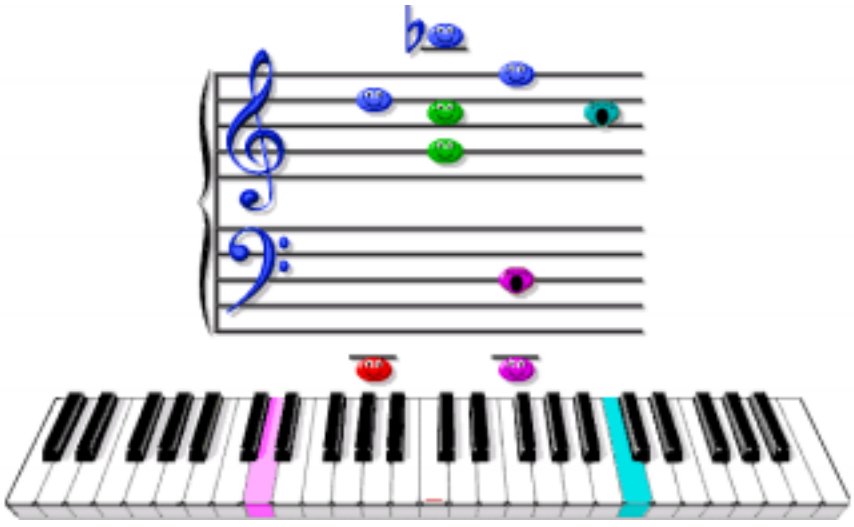
MUSIC ACE

SERIES

Version 3.1.3
User's Guide
Windows and Macintosh



HARMONIC VISION™

Software that Brings Music to Life!™

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Music Ace Series

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Introduction

An Overview of the *Music Ace Series*™ Programs

Each *Music Ace Series*™ program provides an introduction to the basics of music for beginning music students of almost any age. It's an enjoyable, fun way to learn music that lets the budding musician proceed at his or her own pace. The *Music Ace Series* programs aren't meant to replace music Lessons—they're most effective when they complement traditional music teaching methods in the home, at school, or in a studio.

The *Music Ace Series* is particularly good at teaching the more repetitive—yet vital—aspects of learning music, including music-reading skills and listening skills. Many students never master these fundamentals, and as a result, they may not achieve much musical success. By providing a fun learning experience, the *Music Ace Series* encourages students to practice and master these important tools.

The *Music Ace* learning sessions cover pitch recognition and discrimination, the relationship between written pitch and the piano keyboard, the treble, bass and grand staves, octaves, half steps/whole steps, sharps, flats and key signatures. *Music Ace 2* explores the use of rhythm as well. In each *Music Ace Series* session, there's a strong emphasis on developing essential listening skills.

Included with the *Music Ace Series* is the powerful and amusing *Music Doodle Pad*™. The *Music Doodle Pad* gives users the ability to listen to and modify sample musical pieces. More importantly, since the *Music Doodle Pad* is so easy to use, it stimulates musical creativity by letting students compose and then listen to their own music.

Although the *Music Ace Series* programs use an onscreen piano keyboard as a convenient means of presenting musical concepts, they're intended for students of any instrument. For this reason, the programs allow the user to select whether instruction is presented for both treble and bass staves, treble staff only, or bass staff only.

The *Music Ace Series* programs consist of three carefully constructed learning environments: Lessons, Games, and the *Music Doodle Pad*.

Lessons

The first learning environment for each *Music Ace Series* program consists of 24 Lessons that introduce and reinforce a series of musical concepts associated with reading music and with making intelligent musical discriminations. The Lessons also demonstrate why these concepts are so important.

The *Music Ace Series* employs a "template" of a five-line staff—or a grand staff—and a virtual onscreen piano keyboard. Maestro Max™ serves as guide and teacher, and accompanies the student through each Lesson, offering encouragement, direction, and helpful comments based on the student's actual performance. Each Lesson begins with a short instructional sequence—or a short review sequence that reinforces concepts that have already been discussed—and is followed by a series of application exercises of gradually increasing difficulty.

Games

The second environment is a series of 24 Games that reinforce the materials covered in the Lessons. Each Game is related to one of the Lessons, sharing a name and number with the Lesson. The user typically plays the corresponding Game after completing each Lesson. This lets the student put what's just been learned immediately into action. Colorful graphics and sound effects make this a lively and fun experience. Scores are kept and bonus points are awarded for successful play. An exceptional Game is rewarded with an "applause screen" where the audience in a concert hall wildly applauds the student's success.

Music Doodle Pad™

The third learning environment is called the *Music Doodle Pad*™. This portion of the program lets students notate familiar tunes and construct arrangements. They can also listen to any of a series of short familiar pieces, or compose their own works. Up to six sounds, or timbres—each with its own color—can be combined to create fully realized compositions and orchestrations. The *Music Doodle Pad* is also particularly useful to teachers, who can structure assignments that allow students to apply the concepts learned in the program. It can be a great way to stimulate real musical creativity and have fun at the same time.

Topics covered in *Music Ace* are:

1. Introduction to the staff
2. Introduction to the Piano Keyboard
3. Playing with Pitch
4. The ABC's of the Piano Keyboard
5. More Piano ABC's
6. The ABCs of the Staff
7. The ABC's of the Treble Staff
8. More Treble Staff ABC's
9. Keyboard Review
10 Below the Treble Staff
11. Above the Treble Staff
12. Loud and Soft, Same Pitch
13. The ABC's of the Bass Staff
14. Above the Bass Staff
15. Below the Bass Staff
16. Same Pitch, Different Timbres
17. The ABC's of the Grand Staff
18. Half Steps and Whole Steps
19. More ABC's of the Grand Staff
20. Sharps and Flats
21. Sharps and Flats on the Staff
22. More Sharps and Flats on the Staff
23. The Key Signature
24. Introduction to Major Scales

Topics covered in *Music Ace 2* are:

1. Beat and Tempo
2. Hearing Rhythms
3. Review 1 Note Names
4. Review 2 Sharps and Flats
5. Basic Rhythm Notation
6. The Quarter Rest
7. Key Signatures and Major Scales
8. Melody
9. The Measure
10. Sharp Key Signatures
11. Notes Longer than a Beat
12. More Sharp Key Signature
13. Dotted Quarter Notes
14. Flat Key Signatures
15. Rests
16. More Flat Key Signatures
17. Syncopation
18. Sixteenth Notes
19. Minor Scales
20. Three Sounds Per Beta
21. The Time Signature
22. Intervals
23. The 6/8 Time Signatures
24. Introduction to Harmony

Getting Started

Quick Start

To install the program

***For Windows*:**

1. Insert the *Music Ace Series* CD-ROM in your CD-ROM drive.
2. Click on the “Install Music Ace” or “Install Music Ace 2" button.
3. Follow the onscreen instructions.

For Macintosh:

1. Insert the *Music Ace Series* CD-ROM in your CD-ROM drive.
2. Double-click the *Install Music Ace* or the *Install Music Ace 2* icon and follow the onscreen instructions.

Note: For more information on setting up a *Music Ace Series* program, read “Appendix A: Setting Up on a Windows System” on page 49 or “Appendix B: Setting Up on a Macintosh System” on page 63, depending on the type of computer you are using.

To start the program

For the instructions that follow, substitute “Music Ace 2” for “Music Ace” if you are using *Music Ace 2*.

For Windows:

1. Go to **Start—Programs—Music Ace—Music Ace**

For Macintosh:

1. Double-click on the *Music Ace* icon inside the *Music Ace* folder in the “Applications” or “Applications (Mac OS 9)” folder.

To exit the program

On the Main menu, click one of the **EXIT** sign buttons on the back wall of the auditorium (for *Music Ace*) or in the back of the amphitheater (for *Music Ace 2*).

To start a Lesson

1. Go to the Main menu.
2. Use the yellow **Next** and **Back** arrows to select the Lesson you want.
3. Click the **Lesson** button.

To start a Game

1. Go to the Main menu.
2. Use the yellow **Next** and **Back** arrows to select the Game you want.
3. Click the **Game** button.

To check your progress

1. Go to the Main menu.
2. Click the **Progress** button.

Using a *Music Ace Series* Program

Starting the Program

For Windows, click on the **Start** button on your taskbar, select Programs, select *Music Ace* or *Music Ace 2,* and then select the *Music Ace* or *Music Ace 2* icon. For Macintosh, double-click on the *Music Ace* or *Music Ace 2* icon in the *Music Ace or Music Ace 2* folder on the desk top.

Exiting the Program

Any time you want to exit a *Music Ace Series* program, just click either of the **EXIT** signs located in the amphitheater screen on the Main menu.

Maestro Max™

Please allow us to introduce Maestro Max™. Maestro Max will be your guide as you explore the fundamentals of music in the *Music Ace Series* programs. You will run into him often during your musical journey.

Max was born in a small village in Austria, and his parents encouraged him to study music at a young age. He studied piano and voice at the Musical Academy in Vienna. After graduation, he gained prominence as an operatic baritone, performing such parts as Don Carlo, Rigoletto, Hamlet, and Figaro. For many years he toured Europe performing at Glyndebourne, Bayreuth, Covent Garden, and other famous Opera Houses.

Max then decided to apply his musical talents to orchestral conducting. After years of study and hard work, he rose to become an accomplished and renowned Maestro.

Today Max continues performing throughout the world. He has graciously agreed to take some time from his busy performance schedule to assist the Harmonic Vision Team in bringing you the *Music Ace Series*.

Maestro Max will also point out important things to know about using the *Music Ace Series* as you go through this guide.

Using the Mouse

There are a few simple hints you may find useful, especially if you are just learning to use a computer. To use a *Music Ace Series* program, you will need to select onscreen buttons, move musical notes around, and play musical instruments.

Selecting Onscreen Buttons

You select an onscreen button by moving the mouse pointer over the button and pressing either the left or right button on your mouse. This is called "clicking" a button.

Dragging Notes

You will also need to know how to move the *Music Ace Series Singing Notes*™ on the screen. This is called "dragging." To drag a note:

1. Position your mouse pointer on the note.
2. Press and hold down either the right or left mouse button—and keep holding it down for now.
3. Move the note to the desired position on the screen by moving the mouse.
4. Let go of the mouse button when the note is positioned where you want it.

Playing the Musical Instruments

You will also need to know how to play the various musical instruments in the *Music Ace Series* programs. There are two ways to play an instrument, both of which begin with positioning your mouse pointer on the instrument you want to play.

Then:

1. Press and hold down the mouse button for as long as you want the instrument to play.
2. Release the mouse button when you want to stop playing the instrument.

…or:

1. Press and hold down the space bar on your computer keyboard for as long as you want the instrument to play.
2. Release the space bar when you want to stop playing the instrument.

The Title Screen

This is the Title screen from *Music Ace 2*. The Title screen for *Music Ace* looks similar.

