

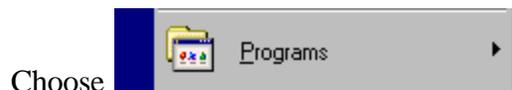
# Transkriber Version 2.0

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## Starting the Transkriber

Click on the  button, normally located in the lower left-hand corner.

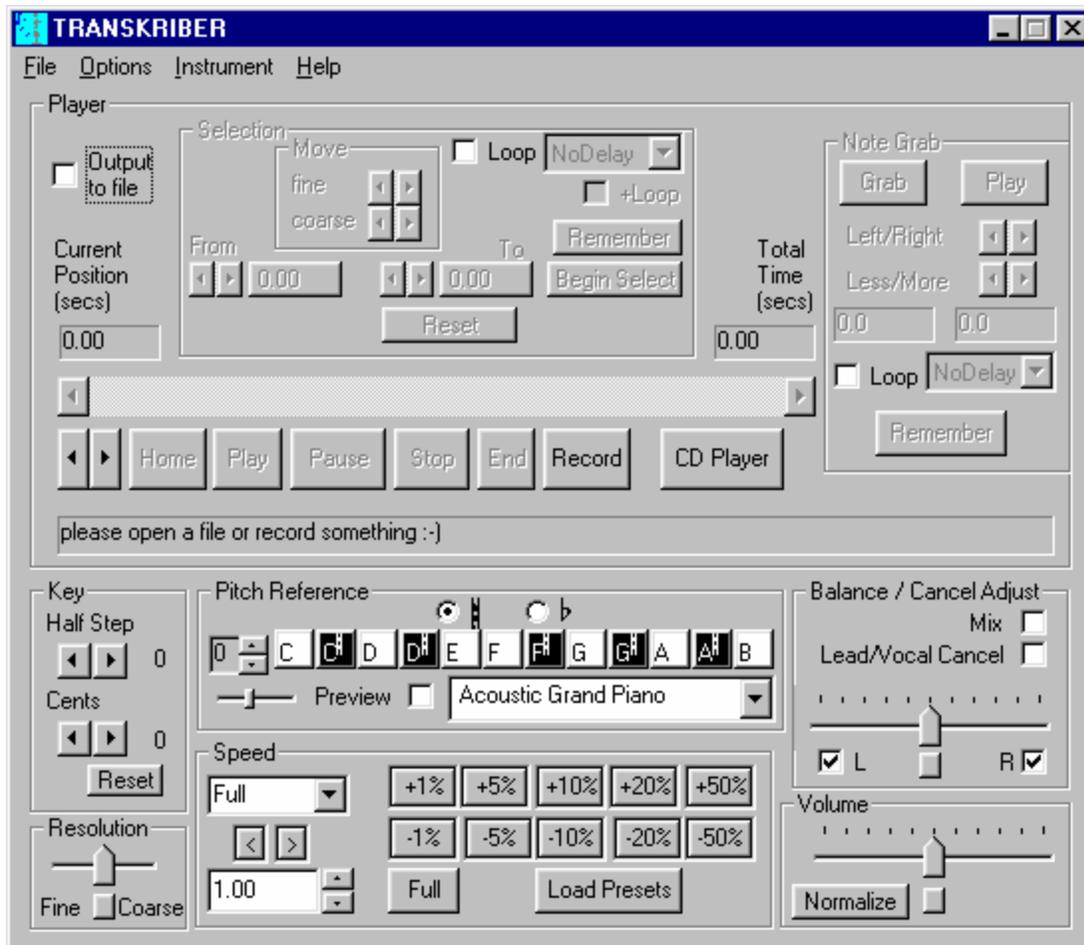
A menu will pop up.



A list of programs will come up to the right .



The Transkriber main panel will come up now.

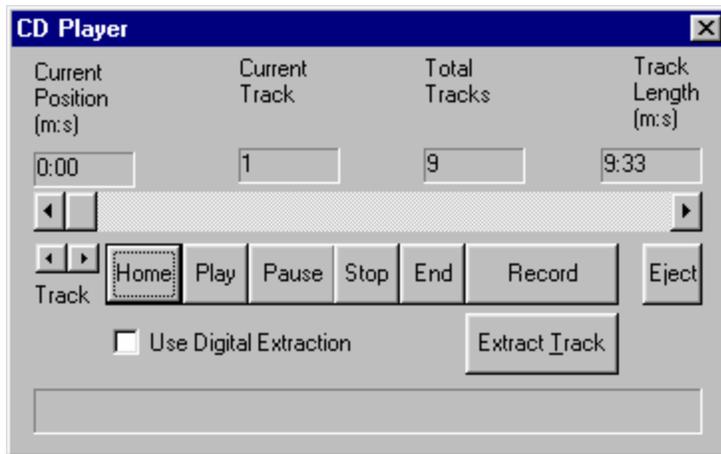


## Recording Some Music

Place an audio CD in the CDRom player of your machine.

On some computers, the CD will begin to play immediately. If this happens, close this built in CD player for now. Some kind of CD icon should appear on the bottom of your screen. You may usually right click the mouse on that icon and then select close.

Click on . This will cause the CD Player panel to come up.



Select the track you wish to record from by using the arrow keys above "Track".



You have several recording options at this point.

The first decision is whether you want digital extraction or analog recording.

Inside the computers memory (and inside the Transkriber), all audio is stored in a digital representation (1s and 0s).

Digital extraction means that the recording is made by just copying the information right from the CD and analog recording means that the CD player is sampled by your sound card and then converted to digital information.

The ideal recording is by digital extraction since the information on the CD, which is already in digital format, is just copied directly to the Transkriber.

Unfortunately, the Microsoft Windows operating systems do not officially support digital extraction from CDs.

Some clever people have figured out how to do digital extraction on Microsoft Windows operating systems but it does not always work. The main reasons for it not working is that the actual CD player on your computer does not support this process. You can choose digital extraction by checking that box on the lower left-hand corner of the CD player panel. If it doesn't work you will just get nothing when you record. No error message will be present.

