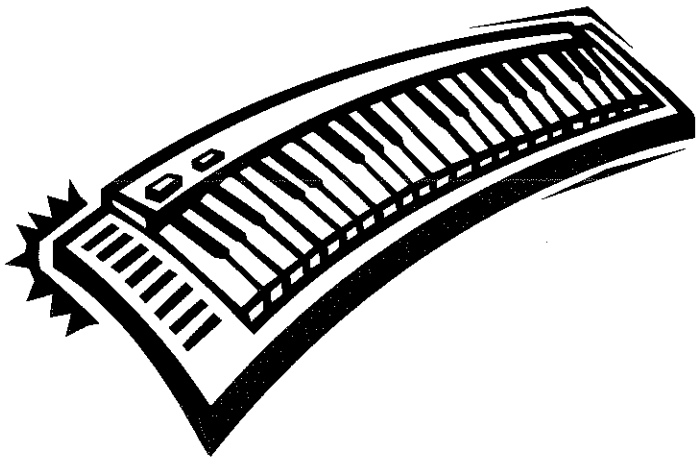
THE MIRACLE®

PIANO TEACHING SYSTEM SOFTWARE

Windows™ User's Guide



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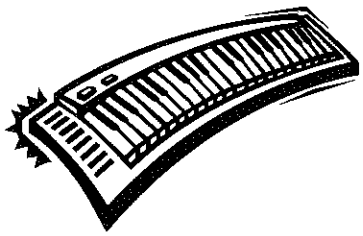


INTRODUCING THE MIRACLE!

Welcome to **The Miracle Piano Teaching System Software!**

You are about to take a complete beginner's piano course. In the months to come, this system will provide hundreds of Lessons to teach you about playing the piano.

These Lessons are tailored to your individual needs. The Miracle listens to your playing, identifies problem areas, and provides special exercises to overcome them.

In the process, you'll play many different types of music, including Classical, Jazz, and Rock & Roll.

LENGTH OF THE COURSE

The minute you touch The Miracle, you'll be making music. But, if you want to become a good piano player, you'll need time and practice.

People learn at different rates. An average student with no prior musical training should complete the course in 6-12 months. After that time, you should be able to:

- Read music notation.
- Play with two hands using chords and common rhythms.
- Learn new pieces of music on your own.
- Perform with other musicians

REGISTRATION

Please fill out your **Warranty Registration Card** and mail it right away.

For the address and telephone of the office nearest you, see *Technical Support.*

TECHNICAL SUPPORT

For technical support in the USA, please contact:

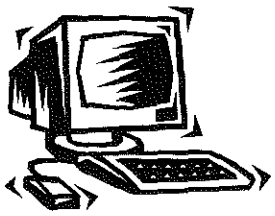
The Software Toolworks, Inc.
60 Leveroni Court
Novato, CA 94949
Fax: (415) 883-0367
Telephone: (800) 488-2221
BBS (415) 883-7145
America Online keyword: TOOLWORKS
CompuServe: GO TOOLWORKS

For technical support in Europe, please contact:

The Software Toolworks, Inc.
Priority House, Charles Avenue
Maltings Park, Burgess Hill
West Sussex, RH15 9PQ
England, United Kingdom
Fax: (0444) 248996
Telephone: (0444) 239600
(Monday - Friday, 09:30 - 13:00 hours and 14:00 - 16:30 hours)

For technical support in Australia and New Zealand, please contact:

The Software Toolworks, Inc.
5/6 Gladstone Road
Castle Hill, New South Wales
Australia 2154
Fax: (02) 8992348
Telephone: (02) 8992277



SETTING UP HARDWARE

Welcome to **The Miracle Piano Teaching System Software** running under Microsoft Windows! In the months to come, your computer will provide hundreds of Lessons to teach you how to play the piano on The Miracle Piano or your other MIDI compatible keyboard.

SYSTEM REQUIREMENTS

The Miracle requires these system components.

Windows with The Miracle Keyboard:

- 80386 SX processor or better (80486 recommended)
- DOS 5.0
- Windows 3.1
- 4 MB of RAM
- Hard drive with at least 5 MB of space available
- SVGA adapter (640x480 256 color)
- Available serial port or any Windows-supported MIDI adapter
- High density floppy drive
- Mouse with a mouse driver

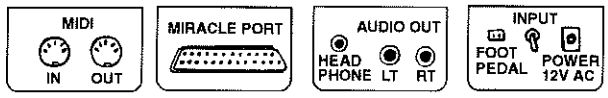
Windows Stand-Alone:

- All the above except a serial port
- General MIDI compatible keyboard, which has at least 49 keys (full size keys highly recommended), and is capable of 16 Note polyphony as well as multi-timbrel (up to 8 timbres).
- Any Windows supported MIDI adapter with MIDI cables.

CONNECTING THE MIRACLE KEYBOARD

Note: If you do not own The Miracle Piano, please skip to the next section CONNECTING YOUR MIDI KEYBOARD.

Look at the the rear connectors on the back of The Miracle Piano keyboard.



Rear Connectors on The Miracle Keyboard

The rear connectors are:

- **MIDI** - Use **In** and **Out** to connect The Miracle to another MIDI device (Musical Instrument Digital Interface) if you have one.
- **Miracle Port** - Use **The Miracle Cable** to connect The Miracle to your PC serial port.
- **Audio Out** - Use the **Head Phone Jack** to plug in your head phones; use **LT** and **RT** to connect The Miracle to your stereo amplifier.
- **Input** - Use the **Foot Pedal Jack** to plug in the foot pedal.

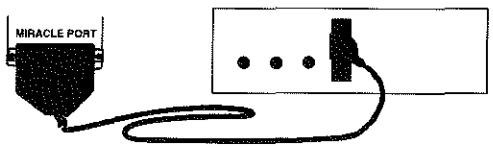
For information about the keyboard overlay, earphones, stereo audio connectors, and the MIDI connector, see ABOUT THE KEYBOARD in your OWNER'S MANUAL.

When The Miracle is properly connected and turned on, the instrument and volume indicators light up.

To connect The Miracle to your PC, follow these steps:

CAUTION: Do not plug any cable other than **The Miracle Cable** into the **Miracle Port**. Using another cable in this port can damage The Miracle and will void your warranty. Make sure The Miracle keyboard is turned off when plugging in the cable.

1. Plug the male end of **The Miracle Cable** into the **Miracle Port** and the female end into your PC's serial port. This can be COM1, or COM2.

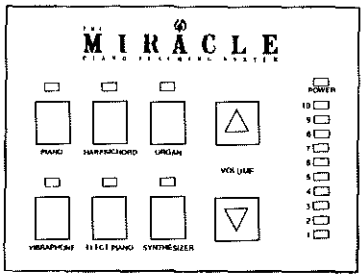


2. Plug the **Keyboard Power Supply** into the the **Power** connector on the back of the keyboard and into the electric outlet on the wall or floor.

3. Plug the **Foot Pedal** into the **Foot Pedal Jack.** It doesn't matter which side of the plug is up.

4. Put the pedal on the floor with the foam (squishy) side up.

5. The **On/Off** switch is next to the power connector. Turn The Miracle keyboard **on.** The instrument and volume indicators will light up.



The Top of the Keyboard

6. Press any key to make sure that sound comes out of the built-in speakers when you strike a key. Adjust the volume as necessary.

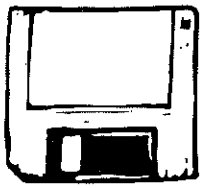
CONNECTING ANOTHER MIDI KEYBOARD

If you have a MIDI card or a sound card, you can connect your MIDI keyboard to that port. Connect the MIDI IN cable to the MIDI OUT on the piano, and the MIDI OUT cable to the MIDI IN on the piano. Then refer to your keyboard owner's manual, and follow the instructions to put your piano into "Multi Mode."

If your PC has only one serial port and you want to use an external MIDI adapter, you will not be able to use a serial mouse. You must disconnect the mouse and disable the mouse driver, then connect the external MIDI adapter in the serial port each time you start the program.

Note: You can purchase an additional serial card from your PC dealer and avoid plugging and unplugging the mouse and the external MIDI adapter, or you can purchase a bus mouse, which does not require a second serial port. If you have a Fax/Modem, make sure you are not using the same COM port assignment, when installing a new serial port.

Every keyboard requires some special setup to work with The Miracle software. The setups can usually be saved after they are configured and loaded whenever you want to use The Miracle software. Most keyboards have different ways of setting up MIDI IN to be multi-timbral, and to accept program changes. Check your piano owner's manual for your method. Also, please be sure to review the MIDI Setup information in the online Help.



SETTING UP SOFTWARE

The **Miracle Piano Teaching System Software** is designed to run under Windows 3.1 and work with many MIDI keyboards. However, some MIDI keyboards are not capable of handling the MIDI commands and events that today's MIDI requires. Refer to your keyboard owner's manual and The Miracle System Requirements to determine whether your keyboard will work.

Before attempting to install or run the software, please make sure that your MIDI keyboard is connected to your PC and is turned on. The software must detect your piano keyboard for proper operation. If you are using a sound card card as a tone generator, run Windows, open the Mixer, and turn up the sound volume.

For information on troubleshooting your sound output, see the Readme file shipped with the software called **HELP_4_U**.

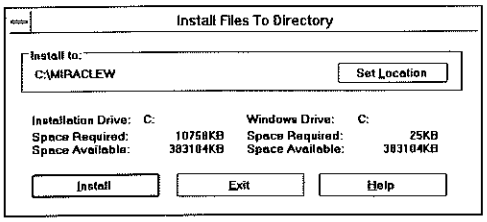
INSTALLING THE MIRACLE

To install The Miracle Piano Teaching System Software:

1. Connect and turn **on** The Miracle piano or your MIDI keyboard.
2. Put The Miracle Disk 1 into your floppy drive (usually **A:**).
3. Run Windows.
4. Open the **File** menu and choose **Run**.
5. In the Command Line, type type **A:\SETUP. EXE** and choose **OK**.

