

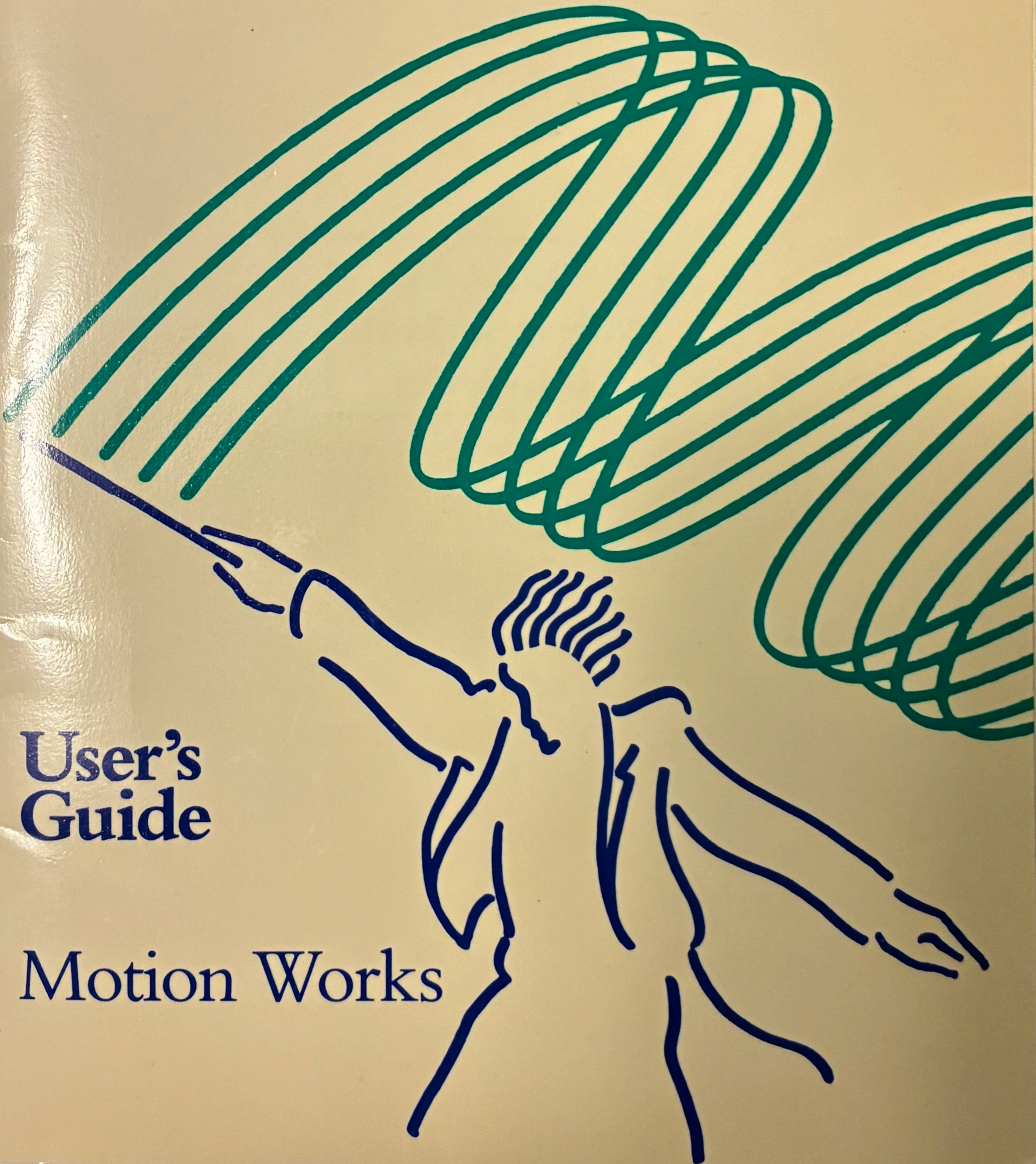
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GUIDE

h-Wesley Publishing Company, Inc.

# HyperComposer™

The Sound and  
Music Toolkit for HyperCard®



User's  
Guide

Motion Works

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# *HyperComposer*<sup>TM</sup>

The Sound and Music Toolkit for HyperCard<sup>®</sup>

## User's Guide

Motion Works



**Addison-Wesley Publishing Company, Inc.**

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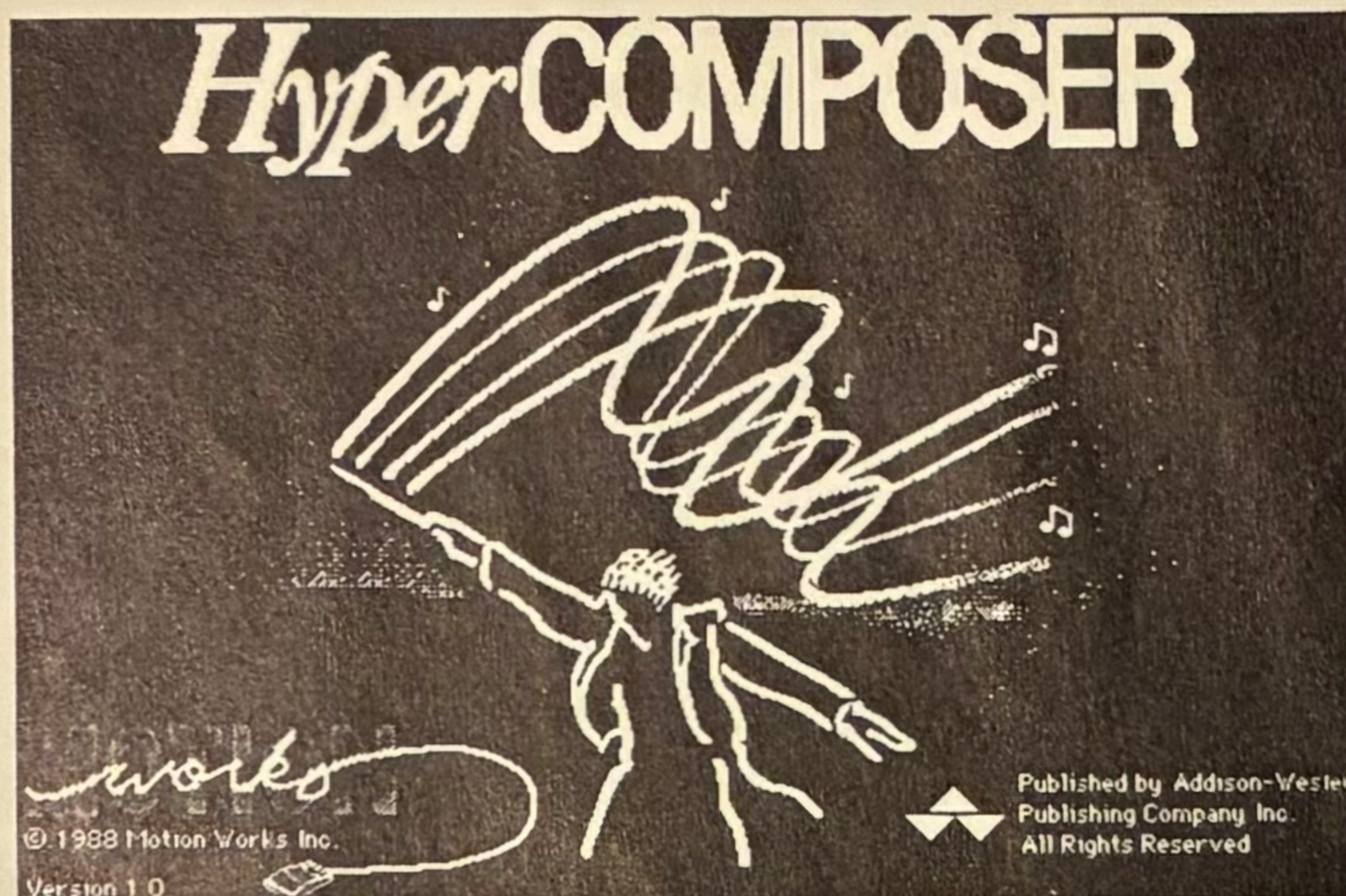
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## Contents

Welcome to <i>HyperComposer</i>	1
Setting Up Your Equipment	
Installation	
HyperCard's Play Command	
HyperTalk Music	
<i>HyperComposer</i> Tutorial	5
Reference	10
The <i>HyperComposer</i> Tool Palette	
The Options Screen	
The Control Window	
The Editor Window	
The Translation Button	
Advanced Ideas	20
Index	21



## Welcome to *HyperComposer*

*HyperComposer*<sup>™</sup> is a music and sound toolkit for HyperCard<sup>®</sup>, designed for all levels of computer users. If you are familiar with Macintosh<sup>®</sup> computers, application programs, and HyperCard stacks, you'll find it easy to begin using *HyperComposer*.

