

The Music Studio™

**For Apple® II GS
Computers**

Designed and developed by
Audio Light, Inc.



ACTIVISION
CREATIVITY SOFTWARE®

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Produced by Brad Fregger.

Original musical compositions by Ed Bogas and Chris French. "Rags to Pixels" © 1986 David Dow. Used by Permission.

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With *The Music Studio* you now have, at your fingertips, a complete set of music composing tools. You can write, edit, and store both music and lyrics. You can play back any song using a variety of instruments selected from *The Music Studio* sound libraries. And if you have the urge to improvise, you can use the special Music Paintbox to create music by “painting” colored notes on the staff.

The Music Studio gives you a full set of composing features to work with. You can use a wide variety of musical notation—sharps, flats, rests, ties, dotted notes, triplets, accents, and more. You can change a song to a new key instantly. You can copy or move sections of music, transpose passages up or down, insert new passages, and experiment with different tempos. And you can do it all with no more than a click of your mouse.

How to Use This Guide

This guide has five sections.

“Getting Started” is a brief section to help you get *The Music Studio* running and introduce you to some terms used in this guide.

“Using the Main Composing Screen” takes you through the basic features of *The Music Studio*, from playing one of the pre-programmed songs on the *Music Studio* disk to creating



a song of your own. The Main Composing Screen is the real heart of *The Music Studio*, the place where you make music.

“Exploring Sound” shows you how to customize your sound palette to suit your own taste. You can control any sound—molding its dynamics as you would with a synthesizer. And if you have the optional MIDI interface for your computer, you’ll be able to connect many synthesizers and make them play the tunes you write with *The Music Studio*.

“Using the Music Paintbox” introduces you to one of *The Music Studio*’s special features. With the Paintbox, you can create real free-form music, painting colored rectangles onto the screen as notes instead of using formal musical notation.

The “Reference Guide” is your complete guide to *The Music Studio*. In this section, you’ll find explanations of every menu, every symbol, and every feature in *The Music Studio*. All references are organized according to the way they appear on the screen, with functions from the same menu grouped together. At the end of the section, you’ll also find a short glossary of musical terms.

A Note to the Adventurous

If you’d rather explore *The Music Studio* on your own instead of working through this guided tour, go right ahead. *The Music Studio* is a very straightforward program, and all the options work just as you’d expect them to.



If you want information on loading *The Music Studio*, check the “Getting Started” section (page 5). Once you’ve got *The Music Studio* running, just use your mouse to make selections from the pull-down and pop-up menus. After you’ve got the feel of *The Music Studio*, you can use the “Reference Guide” (pages 77–121) to get complete information on all *The Music Studio*’s functions.



Getting Started

You can start work in *The Music Studio* almost as soon as you get the *Music Studio* program disk out of its box. Here's what you need to know:

What You'll Need

- The *Music Studio* program disk.
- A blank, formatted disk, to save the songs you create.
- A printer, if you want to print out the songs you've written.

Starting The Music Studio

There are two ways to start *The Music Studio* depending on whether your computer is off or on.

Warning: The *Music Studio* program disk is copy-protected, so you can't make copies of the disk. To replace a defective disk, see the warranty information at the back of this guide.

If the computer is off:

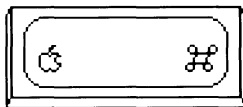
1. Turn on the monitor — but *not* the computer.
2. Put the *Music Studio* program disk in the internal disk drive, with the label side up.



3. Turn on the computer. The computer will automatically start loading *The Music Studio* from the disk. In a few moments, the screen will brighten, the *Music Studio* title screen will appear, and the theme music will start.
4. If you click the mouse button, the theme music will stop, and the Main Composing Screen will appear. If you don't click the mouse button, the theme music will play to its end, and the Main Composing Screen will appear.

If the computer is on:

1. Put the *Music Studio* program disk in the internal disk drive, with the label side up.
2. Reset the computer by pressing the **reset** key, the **control** key, and the **command** key all at the same time. The **command** key is located near the lower left corner of the keyboard and looks like this:



When you press these three keys, the computer will reset itself and automatically load *The Music Studio* from the disk. In a few moments, the screen will brighten, the *Music Studio* title screen will appear, and the theme music will start.



3. If you click the mouse button, the theme music will stop, and the Main Composing Screen will appear. If you don't click the mouse button, the theme music will play to its end, and the Main Composing Screen will appear.

Using the Mouse

Almost everything you do in *The Music Studio*, you do with the mouse. This guide uses four terms to designate the different ways you can use the mouse:

Click means position the pointer (usually on a box or symbol) and then press and quickly release the button on the mouse.

Double-click means position the pointer and then press and quickly release the mouse button twice.

Drag means position the pointer and then hold down the mouse button while you move the mouse. You release the mouse button when the item you want is highlighted.

Press means position the pointer and then hold down the mouse button without moving the mouse.



A Note on Type Styles

In this guide, **boldface** type is used for words and messages that appear on the screen. For example;

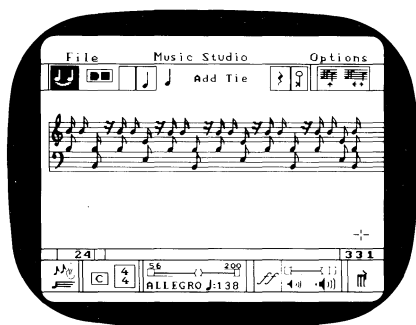
Move the pointer to **Options**

means that you're to move the mouse pointer to where the word *Options* is printed on the screen.



Using the Main Composing Screen

After the *Music Studio* title screen, the first screen you'll see is the Main Composing Screen. This screen contains all the tools you need to create your own music, and it's here that you'll probably spend most of your time.



Pull-Down and Pop-Up Menus

Most of the features on the Main Composing Screen are kept out of sight (and out of your way) on pull-down or pop-up menus. You can think of these menus as rolled up window shades with the menu choices written on them. To see the choices on a particular menu, you must “pop it up” or “pull it down,” like a window shade.



For example, here's how to select the key signature to place on the musical staff:

1. Move the pointer to the key signature symbol at the bottom left of the Main Composing Screen.
2. Press and hold the mouse button. The white background behind the key signature symbol will turn magenta, and the stack of key signature choices will pop up on the screen.
3. Still holding down the mouse button, drag the pointer up and down the menu stack, until the key signature you want is highlighted with the magenta background. Then release the mouse button—the menu will disappear, the key signature symbol you selected will show at the bottom of the screen, and the grand staff will now be set to the proper key.

Experiment with the other pull-down and pop-up menus to see what's on them. As you do, keep your eye on the message box at the top of the screen—it gives you a running status report, telling you what each symbol means when you highlight it and which feature is currently active.

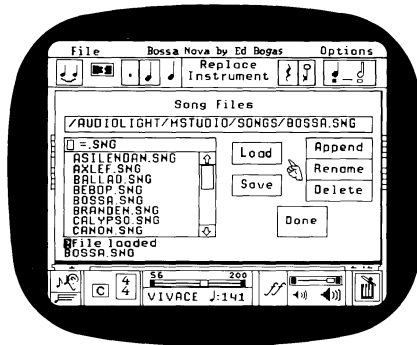
Playing Music

Before beginning to write music of your own, take a few minutes to preview what music looks and sounds like in *The Music Studio*. You can start by loading and playing any of

Using the Main Composing Screen



the pre-programmed songs that are stored on the *Music Studio* program disk. To load any of these songs, you must go to the Song Files Screen:



Loading a Song

The procedure for loading and playing the pre-programmed songs is the same one you'll later use for loading and playing your own music.

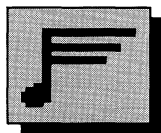
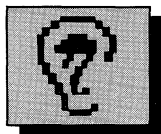
To load a song from the program disk:

1. Move the pointer to the word **File** in the upper left corner of the screen, and press the mouse button to pull down the menu. Still holding down the mouse button, drag the pointer down to highlight **SONG Files**. Release the mouse button, and the Song Files Screen will appear, along with a list of songs on the *Music Studio* program disk.

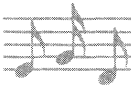


2. Move the pointer to the word **Load**, and click the mouse button. **Load** will be highlighted.
3. Scroll through the list of songs, using the mouse to drag the slider bar at the right side of the file list up or down. When you see a song you want to load, move the pointer to the song name so that the name is highlighted, and then click the mouse button. After a few seconds, the words **File Loaded** along with the song name will appear in the bottom left corner of the Song Files Screen.
4. Move the pointer to the word **Done**, and click the mouse button. The program will return to the Main Composing Screen. The music for the song you selected will be written on the grand staff, and the song title will appear at the top of the screen.

Playing a Song



The Ear and the Running Note. Move the pointer to the ear symbol, at the bottom left part of the screen, or to the running note symbol just below it, and click the mouse button to play any song that you have loaded, either a pre-programmed song or your own composition. When you play a song by selecting the running note, the music scrolls across the screen as it's played.



To play a song:

1. Once you have some music loaded, move the pointer to the ear symbol or the running note symbol in the lower left corner of the Main Composing Screen. Click the mouse button, and the music will start to play.
2. To stop the music before it reaches the end of the song, just click the mouse button again.

If you started the song by selecting the ear symbol, then the grand staff will display the beginning of the song again.

If you started the song by selecting the running note symbol, then the grand staff will display the song starting at the point where you interrupted it. If you select the running note again, the music will play, starting with the note in the leftmost column on the screen.

Advancing and Reversing the Music

Take a look at the song slider—the long blue bar that stretches across the bottom of the Main Composing Screen below the grand staff.

The number at the left end of the song slider shows the current column number (a column is a vertical space on the grand staff the width of one note or rest). If you move the pointer to the grand staff area, you will see that the current column number changes according to the position of the pointer.



The number at the right end of the song slider shows the total column number (the full length of the song in columns).

You can move directly to the beginning of any song by clicking the mouse on the number at the left end of the slider. You can move directly to the end of the song by clicking the mouse on the total column number at the right end of the slider.

To advance or reverse the music:

1. Move the pointer to the black square inside the song slider.
2. Press the mouse button and drag the black square left and right. Notice that the current column number on the left changes as you move the square back and forth in the song slider.
3. If you hold the mouse still for more than one second, or if you release the mouse button, the screen will display the segment of the song represented by the black square's position in the song slider.

To step through the music one column at a time:

1. Move the pointer to the right edge of the grand staff until two blue arrows appear, pointing to the left.

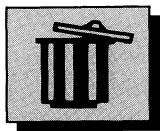


2. Click the mouse button. The music will move one column to the left, and the current column number (to the left of the song slider) will increase by one. As you click the mouse button again and again, the music will move left column by column.
3. Move the pointer to the left edge of the grand staff until two blue arrows appear, pointing to the right. Click the mouse button once—the music will move one column to the right, and the current column number will decrease by one.

To scroll the music right or left continuously, just press and hold the mouse button.

Erasing Music

You can erase any song from the screen to make room for a new one. If the song on the screen is one of the pre-programmed songs from the *Music Studio* program disk, you can safely erase it from the screen—the song will remain on the disk for you to reload at any time. If you erase music that you have created without first saving it, however, you'll permanently lose the song (see “Saving a Song,” page 29).



The Trash Can. Point to the trash can, in the lower right corner of the Main Composing Screen, and double-click the mouse button to erase the currently loaded song from the screen.



To throw away a song:

1. Move the pointer to the trash can symbol, and click the mouse button once. The trash can symbol will be highlighted, and the message box at the top of the screen will say **Erase Song**.

If you change your mind after clicking the mouse button once, just move the pointer away from the trash can. The symbol will no longer be highlighted and the **Erase Song** message will disappear. Your song will not be erased.

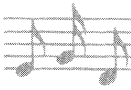
2. Click the mouse button a second time to erase the song—the song will disappear from the screen.

If you change your mind after the song disappears from the screen, move the pointer to the trash can and double-click the mouse *before you do anything else*. Your song will reappear.

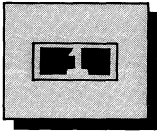
Creating an Original Song

You can do all of your music composing and editing on the Main Composing Screen by placing notes, rests, measure bars, and other musical symbols on the grand staff. You can adjust the volume and tempo, transpose automatically from one key to another, assign a time signature, and arrange a composition for several different instruments.

Using the Main Composing Screen



Choosing an Instrument



The Instrument Palette. Point to the instrument palette symbol, at the top left side of the Main Composing Screen, and press the mouse button to pull down the instrument palette. From this palette, you can select an instrument to create music with.

The Music Studio comes with a variety of instrument sounds, represented as colors and numbers in a palette that pulls down from the instrument palette symbol at the top of the screen. You'll find this symbol below the **File** menu and between the note symbol and the tie bar symbol.

A song may use one instrument or several different instruments from the instrument palette. When you first enter *The Music Studio*, the instrument at the top of the palette (#1) is gray. Unless you change to another instrument, all the notes you place on the grand staff will be gray and will sound like the instrument assigned to that color.