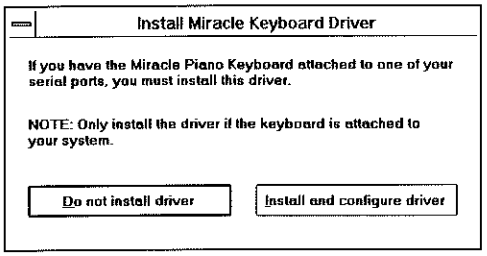
Note: If your floppy drive is another letter substitute it for A. For example, type **B:\SETUP. EXE** and choose **OK**.

6. At the Welcome dialog, choose **Continue** to install The Miracle software. The *Install Files to Directory* dialog appears.



7. Accept the default installation directory, **C:\MIRACLEW**, and choose **Install.** (If you prefer, you can set another directory path. Choose the **Help** button for details.)

8. The install program decompresses the software and prompts you to swap disks in your floppy drive. After inserting a disk, choose **OK**. The *Install Miracle Keyboard Driver* dialog appears.

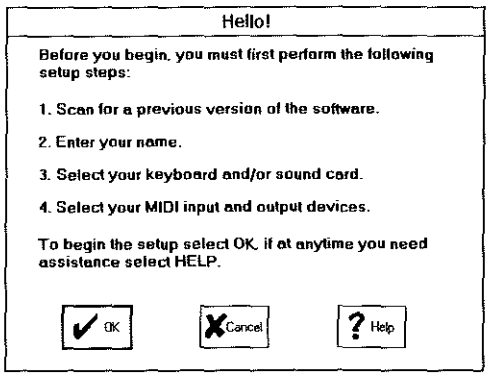


9. Take one of these options.

   - If you have The Miracle Piano and it is attached to a PC serial port, choose **Install and configure driver.** The *Serial Port Setup* dialog appears. Choose **OK** to accept the default (Or your can set up a custom configuration.)
   - If you have The Miracle or any other keyboard attached to your PC through a MIDI adapter, choose **Do not install driver.**

10. Follow the remaining onscreen instructions and restart Windows.

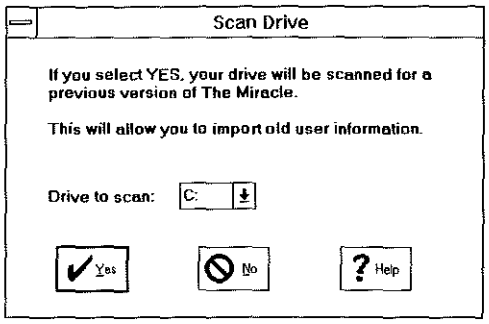
11. Double-click The Miracle application icon. The *Hello!* dialog appears.



ADDITIONAL SETUP

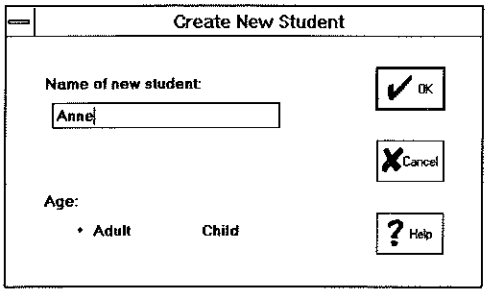
From the *Hello!* dialog take these steps to finish your system setup:

1. Choose **OK**. The *Scan Drive* dialog appears.

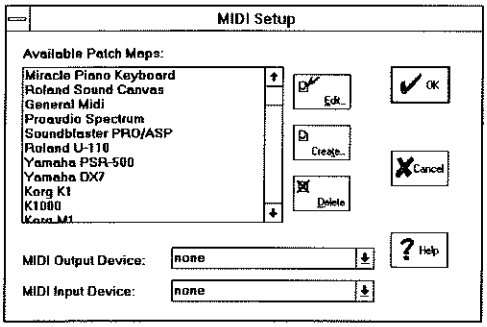


2. Select a drive to scan (usually C:) and choose **Yes**.

3. If an older version is detected, you will be allowed to import old user information. Choose **Yes**. Otherwise, the *Create New Student* dialog appears.



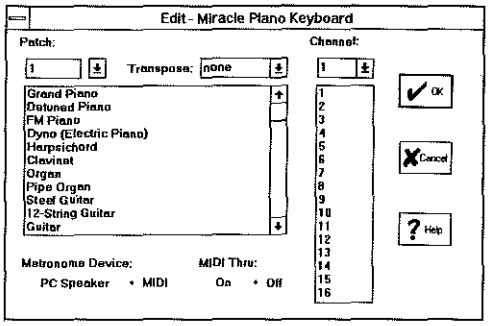
4. Type your name, click **Adult** or **Child** age, and choose **OK**. The *MIDI Setup* dialog appears.



5. At this dialog, take the options that match your system setup:

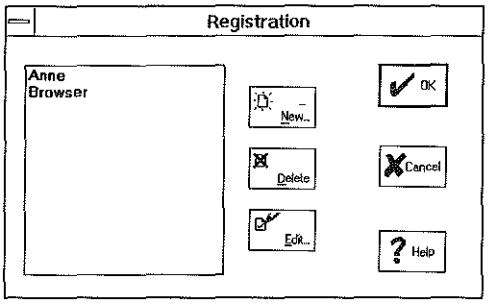
- **The Miracle Piano attached to a serial port:** Select Miracle Piano Keyboard from the **Patch Maps** list. Click the **MIDI Output Device** and **MIDI Input Device** fields and select the VAPI device from each list. Click the **Edit** button to open the edit dialog (shown below). Make sure **MIDI thru** is *off*.
- **A single external device, which is both a keyboard and a tone generator, attached to a MIDI adapter:** Select the keyboard from the **Patch Maps** list. Click the **MIDI Output Device** and **MIDI Input Device** fields and select the matching MIDI interface from each list. Click the **Edit** button to open the edit dialog (shown below). Make sure **MIDI thru** is *off*.

- **Two devices, where one is a keyboard and the other a tone generator:** Select the tone generator from the **Patch Maps** list. So, if your tone generator is a sound card, such as Sound Blaster select that. Click the **MIDI Output Device** field and select the matching driver (for SoundBlaster that would be Voyetra Super Sapi FM Driver). Click the **MIDI Input Device** fields and select the closest match (for SoundBlaster that would be SB16 MIDI In). Click the **Edit** button to open the edit dialog (shown below). Make sure **MIDI thru** is *on*.



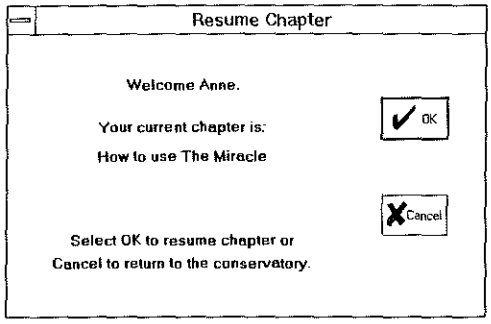
Note: Most MIDI keyboards will need some special setup to work with The Miracle software. For example, you may need to edit your patch map and set the channel. You should have your keyboard owner's manual open to the section that lists the patch numbers (voice numbers) for each instrument sound. Be aware that your keyboard's channel could be anything from 1 to 16. For more details, choose the **Help** button on either dialog box.

6. After you complete the *MIDI Setup* dialog and choose **OK**, a message appears that you are ready to register for the course. Choose **OK**. The title screen appears, followed by the *Registration* screen.



Note: For information on browsing, adding, and deleting students, see ADMINISTRATION.

7. Select your name from the list and choose **OK**. The *Resume Chapter* dialog appears.



8. Take one of these options:

   - Choose **OK** to start the introductory chapter. The software will prompt you through an introduction. You can also press **F1** anytime to get online Help.
   - Choose **Cancel** to go to the *Conservatory* and use menu options. See USING THE CONSERVATORY AND MENUS.

9. Have fun learning to play the piano!

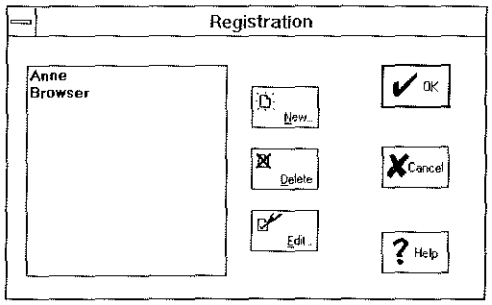
RUNNING THE MIRACLE

To run the program after all hardware, software, and additional setup steps are complete:

1. Turn **on** The Miracle piano or your MIDI keyboard in Multi Mode.
2. Run Windows.
3. Double-click The Miracle application icon. The title screen appears and a song plays.

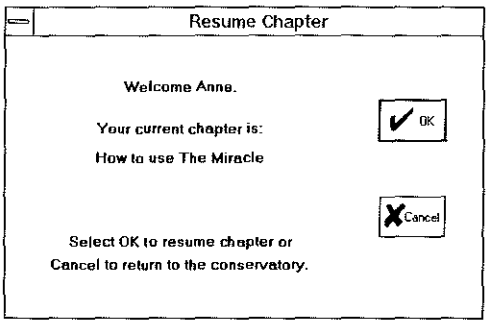
Note: If you do not hear a song, check your system setup. In trouble shooting information, see the Readme file with the software called **HELP_4_U**.

4. Click the title screen to stop the music. *The Registration* dialog appears.



Note: For information on browsing, adding, and deleting students, see ADMINISTRATION.

5. Select your name from the list and choose **OK** to log in. The *Resume Chapter* dialog appears.



6. Take one of these options:

   - Choose **OK** to start from the last lesson you completed. The software will prompt you through an introduction. You can also press **F1** anytime to get online Help.
   - Choose **Cancel** to go to the *Conservatory* and use menu options. See USING THE CONSERVATORY AND MENUS.

7. Have fun learning to play the piano!

MOUSE VS. PC KEYBOARD

You can use the mouse to access all the features of The Miracle Piano Teaching System, including pull-down menus. At times, you need to use the PC keyboard to enter information, such as your name.

Several PC keys have special functions and serve as shortcuts:

F1	Open online Help.
Enter	Select item in active window.
Esc	Return to window from a dialog box.
Alt or F10	Select pull-down menu.
N	Advance to next lesson in the Classroom.
P	Return to previous lesson in the Classroom.
R	Restart current Classroom lesson from the beginning.
M	Leave the Classroom and return to the Conservatory.
Spacebar	Continue to next screen or activity.
Arrow keys	Scroll through choices in active window.