It is the easiest and best method if it works. We are always improving this so be sure to check our web site for updates if this digital method is not working for you.

When doing analog recording you may need to change some settings in the windows system to make this work and to get the proper recording volume.

The method of setting up your system for analog recording from a CD will vary slightly between each version of Microsoft Windows (95, 98, ME, NT, 2000, ...) but they are all essentially the same. Also, different sound cards may come with their own mixer and recording panels and in that case you may have to consult the appropriate manual for that product.

There is an essential method to the madness here.

Two things have to happen:

- 1) The CD player must play the recording.
- 2) The sound card must record the audio coming from the CD player.

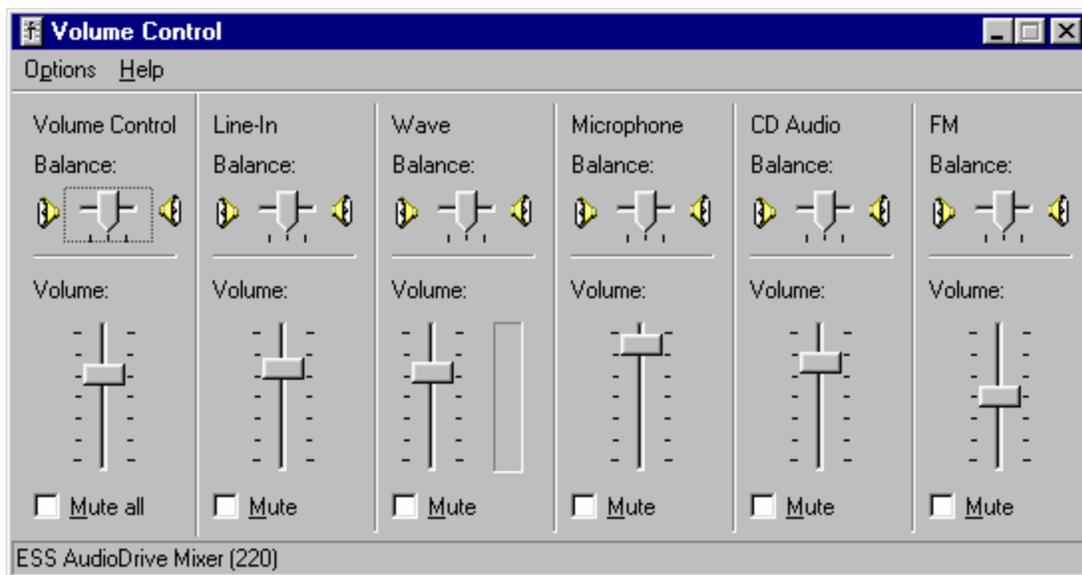
The sound card can usually record sound from different sources, i.e. line input, the microphone, the CD player, other sources or on some sound cards it can simultaneously sample from two or more sources.

For recording from the CD player, you want to make sure that the sound card is recording from just the CD player. We may have to also adjust the recording volume. If the recording volume is too high, the recording will have a "digital clipping" noise which sounds more like static than the traditional kind of clipping sound you get with a tape recorder.

We will show how this looks on Windows 98.

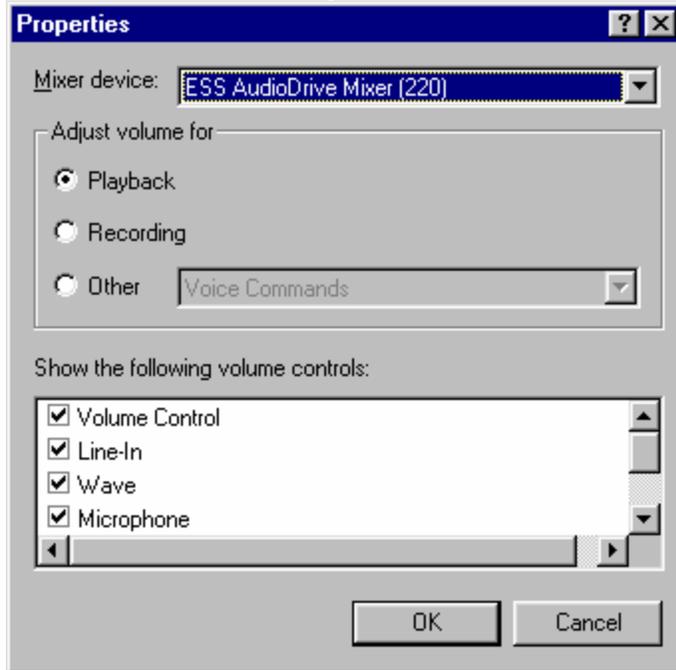
We will want to bring up the recording volume control.

Select Start->Programs->Entertainment->Volume Control.



This is the playback volume control.

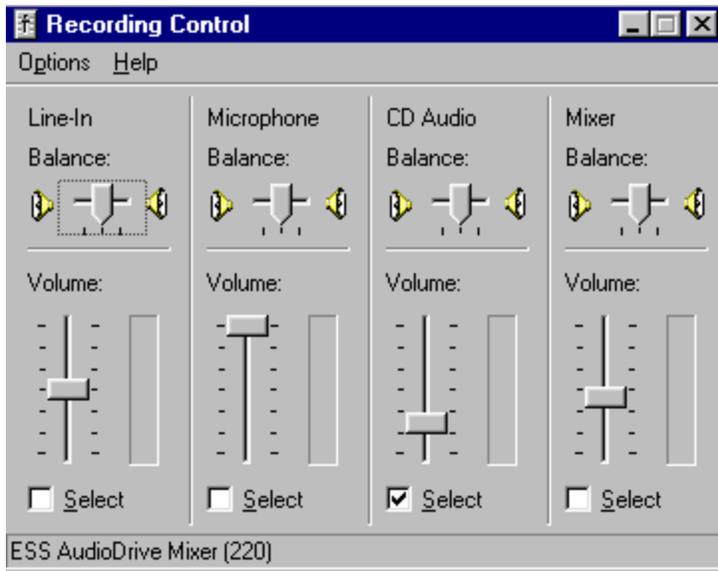
To switch to the recording volume control, we selection options-> properties.