To select an instrument:

1. Move the pointer to the instrument palette symbol, and press the mouse button to pull down the full instrument palette.
2. Drag the pointer down the palette. As you point to each instrument color, the message box will tell you which instrument is represented by that color and number.

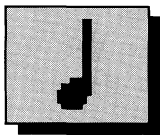


3. When the pointer is on the instrument you want, release the mouse button. The instrument palette will disappear, and the instrument color and number you have chosen will appear in the instrument palette symbol box.

Once you've chosen a new instrument, any notes you place on the grand staff will have the color of the new instrument so that you can keep track of what you're doing.

You can use up to 15 instruments in a song or one instrument for the whole song.

Placing and Erasing Notes



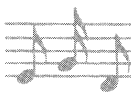
The Note. Point to the note symbol, and press the mouse button to pull down the note menu. From this menu, you can select the duration of the notes you want to place on the grand staff.

All notes you place on the staff will have the color of and be played by the currently selected instrument. You can, however, always reassign notes to different instruments (see “Replace Instrument” in the “Reference Guide,” which starts on page 77).

To place a note:

1. Move the pointer to the note symbol at the top of the screen, and press and hold the mouse button to pull down a menu of different note durations. The note

Using the Main Composing Screen



symbol will be highlighted, and the message box will say **Select Note Duration**.

2. Drag the pointer down the menu. When the note duration you want is highlighted, release the mouse button. The menu will disappear, and the note you selected will appear as the note symbol. The new note symbol will be highlighted, and the message box will read **Add Note** with the note value you selected next to the message.
3. Move the pointer to the grand staff. Notice that as soon as the pointer nears the staff, it turns into a note of the value you selected. As you move the note up and down the staff, the tones representing the pitch of every line and space touched by the note will sound, using the currently selected instrument.
4. To place a note, position the pointer on a line or space of the staff, and click the mouse button. When you move the pointer aside, a note will remain in that position on the staff.
5. You can continue placing notes on the staff in the same way. If you want a note to sound at the same time as your first note, place the new note above or below the first in the same column. If you want the note to sound before or after your first note, place it to the left or right. Notice that as you move the pointer sideways, it “jumps” from column to column, making it easy for you to place your notes accurately.



You can place notes on the staff only where the pointer has the shape of a note. If you move the pointer too far above or below the staff or too far to the right or left, it will lose its note shape.

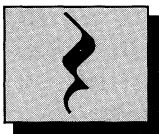
Note: If you want to place notes without hearing the tones, select **Turn Note Off** from the **Options** menu (see “Turn Note Off” in the “Reference Guide,” page 102).

To erase a note:

1. Use the pointer to position a note of any value on top of the note you want to erase. Make sure the pointer is directly over the note you want to erase, or you'll end up adding a new note instead of erasing one.
2. Click the mouse button, and then move the pointer aside. The note you wanted to erase will be gone.

Placing Rests, Sharps, Flats, Naturals, and Measure Bars

To place or erase any of these musical notations, you use the same procedure that you use for notes.



The Rest. Move the pointer to the rest symbol, and press and hold the mouse button to pull down the rest menu. From this menu, you can select the duration of the rests you want to place on the grand staff.

Using the Main Composing Screen

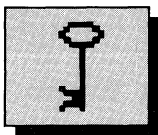


To place a rest:

1. Move the pointer to the rest symbol at the top of the screen, and press and hold the mouse button to pull down a menu of rest durations. The rest symbol will be highlighted, and the message box will say **Select Rest Duration**.
2. Drag the pointer down the menu until the rest duration you want is highlighted, and then release the mouse button. The menu will disappear, and the rest you selected will appear as the rest symbol. The new rest symbol will be highlighted, and the message box will read **Add Rest** with the rest value you selected next to the message.
3. Move the pointer to the grand staff. The pointer will turn into the rest symbol you selected. To place a rest, position the pointer on the staff and click the mouse button, just as you did to place notes.

To delete a rest:

1. Select a rest of any duration, position the pointer directly on top of the rest you want to erase, and click the mouse button. When you move the pointer aside, the rest you wanted to erase will be gone.



The Key Symbol. Move the pointer to the key symbol at the top of the screen and press the mouse button to pull down the key menu. From this menu, you can select accidentals—



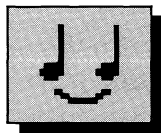
sharps, flats, and naturals—to add to the notes you place on the staff.

To add sharps, flats, and naturals:

1. Move the pointer to the key symbol, just to the right of the rest symbol, and press and hold the mouse button to pull down the key menu, containing a sharp, a flat, and a natural. The key symbol will be highlighted and the message box will say **Stay in Current Key**.
2. Drag the pointer down the menu. As each accidental is highlighted, the message box will tell you what it is. When the accidental you want is highlighted, release the mouse button. The menu will disappear and the accidental you selected will take the place of the key symbol.
3. Once you've selected an accidental, any note you place on the staff will have that accidental attached.

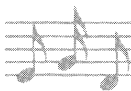
To cancel a sharp, flat, or natural:

1. Pull down the key menu again, and select the key symbol itself. After you select the key symbol, the notes you place on the staff will not have an accidental attached.



The Tie Symbol. Move the pointer to the tie symbol at the top left corner of the screen, and press and hold the mouse button to pull down the tie menu. From this menu, you can select the tie to connect two notes.

Using the Main Composing Screen



You can use the tie to link two adjacent notes that have identical pitches. Only notes on the same line or space of the grand staff that also have the same accidental have identical pitches. When two notes are tied, only the first note will sound, but the duration will be that of the two notes combined.

To place a tie:

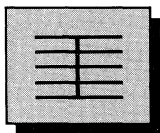
1. Move the pointer to the tie symbol in the top left corner of the screen, and press and hold the mouse button to pull down the tie menu, revealing the measure bar symbol below. The tie symbol will be highlighted. Release the mouse button to select the tie. The message box will say **Add Tie**.
2. Move the pointer (now a red tie) onto the staff, and place one end on the bottom of a note you want to tie. Click the mouse button.
3. By moving the pointer, stretch the tie to the bottom of the second note, to the right or left of the first note, and click the mouse button again. The two notes will now be connected with a red tie.

To delete a tie:

1. Select the tie symbol again.
2. Move the pointer (now a red tie) over the existing tie and click the mouse button, first at one end of the



existing tie, then at the other. The tie between the two notes will disappear.



The Measure Bar. Below the tie symbol on the tie menu is the measure bar symbol. Select the measure bar symbol to place measure bars on the grand staff.

To place a measure bar:

1. Move the pointer to the tie symbol at the top left corner of the screen, and press and hold the mouse button to pull down the tie menu, revealing the measure bar symbol.
2. Drag the pointer down to highlight the measure bar symbol, and release the mouse button. The measure bar symbol will replace the tie symbol at the top of the menu, and it will be highlighted. The message box will say **Add Measure Bar**.
3. Move the pointer (now a measure bar) onto the grand staff, and position it where you want to place a measure bar.
4. Click the mouse button. When you move the pointer aside, there will be a black measure bar on the staff.

You can place measure bars wherever you want along the staff to divide your music into measures.

Using the Main Composing Screen

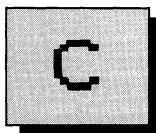


To delete a measure bar:

1. Select the measure bar symbol again.
2. Move the pointer (now a measure bar) directly over the measure bar you want to delete, and click the mouse button. When you move the pointer aside, the measure bar will be gone.

Setting the Key Signature

The first time you go to the Main Composing Screen, the key signature is always set to the key of C. Unless you change to another key signature, any song you write will automatically be in the key of C.



The Key Signature. Use the key signature symbol at the bottom left of the screen to pop up the key signature menu so that you can set a new key signature.

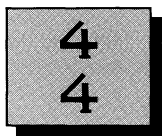
To change the key signature:

1. Move the pointer to the key signature symbol at the bottom left of the screen, just to the right of the ear symbol, and press and hold the mouse button. The key signature symbol will be highlighted, and the key signature menu will pop up from the bottom of the screen. The message box will say **Transpose to New Key.**



2. Drag the pointer up and down the menu until the key that you want is highlighted, and then release the mouse button. The menu will disappear, the new key will appear as the key signature symbol, and the proper sharps or flats will appear on the grand staff. The music on the screen, including any accidentals you have added, will automatically be transposed into the new key.

Setting the Time Signature



The Time Signature. Use the time signature symbol to select a time signature (which indicates the number of beats per measure) for the grand staff.

To select a time signature:

1. Move the pointer to the time signature symbol at the bottom left of the screen, and press and hold the mouse button. The symbol will be highlighted and the time signature menu will pop up. The message box will say **Select Time Signature.**
2. Drag the pointer up and down the menu until the time signature you want is highlighted, and then release the mouse button. The menu will disappear, and the new time signature will appear on the grand staff.



To erase a time signature:

1. Click the mouse on the time signature symbol, and the time signature will disappear from the staff. You can select another time signature from the menu or simply not assign one at all.

Adding Lyrics to a Song

The Music Studio lets you add up to three separate verses of lyrics to any song. You use the computer keyboard to write and edit the lyrics, just as you write ordinary text.

Because lyrics often require more space than the notes that accompany them, you may need to open up space between the notes on the staff in order to fit your words to the music. You can use the Insert Block option to do this (see the “Reference Guide,” page 85).

To add lyrics:

1. Move the pointer to the word **Options** at the top right corner of the screen, and press and hold the mouse button to pull down the **Options** menu.
2. Drag the pointer down the menu until **Add Lyrics** is highlighted, and then release the mouse button. The menu will disappear.

You'll see a column of numbers (**1** through **3**) on the left side of the screen below the grand staff. These indicate the three lines of lyrics you can add.



3. Move the pointer to the space just to the right of **1** and click the mouse button. A magenta square will appear next to **1**.
4. Use the right arrow on the keyboard to move the square until it's below the note where you want the first word to go.
5. Type in your words on the keyboard, just as you would write ordinary text. As you reach the right edge of the screen, the music will scroll to the left to allow you to continue.

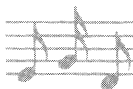
To correct a mistake, use the left arrow to move back to the point of the mistake, and then type over it.

6. When you finish the first verse, press the **return** key.
7. To write lyrics for the second and third verses, repeat steps 3–6 above, starting with the pointer to the right of **2** or **3** instead of **1**.

To erase lyrics:

1. Move the pointer to **Options**, and pull down the **Options** menu.
2. Drag the pointer down until **Remove Lyrics** is highlighted, and then release the mouse button. The lyrics and numbers will disappear.

Using the Main Composing Screen



Note: Whenever you add lyrics to a song, the maximum number of notes you can use in a song (8000) diminishes because the lyrics take up room in the computer's memory. If you try to add more text than the available memory allows, you'll get the message **No Room in Song**.

Saving a Song

Once you've composed a song, you can save it on a disk so that you can load, play, and revise it whenever you want.

Don't attempt to save any songs onto the *Music Studio* program disk itself. Instead, save your files onto a separate disk, either a blank one or one that has files you don't mind erasing.

Before you can save songs onto a blank disk, it must be initialized (formatted). If you need instructions on how to initialize a disk, see your Apple IIGS owner's guide.

Warning: Initializing or formatting a disk automatically erases all files on the disk.

Note: When you save a song, *The Music Studio* saves both the notes you've written and information about the instruments you used and the *sound data file* those instruments were taken from. If the folder you're saving your song in doesn't already contain the sound data file, then the program will copy it into the folder, too.



To save a song if you have only one disk drive:

1. Move the pointer to the word **File** in the upper left corner of the Main Composing Screen, and press and hold the mouse button to pull down the **Files** menu. Drag the pointer down until **SONG Files** is highlighted, and then release the mouse button. The Song Files Screen will appear (see previous illustration on page 11).
2. Remove the *Music Studio* program disk from your disk drive, and insert an initialized disk.
3. Move the pointer to the search string (probably = **.SNG**) in the search string box that sits just above the list of files (see the Song Files Screen illustration on page 11). Click the mouse button, and the program will read the disk you just inserted.
4. Move the pointer to the word **Save**, and click the mouse button.
5. Move the pointer to the path name (at the top of the Song Files Screen—see the illustration on page 11), and click the mouse button. A vertical bar will replace the pointer.
6. Type in the name you want to save your song under, using up to 15 characters. Make the last four characters of the name **.SNG** to match the names of the other song files. Press the **return** key when you're done—your song



will be saved in the currently open folder, and the pointer will reappear.

For more information on saving files, see the entry under “Save” on page 110 in the “Reference Guide.” For complete information on file names, folders, and volumes, see your Apple IIGS owner’s guide.

