

# Harmonic Vision Music Ace Demo Help

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## **Introduction to Computer Sound**

This section is intended to provide an overview of the types of sound generation hardware and software available on computers. Understanding the ideas in this section will help you to follow the procedures described in later sections.

### **Types of Computer-generated Sound**

Computers can typically generate two basic kinds of sound: Wave sound and MIDI sound. Most sound cards are capable of generating both Wave and MIDI sound. Music Ace uses both Wave and MIDI sound if your sound card supports both.

## **Music Ace System Checkout and Configuration Utility**

The Music Ace Diagnostic Utility provides the means to view your system configuration, as well as to specify information about your sound device(s) so that Music Ace will know how to properly use your sound devices. The Diagnostic Utility has three buttons on the first page that allow you to:

[View System Status](#)

[View and Configure Display and Animation Status](#)

[Configure and Test Sound](#)

## **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 Wave files. If your computer has a sound card, it is probably capable of playing Wave files. Music Ace uses these digitized sounds (Wave sounds) for sound effects such as applause, and Maestro Maxs voice on the CD-ROM version. The various Windows sound effects that you may have installed on your computer, such as Windows start and exit sounds, are examples of Wave files. (Note: Wave sound should not be confused with Wave Table sound cards.) Wave sound is fundamentally different from the other type of computer generated sound called MIDI sound.

[Click here](#) for wave device configuration instructions.

## **MIDI Sound**

The term MIDI is an abbreviation for Musical Instrument Digital Interface. Its original meaning refers to the interface between a computer and an external electronic musical instrument, usually a MIDI keyboard. Windows terminology has broadened the meaning of MIDI to refer to computer generated sound that is musical note based, whether the notes play on an external MIDI keyboard or on a sound card. MIDI is useful for playing musical notes, composing music, etc. MIDI sounds are much more flexible in terms of music generation than are Wave sounds. Wave files cannot be manipulated to the same degree that MIDI sounds can.

Music Ace uses both MIDI (music) and digitized sound (Wave sound) in the program. The music is generated by your sound card or by an external MIDI device. Sound effects are generated using either the digital-to-analog (digitized sound) capability of your sound card or selected voices on your MIDI instrument.

[Click here](#) for MIDI device configuration instructions.

## **System Status**

This windows reports information useful for Harmonic Vision technical support.

### Operating System (Windows 95 and Windows NT only)

This indicates whether your computer is running Windows 95 or Windows NT.

### Processor (Windows 95 and Windows NT only)

In Windows 95 or Windows NT this field indicates whether your computer's microprocessor is an Intel (or compatible) 80386, 80486, or Pentium.

### Speed Index

This gives a rough estimate of your computer' speed combined with how much processing power it has available for Music Ace. If your computer is very fast, you might get a reading of 500 ms. or less. If your computer is very busy with other applications that are running, or is a relatively slow computer, you might get a reading of 2000 ms or more. The fewer number of milliseconds reported, the more computer power is available for Music Ace.

### Total Free Memory

This reports the available free memory. Music Ace needs at least 2 megabytes (2000000 bytes) free in order to run. Even if your computer has more than 2 megabytes installed, the Windows operating system and other applications that you may be running will use up some of your memory. Therefore, the available memory will be less than the total memory you have in your computer.

Windows has the ability to use some of your hard disk space to emulate physical memory. This is called "virtual memory." Depending on how virtual memory is set up in your computer, the virtual memory you have available may be included in the amount of available memory reported here.

### Multimedia Timer

In order for music to play with precise timing, a multimedia timer driver must be installed on your computer. If it is accurate to within 50 ms., music played by Music Ace should have an accurate timing. If it is not present, you should see your Windows documentation to determine why it is not installed and how to install it.

### Missing DLLs

Most Windows applications need one or more DLL files present on your hard drive in order to operate correctly. If any of the DLLs that Music needs are not present it will not be able to run, and you should re-install Music Ace.

### Country

This indicates which language version of Music Ace you own.

### Media Files

Music Ace's media files are necessary for Music Ace to run. If they are missing, you need to re-install Music Ace.

## **Display and Animation Status**

### **Display Resolution**

The Music Ace screen displays at a resolution of 640 x 480 pixels. If your screen is set to a higher resolution, Music Ace will not take up the full screen. If you would like Music Ace to take up the full screen, you must change the resolution to 640x480 pixels. See your video card documentation or the Windows documentation for instructions.