Whenever you start a *Music Ace Series* program, you will see the Title screen. When the Title screen appears, you should hear music playing. If you don't hear the music, please refer to the section called "Solving Common Problems" (Page 58 for PCs and Page 70 for Macintosh).

When the Title screen appears, you will notice a **Start** button on the left side of the screen.

To begin exploring your *Music Ace Series* program, click the **Start** button.

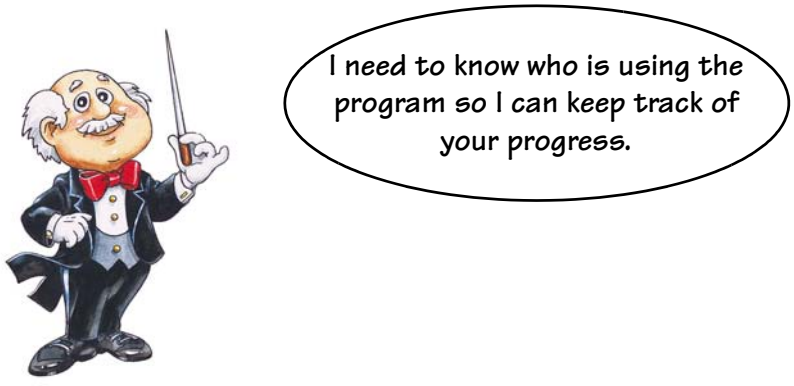
Adding Your Name to the User List

This is the User List screen for Music Ace. The User List *Music Ace 2* looks much the same.

The next step in using a *Music Ace Series* program is to add your name to its user list. If this is the first time your *Music Ace Series* program has been run on your computer, you will be prompted to enter your name now. Type your name and press the Enter or Return key on your computer keyboard.

If someone else has used the *Music Ace Series* program on this computer before—but this is the first time you have used it—click the **New User** button on the screen. When prompted, type your name and press the Enter or Return key on your keyboard.

If your name has already been entered into the program, it will appear in the list of names. Simply click the button with your name on it when Maestro Max asks who you are.



Educator Version:

The Educator Versions of the *Music Ace Series* can keep track of a large number of students. To make it easier for each student to find his or her name on the list, the Educator versions require that each user be assigned to a group.

When encountering this screen for the first time, Max will ask you to select or enter a group name. After selecting the group, Max will ask for the user name as explained above.

Using the Main Menu

After you enter your name, you will see the Main menu or Music Stand screen. You will be using this menu throughout your *Music Ace Series* sessions. You can think of the Main menu as the "home base" from which you can access all of your *Music Ace Series* program's features.

This is the Main menu screen from *Music Ace 2*. The Main menu screen for *Music Ace* looks similar.

Choices on the Main menu can be made by either clicking on the desired button or by typing the first letter of the button name.

When you want to leave the *Music Ace Series* program, click one of the **EXIT** buttons located in the amphitheater screen.

The yellow **Back** and **Next** buttons allow you to page through the Lessons and Games. For instance, if you click the **Next** button, you will see the Lesson number change from 1 to 2. Try this now. To go back to the first Lesson, simply click the **Back** button. The Lesson (and Game) number will always appear between the **Back** and **Next** buttons.

Click the **Lesson** button to begin the Lesson shown on the Main menu.

Click the **Game** button to go to the Game number that is shown between the **Back** and **Next** buttons. The Game number is always the same as the Lesson number.

Clicking the **Music Doodle Pad** button takes you to the place in the *Music Ace Series* program where you can listen to songs and create your own songs. The *Music Doodle Pad* is described in the *Music Doodle Pad* chapter later on.

Click the **Progress** button to check on your Lesson and Game progress. The Progress section lists all the Lessons and Games, tells you which ones you have completed and shows you your Game scores. It also records the all-time high score for each Game.

The **Preferences** button—located in the upper right-hand corner of the Main menu— allows you to customize the way *Music Ace Series* programs operate.

Setting Preferences

Instructional Settings

The Instructional Settings screen lets you to control what information is presented in the Lessons and Games.

Clef Instruction

You can choose the clefs to be covered in *Music Ace Series* program. The options are Treble Clef and Bass Clef, Treble Clef only, Bass Clef only, or Alto Clef only (The Alto Clef option is only available in *Music Ace 2*).

Rhythmic Stringency (*Music Ace 2 *only)

This sets how strictly *Music Ace 2* will judge the accuracy of rhythms performed in the lessons.

Game Difficulty

This option sets the difficulty of certain music examples in the *Music Ace Series* games. Select either the Advanced or the Novice setting.

Appearance Settings

The Appearance Settings screen allows you to control the look of the *Music Ace Series* characters.

Note Faces Enabled

Singing notes have faces by default. Turn off this option to remove the faces from singing notes.

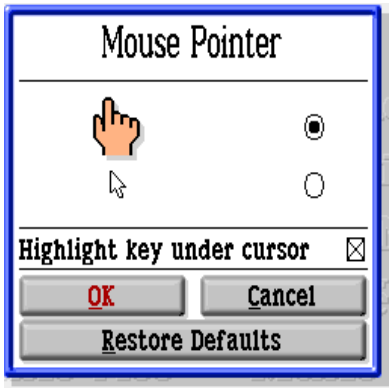
Instrument Faces Enabled

The instruments in the *Music Ace Series* have faces by default. Turn off this option to remove the faces from instruments.

Shadows Enabled

Objects appear onscreen with three-dimensional shadows. You can turn these shadows on or off.

Mouse Options



You can use either of two mouse cursors/ pointers in the *Music Ace Series* programs. The default cursor is a hand. To select another cursor, simply click on the desired cursor button and click **OK**.

Highlight Key Under Cursor
This option, when enabled, causes piano keys to be highlighted in yellow when the cursor is placed above the piano.

Maestro Options

The **Maestro Options** control the way that Maestro Max presents information.

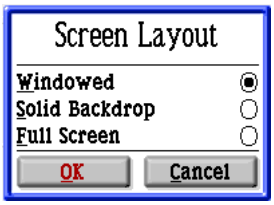
Balloons Only
When Balloons Only is selected, Max does not speak, but provides instructions only in the cartoon balloons.

Voice Only
When Voice Only is selected, Max provides all instruction by speaking and no cartoon balloons are presented.

Balloons and Voice
With Balloons and Voice selected Max provides both spoken instruction and cartoon balloons.

Auto Continue
Auto continue controls when Max continues with the next instruction. When auto continue is "off", you must press a key to allow Max to continue with the next instruction. When auto continue is "on", Max proceeds at his own pace.

Screen Layout



The Screen Layout settings give you the opportunity to change the way the *Music Ace Series* is displayed on your screen. There are three options:

Windowed

The *Music Ace Series* program will appear in a window on top of your desktop and other applications. The size of the window is 640x480 pixels, so how big it appears will depend on your computer's display settings.

Solid Backdrop

The *Music Ace Series* program will appear as a 640x480 window, but the area behind it will appear as a black backdrop.

Full Screen

The *Music Ace Series* programs will temporarily change your display settings to 640x480 so that the *Music Ace Series* program will take up the entire screen. Your display settings will return to their previous configuration after you quit the program. This option is available in Windows only.

MIDI Output Driver

Please refer to the section entitled "Configuring Sound" for more information.

MIDI Input Driver

You can use a MIDI keyboard for the *Music Ace Series* Lessons and Games. Refer to the section entitled "Configuring Sound" for more information.

Wave Driver (Windows only)

See "Configuring Sound" for more information.

Return to the Main Menu

This button returns you to the Main menu (music stand) screen.

Lessons

Overview

The *Music Ace Series* programs teach the fundamentals of music with 24 Lessons and 24 Games. Maestro Max guides you through the Lessons. Think of Max as your own personal conductor who will lead you to a deeper understanding of the fundamentals of music.

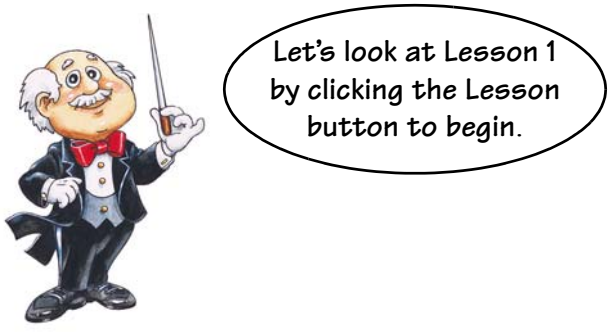
After you complete a Lesson, you will have the option to play a Game to practice the knowledge and skills you learned in the Lesson. Each Game offers a series of levels that get harder and harder. You are not expected to successfully complete all the levels of the Games on your first try. However, with practice, you will become a *Music Ace* Master!

We recommend that you start at the beginning, with the very first Lesson and its Game. The Lessons build upon each other, and later Lessons require skills learned in previous Lessons. Also, you will find the Games more fun if you have finished the corresponding Lesson first.

If you don't want to "take it from the top," you might try the Game for a Lesson that discusses a topic you think you already know. This will give you an idea of whether or not you have really mastered everything that is covered in that Lesson.

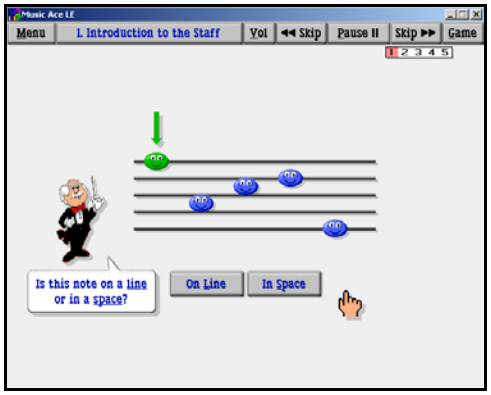
Using the Lessons

Let's begin using your *Music Ace Series* program by exploring the first Lesson. On the Main menu, click the yellow **Next** and **Back** buttons until you are positioned at Lesson 1—you will see a "1" displayed between the **Next** and **Back** buttons.



To begin Lesson 1, click the **Lesson** button.

Maestro Max will now lead you through a few basic concepts. When he asks you a question or asks you to click on a box, we'll continue...



Every Lesson has screens that look similar to this one. They all have a control bar at the top of the screen. Let's look at the buttons on the Lesson control bar.

Clicking the **Menu** button ends the current Lesson and takes you back to the Main menu.

The **Lesson Name** button shows the name of the current Lesson. Clicking the button doesn't cause anything to happen.

To change the sound volume, click the **Volume** button—a box will appear that lets you adjust the volume of both the Wave and MIDI sounds. The Wave volume slider controls the volume of Maestro Max's voice and sound effects such as explosions and applause. The MIDI slider controls the volume of the music. On a Macintosh these sliders are labelled "Voice" and "Music".

Using your mouse, drag the slider to the left to reduce the volume, and to the right to increase the volume. Click the **OK** button when you are finished adjusting the volume.