7. To return to the Main Composing Screen, move the pointer to the word **Done**, and click the mouse button.

To save a song if you have more than one disk drive:

1. Move the pointer to the word **File** in the upper left corner of the Main Composing Screen, and press and hold the mouse button to pull down the **Files** menu. Drag the pointer down until **SONG Files** is highlighted, and then release the mouse button. The Song Files Screen will appear, with a list of song files.
2. At the top of the list of song files, you will see one or more disk symbols (one for each extra drive you have). Next to each disk symbol will be the name of the disk volume currently in that drive. If you haven’t already done so, insert an initialized disk into the drive you want to use (not necessary if you’re using a hard disk drive). Then move the pointer to highlight the disk symbol for that drive, and click the mouse button.



The program will read the disk in the drive you selected and list on the screen any files on that disk. All disk operations such as loading and saving will now take place on the drive you've selected until you change to another drive.

3. Move the pointer to the word **Save**, and click the mouse button.
4. Move the pointer to the path name box (at the top of the Song Files Screen—see the illustration on page 11), and click the mouse button; a vertical bar will replace the pointer.
5. Type in the name you want to save your song under, using up to 15 characters. Make the last four characters of the file name **.SNG** to match the names of the other song files. Press the **return** key when you're done—your song will be saved in the currently open folder, and the pointer will reappear.

For more information on saving files, see the entry under “Save” on page 110 in the “Reference Guide.” For complete information on file names, folders, and volumes, see your Apple IIGS owner's guide.

6. To return to the Main Composing Screen, move the pointer to the word **Done**, and click the mouse button.



Loading a Song from Another Disk

As you start writing your own music, you'll begin to build up a library of songs, which will probably be spread over several different disks. To load a song from another disk, follow these steps:

If you have only one disk drive:

1. Move the pointer to the word **File** in the upper left corner of the Main Composing Screen, and press and hold the mouse button to pull down the **Files** menu. Drag the pointer down until **SONG Files** is highlighted, and then release the mouse button. The Song Files Screen will appear.
2. Remove whatever disk is currently in your disk drive, and insert the disk the contains the song you want to load.
3. Move the pointer to the search string (probably **.SNG**) in the search string box that sits just above the list of files (see the Song Files Screen illustration on page 11). Click the mouse button, and the program will read the disk you just inserted and show a list of files on the new disk.
4. Any file folders on the new disk will be at the top of the file list, represented by folder symbols (with the folder names next to the symbols). Open the folder that contains the song you want to load by moving the pointer to highlight the folder name and then clicking the mouse button. After a brief pause, the contents of that folder will be shown on the file list.



5. Move the pointer to the word **Load**, and click the mouse button.
6. Move the pointer to highlight the name of the song you want to load, and click the mouse button. When the song is loaded, the words **File Loaded** and the song name will appear on the screen.

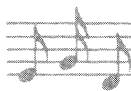
When the program loads your song, it will also try to load the sound data file used when your song was created if that file is not the same as the one currently loaded. If the program can't find the proper sound data file in the folder with your song, it will say so. The program will load the song anyway but will play it using instruments from the current sound data file.

7. Click the mouse over the word **Done**, and the program will return to the Main Composing Screen. The music you selected will be written on the grand staff, and the song title will appear at the top of the screen.

If you have more than one disk drive:

1. Move the pointer to the word **File** in the upper left corner of the Main Composing Screen, and press and hold the mouse button to pull down the **Files** menu. Drag the pointer down until **SONG Files** is highlighted, and then release the mouse button. The Song Files Screen will appear, with a list of song files.

Using the Main Composing Screen



2. At the top of the list of song files, you will see one or more disk symbols (one for each extra drive you have). Next to each disk symbol will be the name of the volume currently in that drive. If you haven't already done so, insert the disk that contains the song you want to load into the drive you want to use. Then move the pointer to highlight the disk symbol for that drive, and click the mouse button.

The program will read the disk in the drive you selected and list on the screen any files on that disk. All disk operations such as loading and saving will now take place on the drive you've selected until you change to another drive.

3. Any file folders on the new disk will be at the top of the file list, represented by folder symbols (with the folder names next to the symbols). Open the folder that contains the song you want to load by moving the pointer to highlight the folder name and then clicking the mouse button. After a brief pause, the contents of that folder will be shown on the file list.
4. Move the pointer to the word **Load**, and click the mouse button.
5. Move the pointer to highlight the name of the song you want to load, and click the mouse button. When the song is loaded, the words **File Loaded** and the song name will appear on the screen.



When the program loads your song, it will also try to load the sound data file used when your song was created if that file is not the same as the one currently loaded. If the program can't find the proper sound data file in the folder with your song, it will say so. The program will load the song anyway but will play it using instruments from the current sound data file.

6. Click the mouse over the word **Done**, and the program will return to the Main Composing Screen. The music you selected will be written on the grand staff, and the song title will appear at the top of the screen.

Printing a Song

The Music Studio lets you print out a song as sheet music on your printer.

To print a song:

1. Be sure the printer is properly connected to your computer, plugged in, turned on, and loaded with ribbon and paper.
2. Move the pointer to the word **File** in the upper left corner of the screen, and press and hold the mouse button to pull down the **File** menu.
3. Drag the mouse down the menu until **Print Song** is highlighted, and then release the mouse button.



4. The message **Please Make Sure Printer is Ready** will appear on the screen, as well as two menu options, **Print** and **Cancel**.
5. To print your music, move the pointer to **Print**, and click the mouse button. Your song will begin printing immediately. When the printing is complete, the program will return to the Main Composing Screen.

If you decide not to print your sheet music, move the pointer to **Cancel**, and click the mouse button. The program will return you to the Main Composing Screen.

To stop printing at any time, click the mouse button.

Note: You can print sheet music for a selected portion of a song *without lyrics* by first marking off the passage and then using **Print Song** as described above. See “Section Marker” in the “Reference Guide,” page 83.

Leaving The Music Studio

You can exit *The Music Studio* at any time by selecting **Quit** from the **File** menu on the Main Composing Screen.

To leave the program:

1. Move the pointer to the word **File** in the upper left corner of the Main Composing Screen, and press and hold the mouse button to pull down the **File** menu.



2. Drag the pointer down the menu until **Quit** is highlighted, and then release the mouse button. You will see the warning **All work not saved to disk will be lost** along with two new boxes, **OK** and **Cancel**.
3. If you want to keep the current version of your song and have not saved it to disk, move the pointer to the word **Cancel** and click the mouse button. The program will return to the Main Composing Screen instead of exiting.
4. If you are ready to leave the program, move the pointer to the word **OK**, and click the mouse button.

Some Advanced Features

This guided tour of the Main Composing Screen has covered only the basics of working with *The Music Studio*. As you begin to work on more complicated compositions, you'll find that *The Music Studio* has many extra features to help you out. When you need these advanced features, you can find them all in the "Reference Guide," starting on page 77. In the meantime, here are two advanced features to whet your appetite.

Using Sound Files

With *The Music Studio*, you aren't limited to just the single set of instrument sounds you've been using so far. On the *Music Studio* program disk, there is a selection of files of pre-programmed instrument sounds that you can use to



replace the current set. You can load these sound files in much the same way you loaded the pre-programmed song files.

To load a sound file from the program disk:

1. Move the pointer to the word **File** in the upper left corner of the screen, and press the mouse button to pull down the menu. Still holding down the mouse button, drag the pointer down to select **SOUND Files**. Release the mouse button, and the Sound Files Screen will appear, along with a list of the sound libraries on the *Music Studio* program disk. The Sound Files Screen looks like the Song Files Screen except that it has no **Append** box.
2. Click the mouse over the word **Load**. It will be highlighted.
3. To load any sound file listed on the screen, move the pointer until the sound file name is highlighted, and then click the mouse button. When the sound file is loaded, the words **File Loaded** along with the sound file name will appear in the bottom left corner of the Sound Files Screen.
4. Click the mouse over the word **Done**, and the program will return to the Main Composing Screen. If you now pull down the instrument palette from the top of the screen and drag the pointer down the palette, you'll see that although the colors and numbers on the palette are the same, the instrument names associated with each



color and number are new. And when you select one of these new instruments, you'll find that each color now has a new sound, too.

When you save a song to disk, *The Music Studio* will remember which sound file you used for that song and automatically load the proper sounds any time you load the song.

Using Tracks

The tracks feature lets you isolate one or more instruments or sound effects in a song. If, for example, you are creating a complicated score and want to work on the percussion section separately, without listening to the other instruments, you can assign the percussion to a track by itself and then turn off all the other tracks so that you see and hear only the percussion.

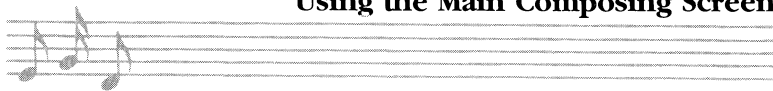
The tracks feature also lets you place one note on top of another without erasing the first note, so that you can compose a song with two or more (up to 15) notes on the same position on the staff.

Note: Tracks is the only feature in *The Music Studio* that lets you place one note on top of another note on the staff without erasing it.

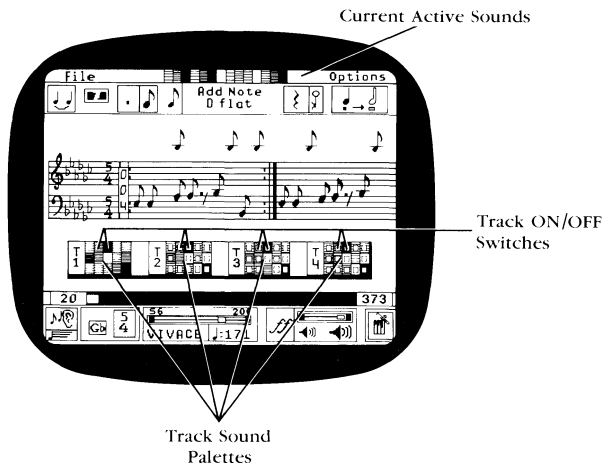
To activate the tracks feature:

1. Move the pointer to **Options**, and press and hold the mouse button to pull down the **Options** menu.

Using the Main Composing Screen



2. Drag the pointer down the menu until **Use Tracks** is highlighted, and then release the mouse button. A small, four-track bar will appear underneath the grand staff, and a bar of instrument colors will appear at the top center of the screen.



The **T1**, **T2**, **T3**, and **T4** rectangles are the on/off switches for tracks 1-4. Simply move the pointer to one of these rectangles and click the mouse button to switch a track on or off. Switches that are highlighted are on. At the start, only **T1** is on.

Use these four on/off switches to separate the sections of a song. For example, you might put a saxophone part on **T1**, a piano on **T2**, a bass on **T3**, and drums on **T4**. Then, by turning tracks on and off, you could listen to each part separately, all four parts together, or any combination of two or three parts together.



Just to the right of each track's on/off switch is a rectangle containing 15 colored squares, which represent the instrument palette available for that track. If a square is solid, the corresponding instrument is available for use. If a square is "hollow" (has a white square within the colored square), then the corresponding instrument is inactive and not available on that track. To turn an instrument on or off, just move the pointer to the appropriate colored square, and click the mouse button.

You can use up to 15 instruments on one track of your score. The instrument palette at the top center of the screen shows the instruments currently available on all the active tracks.

To use tracks:

1. To isolate the red and yellow instruments on tracks 1 and 2, for example, turn off all the tracks except track 1 by moving the pointer to the appropriate switches and clicking the mouse button.
2. Move the pointer to the instrument palette for track 1. If the red instrument is not already on (solid), the turn it on by moving the pointer to the red square and clicking the mouse button. When the color is solid, the instrument is on.
3. Turn off all the other instruments on the track 1 palette by clicking the pointer on all the other active squares. A white square within the colored square indicates that the

Using the Main Composing Screen



instrument (color) is inactive (off). You'll now see that the instrument palette at the top of the screen shows only one red block, indicating that the red instrument is the only active one.

4. Write a line of music or a short song using only the red instrument. Remember that you must select the red instrument from the pull-down instrument palette on the Main Composing Screen first.
5. Turn off track 1 by moving the pointer to **T1** and clicking the mouse button. When track 1 is off, all the red notes on the staff will be replaced by rests.
6. Following the procedure you used in steps 1–3, turn on track 2, turn on the yellow instrument, and then turn off all the other instruments on the track 2 palette. The color bar at the top of the screen will now show only a yellow block.
7. Write a line of music using the yellow instrument. Remember to select the yellow instrument from the pull-down instrument palette menu first. You will see only yellow notes on the screen, but the black rests will tell you which columns hold the red notes that have been turned off.

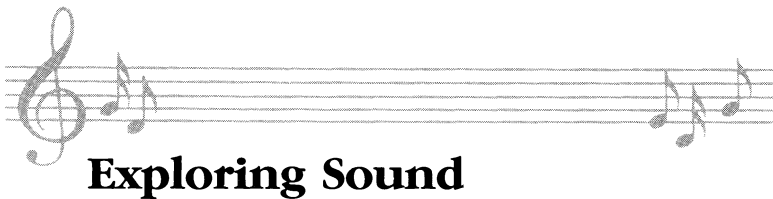
When you're done, you can play either the red notes or the yellow notes separately by turning on only track 1 or track 2. To listen to the two lines of music combined, turn on both tracks 1 and 2.



