# THE SYNCLAVIER

## DIGITAL AUDIO

## SYSTEM

# A QUICK TOUR

June 1986

# TABLE OF CONTENTS

# GETTING STARTED

This manual is designed to get you up and running. It will show you how to call up some of the great Synclavier® sounds and use them to create a multitrack recording.

When you have completed this manual, you will be able to go to any of the other manuals to learn about a specific area in greater depth.

## *GET READY. . .*

You are about to learn the world's most advanced sound production system. With the Synclavier® Digital Audio System, you can produce complete multitrack recordings directly in the memory of the Synclavier® digital recorder. You can also

- edit recordings at the push of a button;
- create sounds and change them at will;
- synchronize an array of sound processing equipment;
- transcribe recorded sequences into publishing-quality music scores.

A complete system, the Synclavier® is capable of a multitude of recording studio functions. Yet it is very simple to operate.


Synclavier

## . . .GET SET. . .

Your Synclavier® Digital Audio System has been set up by an N.E.D. technician.

> CAUTION: New England Digital strongly recommends that you have an N.E.D. technician set up and test your system. If you do set up your system yourself, please refer to the *Setup and Troubleshooting* manual.

All the components —

- the computer terminal,
- the velocity/pressure sensitive keyboard,
- the drive system,
- the computer control unit,

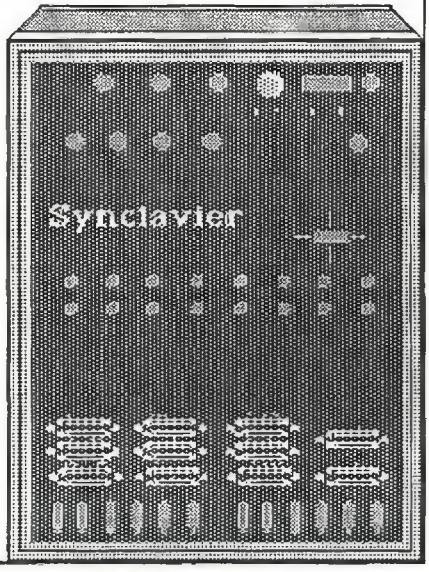
— have been properly connected to each other and to your audio system.

FLOPPY DRIVE

TERMINAL

WINCHESTER DRIVE


VELOCITY/PRESSURE SENSITIVE KEYBOARD




CONTROL UNIT

## STEP ONE: TURN ON THE POWER

Usually one switch turns on all components of the system.

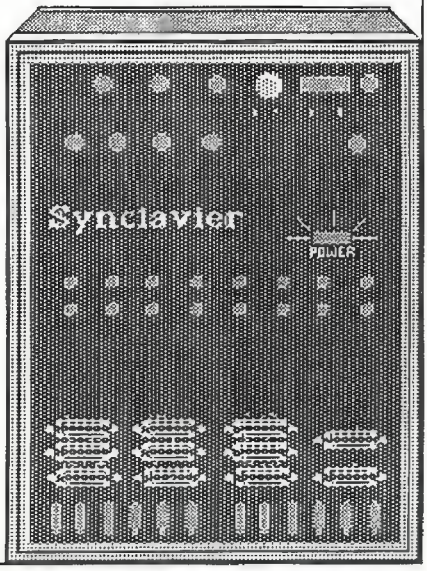
- Turn this switch on.
  - The terminal will show a flashing square in the upper lefthand corner.
  - The display window on the keyboard will show broken horizontal lines.
  - The red power switch on the computer control unit will light up.

- If this does not happen, check to make sure all cables are properly connected.

Look for the cursor on the terminal screen . . .

. . .two rows of broken lines in the keyboard display window. . .

. . .the red lighted power switch on the control unit



## STEP TWO: INSERT THE BOOTLOAD DISKETTE

You have received a number of floppy diskettes with your system.

- Look for the diskette labeled

  WINCHESTER BOOTLOAD DISK

- Place this diskette, label side up, into the the floppy drive. (The floppy drive is the small black box attached to the connector on the computer control unit labeled FLOPPY DRIVE 0.)

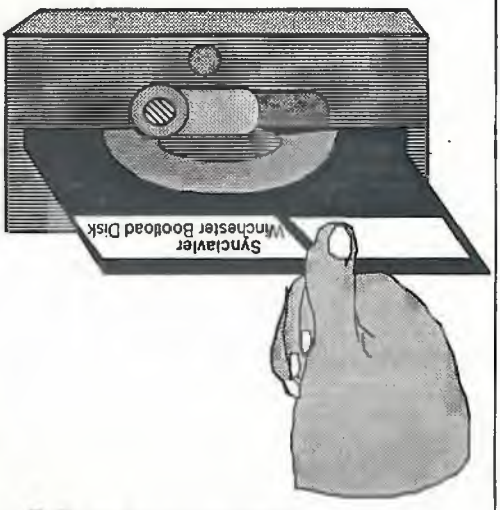
- Turn the lever on the floppy drive to a down position.

## STEP THREE: PRESS THE LOAD BUTTON

- Press the red button on the floppy drive.

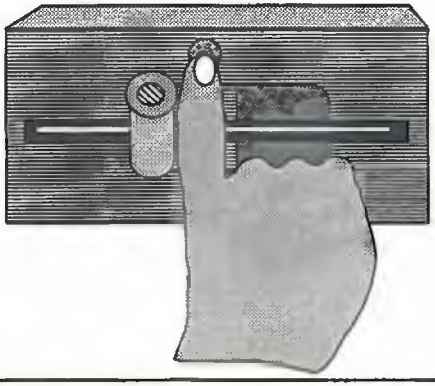

■ Place the Winchester Bootload diskette. . .

. . . in the floppy drive.




■ Turn the lever down.

■ Press the red load button.



## THE SYNCLAVIER® IS READY TO PLAY

After you have pressed the load button on the floppy drive, the system takes a few seconds to load the **Real-Time Performance** software into computer memory. Look for

- a brief series of messages on the terminal screen and then the Welcome Menu;
- a software release name, the number of voices and amount of memory installed in your system in the display window on the keyboard control panel;
- three buttons on the keyboard button panel lit.

You are ready to play.

NOTE: If your system does not behave in this manner, please check to see that you have inserted the Winchester Bootload diskette and not another diskette. If the drive motor runs continuously, however, it probably means that the diskette is defective. Try another bootload diskette.

Look for the Welcome Menu on the terminal screen . . .

**WELCOME TO THE SYNCLAVIER**
**DIGITAL MUSIC SYSTEM**

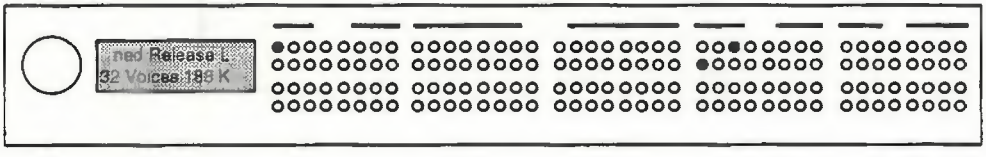
This software supports the following hardware options:
* Velocity/Pressure Keyboard * (Digital Guitar not available)
* Polyphonic Sampling Option

Select screen with arrow keys. Press <RETURN> to activate screen.

Now selected ==> A. Timbre Directory
B. Sound File Directory
C. Sequence Directory
D. Subcatalog Directory
E. System Commands
F. Main Menu

Release L Current Catalog: W0:

. . . and the release message and three lighted buttons on the keyboard button panel.



## THE SOUNDS OF THE SYNCLAVIER

New England Digital has created an archive of sound—sounds that range from the most authentic instrumental sounds available today to an amazing array of sounds you've never heard before.

## RECALLING A SOUND

The first item on the list of displays on the Welcome Menu is the Timbre Directory. Timbre (pronounced TAM-ber) is another name for musical sound. The Timbre Directory lists all the sounds that are available right now for performance.

■ At the computer terminal, select the Timbre Directory either by typing

A

or by pressing the <RETURN> key.

■ Look at the Timbre Directory. You will see that the first name listed in the directory,

(WORKSPACE)

is highlighted and followed by a flashing cursor. You can move the cursor in any direction by pressing one of the arrow keys on the terminal keyboard.

■ Look at the Timbre Directory and find the timbre named

ELEC BASS1 .18

The number following the name indicates the amount of polyphonic sampling memory required to play this timbre.

■ Press the right arrow key on the terminal keyboard until the cursor is on the electric bass timbre.

**TIMBRE DIRECTORY**

```
1. Use arrows to move cursor, <RETURN> to call up timbre, <ENTER> when done.
2. Select devices with 1,2,3, . . .
3. Devices--> 1  W1:   2  W0:   3  F0:
```

ENTRY

| | BANK 1 | | BANK 2 | | BANK 3 | | BANK 4 | |
|---|---|---|---|---|---|---|---|---|
| 1. | (WORKSPACE) | | | | | | | |
| 2. | LIVE DRUMS | .37 | CROSS STIFCK | .02 | TUMBA | .14 | ELEC BASS | .18 |
| 3. | ELECTRIC KIT | .26 | HIGH HATS | .09 | CONGA | .36 | POPBASS1 | .08 |
| 4. | DRUM MACHINE | .31 | TOTOSAN | .38 | QUINTO | .34 | BASS W/POP | .26 |
| 5. | BBAL/SHOT | .46 | MAMBO BELLS | .22 | TIMBALES | .42 | STEINBERGER | .37 |
| 6. | BDRUM/SNARE | .1 | BONGO BELLS | .18 | SHEKERE | .07 | SBASS W/POP | .41 |
| 7. | RIDE CYMBAL1 | .47 | WOOD BLOCKS | .1 | GANZA | .07 | PHASED EBASS | .18 |
| 8. | RIDE CYMBAL2 | .48 | PERCUSSION | .33 | TRIANGLE | .42 | PHASED SBASS | .37 |
| | | | TABLA | .66 | TAMBOURINE | .49 | ACOUSTIC BS | 2.67 |

ENTRY

| | BANK 5 | | BANK 6 | | BANK 7 | | BANK 8 | |
|---|---|---|---|---|---|---|---|---|
| 1. | PIANO | 3.79 | TRUMPET | .15 | FLUTE | .21 | LEAD HAMMOND | (S) |
| 2. | VIBES | .43 | TPT SECTION1 | .76 | VOICE | .48 | SPACE VOICES | (S) |
| 3. | GUITAR | 1.3 | TPT SECTION2 | .57 | VIBES/VOICE | .91 | RHODES | (S) |
| 4. | 12 ST GTR | 2.3 | TROMBONE1 | .39 | FLUTE/VIBES | .69 | SYNTH BASS | (S) |
| 5. | RHYTHM GTR | .1 | TROMBONE2 | .47 | GUITAR/VOICE | 1.8 | SOLO VIOLIN | (S) |
| 6. | STEEL DRUMS | .72 | BRASS SECTION | 1 | GUITAR/CLAR | 2.25 | BIG BELL | (S) |
| 7. | STRINGS | 1.68 | CLARINET | .95 | SDRUMS/VIBES | 1.2 | BOO BAMS | (S) |
| 8. | CELLI | 1.7 | SAXOPHONE | .99 | SAX/GUITAR | 2.29 | SINE WAVE | (S) |

## LISTENING TO THE SOUND

Most of New England Digital's timbres were created by recording **samples** from live instruments. Each timbre usually has a number of samples in it, with each sample stored separately on your Winchester as a **sound file**.

- Press <RETURN>.

In the display window on the keyboard unit you will see a series of messages flash by, each one starting with

LOADING SOUND FILE

The computer is **loading** all the sound files of this timbre from the Winchester disk into **polyphonic sampling memory**. When all the sound files have been loaded, the name

ELEC BASS1 .18

appears in the display window.

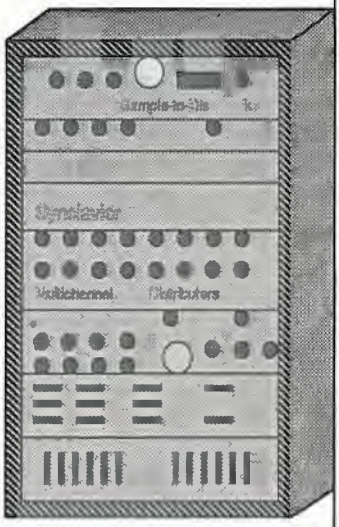
- Play some notes on the Synclavier® velocity/pressure sensitive keyboard.

- If you don't hear any sound, check to make sure your audio system is properly connected and turned on.

- Listen to the sound of the electric bass, a sound recorded from a live electric bass.

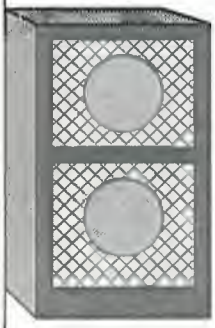
A sampled sound:

- Recorded.



- Processed.

- Placed on the keyboard.

When you press a key, the original sound is reconstructed.

You can add vibrato, portamento and other effects.

## LISTENING TO ANOTHER KIND OF SOUND

Another kind of sound is the synthesized sound. Synthesized timbres are created by using the control knob and buttons on the Synclavier® keyboard unit to "dial in" the harmonics and enclose them in a **volume envelope:** an attack, an initial decay, a sustain portion, and a final decay. Frequency modulation may be added as well as stereo, vibrato and other effects.

- At the terminal keyboard, use the arrow keys to move the cursor to the timbre named

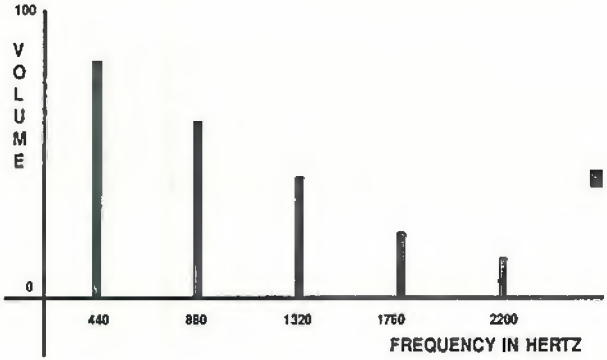
  LEAD HAMMOND (S)

The (S) after the timbre name stands for **synthesized.**

- Press <RETURN>..