The software uses a familiar interface much like popular paint programs. The program's tutorial will introduce you to composing music on *HyperComposer* as well as exporting sound to other HyperCard stacks. You will be working with a tool palette of icons, pop-up and scrolling menus, and dialog boxes throughout this program. If you are unfamiliar with some of the standard features of the Macintosh, be sure to review your Macintosh owner's guide before you start using *HyperComposer*.

It may also be helpful for you to consult the HyperCard documentation, most specifically the section on Keyboard Commands. *HyperComposer* assumes familiarity with HyperCard, and there are many shortcuts and customization features you can use with the program. The more comfortable you feel with HyperCard, the more creative you can be with music and sound in your stacks.

*HyperComposer* is not designed to teach you music theory, although you may learn quite a bit about musical composition as you use the program. There are many good books available to teach you music, as well as pocket songbooks that can make entering music into *HyperComposer* easier for the musical novice. You may also want to consider working with sheet music, which is available at music stores.

This manual is designed to take you step by step through all the features of *HyperComposer*. It can be used as a tour guide through the program at first and a reference manual later.

## System Configuration

To operate *HyperComposer*, you'll need a Macintosh computer with at least 1 megabyte of memory and two disk drives. Specifically, *HyperComposer* requires:

- Apple® Macintosh computer with 1 megabyte of memory
- 800K external disk drive or hard disk (in addition to 800K internal disk drive)
- Macintosh System file 4.2 and Finder 5.3 or later versions
- HyperCard version 1.2.1 or later version

**Note:** If you do not have HyperCard version 1.2.1, we suggest that you contact a local Apple dealer and request an upgrade. *HyperComposer* uses new features of version 1.2.1 which are not supported by earlier versions. Also, if you are currently working with the Macintosh System 6.0, you should also obtain a later version from an Apple dealer. *HyperComposer* is not compatible with System 6.0.

If you need help setting up your hardware, follow the instructions in your Macintosh owner's guide.

## Installation

After you have set up your computer, you are ready to begin working with *HyperComposer*. Insert your *HyperComposer* disk into an available disk drive. The *HyperComposer* folder will appear. It contains four files (or stacks):

- *HyperComposer*<sup>™</sup>
- *HyperComposer* Help
- Tutorial
- Songs Folder

If you are using a floppy disk system, make a back-up copy of the *HyperComposer* disk by copying all four files onto a blank, formatted disk. If you are using a hard disk, you should copy all four of

these files into a folder on your hard disk. Put the original disk away for safekeeping.

So that *HyperComposer* operates properly, keep all the *HyperComposer* files together in one folder, and do not change their names. *HyperComposer Help* can be removed and relocated or deleted in order to save disk space. Be careful not to delete the *HyperComposer* program stack.

*HyperComposer* should be run from either your back-up disk or the copies of the files on your hard disk.

## HyperCard's Play Command

HyperCard is capable of producing two kinds of sounds: the familiar Macintosh beep and playback of electronically recorded sounds from the world around us. Actually, the possibilities for sound and combinations of sound and music are limitless.

Built into HyperCard is a Play command that allows you to control a rather extensive single-voice music generator. The Play command extracts a waveform from a prerecorded sound and plays it through the Macintosh speaker or audio port.

*HyperComposer* is a tool that takes the place of typing Play command instructions directly into the message box. For example, to produce a sound using the Play command, you must provide HyperCard with the following parameters:

```
play "voice" [tempo] ["notes"]
```

where *notes* are displayed as *noteName accidental octave duration*, as in "c#4e." Using the Play command directly, you might type the following to produce a "boing" sound:

```
play "boing" tempo 267 "g6q g5e a5e b5e c6e d6q"
```

With HyperCard alone, this is the only way to produce sounds and music. This process is fine for small pieces of music, but it can become very tedious for full-length songs or complex sounds.

Motion Works recognized the limitations of creating music and sound scripts for stacks using the message box. *HyperComposer* addresses these limitations, offering a variety of features including:

- Mouse control over entering music
- Ease of saving and loading musical compositions
- Standard Macintosh editing features
- Import and export of sounds('snd' resources) to your own stacks
- Import of musical composition to a stack, including the 'snd' resource
- Full online, interactive help
- An option menu, including Quick Notes, Command Key Advance, and Highlighting choices

## HyperTalk Music

You may want to familiarize yourself with the standard format for musical notation in HyperTalk:

first character	=	noteName
second character	=	octave
third character	=	duration

In the form of HyperTalk music "c3w" represents the note "c" in the third octave as a whole note.

There can be a fourth character, which is usually represented by a period or dot (.), indicating a half note. Also, if a note is sharp, there will be a sharp sign after the note name, thus making it possible to have up to five characters: "c#3w."

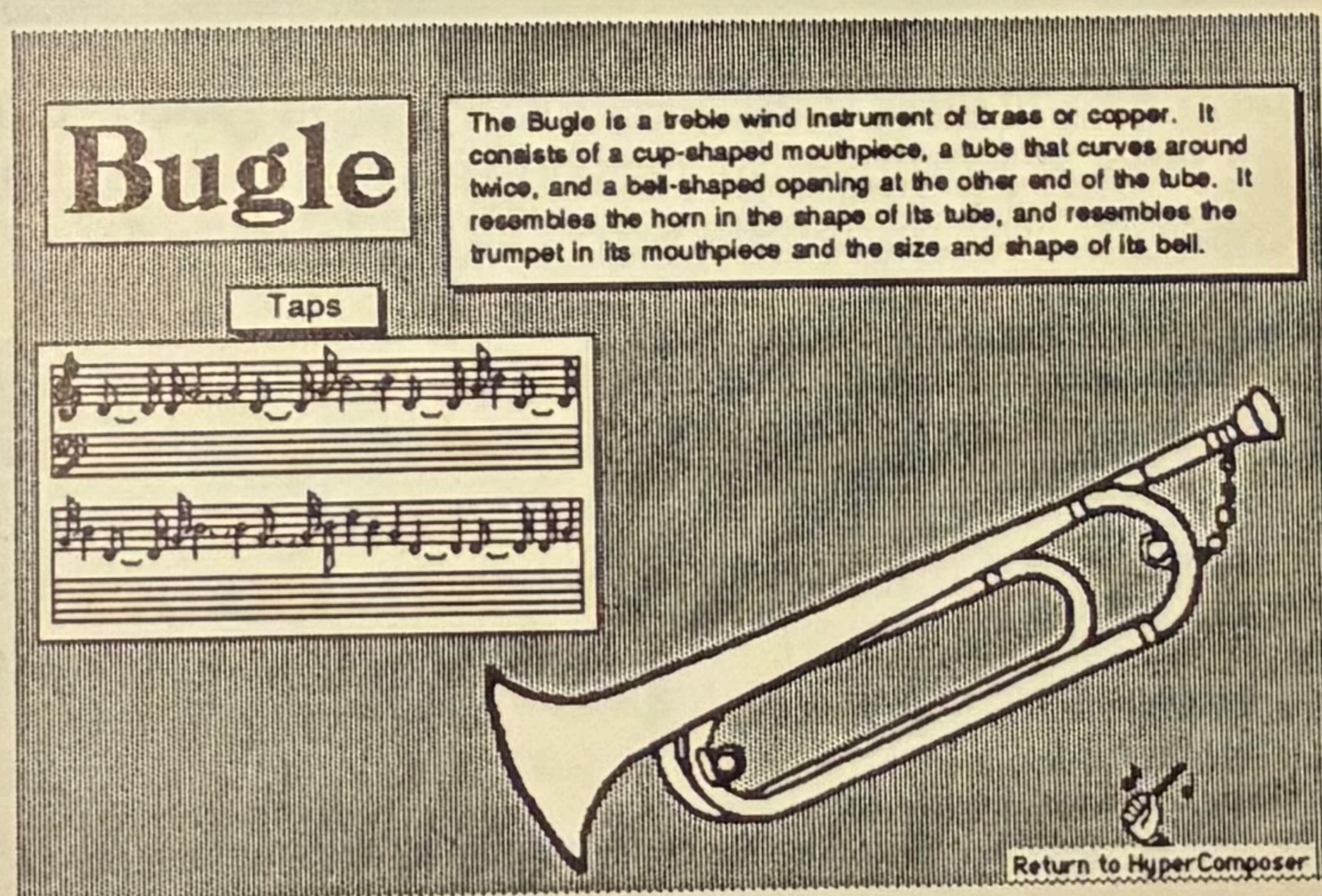
Now you are ready to use *HyperComposer* to create musical compositions for use in your own stacks!

