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# **AUTOSCORE**

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**Wildcat Canyon Software  
1563 Solano Ave., #264  
Berkeley, CA 94707**

**Phone: (510) 527-5155**

**Fax: (510) 527-8425**

**E-mail: [autoscore@wildcat.com](mailto:autoscore@wildcat.com)**

**Web Site: [www.wildcat.com](http://www.wildcat.com)**

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# INTRODUCTION

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## Autoscore

With your purchase of Autoscore we would like to welcome you to the exciting world of audio-to-MIDI! Autoscore is a unique software program that converts sound into written music. Simply put, you sing or play an instrument and Autoscore will automatically transcribe the music notation right on to your computer screen, ready for you to edit, playback or print.

Besides being a fascinating technology, Autoscore was created to make your composing life easier and in many cases, more musical. For years, the only way to access music software was through the use of a MIDI-keyboard. This forced non-keyboard players to awkwardly one-finger tap their melodies or solos into their computer. Besides the select few who turned one-finger tapping into a true art form (and you know who you are), many find that it is difficult to be expressive or "soulful" in this laborious, painstaking manner.

Many musicians and companies have worked to overcome this inflexible procedure for entering music into the computer. The resulting creations have included a series of synthetic instruments and controllers developed to interface with a computer or drive a synthesizer module. Admittedly, these advancements have produced a number of exciting new tools and toys - but there is still something uniquely special about playing your own acoustic or electric instrument.

With its highly accurate audio-to-MIDI technology, Autoscore will reduce your reliance on the MIDI-keyboard in the truest sense, and enable you to use your familiar instrument or voice to create MIDI recordings. And likewise, keyboard players can also add Autoscore to their existing set-up and greatly increase their flexibility for entering music into the computer.


With the release of Autoscore 2.0, we are offering the opportunity for musicians of all instruments to harness the

power of MIDI. We hope that you will enjoy the flexibility it brings to your music and computer. Actually, you may even find yourself wondering how you ever got along without it. Again, thank you for purchasing Autoscore 2.0. Let's start making music!

*Wildcat Canyon Software*

## Ultra Quick Start

Even if you experience adverse physiological reactions to reading manuals, we recommend that you at least brave this short quick start guide...

1. Install Autoscore by running the *Setup* program on the Autoscore install diskettes or CD-ROM.
2. In Windows 95/98, you will need to make sure that your system's MIDI driver is set to the **Autoscore Output** driver. To do this, click the Start button, then select Settings, the Control Panel and Multimedia. Click on the MIDI tab and make sure that the Autoscore Output driver is selected. Click OK.
3. Plug in the microphone to the microphone jack on your sound card. Then run Autoscore, by choosing Autoscore in the Start Menu in Windows 95/98, or the Autoscore Icon in the Program Files/Wildcat Folder. This will launch the included **sequencer program**, the music composition program that comes with Autoscore.
4. In the included sequencer program, you will see a small picture of a microphone in the menu bar. This is the **Autoscore Menu**. From this menu you can access all of the features related to the pitch recognition in Autoscore. 
5. The first thing to do each time you run Autoscore is test your sound input levels by choosing *Test Microphone* in the Autoscore Menu. This is extremely important! Your input levels should register in the "Normal" or yellow

range on the Level Meter. Note: Use the Windows Mixer utility (double-click the yellow speaker icon next to the clock in the task bar) to adjust the input level of your microphone.

6. In the Autoscore Menu click “On” to turn Autoscore’s recognition engine on. Now press the record button on the sequencer program and start singing or playing your instrument. You’re making a MIDI recording! Note: If you are singing into Autoscore, it is recommended that you sing a simple word like “Da” or “Do” instead of singing real lyrics. More information on singing can be found on page 11.
7. While using Autoscore, keep your speaker volume low. This will prevent background noise from interfering with Autoscore’s recognition.
8. This manual also provides a quick start guide outlining basic operations of the included sequencer program. Refer to the sequencer quick start section for more information.
9. Make a note to eventually read the manual. Ok, now go have fun!

## Requirements

To use Autoscore, it is required that you have at least a 486 or better computer running Windows 3.1 or 95/98, a Windows compatible sound card, and 16 MB of RAM. We recommend using at least a Pentium processor running Windows 95 or 98.

## Installation

To install Autoscore, first insert the Autoscore disk or CD-ROM into your disk or CD-ROM drive. In Windows 95/98, click the start button and choose *Run*. In Windows 3.1, go to the Windows Program manager, and choose *Run* from the *File* menu.

Floppy  
Disk

If you are installing from floppy disk, locate the Setup.exe file and double-click. The install wizard will walk you through the rest of the installation process.

CD-ROM

If you are installing from CD-ROM, locate the Setup.exe file on the CD and double-click. The install wizard will walk you through the rest of the installation process.

When you are done, you will need to restart Windows to use Autoscore.

## Software Pitch Recognition

When you sing or play an instrument it produces a series of sound waves. Autoscore receives these sound waves through a microphone or instrument pickup and immediately processes them with a complex algorithm. As you are playing, thousands of microsecond computations are being performed to determine the pitch and duration for each detectable note of incoming audio information. Due to the amount of incoming information and its complexity, Autoscore is confined to analyzing monophonic audio input only, or one note at a time. Nonetheless, Autoscore's recognition abilities are a testament to the slick programming of our developers and the incredible speed at which computers can currently process information. With this said, please understand that, while Autoscore is extremely accurate, it is not a mind reader. We urge you to take some time to read through this manual to familiarize yourself with Autoscore and best understand how to get the most out of this unique software. The more you understand the different factors that affect Autoscore's recognition abilities, the more likely you are to achieve high quality results.