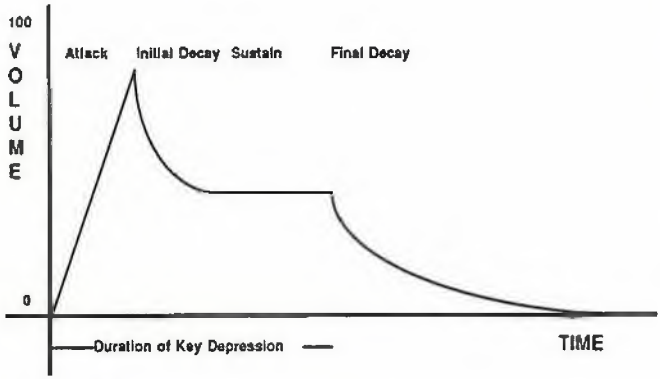
- Play some notes on the keyboard and listen to the sound of the synthesized Hammond organ.

A synthesized sound:




■ Harmonics dialed in.

■ Volume envelope dialed in.




■ Add in frequency modulation, vibrato, stereo, portamento and other effects.

## CALLING UP A TIMBRE FROM THE KEYBOARD

You can also use the buttons on the fourth panel under **TIMBRE/SEQUENCE STORAGE** on the keyboard button panel to recall a timbre.

- Look at the Timbre Directory and notice how the timbres are arranged in the directory. There are four banks of timbres across the top of the screen and four more across the bottom. Each bank contains eight timbre entries. Thus, each timbre can be identified by its bank and entry numbers.

- Press the button labeled

  BANK

- Press the numbered button in the second row labeled

  5

- Press the button labeled

  ENTRY

- Press the numbered button

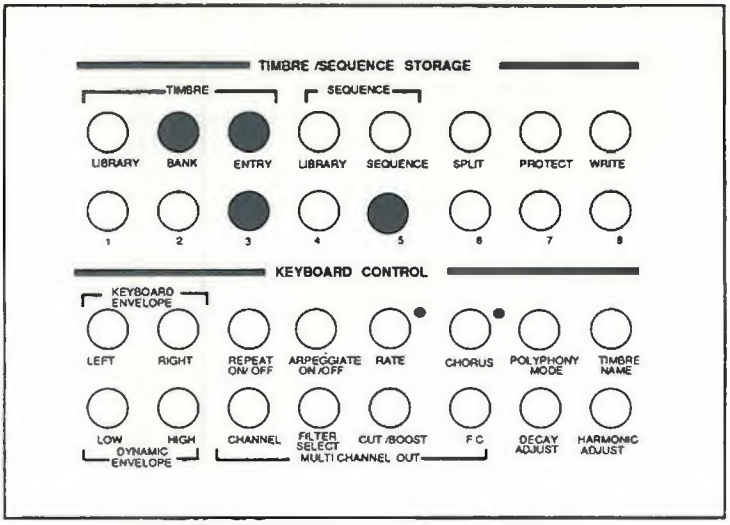
  3

You see the LOADING SOUND FILE messages in the display window and then the name

GUITAR 1.3

The third timbre in the fifth bank is now on the keyboard. Notice on the terminal screen that the cursor moved automatically to the selected timbre.

Although this procedure for calling up timbres is somewhat slower than using the Timbre Display on the terminal, there may be times you will want to use it.




To recall a timbre from the keyboard:

- Press BANK.
- Press a TIMBRE/SEQUENCE STORAGE numbered button.
- Press ENTRY.
- Press a TIMBRE/SEQUENCE STORAGE numbered button.

## WHAT'S IN A TIMBRE?

Each Synclavier® timbre has up to four layers of sound. Each layer, called a **partial timbre**, is a separate sound with its own harmonic structure and volume envelope. Thus, a Synclavier® timbre might be made up of four different sounds files. Or four different synthesized sounds. Or any combination of the two.

When you play a note on the keyboard, you can hear all the partial timbres of the keyboard timbre. Or you can listen to each layer of sound separately.

- Using either the Timbre Directory or the keyboard button panel, recall the timbre "FLUTE/VIBES" to the keyboard. This timbre has two partial timbres, one a flute sound and one a vibraphone.

- Look for the set of buttons on the first panel labeled PARTIAL TIMBRE SELECT. Notice that the first button is lit.

- Press the PARTIAL TIMBRE SELECT button labeled

  1

It starts to blink. Play a note on the keyboard and listen. You hear only the vibes sound of the first partial timbre.

- Press the PARTIAL TIMBRE SELECT button labeled

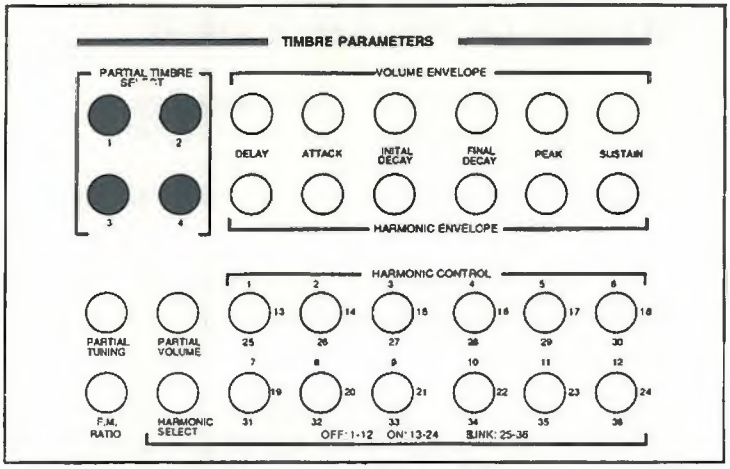
  2

PARTIAL TIMBRE SELECT 2 is blinking. PARTIAL TIMBRE SELECT 1 is unlit. Play a note on the keyboard. You hear only the flute sound of the second partial timbre.

- Again, press the PARTIAL TIMBRE SELECT button

  2

It stops blinking and becomes lit. Play a note on the keyboard and listen to both partial timbres again.




PARTIAL TIMBRE SELECT BUTTONS

- When you press a lit PARTIAL TIMBRE SELECT button, it starts blinking. You hear only the selected partial timbre.

- When you press a blinking PARTIAL TIMBRE SELECT button, it stops blinking and becomes lit. You hear all partial timbres.

- When you press an unlit PARTIAL TIMBRE SELECT button, it becomes lit or blinking, depending on whether the previously pressed PARTIAL TIMBRE SELECT button is lit or blinking. The previously lit button becomes unlit. If the buttons are blinking, you hear only the selected partial timbres. If the buttons are lit, you hear all partial timbres.

## COMPARING DIFFERENT SOUNDS OF THE SYNCLAVIER

Each Synclavier® timbre has its own characteristic sound. Some have been programmed for **real-time effects** so that you can control different aspects of the sound with your keyboard touch. Or by using the pedal, the mod wheel or the ribbon controller.

■ Take some time now to call up different sounds to the keyboard. Use both the Timbre Directory and the button panel procedures.

■ As you play the keyboard with each new timbre, listen for how the sound changes, depending on how you play the keyboard or use control devices like the mod wheel or the ribbon controller.

On the opposite page are some of the things to listen for as you play.

■ When you have finished listening to the different timbres, press

<ENTER>

to return to the Welcome Menu.

| TIMBRE NAME | LISTEN FOR |
|---|---|
| BASS W/POP<br>SBASS W/POP | The amount of "pop" changes as you change your keyboard attack. |
| STRINGS<br>CELLI | The volume changes as you apply more or less pressure after the attack. |
| TROMBONE1 | The pitch of a held note changes as you move your finger up and down the ribbon controller. |
| SPACE VOICES | The rate of portamento changes as you turn the mod wheel (the inside wheel at the left of the keyboard).<br><br>The volume changes as you change your attack and as you change the after-attack pressure. |
| SOLO VIOLIN | The volume changes as you change your attack.<br><br>The vibrato changes as you change the pressure.<br><br>A simulated bowing effect is controlled by the mod wheel. |

# THE DIGITAL MEMORY RECORDER

The heart of the Synclavier® Digital Music System is the digital memory recorder. Combining the functions of a tape recorder and sound mixer, it is a complete sound studio for recording, editing and producing music.

## RECALLING A RECORDED SEQUENCE

Several recorded sequences have been prepared for you here at New England Digital. You can recall them to the memory recorder from the **Sequence Directory** on the terminal screen.

- Select the Sequence Directory by typing the letter

  C

Alternatively, you can move the cursor to the Sequence Directory and press the <RETURN> key.

- Notice the first row contains sequences named <SEQ #1>, <SEQ #2> and so on. The sequences in the second row have names that help identify the sequence.

- Use the arrow keys to move the cursor to the sequence named

  RELATIVE

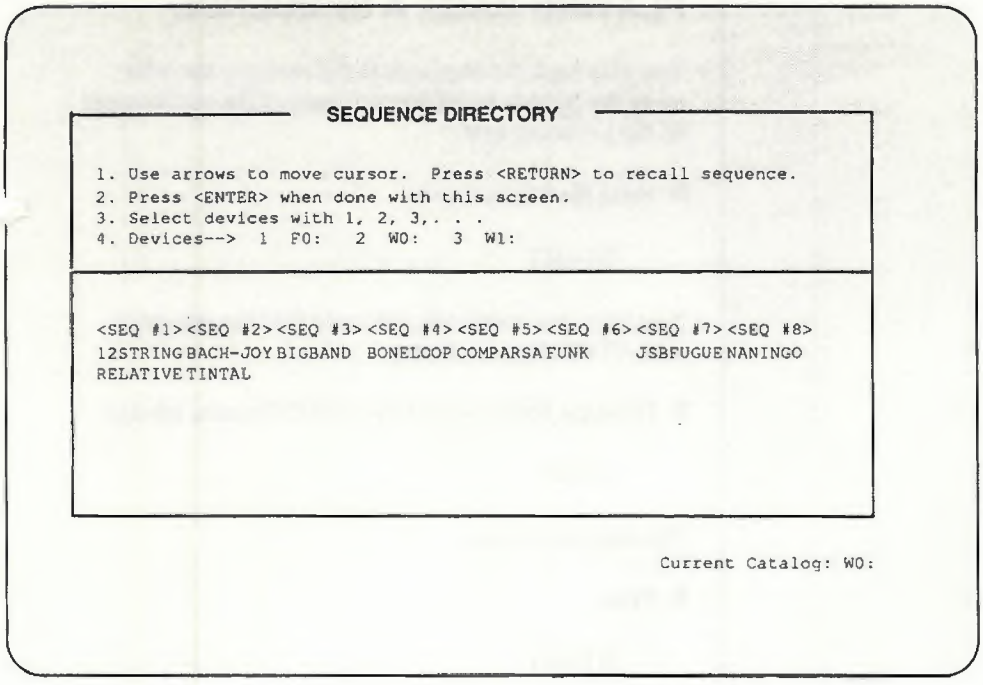
and press < RETURN>.

- Turn to the Synclavier® keyboard. In the display window a series of messages appears, each beginning with the words

  LOADING SOUND FILE

The computer is loading all the samples used in the sequence from the Winchester into **polyphonic sampling memory**. When all the sounds have been loaded, a message appears telling you how many notes are left in the memory recorder. This number depends on the amount of memory in your system.

The sequence is in the memory recorder, ready to play back.


SEQUENCE DIRECTORY
1. Use arrows to move cursor. Press <RETURN> to recall sequence.
2. Press <ENTER> when done with this screen.
3. Select devices with 1, 2, 3,. . .
4. Devices--> 1 F0: 2 W0: 3 W1:
<SEQ #1> <SEQ #2> <SEQ #3> <SEQ #4> <SEQ #5> <SEQ #6> <SEQ #7> <SEQ #8>
12STRING BACH-JOY BIGBAND BONELOOP COMPARSA FUNK JSBFUGUE NANINGO
RELATIVE TINTAL
Current Catalog: W0:

## PLAYING BACK A SEQUENCE

You play back the sequence in the memory recorder using the buttons in the second panel of the button panel on the keyboard unit.

- Press the button labeled

  START

You hear four count-off clicks and then the sequence RELATIVE begins playing.

- Press the button next to the START button, labeled

  STOP

The sequence stops.

- Press

  START

again, this time hitting it twice. RELATIVE begins playing, this time without the four count-off beats. Notice that the replay begins without any delay. With Synclavier® digital recordings, there is no rewind time.

- Press STOP again and then press

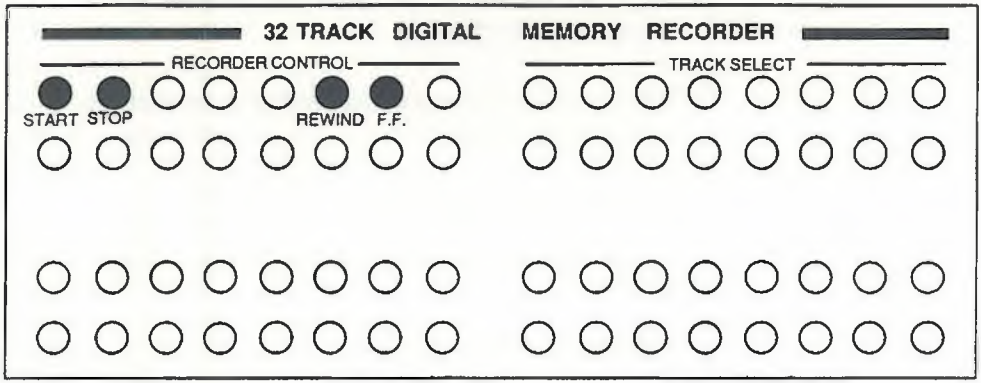
  CONTINUE

The sequence begins to play from the point where you stopped it.

- Press

  F.F.

The sequence fast forwards until you press STOP. Notice that the sound is audible but muted.




- Press START once to start playback from the first beat.
- Press START twice to start playback from the first note.
- Press STOP to stop playback.
- Press CONTINUE to play back from the last stopping point.
- Press F.F. to fast forward the sequence.
- Press REWIND to move backwards quickly.

## RECALLING A SEQUENCE FROM THE KEYBOARD

You can recall a sequence from the button panel on the keyboard unit as well as from the Sequence Directory.

- Look at the fourth panel of buttons, labeled TIMBRE/SEQUENCE STORAGE. You can use several of these buttons to recall sequences directly from the keyboard.

