Building and storing whole timbres

Combining partial timbres

There are a number of ways you can combine different partial timbres to create a whole timbre.

Layering

A Synclavier timbre is constructed by layering the sounds of as many as four partial timbres. These can be synthesized partial timbres, sound file partial timbres or any combination of the two.

For example, you might create a whole timbre made up of different elements of the same basic sound. In this way you could provide reinforcement for the attack or use a different quality for louder notes.

On the other hand, a whole timbre might be a combination of completely different sounds layered one on top of another. Several of the instructional timbres in the top-level catalog of your Winchester, for example, are combination timbres.

You can build a whole timbre by selecting, one by one, up to four partial timbres and creating the sound you want on each. You can also recall partial timbres from different sources, such as other timbres or tracks in the memory recorder, and layer them into one sound.

Recalling a partial timbre to the keyboard

You can recall a single partial timbre from any timbre stored anywhere on your system. Once it is part of the keyboard timbre, you can move it from one partial timbre to another.

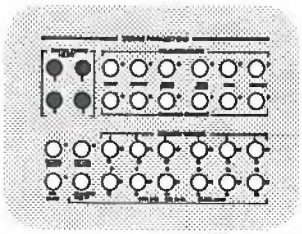
When recalling a single partial timbre from another timbre, the selected partial timbre must be in the current timbre bank and can only be placed onto the corresponding partial timbre of the keyboard timbre.

For example, if you recall the second partial timbre of a timbre stored in a timbre file, it is placed onto the second partial timbre of the keyboard timbre.

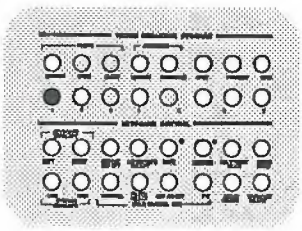
1. Press the **partial timbre select** button that corresponds to the partial timbre you want to recall.

2. Hold it down while you press the appropriate **timbre/sequence storage** numbered button.

   The recalled partial timbre replaces the corresponding keyboard partial timbre.

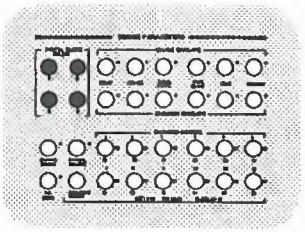


partial timbre select
panel 1

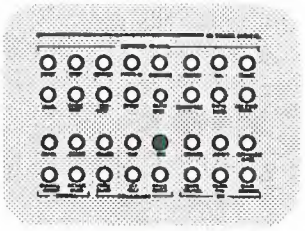


timbre recall
panel 4

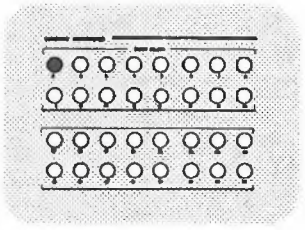
Combining partial timbres (con't)



partial timbre select panel 1



skt panel 2



track select panel 2

Recalling a partial timbre from a track in the memory recorder

You can recall a single partial timbre from a track of a recorded sequence. The selected partial timbre must be on a track in the memory recorder and can only be placed onto the corresponding partial timbre of the keyboard timbre.

For example, if you recall the second partial timbre of a track timbre, it is placed onto the second partial timbre of the keyboard timbre.

1. Press the **partial timbre select** button that corresponds to the partial timbre you want to recall.

2. Hold it down while you press **skt.**

   The **track select** buttons blink.

3. Continue to hold it down while you press the appropriate numbered **track select** button.

   The recalled partial timbre replaces the keyboard partial timbre.

Copying from one partial timbre to another

You can copy or "bounce" partial timbres from one position to another using the **bounce** button in the second panel of the keyboard button panel. You may want to do this to preserve the partial timbre of the keyboard timbre that corresponds to the partial timbre you want to recall. You may also want to move a copied partial timbre to another partial timbre location.

To bounce one partial timbre to another, follow these instructions:

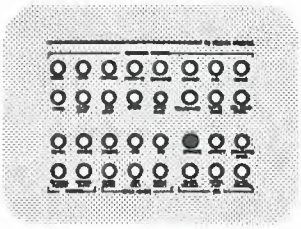
1. Press **bounce** once.

   The button lights, and the **track select** buttons blink.