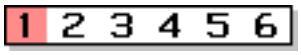
Note: *Some sound devices don't support programmed volume control. If your sound card doesn't have volume-control capability, these sliders will have no effect. In this case, you can adjust the volume using the controls on your speakers or by using the control located on the back of your sound card.*

Each Lesson is divided into several sections. The **Skip Back** and **Skip Forward** buttons let you back up or jump ahead to other sections in the Lesson.

The **Pause** button lets you "freeze" the Lesson right where you are so you can take a break without actually stopping the Lesson. When you click the **Pause** button, it changes into a **Resume** button—to continue the Lesson, click the **Resume** button.

Click the **Game** button to end the Lesson and go immediately to its Game.

The Section Indicator appears in the upper right part of the Lesson screen. This shows you how many sections are in the current Lesson, which sections you have completed, and which one you are working on now. Completed sections are shown in green. The section you are working on is in red.



Instead of continuing with Lesson 1 now, let's take a quick peek at Game 1. To go directly to a Game from a Lesson, click the **Game** button on the Lesson control bar. Do this now.

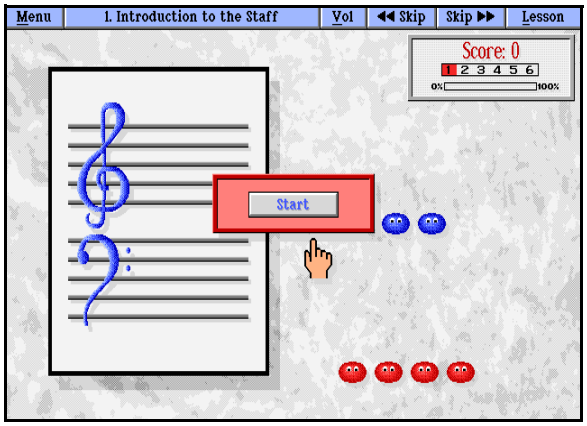
Games

Overview

Every Lesson has its own Game. As we said earlier, the Games allow you to practice the knowledge and skills you learned in the Lessons. Playing a Game is not only fun—it also shows you how well you understand what you have learned in its Lesson.

Using the Games

When you select the **Game** button from the Lesson 1 control bar, you see the screen for Game 1.



Music Ace Game 1

Notice that—as with the Lesson screens—the Game screens have a control bar at the top. The buttons on the Game control bar operate very much like the buttons on the Lesson control bar.

The **Menu** button ends the current Game and takes you back to the Main menu.

The **Game Name** button shows the name of the current Game. Clicking the button does nothing.

To change the sound volume, click the **Volume** button—a box appears in which you can adjust the volume of both the Wave and MIDI sounds. The Wave volume slider controls the volume of Maestro Max's voice and sound effects such as explosions and applause. The MIDI slider controls the volume of the music. On a Macintosh these sliders are labelled "Voice" and "Music".

***Note**: Some sound devices don't support programmed volume control. If your sound card doesn't have volume-control capability, these sliders will have no effect. In this case, you can adjust the volume using the controls on your speakers, or by using the control located on the back of your sound card.*

Each Game is divided into several sections. The **Skip Back** and **Skip Forward** buttons allow you to back up or jump ahead to other sections in the Game.

Use the **Lesson** button to end the current Game and go back to its corresponding Lesson.

The box in the upper right of the Game screen is the Game Progress Indicator. It shows your current score and tells you which Game section you are in. At the bottom, you can see how far you have gotten in the Game.

***Note**: You can jump directly to any section in a Game by clicking the number of the desired section on the Game Progress Indicator.*

Winning the Games

To win an entire game, you have to successfully complete all of its sections—if you lose any section, "Game Over" appears.

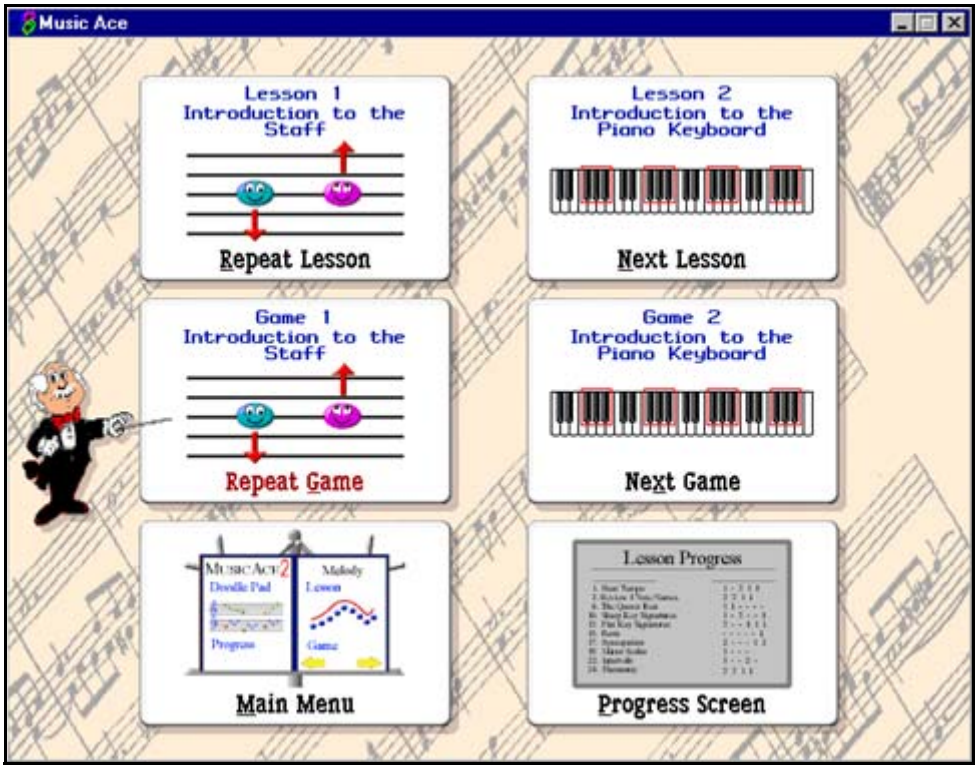
Don't be discouraged if you don't win every game right away. You can play a Game as many times as you like until you have mastered it. You can even replay any Game section over again without repeating the Game's earlier sections. To repeat a section, click on its number on the Game Progress Indicator. This gives you a chance to replay any section —though it will reset your current Game score to zero.

Note: *When you win a Game, the "Game Won" column on the Game Progress page will change to "Yes." The program also keeps track of high scores for each Game. See "Tracking Progress" on page 43 for details about the Tracking feature.*

Intermission

Whenever you finish a Lesson or Game, you will see the Intermission screen. From the Intermission screen you can repeat the last Lesson or Game, move on to the next Lesson or Game, go back to the Main menu, or go directly to the Progress section.

Maestro Max will make a recommendation as to where to go next based on your success with the last Lesson or Game. Of course, you are free to go wherever you want. To pick your next destination, click its box on the Intermission screen.

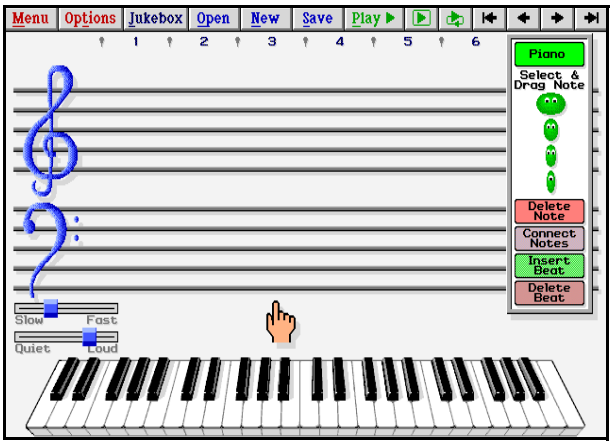


Music Ace Intermission Screen

Music Doodle Pad

The *Music Doodle Pad* lets you experiment with the knowledge and skills you have learned in the Lessons and Games. You can listen to—and modify—sample songs, or create your own songs.

To get started, return to the Main menu and click the ***Doodle Pad*** button.



You can see that the *Music Doodle Pad* has a control bar at the top that is similar to the Lesson and Game control bars. Let's look at the buttons on this control bar.

Clicking the **Menu** button takes you back to the Main menu.

The **Options** button lets you change the way the *Music Doodle Pad* behaves. The options are discussed in detail in "Music Doodle Pad Options" on page 41.

Click the **Jukebox** button to play sample songs, examples of the types of music you can create using the *Music Doodle Pad*. See the section called "Listening to Songs" on page 37 for more information about using the **Jukebox** button.

Note: *The **Jukebox** button only plays sample songs. To play songs that you or others have created, use the **Open** button on the Music Doodle Pad control bar.*

Click the **Open** button to access songs that you (or others) have created and saved. This process is described in "Opening a Jukebox Song" on page 37.

Use the **New** button when you want to clear the *Music Doodle Pad* screen and create a new song.

Click the **Save** button on the *Music Doodle Pad* control bar to save a song you have created or modified. What happens next is described in "Saving Your Songs" on page 41.

There are three buttons that you use to play a song.

Click the first **Play** button to play the song from the beginning of the current screen to the end of the song. To play the entire song, use the **Top** button  to go back to the top of the song before you click **Play**.

The second **Play** button plays only the part of the song that is currently shown on the screen. This can be handy when you are creating a song and want to concentrate on the part on which you are working.

This **Play** button plays the song over and over until you click **Stop**.

Whenever you click any of the **Play** buttons, a **Stop** button appears on the right-hand end of the control bar. To stop playing a song, click the **Stop** button.

Use these four buttons to control the position of a song on the *Music Doodle Pad* screen. Here's how the song-positioning buttons operate:

The **Top** button moves to the beginning of the song.

The **End** button moves to the end of the song.

The **Rewind** button backs up the song by one beat.

The **Fast Forward** button moves the song forward by one beat.

Tempo Control Slider
Drag the slider to the left or right to adjust the speed of a song.

Volume Control Slider
Drag the slider left or right to change how loud the song will play.

Note: *Some sound devices don't support programmed volume control. If your sound card doesn't have volume-control capability, these sliders will have no effect. In this case, you can adjust the volume using the controls on your speakers or using the control located on the back of your sound card.*

Listening to Songs

Before you get started using the *Music Doodle Pad*, you may want to listen to some songs created by others. All *Music Ace Series* programs come with a variety of sample songs. You may recognize some of these tunes while others may be new to you.

Opening a Jukebox Song

To play a sample song, click the **Jukebox** button on the *Music Doodle Pad* control bar. This makes the Jukebox menu appear—it looks a lot like a standard Open dialog for your computer. Select a song by clicking its name. Open it by clicking the **OK** button. Click the **Cancel** button if you want to return to the *Music Doodle Pad* without opening a Jukebox song.

Playing a Song

Once you have opened a song, you can listen to it by clicking the **Play** button on the control bar at the top of the *Music Doodle Pad* screen. To stop a song that is playing, click the **Stop** button at the right hand end of the control bar. Remember to use the **Top** button  to go back to the top of the song each time you want to play it. Try opening and playing a few songs now.