## HyperComposer Tutorial

This section of the User's Guide illustrates one of the many possible uses for *HyperComposer*. This tutorial will help familiarize you with the program's features. The tutorial is designed for users at all levels, even Macintosh and HyperCard novices.

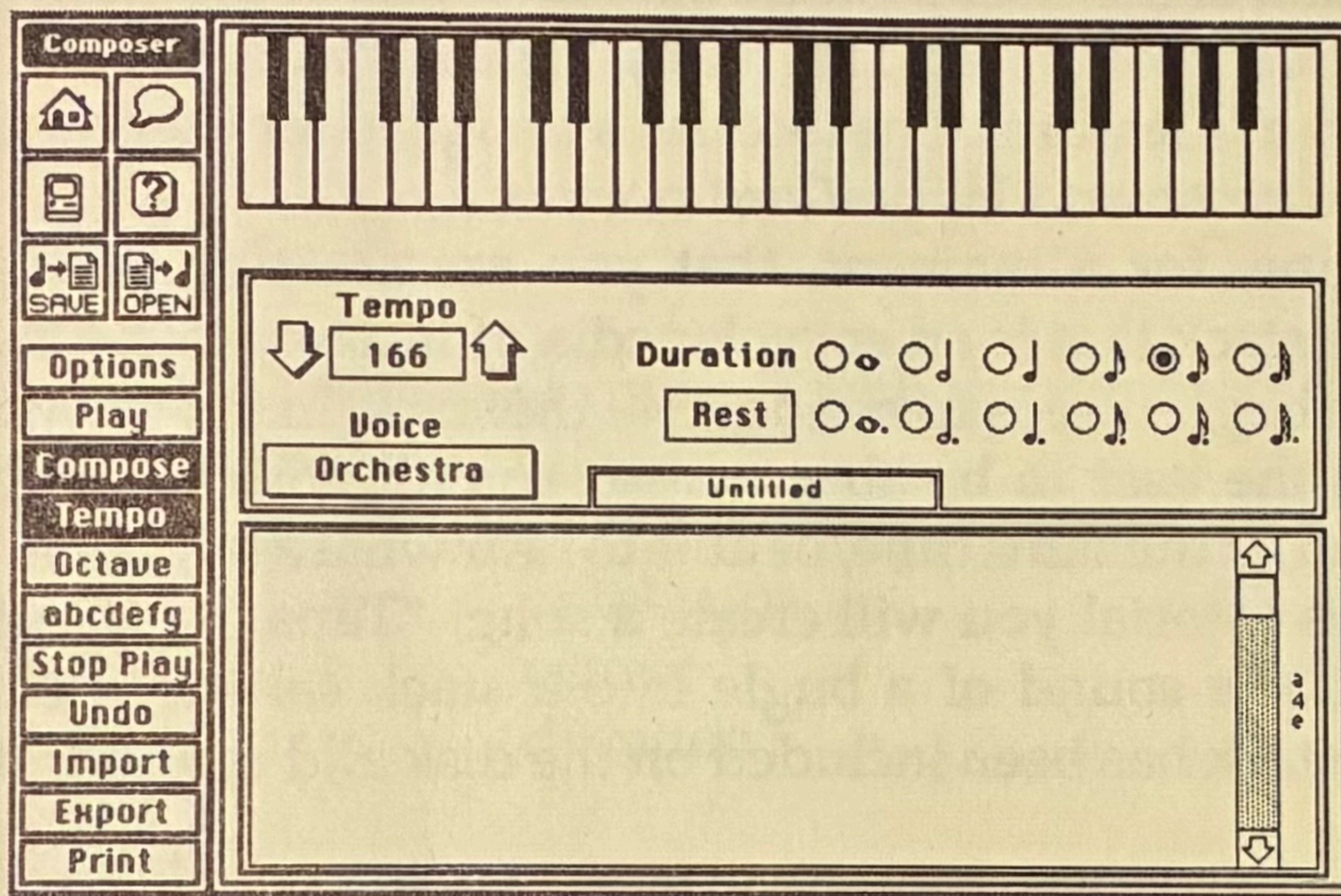
Imagine, for a moment, that you are creating a HyperCard reference stack that is an encyclopedia of instruments. One instrument, the bugle, needs to be added to the stack. In this encyclopedia, we want the user to be able to read some information about the bugle, and, at the same time, be able to hear what a bugle sounds like.

In this tutorial you will create a song, "Taps," and export this song and the sound of a bugle into a stack called *Tutorial*. The *Tutorial* stack has been included on the disk and contains one card:



To complete the tutorial, follow these instructions:

1. If you are using a floppy disk system, boot your computer with a diskette containing the system and HyperCard 1.2.1 (or a more recent version). Insert the *HyperComposer* diskette into the other disk drive. If you are using a hard disk, make sure that you have HyperCard 1.2.1 on your hard drive and that the *HyperComposer* folder is open.
2. Double-click on the *HyperComposer* stack icon. The following screen will appear:









Notice that the **Compose** button is already highlighted. Unless you are playing back a composition, this button is always highlighted in *HyperComposer*; clicking on it clears the Editor Window.

3. **Tempo** is the playback speed of your song. Click first on the **Tempo** button on the tool palette (far left on the screen) to activate Tempo Control. Now click on the up and down tempo arrows (beside the Tempo Control in the center of the screen) to select a tempo of approximately 100. You will notice that *HyperComposer* changes tempo in increments of 5.
4. Select the voice **Bugle** from the Voice pop-up menu. Click on the button below the word **Voice** to bring up the menu, and drag the pointer until **Bugle** is highlighted. Release the mouse button. **Bugle** will now be the current voice.

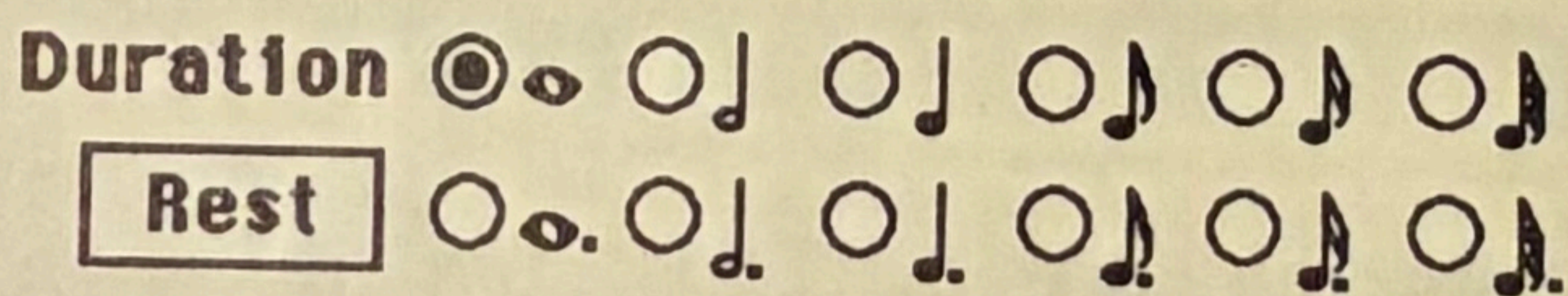
5. You may find composition easier if the keyboard's notes are visible. Click on the abcdefg button to display the notes.