We then select, under "Adjust volume for", recording and then select OK



Notice that now a new mixer control labeled "Recording Control" appears. It looks like the "Volume Control" we saw earlier.



Make sure that "CD Audio" is selected under the list of "Show the following volume controls".

Sometimes instead of the keyword select, they use the word "mute" instead, which has the opposite sense.

While you are recording, you can look at the recording control to make sure that the level is not moving in the red area.

The next main recording option is recording part of a given track (song) or recording the whole track.

To record the whole song (track), just press "Extract Track" in the Transcribers' CD panel.

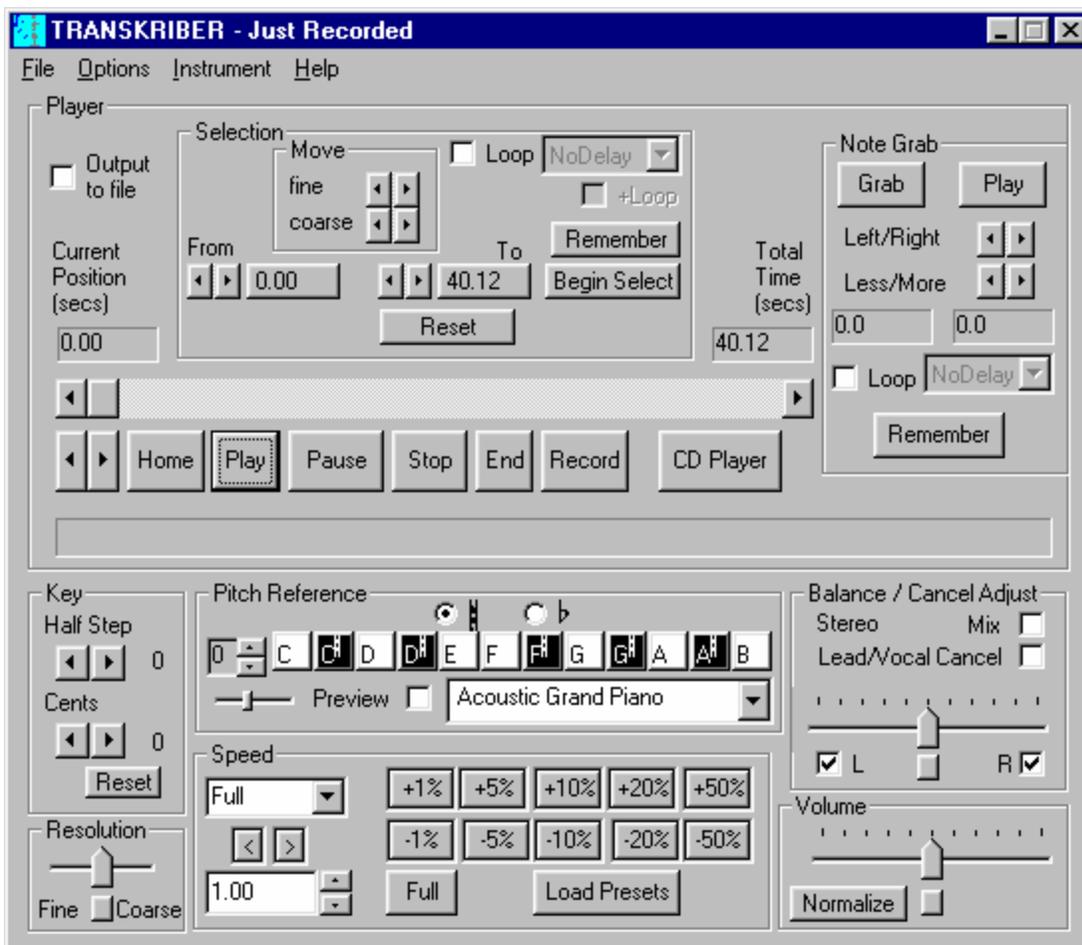
To record just a portion of a track, you must hit the play button and then hit the record button when you are ready to start recording.

You may adjust the starting point before you begin recording by using the slider.

When you are done recording, press the "stop recording" button and then close the window by selecting the X in the upper right hand corner.

## Playing Back

After having recorded some material the Transcriber main panel will look as follows:



The most basic playback buttons are the "Home", "Play", "Pause", "Stop", "End" buttons. These are in the center of the main Transkriber panel.

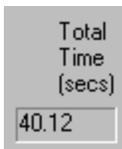


There are also some basic indicators that tell you where you are within the music you are playing back.

"Current Position" on the left tells you how many seconds into the recording the playback is at.



"Total Time" on the right tells you Press the "Play Button".



Now try playing some music by pressing the "Play" button. Notice that the "Play" button turns into a "Stop" button once you press it.

Of course there is already another "Stop" button on this row of buttons but you would have to move your mouse over there to press it. By having the "Play" button turn into the "Stop" button we are able to allow you to "Stop" the playback without having to move the mouse. Since this is a very common thing to want to do, we make things easier by doing that. When we stop playback by pressing either "Stop" button, the "Play" button reappears.

Try pressing "Play" followed by "Stop" this a few times. Try the different "Stop" buttons and you'll see why we have the "Play" button behave the way it does.

When you press "Stop", the current position returns to the beginning of the recording.

In actual fact, it returns to the beginning of the current *playback region*. When you first record or open a saved file, the playback region consists of all the recorded music.

During playback, you may pause the playback by pressing the "Pause" button. Notice that the "Pause" button turns into the "Resume" button . Pressing the "Resume" button causes the playback to resume and the button to turn back into "Pause".

Try some more playback using "Pause" and "Resume".

The current playback position can also be seen by looking at the position of the slider.



When the playback is stopped or paused, you can change to current position by several means.

You can place your mouse on the slider and drag it to the desired location. You'll notice that the current position is changed accordingly.

For example, you may drag the slider to the center position to set the current position at half way through the playback region.



You may also adjust the slider by either clicking on the arrows on the left or rightmost part of the slider or on the left and right arrow buttons on the center strip of buttons .