If you are using Windows 95, Music Ace can temporarily change the resolution for you. See "Auto-Size" below.

### **Number of Colors**

Music Ace uses an animation library from Microsoft that works best if your screen is set to display 256 colors. If your video is set for more than 256 colors, your computer has to do more work and the animation will be slower and choppy. If your video is set for 16 colors, the colors you see will not be the intended colors. Pink may appear gray, purple may appear blue, etc. Furthermore, your computer will have to do extra work and the animation will be slower.

### **High Resolution View Mode**

This applies only if you are using a resolution higher than 640x480. The Music Ace graphics screen is 640 by 480 pixels. If your screen is also set for 640x480, Music Ace will occupy the full screen. If your screen resolution is higher, you have a choice of three ways Music Ace will be displayed:

#### **Auto-Size (Windows 95 only)**

If the Auto-Size option is checked, Music Ace will automatically switch your screen to 640x480 and back to your original resolution when it is finished.

Unfortunately, if you have any desktop icons on the right or bottom area of the screen, switching resolutions will move them toward the center of the screen. If you find this to be a problem, or if the resolution change is a problem for any other reason, do not use this option.

#### **Black Border**

If this option is checked, Music Ace will be centered on your screen, with the remainder of the screen covered by a black border.

#### **Windowed**

If this option is checked, Music Ace will appear in a typical Windows 3.1 or Windows 95 window with a caption bar.

### **WinG Test**

Music Ace uses an animation library from Microsoft that consists of a number of files, all starting with the name "WING". (WinG refers to Windows Game library.) This test will help determine whether these files are installed properly. If any of these files are not installed properly on your computer, you will need to re-install Music Ace.

[Click here](#) for a list of the WinG files and there proper disk locations.

#### WinG Performance

The smoothness of the spinning-dog animation will give you an idea of how smooth the animation in Music Ace will be. If you have a fast computer but the animation is slow or choppy, check that:

Your video is set to 256 colors.

You do not have other applications running. MS-DOS applications tend to be especially guilty of slowing your computer.

If you cannot get reasonable animation performance or no animation at all, you may have obsolete software video drivers that are incompatible with Microsoft's Windows Game library, WinG (pronounced Win-Gee). Contact your video card manufacturer or computer manufacturer for updated video drivers. Let them know you are having problems with your video card when using WinG.

## **WinG Files and Disk Locations**

If you are running Windows 3.1, the following files should be located in your "windows\system" directory:

- wing.dll
- wingde.dll
- wingpal.wnd
- wingdib.driv
- dva.386

Furthermore, in order for the animation to display quickly, you need the following line in your system.ini file in the [Enh386] section:

```
device=dva.386
```

If you are running Windows 95 or Windows NT, the following file should be in your "windows\system" (Windows 95) or "windows\system32" (Windows NT) directory:

- wing32.dll

If you are running Windows 95 or Windows NT but are using the 16 bit version of Music Ace, see the Windows 3.1 setup above.

## **Configuring MIDI Output (Musical Notes)**

There are basically three types of MIDI output drivers: Internal MIDI, the MIDI Mapper, and External MIDI.

### **Internal MIDI**

Internal MIDI refers to musical sounds that are generated through speakers or headphones by a sound card installed in your computer. Almost all sound cards have tone generators built into the card. These range in quality from FM (Frequency Modulated) sound to Wave Table sound (not to be confused with Wave sound). FM sound is available on all cards that are AdLib or SoundBlaster compatible. Wave Table sound has recordings of actual instruments built into the cards memory. Wave Table cards tend to be higher priced but sound much more realistic than FM cards.

Regardless of the quality of sound, Internal MIDI is easy to configure. Simply select the appropriate driver from the MIDI output list box. There are no additional parameters to configure for Internal MIDI.

### **MIDI Mapper**

The MIDI Mapper is an extra layer of software between Music Ace and a MIDI output device driver. It is treated as another separate device. It maps the MIDI output to any of the other MIDI output devices, regardless of whether they are internal or external. It can even map to multiple devices so, for example, some musical notes might play on an external keyboard and others would play on the internal sound card tone generators.

The MIDI Mapper allows you to make a keyboard that is not General MIDI appear to be General MIDI to Music Ace. You can remap MIDI patches (instrument codes) to the corresponding General MIDI patches. You can also remap MIDI channels to channels available on your keyboard. In order to configure MIDI Mapper for your keyboard, you need to understand MIDI data at a technical level. See Windows MIDI Mapper documentation for configuring MIDI Mapper.