6. Once you start selecting notes, you'll need to choose a duration for each note. Duration is the length of time the note plays. Standard note durations are as follows:

	whole (100.00%)
	half (50.00%)
	quarter (25.00%)
	eighth (12.50%)
	sixteenth (6.25%)
	thirty-second (3.12%)

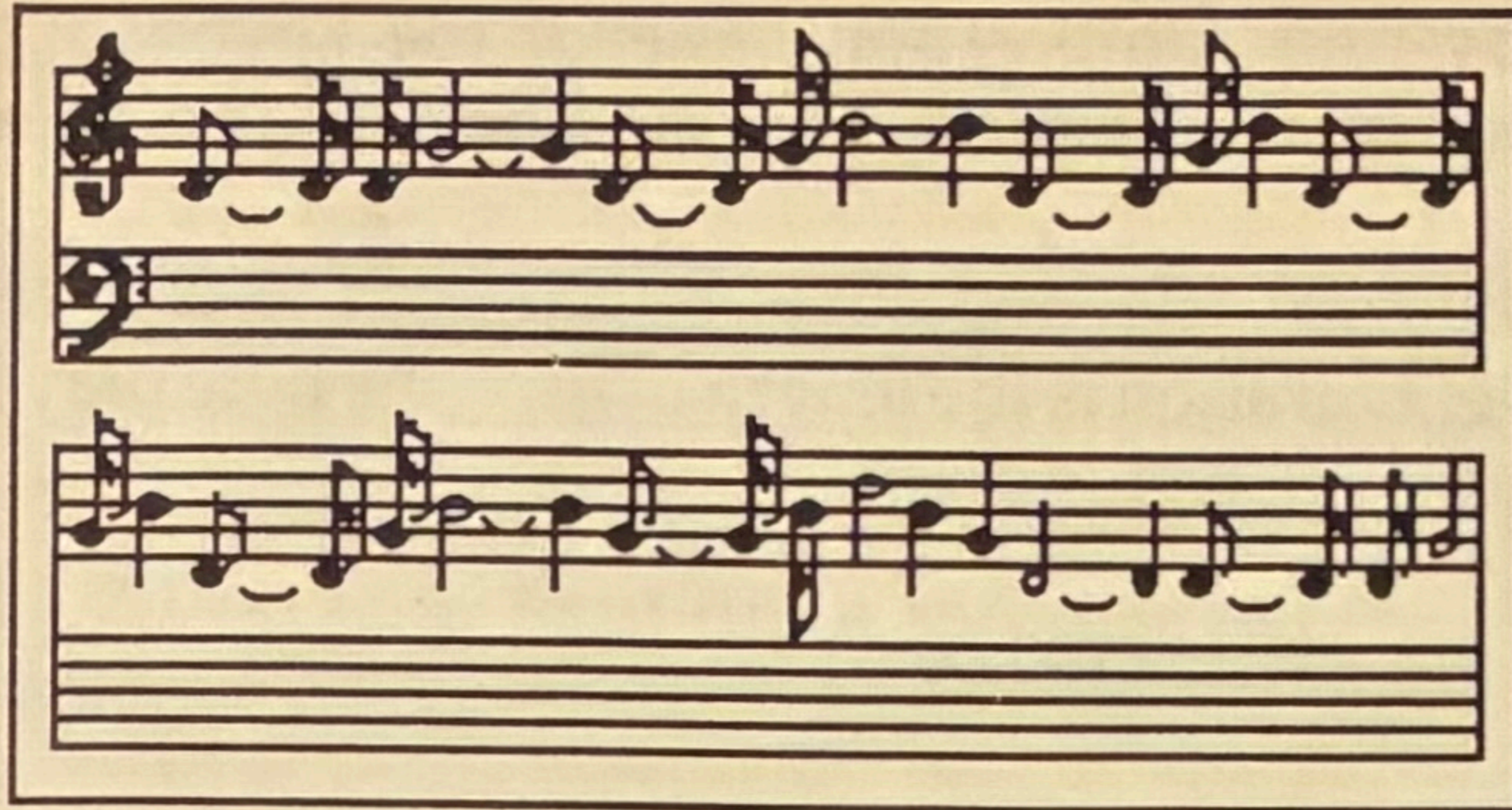
A dot increases the duration of the note by 50%.

When selecting notes, you must choose the desired duration of the note *first* by clicking on the appropriate duration button (i.e., eighth). You *then* select the note that you want to play from the piano keyboard. A duration button remains selected until you press another.



You are now ready to compose Taps. Taps is usually played in the third octave on the keyboard, which begins at middle C (third "c" from the left). An octave is eight notes — from "c" to "c." All the notes of this song will be selected within this octave.

7. As you enter the notes, be sure to click on the duration *first*, and *then* select the note. If you can read music, you can enter the notes using the following score as a guide.



If you cannot read music, you can enter the notes using the list below.

If you make a mistake while composing, highlight the incorrect note(s) and press the Delete key. Then re-enter the correct note(s).

<u>Duration</u>	<u>Note</u>	<u>Duration</u>	<u>Note</u>
dotted eighth	d	dotted eighth	d
sixteenth	d	sixteenth	g
dotted half	g	dotted half	b
dotted eighth	d	dotted eighth	g
sixteenth	g	sixteenth	b
dotted half	b	half	d
dotted eighth	d	quarter	b
sixteenth	g	quarter	g
quarter	b	dotted half	d
dotted eighth	d	dotted eighth	d
sixteenth	g	sixteenth	d
quarter	b	half	

8. After entering the notes of "Taps," play the song by clicking on the Play button. Don't be concerned about incorrect notes at this point.

9. Next, click on the **a4e** (Translation button) to the far right of the Editor Window. *HyperComposer* will translate the *HyperTalk* music you see in the window to an actual musical score. You can compose, edit, view, play, and print your compositions in either *HyperTalk* music or musical score mode.

10. Save "Taps" by clicking on the Save button. Enter the name "Taps" and click on Save.

11. You are now ready to export your song and the sound "Bugle" into the *Tutorial* stack. Click on the **Export** button. You will be prompted to copy the voice "Bugle" to another stack. Click on **Yes**. You will then be prompted to export the song "Taps." Click on **Yes**. When you are asked to enter a button name, type "Play Taps" and click on **OK**.

12. Select the *Tutorial* stack. You will be prompted to move the mouse to position your button. Move the button so that it is positioned directly beneath the musical score, and click once. The song and the sound will be copied into the *Tutorial* stack. When the "Done" dialog box appears, click on **OK**.

Your song and the bugle sound (or voice) are now in the stack called *Tutorial*. Scripts of the song and the button have been created for you. The song is on the card in a button called "Play Taps."

13. To review your *Tutorial* stack, click on the **Options** button. Then click on **Another Stack**, and select *Tutorial* from the *HyperComposer* dialog box. When the Bugle card appears, click on the **Play Taps** button to hear your song. when you're done, click on **Return to HyperComposer**. That's it!

You may want to try experimenting on your own. The remainder of this manual provides reference information on *HyperComposer* to help you become familiar with its options and features.

**Bugle**

The Bugle is a treble wind instrument of brass or copper. It consists of a cup-shaped mouthpiece, a tube that curves around twice, and a bell-shaped opening at the other end of the tube. It resembles the horn in the shape of its tube, and resembles the trumpet in its mouthpiece and the size and shape of its bell.

Taps

Play Taps

Return to HyperComposer

## Reference

This section of the User's Guide describes the different functions of *HyperComposer*. It is also important to note that there is an online Help function (click on the **Help** button on the tool palette) which you can refer to as you compose.

The primary screen in this stack is the Composer Screen. The Composer Screen is divided into five parts:

**The *HyperComposer* Tool Palette:** The Tool Palette, to the left of the screen, contains the main tools for working directly with *HyperComposer* as well as icons for working with HyperCard.

**The *HyperComposer* Keyboard/Staff:** The top of the screen is the area from which notes are selected, and in the graphic below it is displayed in keyboard mode. It can also be displayed as a musical staff. You can change the display through the Options screen.

**The Control Window for Tempo, Voice, and Duration:** Below the keyboard is the Control Window containing buttons for controlling tempo, voice, and the duration of notes.

**The Editor Window:** The large window at the bottom of the screen is called the Editor Window, and this is where composition takes place.

**The Translation Button:** On the right side of the Editor Window is the Translation button which translates HyperTalk music into a musical score, and toggles back again. All *HyperComposer* functions are accessible in either mode.

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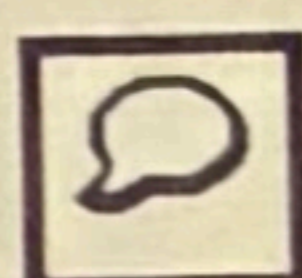
Each section of the Composer Screen is addressed in more detail on the following pages.