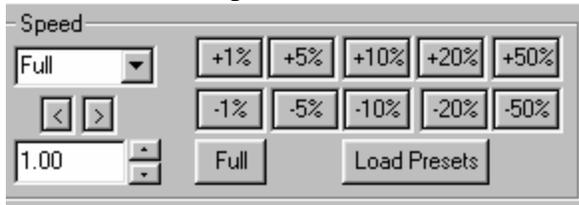
As you use the transcriber a lot, you'll appreciate have the various functions at convenient places that you can reach without a lot of mouse movement.

The "Home" button moves the current position to the beginning of the playback region and the "End" button moves it to the end.

Try playing around with some of these various functions before continuing.

## Slowing Down and Speeding Up

The speed at which the Transcriber plays back is controlled by the speed section of the Transcriber main panel.



There are several methods available for changing the speed.

- 1) There is a drop down box, which initially reads "Full". By pressing the down arrow, the list of speed "presets" is shown. By using the scroll buttons, you can look through the list of speed presets. By clicking on any of them you choose that to be the current playback speed. For example, try selecting 3/4 and then playing back. Try others. The current playback is always under the word "Speed". As we shall learn later, it is possible to create your own "presets" and use them instead of the one built in ones that come with the Transcriber. You will notice that you can change the speed even during playback.



- 2) You may cycle through the preset speeds by using the "<" and ">" under the speed. Pressing "<" chooses the next slower preset and ">" choose the next faster preset. If you press "<" at the slowest speed it will move to the fastest speed and ">" at the fastest speed will move to the slowest speed.
- 3) At any time, you may return to full speed by pressing the "Full" button.
- 4) You may select any speed and type in the value by entering the speed into the box below the "<" ">" keys. For example, enter .5 and then hit the "enter" key to playback at half speed. The present closest to this speed will appear below the "Speed" with a + or - to reflect whether it is above or faster or slower than the preset value. For example, if you enter .51, it will show 1/2 speed with a + sign next to it. You must hit the enter key for the number you type in to take effect. This may also be done during playback.
- 5) You can adjust the speed up or down by .1 increments by using the up and down arrows next to the speed entry box.
- 6) Another way to change the speed is by speed up or down by a percentage change. Clicking on the appropriate button does this.



You may create your own preset speeds by creating a speed-preset file using Microsoft notepad. The built in one is in a file called Transkriber.sp and has the following contents.

```
0.5 Double
1.0 Full
1.33 3/4
1.5 2/3
2.0 1/2
3.0 1/3
4.0 1/4
5.0 1/5
6.0 1/6
7.0 1/7
8.0 1/8
9.0 1/9
10.0 1/10
11.0 1/11
```

Each line has a numeric value which is the reciprocal of the speed (7 for 1/7) followed by the text that is displayed. You may create your own preset file and change from the built in one by using the "Load Presets" button. That will prompt you for an alternate preset file.

## Changing Key

You may change the pitch of the playback, adjusting it by semitones (half steps) or cents (hundredths of a semitone).

We allow you to adjust up or down 12 semitones and up or down 100 cents. You may also return to no pitch change by clicking on "Reset". The number next to Half Step or Cents indicates the current state of key change.



Adjusting by semitones is mostly useful when you really want to change to key of the playback. There are several applications for this function:

- 1) You want to play along with the music in a different key. Possibly you are a singer and you want the playback in a more comfortable key for your voice or perhaps you are an instrumentalist and want to practice the song in different keys.
- 2) You are transcribing music, which might cause you to need to retune your instrument. For example, some guitarists tune their guitar down by one or more half steps. By adjust the key up several half steps, you don't have to retune your guitar to play along.

Adjusting by "Cents" has three main applications:

- 1) Your recording (or your instrument) may be out of tune with one another. Sometimes on old recordings this can be particularly significant.
- 2) In different parts of the world, the tunings may vary. So a recording made in Europe will no be in tune with one made in the USA.
- 3) People specializing in Baroque period music may tune differently.

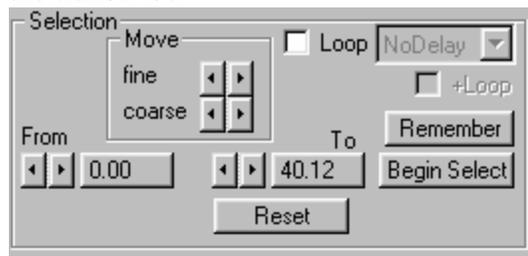
This adjustment allows for you and the recording to be in tune.

Try playing back the music and doing some pitch adjustments. Unless you have a really good ear, you will need at least 10 cents difference before your ear will start to detect a difference. Change by half steps will be much more obvious.

## Selecting a Part of the Music for Study

Normally when we are transcribing, we want to focus on one section at a time.

This one section we call the playback region. This is one of the more important parts of the transcriber.



The numbers next to From and To define the boundaries of the playback region. In the above sample, the playback region is from 0 seconds (the beginning of the recording) to 40.12 seconds (in this case it happens to be the end of the recording).

When a new piece is recorded or a file is opened, the playback region is from the beginning to the end of the recorded music.

There are several different ways to define a playback region.

The simplest is to do it while listening to the music.

During playback, you can click on the numbers (0.0 or 40.12) and those numbers will change to the value in the Current Position window.



Try this out. You can always reset the left edge, right edge or both edges to their initial position by clicking on the reset button.

Anytime, even when playback is stopped, the numbered buttons next to From and To will be changed to the value in the current position window. This means that while playback is stopped or paused, you can use the slider above the main row of buttons to change the current position and then click on the numbered button next to From or To to change the playback region boundaries.

To adjust the left or right boundary of the playback region, you may click on the left or right arrows next to the number. Clicking with the left button mouse button will cause the amount to change by .1 second increments and clicking on the left button will cause it to change by .01 second increments.

The whole playback region may be moved left or right by using the "move fine" or "move coarse" functions.



## Modifying a Selection

A selection marks a particular region of time that the Transcriber is set to play back. It plays the region marked by "From" to "To".

This region may be changed.