NOTE: When you're using the tracks feature, you can't change a song title, add lyrics or erase rests that are standing in for notes.

To remove tracks:

1. Move the pointer to **Options**, and press and hold the mouse button to pull down the **Options** menu.
2. Drag the pointer down the menu until **Remove Tracks** is highlighted, and then release the mouse button. The tracks will disappear from the screen, but their current settings will still be saved when you save your song.



The Design Instrument Screen is a professional-quality sound studio for creating customized instruments and sound effects quickly and easily. With it, you can explore and apply the sound capabilities of your computer and invent an assortment of strange and wonderful sounds. When you save a song, any sounds you've designed and used are saved along with it. You can also create separate sound files and save your creations on disk.

If you have a MIDI interface in your computer, you can connect many synthesizers and other electronic instruments to it. Then, you can use *The Music Studio* to set the instrument's voices and play your tunes on it.

This section briefly introduces some basics of sound theory. These will help you understand the concepts behind what you see on the screen and show you how to use all its features. For a more detailed description of sound theory, a good place to start is *The Science of Musical Sound* by John R. Pierce (Scientific American Library, 1983).

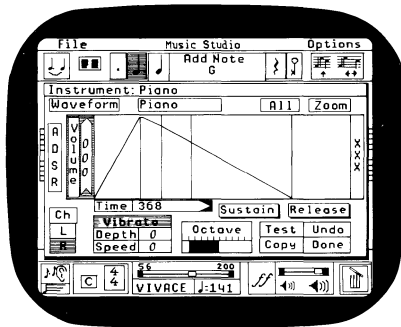
To enter the Design Instrument Screen:

1. Point to and select the **Options** menu at the top right of the screen to highlight the **Options** menu. Hold the button down.



2. Highlight **Design Instrument** and release the button.
The menu options disappear, and the Design Instrument Screen appears.

Designing Instruments



Amplitude, Duration, and the Sound Envelope

Besides their pitch, instrument sounds can be thought of in terms of their *amplitude* (volume) and *duration* (the time the sound takes from beginning to end). With the aid of a visual graph, *The Music Studio* breaks sounds down into volume and time values.

The change in a sound's volume over time is called a *sound envelope*. *The Music Studio* lets you specify the volume of a sound over time in the form of a *sound envelope graph*.



When you select an instrument from the instrument palette, you're selecting both a sound and a sound envelope. And while each sound file that comes with *The Music Studio* has a maximum of 15 sounds available for your use, you can control the envelopes of these sounds to create an endless variety of unique sounds. Then you can store your new sounds in a musical palette that's all your own.

The graph is labeled **ADSR** because sound is often defined in terms of its *ADSR*, or Attack, Decay, Sustain, and Release.

The *Attack* is how a sound begins. The sound of a piano note, generated by a string set in motion by a hammer, could be said to have an Attack louder than the rest of its envelope, since once the key is struck, the sound gradually becomes softer, but never louder.

The *Decay* of an envelope is whatever happens to the sound immediately after the peak of the Attack.

The *Sustain* is the moment in a sound's envelope when the Decay levels off and the tone is held evenly. A piano could actually be said to have *no* Sustain, but rather a long decay. But a trumpet sound's envelope will have Sustain as long as the player keeps blowing enough air in the horn to produce a tone.

The *Release* is the end of the sound envelope and represents how a tone stops.



The Music Studio lets you picture the sound envelope as a physical shape *and* hear the sound as it is played—both from the Design Instrument Screen.

By adjusting the graph showing the duration and volume of the sound envelope for the 15 sounds in your musical palette, you can make up your own custom instruments with unique characteristics.

Notice that the graph on the Design Instrument Screen is bordered on the left by an up arrow labeled **Volume** and on the bottom by a right-pointing arrow labeled **Time**. Each sound envelope is divided into from one to seven segments.

Each segment in the sound envelope graph represents a change of volume over time. The maximum volume of the envelope is indicated by the arrow to the left of the graph.

The time for the envelope is displayed below and to the right of the graph.

When you move from segment to segment, the time shown below the graph changes to indicate the time associated with your current position in a segment.

The duration of the entire sound envelope is shown to the right of the graph. When you make adjustments that affect the length of the entire envelope, this number changes.

The times shown are in seconds.



How the Design Instrument Screen Works

You have at your disposal 15 pre-programmed sounds, represented on the instrument palette by numbered and colored squares. Each square represents one instrument, or sound.

With the Design Instrument Screen, you can modify these pre-programmed sounds from the instrument palette. After you've made your modifications and custom designed them, they'll automatically be part of the pull-down instrument menu. *The Music Studio* gives you the option of changing the parameters for any one or all of the sounds.

NOTE: In order to permanently save new instrument sounds, you must save them in sound files. They are also saved if they're used in a song saved in a song file. See "Saving Sounds" on page 59.

A good way to begin this process is to test each pre-programmed sound and see how it "looks" on the sound envelope graph.

1. Point to the instrument palette symbol at the top left side of the screen. Press the mouse button to pull down the instrument palette.
2. Drag the pointer down the palette. As you point to each instrument color, the message box tells you which instrument is represented by that color and number.



Release the pointer at the instrument you wish to see. A sound envelope shape appears in the graph area, representing the characteristics of the selected sound.

3. Point to **Test** and click the mouse. You'll hear the sound you selected, played up and down in a continuous scale.
4. Click the mouse again to turn off the instrument test scale.
5. Cycle through each of the remaining instruments by pulling down the palette, clicking the mouse, and turning on the sound test.

Adjusting the Volume

You can specify the volume of a particular sound at various points in time. These points occur at each of the dark vertical bars on the graph, called *duration time bars*. (The time spacing of these bars is also adjustable as explained below.) Connecting all the time bars is the *envelope volume line*, indicating the variation in the volume that takes place between time bars.

To adjust the volume of a segment:

1. Point to a duration time bar; the bar changes color. Press the mouse button.
2. Holding the button down, drag the envelope volume line by moving the mouse up and down. When the line goes up, the volume at the bar is increased. When it goes



down, its volume decreases. The volume indicator to the left of the graph changes to indicate the new settings.

3. Release the button to set a volume. You may want to test the sound now to hear the change you've made.

Adjusting the Duration

By moving the time bars left or right, you can change the length of time that a particular segment lasts.

An instrument envelope may be as long as you wish. The duration for your current position in the sound envelope is displayed (in seconds) below the graph. As you stretch or shorten the durations, the graph automatically “rescales” itself to avoid running off the screen or compressing the envelope graph into too small a space.

To move each time bar separately:

1. Point to the time duration bar you want to move and press the button.
2. Hold the button down and drag the bar to the left or right. The segment to the left of the bar shrinks or stretches to indicate the adjusted time. The time counter below the graph adjusts to display the length of the segment in seconds; the counter to the right adjusts to reflect the adjusted duration of the sound envelope.
3. Release the button to fix the bar in place. Test the sound.



Adding Time Bars

As mentioned previously, a sound envelope can consist of as few as two segments or as many as seven.

The first segment always starts at zero volume and zero time. It's usually adjusted to move to the maximum volume of the sound, either quickly or slowly. The last segment always ends at zero volume.

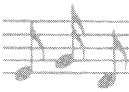
You can add a segment anywhere within an envelope very easily:

1. Point to the position in the graph where you wish to add the new time bar.
2. Press the mouse button. The new time bar appears. Drag the pointer up or down to adjust the volume at this bar. Drag the pointer left or right to adjust the duration of the segment to the left of this bar.
3. Release the mouse button to set your changes.

Eliminating Time Bars

You can also erase a time bar to simplify a sound envelope:

1. Point to the time bar you want to erase and hold the button down.
2. Slide the mouse to the left. When the line you're moving runs into the line next to it, the two merge.



3. Release the mouse button to eliminate the bar and the associated segment.

Alternately, you can drag the volume line at the time bar up or down. When the volume at the time bar you've selected matches the volume at the bar to its immediate right or left, the two merge.

Controls

In addition to the controls within the sound envelope, *The Music Studio* offers other controls to help you set the characteristics of the sound envelope you're adjusting.

All

This control lets you set the volume and duration of an entire sound envelope, without altering the overall shape of the envelope.

To use All:

1. Click **All** once to highlight it.
2. Move the pointer to the sound envelope graph and press the button.
3. Drag the envelope around to set a new overall volume and/or duration. Release the button to freeze your new settings.
4. Click **All** again to switch this feature off.



Fine

The **Fine** control lets you change the amount of variation in volume or time caused by movements of the mouse—that is, to make adjustments in smaller increments. This makes it easier to fine tune your settings.

To fine tune a setting:

1. Click **Fine** once to highlight it. Fine tuning is now on.
2. Adjust the volume and/or duration of the segments of the sound envelope you wish to reset.
3. Click **Fine** again to return to normal adjustment.

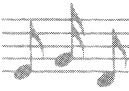
Sustain and Release

Sustain selects a volume at which to hold the sound for the duration of each note. **Release** selects a point in the sound envelope that *The Music Studio* jumps to when the note stops.

An envelope can have either a sustain or a release point, but not both.

To set Sustain or Release:

1. Click the **Sustain** or **Release** button. The button you select is highlighted.



2. Move to the time bar where you want a sustain or release point, then click. The bar changes colors: red for sustain, green for release.
3. Test your change to see its effect.

If a sound envelope has a sustain point set, setting a release point clears the sustain setting; if it has a release point set, setting a sustain point clears the release setting.

L/R (Left and Right)

If you have a stereo card installed in your computer, you may assign any sound to either channel. Simply click on the **L** (Left) or **R** (Right) button to assign the sound to a channel.

Note: You cannot assign a sound to both channels. The default assignment is the right channel.

Vibrato

Vibrato lets you add regular pitch variations to a sound. Depending on the depth and rate you select, this can result in no difference, a slight warbling, or a very unusual wavering effect. You'll want to try different combinations of depth and rate to see how they sound. Click the **Vibrato** button to turn vibrato on or off. You can also turn vibrato off by setting either **Depth** or **Rate** to zero.



Depth controls the amount of variation in the sound when vibrato is on. Lower numbers indicate smaller variations; a setting of 0 turns off vibrato. A higher setting causes wide changes in the pitch.

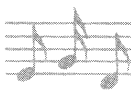
Rate lets you give your vibrato a slow “swirling” sound or a fast “trembling” effect—or set it anywhere in between. Lower numbers indicate slower rates; a setting of 0 turns off vibrato. The highest possible setting is 127.

To use Vibrato:

1. Click on **Vibrato** to highlight it. This turns it on. Click **Vibrato** again to turn it off.
2. To specify a **Rate** or **Depth**, move the pointer to the appropriate button, then drag the number in the box up or down. Moving up increases the rate or depth, down decreases the setting. Note that when the number reaches 0, dragging down cycles back through the largest number—so you can quickly get to higher settings just by moving down.

Selecting an Octave Range

On the Design Instrument Screen, you can select an octave range of up to five octaves for each instrument. And by selecting a different octave range for each instrument, you can expand the octave range of a song to more than eight octaves, even though the grand staff can display only five at a time.



To select an octave range:

1. Select an instrument from the instrument palette.
2. Move the cursor to the thick blue bar on the **Octave** range indicator and press the button.
3. With the button held down, drag the bar left or right to set the octave range, then release.

Renaming Instruments

After manipulating the sounds of the pre-programmed instruments to make your own custom sounds, you can give the sounds new names to distinguish them from the old sounds. For example, you may have created a new sound, using the pre-programmed “piano” sound. Here’s how to rename the sound:

1. Move the cursor to the top of the Design Instrument Screen and place it over the first letter of the old name immediately following the word **Instrument**. Then press the button. The old name disappears and a vertical editing bar replaces the first letter.
2. Type the name you’ve chosen for the new instrument. If you make a mistake, erase it with the **delete** key and start again. You can name it anything you want, as long as it has no more than nine characters; then press **return**.



If you mistakenly select this feature, simply click the mouse button again to retain the instrument's original name.

If you save your new sound with a new name with a song, the name will appear in that form on the instrument palette whenever you load this song.

Changing Samples

You can use any instrument sound from your musical palette with your new sound envelope.

1. Point to the instrument name to the right of the word **Sample** and press the mouse button. A box listing the sounds in your musical palette drops down.
2. Holding the mouse button, move the pointer down to highlight the new sound you wish to try, then release. The name of the sound selected appears on screen next to **Sample**.

Trying a Sound

Once you've adjusted the envelope to the characteristics you want, you can try it out by moving the pointer to **Test** and clicking. A musical scale begins playing at the rate and volume set at the bottom of the screen, and using the note duration selected at the top of the screen. Click the mouse button again to stop the test.