Below are some important considerations for getting the most out of Autoscore

### **NUMBER OF INSTRUMENTS**

Autoscore can only be used with one instrument at a time. If you try to use Autoscore with more than one instrument or voice during a single recording pass, the results will be unpleasant and inaccurate.

Note: Autoscore cannot transcribe an arrangement of music from a Compact Disc. However, if you find a solo monophonic instrument, such as a saxophone, playing without the accompaniment of a band, then it may possible to transcribe their isolated playing.

### **CHORDS**

Do not play chords. Autoscore only accepts monophonic playing, or one note at a time. Playing chords will undoubtedly cause Autoscore to expel random notes and inaccurate results. You can add extra notes manually with the mouse after

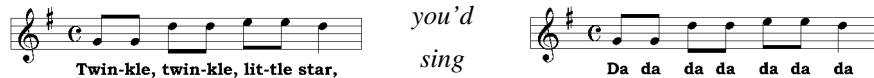
recording to complete a chord or record additional tracks as the harmony parts.

## SINGING

Autoscore works extremely well with the human voice and is one of the most frequently used instruments with the program. To help you achieve the best results when using your voice, it is important to understand a few concepts related to singing. The human voice is probably the most difficult instrument for Autoscore to analyze. Not only does the quality of sound vary greatly from singer to singer, but also the ability to control the fluctuations of pitch from note to note. In fact, it is even common for experienced singers to sing notes a quarter step or a half-step sharp or flat, or to begin by sliding into the note they intended to sing. Because Autoscore can't read your mind, it will output the note that you sang, and not the note you intended to sing.

In order to provide Autoscore with the best opportunity to track your voice, we recommend that you sing a syllable such as "da" or "do." This is because when you sing actual words your pitch will fluctuate across the different syllables. Additionally, consonants, such as "p" or "t" have a percussive sound that may confuse the software. Therefore, if you desire accurate notation, we highly recommend singing a simple syllable (such as "da.") This will provide the software with the best opportunity to ascertain its pitch.

For example, instead of singing:



The image shows two musical staves in G major (one sharp) and common time. The first staff has a melody of quarter notes: G4, A4, B4, C5, B4, A4, G4. Below it is the text "Twin-kle, twin-kle, lit-tle star,". The second staff has a melody of quarter notes: G4, A4, B4, C5, B4, A4, G4. Below it is the text "Da da da da da da da".

Autoscore also has a handy Constrain Mode that was designed to aid vocalists and non-fretted instruments. Refer to the section on Recording Modes for more information on the Constrain Mode feature.

## Getting Help

Once you've installed Autoscore, you can find answers to the most commonly asked questions using Autoscore's built-in help system, which you can activate by choosing Help... in the Autoscore menu. You can also find answers to commonly asked questions in the back of this manual or on our website [www.wildcat.com](http://www.wildcat.com). If you still can not find solutions to your problem, please contact our technical support staff at 800.336.0987.

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# USING AUTOSCORE

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## How to Run Autoscore

WINDOWS  
95/98

To run Autoscore in Windows 95/98, go to the Start Menu and choose the Programs folder, then the Autoscore folder, then Autoscore Deluxe or Professional.

WINDOWS  
3.1

To run Autoscore in Windows 3.1, just double click on the Autoscore Deluxe or Professional icon in the Autoscore Program Manager group.

Doing this will launch the included sequencer program, a multi-track music composition program that comes with Autoscore. At the end of the menu in the sequencer will be the Autoscore Menu icon (see right). Clicking on this icon brings up the Autoscore Menu, which allows you to set all of Autoscore's pitch recognition features.



## The Sequencer Program

Autoscore comes with a multi-track sequencer that allows you to record multiple tracks of music, play them back using any combination of instruments, add and remove notes, fix timing and rhythm, change the clef, key, time signature, and print out your music.

DELUXE  
VERSION

Autoscore Deluxe comes with *Recording Session*, by Midisoft Corporation, a perfect program for the beginning computer musician. Recording Session will show the notes you record with Autoscore on screen, while you are singing or playing.

PRO  
VERSION

Autoscore Professional comes with *Cakewalk Home Studio 3.0*, by Cakewalk Music Software, a program with extensive editing and playback features, and the ability to easily edit pitch bend and volume controller information.

An overview of how to use both of these programs is included in their respective Reference sections of this manual, and both have extensive built-in help capabilities.

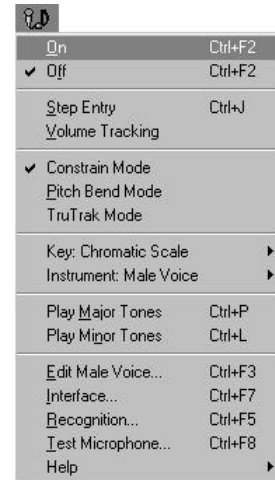
## The Autoscore Menu



At the end of the menu in the Sequencer will be the Autoscore icon. Clicking on this icon brings up the Autoscore Menu (Deluxe version pictured to the left, Pro to the right), which allows you to set all of Autoscore's pitch recognition features, play reference tones in the current key to tune to, test your microphone setup, and access Autoscore's online help.



Easily toggle between instrument filters, such as male voice, female voice, wind instruments, string instruments, etc. This menu also provides easy access to the Constrain Mode (valuable for singers with less than perfect pitch) and TruTrak Mode (provides great playback along with great notation), as well as interface and recognition options. Also provided are reference tones for tuning up prior to recording. Volume Tracking and Pitch Bend Mode are also included in the Professional version of Autoscore.