## The *Hyper*Composer Tool Palette



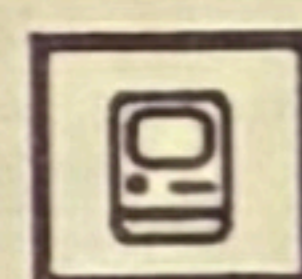
### Home

Returns you to HyperCard's Home card.



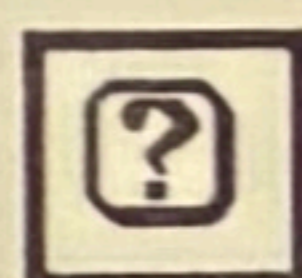
### About

Accesses version and developer information. (Don't miss this one!!.)



### Finder

Quits *Hyper*Composer and exits to the Finder.



### Help

Accesses an interactive help function. When the Help mode is active, you can click on any of the tools or screens for details.



### Save

Saves the contents of the Editor Window to disk.



### Open

Opens a previously saved song. The song you load will replace the window's current contents.

### Options

### Options

Opens the Options Screen. The functions on this screen are detailed further on page 14.

### Play

### Play

Plays back the contents of the Editor Window. If Tempo is activated (by clicking on the Tempo button), the tempo that was saved with the song is used. Otherwise, the tempo is the default provided by HyperCard.

If you hold down the Option key while clicking on Play, the notes will be highlighted during playback, and Command Key Advance will be active.

**Compose****Compose**

This button is always highlighted, except during playback. Clicking on Compose clears the Editor Window. It's a good idea to clear the editor window each time you begin composing, even if the window appears to be empty. This is because *HyperComposer* reads any operation in the window — including random clicks and backspaces — as changes. If you have made changes to a song in the window, you will be prompted to save the composition before the window is cleared.

**Tempo****Tempo**

The **Tempo** button on the tool palette toggles the tempo function on and off. When the function is off, the numbers in the Tempo Control (middle of the Control Window) will be dimmed, and you will not be able to use the arrows on either side of the box. The status of the **Tempo** button is saved with the song.

The **Tempo** button must be selected to affect the playback speed of the current song. If the **Tempo** button is not highlighted, *HyperComposer* will use the default tempo provided by HyperCard instead. When the **Tempo** button is activated, the Tempo Control in the middle of the screen can be used to adjust the pace of the song. See page 17 for details.

**Octave****Octave**

Increases or decreases the octave by any whole number from 1 to 10. Generally, an increase of one or two octaves will not pose a problem. However, because of the cyclic nature of sounds within HyperCard, you may encounter situations where a change in octave puts a note out of sync with the rest of the

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song. Such situations can be reversed, but to avoid this problem, increase or decrease by one or two octaves at a time and play back the result to ensure that you have not crossed the threshold.

**abcdefg****abcdefg**

Toggles the display of the notes under the keyboard on and off.

**Stop Play****Stop Play**

Stops playing the contents of the Editor Window. Clicking the mouse will also stop the play.

**Undo****Undo**

Undoes the most recent operation in the Editor Window.

**Import****Import**

Allows you to import sound ('snd' resources) into *HyperComposer* from other stacks and libraries of sounds. To import a sound, click on the Import button. *HyperComposer* will ask you what stack the sound is in.

Once you locate the new sound, simply click on it, and *HyperComposer* will import it for you. Imported sounds are automatically added to the scrolling list of voices on the Voice pop-up menu. The list is then re-alphabetized. You will be asked to set a new base range for the sound you are importing. Information on setting base range can be found on page 17 (under **Voice**), or by clicking on **Voice** while in Help mode. Another way to set base range is by experimenting with your own ears!

**Export****Export**

Allows you to export any song or sound in *HyperComposer* to another stack. You can export both the sound and the song, or either one separately. You

will need to export both if the sound used does not exist already on the other stack. Scripts are automatically created during the export process.

If you choose to export a song, you will be prompted for a button name and be prompted to enter the other characteristics of the button. If you want to be able to edit the button characteristics *after* the song is exported, you *must* press the Option key as you click on Export.

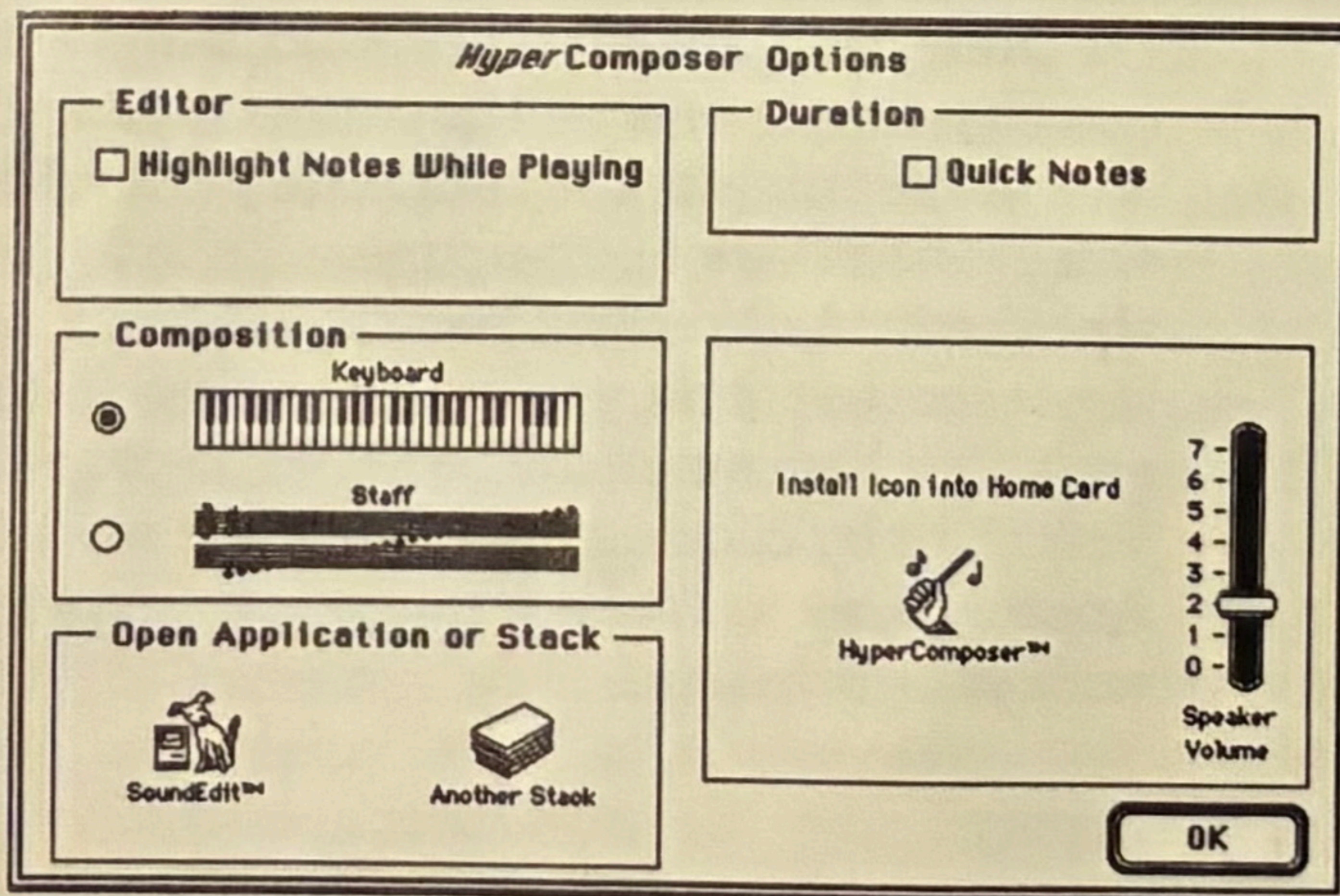
After your composition has been exported, you will return directly to *HyperComposer*. If you want to remain in the other stack once you have finished exporting, press the Shift key while clicking on Export.

**Print**

**Print**

Prints the contents of the Editor Window. You can print in HyperTalk music or a musical score. The title of the song will print at the top of each page, and the page number will print at the bottom.

## The Options Screen



The Options Screen includes a number of program options that can be set to your composing preferences, and adjusted as needed while

you are using the program. Whatever options are set when you leave *HyperComposer* will still be set the next time you use the program.