Copying Instruments

The Music Studio lets you copy an instrument's sound. For example, you may want to create two or more “clarinets” on the instrument palette, each with a different sound envelope. This feature is useful if you want to:

- Compose a song for three pianos, four violins, and so forth.
- Modify an instrument's sound while still having its original ADSR characteristics available. Copy it on the instrument palette and work on the duplicated version.

Undo

You may undo your changes to a sound envelope at any time by clicking the **Undo** button. You may also undo your last use of **Undo**.

Saving Sounds

After you leave the Design Instrument Screen, you can save your new instrument sounds and special effects on a separate, formatted disk.

To save instrument sounds and special effects:

1. Select the **SOUND Files** option from the **File** menu.



2. Insert a blank, formatted disk in the drive (drive B if you're using two disk drives).
3. Move the cursor to the long narrow box near the top of the screen and click the mouse button. The name in the vertical bar disappears and a vertical editing bar appears at the left side of the box.
4. Type a name for the sound file you wish to save. You can name it anything as long as the prefix is no longer than 11 characters. Make the last four characters of the name **.SND** to match the names of other sound files. Press the **return** key when you're finished
5. Click **Save** to put your sounds on a disk file.
6. To return to the Main Composing Screen, move the pointer to the word **Done** and click the mouse button.

Done

The **Done** button lets you move back to the Main Composing Screen and use the instruments you've defined.

MIDI and The Music Studio

When you install a MIDI interface card in your computer, you can connect it to a MIDI-equipped synthesizer or any other MIDI musical instrument. Through this connection,



you can play tunes you compose with *The Music Studio* on your synthesizer.

Adjusting MIDI Parameters

The MIDI Parameters Screen gives you control of a MIDI-compatible instrument. Just as you use the Design Instrument Screen to create your own instruments and sound effects for the computer's internal sounds, you can use the MIDI Parameters Screen to assign up to 15 different instruments and sound effects to your MIDI-compatible instrument.

These instructions apply to the Casio CZ-101 series. The parameters and channel numbers described in this section may vary for other MIDI-compatible instruments.

To enter the MIDI Parameters Screen:

1. Move the cursor to the **Options** menu on the top right corner of the screen, and press the button.
2. Highlight **MIDI Parameters** on the **Options** menu and release the button. The MIDI Parameters Screen appears.

How to Use the MIDI Parameters Screen

Start with a song on the Main Composing Screen. To more easily experiment with and listen to the different parameters for each instrument in a song, start with no more than three different instruments or sound effects. Whenever you want a



“sound test” of a song, select the ear or running note symbols in the lower left corner while you’re in the MIDI Parameters Screen.

MIDI SOLO Button: On the Casio CZ-101, the SOLO button should be on whenever you use more than one instrument color in a song. With the SOLO button on, the Casio can play in multi-timbre mode. Turn the SOLO button off only when all notes in the song have the same instrument color.

Four MIDI Parameters

The MIDI Parameters Screen has four adjustable parameters, labeled vertically across the screen:

Instrument

MIDI channel

Preset

Range

The Sound Palette

Associated with each parameter is a 15-color palette. Each color represents a sound effect or instrument for that parameter.

Instrument Names

The instrument names on the left come with *The Music Studio*. They can be changed as you adjust the parameters for each sound according to your specifications.



NOTE: The instrument names that appear on the Main Composing Screen represent the instruments assigned from the Design Instrument Screen. The instrument names that appear on the MIDI Parameters Screen apply only to sounds designed and displayed on that screen.

To rename a sound:

1. Move the cursor to the instrument list.
2. Point to the name of an instrument whose name you want to change and press the button. The name disappears and a vertical editing bar replaces the first letter.
3. Type a new name. You can pick any name you want as long as it has no more than nine characters. Press **return**.
4. If you change your mind, click the mouse and type in a new name.

Picking a Channel

The Music Studio lets you assign a MIDI channel for each instrument. The Casio CZ-101 receives on four MIDI channels, numbers 1–4. You can read the MIDI section of your instrument's owner's manual for MIDI channel information.



To pick a MIDI Channel:

1. Move the cursor horizontally to the **MIDI Channel** number for the instrument color you're adjusting and press the button.
2. While holding the button down, move the mouse up and down until the MIDI channel number you want appears.
3. Release the button to make the selection.

NOTE: Do not assign the same MIDI channel to two instruments that are playing at the same time.

Selecting a Preset

The **Preset** parameter lets you assign a specific sound to each instrument name, based on the MIDI synthesizer you're using. *The Music Studio* gives you the option of using up to 128 different sounds; the number of sounds you can use depends on your MIDI instrument. On the Casio CZ-101, you have access to 48 sounds: 16 presets (1-16), 16 cartridge sounds (17-32) and 16 internals (33-48).

You may want to use the same sound for all fifteen instruments or different sounds for each.

To select a sound:

1. Move the cursor horizontally to the **Preset** number for the instrument color you're adjusting and press the button.



2. While holding the button down, move the mouse up and down (or left and right) until the **Preset** number you want to use appears.
3. Release the button to make the selection.

Setting the Octave Range

The Music Studio gives you the option of assigning a five-octave range to each instrument, indicated by the numbers on the **Range** parameter. The range “36-90” is the middle range, beginning at middle C. Each number represents one half-step on the keyboard. The lowest range is “0-60”; the highest is “60-120.”

Using the Range parameter, you can stretch the octave range of a song by assigning each instrument a different range. Although the grand staff can display only five octaves at a time, you can actually play nine or ten octaves, depending on the MIDI-compatible instrument you’re using.

To change the range:

1. Move the cursor to the **Range** parameter for the instrument you want to adjust and press the button.
2. While holding the button down, move the mouse up or down until the **Range** number you want appears.
3. Release the button to make the selection.



Canceling Changes

Point to and select **Undo** to return all the parameters to their positions when you entered the MIDI Parameters Screen.

Returning to the Main Composing Screen

Point to and select **Done** to return to the Main Composing Screen.

Using Your MIDI Parameters

You must be sure your MIDI instrument is connected and that the MIDI control of *The Music Studio* is switched on.

1. Point to **Options** and press the mouse button. The **Options** menu pops down.
2. Move down the menu to **Set MIDI On** and release the button. The menu disappears and MIDI is now turned on. (If MIDI is already on, move back to the top of the menu before releasing the button.)

(If you attempt to turn MIDI on without the MIDI interface installed, the message **MIDI not available** appears at the bottom of the screen.)

3. If you wish to turn off the voices in your computer, point to **Options** and press the mouse button to pop down the menu, then move down to highlight **Set II/GS Off** and release.



Saving MIDI Parameters in Sound Files

MIDI parameters are saved along with any song you use them in.

You also have the option of saving new MIDI parameters on separate sound files. To do so, select **SOUND Files** from the **File** menu and follow the instructions for saving sound files on page 59.



Using the Music Paintbox

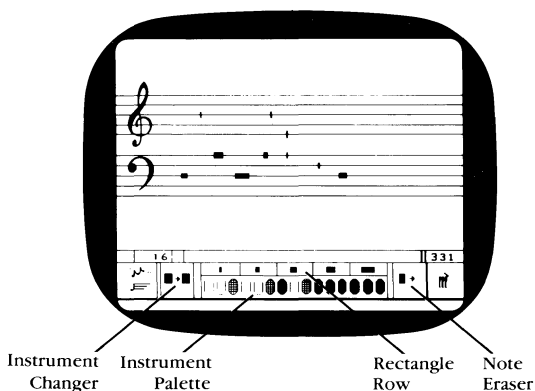
The Music Paintbox is a free-form method of composing. Instead of using standard musical notation, you can “paint” notes onto the staff in the form of colored rectangles. The size of the rectangle determines how long the note will be held, and the color determines which instrument it represents.

If you want, you can use the Paintbox for all your composing. The program will automatically translate your work to standard musical notation when you enter the Main Composing Screen from the Paintbox.

Opening the Music Paintbox

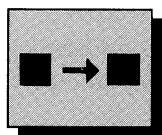
To move to the Music Paintbox Screen:

1. Move the pointer to the very top of the screen at the center, where you see the words **Music Studio** or the name of the song that is currently loaded.
2. Click the mouse button. The screen will briefly go blank, and then the Main Composing Screen will be replaced by the Music Paintbox Screen.

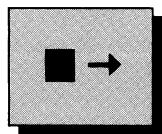


On the Music Paintbox Screen, you'll see a number of features that you're familiar with from the Main Composing Screen: the grand staff, the pointer, the song slider, the ear symbol, the running note symbol, and the trash can symbol.

You'll also find several new features on the Music Paintbox Screen:



The Instrument Changer. The two squares separated by an arrow let you change notes from one sound to another throughout the entire song.



The Note Eraser. The single square with an arrow pointing to an empty space lets you erase notes one at a time.



The Instrument Palette. The color

palette below the song slider represents the instruments you can use.



The Rectangle Row.

The row of rectangles represents your “notes.” Each represents a different note value (the length of time the note is held). The color of the rectangles matches that of the active instrument.

Painting Music

Instead of notes, the Paintbox uses rectangles of five increasing widths, corresponding to sixteenth, eighth, quarter, half, and whole notes. The program automatically uses the rectangle that represents the quarter note unless you change to another rectangle (note value).

Choosing an Instrument

To select an instrument:

1. Move the pointer to the instrument palette, and point to the color (instrument) you want.
2. Click the mouse button. Notice that all the rectangles in the rectangle row are now the color of the instrument you chose. All the rectangles you paint on the grand staff will also be this color until you choose a new instrument.



Painting Notes on the Staff

To paint notes on the staff:

1. Pick a note value by moving the pointer to one of the rectangles in the rectangle row and clicking the mouse button. That rectangle will be framed in black.
2. Move the pointer to the grand staff. Notice that the pointer now looks like the rectangle you've selected.
3. To place rectangles (notes) on the staff, move the pointer to the place you want a note, and click the mouse button. When you move the pointer aside, a colored rectangle will remain in that position.

To play the music you've painted, move the pointer to the ear symbol or the running note symbol, and click the mouse button.

Correcting Mistakes

You can correct mistakes or make changes to your painted compositions by either erasing notes one at a time or by erasing the entire song. If you want to be able to work with a song later, remember to save it before you erase it (see "Saving a Song," page 29).

To Erase a Single Note:

1. Move the pointer to the note eraser symbol, the box that has a blue square with an arrow pointing to a blank space,



and click the mouse button. A black frame will surround the note eraser box, telling you it's active.

2. Place the pointer over the note you wish to erase, and click the mouse button. The note will disappear.

The eraser feature will remain active until you turn it off by selecting any rectangle in the rectangle row.

To Erase an Entire Song:

1. Move the pointer to the trash can symbol.
2. Double-click the mouse button. Your song will disappear from the screen. You can bring back the song by double-clicking the mouse button again on the trash can *before selecting any other feature*.

Changing Instruments

You can substitute one instrument for another throughout the song by using the instrument changer to change the color of the rectangles on the grand staff.

1. Move the pointer to the instrument changer, the box that has green and red boxes with an arrow in between, and click the mouse button. The instrument changer box will now be framed in black.
2. Move the pointer to a new instrument color on the palette, and click the mouse button.



3. Move the pointer to one of the notes that you want to assign to the new instrument, and click the mouse button. A screen message will ask if you're sure you want to alter the entire song. Type **Y** if you do; if not, press any other key. If you type **Y**, all the notes of the old color will be changed to the new color and will have the sound of the new instrument.

To turn off the change instrument function, point to and select any rectangle in the rectangle row.

Saving A Song

You can save a painted composition by using the **SONG Files** option from the **File** Menu on the Main Composing Screen. Follow the instructions below for returning to the Main Composing Screen, and then follow the instructions for "Saving A Song" on page 29.

Returning to the Main Composing Screen

To return to the Main Composing Screen:

1. Move the pointer to the very top of the screen at the center, where you see the words **Music Studio** or the name of the song that is currently loaded.
2. Click the mouse button. The screen will briefly go blank, and then the Main Composing Screen will appear.

Using the Music Paintbox



As you switch back and forth between the Music Paintbox Screen and the Main Composing Screen, *The Music Studio* will automatically transform a painted song into standard musical notation and a composition written in standard notation into a painted song.



The Reference Guide

This reference section covers every aspect of *The Music Studio* in a concise form (except the Music Paintbox, which is covered in the section starting on page 69). You can use it both to refresh your memory of features covered in the earlier sections and to explore more advanced features not covered elsewhere.

This section is organized according to the way things appear on the screen—all the symbols are illustrated and the menu functions are grouped according to the menu they appear on.

