence. Be careful!

Storing sequences (con't)

Storing a sequence in another catalog

You can store sequences in other catalogs using a treename.

A treename is a name that identifies a file using its filename, the name of the subcatalog in which it is stored and the name of the device on which the subcatalog is located. A treename may include a series of subcatalogs if the file is stored in a subcatalog located within another subcatalog.

The order of names in a treename is

<device name>:<subcatalog name(s)>:<filename>

The colons following the device name and each subcatalog name are essential. There must be no spaces between the colons and the names. For example,

f0:project1:song6

is a treename for the sequence file **song6** located in the subcatalog **project1** on device **F0**.

For additional information, see the section "Devices" in the manual *Organizing and Storing Sounds.*

What is saved with a sequence

When you store a sequence, you store the cue definitions and notes—start times, end times, pitches and durations—on each track of the sequence. You also store

- all event list information
- the current mark point
- the current time format and beats-per-measure value
- any track routings and track volumes
- any MIDI output routings, program changes or filter assignments
- the timbre used on each track, including all its parameters, any real-time effects and the names of any associated sound files
- any transpositions or loops
- the current click rate, click rate multiplier or click track assignment
- the current speed setting
- any special scales or octave ratios
- any Music Printing editing
- any real-time effects controller movements

What is not saved with a sequence

When you store a sequence, you do not store with it

- the original audio associated with a cue
- the current keyboard timbre, its multichannel and MIDI routing and MIDI filter assignments
- the current overwrite assignments
- the current overall tuning
- keyboard split point settings
- MIDI synchronization or MIDI echo
- the on/off status of the mark point and stepping

Deleting sequences

You can delete any sequence stored in any catalog in your system provided it has been stored as a sequence (sync) file.

Deleting a sequence using the Sequence Editor

You can use the Sequence Editor to delete a sequence.

1. Click on Sequence Files in the Commands panel.

   The Sequence Files dialog appears.

2. Select the Unsave Sequence function by stepping the word Sequence in the Dialog panel.

3. Type in the name of the sequence you want to erase.

4. Click the UNSAVE SEQUENCE button at the lower left of the Dialog panel.

   The sequence is erased from the current catalog.

You can delete a sequence from another catalog using a treename. See "Storing a sequence in another catalog" in the previous section.

Deleting a sequence using the Audio Event Editor

Deleting a sequence removes the sequence from the disk but does not affect the cue definitions.

1. Click the EVENTS box of the Selection panel to display the Event List Editor panel.
2. Click the NAME text field in the upper right corner of the Event List Editor.
3. Scroll to the sequence you want to delete, or type in the sequence name.
4. Click the DELETE button.

   The DELETE button lights and the following dialog appears.

   Click to UNSAVE sequence "sequence name" [OK][CANCEL]
5. Click [OK].

   The sequence in the NAME text field is deleted from the disk.

DELETE

You can delete a sequence from another catalog using a treename. See "Storing a sequence in another catalog" in the previous section.

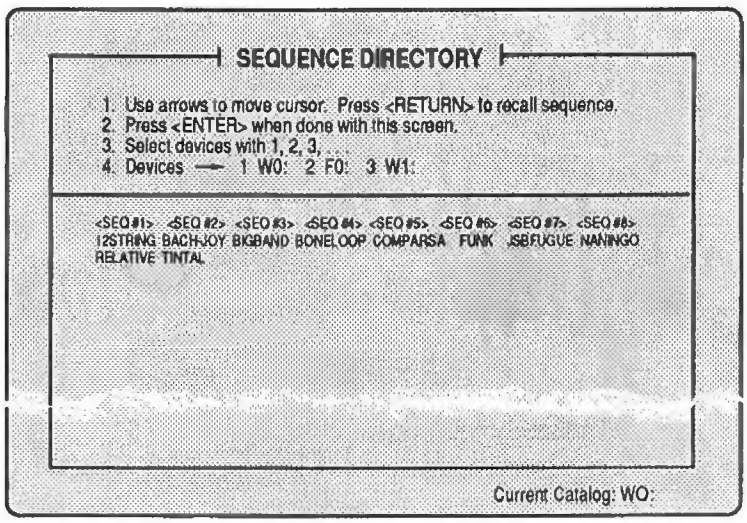
Recalling sequences

You can recall a stored sequence from any catalog in your system using either the Sequence Directory, the Sequence Editor or the Audio Event Editor's Sequencer Motion Control panel.