For more information on individual features, please refer to their respective sections in this manual.

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# RECOGNITION MODES

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Autoscore has different recognition modes that affect how sound is analyzed and what information is sent to the sequencer program. Sometimes you will find that there is a trade off between getting accurate notation and hearing accurate playback of your music, as music notation cannot possibly display all of the nuances of a musical performance. Below are a description of the recognition modes and the advantages and disadvantages of each.

## Pitch Tracking Modes

To set the recognition mode, click on the Autoscore menu and select from the available pitch tracking modes.

### **CONSTRAIN MODE**

When Autoscore is in Constrain Mode, the program will only output notes in a predetermined key. This is the recommended mode for vocalists and can be a valuable means for improving an imperfect performance.

For example, if you set Autoscore to constrain to C Major, and you sing a C# (a note not in the key of C Major), Autoscore will output either a C or D, depending on whether you sang the C# slightly flat or sharp. You can also constrain the output of Autoscore to the chromatic scale or to a major or minor scale.

This feature is invaluable for most vocalists and can correct minor intonation problems of fretless string instruments, such as the violin or cello. The trade off of using this recognition mode is that it “cleans up” your singing or playing and does not provide for absolutely authentic playback of the performance’s pitch. However, due to Autoscore’s exceptionally high level of accuracy, most people find this to be a desirable trade off.

Note: While in Constrain Mode, Autoscore will send no pitch bend information to the sequencer.

## TRUTRAK™ MODE

While in TruTrak Mode, Autoscore will still limit the output of notes to a predetermined key. However, before each note, Autoscore sends a single pitch bend message so that each note recorded keeps a realistic pitch inflection of the actual note you sang or played.

TruTrak mode was created in an effort to bridge the gap between high-quality notation and accurate sounding playback. This recognition mode is quite useful for conveying the inflections of an instrumental performance, but may overly illustrate the imperfections of the human voice.

## PITCH BEND TRACKING MODE

PRO  
VERSION

In Pitch Bend Tracking Mode, Autoscore will track the pitch continuously over the course of your performance, and will not generate new note messages when you slide from one note to another. Autoscore normally tracks pitch bends in a range of +/- one octave, however you can change this setting in the **Recognition Dialog**.

This mode will create an interesting bending effect during MIDI playback. However, if you are interested in accurate notation, you are best advised to use either the Constrain or TruTrak Modes.

Autoscore captures the pitch bending of your performance and inserts this information as MIDI controller data within the host sequencer program. Because MIDI playback is dependent upon the quality of your sequencer (and soundcard), the actual quality of the played back pitch bend information is largely determined by the manner in which your sequencer program interprets pitch bend controller information.

Note: Because of the broad pitch range that Autoscore analyzes in this mode, Pitch Bend Tracking temporarily disables the Constrain Mode feature.

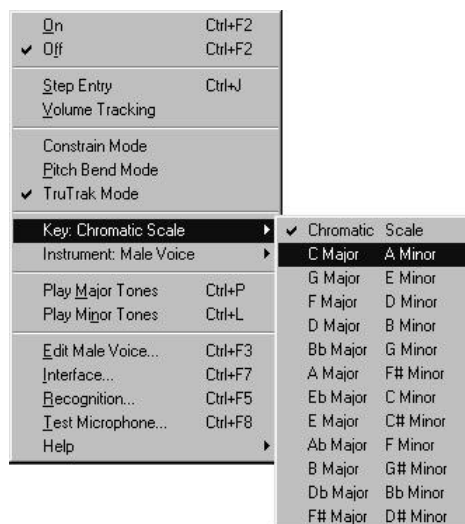
## CURRENT KEY

In both **Constrain Mode** and **TruTrak mode**, you can get higher quality results by choosing the current key you are using in the Key popup menu (shown to the right).

If you are not in a particular key, or not sure, or playing melodies that contain accidentals, then choose Chromatic Scale.

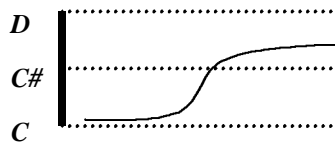
## REFERENCE TONES

When singing into Autoscore, it is extremely useful to get reference tones to tune to before singing, so that you don't sing sharp or flat. Choose Play Major Tones or Play Minor Tones in the Autoscore Menu to get Autoscore to play out a series of notes in the current major or minor key. If you are currently constraining to the Chromatic Scale, you can still use reference tones (Autoscore will play an arpeggio in C Major).



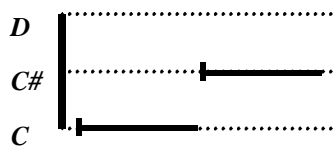
## SAMPLE OUTPUT

Here's an example of the different output that Autoscore would produce from the same input, depending on the Pitch Tracking Mode.



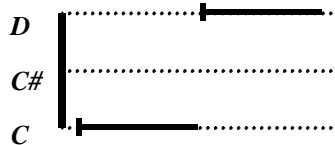
### What you sang in.

Here's a graph of you singing in a C, and sliding up to a little above a C#.



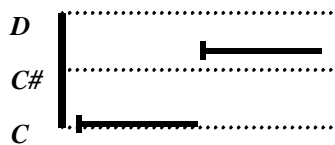
### Output with Constrain to Chromatic

In this mode, Autoscore would output two notes, a C and a C#.