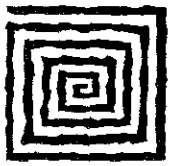
In addition, you can click (left mouse button) at any time to continue to the next screen or activity.

To open the pull-down menus at the top of the screen, simply point and click a menu name, then click the command you want. You can open the pull-down menus by pressing **Alt** and the underlined letter in the menu name.

For example, to open the **File** menu, press **Alt F**.

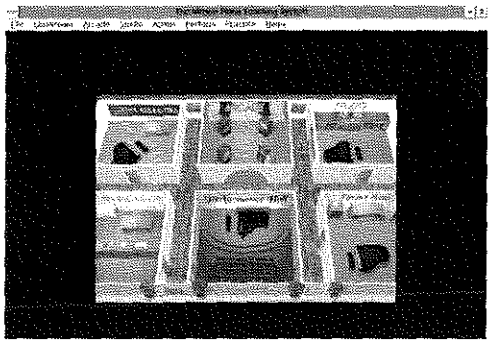
To enter one of the rooms in the Miracle Conservatory, either select the appropriate menu at the top of the screen or use the mouse to click on the appropriate room. For example, to enter the Practice Room, either click the mouse over the Practice Room in the Conservatory or select the Practice menu at the top of the screen.

You can set up the Miracle to use MIDI keys (keys on your piano keyboard) to perform the same function as the Classroom shortcut keys listed above (Next, Previous, Restart, Menu). To find out how to use MIDI keys for lesson shortcut functions, see Configuring Your System in online help.



USING THE CONSERVATORY & MENUS

Whenever you run the program, you arrive at the *Resume Chapter* dialog. Choose **OK** to go into the Classroom. Choose **Cancel** to use the Conservatory and menus. The Conservatory is a graphical menu, which appears as six rooms. You can click a room to use its features or choose the same room off the menu bar at the top of the window.



CONSERVATORY

To select a menu from the Conservatory, use either:

- **Mouse:** Click the room.
- **Keyboard:** **Tab** to the room then press **Enter.**

To go to the Conservatory from any dialog, click **Cancel** or press **Esc.**

To get help, click **Help, Index** or press **F1.**

When you click a graphical menu on the Conservatory, an icon menu appears for all rooms except the Studio (you go there directly). Click an icon to choose that command or choose **Cancel** to return to the Conservatory. The graphical menu includes the following options:

Administration - Add and delete users, change your keyboard, system, and MIDI setups, and check your progress. See ADMINISTRATION.

Note: Do not turn your computer off without exiting The Miracle software or you could lose your progress.

Classroom - Go to a Chapter or restart a Lesson. See CLASSROOM.

Practice Room - Practice pitch, rhythm, or any song in The Miracle. See PRACTICE ROOM.

Arcade - Play Ducks, Ripchord, or Aliens! Also use to operate the Jukebox. See ARCADE.

Studio - Record and play back your own performances. See STUDIO.

Performance Hall - Play with The Miracle Orchestra. See PERFORMANCE HALL.

Menu Bar

In addition to the Conservatory, you can choose all software commands from pull-down menus.

To choose a menu command with the mouse, click and drag the mouse to the command; then release the mouse.

To open a menu with the keyboard, press **Alt** and the underlined letter in the menu name, such as **Alt F** to open the **File** menu. To choose a menu command with the keyboard, open the menu and press the underlined letter in the command name. If a command is followed by three periods (...), you must use one or more dialog boxes.

MENU QUICK REFERENCE

File	
Conservatory	Go to the Conservatory.
Print Certificates...	You can only choose this after you complete a chapter and if you have a printer set up.
Printer Setup...	Set printing options in a standard Windows dialog box.
Exit (Alt F4)	Return to the Windows program manager.
Classroom	
Go to Chapter...	Select any Chapter.
Resume Lesson	Start where you left off last time.
Next Lesson	Continue with the next lesson.
Previous Lesson	Redo your last lesson.
Restart Lesson	Start over with the current lesson.
Arcade	
Ducks...	Play in the Shooting Gallery.
Ripchord...	Play the parachutist chord game.
Aliens...	Play the spaceship game.
Jukebox	Listen to any song in The Miracle.
Studio	
Launch Studio	Record and play back your performance.
Admin	
Register...	Change or delete a student (or browse).
Progress	Choose a progress evaluation from a cascading menu.
System Setup...	Set up your software features, such as volume and page turn.
Keyboard Options...	Set up your onscreen keyboard displays.
MIDI Setup...	Edit, add, or delete your MIDI options.
Perform	
Select Song...	Play with The Miracle Orchestra.
Practice	
Select Song...	Listen to a demo, play a solo or duet, or practice rhythm or notes.
Help	
Index (F1)	Open online help.
Using Help	Find out how to use help.
About Miracle...	Get software version information.

Getting Help

The Miracle software provides extensive online help.

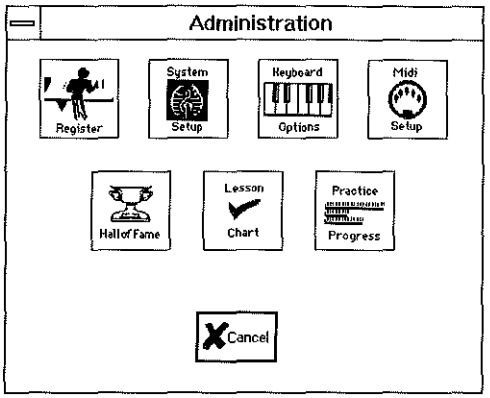
To use help, open the **Help** menu and choose **Index**, or press **F1**.

Many dialogs also offer an onscreen **Help** button that you can choose.

Within help, you can click highlighted text or **Tab** to it and press **Enter** to get additional help. To exit help, double-click the **Control Menu** (little square in the upper left corner of the window), or press **Alt F** then **X**.

ADMINISTRATION

If you click the Administration room on the Conservatory, the *Administration* menu opens.

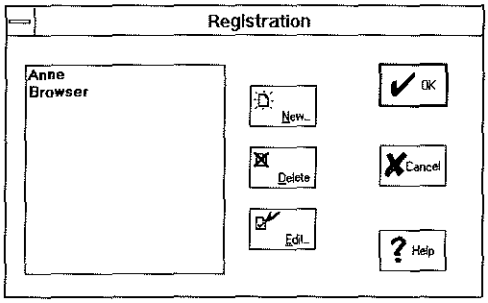


Clicking an icon here does the same thing as choosing an Administration menu command from the menu bar.

To go back to the Conservatory, click **Cancel** or press **Esc**.

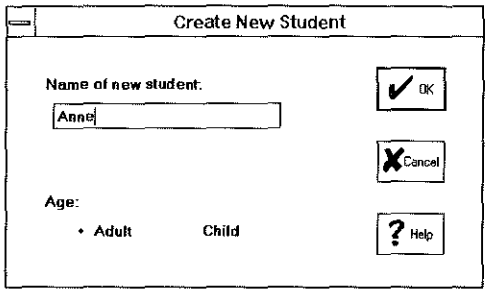
Register

Choose the **Register** command to open the *Registration* dialog.



This is the dialog box that you always use to log in. Selecting your name and choosing **OK** lets The Miracle track your progress. If you select **Browser** and choose **OK**, you can look at any part of the software, but it does not track any lessons you do. You can also choose the following command buttons.

New - Add new users. On the Create New Student dialog, type a name, set an age, and choose **OK**. You may add as many users as you have disk space for.

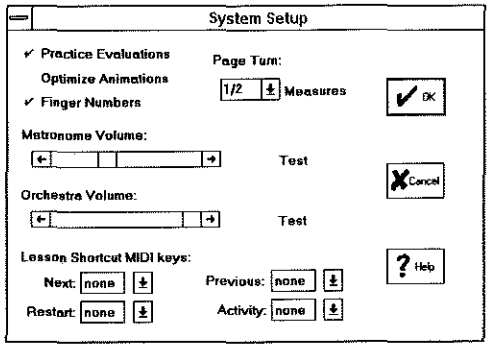


Delete - Delete an existing user. Select a name on the Registration dialog and choose **Delete**. At the prompt, choose **Yes** to delete that person.

Edit - Change an existing user's name or age level.

System Setup

Choose the **System Setup** command to open the *System Setup* dialog.

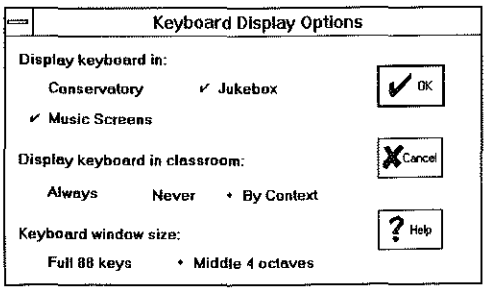


Use this dialog to decide whether The Miracle provides practice evaluations and displays finger numbers during lessons. You can also optimize animations for slower computers, set the automatic page turn feature, and modulate the volume of the metronome and orchestra. If you want, you can program MIDI keys to act as shortcuts instead of using your PC keyboard. For complete details on how to use this dialog box, choose the **Help** button.

Note: If you turn off Progress Evaluations, then the three **Progress** option on the *Administration* menu will not work.

Keyboard Options

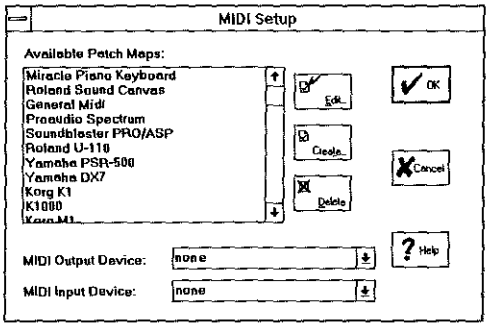
Choose the **Keyboard Options** command to open the *Keyboard Display Options* dialog.



Use this dialog to decide where, when, and how many octaves of the keyboard you want to see onscreen. For complete details on using this dialog, choose the **Help** button.

MIDI Setup

Choose the **MIDI Setup** command to open the *MIDI Setup* dialog.