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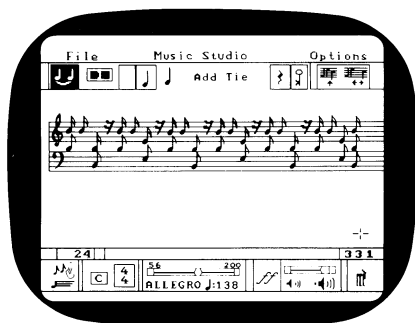
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The Main Composing Screen

The Main Composing Screen is where you do most of your composing and editing. It's the largest area of *The Music Studio* and contains the most features and menus.





Grand Staff

The two sets of five lines in the middle of the screen make up the grand staff, where you place notes, rests, measure bars, and other musical notation.

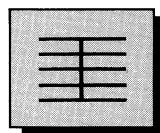
Tie and Measure Bar

The pull-down tie box also includes the measure bar.

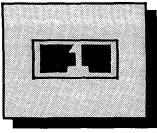


Tie. To add a tie between two adjacent notes having identical pitches, move the pointer to the tie symbol, press and hold the mouse button to pull down the menu, and select the tie symbol. After selecting the tie, click the pointer (now a red tie) on each of the two notes, connecting them with the tie. Only the first note will sound, but for the duration of the two notes combined.

NOTE: You can't use certain block functions (described under "Block Functions" on page 84) with the tie. For example, you can't move only one of two tied notes to another part of the song.



Measure Bar. Move the pointer to the tie symbol, and press and hold the mouse button to pull down the menu. Drag the pointer down to select the measure bar symbol. After selecting the measure bar, move the pointer (now a black measure bar) to the point on the staff where you want a measure bar, and click the mouse button.

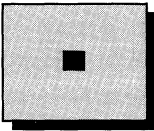


Instrument Palette

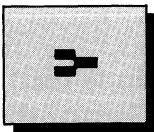
Move the pointer to the instrument palette symbol and press and hold the mouse button to pull down the full instrument palette of 15 colors. Drag the pointer down the palette to select a new instrument.

Dot, Accent, and Triplet

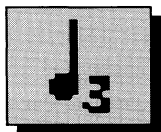
Move the pointer to the dot symbol, and press the mouse button to pull down this menu containing the dot symbol, the accent symbol, and the triplet symbol. Drag the pointer down the menu to select the feature you want.



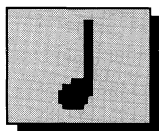
Dot. Used in conjunction with a note of any value, a dot increases the value of that note by half. When the dot is active, both the pointer and the note symbol in the message box (when the message says **Add Note**) will be dotted notes.



Accent. The accent mark, which appears as a wedge beneath the accented note, makes a note sound with maximum volume. When the accent is active, both the pointer and the note symbol in the message box (when the message says **Add Note**) will be accented notes. When playing a song with accented notes, be sure the volume control slider is not set to the maximum volume, or you won't be able to distinguish the accented note from the other notes.



Triplet. Use the triplet symbol to place triplet notes on the staff—a group of three notes played in place of two notes of equal value. For example, an eighth note triplet (three eighth notes grouped as a triplet) is equal in time value to two eighth notes or one quarter note. In *The Music Studio*, a triplet is indicated by a 3 following a note. When the triplet is active, both the pointer and the note symbol in the message box (when the message says **Add Note**), will be triplet notes.

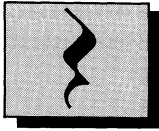


Note

The note symbol is used to place notes on the grand staff. Pull down the note menu, and drag the pointer down the menu to select a note duration, from whole note to thirty-second note. When you move the pointer into the staff area, it will become a note of the duration you selected. Click the mouse button to place a note on the staff.

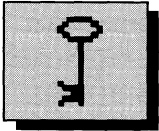
Message Box

The message box is located at the top of the screen in the center. It tells you, in English, what feature is highlighted or what option you have selected. Think of it as an on-screen interpreter of all the musical symbols on the Main Composing Screen. At the left end of the message box, there will be either a note symbol or a rest symbol to show which of those two is currently selected.



Rest

The rest symbol is used to place rests on the grand staff. Pull down the rest menu, and drag the pointer down the menu to select a rest duration, from whole rest to thirty-second rest. When you move the pointer into the staff area, it will become a rest of the duration you selected. Click the mouse button to place a rest on the staff.



Key

Use this menu to add accidentals—sharps, flats, and naturals—to your notes. Pull down the key menu, and drag the pointer down the menu to select a sharp, flat or natural. Once you've selected an accidental, every note you place on the staff will have that accidental attached, as will the pointer and the note symbol in the message box. To cancel the accidental, pull down the key menu, and select the key symbol itself.

Section Marker

The section marker lets you mark off a section of a song for listening or editing. For example, you may want to delete or move only a few measures or change the instruments in only one passage.

To Mark Off a Section:

1. Move the cursor to the white “window” above or below the grand staff, and then move it up or down until you



reach the edge of the window. Stop when two magenta squares appear — one at the top and one at the bottom of the screen.

2. Use the mouse to move the squares horizontally to the column at one end of the section you want to mark, and click the mouse button. A colored stripe will appear running vertically through that column, marking one end of the section.
3. Move the squares horizontally, left or right, to the other end of the section you want to mark off. Click the mouse button again, and the program will highlight everything between your two markers.

To erase a section marker, move the cursor back to the edge of the white grand staff window so that the magenta squares reappear, and then click the mouse button. The marked section will be unmarked, and the highlighting will disappear.

Once you've marked a section of music, you can listen to just the marked section by clicking the pointer on the ear symbol. You can also select any of the editing functions listed below under "Block Functions" to work with the entire marked section at once.

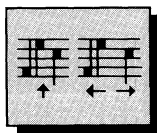
Block Functions

The following features are all found in the pull-down block menu underneath the insert block symbol. These features



can be used to make changes to a section of music marked with section markers. Some of these features can also be used to change an entire song. When you try to alter an entire song, a screen message asks you to confirm that that's what you want to do—type **Y** to make the change, or press any other key to cancel the action.

Move the pointer to the insert block symbol in the top right corner of the screen, and press the mouse button to pull down this menu of block functions. Drag the pointer down the menu to select any of the following functions:



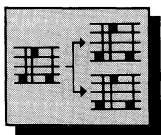
Insert Block. Use this feature to insert a block of blank columns to the left of a marked section. The number of columns inserted will equal the number of columns in the marked section.

To insert a block of blank columns:

1. Mark a section equal to the number of columns you want to insert.
2. Select the insert block symbol.
3. Move the pointer to the marked section, and click the mouse button. A block of blank columns equal to the marked section will be inserted to the left of the marked section.



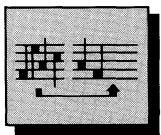
You can insert columns one at a time without first marking a section by selecting the insert block symbol and then clicking on any column in the staff. For each click of the mouse, one blank column will be inserted to the left of the pointer.



Copy Block. Use this feature to copy a section of music to another place in a composition.

To copy a block of music:

1. Use the section markers to mark the section of music you want to copy.
2. Select the copy block symbol.
3. Move the pointer to the position in the music where you want to insert a copy of the marked section. Click the mouse button, and a copy of the marked section will appear at that point. You may continue to copy the marked section as many times as you want.



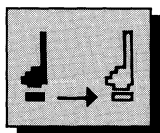
Move Block. Use this feature to move a section of music to another place in a composition.

To move a block of music:

1. Use the section markers to mark the section of music you want to move.



2. Select the move block symbol.
3. Move the pointer to the position in the music where you want to insert the marked section. Click the mouse button, and the marked section will be inserted at that point.



Replace Instrument. This feature allows you to substitute one instrument for another in the marked section or in the entire composition—for example, to change all the saxophones to pianos.

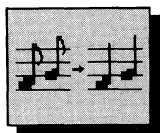
To change an instrument in a specific passage:

1. Use the section marker to mark the passage you want to change.
2. Select the new instrument you want from the instrument palette.
3. Select the replace instrument symbol.
4. Move the pointer to any note in the marked section having the color of the instrument you want to replace. Click the mouse button, and all the notes in the marked section assigned to the old instrument will automatically change to the new one.



To replace an instrument throughout an entire piece:

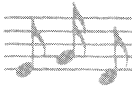
1. Do *not* mark any section of the music. If any section is marked, unmark it before you start.
2. Select the new instrument you want from the instrument palette.
3. Select the replace instrument symbol.
4. Move the pointer to any note having the color of the instrument you want to replace, and click the mouse button. The message **Alters entire song! Sure? (y-yes)** will appear on the screen. Type **Y** to alter the song or any other key to cancel the operation. If you type **Y**, all the notes in the song assigned to the old instrument will automatically change to the new one.



Lengthen Durations. This feature lets you lengthen all the note durations in a section or an entire song by one step or as many steps as the note values allow. For example, all eighth notes can be lengthened to quarter notes, quarter notes to half notes, and half notes to whole notes.

To lengthen durations in a specific passage:

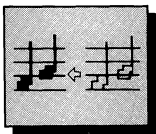
1. Use the section markers to mark the passage whose durations you want to lengthen.



2. Select the lengthen durations symbol.
3. Move the pointer to the marked section, and click the mouse button. All the notes will be lengthened by one for each click.

To lengthen all the note durations in a song:

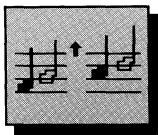
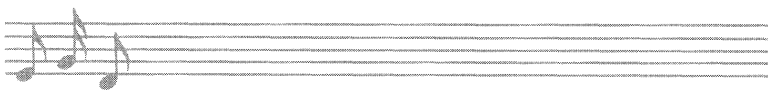
1. Do *not* mark any section of the music. If any section is marked, unmark it before you start.
2. Select the lengthen durations symbol.
3. Move the pointer to any place on the grand staff, and click the mouse button. The message **Alters entire song! Sure? (y=yes)** will appear on the screen. Type **Y** to lengthen all the notes in the song or any other key to cancel the operation.



Shorten Durations. This feature works the same way as Lengthen Durations, but all the notes will be shortened by one or more steps.

Select the shorten durations symbol, and then follow the instructions under Lengthen Durations.

Note: Sixteenth note triplets can't be shortened to thirty-second note triplets.



Transpose Up One Step. Use this feature to move all the notes either in a marked section or throughout the entire song up one or more positions on the staff, depending on

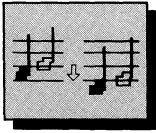
how many times you click the mouse. If you transpose notes above the range of the grand staff display, you will not hear them, but they will reappear if you transpose the music down again.

To transpose a specific passage up one step:

1. Use the selection marker to mark the passage you want to transpose up.
2. Select the transpose up one step symbol.
3. Move the pointer to the marked section. Click the mouse button, and the marked section will be transposed up one step. Each further click of the mouse will transpose the section up one more step.

To transpose an entire song up one step:

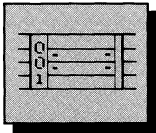
1. Do *not* mark any section of the music. If any section is marked, unmark it before you start.
2. Select the transpose up one step symbol.
3. Move the pointer to any place on the grand staff, and click the mouse button. For each click of the mouse button, the entire song will be transposed up one step.



Transpose Down One Step. This feature works the same way as Transpose Up One Step, but the notes are moved one step lower on the staff.

Select the transpose down one step symbol, and then follow the directions given above under Transpose Up One Step.

NOTE: If you transpose notes below the range of the grand staff display, you won't hear them, but they will reappear if you transpose the music up again.



Add Repeat. Use this feature to repeat a marked section or an entire song without your having to re-enter all the notation. You can repeat the section or song up to 127 times for each repeat, up to the maximum song length.

To repeat a specific passage:

1. Use the section marker to mark the passage you want to repeat.
2. Select the add repeat symbol.
3. Move the pointer to the marked section. Click the mouse button, and repeat bars will appear on the screen, with a three-digit number (the number of repeats) to the left.
4. To set the number of repeats, move the mouse up and



down until the three-digit number is set to the number of repeats you want, and then click the mouse button to set the number.

To repeat an entire song:

1. Do *not* mark any section of the music. If any section is marked, unmark it before you start.
2. Select the add repeat symbol.
3. Move the pointer to the beginning of the song. Click the mouse button, and repeat bars will appear on the screen, with a three-digit number (the number of repeats) to the left.
4. To set the number of repeats, move the mouse up and down until the three-digit number is set to the number of repeats you want, and then click the mouse button to set the number.

To erase repeat bars:

- Mark the repeated section. Be sure to begin the marked section at the three-digit number and end it at the repeat sign. Select the add repeat symbol, and change the repeat number to **001**.

or

- Mark the three-digit number, and use the trash can to delete it. Then mark the repeat sign, and use the trash can to delete it also.



SongSlider

Use the song slider to scroll back and forth through a song. To move the song slider, place the pointer on the black square inside the main part of the slider, and press and hold the mouse button. Drag the pointer left or right, and the slider will move with it. As you move the slider, the number in the box to the left of the slider (the current column number) will change to reflect your current position in the song. If you release the mouse button, or if you hold the slider still for more than a second, the music from your current position in the song will appear on the staff.