If you use the MIDI Mapper, Music Ace assumes that your keyboard has at least MIDI channels 1 through 8 enabled. If they are not, choose a different MIDI Output driver. When you select MIDI Mapper, Music Ace also assumes that you will be using the MIDI Mapper utility (located in the Windows Control Panel) to correctly configure MIDI Mapper for your sound device(s). You should select MIDI Mapper only if you are very familiar with configuring sound devices, or have a special reason for using the MIDI Mapper driver.

### **External MIDI**

External MIDI refers to musical sounds generated by an external MIDI instrument (typically a keyboard) that is connected to a MIDI interface card or to a sound card that has a MIDI interface on it. If you have an electronic MIDI keyboard properly interfaced with your computer and a MIDI output driver is properly installed, you may use your keyboard as the MIDI output device. Music Ace can then send data to your keyboard telling it to play musical notes.

In order for Music Ace to communicate with your keyboard, it needs to know, in effect, what language it speaks. For example, on keyboard A, sending code 50 might tell it to sound like an accordion, but on keyboard B, the accordion sound might require code 37. Furthermore, some keyboards can make many hundreds of different sounds, and others can only make the sound of a piano and maybe a handful

of other instruments.

A universal MIDI language does exist; it is called General MIDI. Unfortunately, most keyboards are not General MIDI compatible.

If you select an External MIDI driver, you will need to tell Music Ace what MIDI language your MIDI keyboard speaks. The following sections describe the procedure for describing your external MIDI device.

**Note: The selections you make to describe your MIDI system do not alter the way that your MIDI system operates; you are merely telling Music Ace how to use your equipment.**

If you select an External MIDI driver, you will need to tell Music Ace what "MIDI language" it speaks. [Click here](#) for instructions on specifying the type of keyboard you have.

## **MIDI Channels**

MIDI devices have 16 channels, numbered 1 through 16, which can receive MIDI commands such as Play note and Set instrument. Each MIDI channel can play only one instrument sound at a time; therefore, MIDI devices can play at most 16 different sounds simultaneously. It is often the case that a given MIDI device will have only a subset of the 16 channels enabled. Therefore, it will respond to commands only on those channels that are enabled. Music Ace needs to know which of these channels are enabled.

Some devices have all 16 channels enabled by default. Some devices have only 1 channel enabled. These can only play a single instrument sound at a time via MIDI. Many devices have more than 1 but less than 16 enabled.

If you specify an external MIDI keyboard as your MIDI output device, Music Ace will give you the opportunity to select which of the 16 channels your keyboard has enabled. If you select the MIDI output configure button, a dialog box will appear with a MIDI Channel button. Selecting this button will display another dialog box which will let you specify which MIDI channels are enabled. By selecting the Test button for each channel, you can determine whether that channel is enabled on your keyboard. If you hear a note played when you click the button, the selected channel is enabled and you should put a check mark in the corresponding check box. If you hear nothing when you select the Test button, you should set the check box to unchecked.

## **Configuring Music Ace for Sound Device**

Note: You may want to read the section explaining the different types of [computer sound](#) before continuing here.

In order for Music Ace to use the sound devices installed on your computer, you must tell the program about your sound devices. Regardless of whether you have multiple sound devices in you computer or just one, it is likely that there is more than one Wave driver, and more than one MIDI output driver in your computer. If you have a SoundBlaster, for example, you will probably have one MIDI output driver for its built-in tone generators, another driver for an external MIDI keyboard which you can connect to your SoundBlaster via a cable, and you will likely have another sound driver called the MIDI Mapper installed.

Music Ace needs to know which driver you intend to use for Wave output, MIDI output and MIDI input (optional). For each of these parts of your sound card, a list box displays the available sound drivers. To select a sound driver, click the desired driver in the list box. It is a good idea to select the Test button so you can hear if the driver is operating as you expect.

Selecting the OK button will save your changes. Selecting the Cancel button will revert to the previous configuration.

Note: Changing selections here does not alter your sound for other applications on your computer. By using this utility, you are merely informing Music Ace which drivers to use and how to use them. The drivers themselves and the system default selections are not affected.