Modifying Jukebox Songs

You can also modify a song in the Jukebox and save it as a new song. Since you can't replace the original song, you will need to give the new version its own name and then click **Save**.

Opening Songs

You can also open songs that you or other people using your *Music Ace Series* program have created and saved. To open one of these songs, click the **Open** button on the *Music Doodle Pad* control bar. This brings up the User Songs menu.

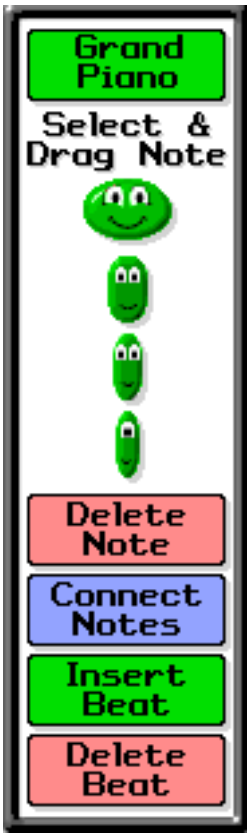
On the User Songs menu, use the arrow buttons or the slider to view the list of available songs. Select a song by clicking its name, and then open the song by clicking the **OK** button. Click the **Cancel** button if you want to return to the *Music Doodle Pad* without opening a song.

Creating Your Own Songs

To begin creating a song, click the **New** button. This clears the *Music Doodle Pad* screen and allows you to start from scratch. You should now see a staff that is clear of any notes.

Let's add a few notes to start the song. To add or remove notes from a song, use the *Music Doodle Pad* Sound Palette located at the right-hand side of the screen.

Using the Sound Palette



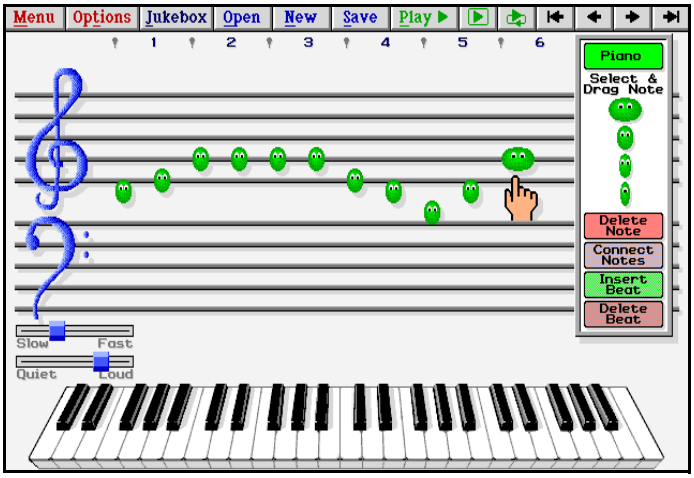
The Sound Palette contains four different kinds of notes you can use in a song. These notes all play for different lengths of time, or "durations". The note at the top of the Sound Palette plays for an entire beat, so you can use only one of these notes for each beat. The second note from the top plays for a half beat. You can fit two of these in each beat of your song. The third note type plays for a 1/3 of a beat, so you can use three of these notes for each beat. Finally, the bottom note on the Sound Palette (the tiny note with only one eye) plays for a mere 1/4 beat. You can fit four of these notes into a beat.

For now, we will refer to the four types of notes—reading from top to bottom on the Sound Palette—as Large, Medium, Small, and Tiny.

Note: *The four note types on the Sound Palette—again reading down from the top—correspond to a quarter note, an eighth note, a triplet, and a sixteenth note. Half notes, whole*

notes, and notes longer than one beat can be simulated using the "Connect Note" feature described later.

Let's practice creating a song. To start, drag a Medium note—second from the top—from the Sound Palette onto the treble staff. Place the note in the left-most position shown on in the picture below.



Repeat this process until you have moved ten of these notes onto the treble staff at the positions shown in the example song above. (The ten notes are D, E, G, G, G, G, E, D, B, and D.) Finally, drag one of the Large notes onto the staff in the location shown by the pointing finger above. Now click the **Play** button. Does this song sound familiar? Play it again if you like.

Choosing Instruments

The *Music Doodle Pad* has six standard instruments you can use for creating songs: Piano, Guitar, Oboe, Trumpet, Marimba, and Clarinet. To select a new instrument, click the green instrument button at the top of the Sound Palette—each time you click the button, the instrument changes. Keep clicking until you see the instrument you want to use.

Delete Note

To delete a note, click on the **Delete Note** button. This places you in "Delete Note mode." Then click on the note you want to delete. You can continue deleting other notes by clicking on the note to be deleted. When you are finished deleting notes, click the **Delete Note** button again. This will take you out of "Delete Note mode.".

Connect Notes

Use the Connect Notes feature to join two notes together to extend the first note's length. There are two ways to join notes:

To connect two identical notes, place the first of the notes on the staff. Click the **Connect Notes** button on the Sound Palette. Next, position the mouse pointer directly over the note and click the mouse—a copy of the note will be created and connected to the original note. To stop connecting notes, click the **Connect Notes** button again.

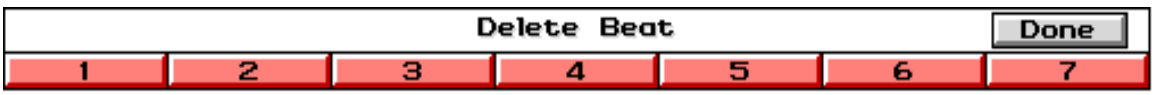
To connect two different notes together, place both of the notes on the staff in their correct positions next to each other. Click the **Connect Notes** button. Position the mouse pointer directly over the first note and click—the second note will become connected to the first. To stop connecting notes, click the **Connect Notes** button again.

Inserting and Deleting Beats in a Song

If you want to insert a beat in the middle of a song, you can click the Sound Palette's **Insert Beat** button. When you click **Insert Beat**, a bar appears at the top of the *Music Doodle Pad*.

When you click a beat number button, a new beat is added to the song—it's inserted right before the beat whose number you click. Click the **Done** button when you are finished adding beats.

In the same way, if you want to delete a beat in the middle of a song, select the **Delete Beat** button on the Sound Palette. A bar appears at the top of the *Music Doodle Pad*. Click the beat number button of the beat you want to remove. Click the **Done** button when you are finished deleting beats.



Saving Your Songs

After you have created or modified a song, you will probably want to save it so you can play it later for your family, friends, or teacher. To save a song, click the **Save** button on the *Music Doodle Pad* control bar. This opens up the **Save** menu.

Click the **Save As** button if you haven't yet saved your song, or if you want to save it with a new file name to avoid writing over an existing song. If you try to save a song with a file name that's already being used by another song, you will be asked if you want to replace that song with your new one.

Click **Save MIDI File** to save your song as a MIDI file.

The **Set Title** button on the Save Song menu lets you enter a song title and composer for your song. Title and composer are displayed at the bottom of the *Music Doodle Pad* screen.

When you click **Save As**, the Save Doodle window appears. In this window, type in the file name for your song in the name entry area under "Save Doodle." When you are finished, click the **OK** button to save the song. Click the **Cancel** button if you want to return to the *Music Doodle Pad* without saving your song.

Music Doodle Pad Options

You can set up the *Music Doodle Pad* so that it behaves in several different ways. Click the **Options** button on the *Music Doodle Pad* control bar to view the Options menu.

When **Enable Accidentals** is checked, you can use sharped and flatted notes in the *Music Doodle Pad*. When it's not, you can only place notes without accidentals on the staff.

Note Bubble lets you choose whether or not note names will appear in small bubbles when you add or move notes on the staff. Check the Note Bubble box to turn on note bubbles, or un-check it to turn them off.

The Play Piano option lets you select whether the piano at the bottom of the *Music Doodle Pad* will play along when notes are moved or a song is played. Check the Play Piano box to turn this feature on.

The **Key Signature** buttons let you to select any of the 15 key signatures for use in composing a song. To select the next-higher key signature, click the ♯ button. Use the ♭ button to select the next-lower key signature.

Note: *If you change the key signature while a song is displayed in the Music Doodle Pad, all of the notes in the song will be shifted into the newly selected key signature.*

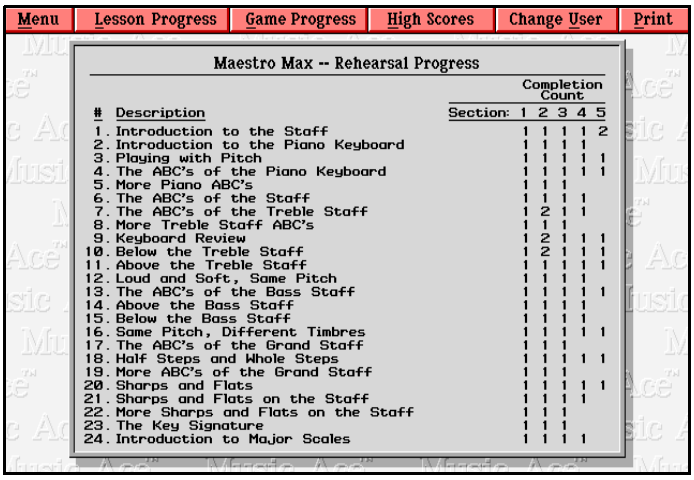
When you have finished selecting *Music Doodle Pad* options, click the **OK** button. To return to the *Music Doodle Pad* without changing any of the settings, click the **Cancel** button.

Tracking Progress

The *Music Ace Series* programs include a feature called "Progress Tracking" that lets you track your progress as you make your way through the Lessons and Games. To see what you have accomplished so far, click the **Progress** button from the Main menu. You can track the progress of multiple students and create a progress printout as well.

Lesson Progress

The Lesson Progress page appears when you click the **Progress** button in the Main menu. You can also get here by clicking the **Lesson Progress** button from any other Progress Tracking page.



Lesson Progress Screen

The Lesson Progress page shows your progress for each of the sections in the Lessons. Under the "Completion Count" heading is a number showing how many times the current user has gone through each section of the 24 Lessons. See "Viewing the Progress of Other Users" on page 45 to learn how to view the progress of anyone using your *Music Ace Series* program.

As with the rest of the *Music Ace Series* program, the Progress Tracking screens use a control bar at the top of each page.

Click the **Menu** button to return to the Main menu.

Clicking the **Lesson Progress** button takes you to the Lesson Progress page.

Click the **Game Progress** button to go to the Game Progress page, as described below.

The **High Scores** button shows the highest score for each Game and the name of the person with the highest score.