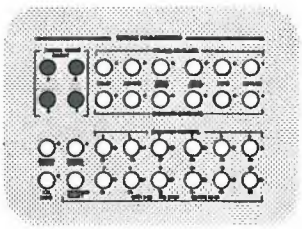
2. Press the source **partial timbre select** button.

3. Press the destination **partial timbre select** button.

   The source partial timbre is copied to the destination partial timbre.

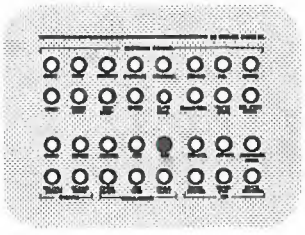


bounce
panel 2

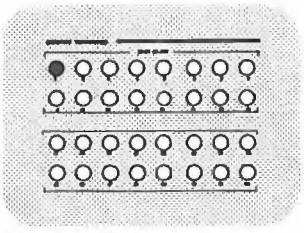


partial timbre select
panel 1

Combining partial timbres (con't)



skt
panel 2



track select
panel 2

Erasing a partial timbre

To erase a partial timbre, use the procedure above to bounce an empty partial timbre to the partial timbre to be erased.

If no empty partial timbres are available:

1. Press **skt.**

   The **skt** button lights and the **track select** buttons blink.

2. Hold down the selected partial timbre select button.

3. Press a **track select** button for an empty track.

   The **track select** buttons go out, and the selected partial timbre is erased.

- Recall a partial timbre from any timbre stored in the current catalog by pressing the appropriate **partial timbre select** and **timbre/sequence storage** buttons.

  The recalled partial timbre is placed on the keyboard partial timbre corresponding to its position on the source timbre.

- Recall a partial timbre from any memory recorder track by pressing the appropriate **partial timbre select** and **track select** buttons.

  The recalled partial timbre is placed on the keyboard partial timbre corresponding to its position on the source timbre.

- Copy a partial timbre to another partial timbre in the keyboard timbre using the **bounce** button.

- Erase a partial timbre by copying an empty partial timbre of the keyboard timbre using the **bounce** button or an empty memory recorder track using the **skt** button.

figure 8.1
Summary of recalling and placing partial timbres.

Modifying the whole timbre

Once you have layered several partial timbres into a whole timbre, you can modify the entire timbre in a number of ways. The modifications affect each partial timbre in the keyboard timbre.

Keyboard polyphony control

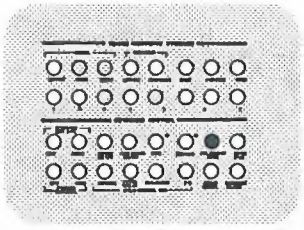
When you play a timbre programmed to be fully polyphonic, the number of notes that can sound simultaneously is limited by the number of voices in your system.

For example, if the keyboard timbre has four partial timbres and your system has sixteen voices, only four notes can sound simultaneously. If you play a fifth note, the system tries to free up a voice by cutting off any note in its final decay. However, if it cannot free up any voices this way, the new note does not play and bars appear in the display window.

A polyphony number of 1 makes the timbre monophonic. When the keyboard timbre is monophonic, each new note cuts off the previous note. You can play clean trills or other fast sequences, even if the timbre has a long final decay. But you will not be able to play a chord.

Setting keyboard polyphony

With the keyboard polyphony control function, you can program a timbre for less than maximum polyphony using the **polyphony mode** button in the fourth panel.



polyphony mode
panel 4

1. Press **polyphony mode.**

   The button lights and the display window shows.

   [number] POLYPHONY

2. Use the control knob to select a polyphony mode setting between 1 and 128.

The number you select determines the number of notes that can sound simultaneously on the keyboard, regardless of the number of voices in your system.

Modifying the whole timbre (con't)

Repeat and arpeggiate

Repeat and arpeggiate cause multiple notes to be triggered by each pressing of a key.

- When **repeat** alone is on, a note or chord is repeated at the selected rate so long as you hold down the key or keys.
- When **arpeggiate** is on, a chord is arpeggiated once at the selected rate.
- When both functions are on, a chord is arpeggiated and repeated as long as the keys are pressed.

Activating repeat and arpeggiate

To turn on repeat:

1. Press the **repeat on/off** button.

   The button lights.