- Press the button labeled

  SEQUENCE

- Press the button labeled

  2

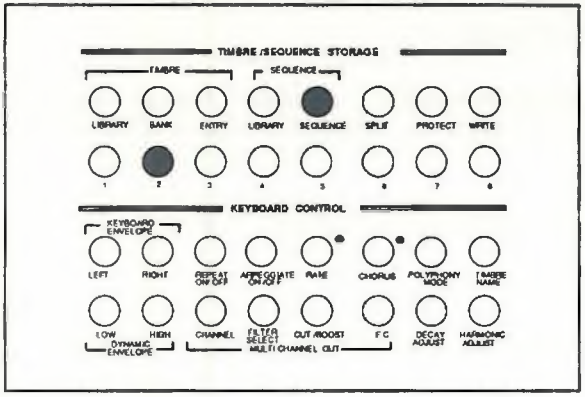
This sequence is listed as <SEQ #2> on the Sequence Directory. You could have recalled it from the terminal.

- Watch the display window. When the LOADING SOUND FILE messages have finished and the NOTES LEFT message appears, press

  START

The new sequence begins playing.

Each of the **numbered** sequences is also stored as a **named** sequence. The chart on the opposite page shows each numbered sequence with its corresponding name.




To recall a sequence from the keyboard:

- Press SEQUENCE.
- Press a TIMBRE/SEQUENCE STORAGE numbered button.

| SEQUENCE NAME | SEQUENCE NUMBER | STORAGE BUTTON |
|---|---|---|
| Relative | <SEQ #1> | Button 1 |
| Boneloop | <SEQ #2> | Button 2 |
| Bigband | <SEQ #3> | Button 3 |
| JSB Fugue | <SEQ #4> | Button 4 |
| Tintal | <SEQ #5> | Button 5 |
| Comparsa | <SEQ #6> | Button 6 |
| Funk | <SEQ #7> | Button 7 |
| Naningo | <SEQ #8> | Button 8 |

## CHANGING THE TEMPO OF A RECORDING

You can adjust the tempo of a sequence. You can slow it down to a standstill or speed it up to ten times its original speed.

- Press the button in the second panel labeled

  SPEED

In the display window on the button panel, the message

  1.000 SPEED

indicates that the speed is set at the original recorded tempo.

- Press

  START

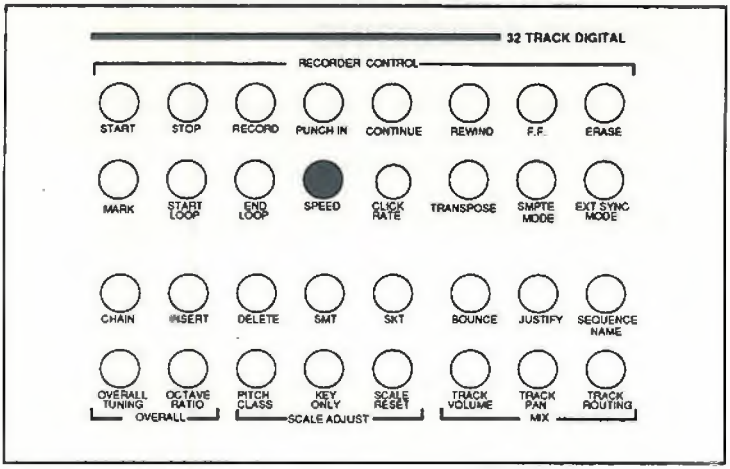
- At the far right of the button panel is a control knob. Turn it clockwise, the number in the display window becomes larger. Turn it counterclockwise, the number becomes smaller.

The tempo changes as the sequence plays. Notice that the pitch of the recorded sounds does not change at all. With the Synclavier® digital memory recorder, you can change the speed of any recording without changing the pitch.

- When you have finished changing the speed, press

  SPEED

again to bring the speed setting back to 1.000.




To adjust the speed of an already recorded sequence:

- Press SPEED.
- Turn the control knob.

The speed setting remains in effect until you change it again, even if you recall another sequence.

To return the speed setting to 1.000:

- Press SPEED again and check the display window.

## LOOKING AT A TRANSCRIPTION OF THE RECORDING

You can look at the notes of any sequence on the terminal screen in standard notation. You can look at the notes on a single track or several tracks at a time.

- Bring the Welcome Menu to the terminal screen by pressing

  <ENTER>

- Recall Sequence #4 using either the buttons on the Button Panel or the Sequence Directory. This sequence is a recording of a Bach fugue.

- Select the **Main Menu** from the Welcome Menu by pressing

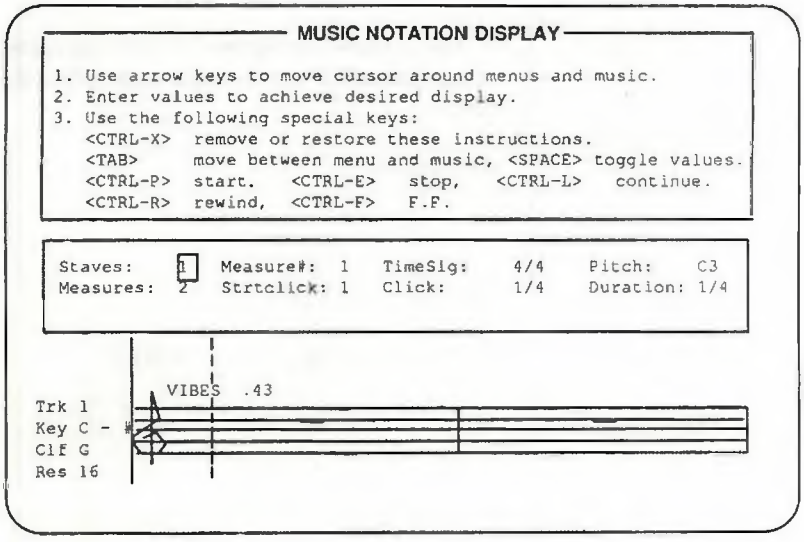
  F

The Main Menu is similar to the Welcome Menu except that you can use it to access more displays. Notice that all the displays listed on the Welcome Menu are also listed on the Main Menu. You will not have to go back to the Welcome Menu again.

- Select the **Music Notation Display** from the Main Menu.

When the Music Notation Display appears, the first track of the sequence in the memory recorder is displayed in standard notation, in this case, two whole rests.


THE SYNCLAVIER DIGITAL MUSIC SYSTEM
Select screen with arrow keys. Press <RETURN> to activate screen.
A. Timbre Directory
B. Sound File Directory
C. Sequence Directory
D. Subcatalog Directory
E. System Commands
Now Selected ==> F. Timbre Display
G. Recorder Display
H. Multichannel Display
I. "PATCH" Display
J. MIDI Display
K. Music Notation Display
L. Sound Editor
M. Missing Sound File Display
N. Name Keyboard Timbre
Release L
Current Timbre: "LIVE DRUMS .37
Current Catalog: W0:


MUSIC NOTATION DISPLAY
1. Use arrow keys to move cursor around menus and music.
2. Enter values to achieve desired display.
3. Use the following special keys:
<CTRL-X> remove or restore these instructions.
<TAB> move between menu and music, <SPACE> toggle values.
<CTRL-P> start. <CTRL-E> stop, <CTRL-L> continue.
<CTRL-R> rewind, <CTRL-F> F.F.
Staves: 1 Measure#: 1 TimeSig: 4/4 Pitch: C3
Measures: 2 Strtclick: 1 Click: 1/4 Duration: 1/4
VIBES .43
Trk 1
Key C - #
Clf G
Res 16

## SETTING THE MUSIC NOTATION MENU

Before you can view a sequence properly, you will have to set a few of the items on the menu.

- Look at the middle of the display. Inside the horizontal oblong box is the word Staves followed by a little square that boxes in the number 1. The little box is the **menu cursor**.

- Type the number

  3

The number inside the menu cursor changes to 3.

- Press <RETURN>.

All three tracks of the sequence in the memory recorder are shown on the screen.

But notice that all the clefs are treble clefs.

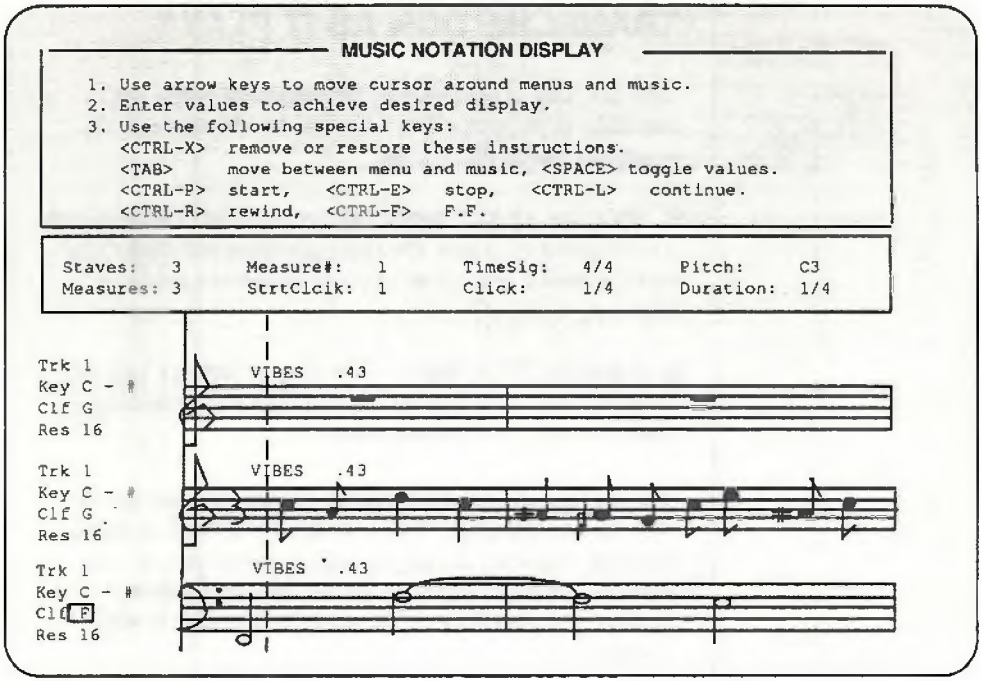
- Use the down arrow key to move the menu cursor down to the CLF item located to the left of the bottom staff.

- Type

  F

and press <RETURN>.

The third clef changes to a bass clef.


MUSIC NOTATION DISPLAY
1. Use arrow keys to move cursor around menus and music.
2. Enter values to achieve desired display.
3. Use the following special keys:
<CTRL-X> remove or restore these instructions.
<TAB> move between menu and music, <SPACE> toggle values.
<CTRL-P> start, <CTRL-E> stop, <CTRL-L> continue.
<CTRL-R> rewind, <CTRL-F> F.F.
Staves: 3 Measure#: 1 TimeSig: 4/4 Pitch: C3
Measures: 3 StrtClcik: 1 Click: 1/4 Duration: 1/4
Trk 1
Key C - #
Clf G
Res 16
VIBES .43
Trk 1
Key C - #
Clf G
Res 16
VIBES .43
Trk 1
Key C - #
Clf F
Res 16
VIBES .43

## FOLLOWING THE TRANSCRIPTION AS IT PLAYS

You can look at the notes of the sequence while the sequence is playing. You can stop the sequence at any point and freeze the display.

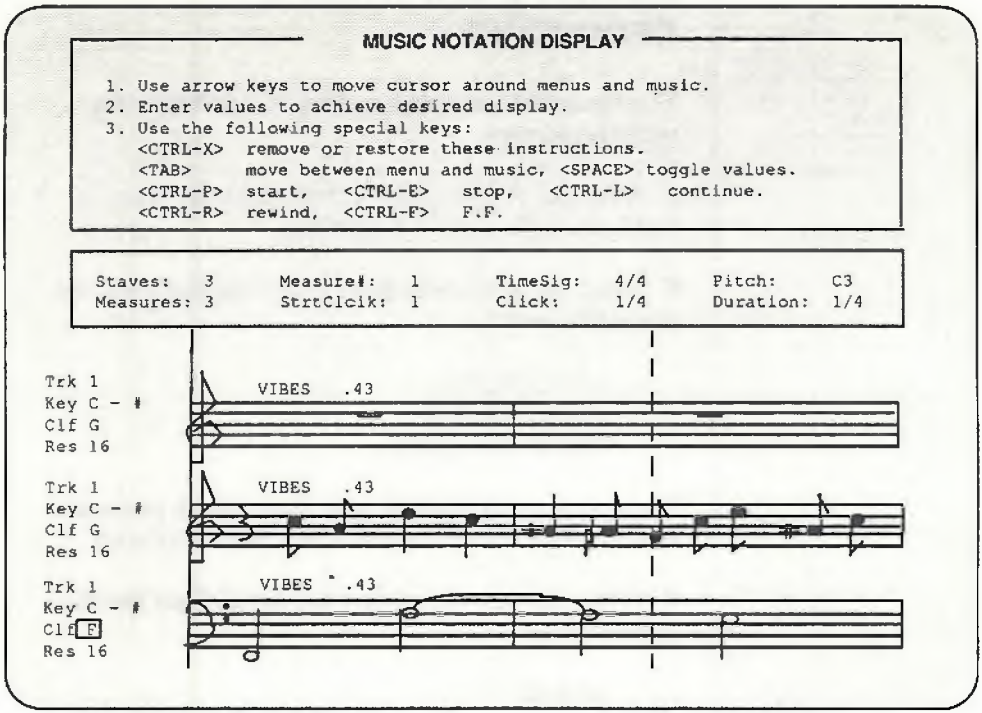
- Press the START button on the keyboard button panel. As the sequence plays, the **song position indicator**, the vertical dotted line, moves across the screen marking each note as it plays.

- Press the STOP button. The display freezes with the song position indicator on the note that was sounding when you stopped the sequence.

You can use the Music Notation Display to view up to eight tracks at a time. You can make any kind of editing changes you want directly on the terminal screen. As soon as you make a change on the Music Notation Display, the sequence in the memory recorder is also changed.

Instruction for using the Music Notation Display are in the *Memory Recorder* manual.

- When you have finished looking at the Music Notation Display, press <ENTER> to return to the Main Menu.