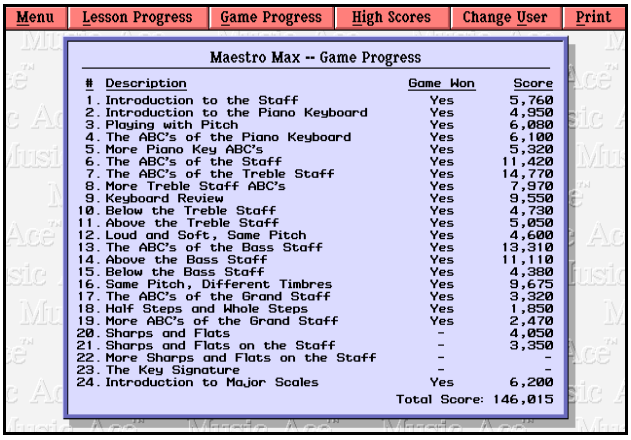
Click the **Change User** button to view the progress of another user of your *Music Ace Series* program.

Click the **Print** button to print the currently displayed Progress page.

Game Progress

When you click the **Game Progress** button on the Lesson Progress control bar, the Game Progress screen appears. The Game Progress page shows you the scores for all the Games you have completed—it also shows which Games you have won.

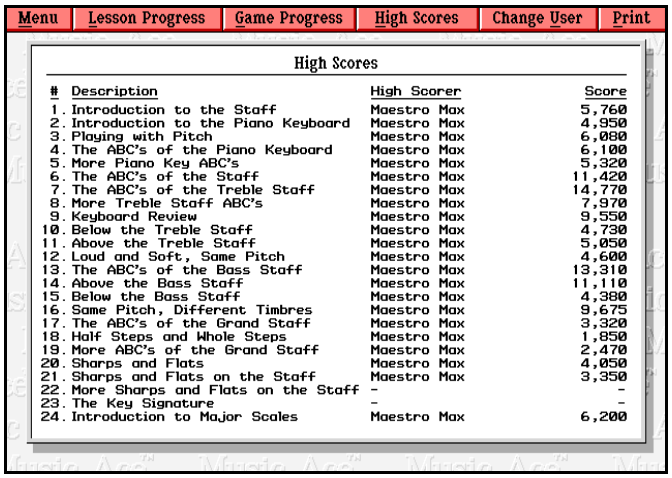
The Game Progress page also has a control bar. You have already learned how the buttons on it work, since they perform the same jobs as on the Lesson Progress screen's control bar, described above.



Game Progress Screen

High Scores

A High Scores section is included for those of you interested in competing with other *Music Ace Series* users, or against yourself as you try to beat your previous high score.



#	Description	High Scorer	Score
1.	Introduction to the Staff	Maestro Max	5,760
2.	Introduction to the Piano Keyboard	Maestro Max	4,950
3.	Playing with Pitch	Maestro Max	6,080
4.	The ABC's of the Piano Keyboard	Maestro Max	6,100
5.	More Piano Key ABC's	Maestro Max	5,320
6.	The ABC's of the Staff	Maestro Max	11,420
7.	The ABC's of the Treble Staff	Maestro Max	14,770
8.	More Treble Staff ABC's	Maestro Max	7,970
9.	Keyboard Review	Maestro Max	9,550
10.	Below the Treble Staff	Maestro Max	4,730
11.	Above the Treble Staff	Maestro Max	5,050
12.	Loud and Soft, Same Pitch	Maestro Max	4,600
13.	The ABC's of the Bass Staff	Maestro Max	13,310
14.	Above the Bass Staff	Maestro Max	11,110
15.	Below the Bass Staff	Maestro Max	4,380
16.	Same Pitch, Different Timbres	Maestro Max	9,675
17.	The ABC's of the Grand Staff	Maestro Max	3,320
18.	Half Steps and Whole Steps	Maestro Max	1,850
19.	More ABC's of the Grand Staff	Maestro Max	2,470
20.	Sharps and Flats	Maestro Max	4,050
21.	Sharps and Flats on the Staff	Maestro Max	3,350
22.	More Sharps and Flats on the Staff	-	-
23.	The Key Signature	-	-
24.	Introduction to Major Scales	Maestro Max	6,200

High Scores Screen

Click the **High Scores** button from either the Lesson Progress page or the Game Progress page to view the High Scores page. The High Scores page control-bar buttons behave just like the buttons on the control bar for the Lesson Progress and the Game Progress page.

Viewing the Progress of Other Users

When you click the **Change User** button from any of the Progress Tracking pages, a User List appears. Click the name of the user whose progress you would like to view, and that user's Lesson Progress will be displayed. When you are finished, remember to switch back to the current user using the same method.

Note: *It's easy to jump directly between the Progress Tracking pages and Lessons and Games. To go directly to a Lesson from the Lesson Progress page, double-click on the desired Lesson's name. To go directly to any Game from the Game Progress page, double-click on the desired Game's name.*

Exiting the Progress Tracking Section

To exit the Progress Tracking section, click the **Menu** button from any of the Progress pages to return to the Main menu.

Technical Support

The *Music Ace Series* programs are designed to be easy to install and use. However, if you run into a problem installing or using this product, consult our Technical Support Wizard on our Web site at *www.harmonicvision.com*. If you are unable to solve your problem after reviewing the information you find there, please call Harmonic Vision's Technical Support Department during normal business hours at (312) 332-9200, or send an e-mail inquiry to:

support@harmonicvision.com.

Before you call Technical Support, please have the following information available:

1. Your product registration number.
2. The type of computer you are using, including the brand name, model, and processor speed.
3. The type of sound card or MIDI device you are using.
4. A specific description of the problem, including any error messages you have seen displayed.

If possible, please call from a telephone located near your computer.

Appendix A:
Setting Up on a Windows System

Step 1. Before You Begin

The following sections describe the procedure for setting up your *Music Ace Series* program on a Windows system.

System Requirements

Before installing your *Music Ace Series* program, please check your computer system to see that it meets the following minimum system requirements.

- Windows 95, 98, 2000, Me, NT4, or XP
- 166 MHz or faster processor
- 32 MB of available RAM
- 640 x 480 256-color display
- 50 MB of free hard disk space
- 16-bit sound card or General MIDI capability
- CD-ROM drive, mouse

During the installation process, you will be prompted for your name and your registration number. The registration number can be found on the registration card that came with your product. ***This card is very important!*** Please detach the bottom half of the card and send it to us. Keep the top half for your records. If you ever need to reinstall the program, you will need this number.

Step 2. Installing the program

Insert the *Music Ace Series* CD-ROM into the computer's CD-ROM drive. Windows will likely detect the *Music Ace Series* CD when you insert the CD. A dialog box should appear asking if you would like to install *Music Ace Series program*. Click **Yes** and skip to Step 7. If this dialog box does not appear, perform Steps 1-6.

1. Click the **Start** button, go to Settings and choose Control Panel.

2. Double-click Add/Remove programs.
3. Click the **Install** button. (Make sure you don't have a disk in the floppy drive)
4. Click the **Next** button.
5. Windows should find X:\setup.exe, where X is the CD-ROM drive.
6. Click the **Finish** button.
7. Follow the onscreen installation instructions. You will be prompted for your name and your registration number. The registration number can be found on the registration card that came with your product.
8. To start your *Music Ace Series* program, select **Start—Programs—*Music Ace—Music Ace***.

Step 3. Configuring Sound

Introduction to Computer Sound

Computers can typically generate two basic kinds of sound: Wave sound and MIDI sound. *Music Ace Series* programs use both Wave and MIDI sound when your computer hardware and software support both.

Wave sound

Wave sound, also called "digitized" sound, consists of recordings of actual sounds that can be played back just as if they had been recorded on a tape recorder. Wave sounds are contained in files called "*.wav" files. *Music Ace Series* programs use these digitized sounds for sound effects such as applause and Maestro Max's voice. If you have a Windows machine, the various Windows sound effects you may have on your computer, such as Windows Start and Exit sounds, are examples of *.wav files. (Note: Macintosh computers use a different sort of system sound file.)

"Wave" sound should not be confused with "wavetable" sound cards. Wave sound is fundamentally different from the other type of computer-generated sound called "MIDI sound."

MIDI Sound

The term MIDI is an abbreviation for "Musical Instrument Digital Interface." Its most basic meaning refers to the interface between a computer and an external electronic musical instrument, usually a MIDI keyboard. However, "MIDI" also

refers to an entire system that lets MIDI programs and devices—such as an external MIDI keyboard or a computer sound card—communicate with each other. MIDI uses messages that tell a MIDI device to play a particular note, for how long, and so on. MIDI is very useful for playing music, composing music, etc. MIDI-generated sounds are much more flexible than Wave sounds. since *.wav files cannot be manipulated to the same degree that MIDI-based sounds can.

Sound Hardware and Device Drivers

Sound Hardware

Computers use two basic types of hardware devices to generate sound: sound cards and external MIDI instruments. Sound cards are installed internally in the computer and are connected to external speakers or headphones. Sound cards generally support both Wave and MIDI sounds. MIDI instruments (keyboards and sound modules) are connected to a MIDI interface or to a sound card with a MIDI interface port connector. Most MIDI instruments provide MIDI sound only, and do not support Wave sound (although special Wave-like sound effects can be simulated by many MIDI keyboards).

The *Music Ace Series* programs support both sound cards and MIDI interfaces. The *Music Ace Series* programs will also work with a combination of a sound card and an external MIDI device. For example, you may use an external MIDI device for music sounds and a sound card for Wave sound.

Sound Device Drivers

In order for your sound hardware to operate properly with your computer, supporting software called “device drivers” must be installed on your system. These device drivers are provided by the manufacturer of your computer or sound hardware. If you already have sound devices operating on your computer, the device driver software is already loaded on your system. If you add a new sound device, you will probably have to install the device driver provided with the sound device. A *Music Ace Series* program assumes that the necessary device drivers are installed and configured correctly on your computer. If this is not the case, you will need to refer to the manuals provided with your computer, your sound card, or your MIDI keyboard to install and set up the necessary device driver(s).

Setting Up for Sound

The *Music Ace Series* will attempt to configure your computer’s sound for use. The program assumes that you do not have an external MIDI keyboard, so it will make

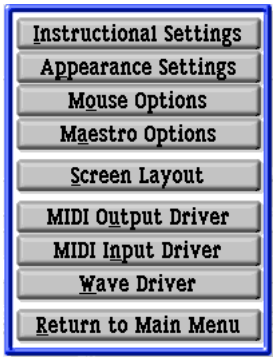
use of your computer's internal sound card by default. More specifically, the *Music Ace Series* will use the MIDI and Wave drivers specified in the Multimedia Control Panel. You will need to configure sound for the *Music Ace Series* only if:

- you wish to use an external MIDI keyboard for MIDI input and/or MIDI output.
- you want to select a different sound driver.
- the *Music Ace Series* installer encounters problems during the initial setup.

If none of the above applies, you can skip this section.