During the Install program you set up the software to match your MIDI keyboard. You can use this feature to change the setup and edit your Patch Map or Channel Map as needed. For complete details, choose the onscreen **Help** button.

Note: Have your MIDI keyboard owner's manual handy, if you want to edit a patch map or set channels.

Progress

Check your progress in the teaching system by choosing a cascading menu command or graphical icon. The system offers three ways you can measure your progress.

- **Hall of Fame** - View the high scores for the Arcade games, *Ducks, Ripchord*, and *Aliens!*
- **Practice Progress** - See an analysis of your playing performance, including overall performance, pitch, and rhythm.
- **Lesson Chart** - See the Lessons you've started and completed for each Chapter.

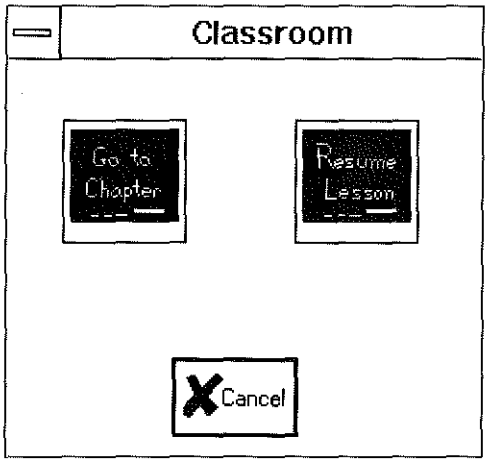
Note: If you turned off Progress Evaluations with the System Setup command, these options will not work.

CLASSROOM

The *Classroom* is where you will learn to play and will probably spend most of your time. There are 50 Classroom Chapters, each of which is organized into multiple lessons.

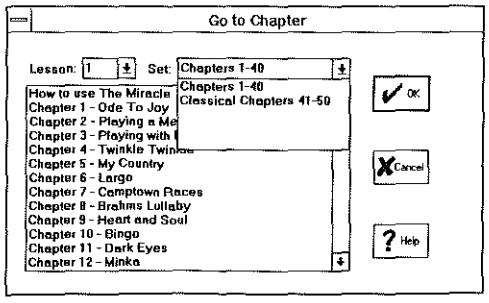
There are three ways that you can get to the Classroom:

- Choose **OK** from the *Resume Chapter* dialog that appears after you register. You go straight to the Chalkboard.
- Choose a Classroom menu command. Depending on what you pick, the *Go to Chapter* dialog appears, or you go into a lesson.
- Click the Classroom on the Conservatory. The Classroom icon menu appears.

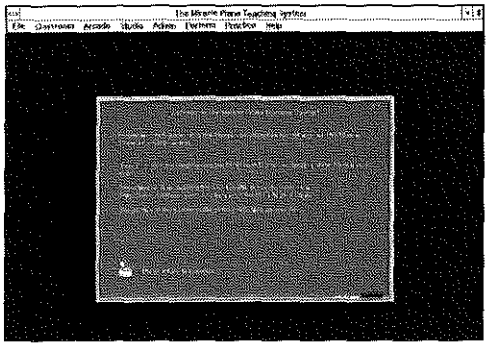


Go to Chapter

Use this command to select any Chapter in The Miracle.



At the *Go To Chapter* screen, scroll to select a Chapter, then click **OK** or press **Enter**. The Chalkboard appears with explicit instructions for the current chapter. Chapter 1 offers easy to follow instructions for using the Classroom, and online help is always available. Open the **Set** field and select **Classical Chapters 41-50** to load advanced chapters.



Resume Lesson

Use this command to return to the Lesson where you left off.

Within Lessons, some screens let you decide when to continue. These screens have an onscreen icon of a mouse. To continue, you can click or press **Spacebar**.

The program also includes the following shortcut keys, which you can use in Lessons:

N Go to the next Lesson.

P Go to the previous Lesson.

R Restart or resume Lesson.

M Go back to the Conservatory.

Note: If you are an intrepid MIDI user, you can program your MIDI keyboard to provide shortcut keys instead of your PC. See CONFIGURING YOUR SYSTEM in online help.

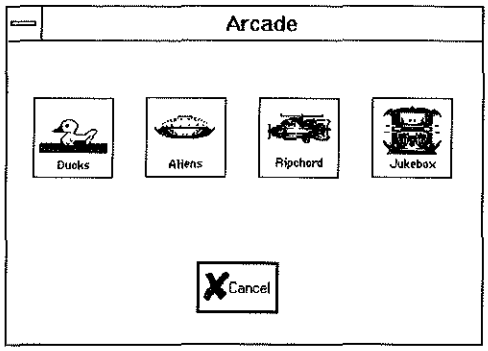
Flashcards

During Lessons, *Flashcards* test your understanding of what you've learned. All questions are multiple choice. To answer a question, click the answer button or press **1**, **2**, **3**, or **4**.

If you answer incorrectly, The Miracle tells you to try again. To try again, click **OK** or press **Enter**.

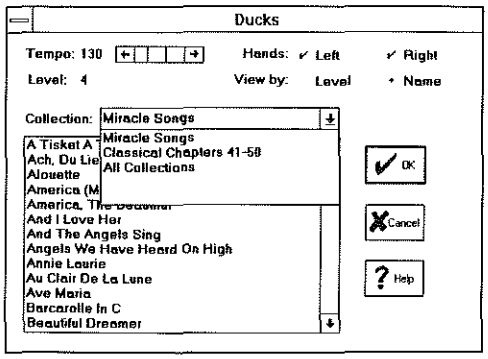
ARCADE

The *Arcade* is where you go to play the *Jukebox* and practice the piano games, including *Ducks, Ripchord,* and *Aliens!*



To exit this menu and return to the main menu, click **Cancel** or press **Esc**.

When you choose an Arcade command from the menu bar or from the icon menu, a dialog box appears where you can select a song collection.



You can select any song from the list and set its tempo faster or slower. For some songs, you have the option of playing with one, either, or both hands. For details on using the song dialogs, click the onscreen **Help** button.

Ducks

In the *Shooting Gallery*, you learn written notes on the staff. Ducks swim across the lines and spaces of the staff from right to left. Armed with green paint bombs, you must hit each duck by playing the note that it swims across. If you press the correct key, the duck quacks and disappears. If you miss, the paint bomb splats against the scale on the note you played. The number of throws per duck varies from Lesson to Lesson. That number is displayed as a row of paint bombs on the bottom of the screen. No matter how many ducks appear on the screen, your paint bombs can only hit the duck(s) that are farthest to the left.

Ripchord

This is a fun way to practice chords selected from the song. A helicopter appears pulling the chord or notes you must play. The timer on the upper right of the screen shows you how many seconds you have to play the chord. Play the notes to send the parachuters on their way. Play the right chord and you ring the bell. Play the wrong chord and — oops, the little men go splat!

Aliens!

Here is a far out way to practice fingering and memorize note sequences. Wait for the Aliens' spaceship to descend, beam down the staff, and begin playing its notes. The next note to play is shown in two ways: as a spotlight on the Aliens' keyboard and as a red triangle ▲ on the staff. Also, finger numbers are shown in the windows of the space ship. First the Aliens play, then you copy them. A red bar on the right side of the staff during the final repetitions shows how much time you have to play. If you get enough notes right, the Aliens have a surprise for you.

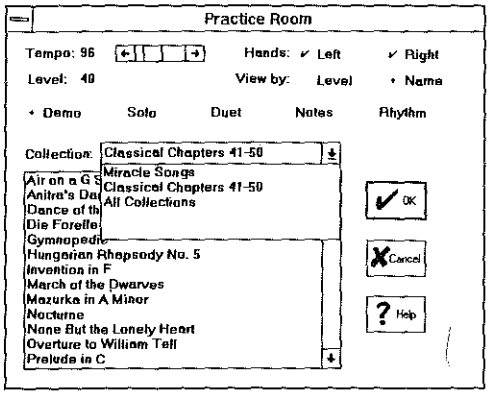
Jukebox

You can use the *Jukebox* to play any song in The Miracle with complete orchestral accompaniment and no metronome. This feature is fun to use at parties as an alternative to playing the piano yourself! Click the Jukebox buttons to open a song and play it.

PRACTICE ROOM

The *Practice Room* is where you can review materials presented in the Lessons or practice any of the pieces included in The Miracle program. It's a good idea to visit here often. Practice sharpens your skills so that you can tackle more advanced Lessons. At the end of each Chapter, The Miracle will suggest pieces in the Practice Room that you can work on.

When you choose the Select Song command from the Practice menu or click the Practice Room in the Conservatory. The *Practice Room* dialog appears.



Open the **Collection** field and select a set of songs, then select any song from the list. You can set the tempo faster or slower. For some songs, you have the option of playing with one, either, or both hands. For details on using the song dialog, click the onscreen **Help** button.

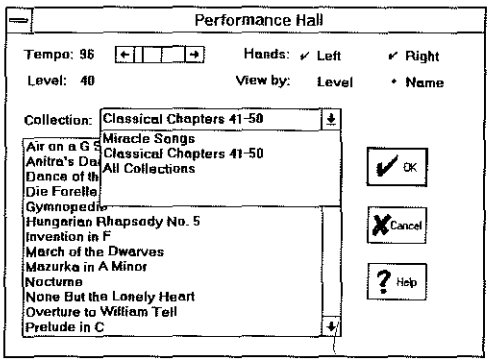
There are also five practice modes that you can select by clicking the matching radio button:

- **Demo** - You listen to The Miracle play.
- **Solo** - You practice alone. You will hear the metronome.
- **Duet** - You play one hand and The Miracle plays the other. (If you select both hands, you play alone.)
- **Notes** - You practice the notes in the piece without a rhythm, at your own pace.
- **Rhythms** - You can play any note on the keyboard as long as you have the right rhythm. You will hear the metronome.

PERFORMANCE HALL

The *Performance Hall* is where you go to play with *The Miracle Orchestra.*

When you choose the Select Song command from the Perform menu or click the Performance Hall in the Conservatory. The *Performance Hall* dialog appears.