MUSIC NOTATION DISPLAY
1. Use arrow keys to move cursor around menus and music.
2. Enter values to achieve desired display.
3. Use the following special keys:
<CTRL-X> remove or restore these instructions.
<TAB> move between menu and music, <SPACE> toggle values.
<CTRL-P> start, <CTRL-E> stop, <CTRL-L> continue.
<CTRL-R> rewind, <CTRL-F> F.F.
Staves: 3 Measure#: 1 TimeSig: 4/4 Pitch: C3
Measures: 3 StrtClcik: 1 Click: 1/4 Duration: 1/4
Trk 1
Key C - #
Clf G
Res 16
VIBES .43
Trk 1
Key C - #
Clf G
Res 16
VIBES .43
Trk 1
Key C - #
Clf F
Res 16
VIBES .43

## MAKING A MULTITRACK RECORDING

You can record a complete multitrack recording in the memory recorder.

- Select the Timbre Directory from the Main Menu to locate a suitable timbre for recording.

- Select one of the three drum sets for the first track, the percussion track:

    LIVE DRUMS
    ELECTRIC KIT
    DRUM MACHINE

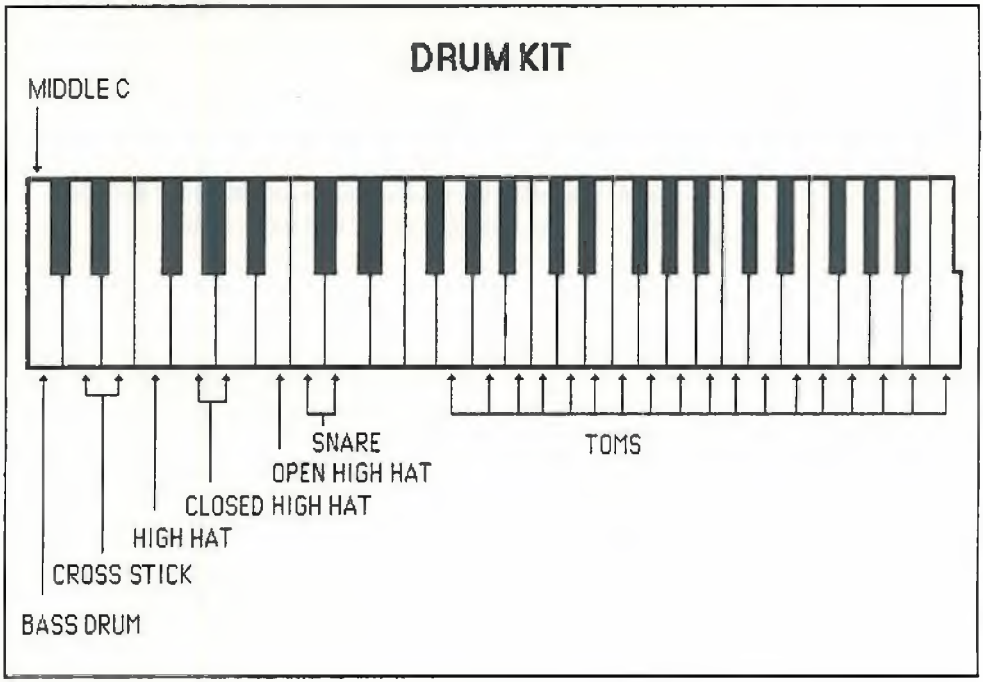
The graphic on the opposite page shows which percussion sounds are accessed from which keys on the keyboard.

- Turn to the second keyboard button panel and find the button labeled

    ERASE

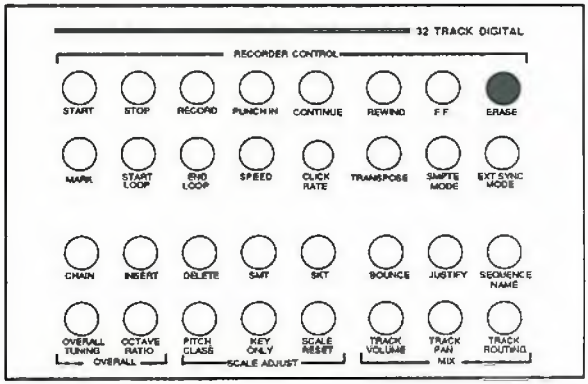
- Press it twice. This erases from memory the Bach fugue. The sequence is still stored on your Winchester disk and you can call it up any time using the Sequence Directory or the buttons on the keyboard control panel.

- Notice in the display window the message telling you how many notes are left in the memory recorder. This number depends on how much memory you have in your system.




- Select one of the drum kit timbres for recording the first track..

- Press ERASE twice to clear out memory recorder.



## GETTING READY TO RECORD

- Press the button labeled

  SPEED

The display window shows the speed setting for the Bach fugue, the last sequence in the memory recorder.

- Press

  SPEED

again to change the speed setting back to 1.000.

- Press

  START

and listen to the clicks of the digital metronome. The click rate is set to the tempo of the Bach piece.

- If you want to change the rate of the metronome, press

  CLICK RATE

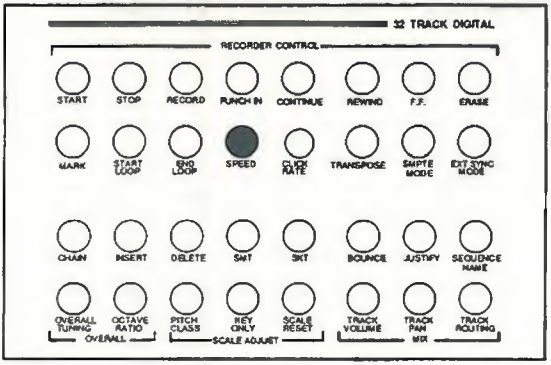
The display window shows the current click rate in beats per minute. Note that the click rate, set by the CLICK RATE button, is different from the tempo, set by the SPEED button.

- Turn the control knob and find a click rate that is comfortable for you.

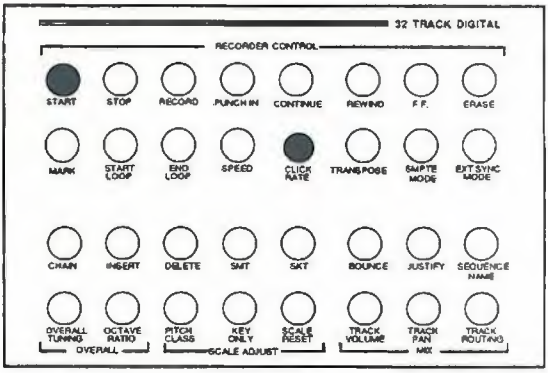
- Press

  STOP

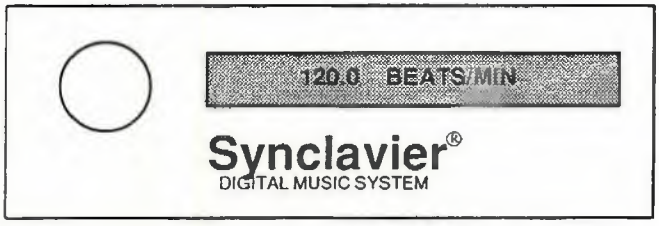
You are ready to record.




- Press SPEED.
- Look in the display window. If the speed setting is <u>not</u> 1.000 . . .
- . . . press SPEED again to reset it to 1.000.




- Press START to listen to the click rate.
- Press CLICK RATE and . . .




- . . . dial in a new click rate.

## LAYING DOWN THE FIRST TRACK

■ Press

RECORD

■ Let at least four clicks go by, then play the notes of the first track.

■ When you have finished a short percussion track, press

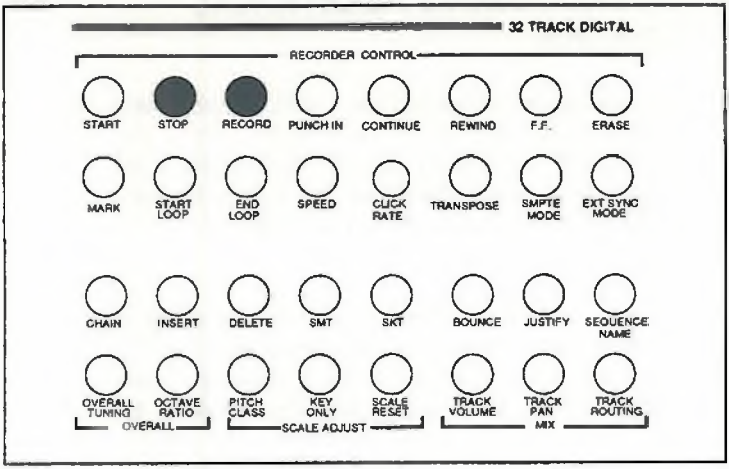
STOP

The first track is in the memory recorder.

If you make any mistakes while recording, you can erase the entire track and re-record it.

- Press the ERASE button twice to erase all the notes in the memory recorder.
- Press RECORD.
- Let the warm-up clicks go by and start playing.

When you are satisfied with Track 1, you are ready to record Track 2.




- Press **RECORD** to record
- Press **STOP** to stop.

## OVERDUBBING ADDITIONAL TRACKS

You can record the second track with the same timbre as the first or you can choose a new timbre. If you choose a new timbre, the memory recorder will automatically select a new track to record on. If you keep the same timbre, the memory recorder will record the new notes on the same track.

■ Using the Timbre Directory, select one of the bass timbres for Track 2. If you have fewer than four megabytes of polyphonic sampling memory, choose a timbre with one of the lower numbers following it.

■ Turn to the keyboard button panel and press

RECORD

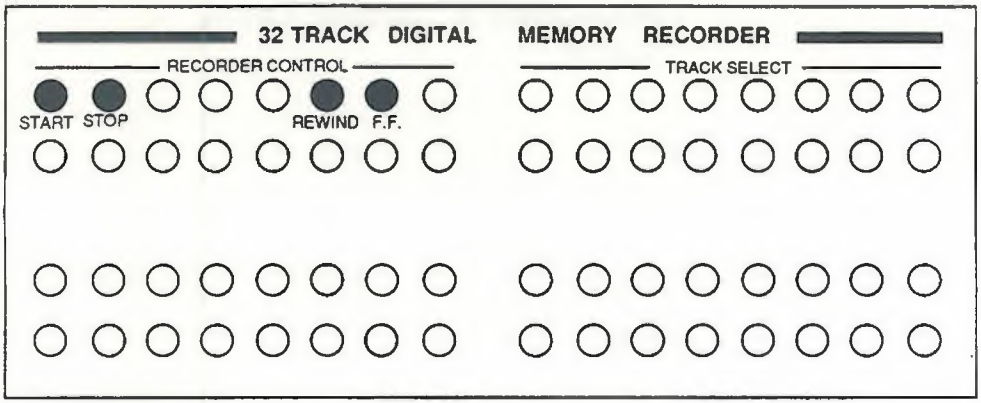
■ Again, let four clicks go by before you start to play. As you record the notes on Track 2, you hear the notes of Track 1 playing.

■ If you make a mistake on this track, you can erase the notes on Track 2 without disturbing the notes on Track 1:

- "Solo" Track 2 by pressing the TRACK SELECT button for Track 2 to make it blink.
- Press ERASE twice to erase all the notes on Track 2. The notes on Track 1 remain untouched.
- To re-record the track, press the Track 2 button again to unsolo it, press RECORD and start playing.

■ When you are satisfied with Track 2, return to the Timbre Directory. Select any timbre for Track 3, the melody line.

■ Record Track 3. Remember to let the count-off clicks go by before you start playing. You will hear Tracks 1 and 2 while you record Track 3.




- Press a numbered TRACK SELECT button to "solo" a track.
- Press START to listen to that track alone.
- Press ERASE twice to erase that track only.
- Press the TRACK SELECT button again to "unsolo" it.

## CHANGING A TIMBRE ON A TRACK

After you have recorded a track, you may decide you don't like the timbre you recorded the track with. You don't have to re-record the track. You can simply change the timbre.

- Recall another timbre to the keyboard. Use either the Timbre Directory or the TIMBRE/SEQUENCE STORAGE buttons.

- Turn to the second panel of the keyboard and press the **Select Memory Timbre** button, the button labeled

  SMT

Notice that all the buttons under TRACK SELECT are blinking. The Synclavier® is asking you which track you want to make the timbre change on.

- Press the TRACK SELECT button numbered

  3

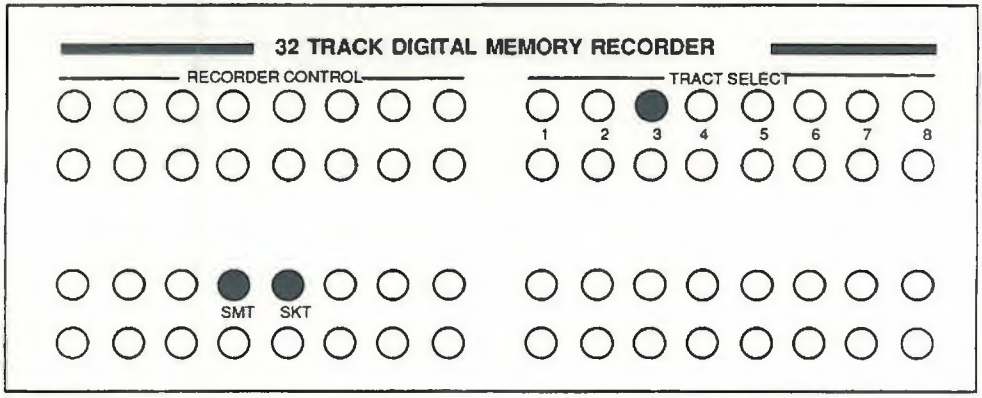
- Press the **Select Keyboard Timbre** button in the second panel, the button labeled

  SKT

- Press

  START

You hear your sequence with the new timbre on Track 3.




To change a timbre on a track:

- Recall the desired timbre to the keyboard.
- Press SMT.
- Press the numbered TRACK SELECT button.
- Press SKT.

## ADDING SOME NOTES TO AN ALREADY RECORDED TRACK

You can add notes to an already recorded track, provided you use the same timbre.

- Solo Track 1 by pressing the first TRACK SELECT button.

The button starts blinking.

- Press

  RECORD

Instead of the hearing the clicks of the digital metronome, you may see in the display window the message

  TIMBRES MUST
  MATCH FOR RECORD

This means that the keyboard timbre is not the same as the track timbre.

- If this happens, press the button in the second panel labeled

  SKT

All the numbered buttons under TRACK SELECT and under TIMBRE/SEQUENCE STORAGE start blinking.