2. Press the **repeat/arpeggiate rate** button.

   The button lights and the display window shows

   [number] HERTZ

3. Use the control knob to select a repeat rate between 0.00 and 50.00 hertz.

To turn on arpeggiate:

1. Press the **arpeggiate on/off** button.

   The button lights.

2. Press the **repeat/arpeggiate rate** button.

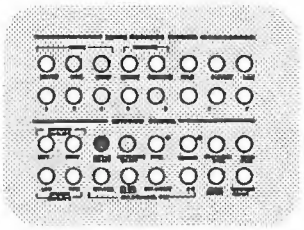
   The button lights and the display window shows

   [number] HERTZ

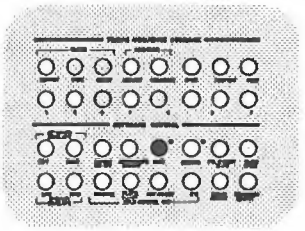
3. Use the control knob to select an arpeggiate rate between 0.00 and 50.00

The same rate button is used for both functions. If both the **repeat** and the **arpeggiate** buttons are lit, the arpeggio is repeated at the rate established for as long as you hold down the keys.

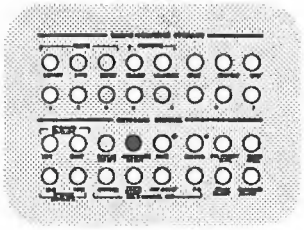
Repeats and arpeggios can be recorded in the memory recorder just as they sound in real time.



repeat on/off
panel 4

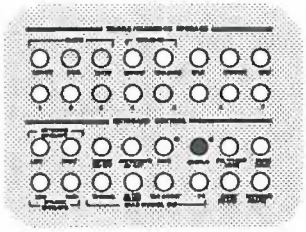


repeat/arpeggiate rate
panel 4



arpeggiate on/off
panel 4

Modifying the whole timbre (con't)



chorus panel 4

Chorus

The chorus function adds another voice to each of the partial timbres in the whole timbre.

1. Press the **chorus** button.

   The button lights and the display window shows

   [number] CHORUS

2. Use the control knob to select a chorus setting between 0.000 and 10.000.

The number dialed in establishes the interval above or below the fundamental pitch, with 1.000 representing a unison.

You can achieve **phase shift** effects (flanging) by tuning the added voice to a pitch very near the fundamental or an octave harmonic or subharmonic. A setting of 1.003 or 0.998 results in difference tones which are below the audible range, but are noticeable as phase shift in the upper harmonics of the tone.

You can reinforce the existing harmonics of a tone by dialing in an integer as shown in the table on the opposite page.

Inharmonic frequencies producing harsh effects can be added by selecting certain non-integer values.

figure 8.2
Chorus settings

chorus setting	relationship of added voice to original sound file
0.125	three octaves below
0.250	two octaves below
0.500	one octave below
1.000	unison
1.125	major third above
1.500	perfect fifth above
2.000	second harmonic (octave above)
3.000	third harmonic (octave plus a perfect fifth above)
4.000	fourth harmonic (two octaves above)
5.000	fifth harmonic (two octaves plus a major third above)
6.000	sixth harmonic (two octaves plus a perfect fifth above)
7.000	seventh harmonic (two octaves plus a minor seventh above)
8.000	eighth harmonic (three octaves above)
9.000	nineth harmonic (three octaves plus a major second above)
10.000	tenth harmonic (three octaves plus a major third above)

Naming a timbre from the terminal

You can name the keyboard timbre using the timbre name item on the main menu on the terminal.

1. Select the timbre name item by moving the cursor and pressing **<return>**. Or type the letter next to it.

   The cursor moves to the lower left corner of the screen where the current timbre name, if any, is displayed.

2. Type in the new timbre name and press **<return>**.

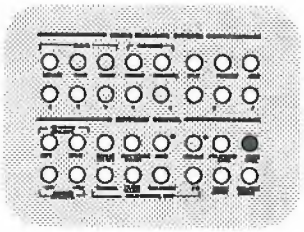
A filename can be up to eight characters long and can include letters, numbers and symbols. It cannot contain spaces or any of the following characters:

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

The new timbre name appears at the lower right corner of the screen.