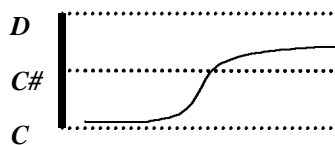
### Output with Constrain to C Major

Since C# isn't in the key of C, Autoscore moves it to the nearest note in the C Major scale, a D, and then outputs a C and a D.



### Output in TruTrak Mode

In this mode, Autoscore would still output a C and a C#, but before each note, Autoscore inserts a single pitch bend message to make the output accurate to the notes that were sung in.



### Output with Pitch Bend Tracking

In this mode, Autoscore would carefully track the pitch values that you sang in. Since there was no space between the two notes, Autoscore will output one note with a big pitch bend slide instead of two notes.

## Step Entry

You can enter music in step time into the included sequencer. Step time means that you don't play the notes in a cohesive real-time performance; instead you play them one note at a time, and specify the duration of the notes in the sequencer.

If you are using step time entry in the sequencer, you should choose Step Entry in the Autoscore menu. This changes Autoscore's output to work more effectively in step time.

## Mute Button

If you hold down the Control key while Autoscore is on, Autoscore will not output any data to the sequencer. This feature is useful if you want to sing or play a few notes to get in tune, without having the notes recorded.

## Volume Tracking

PRO  
VERSION

Volume Tracking will track the envelope of volume over the course of your performance for realistic playback. Volume Tracking will record your volume changes as velocity information and send them to your sequencer. If you are in Pitch Bend Tracking mode as well, Autoscore will track the envelope of volume over the course of the notes you play recording changes as MIDI Volume Controller (#7) data. This combination allows you to make a very accurate MIDI recording of a solo instrumental line.

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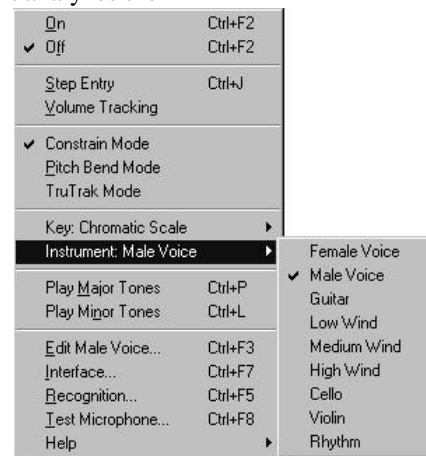
# INSTRUMENT FILTERS

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Instrument Filters are essentially combinations of various recognition parameters that allow Autoscore to accurately analyze the sound input of a given instrument. It makes sense that Autoscore should analyze input from a fretted string instrument, such as the guitar, differently than it analyzes the human voice. The qualities of these two instruments, their pitch ranges and the way in which they are utilized to make music are drastically different. Autoscore comes equipped with Instrument Filters for many common instruments, such as brass, woodwind, guitar, violin, voice and even a rhythm filter for percussive instruments. For the best results, we strongly recommend that you select the Filter that corresponds to your instrument or voice.

Note: If you cannot find an Instrument Filter that matches the instrument you are using, choose the filter of an instrument that shares similar physical or sonic properties.

To choose the current instrument filter, just go to the instrument popup menu off of the Autoscore main menu (as shown to the right). You can also set the current instrument in the Recognition Dialog.



## Custom Instrument Filters

PRO  
VERSION

In the Professional version, Autoscore allows you to make adjustments to any Instrument Filter for better recognition of your voice or instrument. Depending on the various conditions in which you are using Autoscore, such as the ambient noise of your room, playing style or the quality of the microphone, you might find that you can further increase recognition by making a few minor adjustments to the Instrument Filter. To customize a Filter, click on the *Edit*: Instrument option in the Autoscore Menu. This will bring up the Custom Instrument Filter Menu.

From here you can manipulate any of the recognition parameters in the menu.

Base Class, Pitch Range, Note Length, Volume Threshold and Silence Between Notes are the adjustable parameters of Instrument Filters.

### **NAME**

When you edit an Instrument Filter, its parameters will reset to their original defaults each time you exit the program. In order to preserve the changes you make to the Instrument Filters you have the ability to save them as a new preset. You can then save the edited Filter under a new name, such as “Todd’s Violin” or “Bill’s Guitar.” Your new presets will now appear with the other Instrument in the Autoscore Menu.

### **BASE CLASS**

Autoscore has five base classes: Voice, Guitar, Wind/Brass, String and Rhythm. The base class is one of the most important factors in determining how well Autoscore converts your singing or playing into MIDI information. Therefore, always make sure that you are using the most appropriate base class for the instrument you are using.

The Rhythm base class is a specialized filter that examines percussive sound and does not analyze pitch information. Instead the Rhythm base class will send out a middle C note anytime Autoscore hears a percussive noise. So whether you snap, clap or pound on a desk, Autoscore will transcribe a middle C note for each rhythmic burst that can be detected.

Note: Instruments based on the Rhythm bass class do not use the Pitch Range or Silence Between Notes settings in the Customizable Instrument Filter and are not affected by the Volume Tracking Option.

### **PITCH RANGE**

You can enable Autoscore to only analyze notes in a determined pitch range. Once you set the Pitch Range, Autoscore will not output any notes higher or lower than your predetermined range of notes.

Note: It is a good idea to use the smallest Pitch Range that is realistically possible, as the smaller the range, the faster and more accurate Autoscore will be.

To adjust the Pitch Range, simply click and drag each note to the desired position on the Staff Meter.

Note: The Customizable Instrument Dialog is “listening” to the microphone, and is constantly receiving input signal from the microphone. Therefore, you can also set your pitch range by clicking on either note on the staff and singing or playing your highest/lowest note into the microphone.