The beginning of the selection may be moved forward or backward in time by using the



arrow keys next to it.

Similarly the end of the selection may be moved forward or backward in time by using the arrow keys next to it.



Clicking on the arrows with the left mouse button will move the time in .1 second increments. Clicking on the arrows with the right mouse button will move the time in .01 second increments.

The entire selection may be moved left or right with the arrow keys in the move box.



"Fine" and "Coarse" move it by larger or smaller amounts. By right clicking on "Fine", you can move it by even smaller amounts.

If you want to reset the right or left edge of the selection (or both edges), you can use the "Reset" button that is in the selection area. It will pop up with a list of choices.

## Looping a Selection

When the Transkriber reaches the end of a selection, it normally will stop.

You can cause it to loop in several fashions.

By clicking on "Loop", it will by default replay the selection when it reaches the end.



You may also cause it to pause each time it reaches the end of the loop by some number of seconds by clicking on the drop down box.

If you are playing along with a riff for example, that gives you enough time to prepare.

Sometimes though, you don't want to play with the riff, but rather after it. So then you want it to dealy an extra "whole loops" worth so you have time to play it before it repeats. You achieve this additional delay by clicking the box next to "+Loop".

## Remembering a Selection

Sometimes you might want to remember a particular playback region. For example, you might want to go back at a later time and re-check your transcription of that part.

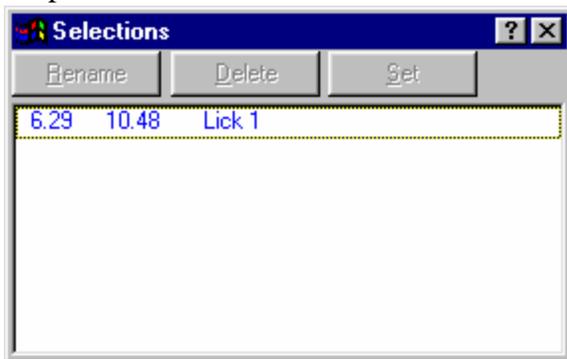
You can remember a playback region (selection) by pressing the remember button. You may optionally give a name to the selection for future easy in finding it.



You can name the selection by entering into the text box. For example, you can save the lick 1.

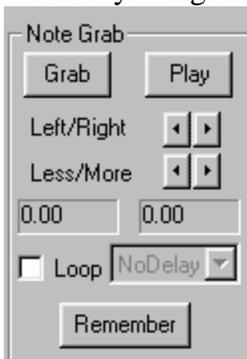


The "Selections Box" will pop up and save this setting of the playback region. The range of values, 6.29 to 10.48 is the From/To pair in the playback. These selections become associated with the wave file and will be remembered the next time the wave file is opened.



## Note Grabber

Sometimes you want to focus on a particular note (or chord) within a selection. You can do this by using the note grabber.



You initially set the position of the note grabber by clicking on the "Grab" button. This can be done while the Transcriber is playing or while it is stopped. It will be set to the current position in the playback.

Once set, the note may be played by clicking the "Play" button that is within the note grabber section. By default, the note is one second in length.

The note may be lengthened or shortened by using the arrows next to less/more.

The note may be moved forward or backward in time by using the arrows next to "Left/Right".

The note may be looped with or without delay between each time the note is played by using the "loop" and delay drop down box.

Similarly, a particular note (usually a chord), may be saved by using the "Remember" key.

This allows you to go back later and listen to that some more.

The playback of the note will also be affected by the normal playback speed.

For figuring out chords, you can place a small loop around the chord and then play it back at a slow speed, possibly adding looping to make it continuous and/or delay to give you time for it to register in your mind before hearing it again.

There is an interesting way you can use the note grabber as a normal method in tandem with the main selection control.

As you move the note grabber to the right, the main selection will track along with it. That way you can keep working on adding one note at a time, figure that note out, and still be able to hear the larger phrase.

## Pitch Reference

Most professional transcribers I have known, transcribe away from their instrument. The instrument is only used to check the transcription and of course to play it.

Why is this?

There are lots of reasons for this but mostly it is quicker method and leads to more accurate transcriptions.

For this reason, we provide a way for one to hear a note with the transcriber without having to go to your instrument. In the past, most of us used a tuning fork or pitch pipe to get the proper pitch.

In the Transcriber, we provide a pitch reference control to aid in this.



A single octave is visible at a time. The black keys are notated with # or b depending on the selection or # or b above.

Adjusting the up/down arrows on the far left may make the octave higher or lower.

In the lower left hand corner. The midi instrument is selected by using the pull down menu. If you wish to hear the instrument as you scroll through the various patches, click the "preview" on. The volume of the preview may be adjusted with the slider to the left of the word "preview".

You can use this to check any note you hear from the main selection or the note grabber.

Some computers have several MIDI output devices, some of which make no sound on your actual machine but require the hookup of an external synthesizer.

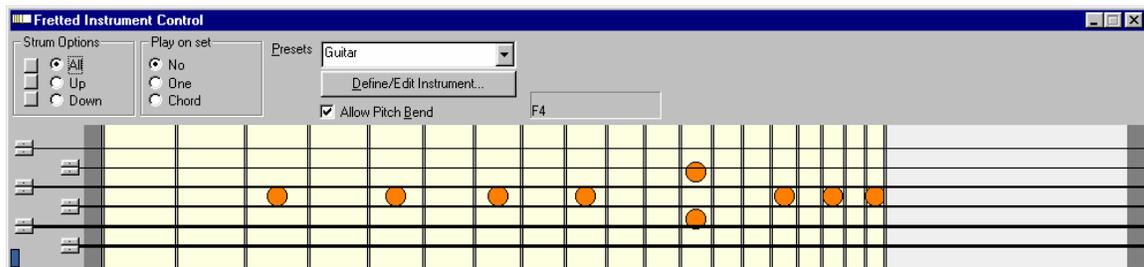
If you hear no sound from the pitch reference, then you may need to select another midi output device. This is option is under "options"-> "select midi output device".

A more sophisticated version of this can be found in the various instrument controls: namely the staff control, keyboard control or fretted instrument control.