Click any of the following for configuration instructions:

[Wave Output](#)

[MIDI Output](#)

[MIDI Output to External Keyboard](#)

[MIDI Input from External Keyboard](#)

[Doodle Pad Instruments](#)

## **Volume Control**

Music Ace has a Wave and MIDI volume control. Depending on your sound card and its software drivers, the volume control may or may not work. Older sound cards such as the original 8-bit SoundBlaster do not software controllable volume settings. Most newer sound cards do.

However, even if your sound card does have the necessary hardware for volume control, its wave or MIDI driver might not. If you find that the on-screen volume control in Music Ace is ineffective, try selecting a different driver if one is available.

If you still cannot get the on-screen volume control to work, a simple solution is to adjust your speaker volume.

## **Wave Output** (Sound Effects & Voice)

All multimedia-capable computers have Wave (digitized sound) capability. You can select which Wave output driver you wish to use with the Wave Output selection box. Select the Wave Output Test button to make sure your Wave output driver works. You should hear a recording of a duck quacking after selecting this button. If you do not hear anything, try selecting a different driver. If that does not work, check the volume control on your speakers, amplifier, or back of your sound card. Make sure your speaker cables are connected to your sound card properly.

Your computer probably has diagnostic or configuration utilities installed that came with your sound card. If you cannot get Wave sound to work properly, try experimenting with these.

## **General MIDI**

General MIDI is a MIDI keyboard standard developed by Roland. It specifies which computer codes play which instruments. All General MIDI keyboards speak the same language so computers will know how to communicate with them. For example, if Music Ace want the keyboard to sound like a banjo and Music Ace knows that the keyboard is General MIDI compatible, it will send the keyboard the General MIDI banjo code (in this case, the code happens to be 106). It does not matter which company made the keyboard; it will always sound like a banjo.

If your keyboard is not General MIDI compatible, Music Ace will not know how to specify the banjo sound. To determine whether your keyboard is General MIDI compatible, look for the General MIDI logo on the keyboard. If you cannot find the logo, odds are that your keyboard is not General MIDI compatible. Most keyboards more than a couple years old are not General MIDI compatible.

General MIDI keyboards can play 128 instrument sounds ranging from normal musical instruments such as Grand Piano and English Horn to sounds effects such as Gun Shot and Applause. These instruments are numbered 0 through 127. These numbers are referred to as "patches" or sometimes "program change numbers." General MIDI specifies that patch 0 means "Grand Piano," patch 1 means "Electric Piano", and so on up through patch 127 which means "Applause."

When Music Ace want to play a certain instrument sound on a given MIDI channel, it sends the appropriate patch on that channel.

The General MIDI specification also specifies that MIDI channel 10 is used for percussion instruments. Music Ace does not use percussion, and so will not use channel 10.

If your keyboard is not General MIDI compatible, you can use the Music Ace configuration utility to remap patches so your keyboard appears to be General MIDI compatible to Music Ace.

For instructions on creating a keyboard configuration for Music Ace, [click here](#).

## **Testing MIDI Input**

Selecting the MIDI Input Test button on the Sound Configuration dialog box will display another dialog box containing a diagram of a piano keyboard and a MIDI message display. When you play keys on your MIDI keyboard, you should see the corresponding key on the diagram change color. You should also see hexadecimal (number base 16) numbers representing MIDI messages appear.

If nothing happens on the screen when you play your MIDI keyboard, the keyboard and your computer are not communicating. Check your MIDI cable. Make sure the cable IN is connected to your keyboard OUT.

If that does not work, check your MIDI keyboard manual to determine whether it is configured to send MIDI data.

[Click here](#) to view instructions for enabling MIDI input.

## **Specifying Doodle Instruments**

You can compose your own music with the Music Ace Doodle Pad. It supports six musical instrument sounds. The Music Ace configuration utility lets you specify which six instruments you want in the Doodle Pad.

Selecting the 'Specify Doodle Instruments' button on the Sound Configure dialog box will bring up the appropriate dialog box.

Each of the six doodle instrument has a combo box which lists all 128 General MIDI instruments. The General MIDI patch number and the name of each instrument is displayed in the combo box. Simply select the desired General MIDI instrument in each of the six combo boxes.

## **MIDI Keyboard Parameters**

Selecting the MIDI Keyboard Type Configure button on the Configure Sound dialog box will display the MIDI Parameters dialog box. It will allow you to specify various MIDI parameters so that Music Ace will communicate properly with your MIDI keyboard. The steps required to configure the various MIDI parameters are described below.