## **NOTE LENGTH**

Note Length allows you to determine how long or short a note (duration) Autoscore will accept as valid input. If Note Length is set to Mostly Short Notes, Autoscore will analyze most everything sung or played. However, it is possible that Autoscore may try to interpret background noise or line interference as incoming audio information. For this reason, you might not want to set the fader completely toward Mostly Short Notes. Alternatively, if the fader is set completely toward Mostly Long Notes, Autoscore may miss some notes if you play them too quickly.

We recommend experimenting with the Note Length settings to achieve the best balance for your particular playing style. This parameter does not behave in a totally exclusive manner. In other words, making minor adjustments to this parameter does not mean that you will either have to play only 8<sup>th</sup> notes or only 32<sup>nd</sup> notes. The Note Length is but one parameter that affects Autoscore’s recognition quality. And, as with the Pitch Range, if you can minimize the scope of information that Autoscore will be attempting to analyze, the more accurate it will be.

## **VOLUME THRESHOLD**

The Volume Threshold fader sets the minimum volume of input that Autoscore will accept for analysis. The closer the fader is set to Allow Quiet Notes, the quieter a note can be and still be recognized. Again, the disadvantage of having the fader set to either extreme is that background noise and line interference may cause spurious notes. If the fader is set completely toward Only Loud Notes it will dramatically decrease the dynamic

range of your playing that will be analyzed. Experiment with the Volume Threshold parameter for the best results.

## **SILENCE BETWEEN NOTES**

If you check the Silence Between Notes box in the Instrument Filter dialog, Autoscore will listen for silence (as opposed to subtle pitch changes) to know when a note ends.

The advantage of using Silence Between Notes is that it can prevent Autoscore from outputting two or more notes when you only intended to sing or play one. This option is particularly useful for vocalists who often begin a note sharp or flat and then slide into the correct pitch. For example, if the Silence Between Notes box were checked and you intended to sing an F#, but you began by singing an F and then slid up to the F#, Autoscore would output only the F#. Without this feature Autoscore will likely notate both the F and the F# pitches.

Note: Singing with a simple syllable such as “Da” or “Do” will cause you to naturally put some silence between each note and lend to greater accuracy when accompanied by the Silence Between Notes feature. However, for most other instruments, Silence Between Notes should not be checked.

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# RECORDING SESSION REFERENCE

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DELUXE  
VERSION

Autoscore Deluxe comes with Recording Session, by Midisoft Corporation. For technical questions regarding Recording Session, please refer to the program's built-in help or contact Wildcat Canyon Software via [autoscore@wildcat.com](mailto:autoscore@wildcat.com) or 800.336.0987.

## Recording Session Quick Start

To get started recording with Autoscore and Recording Session follow these simple instructions:

- Run Autoscore and then click on the Autoscore menu.
- Select the Recognition Mode that you would like to record with along with the Instrument Filter that corresponds to the instrument you will be using.
- Turn Autoscore's recognition engine on by clicking on the word "On" at the top of the Autoscore Menu.
- Now, click the red Record button on the sequencer program and start singing or playing.
- To record on the next track after recording one or more tracks, just hit the Record button again, and Recording Session will automatically record onto the next track.

Otherwise, arm the new track you wish to record on by clicking the small, square "REC" (Record) button of the corresponding track in the Track Mixer View. Now, click the red Record button at the top of the sequencer program to commence recording on the new track.

## OTHER COMMON OPERATIONS

- To change the MIDI playback instrument of the current track, click on the name of the track (e.g. Track 1) at the bottom of the screen. This will bring up a dialog allowing you to choose a new MIDI instrument for playback.
- To alter the position of a note, click on a note with the arrow and drag it to a new pitch on the staff or beat in the measure.
- To manually add notes to a track, click on Note toolbar located on the left of the screen, and choose a note length by clicking on the picture of the note length desired. Then click in the score where you wish to add a note. A small ruler is located at the top of the staff that will help you find the correct place in which to place the note.
- To change the clef, key, time signature or tempo, click on the Music menu and select the desired option. A new dialog window will appear.

## Transport Controls



At the top of the screen in Recording Session is the Recording Session Transport controls. These transport controls operate in the exact same manner that a tape recorder would.

The Step button sets Recording Session in **Step Entry** mode. To record in step time, click this button, **and the Record Button**. You can then choose the note duration from the notes on the left of the screen, and enter in notes by turning on Autoscore and singing in notes, one at a time.

You can also set the tempo in the taskbar, by dragging the triangle until you reach the desired tempo.

## Track Controls



Each track of music has a section of the Mixer View window devoted to controls for that track.

**To set the name of a track**, click on the track name (e.g. Track 1). This will bring up a dialog that allows you to rename the track.

**To set a new MIDI playback instrument for a track**, you also click on the track name. The same dialog will also allow you to modify the current instrument.

**To set the volume for the current track**, move the fader in the track control up and down.

**To arm a track for recording**, click the small button marked Rec on the track you would like to record on.

**To mute a track during playback**, click on the **Mute** button. The **Solo** button will only play the tracks marked to solo.

The three buttons marked Chor, Revb, and Pan set the Chorus, Reverb, and Pan settings for the track. These controls are not supported by all soundcards.

## Note Entry Toolbar



The Note toolbar located on the left edge of the screen will allow you to easily add, remove, and edit notes in Recording Session.

**To add a note**, click on the picture of a note, which will expand the toolbar to reveal notes of different durations. Choose a note value, and then click in the musical score where you would like the note to appear.

**To delete a note,** select the picture of a note with an X through it, and then click directly on the note that you would like removed.