To move directly to the end of the song, move the pointer to the box at the right end of the song slider, and click the mouse button. To move directly to the beginning of the song, move the pointer to the box at the left end of the slider, and click the mouse button.

Current Column Number

The number in the box at the left end of the song slider is the current column number. When you scroll through a song or move the pointer on the grand staff, this number changes to reflect the current position of the pointer. To jump directly to the beginning of a song, move the pointer to this box, and click the mouse button.

Total Column Number

The number in the box at the right end of the song slider is the total column number. This number always



gives you the total length of the song in columns. As you add to a song, this number will increase. To jump directly to the end of a song, move the pointer to this box, and click the mouse button.



Trash Can

To delete an entire song or a marked section of a song, move the pointer to the trash can, and double-click the mouse button.

To delete a specific passage:

1. Use the section marker to mark the passage you want to delete.
2. Move the pointer to the trash can, and click the mouse button. The trash can will be highlighted, and the message box will say **Erase Block**.
3. If you decide you don't want to delete the section after all, just move the pointer away from the trash can; the trash can will no longer be highlighted. If you do want to delete the section, click the mouse button a second time, and the marked section will disappear.

To erase an entire song:

1. Do *not* mark any section of the music. If any section is marked, unmark it before you start.



2. Move the pointer to the trash can, and click the mouse button. The trash can will be highlighted, and the message box will say **Erase Song**.
3. If you decide you don't want to delete the song after all, move the pointer away from the trash can; the trash can will no longer be highlighted. If you do want to delete the song, click the mouse button a second time, and the entire song will disappear.

Note: If you change your mind after erasing an entire song, you can bring it back by moving the pointer to the trash can and double-clicking the mouse button *before you select any other feature*.



Volume Control Slider

Use the volume control slider to adjust the overall loudness of the music. Place the pointer on the white knob of the volume control slider, press and hold the mouse button, and then drag the knob to the right or left. As you move the slider, the program will display the musical abbreviation for each volume setting, from ***pp*** (*pianissimo* — very soft) to ***ff*** (*fortissimo* — very loud).

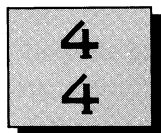


Tempo Slider

Use the tempo slider to adjust the tempo (speed) of the music in the same way that you use the volume control slider to adjust the volume. As you drag the tempo slider knob right and left, the program will display the



musical term and the number of quarter notes per minute for each tempo setting.



Time Signature

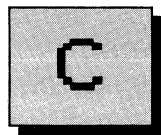
Use this feature to select a time signature for the grand staff.

To select a time signature:

1. Move the pointer to the time signature symbol, just to the left of the tempo slider, and press and hold the mouse button to pop up the time signature menu.
2. Drag the pointer up and down the menu until the time signature you want is highlighted, and then release the mouse button. The time signature you selected will appear on the grand staff.

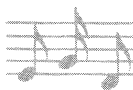
To remove a time signature entirely, move the pointer to the time signature symbol, and click the mouse button. The time signature will disappear from the staff.

Note: The time signature serves only as a reminder to you of the time you have chosen. It does not affect the notes on the staff in any way.



Key Signature

Use this feature to set the key signature for your song. Unless you select a different key, *The Music Studio* uses the key of C. When you

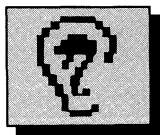


change from one key to another, the program automatically transposes all the notes to the new key.

To select a key signature:

1. Move the pointer to the key signature symbol, and press and hold the mouse button to pop up the key signature menu.
2. Drag the pointer up and down the menu until the key signature you want is highlighted, and then release the mouse button. The new key signature will appear on the grand staff, and any music on the staff will automatically be transposed into the new key.

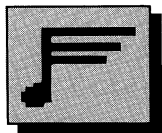
Note: The key signature menu is arranged from bottom to top in order of the increasing number of sharps and flats. It starts at the bottom with the key of C (no sharps or flats) and then goes from G (one sharp) to C-sharp (seven sharps) and from F (one flat) to C-flat (seven flats).



Ear

To play the song that is currently loaded, move the pointer to the ear symbol, and click the mouse button once. The music will play starting from the very beginning of the song.

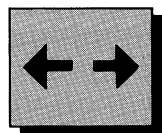
To stop the music at any point, just click the mouse button once.



The Running Note

To play the music that is currently displayed on the screen, move the pointer to the running note symbol, and click the mouse button once. The music will play starting with the notes in the leftmost column on the screen. To play from the very beginning of a song with the running note, click the pointer on the current column number to jump directly to the first note of the song, and then click the pointer on the running note.

When you play a song using the running note symbol instead of the ear symbol, the music will scroll across the screen as it's played. To stop the music at any point, just click the mouse button once—the music will stop playing, and the screen will display the notes at the point where the song was interrupted.



Blue Arrows

You can use this feature instead of the song slider to scroll the music in either direction.

1. Move the pointer to the extreme left or right edge of the screen, while keeping it within the white area around the grand staff. When the pointer reaches the edge of the screen, blue arrows will appear at the top and bottom of the grand staff area.



2. Click the mouse button once. The music on the staff will scroll one column in the direction indicated by the blue arrows. For each further click, the music will scroll one more column. Press and hold the mouse button to make the music scroll continuously.

The Options Menu

To pull down the **Options** menu, move the pointer to the word **Options** at the top right corner of the Main Composing Screen, and press and hold the mouse button. Drag the pointer down the menu to highlight its various features. You can select any of the following features from the **Options** menu by releasing the mouse button when the feature you want is highlighted.

Design Instrument

Select this option to enter the Design Instrument Screen, where you can custom-design your own instruments and sound effects using the computer's internal sounds. See "Exploring Sound" beginning on page 45.

MIDI Parameters

Select this to enter the MIDI Parameters Screen for assigning instruments and sound effects to an external MIDI-compatible instrument. See "MIDI and *The Music Studio*" beginning on page 60.



Change Song Title

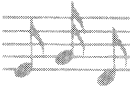
You can use this feature to title your songs, replacing the title at the top of the screen with one of your own choosing. This feature only changes the title that appears on the screen. It does *not* change the file name you use to load and save the song; that name can only be changed from the Song Files Screen.

To change a song title:

1. Select **Change Song Title** from the **Options** menu. The word **title** will appear on the lower part of the screen followed by a colon and a vertical bar.
2. Type in the title. You're allowed up to 30 characters in your song title. You can make corrections by using the left arrow key to back up to the mistake and then typing over it.
3. Press the **return** key when you're done. Your new title will appear at the top of the screen. If you save your song to disk, the song title will be saved with it and will appear each time you load the song.

Add Lyrics

Use this feature to add up to three lines of lyrics to your song. The lyrics will be displayed along with the song, underneath the grand staff.



To add lyrics:

1. Select **Add Lyrics** from the **Options** menu. A column of numbers (**1** through **3**) will appear on the left side of the screen below the grand staff. These indicate the three lines of lyrics you can add.
2. Move the pointer to the space just to the right of **1** and click the mouse button. A magenta square will appear next to **1**.
3. Use the right arrow on the keyboard to move the square until it's below the note where you want the first word to go.
4. Type in your words on the keyboard, just as you would write ordinary text. As you reach the right edge of the screen, the music will scroll to the left to allow you to continue.

To correct a mistake, use the left arrow to move back to the point of the mistake, and then type over it.

6. When you finish the first verse, press the **return** key.
7. To write lyrics for the second and third verses, repeat steps 2-6 above, starting with the pointer to the right of **2** or **3** instead of **1**.



To remove lyrics from a song, pull down the **Options** menu again, and select **Remove Lyrics**. The lyrics and line numbers will disappear.

Note: Whenever you add lyrics to a song, the maximum number of notes you can use in a song (8000) diminishes because the lyrics take up room in the computer's memory. If you try to add more text than the available memory allows, you'll get the message **No Room in Song**.

Use 1 Instrument

This feature allows you to hear all parts of your song played by a single instrument so that you can experiment with different instrument sounds.

To play a song using one instrument, select **Use 1 Instrument** from the **Options** menu, and then play the song. All the notes will have the sound of the instrument currently selected from the instrument palette. To hear the notes played by a different instrument, choose a new instrument from the instrument palette.

To play a song using all instruments again, pull down the **Options** menu, and select **All Instruments**. The song will now play using its specified instruments.

Turn Note Off

Use this feature to keep the pointer-note from sounding tones as you move it across the grand staff.



To turn the note off, pull down the **Options** menu, and select **Turn Note Off**. The note-pointer will now make no sound as you move it around the staff, but songs will still play normally when you select the ear or running note symbols.

To turn the note on again, pull down the **Options** menu again, and select **Turn Note On**. The note-pointer will now sound the pitch of every line or space that it touches on the staff.

Turn MIDI On/Off and Turn II/GS On/Off

Use these when you have a MIDI interface installed and wish to control it with your computer. **Turn II/GS On/Off** controls the internal voices of your computer—turn them off when you wish to hear only your MIDI instrument. **Turn MIDI On/Off** controls the external instrument—turn it on when you wish to play the MIDI instrument from *The Music Studio*.

(If you attempt to turn MIDI on without the MIDI interface installed, the message **MIDI not available** appears at the bottom of the screen.)

See “MIDI and *The Music Studio*” beginning on page 60.

Use Tracks

This feature lets you isolate one or more instruments or sound effects in a song by assigning instruments to one of



four separate tracks and then turning the tracks on and off. The tracks feature also lets you place one note on top of another without erasing the first note, so that you can compose a song with two or more (up to 15) notes on the same position on the staff.

For a complete description of how to use tracks and an illustration of the tracks screen, see “Using Tracks,” page 40, in the “Using the Main Composing Screen” section of this guide.

To activate tracks , select **Use Tracks** from the **Options** menu. A small, four-track bar will appear underneath the grand staff, and a palette of instrument colors will appear at the top center of the screen.

To remove tracks , pull down the **Options** menu again, and select **Remove Tracks**. The tracks will disappear from the screen, but their current settings will still be saved when you save your song.

The File Menu

In *The Music Studio*, all file operations start from the **File** menu. Through this menu, you can load, save, delete, or rename song files or sound files, append or print song files, and quit the program.

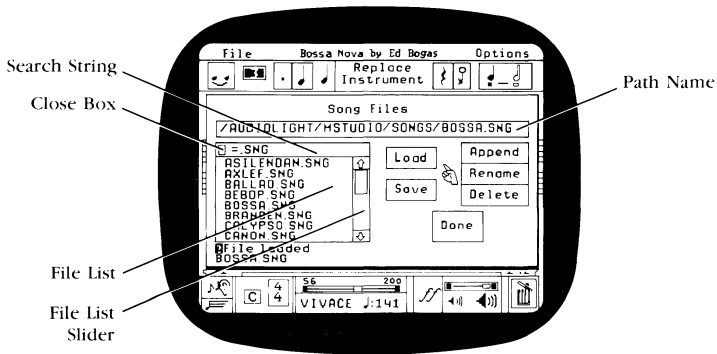
To pull down the **File** menu, move the pointer to the word **File** at the top left corner of the Main Composing Screen,



and press and hold the mouse button. Drag the pointer down the menu to highlight its various features. You can select any of the following features from the **File** menu by releasing the mouse button when the feature you want is highlighted.

SONG Files

To load, save, delete, rename, or append song files, pull down the **File** menu, and select **SONG Files**. The Song Files Screen will appear in the white area usually occupied by the grand staff.



Song File List

In the large box in the middle of the Song Files Screen, you will see a list of file names. These names are a partial list of the files to be found on the disk that's in the currently selected disk drive. To scan the full list of files, use the file list slider.



When you first enter the Song Files Screen, the file list will show all the files that match the search string (probably = .SNG, the standard ending for song file names). You can change the file specification to show other files also, by changing the search string (see below).

At the top of the file list you may see some file folders, identified by the folder symbol plus the name of the folder. If you want to open one of the folders on the list, move the pointer so that the folder you want to open is highlighted, and then click the mouse button. After a brief pause, the file list will display all the files in that folder which match the file specification set by the current search string. To close a folder, move the pointer to the small close box at the left of the search string, and click the mouse button.

If you have more than one disk drive, then at the top of the file list you will also see one or more disk symbols, each representing a disk drive. Next to each symbol, you'll see the name of the volume in that drive. To switch to a different disk drive, move the pointer to highlight the disk symbol and volume name you want, and then click the mouse button. After a second, the file list will show you the files on the newly-selected drive.

File List Slider

At the right edge of the box containing the file list is a tall, narrow rectangle with a smaller rectangle inside it—the file list slider. To scan through the complete list of files, move the pointer to the inside rectangle of the file list slider, and



press and hold the mouse button. As you drag the pointer up and down, the list of files will scroll from beginning to end.