Specifying which MIDI channels on your keyboard are enabled is the first step. If you have less than four MIDI channels enabled, Music Ace will not send patch data to your keyboard; i.e. you will not hear more than one instrument sound. The Remap Patches and Instrument Channels buttons will be disabled if this is the case.

If you have at least 4 MIDI channels enabled, either the Remap Patches or Instrument Channels button will be enabled, depending on whether the Send MIDI Patch Codes button is checked.

If your keyboard is General MIDI compatible, you will not need to specify patch data. If your keyboard is able to respond to patch changes but it is not General MIDI compatible, you can remap the patch data so that it emulates a General MIDI keyboard. If this is the case, make sure the Send MIDI Patch Codes button is checked, then select the Remap Patches button.

If your keyboard does not respond to MIDI patches changes, you can configure your keyboard manually using the buttons and knobs on your keyboard. You can select specific instruments for each of the enabled MIDI channels. You will then use the Instrument Channels button to inform Music Ace which instruments are on which channel.

## **MIDI Patch Remapping**

If your keyboard is not General MIDI, yet it can respond to patch changes, you can remap the patches using the MIDI Patch Remapping dialog box. Music Ace will then treat your keyboard as if it were General MIDI. The dialog box lists all 128 General MIDI instruments and their standard General MIDI patch numbers. You can specify alternate patch numbers for each instrument. For example, General MIDI patch 56 specifies "trumpet." If your keyboard uses patch, say 34, for "trumpet," enter "34" for General MIDI patch 56.

Note: Music Ace numbers patches from 0 through 127. If your keyboard manual uses numbers 1 through 128, simply subtract 1 from the number from your manual before entering it in Music Ace.

The dialog box indicates which instruments Music Ace actually uses. You only need to specify alternate patches for those instruments. Future Harmonic Vision products will use more of the General MIDI patches.

Some of the General MIDI patches do not really specify instruments, but rather specify sound effects such as "applause" and "explosion." Some non-General MIDI keyboards that can make these sounds use a single patch number for several sound effects (the Miracle keyboard is an example). They divide the keyboard into several ranges, and each range can play a given sound effect. For example, the Miracle keyboard's patch 72 specifies "Jet," "Gunshot," "Duck," if the user hits keys 30, 39, and 68 respectively. Sound effects such as these can use the "Fixed Key" field on the MIDI Patch Remapping dialog box.

## **MIDI Instrument Channels**

If your keyboard does not respond to MIDI patch changes, or if changing instruments via MIDI involves switching banks or other complicated programming, you may want to forgo having Music Ace send patch data to your keyboard. If you would still like Music Ace to play different instrument sounds, you can manually configure your keyboard to play certain sounds on each of 16 channels (see your MIDI keyboard manual) then inform Music Ace which instrument is on which channel via the MIDI Instrument Channels dialog box.

The dialog box indicates which of the 128 possible General MIDI instruments it uses. For each of those instruments, specify which channel on your keyboard you have configured to play that sound (or a similar sound).

Some of the General MIDI patches do not really specify instruments, but rather specify sound effects such as "applause" and "explosion." Some non-General MIDI keyboards that can make these sounds using a single channel for several sound effects (the Miracle keyboard is an example). They divide the keyboard into several ranges, and each range can play a given sound effect. For example, the Miracle keyboard's patch 72 specifies "Jet," "Gunshot," "Duck," if the user hits keys 30, 39, and 68 respectively. Sound effects such as these can use the "Fixed Key" field on the MIDI Instrument Channels dialog box.

## **MIDI Keyboard Type**

If you specify a MIDI output device driver that communicates with an external MIDI keyboard, you will need to specify the type of keyboard. You specify the type of keyboard by selecting the best option in the MIDI Keyboard Type selection box on the Sound Configuration dialog box.

If your keyboard is General MIDI compatible, choose General MIDI in the MIDI Keyboard Type selection box. This option will offer the best operation for Music Ace.

If you have an inexpensive keyboard that is not a General MIDI keyboard, it is likely that it has only one MIDI channel enabled. In that case, specify Single Channel Keyboard. If the enabled channel is not channel 1, select the MIDI Keyboard Configure button so that you can specify which channel is enabled.

With this single channel configuration, Music Ace will not be able to play different instrument sounds. It will not send patch data to the keyboard. You may want to simply use this keyboard as a MIDI input device, and use an internal sound card as your MIDI output device.