**To cut and paste passages of notes,** first click on the picture of an arrow. Then select the notes that you would like to copy by clicking and dragging across the group of notes you wish to select. Choose Cut or Copy from the Edit Menu. The cursor will assume the shape of an inverted glue bottle. Click in the score where you would like the notes to appear.

**To move a note,** you must select the arrow in the Note toolbar. Then click on the note you would like to move and drag it to a new location on the staff.

## Other Commands

Recording Session can also change the clef, key and time signature of music, as well as add lyrics, quantize, and many other features. Choose Recording Session Help in the Help Menu for an extensive feature listing.

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# CAKEWALK HOME STUDIO REFERENCE

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PRO  
VERSION

Autoscore Professional comes with Cakewalk Home Studio 3.0, by Cakewalk Music Software. For technical questions regarding Cakewalk Home Studio, please refer to the program's built-in or contact Wildcat Canyon Software via [autoscore@wildcat.com](mailto:autoscore@wildcat.com) or 800.336.0987.

## Cakewalk Home Studio Quick Start

To get started recording with Autoscore and Cakewalk Home Studio 3.0, just follow these simple instructions:

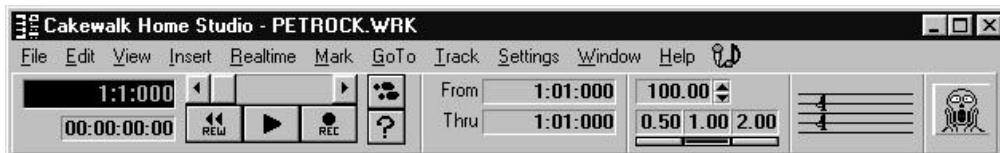
- Run Autoscore and then click on the Autoscore Menu.
- Select the Recognition Mode that you would like to record with along with the Instrument Filter that corresponds to the instrument you will be using.
- Turn Autoscore's recognition engine on by clicking on the word "On" at the top of the Autoscore Menu.
- Now, click the Record button on the sequencer program and start singing or playing.
- To record on the next track after recording one or more tracks, double-click in the blank space in the Name column of row 2. This essentially arms Track 2 for recording.

### OTHER COMMON OPERATIONS

- **To set the name of a track**, double click on the blank area in the Name column, and begin entering text.
- **To set the MIDI playback instrument of a track**, double click the blank area in the Patch Column, and choose a new Patch in the Patch menu (patches are instruments).

- **To edit notes on a track**, first view the track by right clicking on it and choosing **Staff**. (You may also use the Piano Roll. The Piano Roll is sometimes a more precise method of editing.) To move a note, click on the pencil and drag the note. To add a note, click on the pencil and then click on the staff where you would like the note. To remove notes, click on the circle with a line through it and then click on the notes to remove.

## Control Bar



Pictured above is the Cakewalk Home Studio 3.0 menus and control bar. The control bar gives you access to the most common features in Cakewalk.

**To play back any number of tracks**, hit the triangular play button.

**To stop playback or recording**, click the play button.

**To record music on the current track**, click on the **Rec button** and start singing or playing your instrument.

**To return to the start of the current track**, hit the Rew (Rewind) button.

**To record in step time**, click on the picture of the footprints. You may want to turn on Midi Thru before recording in step time with Autoscore in Cakewalk.

**To set the tempo**, click on the number with the up and down arrow next to it. A tempo of 100.00 beats per minute (bpm) is the default setting.

**To set the key and time signature,** click on the staff picture displaying the 4/4 time signature.

## Recording Tracks

Name	Loop	Key	Vel	Time+	Port	Chn	Bank	Patch	Vol	Pan	Size
1 Big Shot	<input checked="" type="checkbox"/>	1	0	0	0 1: Aub	1	---	Rock Organ	---	---	0
2 Lima Bean	<input checked="" type="checkbox"/>	1	0	0	0 1: Aub	1	---	Solo Bass 1	---	---	0
3											
4											

In Cakewalk Home Studio, you can record music onto several different tracks. Each track can have its own instrument, volume, and different staff display on which notes appear.

**To record onto a track,** click on the number or name column so that it is highlighted, and then click on record in the control bar.

**To delete all the notes on a track,** right click on the name, and then choose Wipe in the popup menu.

**To view the music notation of a track,** right click on the track name, and choose the staff view listed in the **Track Views** section.

**To set the volume,** double click on the Vol column and enter a value from 0 to 127.

**To set the MIDI playback instrument,** double click on the patch column to open an instrument dialog.

**To solo a track,** right click on the name and then choose Solo in the popup menu.

**To mute a track,** double-click on the check for that column which will convert the check to an “m.”

## Track Views

When you right click on a track in Cakewalk, the top five items in the menu are the different track views. Any editing done in any of these views will affect the music globally.



**Piano Roll** view shows the music as lines on a grid-like page. This is generally considered the easiest place to edit music. The notation looks similar to the rolls used by player pianos, hence the name.

**Event List** view gives a detailed list of every event on the current track, including Note On and Note Off messages, Pitch Bend and Volume Controllers, and any other information on the track.

**Controllers** view shows a graphical view of the controllers on a track. In this view, for example, you can graphically draw in a pitch bend curve.

**Staff** view shows the music in traditional music notation, with clefs, time signatures, quarter notes, etc...

**Lyrics** view lets you add and remove lyrics on the current track.

## Other Commands

Cakewalk Home Studio has extensive recording and editing functionality. Choose Contents in the Help Menu for a complete feature listing.