The Sequence Directory

If you have just loaded the system, the Sequence Directory, accessible from either the Welcome Menu or the Main Menu, shows the sequences available from the top-level catalog of the Winchester.

Across the top of the screen is a set of general instructions used with the Sequence Directory. Below this is a list of storage devices attached to the system. Sequence files may be stored on any of these devices or in subcatalogs of any device.



Sequence Directory

Recalling a sequence from the Sequence Directory

1. Select the Sequence Directory from the Welcome Menu or the Main Menu.

2. Click on the desired sequence or move the screen cursor to it with the arrow keys and press Return.

   The selected sequence is recalled into memory.

   If any of the track timbres of the sequence contain sound files, the display window shows a series of messages

   LOADING SOUND FILE
   <Sound File Name>

Recalling a sequence from a floppy disk

1. Select the Sequence Directory from the Main Menu.

   A list of available storage devices is displayed near the top of the screen. W0: and W1: are the first and second Winchesters attached to your system; F0: and F1: are the first and second floppy drives.

2. Insert the disk with the desired sequence into the floppy drive.

3. Select that floppy drive by typing the number displayed next to it.

   The list of sequences changes to reflect the sequences available from the selected device.

   If the inserted floppy disk has no sequence files on it, an error message appears on the terminal.

4. Use the arrow keys to move the cursor to the desired sequence.

5. Press Return.

   The selected sequence is recalled to the sequencer.

Recalling sequences (con't)

Recalling sequences from a different catalog

To recall a sequence from a different catalog, use the Subcatalog Directory.

1. Select the Subcatalog Directory from the Welcome or Main Menu.

   The Subcatalog Directory shows the devices in your system. It also lists the subcatalogs of the current device or catalog shown at the bottom of the screen.

2. Select a different device, if desired, by clicking it or moving the screen cursor to it and pressing Return.

   The Directory shows the subcatalogs available from the top-level catalog of the selected device.

3. Enter the desired subcatalog by clicking it or moving the screen cursor to it and pressing Return.

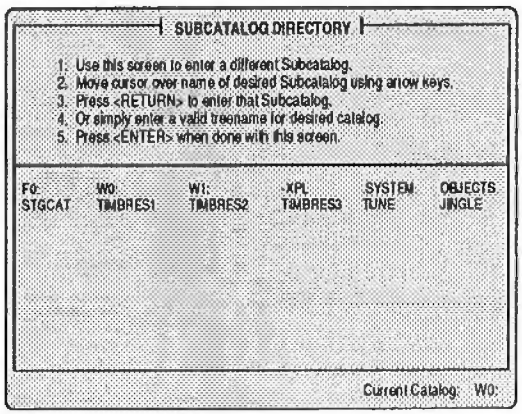
4. Press ENTER to return to the Welcome or Main Menu.

5. Select the Sequence Directory again.

   The Sequence Directory displays the sequences in the selected subcatalog.

6. Recall the desired sequence as before.

Subcatalog Directory



Recalling a sequence from the Sequence Editor

If you know a sequence'sfilename, you can recall it directly from the Sequence Editor. If you know the treename of the sequence, you can recall it from anywhere in your system or from a floppy disk.

1. Click on Sequence Files in the Commands panel.
2. Select the Recall Sequence function by stepping the word Sequence in the Sequence Files Dialog panel that appears.
3. Click on a sequence number or type in the filename or treename of the sequence file to be recalled.
4. Click the RECALL SEQUENCE button at the lower left of the Dialog panel to recall the sequence.

   If you want to cancel the operation, click the CANCEL button or another item from the Commands panel to quit the Sequence Files dialog.

Treename: device name, subcatalog name and filename of the sequence in that order separated by colons. See "Storing a sequence in another catalog" in the section "Storing sequences.")

Recalling a sequence from the Audio Event Editor

A sequence associated with a particular project is not automatically recalled when you recall the project. You must also recall the sequence. When you recall a sequence, it remains the current sequence until you recall a different sequence, even if you recall another project.