### Highlight Notes While Playing

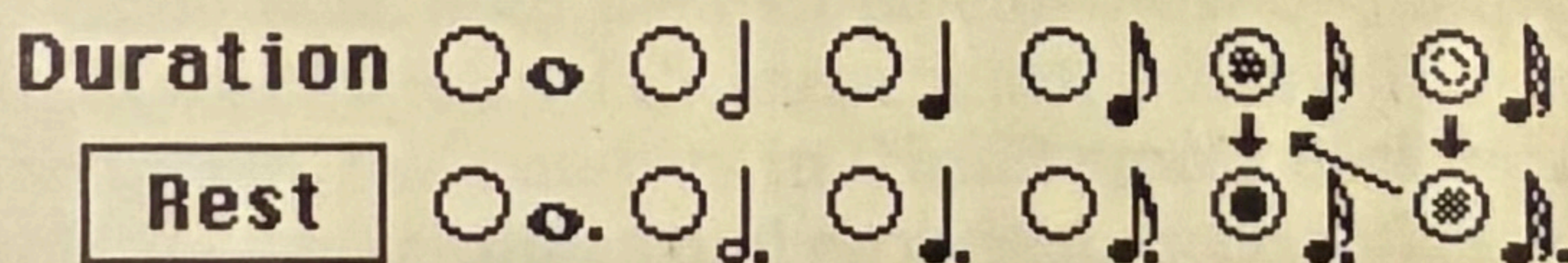
If you select this option, the notes in the Editor Window will be highlighted during playback. You can also highlight notes by holding down the Option key while clicking on the Play button. Highlighting notes is useful for editing your compositions, but it slows down playback regardless of the tempo setting.

### Command Key Advance

This option is available when **Highlight Notes While Playing** is also selected. It allows you to control the playback of a song with the Command key. Pressing the Command key plays the next note of your song, one note at a time. Pressing the Option key allows you to move backward one note at a time.

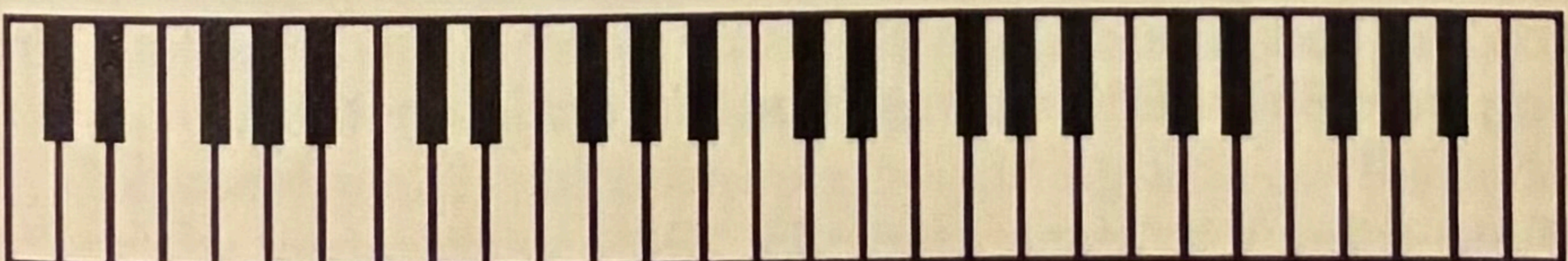
### Quick Notes

When this option is selected, the length of time you hold down the mouse button as you select a note determines its duration. The note duration increases with the amount of time the mouse button is depressed, advancing incrementally from a thirty-second note to a dotted whole note.



### Composition: Keyboard and Staff

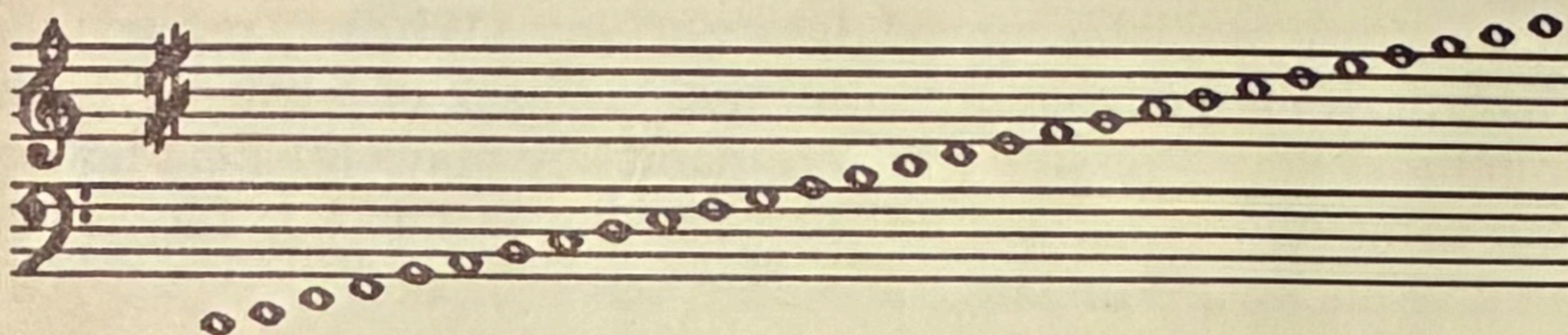
You can compose songs with a piano keyboard or a musical staff. Select either from the Options Screen by clicking on the icon button. You may change composition mode at any time. You can also type HyperTalk music directly into the Editor Window using the Macintosh QWERTY keyboard.



The four-octave "piano" keyboard can be displayed with the note names underneath by clicking the **abcdefg** button. Click again to hide the notes.

As you compose, *first* click on the desired note duration in the Control Window, and *then* on the note on the keyboard. The note and selected duration will play in the current voice.

If Quick Notes is activated, the note duration will lengthen according to how long you hold down the mouse button as you select a note. If you hold down the Option key as you select a note, the Quick Notes function will activate even if it is not selected on the Options Screen.



To compose using the musical staff simply click on any note (because of the size of the staff, the **abcdefg** button cannot be used in this mode). As with the piano keyboard, you must *first* click on the desired note duration, *then* on the note itself. For sharp notes, click on the sharp sign (#) first and then the note.

**Note:** HyperCard music does not differentiate between sharps and flats.

### Install Icon into Home Card

Installs the *HyperComposer* icon into a button on your Home Card.

### Set Volume

Changes the speaker volume, just as you would by using the control panel: 0 is off; 7 is maximum.

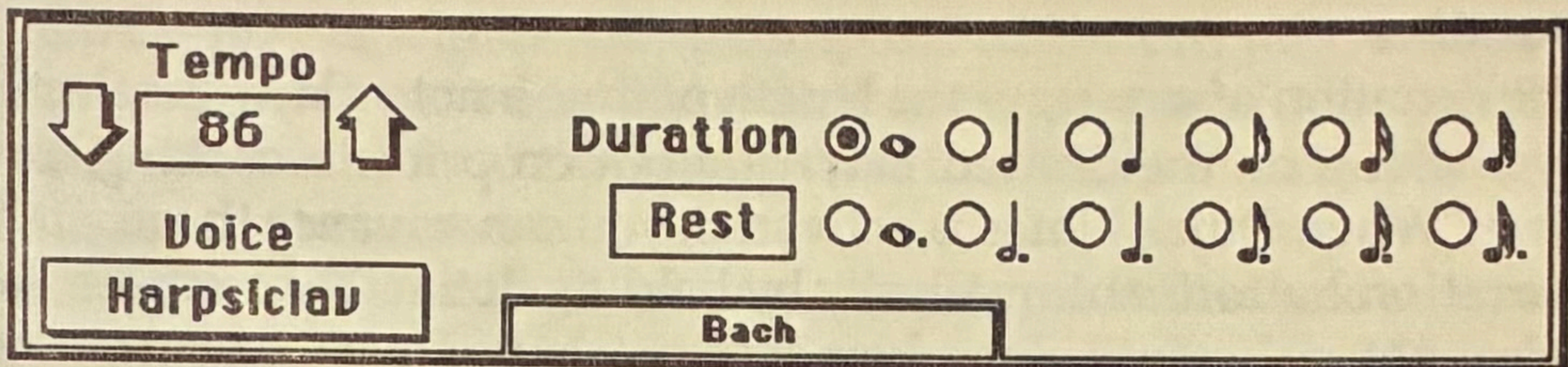
### SoundEdit™

With SoundEdit (Farallon Computing) you can digitize any sound you like and import it into *HyperComposer* for composition. Quitting from SoundEdit returns you to *HyperComposer*.