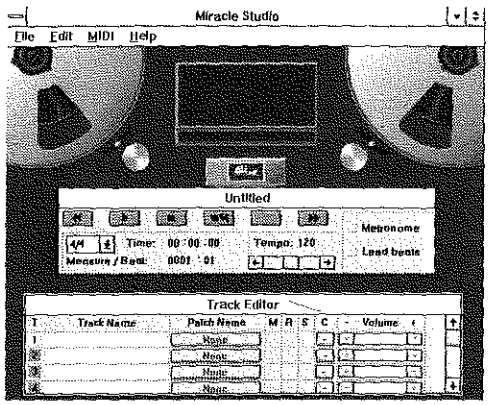


Open the **Collection** field and select a set of songs, then select any song from the list. You can set the tempo faster or slower. For some songs, you have the option of playing with one, either, or both hands. For details on using the song dialog, click the onscreen **Help** button.

STUDIO

The *Studio* is where you go to record or play back your own music. You can also load, play and edit MIDI songs you have on disk. To get into the Studio, choose the **Launch Studio** command from the **Studio** menu or click the **Studio** in the Conservatory. (You can also double-click the Studio application icon from the Windows Program Manager.)

The tape deck appears.



When you enter the Studio, the Miracle will be paused. You cannot run both the Miracle and the Studio at the same time. However, as soon as you leave the Studio, you will be returned to the Miracle at the same place you left off. (Unless you entered directly from Program Manager.)

For complete information on how to use the Miracle Studio, start the Studio and then press F1 or select the Help menu.

This feature works like a tape recorder with eight tracks instead of one. With it, you can record several instruments, one at a time, then play them back together.

Note: The ability to playback multi-timbrel recordings depend on the MIDI hardware that you own. The Miracle, for example, can playback up to 7 voices from the Studio, but some MIDI devices are limited to one voice at a time. Also note that this feature does not replace sequencing software. For serious recording, contact your local music store for information on sequencing software.

THE THEORY BEHIND THE MIRACLE

The Miracle Piano Teaching System Software is the first computer program that teaches you how to read and play music on the piano. It does this by providing interesting activities and games that build your knowledge and playing skills step by step. If you've been through The Miracle course, you're familiar with how this works.

But what happens inside **The Miracle Piano Teaching System Software?** This chapter describes the inner workings of the software and how The Miracle seems to "know so much" about piano playing.

The Miracle teaches piano in hundreds of small steps called Lessons, which are grouped into Chapters. One Chapter, for example, introduces rhythm. Another Chapter introduces staff notation (how music is written).

These Chapters are arranged to give you basic skills first, then to improve on these skills while introducing more advanced concepts. When you successfully complete a Lesson, you go on to the next Lesson in that Chapter. When you complete the last Lesson in a Chapter, you go on to the next Chapter.

But what happens when you don't get through a Lesson the first time?

Human piano teachers watch you practice. If you don't get through a Lesson properly, the teacher gives you special exercises to help you get over the problem.

The Miracle does the same thing. It "listens" to how you play, then analyzes your performance. If you had problems, it too creates a special exercise to help you overcome those problems.

The Miracle analyzes your playing both during the performar and afterward.

During your performance, The Miracle listens to make sure y playing the right notes at the right times.

The Miracle also records your performance for later analysis. records which keys you press, when you press them, how hard press them, and when you release them. The Miracle calls this the AMS, or Actual MIDI Stream.

When you finish playing, The Miracle compares your AMS wi IMS, or Ideal Music Stream. This is its recording of how the performance is supposed to sound.

When you play the piece incorrectly, it is not enough for the program to say, "Well, you played some notes wrong." The go: an expert teaching system is to determine why you played the n wrong, then offer corrective measures.

The Miracle classifies each of your errors as one of 200 error ty These types are sorted into 41 main categories. Some examples the main error categories are:

- Ignoring an accidental mark
- Holding a note too long
- Playing the notes too fast
- Misunderstanding the previous accidental rule
- Ignoring a rest
- Not holding a dotted note long enough
- Striking the crack between two keys

Because different Lessons develop different skills, The Miracle p particular attention to the error categories associated with those skills. For example, when evaluating a Lesson that focuses on rhythm, The Miracle is less picky about a few wrong notes than is about bad rhythm.

The Miracle determines which categories are important by assigning an importance value or weight to each of the 41 error categories for that Lesson. The more important the error, the higher the number.

Each category's weight is then multiplied by the percent of mist made in that category. This creates a score in each of the 41 err categories.

Low scores mean you made few mistakes. If your scores are low enough, The Miracle gives you a passing grade and takes you to the next Lesson. Otherwise, The Miracle identifies your most significant error (the one with the highest score), and designs an exercise to help you overcome this problem.

Each of the 41 error categories has a half-dozen or more exercises that can help you overcome a problem in that category. These exercises use The Miracle's various Activities, such as *Shooting Gallery*, *Rhythm Practice*, and so on.

When The Miracle chooses an exercise, it first eliminates any exercise for the category that is not appropriate to the Lesson. For example, if you haven't learned how to play with both hands yet, it won't ask you to play with both hands.

From the remaining exercises, The Miracle then selects the one that uses the least recent Activity. For example, if you have a pitch error, you'll get a *Shooting Gallery* exercise. In this way, you constantly work in a variety of Activities.

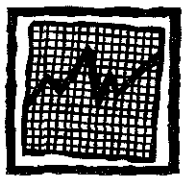
Once the exercise is selected, The Miracle creates a Chalkboard screen that tells you what your error was, and what exercise you'll do to work on it. It does this by combining two pieces of text:

- The first comes from a phrase list associated with each error category; it tells you what you did wrong.
- The second comes from a phrase list associated with the Activity; it tells you what to do to correct the problem.

The two phrases are combined using common rules of English.

Your performance in the exercise is analyzed in much the same way as your performance in the Lesson. If you receive a passing grade, The Miracle returns you to the Lesson where you had the problem. If you make many mistakes in the exercise, The Miracle creates another practice exercise.

As you work with these exercises, your skills gradually improve. Eventually, you will be able to get through the initial Lesson and move on to the next.



GETTING THE MOST FROM THE MIRACLE

With a little patience and regular practice, you'll soon be playing the piano. The Miracle helps you every step of the way, with Lessons that make learning and practicing every Chapter fun.

COMPLETING A CHAPTER

At first, you'll want to do as many Chapters as you can. That's okay, but it's best to complete one Chapter's Lessons before going to the next Chapter. Try using The Miracle like this:

1. Complete a Chapter.
2. Go to the *Practice Room* and play all of that Chapter's pieces until you can do them well.
3. Redo the Chapter, to be sure you got it. If you practiced enough, the second time won't take long.
4. Go on to the next Chapter.

Later in the course, expect Chapters that take a week or more to complete. These Chapters are more challenging to sharpen your skills. They take time to master, so don't get discouraged. With practice, you'll get it!

PRACTICE MAKES PERFECT

To get the most out of The Miracle Lessons, practice a little every day — 45-60 minutes is ideal. Even 15 minutes is better than no practice at all! You'll learn to play sooner by practicing regularly.

When you can't get through a Lesson, you may think "I'll never get this!" This happens to everybody, and just means that it's time for a rest. Play some music you already know, or stop for awhile. Remember, you will get it eventually.

The Practice Room

Use the *Practice Room.* There you can work on more challenging pieces, rather than just repeating Lessons. With all of The Miracle's Activities available, you can practice many ways. For example, if you're having trouble with the right hand notes in a song, select *Right Hand* practice and work in either the *Shooting Gallery* or *Practice Notes.* If you're having trouble coordinating both hands, select *Both Hands* practice and work in *Practice Rhythms.*

The *Practice Room* has many pieces that are not in the Lessons. To learn any piece using *only* the *Practice Room*:

1. Learn the left hand rhythms.

2. Learn the left hand notes.

3. Play the entire left hand part.

4. Repeat this 3-step procedure with your right hand.

5. Repeat it again with both hands.

When learning rhythms, use *Practice Rhythms.* If you make too many mistakes, just start again. Or, try listening to the rhythm of the piece by selecting *Demo.*

When learning pitches, use the *Shooting Gallery* at first. Take all the time you need, and try to remember the rhythms you already learned.

If you have trouble playing the entire part, go back to *Practice Notes* or *Practice Rhythms.*

SPECIAL NOTE TO PARENTS

The Miracle Piano Teaching System Software works with children age eight and up, but pre-teens may need help reading lessons, or learning to position their fingers on the keys.

This is a great way for you to get involved with your child's piano playing. If you don't know how to play piano, you might enjoy taking the course along with your child. You'll both find it rewarding to learn a creative skill together.

Children make the best progress when practicing is fun. To convince your child that practice is fun, show an interest in his or her progress during and after practice. Your excitement about the child's progress can really inspire him or her to continue. This is especially fun for everyone in activities where The Miracle accompanies your child's performance.

Special Note to Teachers

The Miracle can enhance your teaching with practice exercises that are possible only on a computer:

- **Pointers** - Give visual *what to play* cues that builds music reading confidence.
- **Pitch Practice Activities** - Advance pointers to new notes only when you play the correct pitch.
- **Properly Adjusted Metronome** - Continuously reinforces good rhythm.
- **Rhythm Practice Activities** - These play the proper pitches no matter what key you press. This lets the student actively participate in partially demonstrating the piece.
- **Shooting Gallery** - Makes practicing fun while developing note reading and rhythm skills.
- **Special Exercises** - Help students overcome specific problems. These are given as needed, when The Miracle detects error trends in a practice session.
- **Different Display Formats** - Provide variety and help students focus on specific aspects of a piece.
- **Practice is constantly varied and fun** - Students tend to practice more — and regularly!

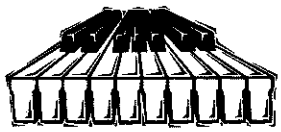
As the teacher, these tools can effectively speed your students' progress. This gives you time to focus on:

- Maintaining good hand position.
- Phrasing and tapering of phrases.
- Rubato or subtleties in the tempo.

NOTE TO EXPERIENCED PLAYERS

Experienced piano players often find The Miracle course a wonderful way to refresh their memories and improve their playing skills. Also, since The Miracle is designed to teach music to beginners, experienced players can zip through the initial Lessons. Complete the first two Chapters, to see how the system works. Then skip ahead as far as you want.