1. From the Sequencer Motion Control panel, click the NAME text field in the upper right corner of the panel.
2. Scroll to the sequence you want to recall, or type in the sequence name or treename in the rectangle that appears. (If you can't remember the exact name of the sequence, enter the first letter of the sequence and then begin scrolling from there.)
3. Click the RECALL button and then click [OK] in the dialog that appears.

   The sequence becomes the current sequence.

Recalling sequences (con't)

Loading missing sound files

When you recall a sequence requiring sound files and any of those sound files cannot be found, an error message appears.

DATA/SOUND FILE IS MISSING

A list of the missing sound files can be viewed from the Missing Sound File Display.

If the missing sound files are stored on tape, use the Monitor to load them onto the Winchester (See the manual *Organizing and Storing Sounds*). Once they are stored on the Winchester, you return to the Real-Time Performance module and recall the sequence again.

If the missing sound files are stored on floppy disks, you can load them into polyphonic sampling memory from the Missing Sound File Display.

1. Select the Missing Sound File Display from the Main Menu.
2. Insert the floppy disk containing any missing sound files into the F0 drive.
3. Press Return.

   The sound file(s) from that disk begin loading. When loading is complete, all files loaded disappear from the list.
4. Repeat steps 2 and 3 until all missing files have been loaded and the bottom part of the screen is blank.
5. Press Enter to return to the Main Menu.

Recalling sequences with 96-voice poly systems

When you recall a sequence with a 96-voice poly system, the sound files associated with it are loaded into the poly bins assigned to each track of the sequence.

As sound files are loaded into the assigned poly bins, sound files in each poly bin that are not part of the keyboard timbre or any of the track timbres of the sequence are deleted from poly memory as more room is required. If the memory in any of the assigned poly bins is insufficient for all the sound files assigned to it, the remaining sound files are loaded into the next poly bin. If there is insufficient room in all three poly bins, an error message appears.

Out of Room in Sample Memory

Once a sound file is loaded into one bin or another, it remains there until it is erased from poly memory. If, for example, a sequence with a track timbre having sound files assigned to poly bin 2 is recalled and its associated sound files are already loaded into poly bin 1, the sound files remain in poly bin 1.

Sequence playback

When you play back a sequence, a **song pointer** moves from click to click representing the current position of the sequence.

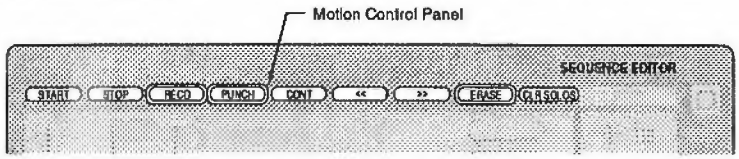
Using the motion controls

You can start the sequence from any point. Regardless of where the sequence was last stopped, playback starts instantaneously.

The motion controls on the Sequence Editor display and the Sequencer Motion Control panel are activated by clicking on them.

button	result
START	Playback starts from the beginning or from the mark or locator point.
CONT	Playback starts from the current sequencer location.
STOP	Sequence stops.
FORWD or >>	Click once to play the sequence at twice normal speed; click twice for eight times normal speed; click three times for 32 times normal speed
REW or <<	Click once to rewind the sequence at twice normal speed; click twice for eight times normal speed; click three times for 32 times normal speed

When moving forward or backward at speeds greater than twice normal speed, the movement can be slowed by pressing the opposite button. To resume normal playback, click CONT. To stop the movement, click STOP.



The Sequence Editor motion controls

The Audio Event Editor Sequencer Motion Control panel

Soloing tracks from the Sequence Editor

You can play back all recorded tracks of a sequence or only individual tracks or groups of tracks that you have "soloed."

- To solo a track or tracks, click or drag across track numbers in the Sequence Editor Track display.

  The soloed track numbers light, and the last track soloed blinks (it is also selected for recording). You hear only the lighted or blinking tracks when you click START.

- To "unsolo" a track, click or drag across lighted or blinking track numbers in the Sequence Editor Display panel.