## Another Stack

This option allows you access to other HyperCard stacks. Pressing Command ~ while in another stack will return you to *HyperComposer*.

## The Control Window



### Tempo Control

Tempo is the speed or pace of the song. Tempo can be adjusted using the up and down arrows on either side of the Tempo Control icon on the left side of the Control Window. Clicking on these arrows adjusts tempo in increments of 5 in either direction. Holding down the Option key while clicking on an arrow adjusts the tempo in increments of 15, and holding down the Command key adjusts the tempo in increments of 100. You can also type in a number for tempo instead of using the arrows.

The Tempo button on the tool palette must be highlighted to affect the playback speed of the current song. If the Tempo button is not highlighted, the numbers in the Tempo Control box will be dimmed, and the playback tempo will default to the standard HyperCard setting.

### Voice

The active voice is always displayed in the Voice button. The voice can be changed at any time from the pop-up menu. This menu is activated by clicking on Voice and holding down the mouse button.

Changing voice does not change the song's composition, but it may change the octave in which it is played back. This depends on how the voice was originally recorded.

The base range of a voice controls the starting octave of the far left "C" on the keyboard or staff. The base range of a voice can be

modified if the Shift key is held down while selecting it from the pop-up menu. For example, if you set the base range to 1, the entire keyboard (or staff) will be adjusted accordingly to fit that range.

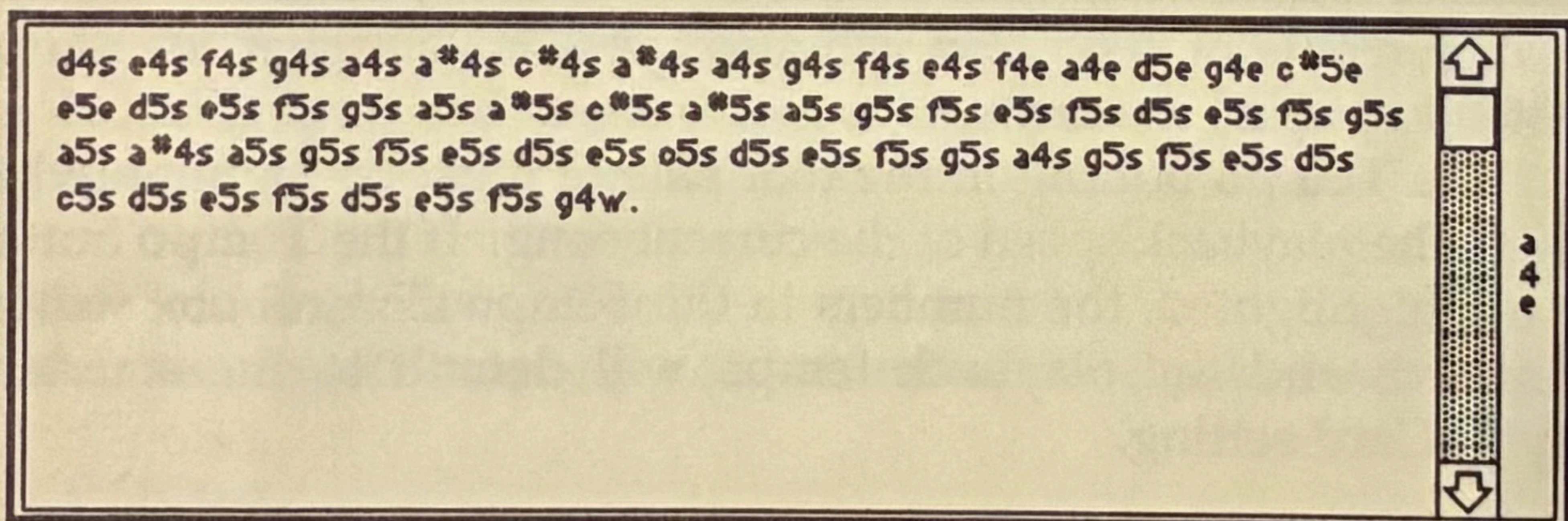
If you hold down the Option key while selecting a voice, a dialog box will ask you if you want to delete the sound. Deletion is permanent and removes that sound ('snd' resource) from *Hyper-Composer*.

### Duration

The duration of a note, or the length of time a note plays, is selected by clicking on the desired Duration button prior to clicking on a note. When Quick Notes is activated, you can advance through the Duration buttons automatically by holding down the mouse as you select notes. You can also advance through the Duration buttons by pressing the Option key while you select a note.

Selecting the Rest button inserts a rest, or silence, in your composition. Click on the desired duration first, and then the Rest button.

## The Editor Window



While you are in the Editor Window, you can compose using either the keyboard or the staff. The contents of the window can be edited by highlighting sections of text and using standard Macintosh editing "key chord" commands:

Copy	⌘	C
Cut	⌘	X
Paste	⌘	V

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Clicking on **Play** while in the Editor Window will play back the contents of the window. You can halt play by clicking on **Stop Play**, or by clicking the mouse button. Clicking on **Compose** will clear the Editor Window, but if you have made changes to the current song, you will be prompted to save your work.

## The Translation Button

*HyperComposer* allows you to compose, edit, view, play, and print your songs in two modes: HyperTalk music or a musical score. The **Translation** button to the far right of the Editor Window toggles between the two modes.

Click on **a4e** and it will change your HyperTalk music composition to a musical score, and *HyperComposer* will display a "thermostat" as it translates. Click on the **musical note** and you will return to HyperTalk music. At any point, your composition can be printed by clicking on the **Print** button.

**Caution:** Although you are free to edit the musical score as you would any HyperCard file, note that *you must highlight a note to delete it while you are using the musical score*. If you simply backspace over a note, *HyperComposer* remembers the note even if it is no longer displayed on the screen, and your composition will not play correctly.

*HyperComposer* is not able to translate a song that has an octave range greater than 4. If you click on the **Translation** button when you have composed a song with an octave range greater than 4, *HyperComposer* will give you a message that the translation cannot be completed.

Also, if your composition contains two or more notes without a space between them, *HyperComposer* will let you know there is an error in your score, and the translation will not be completed.

## Advanced Ideas

Provided that you are somewhat familiar with writing scripts on HyperCard, you can compose a song with an unlimited number of instruments or sounds. One approach follows:

1. Load the song into *HyperComposer*. Once it is in the Editor Window, select part of the song and export that part to another stack. Title the button of the song and return to *HyperComposer*.
2. Change the voice of the song and select the next section. Export that sound to the same stack. Continue with this process as long as you like, making sure to title the buttons of the song parts differently. You can also export different songs, or even sections of songs.
3. By following the HyperCard documentation, cut and paste the scripts of the buttons together. (Command-Spacebar gets you to the HyperCard menu from anywhere in HyperCard.) Scripts of songs in *HyperComposer* are designed to be easy to read. As you work with *HyperComposer* scripts in HyperCard, you'll notice you won't need "on mouseup" or "end mouseup"; those commands are normally provided in each song script.

As you become more familiar with HyperCard, you might want to try working with animation and sound simultaneously. Click on the About box on the tool palette in *HyperComposer* to see what we mean. Your HyperCard documentation can help you string together graphics, and you can work with the Export function in *HyperComposer* to create your own animated musicals!