The interactive nature of The Miracle lets it teach piano using unique, new techniques that only a computer can provide. You'll find learning with it quite different from a course presented by traditional instructors, although all of the standard elements are there. These elements are sometimes presented in a different order than they are in standard courses. As a result, you might find an occasional Lesson that covers things you already know.



HISTORY OF THE PIANO

In the Pidgin trading language of New Guinea, the piano is called "a box of music with teeth like a crocodile, suppose you fight it hard, it cries out." Amazingly, this accurately describes the piano's earliest ancestor.

PIPE ORGAN

The piano's earliest ancestor is the organ, which was invented in the 3rd century B.C. by the Greek engineer Ktesibios. His Hydraulos was the first keyboard instrument. The wooden "keys" looked like tongues and worked like hydraulic pumps. Key presses used water pressure to force air though pipes, which made sounds. This was not easy. Hydraulos players had to pound keys with their fists to fight the water pressure!

Pipe organs with easier actions appeared around the 6th century, and quickly became the favorite instrument of The Church. They are still popular there today.

CLAVICHORDS

The clavichord was the first keyboard instrument that used strings

instead of pipes. Invented during the Middle Ages, the clavichord became popular in the 1400s. Key presses moved flattened brass pins against brass strings that vibrated when struck. The pressure on the keys controlled the volume; however, at its loudest, the clavichord was as quiet as a mouse.

This made the clavichord ideal for home practice and the instrument of choice in nunneries. Nuns loved it, because they could play without disturbing those around them.

HARPSICHORDS

An Italian, Giovanni Spinnetti, was less impressed. He wanted a more powerful instrument that made louder sounds. To increase the volume, Spinnetti made the soundboard and strings longer. On his harpsichord, key presses firmly plucked strings with quills. This made the loud sound that Spinnetti wanted, but there was no way to quiet it down!

ORCHESTRAS

During the 16th century, orchestras appeared with harpsichords as standard instruments. Performances by early orchestras were either private affairs for royalty, or associated with a new musical form called opera.

Although keyboard music became popular, few people owned keyboards. Because harpsichords and clavichords were complicated, hand-made instruments, they were quite expensive. Royalty and wealthy peopled displayed them proudly, but they were rarely seen elsewhere. Music was an art for the rich.

PUBLIC PERFORMANCES

Public performances by individual musicians were unheard of until 1672. That year an English violinist, John Bannister, realized there was money to be made from them. At 4 o'clock every afternoon, Bannister charged "a shilling a head" for anyone who wanted to come to his house and listen to musicians.

Keyboardists introduced themselves to the public in 1678 when another Englishman, Thomas Britton, rose to fame holding concerts in the loft above his coal store. Handel (best known today for his Messiah) was one of many who performed on the harpsichord in Britton's well-heated loft. Here is an early ad for these performances:

"ANYBODY THAT IS WILLING TO TAKE A HEARTY SWEAT MAY HAVE THE PLEASURE OF HEARING MANY NOTABLE PERFORMERS IN THE CHEERING SCIENCE OF MUSICK."

By the early 1700s, public performances were common, and the harpsichord's volume made it the logical keyboard instrument to play. This frustrated many composers, who wanted subtle volume variations to express their music. In fact, Johann Sebastian Bach publicly called the harpsichord a "soulless instrument."

What the world needed was an instrument that combined the harpsichord's volume with the clavichord's expressiveness.

The Piano is Born in Italy

In 1709, the piano was born. The inventor, Italian harpsichord designer Bartolommeo Cristofori, called it the Gravicembalo Col Piano E Forte (Harpsichord with Loud and Soft).

The Pianoforte, as it was known, used hammers and dampers to control the strings. A key press threw a small wooden hammer up against a string, making it vibrate. A hard key strike struck the hammer hard, making a loud note. A soft key strike struck the hammer softly, making a quieter sound. When the key was released, a damper fell on the string, silencing it. This is essentially how pianos work today.

Cristofori was excited about his invention. Unfortunately, no one else seemed to be. Despite the piano's advantages, the harpsichord continued to dominate the musical world.

German Piano Manufacturing

A German organ maker, however, was excited by Cristofori's hammer action design. In 1725, Gottfried Silbermann began copying Cristofori's piano and promoting it throughout Germany. But he too fought an uphill battle to get it recognition.

In 1736, Silbermann tried to promote the design by introducing his piano to one of the harpsichord's harshest critics, the great Johann Sebastian Bach. Silbermann had high expectations as Bach played the instrument and considered it.

The famous composer agreed that the piano had a pleasant tone, but declared that the treble was too weak and the action too stiff. This infuriated Silbermann, who refused to speak to Bach for many years.

Eventually, Silbermann improved the features of the piano that Bach criticized. By 1747, 11 years after his introduction to it, Bach said the piano was "coming along."

First Public Concert

The first public concert featuring a piano was held in 1767, 58 years after the instrument's invention. An ad promoted the concert as a benefit by a "Miss Brickler," who sang while accompanied "on a new instrument called a Piano Forte."

Although the piano was well received at the Brickler concert, it was a performance in the following year by Johann Christian Bach (the youngest son of Johann Sebastian Bach) that finally brought the instrument public acceptance. Suddenly, pianos of numerous designs appeared all over Europe and the New World. Future American President, Thomas Jefferson, an extraordinary violinist and passionate music lover, bought a piano in 1771.

More Piano Manufacturing

At this time, the largest manufacturers of pianos were the French, led by Sebastien Erard, and the English, led by John Broadwood. French pianos were known for their crisp, delicate touch, while the English pianos were known for their fullness of sound. The virtues of each were a topic of many arguments among composers in the late 1700s.

The first American piano factory opened in Philadelphia in 1774, manufacturing instruments in the English design.

Mozart

Around that same time, the fame of an amazing keyboard performer was spreading across Europe. Wolfgang Amadeus Mozart was a child prodigy of exceptional talent. When the child began composing music at age four, his father realized there was money to be made. By age six, Wolfgang was paraded past the royalty of Europe, stunning them with his performances.

At age 14, Mozart was so skilled that at a single exhibition, he was challenged to play the following:

"a Symphony of his own composition; a harpsichord concerto which will be handed to him, and which he will immediately play prima vista (on first look); a Sonata handed to him in like manner, which he will provide with variations, and afterwards, repeat in another key; an Aria, the words for which will be handed to him, and which he will immediately set to music and sing himself, accompanying himself on the harpsichord; a Sonata for harpsichord on a subject given to him by the leader of the violins; a strict Fugue on a theme to be selected, which he will improvise on the harpsichord; a Trio, in which he will execute a violin part all'

improvviso (improvised); and finally, the latest Symphony composed by himself."

Mozart met the challenge and the concert was a success.

Mozart was another composer who disliked the limits of the harpsichord. Unlike Bach, he embraced the piano, making it a serious professional instrument.

With the piano's endorsement by Mozart and his contemporaries, piano teachers soon found themselves in demand. By 1779 in Vienna, over 300 piano teachers were making a comfortable living.

BEETHOVEN

In 1787, a 31-year-old Mozart heard a performance by a young prodigy, the somber but brilliant Ludwig van Beethoven.

Mozart was never easily impressed. He correctly believed that few, if any, composers were even close to being his equal. Of the 17-year-old Beethoven, however, he claimed "This young man will leave his mark on the world."

Not everyone agreed with Mozart. Seven years later, when Beethoven studied counterpoint with Johann Georg Albrechtsberger, the famous Viennese instructor insisted that Beethoven "has learned nothing, and will never do anything properly."

Albrechtsberger was frustrated because Beethoven's active imagination distracted him from the dry, traditional course of study. This imagination, however, was Beethoven's strength, and it made him one of the greatest composers in the world. To him, music was just a puzzle to be solved. His imaginative solutions yielded works of great power and expression, often built from seemingly dull themes. In fact, Beethoven's performances were so powerful that he hired musicians to run around the piano and remove the strings and hammers that he broke.

Piano Frames

Then again, Beethoven's performances had to be powerful. Concert halls were getting bigger and outgrowing the carrying power of 18th century pianos. Although manufacturers knew that thicker strings would increase the piano's volume, the 16-ton tension required to tune such strings would snap a wooden piano frame like a twig.

A Bostonian, Alpheus Babcock, solved the problem in 1830 by making a cast iron piano frame. Within a few decades, his design revolutionized the industry. A variation of Babcock's cast iron design is still standard in today's pianos, in which the thicker strings require tensions of over 30 tons!

Russian School

Babcock's design helped the rise of pianists such as Anton Rubinstein, a Russian known for thunderous performances. In Europe, most critics wondered at all the fuss, since Rubinstein often played sloppily, botching notes during his energetic recitals. Audiences, however, loved the energy of Rubinstein's performances, and left his concerts feeling well entertained. Today Rubinstein is remembered as the founder of the Russian School of piano playing, which emphasizes fiery performances and virtuosity.

Liszt

Another exciting performer was Franz Liszt, whose handsome features, unrivaled skill, and dramatic playing style got the same response from the women of his day that the Beatles got from their fans in the 1960s. Women charged the stage, throwing jewels and shrieking in ecstasy. A fight always broke out over the green gloves that Liszt left on stage after the performance. One woman supposedly fished through trash for a cigar stub that Liszt smoked, then carried it in her bosom until she died.

CHOPIN

Although Liszt was the most popular pianist in Europe, another composer, åFrederic Chopin, had a greater impact.

Chopin was a small, foppish man to whom social circles and proper fashion meant everything. Although lacking Liszt's personal magnetism, he amazed audiences by playing with a grace and agility that seemed impossible to achieve with his tiny, delicate hands. Today, Chopin is remembered as the pioneer of a style of music, called Romanticism. This form, which is still popular today, concentrated on the emotional aspect of music instead of the technical, and often abandoned the rigid forms imposed by the earlier composers.

THE STEINWAY PIANO

As music changed, so did the piano. In 1836, German cabinet maker Heinrich Steinweg of Steinway & Sons built a piano in his kitchen, which combined Babcock's cast iron frame with the recent English notion of pedals and the hammer action improvements made by the French. It was the first modern piano, and the beginning of the most prestigious piano manufacturer, Steinway & Sons.