  The track numbers clicked or dragged across go out, and you hear only tracks that remain lighted. If none are lighted, all tracks are heard.

Changing the tempo

You can change the speed of a sequence without changing its pitch, either before recording or during playback.

1. On the Sequence Editor, click the Settings command in the Commands panel.

   The Settings dialog appears and the number following Speed: is highlighted.

2. Type in any number from 0.000 to 9.99.

A setting of zero brings the recorded sequence to a standstill; a setting of ten makes its speed ten times the original recorded speed.

When you store a sequence on disk, the current speed setting is stored along with it.

With any speed changes made between recording and playback, the click is adjusted automatically to keep the digital metronome in time with the sequence. The click rate that appears after Click: on the Settings dialog, however, always indicates the rate of the click when the speed setting is 1.000.

Mark points and locator points

If you want to start sequence playback from a specific point in the sequence, you can set a **mark point** (from the Sequence Editor) or a **locator point** (from the Audio Event Editor).

When a mark or locator point is turned on, the sequence begins from the designated point whenever you click START.

Setting a locator point from the Audio Event Editor

You can specify any location in a sequence by setting a locator point on the Sequencer Motion Control panel of the Audio Event Editor. A locator point can be set while the sequence is playing or while the sequencer is stopped.

1. Click the MOTION box the Selection panel to recall the Sequencer Motion Control panel.

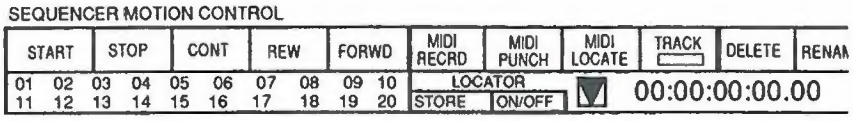
2. Enter a time into the LOCATOR time field at the bottom middle of the panel.

   Type in a time while the sequence is stopped; or click the LOCATOR Take button while the sequencer is playing to register the current sequence time.

After a locator point is set, you can turn it on and off. When the locator point is off, the sequence starts at the beginning. When the locator point is on, the sequence starts at the specified locator time.

- Toggle the locator ON/OFF switch.

  When the switch is highlighted, the locator point is turned on.



Audio Event Editor Sequence Motion Control panel (detail)

Storing and recalling locator points

You can specify up to 20 different locator points and store them under the locator buttons at the bottom left of the Sequencer Motion Control panel.

1. Specify a locator point as described on the previous page.
2. Click the LOCATOR caption field to the right of the time field and type in a caption, if desired.
3. Click STORE.
4. Click the numbered LOCATOR button to which the time is to be stored.

You can recall a LOCATOR point.

- Click one of the LOCATOR buttons.

  The time stored in the button appears in the LOCATOR time field, and the sequencer locates to this time.

Mark points and locator points (con't)

Using MIDI LOCATE

The MIDI LOCATE button on the Sequencer Motion Control panel sends out a MIDI song pointer which relocates the sequencer to the current LOCATOR point, without playing the sequence.

1. From the Sequencer Motion Control panel, click a numbered LOCATOR button.

   The time appears in the LOCATOR time field.

2. Click the MIDI LOCATE button.

   The current time in the sequence is reset to the LOCATOR time. A MIDI song pointer is sent out. The sequence does not play until you click the START button on the Sequencer Motion Control panel

For more information on MIDI, see the *Studio Operations* manual.

Setting a mark point on the Sequence Editor

You can specify any location in the sequence by setting a mark point from the Sequence Editor display. A mark point can be set while the sequence is playing or while the sequence is stopped. The mark point time is displayed in whichever time format you have selected.

You can specify a mark point in one of several ways.

1. Select the Sequence Editor from the Main Menu. The mark Take button, ON/OFF switch and time field appear on the right half of the locator panel.

2. Specify a mark point time.

   - Click the Mark take button while the sequence is playing to enter the sequence time at the instant the take button is clicked.

   - Drag a time from another time field or from a memory button.

   - Click on the Mark point time field and type in a value.

   - Step the Mark: ON/OFF switch to TRK and click on a track number in the Track display to enter the time of the first note of the selected track.