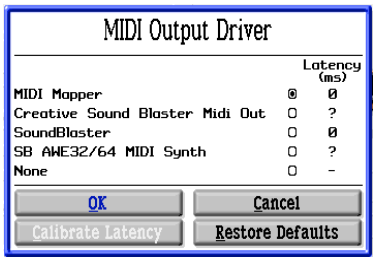
All of the sound configuration settings for the *Music Ace Series* are accessed from the program's Preferences menu. Click the **Preferences** button in the upper right-hand corner of the Main menu (the Amphitheater screen) to open the Preferences menu.

The *Music Ace Series* programs make use of two different kinds of sound generation: Wave sound and MIDI sound. Wave sound is pre-recorded, digitized sound, such as the program's short sound effects and Maestro Max's voice. MIDI sound is created by a sound card or external MIDI keyboard from instructions that it receives from your *Music Ace Series* program. The music sung by the animated notes in the *Music Ace Series* is an example of MIDI sound.



There are both Wave and MIDI devices located on your computer's sound card, and each device must be configured separately for a *Music Ace Series* program. Each device has one or more drivers associated with it. A driver is a small software program that acts as a liaison between the sound device and an application such as a *Music Ace Series* program. To configure each of the sound devices, you must choose the proper driver for the *Music Ace Series* program to use.

Choosing a MIDI Output Driver



A MIDI device—i.e. an internal sound card or external MIDI keyboard—produces the music heard from the animated notes in the *Music Ace Series* programs. To view the MIDI Output Driver screen, click on the button labeled "MIDI Output Driver" on the Preferences menu. On the MIDI Output Driver screen, the choices presented to you are the MIDI drivers installed on your machine.

Ideally, you should have four or five options from which to choose. (The screen that you see on your computer may have different choices than those shown here.)

- MIDI Mapper: Select this to use the Windows MIDI settings. These settings can be made in the Multimedia Control Panel under the MIDI tab.
- Creative Sound Blaster MIDI Out (or similar choice): This choice will route MIDI information to an external MIDI keyboard. This option will likely contain one of the following words or phrases: "MPU-401," "External keyboard" or "MIDI Out." (In the above example it's "Creative Sound Blaster MIDI Out.") Choose this option to use a MIDI keyboard for MIDI output.
- SoundBlaster and SB AWE32/64 MIDI Synth: One or two choices will refer to an internal device, namely the sound card installed on you machine. (In the above example, it's "SoundBlaster and SB AWE32/64 MIDI Synth.")
- None: Choosing this option will disable MIDI output.

Almost all sound cards have tone generators built-in. These range in quality from FM (Frequency Modulated) sound to wavetable sound (not to be confused with Wave sound). Often, sound cards are able to produce sound in two ways: through FM synthesis or some other way that is specific to the card.

You can test each driver by choosing an option and then clicking on either the *Music Ace Series* piano keyboard or on its instruments. If you can hear the piano or instrument, the driver is working properly.

To save your settings, click the **OK** button. To restore the *Music Ace Series* program original settings, click the **Restore Defaults** button.

If you don't have any options available to you other than None and MIDI Mapper, the proper MIDI driver is probably not installed.

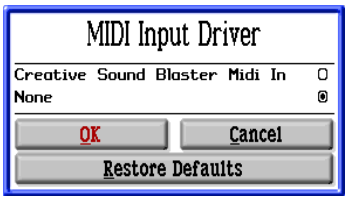
If you encounter any difficulties testing your internal device—e.g. you can't hear MIDI sounds or you don't think that you have the internal MIDI option available—please refer to the section "Solving Common Problems" on page 58.

Choosing a MIDI Input driver

If you wish to use a MIDI keyboard for MIDI input, you will need to tell your *Music Ace Series* program to use the desired MIDI input driver.

To view the MIDI Input Driver screen, click the **MIDI Input Driver** button in the Preferences menu.

There will typically be only two choices available on the MIDI Input Driver screen. There will be an option for a MIDI input driver specific to your sound card—in this example it's "Creative Sound Blaster MIDI In." There will also be an option for no MIDI input, which is the default setting.



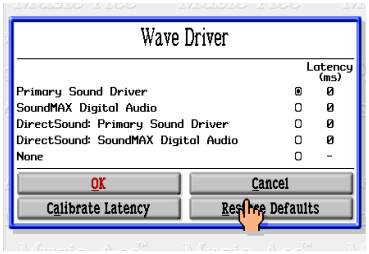
Note: *If a MIDI input driver is not available in this window, either the driver is not currently installed on your machine or your sound card is not capable of MIDI input.*

To enable MIDI input, check the MIDI input driver box, and then test your setup by playing your external keyboard. The corresponding keys of the onscreen piano will light up if everything is working.

To save your settings, click the **OK** button. To restore the original settings, click the **Restore Defaults** button.

Note: *If some notes don't seem to work, remember that the onscreen keyboard for the Music Ace Series programs is only four octaves long. Many keyboards have more than four octaves, so you might be playing out of your program's key range.*

Choosing a Wave Output Driver



Maestro Max's voice and other sound effects are played back through a Wave device (not to be confused with wavetable synthesis.) To view the Wave Driver screen, click the **Wave Driver** button in the Preferences menu.

You will typically be presented with three or more options for a Wave driver. Here is a sample of what you might see:

- Primary sound driver.
- A driver specific to your sound card. (In this example, "SoundBlaster.")
- One or more options for "DirectSound" drivers. These will only be available if you have DirectX 3 or higher installed on your machine. You can download the latest version of DirectX from the Microsoft Web site at *www.microsoft.com*. Downloading DirectX is not necessary to run the *Music Ace Series* programs, however.
- None—This option will disable all Wave sounds, including Maestro Max's voice.

Typically, choosing Primary Sound Driver will work for a *Music Ace Series* program. You might try the DirectSound option—if it's available—for better sound quality.

Make your selection by checking the desired checkbox. Test your selection by clicking on the **Listen to Max** button located underneath Maestro Max. If you can hear Max's voice, the Wave driver is working properly.

Save your selection by clicking the **OK** button. To restore the program's original settings, click the **Restore Defaults** button.

If you are having difficulties with Wave sounds in your *Music Ace Series* program, please refer to "Solving Common Problems" on page 58.

Step 4. Calibrating Latency

You can skip this section if the animation and sound in your *Music Ace Series* program are synchronized. If the animation and sound do not appear to be synchronized, then read on.

Software Synthesizers and Latency

The MIDI Output Driver screen lists the MIDI output drivers available on your computer. Depending on which sound card and which drivers you have installed on your system, you may have a hardware wavetable synthesizer or a software wavetable synthesizer. Wavetable synthesizers produce high-quality, realistic instrument sounds by piecing together short digital recordings of real instruments. Hardware wavetable synthesizers use electronics on the sound card itself to play these recordings. Software wavetable drivers synthesize music from digital recordings on your hard drive using your computer's CPU (Central Processing Unit).

Software wavetable drivers can produce high-quality music without any special hardware. Due to their intensive CPU usage, though, they have two major disadvantages. First, they use up some of your computer's limited available processing power. Second, the synthesized sound usually plays about a half-second late. This delay is called "latency."

This means that when your *Music Ace Series* program plays an instrument sound, the sound is heard a fraction of a second after it was played. At first, this might not seem like much of a problem, but in music, timing requirements are very precise. With such a delay, the graphic and sound elements in your *Music Ace Series* program won't feel synchronized, making the program difficult to use.

If you have a hardware wavetable synthesizer driver available, you should use that. If not, you may also have an FM synthesis driver available (sometimes called "OPL" synthesis). FM synthesis drivers do not have the latency or CPU usage problems software wavetable drivers have, but their sound quality is usually not as good as software wavetable synthesizers. If you are satisfied with the sound quality of your FM driver, use it instead of a software wavetable driver.

If you have a software synthesis driver, and you wish to use it, you can compensate for the driver's latency. If you tell your *Music Ace Series* program the amount of latency in your driver, it can adjust the timing of its animations so that they remain in sync with the sound.

Since software wavetable MIDI output drivers use a Wave output driver to produce sound, the Wave driver may also experience latency. Your *Music Ace Series* can compensate for both kinds of latency.

Latency Calibration

If you are using a software synthesizer to generate music sounds, you may need to compensate for latency in the sound production system of your computer. The *Music Ace Series* programs have a default setting for some common software synthesizers including Microsoft SoftSynth, Yamaha SXG50 and the Roland Virtual Sound Canvas.

To achieve synchronization of graphics and sound, the *Music Ace Series* programs delays its graphics to keep them synchronized with the sound. To know exactly how much to delay the graphics, the *Music Ace Series* needs to know how much latency there is. You will need to help the *Music Ace Series* determine this information by performing a quick exercise or two. If you are not sure whether or not your computer has latency, use this exercise to find out if it does. To begin calibration, click the **Preferences** button on the Main menu. First, we will calibrate the *Music Ace Series* program for MIDI (music sound) latency.

MIDI Sound Latency Calibration

Click **MIDI Output Driver**. Next, click the **Calibrate Latency** button.

Note: *If this button is grayed out, the MIDI output driver you have selected does not need to be calibrated for latency. You have the option of using the driver currently selected or choosing another driver, which may need to be calibrated for latency.*

Follow the onscreen instructions for calibrating latency. You should see—and hear—a bouncing ball. In the white box is a slider control. Drag the slider slowly to the right until the ball-bounce is synchronized with the click. This may take a little experimenting to get exactly right. If your computer is capable of playing a precise reference click you will hear two clicks every time the ball bounces. Adjust the slider position until the two clicks merge into a single click. Click **OK** when you are finished.

If your computer is not capable of playing a reference click, adjust the slider until the audible click is exactly synchronized with the bouncing ball, i.e. the audible click is heard exactly when the ball contacts the platform. Click **OK** when you are finished.

The program now shows you a MIDI song that lets you to see whether or not the graphics line up with the sound. Watch the notes as they sing. Their mouths should open in sync with the sound. If this looks right to you, then you are finished with the MIDI latency calibration. Click **Yes**, click **OK**, and move on to setting the Wave latency. If the notes' mouths open too early or too late, you need to fine-tune the MIDI latency calibration some more. Click **No**. Adjust the latency slider and then check it again using the MIDI song. You can do this as many times as you like until you get it just right.

Wave Sound Latency Calibration

Now you are ready to calibrate the Wave latency. In the Preferences menu, click on **Wave Driver**. You will calibrate the Wave latency using exactly the same procedure you used for the MIDI output driver above. Follow exactly the same steps. Note that although the test song sounds similar, the Wave song is actually generated using a Wave file—i.e. a digital recording of the song—while the MIDI song is generated using MIDI messages.

When you have successfully calibrated your *Music Ace Series* program for MIDI and Wave latency, you are ready to work on Lessons and Games. Should the MIDI or Wave sound fall out of sync while you are using the program—this happens only rarely—you can always go back to the Preferences menu and adjust your latency calibrations.

When you click on an instrument, drag a note or perform some similar activity, there will still be a very slight amount of lag—this is normal. Your *Music Ace Series* can only compensate for music and Wave sounds it produces itself.