- Press the Track 1 button.

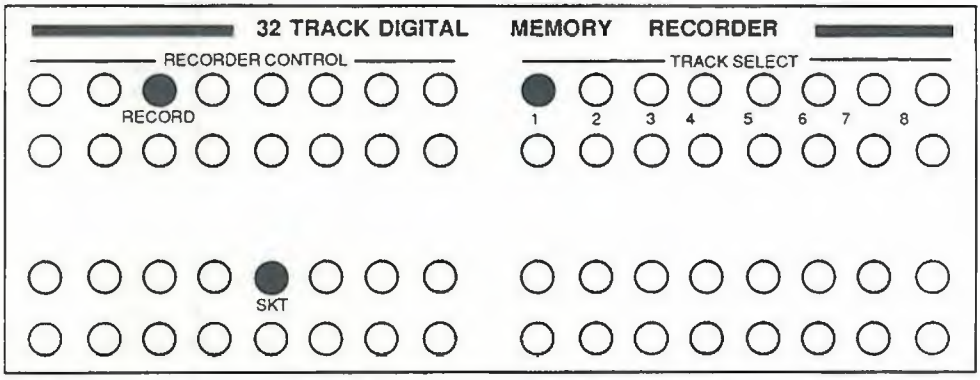
The timbre from Track 1 is recalled to the keyboard.

- Press

  RECORD

When the TIMBRE MUST MATCH FOR RECORD message appears in the display window:


- Press SKT.
- Press the numbered TRACK SELECT button.
- Press RECORD and record your track.



## LOOKING AT YOUR SEQUENCE IN COMPUTER MUSIC FORMAT

You have already looked at a sequence in standard music notation on the Music Notation Display. You can also look at your sequence in **computer music format** using the **Recorder Display**.

- At the keyboard, press

  REWIND

to bring your sequence back to its starting note.

- At the terminal, press <ENTER> to return to the Main Menu.

- Select the Recorder Display from the Main Menu..

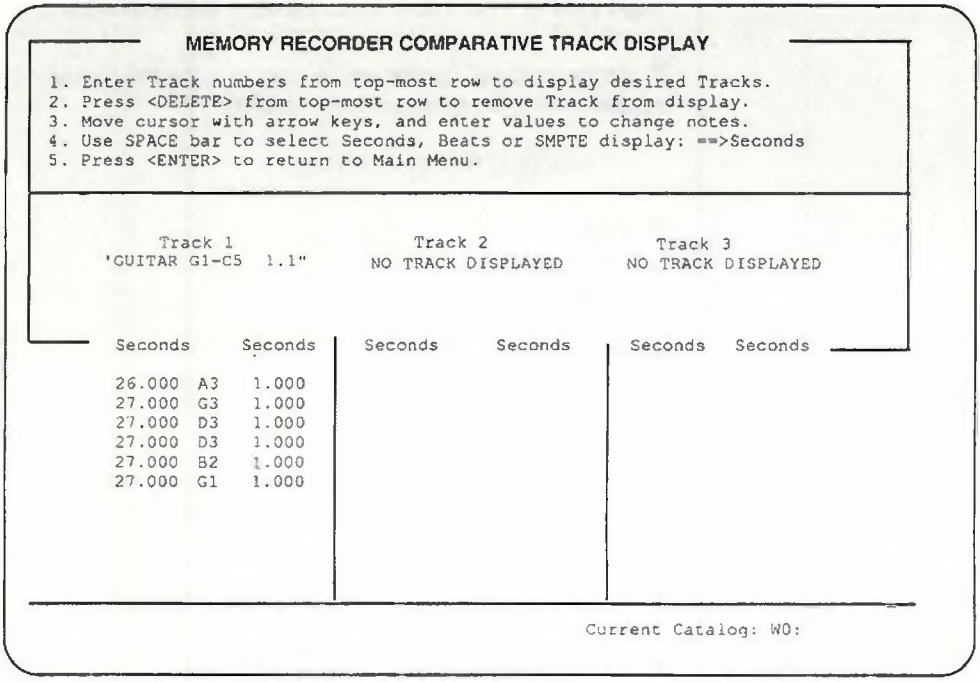
The Recorder Display shows you the notes of your sequence in computer music format. Only Track 1 is displayed at first.

The first line under Track 1 on the Recorder Display represents the first note, the second line the second note and so on. Each line has three entries which together define the note and its place in the sequence.

- The first number of the line shows the starting time of the note. This is an absolute time, representing the time from the moment you pressed RECORD at Time Zero to the moment you played the note.

- The second entry is the pitch name, indicated by a standard pitch letter, followed by an accidental, if any, and the octave number. All accidentals are represented by sharps. The octave numbers are relative to middle C = C3.

- The third entry gives the duration of the note.


MEMORY RECORDER COMPARATIVE TRACK DISPLAY
1. Enter Track numbers from top-most row to display desired Tracks.
2. Press <DELETE> from top-most row to remove Track from display.
3. Move cursor with arrow keys, and enter values to change notes.
4. Use SPACE bar to select Seconds, Beats or SMPTE display: ==>Seconds
5. Press <ENTER> to return to Main Menu.
Track 1
'GUITAR G1-C5 1.1"
Track 2
NO TRACK DISPLAYED
Track 3
NO TRACK DISPLAYED
Seconds
Seconds
Seconds
Seconds
Seconds
Seconds
26.000 A3 1.000
27.000 G3 1.000
27.000 D3 1.000
27.000 D3 1.000
27.000 B2 1.000
27.000 G1 1.000
Current Catalog: WO:

## EDITING NOTES AT THE TERMINAL

- At the terminal, use the arrow keys to move the cursor up and over to the center column labeled

  NO TRACK DISPLAYED

- Type

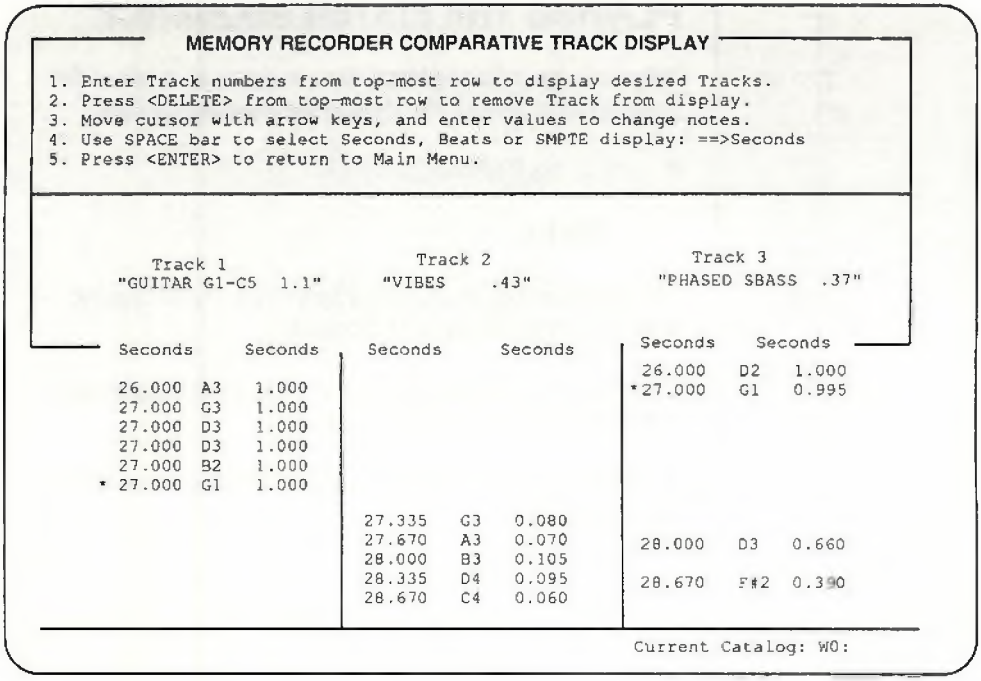
  2

- Press

  <RETURN>

"NO TRACK DISPLAYED" is replaced by the name of the timbre recorded on the track. The notes of Track 2 appear below it.

- Move the cursor down to the first note of Track 2.
- Move the cursor across to the pitch name.
- Type in a new pitch. Use both a letter and an octave number. Remember, the lowest C on the keyboard is C1.
- Make other modifications as you want.


MEMORY RECORDER COMPARATIVE TRACK DISPLAY
1. Enter Track numbers from top-most row to display desired Tracks.
2. Press <DELETE> from top-most row to remove Track from display.
3. Move cursor with arrow keys, and enter values to change notes.
4. Use SPACE bar to select Seconds, Beats or SMPTE display: ==>Seconds
5. Press <ENTER> to return to Main Menu.
Track 1
"GUITAR G1-C5 1.1"
Track 2
"VIBES .43"
Track 3
"PHASED SBASS .37"
Seconds Seconds
26.000 A3 1.000
27.000 G3 1.000
27.000 D3 1.000
27.000 D3 1.000
27.000 B2 1.000
* 27.000 G1 1.000
Seconds Seconds
27.335 G3 0.080
27.670 A3 0.070
28.000 B3 0.105
28.335 D4 0.095
28.670 C4 0.060
Seconds Seconds
26.000 D2 1.000
*27.000 G1 0.995
28.000 D3 0.660
28.670 F#2 0.390
Current Catalog: W0:

## PLAYING THE EDITED SEQUENCE

When you play the sequence, the changes you made at the terminal have altered the notes in the memory recorder.

- Turn to the keyboard and press

  START

The sequence begins playing.The notes you edited at the terminal are in the memory recorder.

Complete instructions for using the Recorder Display are in the *Memory Recorder* manual.

- When you have finished, press <ENTER> to return to the Main Menu.

**MEMORY RECORDER COMPARATIVE TRACK DISPLAY**

1. Enter Track numbers from top-most row to display desired Tracks.
2. Press <DELETE> from top-most row to remove Track from display.
3. Move cursor with arrow keys, and enter values to change notes.
4. Use SPACE bar to select Seconds, Beats or SMPTE display: ==>Seconds
5. Press <ENTER> to return to Main Menu.

| Track 1 'GUITAR G1-C5 1.1" | | | Track "VIBES .43" | | | Track 3 "PHASED SBASS .37" | | |
|---|---|---|---|---|---|---|---|---|
| Seconds | | Seconds | Seconds | | Seconds | Seconds | | Seconds |
| 26.000 | A3 | 1.000 | | | | 26.000 | D2 | 1.000 |
| 27.000 | G3 | 1.000 | | | | 27.000 | G1 | 0.995 |
| 27.000 | D3 | 1.000 | | | | | | |
| 27.000 | D3 | 1.000 | | | | | | |
| 27.000 | B2 | 1.000 | | | | | | |
| 27.000 | G1 | 1.000 | 27.335 | G3 | 0.080 | | | |
| | | | 27.670 | A3 | 0.070 | | | |
| | | | 28.000 | B3 | 0.105 | | | |
| | | | 28.335 | D4 | 0.095 | 28.000 | D3 | 0.660 |
| | | | 28.670 | C4 | 0.060 | | | |
| | | | | | | 28.670 | F#2 | 0.390 |

Current Catalog: W0:

## SAVING YOUR RECORDING

All the recording and editing you have done so far is in computer memory. If you call up another sequence, the notes will vanish.

You can store any sequence permanently using the TIMBRE/SEQUENCE STORAGE buttons in the fourth panel. The sequence is stored in a numbered sequence file corresponding to the number of the button you select. Any sequence previously stored under that button is erased.

- Press and hold down the button labeled

  WRITE

The display window message reads

  PRESS ENTRY,
  BANK OR SEQUENCE

- While holding the WRITE button down, press

  SEQUENCE

The message in the display window reads

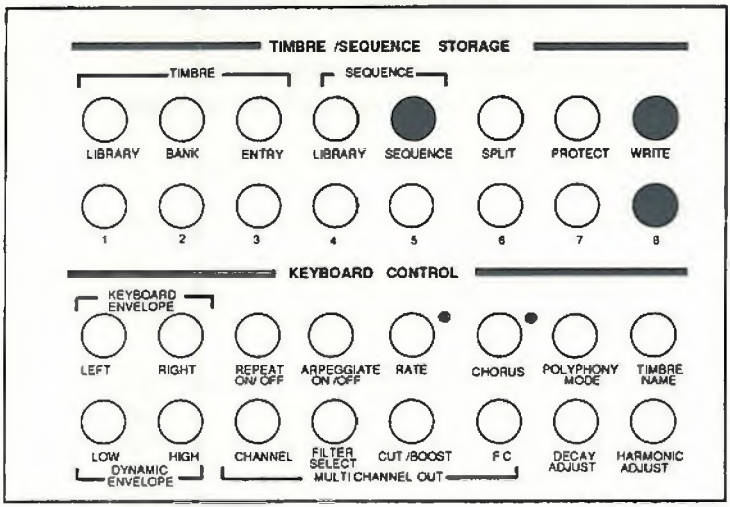
  PRESS "1 - 8"
  TO STORE SEQUENCE

- Continue to hold down the WRITE button while you press button

  8

The message in the display window reads

  [NUMBER] NUMBER OF SECTORS
  WRITTEN TO DISK




To store a sequence on your Winchester disk:

- Press and hold down WRITE.
- Press SEQUENCE.
- Continue to hold down WRITE.
- Press a numbered TIMBRE/SEQUENCE STORAGE button.

Any sequence previously stored under that button will be erased.

# THE TERMINAL DISPLAYS

In the Synclavier® Digital Audio System, the keyboard and the computer terminal interact to create a complete control system.

You have already used the Timbre Directory, the Sequence Directory, the Music Notation Display and the Recorder Display. In this section you will look at the remaining terminal displays and learn what each is used for.

## THE MULTICHANNEL DISPLAY

You use the **Multichannel Display** to link the Synclavier® to a standard multitrack mixing board.

- Recall any sequence to the memory recorder.
- Select the Multichannel Display from the Main Menu.

The keyboard and each track is listed with its currently assigned routing for both right and left channels.

You can change any of these routings by moving the cursor and typing in the new assignment. You can also make the changes using the TRACK ROUTING button on the second keyboard button panel.

The *Multichannel Distributor* manual gives complete instructions on making the multichannel distributor assignments.

- When you have finished looking at this display, return to the Main Menu.