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# TROUBLESHOOTING

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Many of the problems below can be attributed to a poor sound input setup. You should always run the Microphone Analyzer dialog to test your setup when you are experiencing difficulties.

There is additional technical support information on our website at [www.wildcat.com](http://www.wildcat.com).

## The Autoscore Control Window

Occasionally, certain programs have problems using the Autoscore Menu. You can access all of Autoscore's pitch recognition features through its own window, the Autoscore Control Window, or the Autoscore icon in the Windows Taskbar (95/98) near the clock. By default, this window is hidden when you run Autoscore. To view the window, click on the Autoscore Control Window in the Windows 3.1 Program Manager Group or the Windows 95/98 Start Menu group for Autoscore.

In the Autoscore Control Window, you can choose Disconnect Menu in the Diagnostics Menu to have the Autoscore Menu not show up in other programs. This should solve most conflicts that occur due to using the Autoscore Menu.

## Sudden Poor Performance

When Autoscore is turned on in the Autoscore Menu, it starts recording and analyzing sounds on your computer. This is fairly processor intensive, and can occasionally cause problems if left on for too long. If you notice a sudden decrease in recognition accuracy, simply turn Autoscore off in the Autoscore Menu and then turn it back on.

## Common Problems

*Listed below are a few common problems using Autoscore.*

### **I CAN'T GET AUTOSCORE TO RECORD**

First let's try examining your sound input levels in the Test Microphone Dialog. If you aren't getting any levels at all, skip down to the **"I'm not getting any input levels in the Test Microphone Dialog"** section.

If you are getting input levels in the yellow and high green range, then Autoscore is indeed receiving sufficient input to function properly. Therefore, the problem likely resides with either your internal computer settings or the settings within your host sequencer program.

To diagnosis this problem we must check your current settings. Please use these suggestions as a check list. If the first suggestion doesn't help your situation, please continue down this entire list of suggestions, as recording problems can be a function of a single wayward setting.

#### **Are your Autoscore settings correct?**

1. Go to the Autoscore menu and make sure when attempting to record that Autoscore is on. Autoscore is on when there is a check mark next to the word "On" at the top of the Autoscore menu. If there was a check mark next to "Off," this means that Autoscore's recognition engine was not turned on.  
Windows Note: Occasionally if there is a check mark next to "On" in the Autoscore menu and you click "On" again, things may appear to lock up or freeze. What has really happened is there is a hidden windows alert message saying that "Autoscore is already on" behind the program. To resume using the program, you need to minimize your host sequencer program and then click "OK" in the alert message box. Autoscore will then resume working correctly.
2. Make sure that there is not a check next to Step Entry in the Autoscore menu. This disables the real-time processing capabilities of Autoscore's recognition engine. If Step Entry mode has a check mark next to it, click on it again to un-check it and try recording again.

**Did you select a track or enable a track to record in your host sequencer?**

*Deluxe Version:* Simply click the red "Record" button at the top of the screen and start singing or playing your instrument. To record on a successive track, just hit record again and Recording Session will automatically record on the next track. Alternatively, click the tiny red recording button on any specific track within the mixer window near the bottom of the screen and that track will now be enabled.

*Professional Version:* Simply click the record button to begin recording. Generally, to record on a specific track, click on a particular track in the track name column. Once the row is highlighted (whether or not you've typed in a name for the row) it is enabled to record.

**I'M NOT GETTING ANY INPUT LEVELS IN THE TEST MICROPHONE DIALOG**

If you are not getting any levels at all while using the Test Microphone Dialog, it is likely that Autoscore is not receiving any input signal. Please walk through a few brief connection checks with us.

**Is the microphone on?**

If your microphone has an on/off switch, please take this time to make sure that it is on. Don't feel bad if you just looked down and realized that your microphone wasn't even on. It's much more common than you think. If this was the case, please return to the Test Microphone Dialog.

**Is your microphone plugged into the mic jack on your computer?**

Make sure that your microphone is plugged into the correct jack on your computer. Your soundcard likely has a number of 1/8" inputs and outputs to connect a microphone and speakers. There may be a couple of input jacks, a microphone jack and a line-in jack. We don't recommend using the line-in jack unless you are putting the microphone through an amplifier first (like a stereo or a mixer) or you are using a line level instrument, like a guitar. If you believe that an incorrect connection was the source of your problem, please return to the Test Microphone Dialog.

**Let's examine your Sound Input settings and see if they are set to the correct input device.**

To check your Sound Input Settings, run the Test Microphone Dialog. Click on the Configure button to open the Sound Input Dialog. In the Sound Input Device field you should see a wave input device of some kind. Take note of what this device is called, because it should be the same device that is selected as the wave device in the Multimedia Control Panel. Enter the Multimedia Control Panel by clicking on the Start button then selecting Settings/ Control Panel/ Multimedia. In the Audio tab, under recording, the listed wave input device should be the same device listed in Autoscore's Sound Input Dialog. Change the device here in the Multimedia Control Panel if it is not. If this was the source of your problem, please return to the Test Microphone Dialog.

**Can your computer system record audio?**

Unfortunately, this is a critical test. If you cannot record audio it is unlikely that you will be able to use Autoscore before addressing this issue. To test you system's capability to record, perform the following test:

We will test your system's recording capabilities with the Microsoft Sound Recorder Utility. First, turn off Autoscore's recognition engine and then close the program. Open the Sound Recorder by clicking the Start button/ Programs/ Accessories/ Multimedia(Win95) or Entertainment(Win98)/ and then Sound Recorder. Press the Record button and see if you are able to make a recording of yourself speaking. If you find that you cannot record in Sound Recorder, you most likely have a problem with your soundcard, files or internal settings and should contact the manufacturer.