Uninstalling the Program from Windows

- From the desktop, Select **Start—Programs—Music Ace—Uninstall Music Ace**. Your *Music Ace Series* program will be removed from your computer.

Solving Common Problems

This section provides a list of potential problems and suggested solutions for users of Windows systems.

Problem: ----------
The animations are slow or the colors appear strange on my monitor.
Solution:

- Be sure your video is configured for 256 colors. Other configurations can result in slower video performance or incorrect mapping of the color palette.
- Close other applications that are running and try again. DOS applications can be especially large users of computer's available system resources.

Problem: ----------
I don't hear Maestro Max speaking.
Solution:
The Wave device on your computer's sound card produces Max's voice, so here are a couple of things to check:

- Make sure your speakers or headphones are connected correctly and the volume control on your speakers is turned up.
- Check the volume on your wave device. Select Start—Programs—Accessories—Multimedia (or Entertainment)—Volume Control. You will be presented with several volume sliders. One of the sliders should be labeled "Wave." Check to make sure that the volume is high enough and that the Mute option is not checked. If you don't see a Wave slider, go to the Options menu and choose "Properties." In the dialog window, there is an area labeled "Show the following volume controls." In this box, make sure that "Wave" is selected.

  Note: *Your computer should have the Volume Control program. If you find that it's not there, you will need to install it from your Windows system CD.*
- If the volume is set at an appropriate level, start the *Music Ace Series* program and go to the Preferences screen. Click **Wave Driver**. Try the different options here and test Max's voice. If you hear Maestro Max speak, you are good to go.

If you have no options available beyond None, the proper Wave driver is probably not installed.

Problem: ----------
I don't hear any music when the notes sing, or the instruments don't sound when I click on them on the MIDI Output Driver screen.

Solution:
The sound that is produced by the notes in the *Music Ace Series* programs is produced by a MIDI device that is either an internal sound card or an external MIDI device, such as a MIDI keyboard.

The proper diagnostic procedure is determined by whether you are using a sound card or an external MIDI instrument to generate MIDI notes. Please refer to the appropriate section below.

If you are using your computer's internal sound card to generate MIDI sound:

- Make sure your speakers or headphones are connected correctly and the volume control on your speakers is turned up.
- Check the volume on your MIDI device. Select Start—Programs—Accessories—Multimedia—Volume Control. You will be presented with several volume sliders. One of the sliders should have a label such as "MIDI," "Synth" or "Synthesizer"—your options will depend on your machine. Check to make sure that the volume is high enough and that the Mute option is not checked.
- If you don't see a slider related to your MIDI device, go to the Options menu and choose "Properties." In the resulting dialog window, there will be an area labeled "Show the following volume controls." In this box, make sure that "MIDI" or "Synth" is selected.

  Note: *Your computer should have the Volume Control program. If you find that it's not there, you need to install it from your Windows system CD-ROM.*
- If the Volume is set at an appropriate level, start the *Music Ace Series* program and go to the Preferences menu. Click **MIDI Output Driver**. See "Choosing a MIDI Output Driver" on page 53 for information on choosing the appropriate MIDI output driver.
- If you don't have options available to you other than "None" and "MIDI Mapper," the proper MIDI driver is probably not installed. Please refer to your computer system documentation for information on installing a MIDI driver.
- If you still don't hear MIDI sound, you should try playing a MIDI file through Windows. Exit the *Music Ace Series* program. Double-click My Computer. Locate the icon for your CD-ROM drive, right-click it, and choose "Explore." On the CD-ROM, open the folder called "SoundTst," and then open the folder called "MIDI." Double-click on the file called "Saints.mid." Media Player will open. Once it loads, click the **Play** button, which is located at the bottom left-

hand corner of the Media Player window. If you hear the MIDI file, please call technical support—there may be something malfunctioning in the *Music Ace Series* program. If you don't hear the MIDI file, there is probably some problem with your MIDI driver.

If you are using a MIDI keyboard to generate MIDI sound:

- Make sure your MIDI keyboard is turned on and that the volume is turned up.
- If the volume is set at an appropriate level, launch the *Music Ace Series* program and go to the Preferences menu. Click **MIDI Output Driver**. There should be a driver that will route MIDI information out of your computer to your MIDI keyboard. The exact name of the driver depends on your machine, but here is a short list of some words or terms that you might see contained in the name of an external MIDI device driver: "external," "MIDI out," "external MIDI keyboard" or "MPU-401."
- Try selecting this driver and test it by clicking on the keys of the onscreen piano or on the other instruments. Verify that your MIDI keyboard is producing the sound.
- If you don't have an option available to you that contains any of the words or terms listed above, the proper MIDI driver is probably not installed.
- If you have selected the proper MIDI driver but still don't hear sounds being produced by your keyboard, try swapping your MIDI cables. (If you are using other software programs successfully with your MIDI keyboard or if your *Music Ace Series* program is receiving MIDI input successfully, don't do this.) The "In" cable from the computer should be connected to the "MIDI OUT" port on your keyboard, and the "Out" cable from your computer should be connected to the "MIDI IN" port on your keyboard.
- If you still don't hear MIDI sound, you should try playing a MIDI file through Windows. Quit the *Music Ace Series* program. Select Start—Settings—Control Panel. Double-click the Multimedia icon. Click on the tab labeled "MIDI." Make sure that the driver selected is for an external MIDI device. Click the button labeled "Apply."

Note: *Doing this changes the setting for Windows. We are changing it here for test purposes. After you do this test, if you wish to change the setting back to its original setting, you should go back into the Multimedia control panel and choose the internal MIDI driver.*

- Double-click My Computer. Locate the icon for your CD-ROM drive, right-click it, and choose "Explore." On the CD-ROM, open the folder called "SoundTst," then open the folder called "MIDI." Double-click on the file called

"Saints.mid." Media Player will open. Once it loads, click its **Play** button, which is located at the bottom left-hand corner of the Media Player window. If you hear the MIDI file, please call technical support—this may mean that there is something malfunctioning in your *Music Ace Series* program. If you don't hear the MIDI file, there is probably some problem with your MIDI driver.

Problem: ----------
I don't hear any sound at all. (No voice and no music).
Solution:

- Be sure your speakers or headphones are connected correctly and the volume control on your speakers is turned up.
- Be sure your sound card volume control located on the back of the computer is turned up high enough.

For more information on sound and MIDI, and other issues, please visit our Web site at www.harmonicvision.com *and click on the musical note labeled "Tech Support." This will take you to our Tech Support Wizard where you can find solutions to various problems.*

Problem: ----------
When attempting to install a *Music Ace Series Educator's Version*, a previous version of the *Music Ace Series* program runs instead of the installation program.
Solution:
A previous version of your *Music Ace Series* program was installed on this machine. To remove the older files, refer to "Uninstalling a *Music Ace Series* Program from Windows" below.

Appendix B:
Setting Up on a Macintosh System

Step 1. Before You Begin

This section describes the procedure for setting up a *Music Ace Series* program on a Macintosh (MacOS) system.

Please check your computer system to see that it meets the following minimum system requirements:

- PowerPC, iMac, G3 or G4
- System 8.1 through 9.x, and OS X
- 640 x 480 256-color video (13" monitor) or better
- 50 MB of free hard disk space
- 32 MB of available RAM
- CD-ROM drive and mouse

During the installation process, you will be prompted for your name and your registration number. The registration number can be found on the registration card included with this product. ***This card is very important!*** Please detach the bottom half of the card and send it to us, and keep the top half for your records. If you ever need to reinstall the program, you will need this number.

Step 2. Installing the program

Insert the *Music Ace Series* CD-ROM into the CD-ROM drive.

Double-click the *Install Music Ace* or *Install Music Ace 2* icon on the CD-ROM and follow the onscreen instructions. You will be prompted for your name and your registration number. The registration number can be found on the registration card that came with your product.

Step 3. Configuring Sound

Introduction to Computer Sound

A *Music Ace Series* program uses two methods to generate sound: To play pre-recorded sound such as Maestro Max's speech, it uses the built-in digital audio capability of your Macintosh. But when it plays musical notes, it uses a virtual MIDI device which can be one of the following:

- QuickTime Music.
- Open Music System (OMS) - Mac OS 8/9 only.
- OSX Software Synth - Mac OS X only.
- OSX External MIDI - Mac OS X only.

QuickTime Music and the OS X Software Synth use your computer's CPU to manipulate digitized samples of real instruments and play the sound out its digital audio system along with any prerecorded snippets that may be playing at the time.

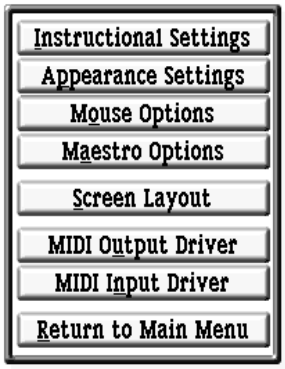
Open Music System (OMS) and OSX External MIDI options allow the program to send musical note commands to an external MIDI device via MIDI cables connecting the computer and the external MIDI device (usually a keyboard). On Macintosh computers prior to the iMac the MIDI cables connect to a MIDI interface box that is in turn connected to the computer’s serial port. On iMacs and more recent Macintosh computers the MIDI interface box connects to the computer’s USB port.

Setting Up for Sound

On Macintosh computers, *Music Ace Series* programs will use either QuickTime Music or Open Music System (OMS) for generating musical notes.

Note: *You will need to configure sound for your Music Ace Series program only if you wish to use an external MIDI keyboard for MIDI input and/or MIDI output, or if the program encounters problems with the automatic setup. Otherwise, you can skip this section.*

All of the sound configuration settings for *Music Ace Series* programs are accessed from the Preferences menu. Click the **Preferences** button in the upper right-hand corner of the Main menu (the Amphitheater screen) to view the Preferences menu.



Choosing a MIDI Output Driver

A MIDI device—i.e. internal sound software such as QuickTime Music, a sound card or an external keyboard—can produce the music in the *Music Ace Series* programs. *Music Ace Series* programs attempt to configure your system during installation. The program assumes you do not have an external MIDI keyboard, so the default MIDI selection will be QuickTime Music.

To view the MIDI Output Driver screen, click **MIDI Output Driver** in the Preferences menu. The choices presented to you will be the options for MIDI management installed on your machine.

- QuickTime Music: When you choose this option, you tell the *Music Ace Series* program to use the settings in the QuickTime Settings control panel.
- OS X Software Synth: This option is similar to QuickTime music (OS X only).
- Open Music System (OMS): If you have OMS installed and you wish to use an external MIDI keyboard, then choose this option (OS 8/9 only).

Note: *If the OMS option is not available to you, OMS has not been installed in your system. You will need to install OMS if your keyboard is connected to a MIDI*

interface attached to a USB port. See the section "Open Music System 2.3.8 (OS 8/9 only)" on page 66 for more information.

- OS X External Keyboard: If you use an external MIDI keyboard, choose this option (OS X only).
- None: This option disables MIDI output in *Music Ace Series* programs.