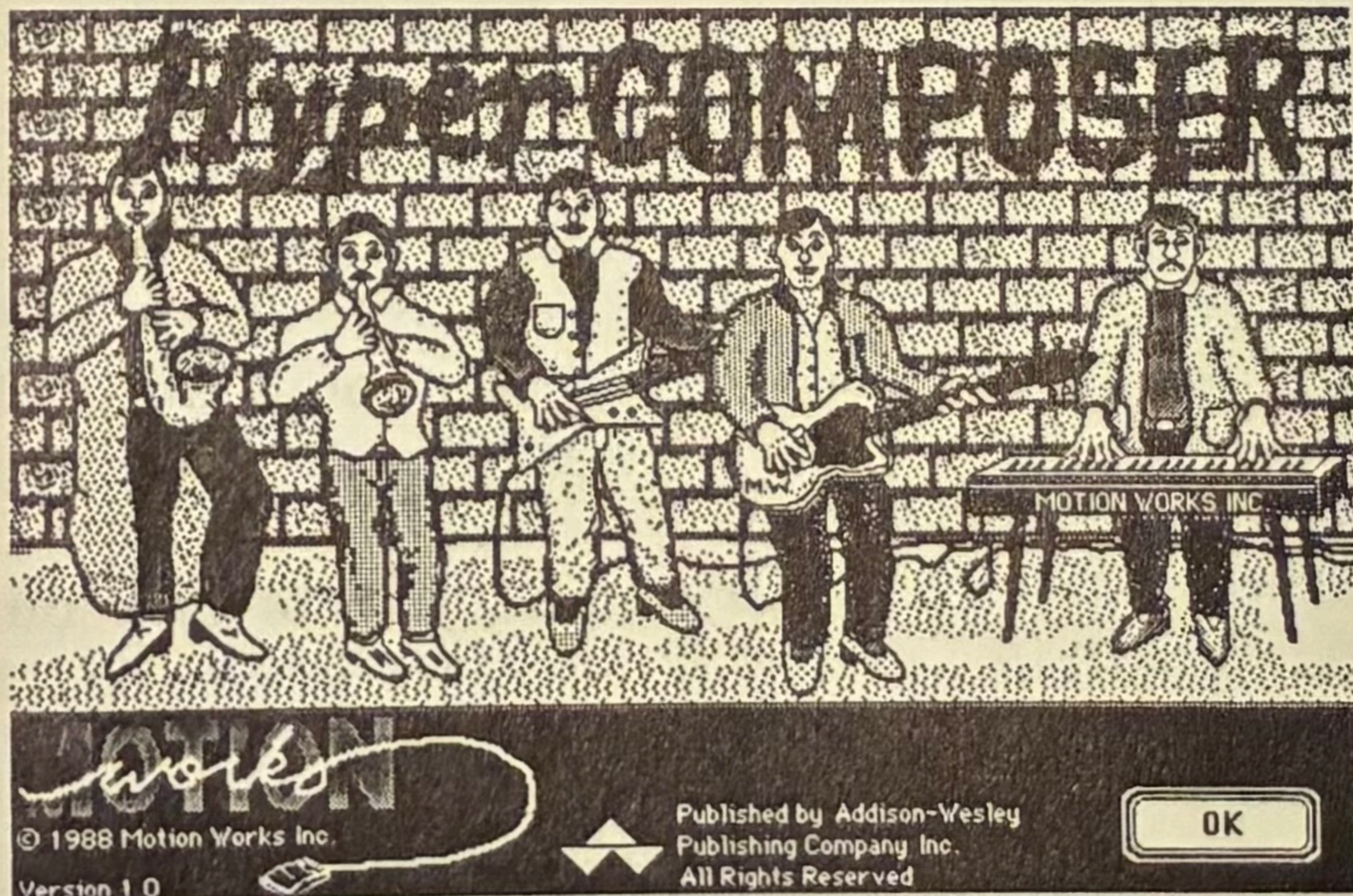
## Index

- a4e (see also **Translation button**), 8, 19
- abcdefg button, 7, 13, 16
- About button**, 11
- accidental*, parameter, 3
- active voice, 17
- Advanced Ideas, 20
- animation, *HyperComposer* and, 20
- Another Stack, 9, 17
  - return to *HyperComposer* from, 17
  
- back-up disk, vi, 3
- backspacing, 19
- base range for sound, 17, 18
  - changing, 13
- button characteristics, entering and editing, 14
  
- clearing the Editor Window, 19
- Command Key Advance, 4, 15
  - moving backward with, 15
- Command key, Tempo Control shortcut, 17
- commands, keyboard, 1
  - commands, standard
    - Macintosh editing, 18
  - Compatibility, Software, vi
  - Compose button**, 6, 12, 19
  - Composer Screen, 10, 11
  - Composition: Keyboard and Staff, 15
  - Configuration, System, 2
  - Control Window (for Tempo, Voice, and Duration), 10, 16, 17-19
    - Tempo Control in, 12
  - Copy command, 18
  - Copy Protection, vi
  - copyrights, copy protection and, vi
  - Cut command, 18
  
  - deleting voices, 18
  - digitized sound(SoundEdit™), 16
  - documentation, HyperCard, 1, 20
  - duration and Quick Notes, 18
  - Duration button**, 18
  - Duration (Control Window), 7, 10, 15, 18

- duration*, parameter, 3, 4  
 durations, standard note, 7
- editing commands, standard Macintosh, 18  
 editing compositions, 18  
 editing the musical score, 19  
 Editor Window, 8, 10, 11, 12, 18-19  
   clearing the, 19  
   print contents of, 14  
   stop playing contents of, 13  
 export both song and sound, 13  
 Export button, 9, 13, 14  
 export of sounds, 4
- Finder, exiting *HyperComposer* to, 11  
 flats, and sharps, 16  
 floppy disk system, 2
- graphics, *HyperComposer* and, 20
- half note, 4  
 hard disk, 2, 3, 6  
 Help, *HyperComposer*, 2, 3, 4, 10  
 Highlight Notes While Playing, 15  
   shortcut for, 15  
 Home button, 11  
 Home Card, Install Icon into, 16  
 HyperCard documentation, 1, 20  
 HyperCard menu, 20  
 HyperCard version 1.2.1, 2
- HyperCard's Play Command, 3  
*HyperComposer* and music theory, 1  
*HyperComposer* Help, 2, 3, 4, 10  
*HyperComposer* installation, 2  
*HyperComposer* Reference, 10-19  
 HyperTalk music parameters, 3  
 HyperTalk music, 4, 10  
   toggle to/from, 19  
   translate from, 8  
   typing into Editor Window, 15
- Import button, 13  
 import of sounds, 4  
 Install Icon into Home Card, 16  
 Installation, *HyperComposer*, 2
- Keyboard Commands, in HyperCard documentation, 1  
 keyboard, composing with the, 18  
 Keyboard/Staff, 10
- load, *see* open
- Macintosh System 6.0, 2  
 menus, pop-up and scrolling, 1  
 message box (Play command), 3  
 middle C, 7  
 music theory, *HyperComposer* and, 1  
 musical notation, 4  
 musical note (see also Translation button), 19

- musical score mode, 8  
 editing in the, 19  
 toggle to/from, 19  
 translate HyperTalk music to, 8
- musical staff, composing with the, 16
- notation, musical, 4
- note durations, standard, 7
- noteName*, parameter, 3, 4
- Octave button, 12
- octave range, translating, 19
- octave, 7  
 changing, 17
- octave*, parameter, 3, 4
- Open button, 11
- Option Key, 12, 14  
 Tempo Control shortcut, 17  
 Command Key Advance shortcut, 12, 15  
 deleting voice with the, 18  
 editing button characteristics with, 14  
 Quick Notes shortcut, 16
- Options button, 9, 11
- Options Screen, 11, 14-17, 16
- parameters, Play command, 3
- Paste command, 18
- "piano" keyboard, 16
- Play button, 8, 11, 19
- Play Command, HyperCard's, parameters, 3
- Play Taps button, 9
- pop-up menus, 1
- Print button, 14, 19
- Quick Notes, 4, 15, 16
- quit, *see* Home button
- Reference, *HyperComposer*, 10-19
- Replacement, Warranty and, v
- requirements, system, 2
- Rest button, 18
- Save button, 8
- Save, 11
- script(s), 9, 14, 20
- scrolling menus, 1
- Set Volume, 16
- sharp notes and sign, 4, 16
- sharps and flats, 16
- sheet music, using *HyperComposer* with, 1
- Shift key, 14  
 changing base range with, 18
- 'snd' resources, 4, 13
- Software Compatibility, vi
- Software Warranty and Replacement, v
- Songs Folder, 2
- SoundEdit™, 16
- speaker volume, changing, 16
- staff, composing with the, 16, 18
- standard note durations, 7
- Stop Play button, 13, 19
- System 6.0, 2
- System Configuration, 2
- System file, requirement, 2
- Tempo button, 6, 11, 12, 17
- Tempo (Control), 6, 10, 17  
 in Control Window, 12

- Tool Palette, 1, 10  
translating composition to  
musical score, 19  
Translation button, 8, 10, 19  
Tutorial stack, 9  
Tutorial, 5-9
- Undo button, 13
- Voice button, 17  
Voice pop-up menu, 6, 13  
Voice, 6  
Control Window for, 10  
setting base range with, 13  
active, 17  
volume, changing speaker, 16  
Volume, Set, 16
- Warranty, v



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