If you have a non-General MIDI, higher-end keyboard with many channels enabled, you may want to instead use the MIDI Mapper as your MIDI Output device. See the MIDI Mapper documentation that comes with Microsoft Windows.

If your keyboard will accept MIDI data on many MIDI channels, but will not respond to patch changes, specify Manually Configure Keyboard. Using your keyboard manual as a guide, specify the instruments you would like Music Ace to use for each MIDI channel using the buttons and knobs on the keyboard. You will then need to select the MIDI Keyboard Type Configure button so you can inform Music Ace which instruments appear on which channels.

If you have a Miracle™ Piano Teaching System keyboard, select that option in the MIDI Keyboard Type selection box. Your Miracle(TM) keyboard will need to be connected to your computer using MIDI cables. Music Ace does not support the Miracle(TM) serial port interface.

If none of the above options apply, you can specify a new configuration by selecting New Keyboard in the MIDI Keyboard Type selection box. Music Ace will then ask you for the name of the new configuration. The make and model of your keyboard makes a good name (e.g. Yamaha DX7). [Click here](#) for further instructions on specifying the keyboard configuration.

## **Trouble Shooting**

This section provides a list of potential problems and suggested solutions. If you have a problem installing or using Music Ace, please read through this entire Installation and Troubleshooting Guide as well as the information provided in the Music Ace Diagnostic Utility. If you still cannot solve the problem, please call our Technical Support number.

Music Ace will not start.

Animation is slow.

Colors are strange.

Volume control does not work.

Max is not talking.

Do not hear any sound.

Technical Support.

**Problem: Music Ace will not start**

**Solution:**

- \* Run the Music Ace Diagnostic Utility to make sure all the required DLLs are present. If any are missing you will need to re-install the product.
- \* Be sure you have enough memory available. Close any other applications that are running and try again. DOS applications especially can use large amounts of available memory.
- \* Be sure you have a large enough swap file defined in your Windows configuration.

**Problem: Animation is slow**

**Solution:**

\* Be sure your video is configured for 256-colors. Other configurations can result in slower video performance.

\* Close other applications that are running and try again. DOS applications can be especially large users of computer cycles.

**Problem: Colors are strange**

**Solution:**

Be sure your video is configured for 256-colors. Other configurations can result in incorrect mapping of the color palette.

**Problem: Do not hear any sound**

**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.
- \* Check to be sure you have set up your computer correctly for the sound device you are using.
- \* A simple way to check if your equipment is working properly is to load the Media Player program from the Windows Accessories Program Group. From the File menu, select the file canyon.mid and try playing this MIDI file. If you do not hear the song, then something is incorrectly set up with your sound device. Refer to your computer or sound card manual for help. If you hear the song, and you are using External MIDI, check to be sure you have correctly specified the active MIDI channels.

**Problem: I hear music playing, but I dont hear Maestro Max talking.**

**Solution:**

Floppy Disk Version:

Maestro Max does not talk out loud in the floppy disk version of Music Ace. He presents his instructions silently in the bubbles that appear on the screen.

CD-ROM Version:

Make sure Music Ace is configured to use a Wave device driver.

Make sure Max is configured to use "Voice" . Use the preferences screen inside of Music Ace.

**Technical Support**

Harmonic Vision's technical support is not available for the demo version of Music Ace. It is available free to registered owners of Music Ace, however. To order a copy of Music Ace so that you can receive technical support, please call 1-800-644-4994 (technical support is not available on this line).

## **MIDI Input (MIDI Keyboard)**

In many of Music Aces lessons and games, you will interact with the program by clicking the on-screen piano with your mouse. If you have an external MIDI keyboard properly connected to your computer (either through a MIDI interface card or through a sound card with a MIDI port), you have the option of hitting keys on this external keyboard instead of clicking the on-screen keyboard.

Before continuing, a word of caution: Most sound cards have only one IRQ (interrupt request line). Both Wave output and MIDI input require an IRQ. If your system has a sound card with only one IRQ (as is generally the case), you will NOT be able to simultaneously select MIDI input and Wave output with Music Ace . You will have to decide which is more important to you. If MIDI input is more important, set Wave output to No Wave Output.

It is possible that your sound card manufacturer has new software drivers that allow MIDI input and Wave output to be enabled at the same time. Contact your sound card manufacturer for information regarding this issue.

To enable MIDI input, select a MIDI input driver in the MIDI Input combo box. Select the MIDI Input Test button to verify that the driver works properly.