**MULTICHANNEL DISTRIBUTOR ROUTING DISPLAY**

1. Move cursor to desired routing field using arrows. Enter new values.
2. Press <ENTER> when done with this screen.

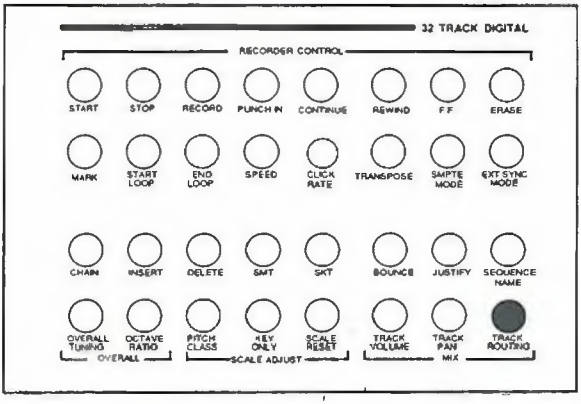
NUMBER OF AVAILABLE OUPUT CHANNELS: 8

| KEYBOARD TIMBRE | ROUTING LEFT | RIGHT |
|---|---|---|
| BOO BAMS (S) | 8 | 8 |

| SPLIT KEYBOARD TIMBRE | ROUTING LEFT | RIGHT |
|---|---|---|
| NO SPLIT KEYBOARD | | |

| TRACK | INSTRUMENT NAME | | ROUTING LEFT | RIGHT |
|---|---|---|---|---|
| 1 | ELECTRIC KIT | .26 | 1 | 2 |
| 2 | PHASED SBASS | .37 | 3 | 3 |
| 3 | RIDE CYMBAL1 | .47 | 1 | 2 |
| 4 | BONGO BELLS | .18 | 1 | 2 |
| 5 | PERCUSSION | .33 | 1 | 2 |
| 6 | TRIANGLE | .42 | 1 | 2 |
| 7 | CONGA | .36 | 1 | 2 |
| 8 | VIBES | .43 | 4 | 4 |

| TRACK | INSTRUMENT NAME | | ROUTING LEFT | RIGHT |
|---|---|---|---|---|
| 9 | RHYTHM GUITAR | .1 | 5 | 5 |
| 10 | TROMBONE | .47 | 6 | 7 |
| 11 | TPT SECTION1 | .76 | 6 | 7 |
| 12 | FLUTE | .21 | 6 | 7 |
| 13 | | | 1 | 1 |
| 14 | | | 1 | 1 |
| 15 | | | 1 | 1 |
| 16 | | | 1 | 1 |



## THE MIDI DISPLAY

You use the **MIDI Display** when you incorporate your Synclavier® into a network of sequencers, rhythm machines and other audio processing equipment.

■ Select the MIDI Display from the Main Menu.

The keyboard and each track is listed with its currently assigned MIDI OUT port and channel. As with the Multichannel Display, you can change any of these assignments by moving the cursor and typing in the new port or channel number. You can also make the changes using the MIDI button on the fifth keyboard button panel.

The *MIDI* manual gives complete instructions on making MIDI IN and MIDI OUT assignments.

■ When you have finished looking at this display, return to the Main Menu.

**MIDI DISPLAY**

1. Move cursor using arrow keys. Enter values or <SPACE> to step.
2. Press <ENTER> when done with this screen.

NUMBER OF AVAILABLE MIDI OUTPUTS: 8

SYNC IN: OFF SYNC OUT: OFF
INPUT CHANNEL: ALL

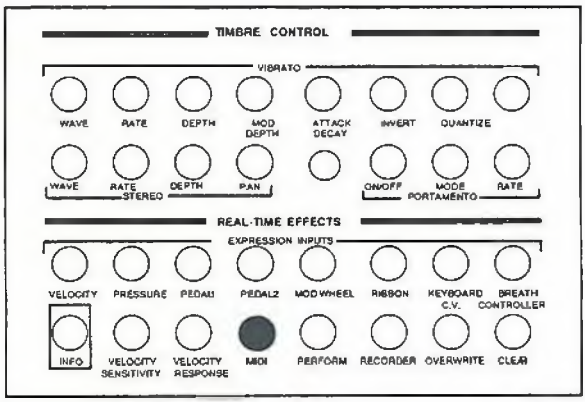
| KEYBOARD TIMBRE | MIDI OUT | MIDI CHAN | SEND PRES |
|---|---|---|---|
| LIVE DRUMS | 1 | 1 | |

| SPLIT KEYBOARD TIMBRE | MIDI OUT | MIDI CHAN | SEND PRES |
|---|---|---|---|
| NO SPLIT KEYBOARD | | | |

| T# | INSTRUMENT NAME | MIDI OUT | MIDI CHAN | SEND PRES |
|---|---|---|---|---|
| 1 | ELECTRIC KIT | 1 | 2 | |
| 2 | PHASED BASS | 1 | 2 | |
| 3 | RIDE CYMBAL | 1 | 2 | |
| 4 | BONGO BELLS | 1 | 2 | |
| 5 | PERCUSSION | 1 | 2 | |
| 6 | TRIANGLE | 1 | 2 | |
| 7 | CONGA | 1 | 2 | |
| 8 | VIBES | 1 | 3 | |

| T# | INSTRUMENT NAME | MIDI OUT | MIDI CHAN | SEND PRES |
|---|---|---|---|---|
| 9 | RHYTHM GUITAR | 1 | 5 | |
| 10 | TROMBONE1 | 1 | 6 | |
| 11 | TPT SECTION1 | 1 | 7 | |
| 12 | FLUTE | 1 | 8 | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |

Current Catalog: W0:



## THE SOUND FILE DIRECTORY

The **Sound File Directory** lists all the sound files stored on your system. These are the raw samples that have been stored exactly as they were originally recorded.

- Select the Sound File Directory from the Main Menu.

Across the top of the directory is a list of all the storage devices attached to your system.

| | |
|---|---|
| W0 | Winchester attached to WINCHESTER 0 |
| W1 | Winchester attached to WINCHESTER 1 |
| F0: | Floppy drive attached to FLOPPY DRIVE 0 |
| F1: | Floppy drive attached to FLOPPY DRIVE 1 |

Also listed is COMPLETE, which displays all sound files on all Winchesters; and POLYMEM, which displays all sound files already in polyphonic sampling memory.

- Select Complete by typing "1."

- Use the down arrow key to move the cursor to the bottom of the screen and then press the down arrow key one more time to make a new "page"of sound files appear.

- Move the cursor through the entire directory.

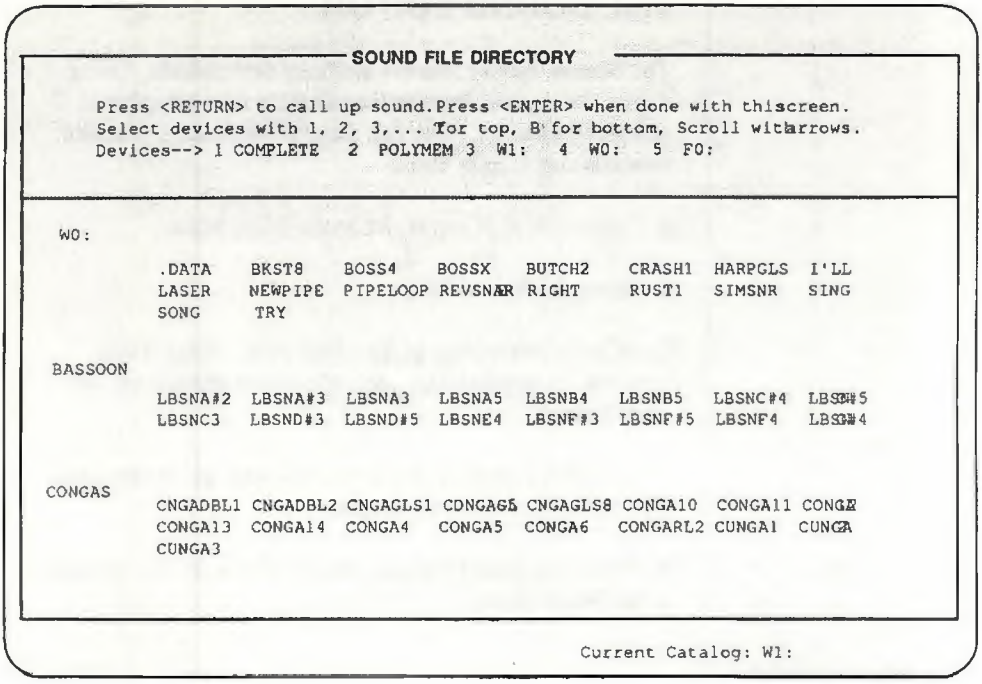
Notice that the sound files are grouped. Each group is stored in a special storage area of your Winchester called a **subcatalog**.

- Move the cursor back up to the subcatalog named DRUM-CYM and locate the sound file named

  CROSS1

- Press <RETURN>.

A cross-stick is placed on the keyboard.


SOUND FILE DIRECTORY
Press <RETURN> to call up sound.Press <ENTER> when done with thisscreen.
Select devices with 1, 2, 3,... Tor top, B for bottom, Scroll witharrows.
Devices--> 1 COMPLETE 2 POLYMEM 3 W1: 4 W0: 5 F0:
W0:
.DATA BKST8 BOSS4 BOSSX BUTCH2 CRASH1 HARPGLS I'LL
LASER NEWPIPE PIPELOOP REVSNAR RIGHT RUST1 SIMSNR SING
SONG TRY
BASSOON
LBSNA#2 LBSNA#3 LBSNA3 LBSNA5 LBSNB4 LBSNB5 LBSNC#4
LBSNC3 LBSND#3 LBSND#5 LBSNE4 LBSNF#3 LBSNF#5 LBSNF4
CONGAS
CNGADBL1 CNGADBL2 CNGAGLS1 CONGAGS CNGAGLS8 CONGA10 CONGA11
CONGA13 CONGA14 CONGA4 CONGA5 CONGA6 CONGARL2 CUNGA1
CUNGA3
Current Catalog: W1:

## THE SOUND EDITOR

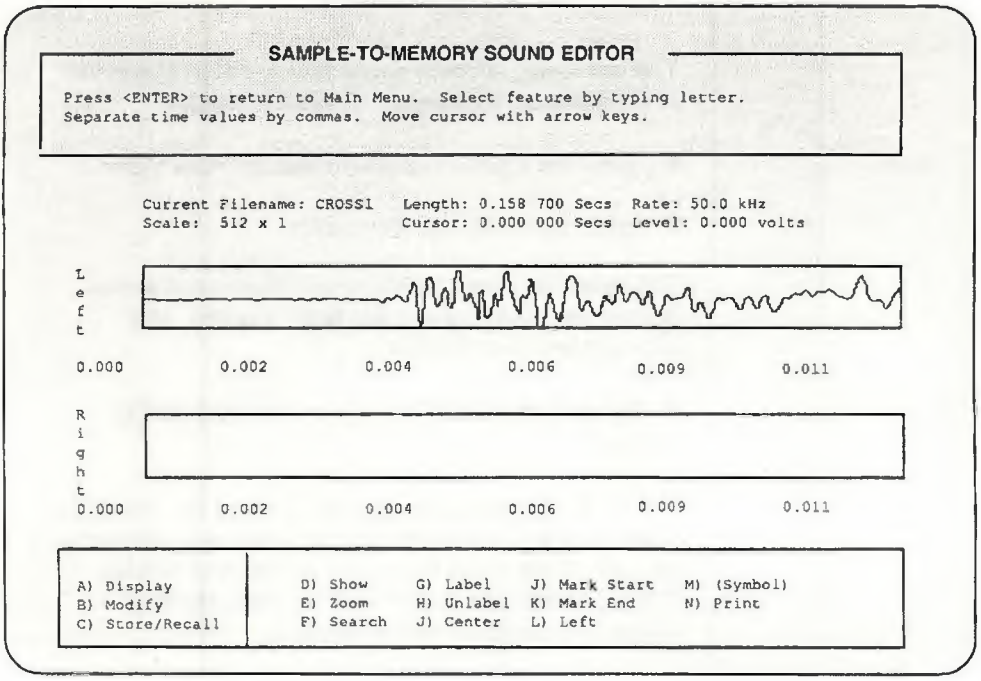
The **Sound Editor** records and modifies sounds. Using it, you can sample instruments directly into polyphonic sampling memory. You can also recall already recorded samples and modify them.

- Press <ENTER> to return to the Main Menu.
- Select the Sound Editor.

Look at the waveform of the cross-stick. Since it was sampled monophonically, the waveform appears on only one channel.

The manual *Sampling and Sound Editing* gives complete instructions on using the display.

- When you have finished looking at this display, return to the Main Menu.


SAMPLE-TO-MEMORY SOUND EDITOR
Press <ENTER> to return to Main Menu. Select feature by typing letter.
Separate time values by commas. Move cursor with arrow keys.
Current Filename: CROSS1 Length: 0.158 700 Secs Rate: 50.0 kHz
Scale: 512 x 1 Cursor: 0.000 000 Secs Level: 0.000 volts
Left
0.000 0.002 0.004 0.006 0.009 0.011
Right
0.000 0.002 0.004 0.006 0.009 0.011
A) Display
B) Modify
C) Store/Recall
D) Show G) Label J) Mark Start M) (Symbol)
E) Zoom H) Unlabel K) Mark End N) Print
F) Search J) Center L) Left

## THE PATCH DISPLAY

You can assign different sound files to different regions of the keyboard by using the **PATCH Display.**

- Select the Timbre Directory from the Main Menu.
- Select the PERCUSSION timbre.

This sound consists of samples of different percussion instruments. Each sample has been "patched" to a different key or set of keys.

- Return to the Main Menu and select the PATCH Display.

The PATCH Display appears with a list of the sound files patched on the first partial timbre. In the two columns to the right of the sound file names are columns labeled Start and End. The pitches listed in these columns indicate the range for each sound file.

- Press the <SPACE BAR>.

The display shows the remaining percussion sound files.

You will use the PATCH Display to create your own keyboard patches. Complete instructions are in the manual *Sampling and Sound Editing*.

**SOUND FILE "PATCH" DISPLAY**

1. Use this screen to create Patch Lists. Press ? for more information.
2. Move cursor using arrow keys. Enter new values.
3. Select Partial Timbre from button panel or by pressing space bar.
4. Press <CTRL-C> to view directory of Sound Files in Current Catalog.
   <CTRL-E> to enter a different subcatalog.
   <RETURN> to view Keyboard Display.
   <ENTER> when done with this screen.