After a mark point is set, you can turn it on and off at any time. When the mark point is off, the sequence starts at the beginning. When the mark point is on, the sequence starts at the specified mark time.

- Toggle the Mark switch in the Locator panel.

  When the switch is highlighted, the mark point is turned on.

Sequence Editor locator panel

Preventing sound drop-out

The maximum number of notes that can sound simultaneously depends on the configuration of your system. This section will show you how to determine where sound drop-out is occurring and how to reassign your resources to prevent it.

Checking for sound drop-out

When you play back a sequence, the number of notes that can sound simultaneously depends on the number of FM and/or poly voices installed in your system.

For example, if you have recorded 40 tracks in a 32-voice system, then at any point in the sequence where notes from all 40 tracks were recorded, at least eight tracks will not sound on playback. If any of the timbres on any of the tracks have more than one voice, then additional notes will not sound. The rule is,

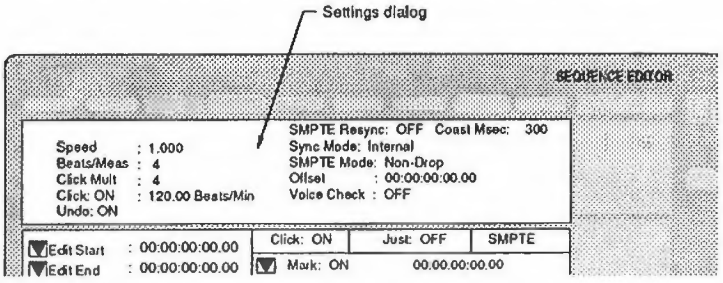
> The number of notes sounding simultaneously times the number of voices used by each track timbre must be less than the number of voices in the system.

Polyphonic sampling voices are independent of FM voices; thus you can reach the limits of either your FM voices or your poly voices without affecting the other.

You can check the point(s) in the current sequence where note drop-out is occurring using the Sequence Editor and the display window of the keyboard control panel on the Synclavier keyboard or the VKpanel display.

1. Select the Sequence Editor Settings command.
2. Toggle the VOICE Check switch to ON.
3. Start the sequence.

   The beat where the first note drop-out occurs appears in the display window of the keyboard control panel. Additional drop-outs are shown each second. If no more drop-outs occur, after 5 seconds the display returns to counting beats.



Sequence Editor Settings dialog

Preventing sound drop-out in a 96-poly system

With a 96-voice poly system, notes may drop out if too many sound files are located in one poly bin. This is because the sound files in a given poly bin sound only with the voices of that poly bin. If more than 32 sound files are stored in a single bin, only 32 will sound simultaneously. If, at any point in the sequence, more than 32 sound files located in a single bin are called for, voice drop-out will occur.

To prevent voice drop-out, you must first determine the poly bin location of all sound files associated with the tracks of the current sequence.

1. From the Sound File Directory or the Optical Disk Display, click R at the middle right of the screen.

2. Select [COLLECT] on the poly RAM dialog which appears in the center of the screen.

   All sound files not associated with the current sequence are erased from the three poly bins.

3. Select the Poly Memory Display and under the Show option, select Poly Bin.

   The sound files in all three poly bins are shown, each with its poly bin number.

If more than 32 sound files associated with the current sequence are located in any given bin, you should take the following steps to prevent voice drop-out on playback.

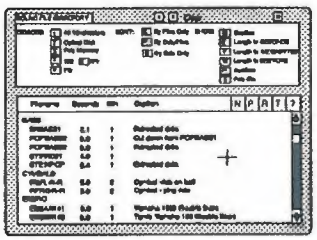
1. From the Multichannel Display, reassign track timbres to different poly bins as needed to spread the sound file locations equally over the three poly bins.

2. Save the sequence with its new poly bin assignments to disk.

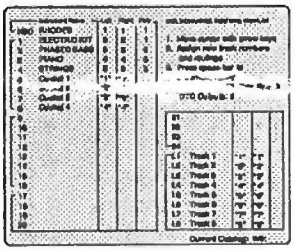
3. Erase the sequence and erase poly memory.

4. Recall the sequence again.

   The sound files associated with each track timbre are loaded into the newly assigned poly bins.



The Sound File Directory



The Multichannel Display