In 1853, Steinweg moved his business and family to New York, where it remains today. By this time, piano playing had spread like wildfire, and the instruments were everywhere. They were even common in the rugged American west, where piano players appeared in dance halls, bar rooms, and bordellos.

AMERICAN PIANO

By 1870, there were over 7,000 piano manufacturers in the USA alone, with Manufacturing production increasing almost twice as fast as the population. Over the next 20 years, one out of every six Americans was involved in the piano industry.

During this time, manufacturers began experimenting with stranger and stranger variations on their designs. Inventors did anything to appeal to the public's piano obsession. Some of these pianos were round. Others were square or wing shaped. Still others stood upright. Some had keyboards on each side so that several pianists could play at once. The Janko piano keyboard looked like a typewriter. And Emil J. Cost's made the smallest working piano in the world, measuring 1/2" x 3 3/8" x 6 1/2" — about the size of a short paperback book!

Player Piano

The most unique of these inventive pianos required no pianist. The player piano could duplicate a performance by rolling a hole-punched sheet of cardboard past a line of air jets. Each hole was one note of the performance. As a hole passed a jet, air shooting through it fired the appropriate hammer at the piano's strings.

These player pianos accurately recorded many aspects of a performance, including dynamics and pedal activity. As a result, surviving player piano rolls provide us with accurate recordings of performances that were played long before the advent of modern recording equipment.

Ragtime

A wide variety of music was available for player pianos, but the most popular of the day was a new style of playing called Ragtime, which stood for ragged time. Ragtime tunes, called Piano Rag, were highly syncopated pieces that favored fast tempos and a more staccato flow.

As a result of Ragtime, the piano's popularity increased more than ever. By the turn of the century, almost 365,000 pianos a year rolled out of factories. The stranger designs mostly disappeared, leaving pianos primarily in the form of either wing-shaped Grands or Uprights. The Grand piano produced louder and superior sounds, so was used for concert performances. The Upright's smaller footprint, however, made it the piano of choice for the home.

Jazz

The Upright was also the favorite of artists in another new style of music, Jazz. This uniquely American form had its roots in both Blues and Ragtime. Unlike these single instrument styles, however, Jazz was played by small bands, usually with a piano, a coronet, a trombone, and a bass.

The thing that made early Jazz most unique, however, was that it was rarely written down. Few Jazz musicians could read music. Instead, these musicians depended on their skill, intuition, and experience. The Jazz age heralded a return to the art of improvisation which, though applauded in Mozart's day, was frowned upon by the classical performers of the late 19th century, and is still uncommon in classical performances today.

ELECTRIC PIANO

The early 1950s saw the most unique addition to the piano since the cast iron frame — electricity. This addition was first made by the Wurlitzer Company. With it, the era of portable pianos had arrived.

In an electric piano, the hammers strike metal reeds or rods whose vibrations create electrical signals. These signals are then sent to an amplifier and a speaker which reproduces them as sound. The sound, however, is somewhat different from that of a traditional piano. As a result, the electric piano found a home in new, rather than classical forms of music.

MOOG SYNTHESIZER

While the electric piano was sparking interest, German inventors and composers were learning to produce sounds by entirely electronic means. They used a device called an oscillator, which, when coupled with a keyboard by Robert Moog in 1965, formed the first synthesizer.

Using this Moog synthesizer, composer Walter Carlos created the 1969 album Switched on Bach. Bach's music lent itself magnificently to the unusual sounds of this new keyboard instrument. The result legitimized the synthesizer while introducing the works of the baroque period's greatest composer to a new generation.

SOUND SAMPLING

Synthesizers have made enormous advances since the early Moogs. Although today's synthesizer can still make unique electronic sounds, it can also accurately reproduce the sound of many traditional instruments.This is done by a process called sampling. The process starts by making a digital recording of notes played by a real instrument. Using computer technology, the sound is converted into a series of numbers, which are later converted back to sound. Compact Discs also work by the same process.

In synthesizers, these numbers are stored in a computer chip rather than on a disc. When the keyboardist plays a note, the synthesizer converts the numbers for that note back into sound. The result is the exact sound of the instrument that was originally recorded.By the early 1980s, computer technology was also being used to attach sequencers to electronic keyboards. Performances were digitally recorded, edited or overlayed with additional musical sequences, then played back through the synthesizer. Unfortunately, each manufacturer's sequencer only worked with its own synthesizer.

MIDI

In 1982, representatives of the top synthesizer manufacturers met to discuss this compatibility problem. The result was MIDI (Musical Instrument Digital Interface), which became the standard format for sending data between instruments and sequencers (or other instruments). MIDI is so versatile that it is also used to control stage lighting, special effects, and video equipment. All manufacturers, including The Miracle's, support the MIDI standard today.

The combination of sampling and MIDI changed the way many composers work. Making a recording no longer requires dozens of musicians, a studio, and a room full of recording equipment. A single composer with a sequencer and a keyboard can create the sound of everything from a rock band to a symphony orchestra. To do this, the composer uses the synthesizer to create one instrument sound at a time, then sequences all sounds together. In fact, most of today's movie soundtracks are created in exactly this manner.

MIDI keyboards are also a boon to Rock musicians. A keyboardist can replace an entire wind, brass, or string section, providing an instrumentation range once impossible to create in live Rock performances. In addition, some bands use sequencers to help them perform songs that normally require many more musicians.

THE MIRACLE

All these things are done on synthesizers similar to The Miracle keyboard, which can reproduce 128 different sampled stereo sounds. In The Miracle Piano Teaching System Software, you'll use a synthesizer to learn an instrument with a rich 300-year tradition ... the piano.

WHERE TO GO FROM HERE

Congratulations! You've finished The Miracle Piano Teaching System Software and mastered the basics of an exciting skill. You have every reason to be proud!

You now know how to:

- Recognize commonly found symbols in piano sheet music.
- Read and play notes, rhythms, and fingerings for a piece.
- Separate pieces into smaller sections and parts, such as pitch and rhythm.
- Coordinate changing keyboard positions and chords.
- Blend notes using the pedal.

Now, continue your training by learning pieces on your own. Select pieces that interest you and try to practice daily. Your skills in both playing and sight reading will continue to improve.

Practice the way you did with The Miracle for 45 minutes to an hour each day. Don't forget that playing for even a few minutes is better than not playing at all.

Selecting New Pieces

Visit your local music store, browse through the sheet music section, and choose some music that you like. Here are some guidelines.

Consider trying some of the following:

General

- Scott Joplin piano rags
- Spiritual and Gospel arrangements

Contemporary

- Folk music collections
- Movie soundtracks
- Popular songs
- Rock collections, such as The Beatles, Elton John, and Billy Joel
- Beginning Jazz collections

Classical

- Bach's 2-Part Inventions
- Bartok's Mikrokosmos
- Schumann's Kinderszenen
- Sonatas and sonatinas by Clementi, Kuhlau, Haydn, and Mozart
- Easy pieces by Grieg

Getting Further Instruction

In addition to practice, you can further your studies by taking piano and/or music theory lessons through group classes or private instruction.

Group Piano Lessons

Group lessons are an excellent way to continue from The Miracle course. Try your local Parks & Recreation departments, community programs, adult education programs, and community, state, and private colleges.

Private Piano Lessons

There is no substitute for a good piano teacher to improve your playing technique, phrasing, dynamics, touch, musical style, and interpretation. With a good teacher, you'll learn different styles and more difficult pieces. Many piano teachers include theory lessons in their training programs. Playing in public is fun and exciting, and with a good piano teacher you'll get a chance to do recitals, competitions, and other performances.

To find a good teacher, contact the music department in a nearby college and ask for a list of qualified music teachers in your area.

Theory Classes

Music theory teaches you the underlying concepts behind music and how it is put together. Among other things, you'll learn about the formation of chords and chord progressions.

Rock and Jazz musicians need music theory because they must improvise as they play. Classical pianists use it to recognize patterns in complex pieces. If you want to compose music, theory is invaluable.

Theory classes are also offered through community programs, adult education programs, and community, state, and private colleges. Prices vary.

If You're Interested in Playing Jazz

A private instructor is your best bet for learning Jazz and improvisation. Again, your local college is a good source on where to find a qualified instructor. If you want to learn Jazz, music theory is invaluable.

If You're Interested in Playing Rock

Keyboardists are in demand by Rock bands. If you're interested in Rock, learn about improvisation, Blues, and Jazz. Make up stuff you like and play it. Listen to other Rock keyboardists to get ideas and discover different styles of playing. Copy styles you like while you develop your own.

Playing With Friends

Playing music with your friends is a fabulous, fun way to learn any style of music you choose. There is a wide range of classical material for piano and one or two other instruments, and a rich repertoire for Jazz and Rock bands.

Playing in a group increases your confidence, improves your sight reading, develops your rhythm skills, and introduces you to new challenges and material. Most importantly, you'll get excited about practicing with your friends.

Listening to Music

If you want to be a musician, the best thing to do is listen to a lot of music. Choose music that you like, for piano or for groups and orchestras.

Here are some music artists you may want to consider:

Rock
The Doors
Joe Jackson
Billy Joel
Elton John
Jerry Lee Lewis
Talking Heads
Tori Amos

Jazz
Bill Evans
Oscar Peterson
Art Tatum
Teddy Wilson
Keith Jarrett
Herbie Hancock

Classical

Bach	Mozart
Beethoven	Prokofieff
Brahms	Rachmaninoff
Chopin	Ravel
Debussy	Scarlatti
Gershwin	Schumann
Liszt	Tchaikovsky

Friends and record store employees can also offer suggestions.

GLOSSARY

Accidental — A note that appears in staff notation preceded by a sharp, flat, or natural symbol.

Bar — *See* Measure.

Bar Line — The vertical line that separates measures in staff notation.

Baroque — A period of musical history which lasted from about 1600 through 1750. Notable composers of this period include Bach, Couperin, Handel, Pachelbel, and Scarlatti.

Bass Clef — The symbol at the left edge of a staff that identifies it as a bass staff. Sometimes called an *F-clef*, because it indicates that the note on the fourth line of the staff is an *F*.

Bass Line — The notes played on the bass staff (in piano, these are usually, but not always, played with the left hand).

Bass Staff — A staff that begins with a bass clef, whose note pitches are normally associated with the male voice and low-pitched instruments. On the piano, it is associated with the left half of the keyboard.