Keyboard Timbre: 1-2-7: "PERCUSSION .33"
Current Catalog: W0:

Partial #1: Memory Left: 30.5 Megabytes

| | File | Start | End | Volume | Transpose | Tuning | Total Length | Loop Length |
|---|---|---|---|---|---|---|---|---|
| 1. | CASANET | D#4 | F4 | 70.0 | D4 | 0.00 | 0.000 000 | 0.000 000 |
| 2. | MARDOW01 | B3 | B3 | 100.0 | B3 | 0.00 | 0.000 000 | 0.000 000 |
| 3. | MARUPX01 | A3 | A3 | 80.0 | A3 | 0.00 | 0.000 000 | 0.000 000 |
| 4. | MARDOW01 | A#3 | A#3 | 100.0 | A#3 | 0.00 | 0.000 000 | 0.000 000 |
| 5. | CONGALOW | C1 | E3 | 70.0 | C2 | 0.00 | 0.000 000 | 0.000 000 |
| 6. | CLAP1 | A4 | B4 | 100.0 | A4 | 0.00 | 0.000 000 | 0.000 000 |
| 7. | TAMB1 | C5 | E5 | 100.0 | E5 | 0.00 | 0.000 000 | 0.000 000 |

**SOUND FILE "PATCH" DISPLAY**

1. Use this screen to create Patch Lists. Press ? for more information.
2. Move cursor using arrow keys. Enter new values.
3. Select Partial Timbre from button panel or by pressing space bar.
4. Press <CTRL-C> to view directory of Sound Files in Current Catalog.
   <CTRL-E> to enter a different subcatalog.
   <RETURN> to view Keyboard Display.
   <ENTER> when done with this screen.

Keyboard Timbre: 1-2-7: "PERCUSSION .33"
Current Catalog: W0:

Partial #2: Memory Left: 30.5 Megabytes

| | File | Start | End | Volume | Transpose | Tuning | Total Length | Loop Length |
|---|---|---|---|---|---|---|---|---|
| 1. | CABASSA | C4 | D4 | 50.0 | A3 | 0.00 | 0.000 000 | 0.000 000 |
| 2. | CLAVE1 | F#4 | G#4 | 40.0 | A2 | 0.00 | 0.000 000 | 0.000 000 |
| 3. | CONGALOW | C1 | E3 | 70.0 | C2 | 0.00 | 0.000 000 | 0.000 000 |
| 4. | TRIANGLE | F5 | C6 | 50.0 | F5 | 0.00 | 0.000 000 | 0.000 000 |
| 5. | CLAP1 | A4 | B4 | 100.0 | A4 | -0.00 | 0.000 000 | 0.000 000 |
| 6. | IRONPOO | F3 | G#3 | 60.0 | F3 | 0.00 | 0.000 000 | 0.000 000 |

## THE KEYBOARD DISPLAY

The **Keyboard Display** shows all the keys on the keyboard with the name of the sound file assigned to each.

- Press <RETURN> .

The Keyboard Display replaces the PATCH Display, showing the percussion sound files of Partial Timbre #2 placed on their assigned keys.

- Type "1" on the keyboard.

The Keyboard Display shows the sound files of Partial Timbre #2 placed on their assigned keys.

- When you are finished with this display, return to the Main Menu.

**KEYBOARD DISPLAY**

1. Select Partial Timbre from button panel or by typing 1,2,3 or 4.
2. Press <RETURN> to return to Sound File "PATCH" Display.
3. Press <ENTER> to return to Main Menu.

Timbre: 1-2-7: "PERCUSSION .33" Selected Partial: #2

| | OCTAVE | | | | | |
|---|---|---|---|---|---|---|
| PITCH | C0-B0 | C1-B1 | C2-B2 | C3-B3 | C4-B4 | C5-B5 | C6-B6 |
| C : | | CONGALOW | CONGALOW | CONGALOW | CABASSA | | TRIANGLE |
| C#: | | CONGALOW | CONGALOW | CONGALOW | CABASSA | | |
| D : | | CONGALOW | CONGALOW | CONGALOW | CABASSA | | |
| D#: | | CONGALOW | CONGALOW | CONGALOW | | | |
| E : | | CONGALOW | CONGALOW | CONGALOW | | | |
| F : | | CONGALOW | CONGALOW | IRONPOO1 | | TRIANGLE | |
| F#: | | CONGALOW | CONGALOW | IRONPOO1 | CLAVE1 | TRIANGLE | |
| G : | | CONGALOW | CONGALOW | IRONPOOQ | CLAVE1 | TRIANGLE | |
| G#: | | CONGALOW | CONGALOW | IRONPOO1 | CLAVE1 | TRIANGLE | |
| A : | | CONGALOW | CONGALOW | | CLAP1 | TRIANGLE | |
| A#: | | CONGALOW | CONGALOW | | CLAP1 | TRIANGLE | |
| B : | | CONGALOW | CONGALOW | | CLAP1 | TRIANGLE | |

**KEYBOARD DISPLAY**

1. Select Partial Timbre from button panel or by typing 1,2,3 or 4.
2. Press <RETURN> to return to Sound File "PATCH" Display.
3. Press <ENTER> to return to Main Menu.

Timbre: 1-2-7: "PERCUSSION .33" Selected Partial: #1

| | OCTAVE | | | | | | |
|---|---|---|---|---|---|---|---|
| PITCH | C0-B0 | C1-B1 | C2-B2 | C3-B3 | C4-B4 | C5-B5 | C6-B6 |
| C : | | CONGALOW | CONGALOW | CONGALOW | | TAMB1 | |
| C#: | | CONGALOW | CONGALOW | CONGALOW | | TAMB1 | |
| D : | | CONGALOW | CONGALOW | CONGALOW | | TAMB1 | |
| D#: | | CONGALOW | CONGALOW | CONGALOW | CASTANET | TAMB1 | |
| E : | | CONGALOW | CONGALOW | CONGALOW | CASTANET | TAMB1 | |
| F : | | CONGALOW | CONGALOW | | CASTANET | | |
| F#: | | CONGALOW | CONGALOW | | | | |
| G : | | CONGALOW | CONGALOW | | | | |
| G#: | | CONGALOW | CONGALOW | | | | |
| A : | | CONGALOW | CONGALOW | MARUPX01 | CLAP1 | | |
| A#: | | CONGALOW | CONGALOW | MARDOW01 | CLAP1 | | |
| B : | | CONGALOW | CONGALOW | MARDOW01 | CLAP1 | | |

## THE GRAPHIC TIMBRE DISPLAY

You can look at a graphic representation of any synthesized timbre. The display shows the harmonic structure of the timbre as well as its **volume envelope**, including the attack, initial decay, sustain and final decay portions. In the Timbre Directory, the names of the synthesized timbres are followed by (S).

- Call up the Timbre Directory from the Main Menu.
- Select the timbre named

  SPACE VOICES (S)

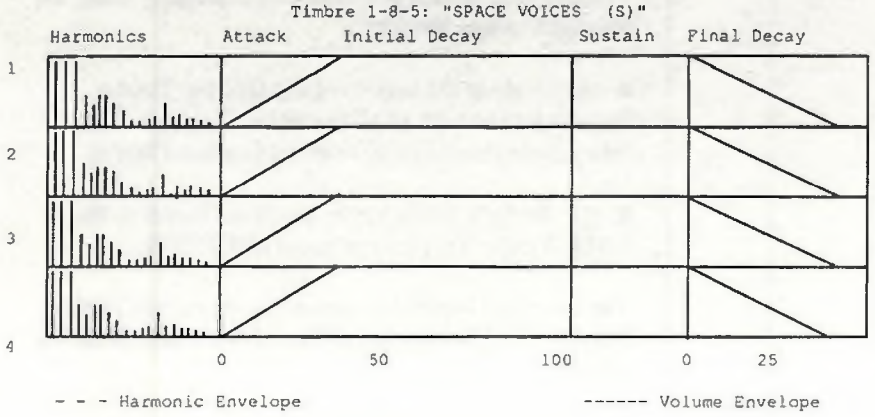
- Return to the Main Menu and select Timbre Display.

The Main Menu is replaced by the **Graphic Timbre Display.**

SPACE VOICES (S) contains four partial timbres. Notice the four horizontal sections in this display, each representing one partial timbre.

The left part of each section is a bar graph of the harmonics.

## GRAPHIC DISPLAY




Select Display==> Graphic Numeric Partial Timbre Timbre Frame 3D Hardcopy

## THE PARTIAL TIMBRE DISPLAY

You can look at each partial timbre separately using the **Partial Timbre Display.**

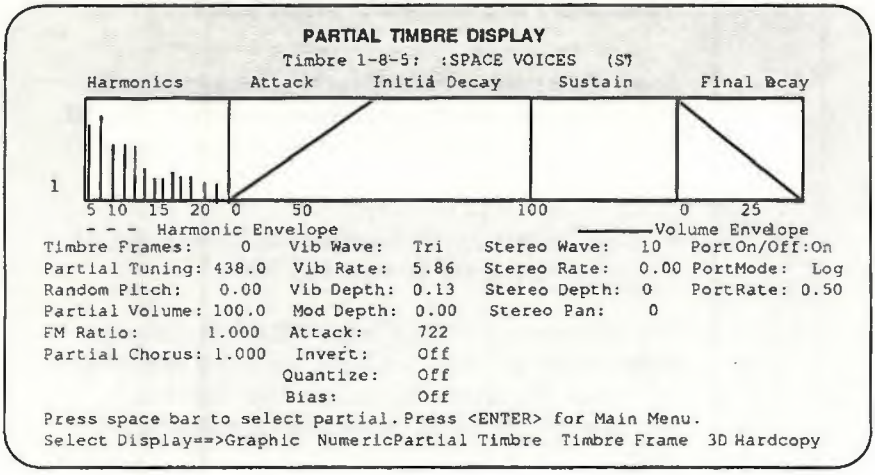
- Notice along the bottom of the Graphic Timbre Display screen a list of all the timbre displays. The cursor is on the currently selected Graphic Display.

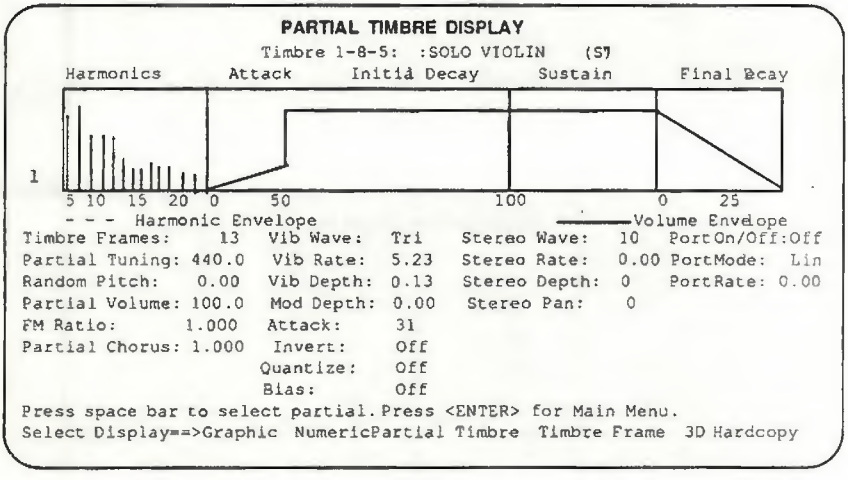
- Use the right arrow key to move the cursor to the Partial Timbre Display and press <RETURN>.

The Graphic Display is replaced by the Partial Timbre Display. The first partial timbre of SPACE VOICES is shown.

- Recall the SOLO VIOLIN (S) timbre using the TIMBRE/SEQUENCE STORAGE buttons (Bank 8, Entry 5).

The display is redrawn to show the first partial timbre of the new timbre.


PARTIAL TIMBRE DISPLAY
Timbre 1-8-5: :SPACE VOICES (ST
Harmonics
Attack
Initia Decay
Sustain
Final Decay
1
5 10 15 20 0 50 100 0 25
- - - Harmonic Envelope
Volume Envelope
Timbre Frames: 0 Vib Wave: Tri Stereo Wave: 10 PortOn/Off:On
Partial Tuning: 438.0 Vib Rate: 5.86 Stereo Rate: 0.00 PortMode: Log
Random Pitch: 0.00 Vib Depth: 0.13 Stereo Depth: 0 PortRate: 0.50
Partial Volume: 100.0 Mod Depth: 0.00 Stereo Pan: 0
FM Ratio: 1.000 Attack: 722
Partial Chorus: 1.000 Invert: Off
Quantize: Off
Bias: Off
Press space bar to select partial. Press <ENTER> for Main Menu.
Select Display==>Graphic NumericPartial Timbre Timbre Frame 3D Hardcopy


PARTIAL TIMBRE DISPLAY
Timbre 1-8-5: :SOLO VIOLIN (ST
Harmonics
Attack
Initia Decay
Sustain
Final Decay
1
5 10 15 20 0 50 100 0 25
- - - Harmonic Envelope
Volume Envelope
Timbre Frames: 13 Vib Wave: Tri Stereo Wave: 10 PortOn/Off:Off
Partial Tuning: 440.0 Vib Rate: 5.23 Stereo Rate: 0.00 PortMode: Lin
Random Pitch: 0.00 Vib Depth: 0.13 Stereo Depth: 0 PortRate: 0.00
Partial Volume: 100.0 Mod Depth: 0.00 Stereo Pan: 0
FM Ratio: 1.000 Attack: 31
Partial Chorus: 1.000 Invert: Off
Quantize: Off
Bias: Off
Press space bar to select partial. Press <ENTER> for Main Menu.
Select Display==>Graphic NumericPartial Timbre Timbre Frame 3D Hardcopy

## THE 3D HARMONIC DISPLAY

Some of the synthesized timbres have been constructed with a harmonic structure that changes over time.The **3D Harmonic Display** shows the changing waveform of a single partial timbre.