**THOSE AREN'T THE NOTES I SANG OR PLAYED.**

If the recordings you are making with Autoscore are of unusually poor quality (i.e. only getting short notes, missing notes, double notes, completely wrong notes), there are a number of routine checks we can make in order to remedy the problem.

### **First, are you unknowingly in Step Entry Mode?**

Click on the Autoscore Menu and make sure that there is not a check mark next to Step Entry. If you are trying to capture a real-time performance Step Entry Mode should not be checked. If it was, please try recording again.

### **Secondly, let's test the microphone in the Test Microphone Dialog.**

1. Open the Test Microphone Dialog located in the Autoscore menu. Assuming you are not playing or singing as the dialog appears, the level meter should either be inactive or display extremely low background noise.
2. Now, sing or play your instrument in the manner and volume level that you plan to perform at.
3. Examine the level meter as you perform. Ideally, the input level should average in the “Normal” ranger.

If you are getting adequate levels in the Input Meter and are able to record and playback music, then it is unclear from the standpoint of your computer settings why you would still be getting poor recordings from Autoscore.

Let's take a moment to examine the manner in which you are singing or playing your instrument.

### **Singing**

Please refer to the page 11 of this manual for singing suggestions.

### **Playing Instruments**

When using instruments you need to be aware of a number of issues.

### **Are you using the correct instrument filter?**

Autoscore comes equipped with Instrument Filters for many common instruments, such as brass, woodwind, guitar, bass, violin, voice and even a rhythm filter for percussive instruments. The Instrument Filters are accessed in the

Autoscore Menu. For the best results, we strongly recommend that you select the Filter that corresponds to your instrument or voice. Note: If you cannot find an Instrument Filter that matches the instrument you are using, choose the filter of an instrument that shares similar physical or sonic properties.

**Is there extraneous noise coming from your instrument, the computer or the room you're in?**

If extraneous noise is entering the microphone in addition to your playing, Autoscore will undoubtedly be confused at which sounds it is supposed to analyze. Extraneous noise can include unusually loud saxophone valves, excessive string noise of a guitar, your computer fan, noisy handling of the microphone or loud accompaniment music. Additionally, try your best to play cleanly and limit the amount of unintentional resonating notes.

**AUTOSCORE IS MISSING SOME NOTES THAT I'M PLAYING.**

Run the Test Microphone Dialog and make sure that your input levels reach the range on the input meter marked "Normal."

Professional version: Make sure that if you have customized your Instrument Filter that the slider isn't moved all the way towards only accepting "Loud Notes."

**MY SOUND CARD KEEPS PLAYING NOTES WHILE I'M USING AUTOSCORE.**

Turn off *Midi Thru* (sometimes called "Echo") in the sequencer, or the music program with which you are using Autoscore.

**I GET AN ERROR WHEN I OPEN AUTOSCORE.**

Autoscore can sometimes produce an error when you turn it on. The most common errors are 2, 4, and 32. If you get errors other than 2, 4, or 32, you should contact Wildcat Canyon Software for further help.

- **Error 2** indicates that your sound card has been installed incorrectly (or not at all). You can double check your sound card installation by attempting to record a sound with the *Microsoft Sound Recorder* program (see Checking to see if your computer can record audio on page 34). If Sound Recorder doesn't work, then Autoscore won't work.

- **Errors 4 and 32** indicate that another program is using the sound card for wave input. Autoscore uses wave input, so when other programs are using the wave input, it cannot work. Often the other program that is using the sound card is a sound recording program or a speech recognition system. Disabling those programs when using Autoscore should solve the problem. Also, make sure that the Autoscore MIDI Output Device in the Interface dialog is not set to a device that contains the words “Wave,” “WG” or “Soft.”

#### **I THINK AUTOSCORE IS CONFLICTING WITH ANOTHER PROGRAM.**

Though we have gone to great lengths to make sure that Autoscore is as compatible and bug-free as possible, sometimes Autoscore does not function properly or another program starts functioning improperly after Autoscore is installed. A possible cause for problems like these is a conflict between Autoscore and another piece of software on your system.

- To diagnose a suspected conflict, disable one of the suspected programs and test to see if the conflict goes away.
- Some of the conflicts are due to the Autoscore Menu. You can use Autoscore without using the menu by running the Autoscore Control Window.
- If you think you have found a serious conflict between Autoscore and another program, please let us know. See the start of this manual for more information on contacting us.

#### **I DON'T SEE THE AUTOSCORE MENU.**

- You can try reinstalling Autoscore to solve this problem.
- If you have Autoscore Professional, and you are using another sequencer, you will need to tell Autoscore to show the menu in that program. You can do so by opening the Interface dialog from the Autoscore Control Window and choosing “Also in MIDI Programs” under the Show Menu section.

- It is possible that Autoscore's menu has been disabled. If so, you can reenable the menu by choosing *Connect Menu* in the *Diagnostics Menu* in the Autoscore Control Window.
- If this does not solve the problem, you can use Autoscore without using the menu by running the Autoscore Control Window.

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# THANKS!

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Wildcat Canyon Software would like to thank you for purchasing Autoscore. We hope that Autoscore will make the process of getting music down on paper a lot easier.

We are always looking for feedback on how to make our software better. If you have any comments or suggestions regarding the product, please give us a call or e-mail us at [info@wildcat.com](mailto:info@wildcat.com). Our contact information is listed at the front of the manual.

Thanks again for purchasing Autoscore, and enjoy!