By selecting "Instrument" from the main menu (or Alt-I),

## Fretted Instrument Control

From the "Instrument" menu, select "Fretted Instrument".



This is called a fretted instrument control because it can virtually be any fretted instrument. One can select from presets such as "guitar", "bass", "banjo",... and can also define a new instrument, such as a seven string bass or a guitar with some particular open tuning. Double string instruments such as twelve string guitars and mandolins are possible too.

This allows one to hear chords, bends and in general to "virtually" play a fretted instrument. You may use this in tandem with the the notegrabber to try out chords on the virtual fretted instrument and compare them to the audio in the note grabber.

The midi sound ("patch") used is that contained in the main pitch reference part of the Transcriber. So you can vitrually play a guitar but have the sound be any particular guitar or other sound, such as a piano.

By clicking the mouse at a given place on the fret board, the corresponding sound will occur.

If you click on the "nut" of the instrument, the open string will sound. This is not of course what would happen on a real instrument but it is convenient since otherwise you must move the mouse down to the right of the fret board.

If you hold the shift key down while clicking on the fretboard, then the note will stay down. This is how you form a chord. Holding down shift and clicking again will remove that note.

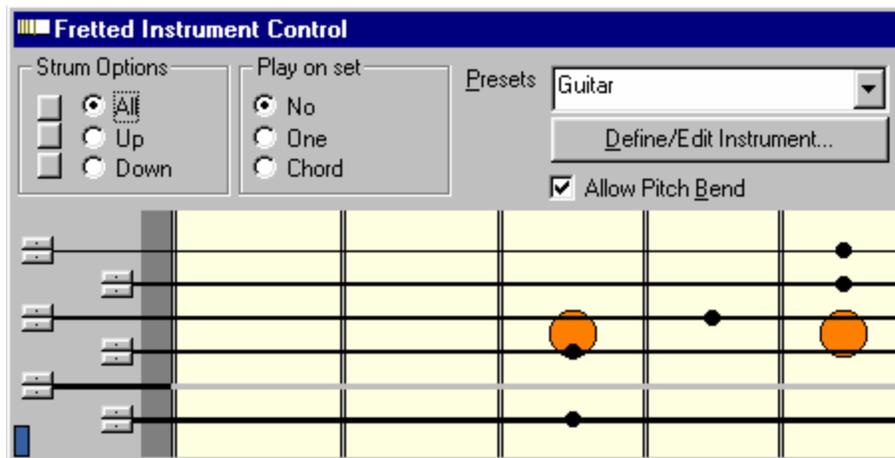
If you click the strings to the right of the fret board in the light grey area, it will pluck the string. When the mouse is in this area, it will turn into a "pick".

If you click on the bridge area (dark gray), it will cause that string to be muted. This is important if you want to strum chords but not have certain strings sound. When a string is muted, its color will turn from black to gray. When the mouse is in the proper position for muting, it will turn into an "x".

Chords may be strummed by either moving the pick through the area to the right of the fretboard or by using some specialized mechanisms.

To understand how this works, let's form a G13 jazz chord. This chord consists of a 3<sup>rd</sup> Fret/6<sup>th</sup> string, 5<sup>th</sup> string muted, 3<sup>rd</sup> fret/4<sup>th</sup> string, 4th fret/3<sup>rd</sup> string, 5<sup>th</sup> fret/2<sup>nd</sup> string and 5<sup>th</sup> fret/1<sup>st</sup> string.

The fingerboard should look as follows.



Notice that the muted 5<sup>th</sup> string is light grey.

If you move the mouse across the light grey area to the right of the fretboard, as described earlier, you will hear the guitar strings strummed (you can strum in either direction or even arpeggiate).

If you press the square button to the left of "All", you will hear the chord "plucked". If you press the square button to the left of "Up", up will hear the chord strummed from

lowest to highest note. If you press the square button to the left of "Down", you will hear the chord strummed from highest to lowest note.

As one is constructing a chord using the shift/mouse click, you have various options as to what you will hear. This is controlled by the "Play on Set".

If "Play on set" is set to "no", then nothing will be heard when the shift/click is performed. If "Play on set" is set to "One", then just that one note will be heard. If "Play on set" is set to "Chord", then the whole chord is played. In "Play on Set" is set to "Chord", right clicking on any fret/string will strum the chord. The way the chord is played is controlled by what is checked under "Strum Options".

If you desire pitch bending to be active (the default), then check that appropriate box. When you click the mouse on the fret/string, if you keep the mouse held down and then drag it, the string will pitch bend.

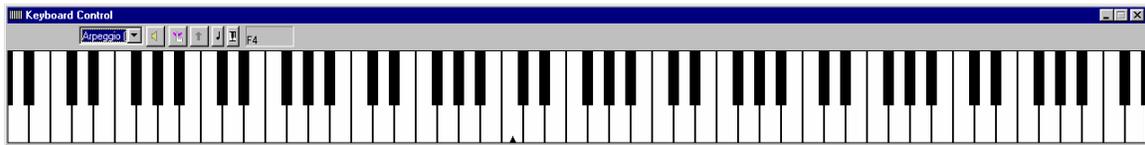
Strings may be tuned by pressing the up/down button on the far left of the string. When the mouse is moved in that area, the current note setting is displayed.

You can define your own instruments. You start by selecting a currently defined instrument and editing it. If you change the name, then it will take on a new name. If you retain the name, then you are editing that name.

You may select any number of strings, frets, and whether the strings are doubled (twelve string guitar or mandolin for example).

## Keyboard Control

By Selecting "Instrument" -> "Keyboard Control", the keyboard control will appear under the Transkriber.



The keyboard may be resized by holding and dragging an edge and the Transkriber will subsequently remember your resized keyboard.

Clicking the mouse on the key will cause the key to sound. Holding down shift and clicking (shift/clicking) the mouse will cause the note to stay down so that you can form chords.

The keyboard can be controlled additionally through its menu.



The pulldown changes the meaning of dragging the mouse. If "None" is selected, then dragging the mouse has no effect. If "pitch bend " is selected, then moving the mouse vertically will cause the pitch to bend. If "arpeggio" is selected then dragging the mouse horizontally will cause the piano glissando effect to occur.