Naming a timbre from the keyboard

You can also name a timbre using the **timbre name** button in the fourth panel.



timbre name
panel 4

1. Press the **timbre name** button.

   The current timbre name, if any, appears in the upper half of the display window. The first character of the name is flashing, ready to be changed. If no name has been entered for the current timbre, the window is blank and there is a blinking underline.

2. Turn the control knob until the character you want appears in the display window.

3. Press **timbre name** again.

   The character appears in the display window and the blinking cursor moves one space to the right.

   4.Repeat steps 1 and 2 until the timbre name is complete.

You can move the cursor to any character by pressing **timbre name** repeatedly or by holding down **timbre name** while you turn the control knob. In the first instance, the cursor wraps around to the beginning character or space. In the second, it does not.

You can delete a character by placing the cursor on the character and turning the control knob all the way to the right.

Storing timbres

What is stored

When you store a timbre, you store all the information about the timbre, including

- the name of each sound file contained in the timbre,
- the volume envelope,
- frequency modulation, if used (FM synthesis partial timbres only),
- all partial timbre special effects including vibrato, portamento, tremolo (amplitude modulation), tuning, volume, chorus, final decay, keyboard envelope and real-time effects,
- all modifications of the whole timbre such as chorus, arpeggiate, repeat and polyphony control,
- the timbre name.

Timbre files

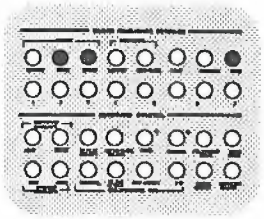
You store timbres in **timbre files.** Each timbre file is named **.newdata;** there can be only one **.newdata** file in each subcatalog in your storage system.

Timbre files are organized into eight banks with each bank containing up to eight entries. Each timbre entry is automatically given an identifying name. Its assigned timbre name also helps to identify it.

When you store a timbre to a selected place in the timbre file, it replaces any existing timbre stored in that place.

The disk labeled **Master Timbre/Sequence Storage Disk** contains an empty timbre file. Before you start storing timbres, you should make a copy of the timbre file on this disk. You can create a subcatalog on your Winchester and copy it into that, as described in the manual *Organizing and Storing Sounds.* Or you can copy it onto a blank **formatted** floppy disk, following the instructions for the **formcopy** utility in the *Quick Reference Guide.*

Storing timbres (con't)



bank, entry, write panel 4

Storing a timbre in the current catalog

To store a timbre in a timbre file in the current catalog, follow the instructions below.

1. Press **bank** and the numbered button of the bank where you wish to store the timbre.

2. Press **write** and hold it down. In the display window is the message

   PRESS ENTRY,
   BANK OR SEQUENCE

3. Continue to hold down **write** while you press **entry.** The display window shows the following message:

   "1-8" WILL STORE
   TIMBRE IN BANK [number of bank]

4. Continue to hold down **write** while you press the numbered button corresponding to the timbre entry where you want to store the timbre. In the display window is the following message:

   [number of sectors] SECTORS
   WRITTEN TO DISK

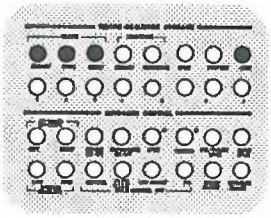
If you do not press the buttons in the correct order, the timbre will not be stored and the error message

ERROR – NOTHING
WRITTEN TO DISK

appears in the display window. Repeat the storage procedure, making sure the steps are taken in the right order.

Storing a timbre on a floppy disk

To store a sound file timbre in the timbre file on a floppy disk, replace the Winchester Bootload Disk in the **F0:** drive with a **formatted** disk that includes a **.newdata** file. Then follow the instructions below.



timbre library, bank, entry, write *panel 4*

1. Press **bank.**

2. Press the numbered button corresponding to the bank where you want to store the new timbre.

3. Press **write** and hold it down. The display window shows the message

   PRESS ENTRY,
   BANK OR SEQUENCE

4. Continue to hold down **write** while you press and hold **timbre library.**

5. Continue to hold down **write** and **library** while you press **entry.** In the display window you see

   "1-8" WILL STORE
   TIMBRE IN BANK [number of bank]

6. Continue to hold down **both write** and **library** while you press the numbered button corresponding to the timbre entry where you want to store the timbre. The message

   [number of sectors] SECTORS
   WRITTEN TO DISK

   appears in the display window.