Search String

Directly on top of the box containing the file list is a wide, short rectangle, which contains a small square (the close box) at its left end and the search string. The search string indicates what file specification is being used to select the files shown in the file list. When you first get to the Song Files Screen, the search string will be set to `=.SNG`, which indicates that the file list shows only files whose names end with `.SNG`.

Note: You can't change the search string by typing in the search string box itself. Instead, you must enter a new path name (see below).

You can do two things in the search string box:

- If you need to change the disk in the current disk drive, then remove the old disk, insert the new one, move the pointer to the middle of the search string box, and click the mouse button. The program will read the new disk and list its files, according to the current search string.
- If you want to see the folders available on the current disk, then move the pointer to the close box at the left end of the search string box, and click the mouse button. The program will close the current folder and show you



the contents of the preceding folder on the path. Each click of the mouse button will move you one step back up the path (see path name, below).

Path Name

Just under the words **Song Files** at the top of the Song Files Screen is a rectangular box running the width of the screen. This box contains the path name, which consists of the name of the current disk volume, followed by the name of the current file folder (there may be more than one), and ending with the name of the current file. For example, the path name **/AUDIOLIGHT/MSTUDIO/SONGS/BEBOP.SNG** indicates that the currently loaded song, **BEBOP.SNG**, is in the folder **SONGS**, and that **SONGS** is itself in the folder **MSTUDIO**, which is on the volume named **AUDIOLIGHT**. Whenever you load another song file, the path name will change to include the new name.

If a path name is too long to fit in the path name box, it will be truncated at the front, and an asterisk (*) will appear as its first character. The full path name will still be in effect, however, including the parts not shown on the screen.

To change the search string (see above), move the pointer to the path name box, and click the mouse button. The path name will disappear, and a vertical bar will appear at the left end of the path name box. Type in the new search string you want to use to select files, and press the **return** key. The new search string will appear in the search string box, and the program will list all the files that match the string.



When you enter a new search string, you can use the **=** as a wildcard. That is, if you enter the search string **=.SNG**, the program will list all the files with names that end **.SNG**. If you enter **B=**, the program will list all the files whose names begin with **B**.

For general information on path names, folders, files, and file names, see your Apple IIGS owner's guide.

Load

To load a song, Move the pointer to **Load**, and click the mouse button. Then scroll through the file list until you see the song you want to load, move the pointer to highlight the song's name, and click the mouse button. After a brief pause, the words **File Loaded** and the name of the song file will appear at the bottom of the screen. The song file name will also appear as part of the path name.

If you want to load a song file that isn't on the file list, select **Load** as above. Then move the pointer to the path name box, click the mouse button, and enter a new path name (including the name of the file you want to load) as described above. When you press the **return** key, the program will load the file you specified.

When *The Music Studio* loads a song from a disk, it checks to see what sound data file was used to create the instruments in the song. If that sound data file is not currently loaded, the program will load it along with the song. If the program can't find the proper sound data file



in the current folder, it will tell you so, then load the song anyway. You will still be able to play the song, but it will be played using sounds from the currently loaded sound data file.

Save

To save a new song you have written or an existing song you've altered, move the pointer to **Save**, and click the mouse button. Then move the pointer to the path name box, and click the mouse button again. The path name will disappear, and a vertical bar will appear at the left end of the box. Type in the name you want to save your song under, using up to 15 letters and ending with **.SNG** (the standard song file name ending). Press the **return** key, and after a pause, the message **File Saved** will appear on the screen with the name of your song.

If the song name you enter is the same as that of an existing song, the message **Replace existing file?** will appear. Type **Y** to have your new file overwrite the old file, or press any other key to cancel the operation.

If the song name you want to use is in the current path name, you can save your song by moving the pointer to **Save** and double-clicking the mouse button.

You can save the song file in a different folder by specifying the full path name, including volume and folder names, when you type in the file name.



When *The Music Studio* saves your song, it checks to see if the folder you're placing the song in contains a copy of the sound data file used to create the song's instruments. If not, then the program will place a copy of the sound data file in the folder along with your song. The sound data file is a large file, so it takes extra time and extra disk space to save it.

Append

If you want to load a song from a disk and add it to the song currently displayed on the Main Composing Screen, move the pointer to **Append**, and click the mouse button. Then move the pointer to the song files list, highlight the song to load, and click the mouse button. After a few seconds, the message **File Appended** will appear along with the name of the file you selected.

The song you append from the disk is always added to the end of the file currently displayed on the Main Composing Screen. If the combined songs are too long to be displayed together, the program will tell you so.

You can also specify the name of the song to append by specifying a new path name, as described above.

Rename

To rename an existing song file, move the pointer to **Rename**, and click the mouse button. Then move the pointer to the files list, highlight the song you want to



rename, and click the mouse button again. The message **New name:** will appear on the screen with a vertical bar next to it. Type in the new name you wish to use for the song file, and press the **return** key. After a few seconds, the message **File Renamed** will appear on the screen, and the song file will appear on the files list under its new name.

Delete

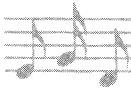
To delete a song file from the disk, move the pointer to **Delete**, and click the mouse button. Then move the pointer to the files list, highlight the name of the song you want to delete, and click the mouse button again. The message **Are you sure?** will appear on the screen. Type **Y** to delete the song. Press any other key to cancel the operation if you decide not to delete the song.

Done

To leave the Song Files Screen and return to the Main Composing Screen at any time, move the pointer to **Done**, and click the mouse button.

SOUND Files

On *The Music Studio* program disk, you'll find a selection of sound files with file names ending in **.SND**, each containing a different mix of instrument sounds from the main sound data file. When you load one of these sound files, the instrument sounds it contains become the new instrument palette, replacing the previous instruments. You can write songs using these new instruments just as you did before,



and when you save your song, *The Music Studio* will remember which sound file you used and load it automatically any time you load the song.

To load, save, delete, or rename sound files, pull down the **File** menu, and select **SOUND Files**. The Sound Files Screen will appear in the white area usually occupied by the grand staff.

The Sound Files Screen looks exactly like the Song Files Screen (shown earlier), except that it says **Sound Files** at the top and has no **Append** box (you can't append sound files). The file list, file list slider, search string, and path name all work just like their counterparts on the Song Files Screen, as do **Load**, **Save**, **Rename**, **Delete**, and **Done**.

Note: Though you can use the search string to list all files from either the Song Files or Sound Files Screen, you can't load a song file from the Sound Files Screen or vice-versa.

Print Song

If you have a printer connected to your computer, you can print a song as sheet music.

To print a song:

1. Be sure the printer is properly connected to your computer, plugged in, turned on, and loaded with ribbon and paper.



2. Pull down the **File** menu, and drag the pointer down the menu to select **Print Song**. The message **Please Make Sure Printer is Ready** will appear on the screen, as well as two menu options, **Print** and **Cancel**.
3. To print your music, move the pointer to **Print**, and click the mouse button. When the printing is complete, the program will return to the Main Composing Screen.
To interrupt printing at any time, click the mouse button.

If you decide not to print your sheet music, move the pointer to **Cancel**, and click the mouse button. The program will return you to the Main Composing Screen.

Note: You can print sheet music for a selected portion of a song *without lyrics* by first marking off the passage using the section marker.

Quit

To leave *The Music Studio*, pull down the **File** menu, and select **Quit**. You will see the warning **All work not saved to disk will be lost** along with two new boxes, **OK** and **Cancel**.

If you want to keep the current version of your song and have not saved it to disk, move the pointer to the word **Cancel** and click the mouse button. The program will return to the Main Composing Screen instead of exiting.

If you are ready to leave the program, move the pointer to the word **OK**, and click the mouse button.



A SHORT GLOSSARY OF MUSICAL TERMS

Accent

An accent sign with a note means that the note should be played louder than the other notes. In *The Music Studio*, the accented note is played to the maximum volume (“*ff*”).

Chord

A chord is formed by two or more notes playing at the same time. In *The Music Studio*, two or three notes in the same column will form a chord.

Dotted Notes

Placing a dot after a note increases that note’s duration by half of its original number of counts. For example, if a half note equals two counts, a dotted half note will equal three counts.

Keys and Key Signature

A song using the notes C-D-E-F-G-A-B-C would be in the key of C-major. A song using the notes in a G-major scale (G-A-B-C-D-E-F-sharp-G) would be in the key of G.

You can tell what key a song is in by looking at the beginning of the staff. This is called the key signature.

For example, the notes of the G-major scale include one sharp — an F-sharp. Whenever you see a key signature



consisting of one sharp (in this case, on the F line), you know the key is G-major. If you're in the key of G and you want to notate an F without a sharp, you must use the natural symbol.

Measure Bars

These are used to separate the staff into sections of equal duration. For example, in a song written in 4/4 time, each measure contains notes whose combined values equal four counts.

Notes

Notes are used to represent musical tones. The duration and pitch of a tone is determined by the note's shape and position on the staff.

Octave

The interval between one note and the next one having the same name is called an octave. Notes of the same name have a similar sound.

Pitch

Pitch is the high or low quality of a musical tone, determined by the frequency, or number of vibrations per second, of a sound. Each pitch, or tone, is represented by a different note on the scale.



Repeats

If you'd like to repeat a musical passage, you don't have to notate the entire passage again. Just use repeat signs. The repeat sign designates a repeat from any point in the song where the repeat sign has been placed.

Rests



whole note rest 4 counts



half note rest 2 counts



quarter note rest 1 count



eighth note rest $\frac{1}{2}$ count



sixteenth note rest $\frac{1}{4}$ count

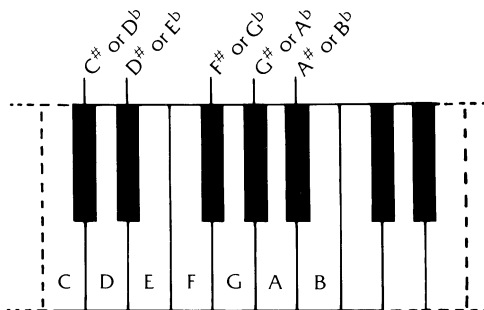


thirty-second note rest $\frac{1}{8}$ count

In musical notation, silence is indicated by a "rest." Rests, like notes, are categorized by their durations.



Scales

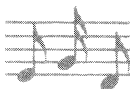


A scale is a succession of tones with specific distances between them. Scales are usually played in a descending/ascending order. The most common example of a scale is “Do-Re-Mi-Fa-So-La-Ti-Do,” known as a major scale. There are also minor scales, chromatic scales, Dorian scales and many more. If the word “Do” in the above scale were a C note, the scale would be a C-major scale, and the notes would be C-D-E-F-G-A-B-C.

Sharps and Flats

These “accidentals” are used to indicate the tones between the letter-notes, except between B and C and between E and F, which are themselves half tones and can’t “squeeze” a tone in between. Sharps raise notes a half-step; flats lower notes a half-step. Naturals cancel out sharps and flats.

On the screen display and in your print-outs, accidentals will appear *above*, not next to, the notes.



The Staff

Musical notation is written on a series of horizontal lines and spaces called the staff. The grand staff, like the one used in *The Music Studio*, is composed of the treble staff and the bass staff. The treble staff is the upper staff, the bass staff the lower one. Together, they'll accommodate all the notes you'll use.

Tempo Markings

Tempo markings tell a musician how slow or fast to play the music. In *The Music Studio*, you'll find them under the tempo selector in Italian. (Standard musical notation is usually written in Italian.) They range from *Grave* (very slow) to *Prestissimo* (very fast).

Ties

You can sustain (hold) a note from one note to the next note by using a “tie” sign. The two notes must have the same pitch and must be next to each other. Although only the first note is played, it's held for the combined duration of both notes.

A tie that connects two or more notes of different pitches is called a “slur.”

Time Signature






Used to designate the number of beats for each measure, the time signature is displayed as a fraction; the top number is



the number of beats in a measure, and the bottom number is the note value that has one beat. For example, $3/4$ means there are three beats to a measure and a quarter note gets one beat; in $4/4$ time, there are four beats to a measure and a quarter note gets one beat.

Time Value of Notes

A note's duration is shown by the way it's drawn on the staff. Each type of note is held for a different number of counts, as follows:

	whole note	4 counts		
	half note	2 counts		eighth note $\frac{1}{2}$ count
	quarter note	1 count		sixteenth note $\frac{1}{4}$ count

Transpose

When a song's range is either too high or too low, you can transpose, or change it to another key. In *The Music Studio*, the program does all the transposing for you — instantly. Otherwise you'd have to do it all by hand.

Triplets

A group of three notes played for the duration of two notes of the same value is called a triplet. In *The Music Studio*, the number 3 designates a triplet.



Volume Markings

Known as “dynamic” signs, these indicate how loudly or softly the music should be played. In *The Music Studio*, you’ll find them to the left of the volume control slider, ranging from ***pp*** (very soft) to ***ff*** (very loud).

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KD-113-03