The  button causes the currently held down notes (from shift/clicking) to play.

The  button causes the chord to stop playing.

The  button causes all the currently selected keys to be deselected.

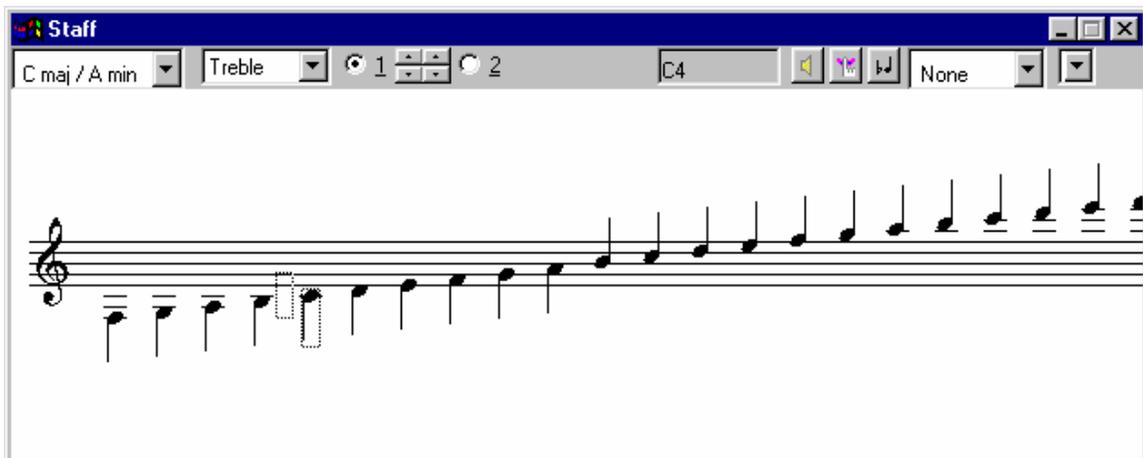
The  allows one to have a marker placed on the keyboard for identification purposes. There can be "None" (no marker), "Middle C" and A440. The default is "Middle C".

The  will allow you select what kind of keyboard you want, 88 keys, 61 Keys,... and you can even customize your own.

The current note is displayed next. 

## Musical Staff Control

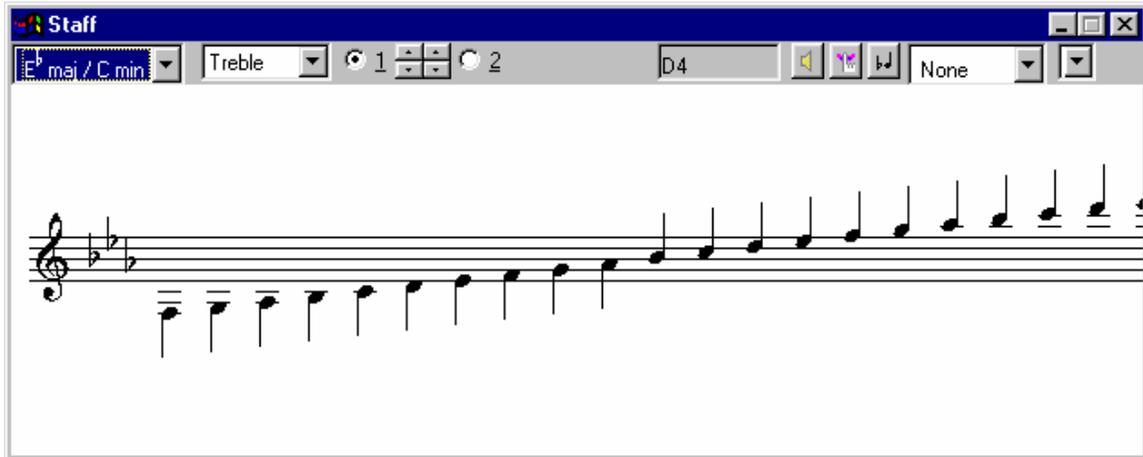
The third instrument control (though not technically an instrument) is the musical staff control. It is selected by "Instrument" -> "Musical Staff".



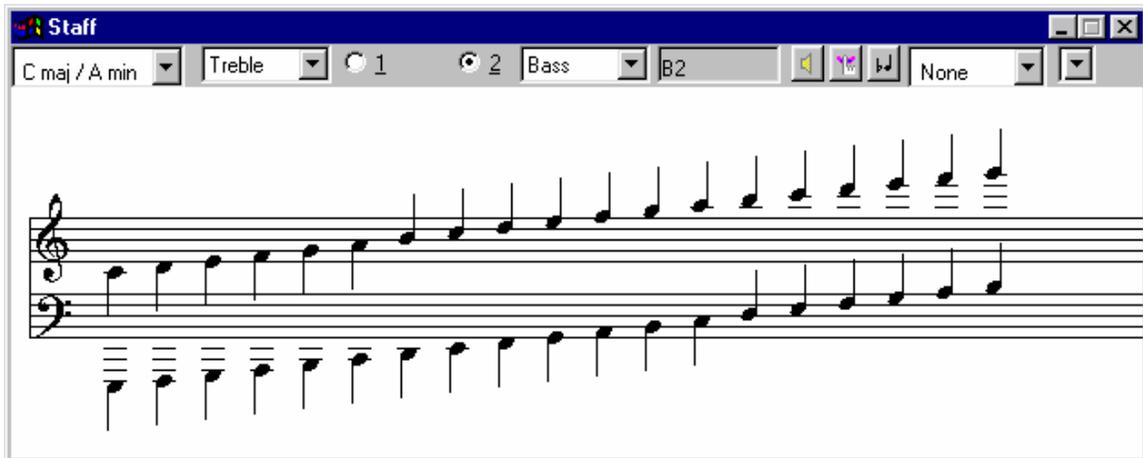
By clicking the mouse on a note, the note will play. If you shift /click the mouse on a note, the note will stay down (so you can form chords). If you click above a note, it will be the # of that note and below the note, the b of that note. By default, the sharp/flat signs

will go away after the note plays. This is called "non sticky" mode. You can choose for the sharp/flat to remain by default by choosing "sticky" mode by using the  button. You may explicitly keep the # or b on a note by clicking on the box next to the note and choose double sharp, sharp, natural, blank (key signature controlled), or double flat.