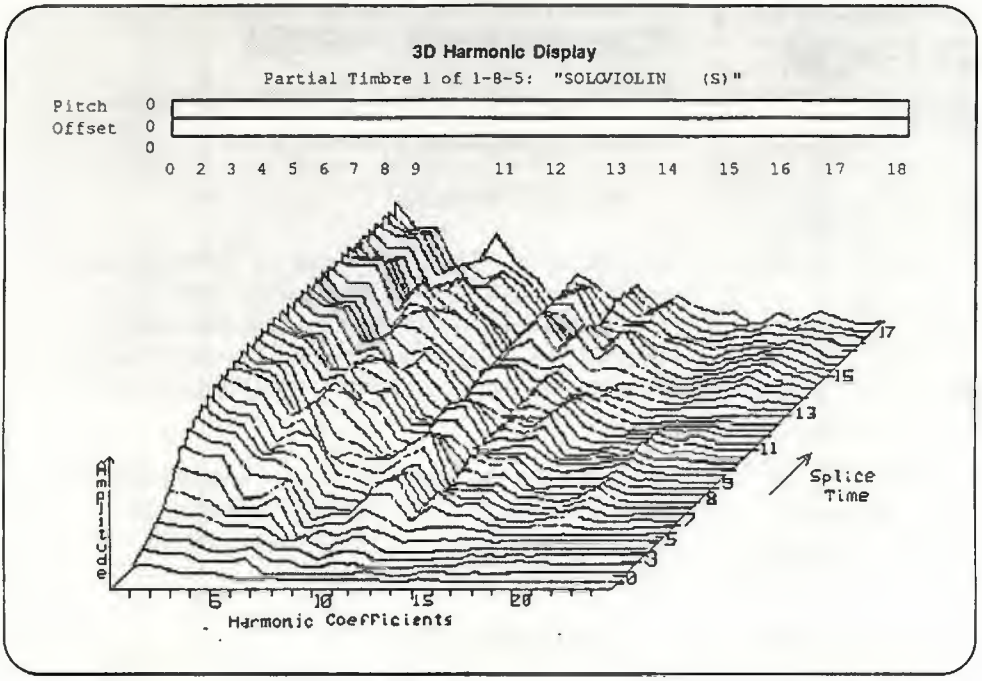
■ Move the cursor at the bottom of the screen to the 3D Harmonic Display and press <RETURN>.

The 24 harmonics of the SOLO VIOLIN (S) timbre are plotted along the X-axis with their amplitude plotted on the Y-axis. The third axis, the time axis, shows the waveforms of the partial timbre at given moments in time.

■ Take some time to look at the remaining two timbre displays, the **Number Display** and the **Timbre Frame Display**. These two displays give information about the timbre in numeric form.

Notice also the **Hardcopy** option. Any timbre display can be printed out on your printer.

■ When you have finished looking at the timbre displays, return to the Main Menu.


3D Harmonic Display
Partial Timbre 1 of 1-8-5: "SOLOVIOLIN (S)"
Pitch 0
Offset 0
0
0 2 3 4 5 6 7 8 9 11 12 13 14 15 16 17 18
Harmonic Coefficients
Splice Time

# WHERE TO GO FROM HERE

This quick tour introduced you to some of the highlights of the Synclavier® Digital Audio System. You are ready now to start working on your own projects.

Each feature of the Synclavier® has its own manual placed in a tabbed section of one of the three binders. You can use the manuals in the three-binder set in any order.

## BINDER 1: THE REAL-TIME PERFORMANCE SYSTEM

If you want to create sequences, look for the *Memory Recorder* manual in the tabbed section

**Memory Recorder**

You will also use this manual if you use the Synclavier® in performance, as the final section shows you how to give special tunings to the velocity/pressure sensitive keyboard as well as how to control real-time effects using the mod wheel, breath and ribbon controllers and pedals.

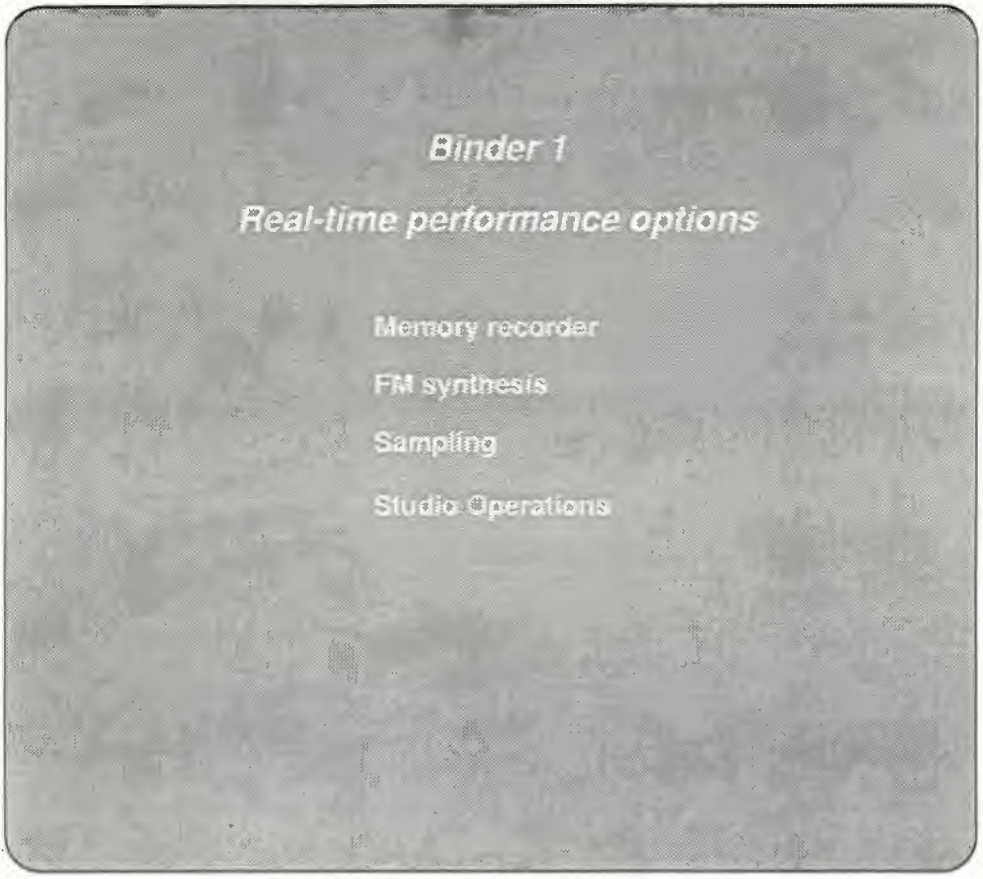
If you are using the Synclavier® in the recording studio, you will be using the *Multichannel Distributor*, the *External Synchronization, SMPTE* and the *MIDI* manuals. All are in the tabbed section

**Studio Operations**

If you want to create your own sounds, look for the tabbed sections

**FM Synthesis**
**Sampling**

The first gives instructions for creating synthesized timbres. The second has instructions for creating timbres using sampled sounds, including keyboard patches. Both manuals tell you how to combine sampled and synthesized partial timbres into whole timbres.


Binder 1
Real-time performance options
Memory recorder
FM synthesis
Sampling
Studio Operations

## BINDER 2: TERMINAL SUPPORT OPTIONS

Wherever you choose to start, you will need to know something about the storing your work using the computer operating system software. Look for the tabbed section

**Monitor**

which also tells you how the operating system software works.

A word processing program is available. Look in the tabbed section

**Screen Editor**

The tabbed section

**Utility Programs**

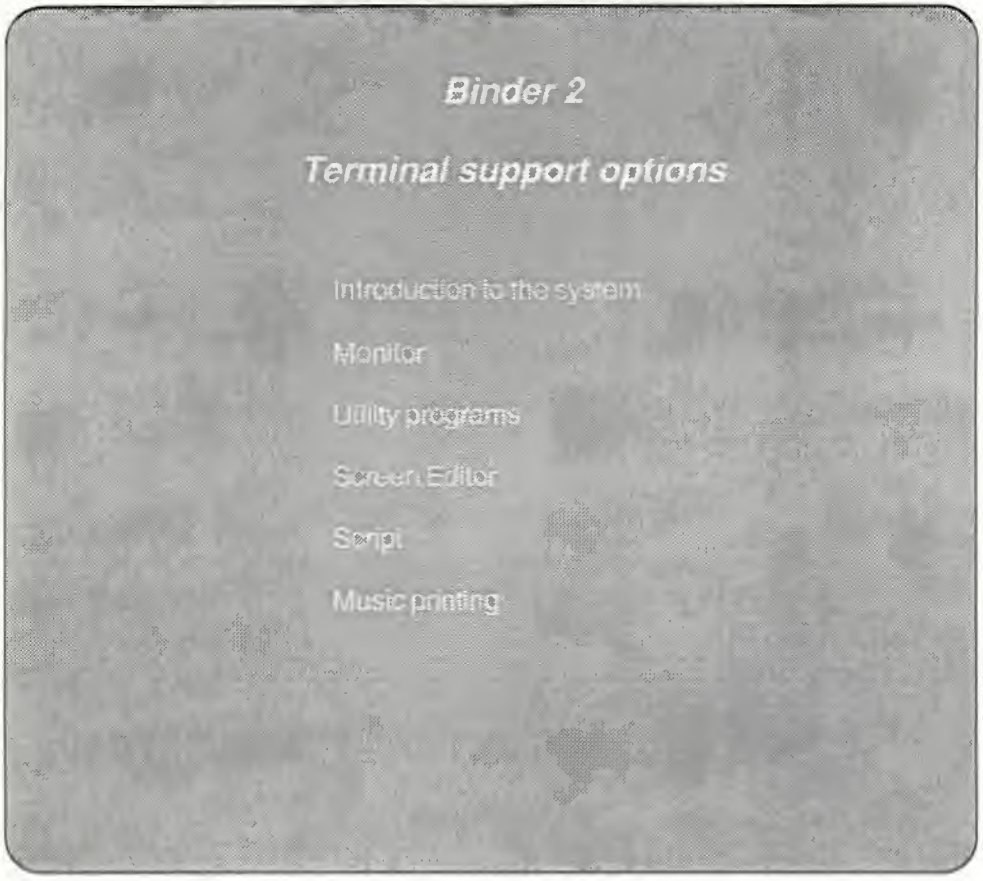
contains instructions for using programs for copying diskettes and other essential programs.

If you have puchased the Music Printing option, you will find the *Music Printing Reference Manual* in the tabbed section

**Music Printing**

The Synclavier® offers a music notation language from the computer terminal. Instructions for using it are in the tabbed section

**SCRIPT**


Binder 2
Terminal support options
Introduction to the system
Monitor
Utility programs
Screen Editor
Script
Music printing

## BINDER 3: SAMPLE-TO-DISK®

Two software modules are associated with the Sample-to-Disk® option.

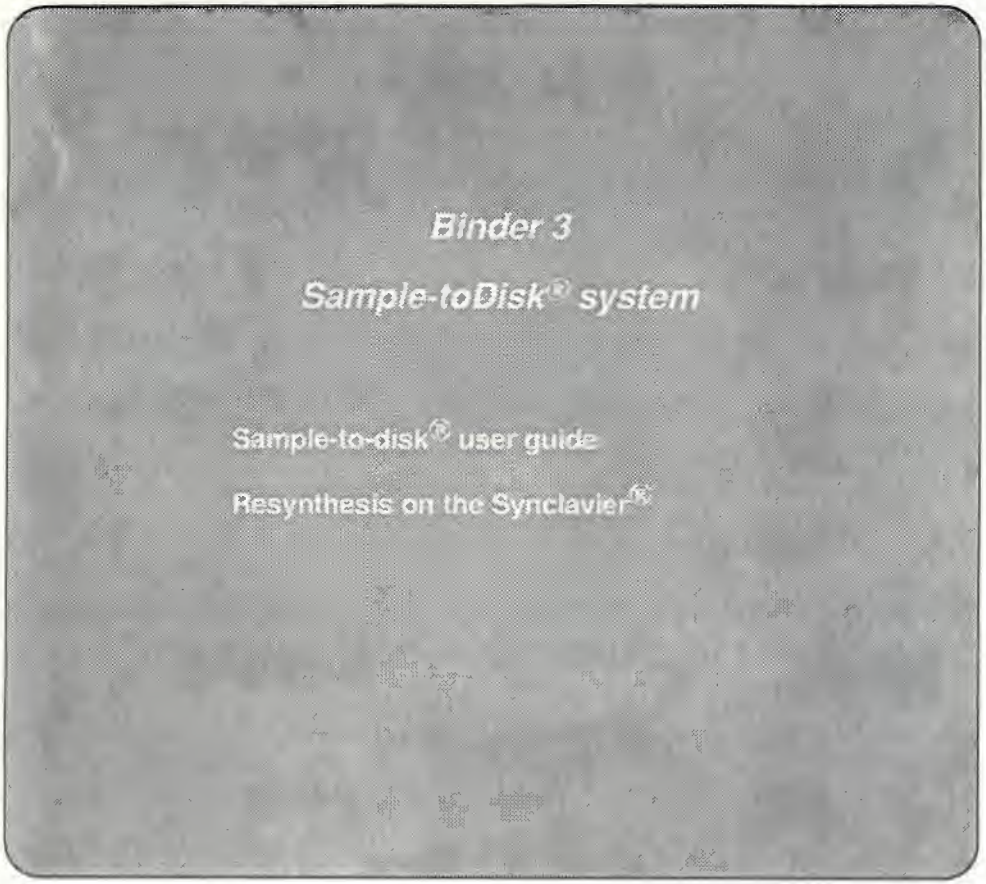
The **Signal File Manager** is used to sample sounds and modify them, to view them on either a signal display or a spectral display, and to create filters.

Instructions for using this program are in the tabbed section

**Sample-to-Disk® User Guide**

The **Analysis Program** is used to analyze sampled sounds and create resynthesis timbres. Instructions for using this program are in the tabbed section

**Resynthesis on the Synclavier®**


Binder 3
Sample-toDisk® system
Sample-to-disk® user guide
Resynthesis on the Synclavier®

# ADDITIONAL BINDERS

In addition to the three binder set, you receive with your system several other binders.

The *Quick Reference Guide* contains a summary of all the functions of the keyboard button panel. It also has a summary of all the real-time terminal displays and an index to all the manuals in the three binder set.

If you have the guitar option, the *Guitar User Guide* has instructions for performing and recording on the guitar.

If you purchased the New England Digital Timbre Library on diskette or tape, the *Timbre Library* lists all the sound files and timbres in the library.