Beam — A thick line that connects the stems of two or more consecutive notes with durations lasting an eighth note or shorter. It is used to simplify notation and improve readability of rhythm information.

Beat — A short interval of time, used to keep rhythm. Each measure of a piece is made up of a fixed number of these beats. When using a metronome, one click is usually associated with one beat.

Broken Octaves	A musical pattern in which notes alternate back and forth between octaves. This pattern is normally found in the bass line.
Cembalo	Harpsichord.
Channel	An electronic band or frequency. MIDI has 16 channels. You can send a different voice (patch) to each channel.
Channel Map	List of channel patch assignments for the current musical output device.
Chord	Two or more keys pressed at the same time. 2-note chords are sometimes called *Double Notes.* Chords are written as several note heads attached to one stem.
Clef	A symbol that appears at the left of each staff to indicate what notes the lines and spaces of the staff represent. Two types are used in piano notation: treble clef and bass clef.
Coda	The finale of either a piece or major section of a piece. In order to create an impression of finality, codas generally use a pattern of notes or rhythms different from the rest of the piece.
Common Time	A time signature of 4 beats per measure, where each beat is the duration of a quarter note. Also called *4/4 time.*
Compound Time	Time signatures in which the number of beats per **Signature** measure can be evenly divided by 3.
Contrapuntal	*In counterpoint.* Playing 2 or more entirely independent parts (melody line, bass line, etc.,) at the same time.
Contrary Motion	A musical pattern in which notes of rising pitches appear on one staff while notes of lowering pitches appear on the other staff.

Crossing	A fingering technique that involves moving the thumb to a key that rests under the fingers or moving the fingers over the thumb that is holding a note down. It is one way to change keyboard positions.
Damper	A felt-covered device that silences the vibration of a piano string when the corresponding key on the keyboard is released.
Damper Pedal	The right pedal on the piano. This pedal lifts all of the dampers, allowing the strings to vibrate freely, even after their corresponding keys are released. It is also called the *loud pedal.*
Dotted Note	A note that is played for one-and-a-half times its normal duration.
Double-Note	A 2-note chord.
Duration	The amount of time a note is played, in relation to the other notes.
Eighth Note	A note whose duration is one-eighth that of a whole note. It appears in staff notation as a solid circle attached to a stem with a flag.
Eighth Note Rest	A rest whose duration equals an eighth note. Also called an *Eighth Rest.*
Finger Independence	The ability to move each finger independently of the others.
Finger Number	The numbers that appear above or below the notes in staff notation to indicate which fingers to use.
Fingering	The coordination of hand positions to play the notes of a piece smoothly.
Flat	The sign for a note one half-step lower than the indicated note.
Forte	A musical term meaning *loud.*

Fortepiano	The early name given to the piano (literally, loud-soft).
Grand	A type of piano in which the strings lie horizontally. It has a graceful curve on one side.
Half Note	A note that is played for half of the duration of a whole note. In staff notation, it looks like hollowed-out circle with a stem.
Half Note Rest	A rest that lasts for the same duration as a half note. It is also called a *Half Rest.*
Half Step	The distance between two adjacent keys on the keyboard, counting both white and black keys.
Hand Position	The proper way to hold the fingers while playing.
Imitative Piece	A type of music in which one musician (or hand) plays a sequence of notes with a particular rhythmic pattern, then the other musician (or hand) plays a sequence of equal length, using the same rhythmic pattern. In many cases, the sequences have identical melodies.
Improvisation	The art of creating music without following a specific written or practiced routine.
Interval	The distance between two keys on the keyboard.
Jazz	A form of music that developed in the United States in the early 1900s from elements of Blues and Ragtime. Its style is often characterized by long improvisational solos and extensive use of syncopation.
Key Signature	An indicator at the beginning of a staff that identifies which lines and spaces of the staff should be played sharp or flat.
Keyboard Position	The placement of the hand on certain notes of the keyboard. It is often necessary to move the hand to different keyboard positions during play.

Lead Beats	One measure's worth of beats, counted off before a piece starts for the purpose of setting tempo.
Ledger Lines	Short horizontal lines above or below the staff, attached to the stem of a note. Used to indicate the pitch of notes that fall outside the range of the staff.
Legato	A technique of playing in which notes appear to flow together smoothly.
Length	The duration of a note.
Local Off	You don't hear the actual sounds of keys on the keyboard when struck. Some examples of Local Off are the rhythm exercises in The Miracle.
Local On	You hear the sounds of keys on the keyboard when struck.
Loud Pedal	*See* Damper Pedal.
Measure	A group of notes, framed on the staff between vertical bars called bar lines. Each measure in a piece has the same number of beats. Normally, the first beat in a measure is stressed. Also called a *Bar.*
Melody	The tune or theme of a piece. In piano scores, it usually appears on the treble staff.
Metronome	A device which makes evenly spaced tick sounds to help musicians maintain tempo.
Middle C	The musical note *C* that is closest to the center of the keyboard.
MIDI	Acronym for Musical Instrument Digital Interface. One of many electronic keyboards compatible with The Miracle.
MIDI IN	A MIDI input port that receives information from The Miracle software on your PC.

MIDI OUT	A MIDI output port that sends information to The Miracle software on your PC.
MIDI Thru	Keyboard circuitry bypass, which lets signals pass between MIDI IN and MIDI OUT. In music this is important to prevent time delays.
MPU-401	A Roland MIDI to PC adaptor device, which is the current industry standard for software developers.
Multi-Timbrel	More than one instrument voice sounding at the same time.
Natural	The sign for a note that is neither sharp nor flat.
Octave	The closest distance between two notes with the same letter name. Including both white and black keys, this is a range of 12 notes.
Oscillator	An electronic wave form generator used in synthesizers to create sounds.
Ostinato Rhythm	A rhythmic pattern that repeats continuously.
Parallel Motion	A musical pattern in which notes on both staves rise and fall in pitch at the same time.
Patch	The number assigned to a musical voice or timbre in The Miracle software.
Patch Mapping	List of all patches for the current musical output device.
Piano	A musical term meaning soft. Also, short for pianoforte.
Pianoforte	A keyboard instrument that uses a system of hammers and dampers to control the vibration of strings.
Player Piano	A type of piano invented in the late 19th century that required no performer.

Playing by Interval	A technique for reading music in which distances between notes on the staff are associated with distances between keys on the keyboard.
Previous Accidental Rule	A special case to the normal rules of staff notation. When an accidental appears in a measure, the accidental remains in effect for future occurrences of notes on that line or space for the rest of the measure. *See* Accidental.
Quarter Note	A note that is played for one quarter the duration of a whole note. In staff notation it appears as a solid black circle with a stem.
Quarter Rest	A rest that lasts for the same duration as a quarter note.
Ragtime	A style of piano music that first appeared in the late 1800s. Pieces are highly syncopated, favor fast tempos and a more staccato flow.
Rest	A moment of silence in music of specific duration.
Rhythm	The proportions between notes of different durations.
Romanticism	School of composing and playing with emphasis on subjective interpretation, emotional qualities, and freedom of form.
Russian School	A style of piano begun by Russian composer Anton Rubinstein that emphasizes fiery performances and virtuosity.
Sequence	A pattern of notes and rhythm that repeats three or more times with each repetition beginning higher or lower than the previous one.
Sharp	The sign for a note one-half step higher than the indicated note.
Sight Reading	Playing a new piece without first studying or practicing it.

Sixteenth Note	A note played for 1/16th the duration of a whole note. In staff notation it appears as a solid black circle with a stem possessing two flags.
Sixteenth Note Rest	A rest that has the same duration as a sixteenth note. Also called a *Sixteenth Rest.*
Soft Pedal	The left pedal on the piano. When pressed, the piano produces a more muffled sound.
Sostenuto	*See* Sustaining Pedal.
Soundboard	The wooden surface over which the strings of a piano are stretched. The sound of the vibrating strings resonate off the soundboard.
Staccato	A style of playing in which notes are crisp and separated by silences of varying lengths.
Staff	A set of 5, evenly-spaced horizontal lines. Each *line* represents a different note. Each *space* between the lines also represent a note. The space above and below the staff can also represent notes; *see* Ledger Lines.
Staff Notation	The written form of music.
Stretches	Fingerings that require skipping notes with adjacent fingers.
Sustaining Pedal	The middle pedal on a piano. This pedal sustains the sound of a note being played (and only that note) beyond the time when the finger is lifted from the key.
Syncopation	A style of rhythm in which accented notes appear between beats, rather than on them.
Synthesizer	A musical instrument, usually having a keyboard, that can electronically create a wide variety of sounds.
Tapping	A method of learning rhythm in which the pianist plays a single note on the keyboard in time with the rhythm of a piece of music.

Tempo	The overall speed at which a piece is played.
Theme	The main melody of a piece, for which the piece is known and recognized.
Third	An interval of two notes separated by one note. It is written on two consecutive lines or two consecutive spaces.
Tie	A curved line that connects two or more notes of equal pitch. Such notes are played as a single note, lasting for the duration of all the tied notes combined.
Time Signature	The numbers that appear at the left of the first measure of a piece, indicating the number of beats per measure (upper number) and the note duration to which a beat is equal (lower number).
Treble Clef	The symbol at the left edge of a staff that identifies it as a treble staff. Sometimes called a *G-clef,* because it indicates that the note on the second line of the staff is a *G.*
Treble Staff	A staff that begins with a treble clef, whose note pitches are normally associated with the female voice and high-pitched instruments. On the piano, it is associated with the right half of the keyboard.
Triplet	Three notes played in the same time it would normally take to play two. They appear in notation as a set of beamed notes with a small *3* above the beam.
Una Corda	A term meaning Soft Pedal.
Upright	A type of piano whose strings are mounted vertically, thus requiring less floor space than a grand piano.
Variation	A modified repetition of a basic theme.

Whole Note	A note whose duration is 4 times that of a quarter note. In staff notation, they appear as a hollow circle with no stem.
Whole Note Rest	A rest that has the same duration as a whole note. Also called a *Whole Rest.*

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The Software Toolworks, Inc.
60 Leveroni Court • Novato, California 94949
415/883-3000

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