The key signature may be changed by using the pulldown at the far left. For example, Eb.



You may change the cleff from Treble to either Bass, Alto or Tenor. By clicking on 2, two staves will appear.



You can change the range of notes for a given cleff, by selecting that cliff when in 1 staff mode and clicking the up/down arrows in between "1" and "2". The left pair of up/down arrows affects the lowest note and the right pair the upper note.

The greyed box always shows the most recently selected note, in the above example it is B2.

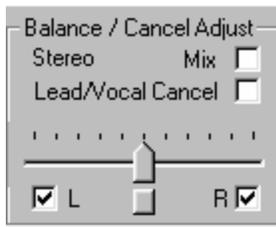
The  button causes the currently held down notes (from shift/clicking) to play.

The  button causes the chord to stop playing.

The next pulldown box selects transposition. The current choices are None, Bb, Eb, Bb + octave, and Eb plus octave.

## Balance/Cancel Adjust

This is a multi function part of the Transcriber. We describe this functionality when used with a stereo recording first and later will discuss ramifications when using a mono recording.



By clicking the L or R, it will remove the left or right channel from playback. By itself, this would have the sound come out of only one speaker (or side of your headphones).

To more finely adjust the amount of left and right, you can use the slider. To return the slider to its center position, click on the square button below it.

The left and right channel can be mixed together and the result played on both channels by clicking on "Mix". This helps to create better mixes for transcribing. For example, the instrument you are transcribing may be better heard on the left or right channel. It might be sufficient to just click the other channel off. Sometimes the separation is so severe that you are only left hearing one instrument and can't hear the rest of the band. In this case you might want to mostly hear one channel but still hear the other but then hear the channels mixed together. You have to experiment with this feature.

On a stereo pop recording, the lead singer or instrument is usually mixed in the center of the recording with other band members to the side. This gives the illusion that there is a whole band in front of you.

If you have the balance control slider in the center and click lead vocal/cancel, it will eliminate most of the lead instrument or vocals.

On jazz recordings, the lead instrument is not always in the center. If you move the balance slider to the left or right you should be able to find that instrument and cancel them out.

## **Volume**

The volume slider is the master volume control. Our volume slider can be used to eliminate digital clipping, which occasionally can be introduced, by using the balance/cancel controls. You can also use the volume control on the built in Microsoft volume control but this will not eliminate any unwanted digital clipping.

If you want all your wave files to be of roughly the same volume, you can use the normalize button. This will change the wave to be roughly at maximum volume. Then you can save the file. In most cases you won't need this. If you record something too soft, this will also bring up the overall volume.

## **Resolution**

This should in general not be used but may be helpful on some recordings. For guitar and instruments with a short attack, you want fine resolution and for instruments like saxophone that have a big sound envelope, you might want more coarse resolution.

The Transcriber will remember this setting for this particular recording the next time you load this sound file.

To reset it to its nominal value, click the button below the slider. We shall also see later that using the Transcriber's property menu, you can change the default resolution. You may find one that works best for most of what you are transcribing.

## **Saving Output to a File**

By clicking the "Output to File" box in the upper left-hand corner, the Transcriber will write the output to a file. Whatever you hear will go to the file.

## **MP3**

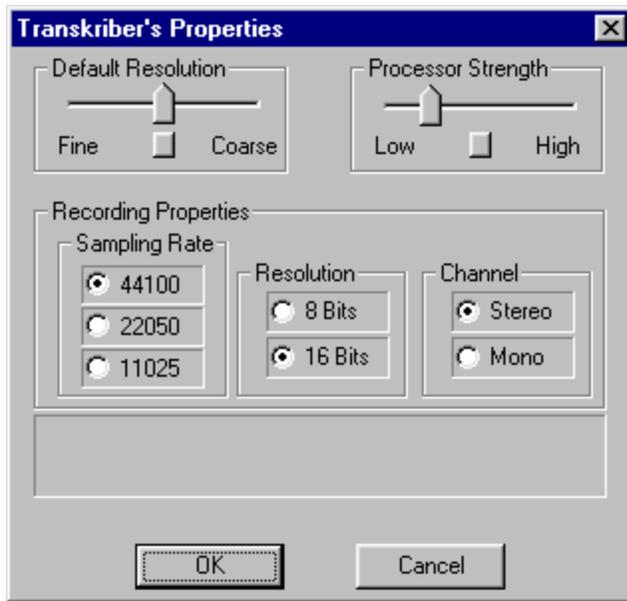
MP3 files are imported into the Transcriber by converting them to a wave file. Select "File"->"Import"->"MP3".

## **Remember Selections Window**

This window is launched by selecting "File" -> "Remembered Selections".

## **Properties**

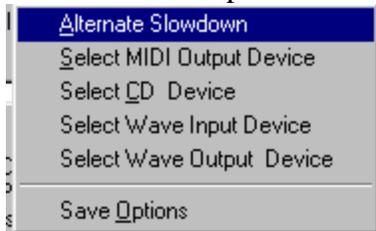
This window is launched by selecting "File" -> "Properties".



Processor strength is not currently used. Do not use Default Resolution unless you really understand the use of the resolution on the main Transkriber panel.

## Options

There are misc. options available.



There is an alternate slowdown method that the Transkriber can use. This is primarily for use on a very old machine that may not have enough horsepower for the Transcribers newer sound engine.

"Select MIDI Output Device" allows you to change the MIDI device used by the Transkriber for playing notes in the pitch reference and instrument controls. Most machines have several midi devices and some are meant for connection to an external synthesizer so they might make no sound.

Select CD device allows you to choose which CD player the Transkriber will use. This is useful if you have more than one CD player or driver.

Similarly for Select Wave Input Device and Select Wave Output Device.