Choosing a MIDI Input Driver

If you are using a MIDI keyboard for MIDI output and MIDI input, we suggest choosing the same option for MIDI input you selected for MIDI output. Click **MIDI Input Driver** in the Preferences menu.

- QuickTime Music: When you choose this option, you tell the *Music Ace Series* to use the settings in the QuickTime Settings control panel.
- Open Music System (OMS): If you have OMS installed and you wish to use an external MIDI keyboard, choose this option (OS 8/9 only).

  Note: *If the OMS option is not available to you, OMS has not been installed in your system. You will need to install OMS if your keyboard is connected to a MIDI interface attached to a USB port. See the section "Open Music System 2.3.8 (OS 8/9 only)" on page 66 for more information.*
- OS X External Keyboard: If you use an external MIDI keyboard, choose this option (OS X only).
- None: Choosing this option will disable your MIDI input.

Open Music System 2.3.8 (OS 8/9 only)

Open Music System (OMS) has become a standard for MIDI management. If you have other music programs on your computer that use MIDI, it is possible that you already have OMS installed. We include OMS with the *Music Ace Series* programs as an option for MIDI management. If you are not going to use a MIDI keyboard with your *Music Ace Series* program, you do not need to install OMS.

To install OMS 2.3.8 (OS 8/9 only)

On the *Music Ace Series* CD-ROM, double-click the Install OMS 2.3.8 icon located in the "OS 8/9 Extras" folder.

We recommend that you choose the Easy Install option.

You will need to restart your machine after installation is complete, and run the OMS Setup program described in the following section.

Running OMS Setup (OS 8/9 only)

After your computer has restarted, a folder entitled "OMS Applications" should be visible on your desktop. (If it isn't, you can get to it by double-clicking on your hard drive, then on the Opcode folder, then on OMS Applications.) You now need to run the OMS Setup program.

- Double-click the OMS Setup icon.
- OMS may present you with a dialog box about AppleTalk—OMS may function better with AppleTalk turned off. Turning off AppleTalk will disconnect your computer from a network or any printers. If you need to be connected to a printer or network, do not turn off AppleTalk unless you experience problems with MIDI communication later on.
- OMS will ask you which port it should search for a MIDI interface. Choose whatever port your MIDI keyboard is connected to. OMS should detect any MIDI keyboards that you have connected to the port. (It might not be able to specifically name the model of your keyboard, but it should recognize that something is there.) If you think that OMS failed to detect a keyboard, or you think there might be another problem, consult the OMS documentation installed on your computer, or check the on-line documentation at Opcode's Web site (*www.opcode.com*).
- Test your MIDI connection by selecting "Test Studio" in the Studio menu. Press a key on your MIDI keyboard. You should hear "MIDI received" spoken by the OMS test program. Move your mouse cursor over the icon representing your keyboard. It should look like an eighth note. Click the icon and you should hear notes being played by your MIDI keyboard. If you don't get these results, check your MIDI cable connections and verify that your MIDI keyboard is on and configured to send and receive MIDI data.
- Save your studio setup before leaving the OMS Setup program.

Step 4. Calibrating Latency

Software Synthesizers and Latency

If you notice that the graphics and music appear to be out of synch, read this section. Otherwise you may skip this section.

If you have configured your *Music Ace Series* program to use an external MIDI keyboard, the actual time it takes for the MIDI command to be sent from the program to the keyboard and the note played is virtually instantaneous. The internal software synthesizers, however, have a significant time lag due to their CPU-intensive design. Depending on whether you have virtual memory enabled and a number of other factors, the latency can be as large as a quarter second.

This might not seem like much of a problem, but in music, timing requirements are very precise. With such a delay, the graphic and sound elements in your *Music Ace Series* program won't feel synchronized, making the program harder to use.

Your *Music Ace Series* program compensates for this problem by adjusting the timing of the graphics to be synchronized with the music. Fortunately, QuickTime can tell your program precisely what its latency is, so that the program can make the correct adjustments.

Latency Calibration

To compensate for latency in the sound production system of your computer, your *Music Ace Series* program delays its graphics to keep them synchronized with the sound. To know exactly how much to delay the graphics, the *Music Ace Series* needs to know how much latency there is. You will need to help the *Music Ace Series* program determine this information by performing a quick exercise or two. If you are not sure whether or not your computer has latency, use this exercise to find out if it does. To begin calibration, click the **Preferences** button on the Main menu. First, we will calibrate the *Music Ace Series* program for MIDI latency.

MIDI Sound Latency Calibration

Click **MIDI Output Driver**. Next, click the **Calibrate Latency** button.

Note: *If this button is grayed out, the MIDI output driver you have selected does not need to be calibrated for latency. You have the option of using the driver*

currently selected or choosing another driver, which may need to be calibrated for latency.

Follow the onscreen instructions for calibrating latency. You should see—and hear—a bouncing ball. In the white box is a slider control. Drag the slider slowly to the right until the ball-bounce is synchronized with the click. This may take a little experimenting to get exactly right. If the bouncing ball makes a sound, adjust the slider position until the click and the ball-bounce sound at the same time. If you can't hear the ball bouncing—some computers are not capable of producing a reference MIDI sound without latency—you will need to watch the ball and line up the bounce with the click. Click **OK** when you are finished.

The program now shows you a MIDI song that lets you to see whether or not the graphics line up with the sound. Watch the notes as they sing. Their mouths should open in sync with the sound. If this looks right to you, then you are finished with the MIDI latency calibration. Click **Yes**, click **OK**, and move on to setting the Wave latency. If the notes' mouths open too early or too late, you need to fine-tune the MIDI latency calibration some more. Click **No**. Adjust the latency slider and then check it again using the MIDI song. You can do this as many times as you like until you get it just right.

Uninstalling the program from a Macintosh

- Insert the *Music Ace Series* CD-ROM in your CD-ROM drive.
- On the window that appears, double-click the *Install Music Ace* or *Install Music Ace 2* icon.
- Select the uninstall option. This will remove *Music Ace Series* program files from your system folder. It does not remove the installation folder you specified during the installation.
- To complete the uninstall, locate the *Music Ace* or *Music Ace 2* install folder (usually in the Applications folder on your hard drive) and drag it to the trash.

Solving Common Problems

This section provides a list of potential problems and suggested solutions for users of Macintosh systems.

Problem: ----------
The animation is slow or the colors appear strange on my monitor.
Solution:

- Be sure your video is configured for 256 colors. Other configurations can result in slower video performance or incorrect mapping of the color palette.
- Close other applications that are running and try again.

Problem: ----------
I can hear Maestro Max's voice, but don't hear any music when the notes sing.
Solution:
The music produced by the notes in the *Music Ace Series* programs are generated by MIDI messages played by the computer's internal synthesizer or by an external MIDI device such as a MIDI keyboard. Make sure that your MIDI output device is configured properly.

The appropriate diagnostic procedure depends upon whether you are using QuickTime Music or an external MIDI instrument to generate MIDI sounds.

If you are using your computer's internal QuickTime synthesizer to generate MIDI music:

- If the computer's sound volume is set at an appropriate level, start the *Music Ace Series* program and go to the Preferences menu. Click **MIDI Output Driver**. There should be at least one or two options relating to your MIDI keyboard. Check "QuickTime Music Synthesizer." Test this option by clicking on one of the instruments on the screen.
- If you still don't hear any sound, quit the *Music Ace Series* program and go to QuickTime Settings in your Control Panels folder. Choose "Music" from the drop-down menu and make sure "QuickTime Music Synthesizer" has been selected. If that option is not available, click the **Edit List** button. If there is no synthesizer available in the list, press the **Add** button in the lower left corner. In the Synthesizer column, choose "QuickTime Synthesizer" from the drop-down menu. Press the **OK** button in the lower right corner to save your settings. You can test your settings by running the Quicktime Music test application called "QTMusic Sample Keyboards" located in the Mac Files folder on the *Music*

Ace Series CD-ROM. Now launch the *Music Ace Series* and try testing the instruments again.

If you are using an external keyboard:

- Make sure your MIDI keyboard is turned on and check its volume.
- If you are using OMS for MIDI Output, launch the OMS studio setup that was created when you installed OMS and verify that OMS MIDI output is working properly.
- If you still don't hear sounds being produced by your MIDI keyboard, try swapping your MIDI cables. (If you are using other music software programs successfully with your MIDI keyboard or if the *Music Ace Series* program is receiving MIDI input successfully, don't do this.) The "In" cable on your computer's MIDI interface should be connected to the "MIDI OUT" port on your keyboard, and the "Out" cable from your computer's MIDI interface should be connected to the "MIDI IN" port on your keyboard.
- If you still don't hear sounds being produced by your MIDI keyboard, check that your MIDI keyboard is set to receive on all channels. (If you are using other software programs successfully with your MIDI keyboard, don't do this.) Check the documentation for your MIDI keyboard to learn how to set up its MIDI channels. Some MIDI keyboards do not allow any MIDI-channel changes. If this is the case with your keyboard, it has probably already been set to receive on all channels.

Problem: ----------

The *Music Ace Series* program is not responding to MIDI input.

Solution:

- Go through the steps of configuring a *Music Ace Series* program for MIDI input. See "Choosing a MIDI Input Driver" on page 66.
- If the *Music Ace Series* program still does not respond to MIDI Input, try switching your MIDI cables for your external MIDI keyboard. (If you are using other software programs successfully with your MIDI keyboard or if MIDI output is working successfully, don't do this.) The "In" cable on the computer's MIDI interface should be connected to the "MIDI OUT" port on your keyboard, and the "Out" cable from the computer's MIDI interface should be connected to the "MIDI IN" port on your keyboard.
- If you are using OMS for MIDI input, launch the studio setup that was created when you installed OMS and verify that MIDI input is working there. After launching OMS Setup, select "Test Studio" from the Studio menu and verify

that MIDI Input is working. When you press keys on your MIDI keyboard, you should hear a voice saying "MIDI received" from your computer.

Problem: ----------
I don't hear any sound at all (no voice and no music).
Solution:

- Be sure your speakers or headphones are connected correctly and the volume control on your speakers and computer is turned up.
- Be sure that the computer speaker volume is not set to Mute in the Monitors & Sound control panel.

Problem: ----------
I click on the *Music Ace Series* icon, but nothing happens.
Solution:

- Double-click on your hard drive icon, then double-click the Utilities folder.
- In the Utilities folder, launch the program called "Disk First Aid." If you cannot find the Utilities folder on your machine, do a search on your computer for "Disk First Aid"—the program might be in a different location. If it is not on your machine, check the CD-ROMs that came with your computer. "Disk First Aid" should be on one of them. Copy the program onto your machine and run it.
- Select your hard drive for checking, and then press the **Verify** button. Disk First Aid will do a check of your hard drive and it will most likely find a simple problem that it can easily repair. We have found that doing this may fix the problem with launching a *Music Ace Series* program.