LP2D
(Long Play to Digital)

The Newsletter advertised that I would demonstrate transferring Vinyl records to CD with a turntable that connects directly to your computer and comes with the necessary software.

To do that, I broke the demonstration into (5) parts.

Part 1 – What's in the box
Part 2 – Connect to computer
Part 3 – Transfer the music from a record to a computer
Part 4 – Create individual tracks of music and clean up the sound
Part 5 – Create a CD

And, Jerry would like me to do all this in 10 minutes.

To try to get through all this in 10 minutes, I cannot do a record from start to finish, but I can demonstrate the steps from start to finish. This handout that should give a little more detail about the actual process. If you think of questions during the presentation, please come up during the break or after the meeting, I'll be glad to answer any questions I can, and would be glad to go through any "hands on" examples you would like.

I imagine that, like me, many of you have records that you have had "forever" and would like to listen to them on a CD player, either in your home or in your car. Or, you may want to listen to them on your Ipod or MP3 player while you're jogging along on your treadmill.

In any event, the first thing you have to do is get the music on a computer in some digital format. Also, if you're like me, you have tried to do this, with varying degrees of success. The problem is that unlike an audio cassette player, most turntables do not have a "Line-Out" Jack that will allow you to plug into a computer. And, if you're like me you have tried to come from a speaker jack on your stereo, to an input jack on your computer's sound card. I don't know about you, but I always got that "almost" right. It seemed like it was either too low and you could not hear the recording or it was too loud and the sound was terrible. It doesn't seem fair, when you connect your turntable to a receiver and listen to a record on your stereo sound system, everything sounds fine.

It turns out that the difference is a little device called a **phono preamp**. The problem is that this little device is built into your stereo receiver, not your turntable – *most of the time*.

Quite by accident I came across a turntable that has the preamp built into it, and the preamp is switchable. That is, if you are connecting it to your computer, you can switch it on. And, if you are connecting the turntable to your stereo system receiver, you can switch it off.

Part 1 – What's in the box

The turntable I found is bundled in a package and sold as the AT-LP2D
LP-to-Digital Recording System

MSRP* US$199.00
*Manufacturer's Suggested Retail Price.| Actual selling price may vary; please check with an authorized Audio-Technica dealer.

(*Actually, I found this package at several suppliers in the $100 range*.)

If you type "**Audio-Technica AT-LP2D**" into your search engine, you will find a number of sources. (I got mine at Amazon, several months ago.)

Audio-Technica AT-LP2D - turntable

Audio-Technica brings its legendary quality and audio fidelity to the digital realm with the creation of the new LP-to-Digital Recording System. In the box, you'll find everything you need to transfer your classic LPs to digital files: Audio-Technica's AT-PL50 stereo turntable, complete with built-in switchable phono preamp that allows direct connection to your computer; Cakewalk PYRO software; an audiophile-quality phono cartridge; and an adapter cable. The system is perfect for creating CDs and MP3 player files that get your old tunes off the shelf and into your portable player.

Includes everything you need to transfer your LPs to your computer:

AT-PL50 Fully Automatic Stereo Turntable

- Built-in switchable phono preamp—no interface needed
- Fully automatic operation
- 2 speeds - 33-1/3 and 45 RPM
- Professional aluminum platter
- Integral audiophile Dual Magnet™ stereo cartridge with replaceable stylus
- Balanced tone arm with soft damping control
- Easily accessible front controls

Cakewalk PYRO Software

- Create MP3, WAV, and WMA files…and much more
- Remove clicks, pops, and crackles from noisy LPs with DeClicker
- Clean hiss, hum, and other annoyances from LPs with DeNoiser
- Design full-color CD-Labels and jewel case inserts

Cable & phono cartridge

- Adapter cable fits most popular computer audio inputs
- Audiophile-quality phono cartridge

AT6012 Record Care Kit

Microdust and contaminants can cause wear and tear on your records and stylus—they diminish sound quality, too. Audio-Technica's AT6012 Record Care Kit is designed to gently remove contaminates while improving record fidelity and tracking. AT6012 Record Care Kit contains: Audio-Technica Record Care Solution (2 FL. OZ); Sonic Broom brush pad; storage base; double-sided adhesive tape. Scientific record-care formula gently removes microdust and other contaminants, dissolves fingerprints, and eliminates static electricity

- Velvet brush pad reaches into grooves
- Inner reservoir directs the record care solution into brush pad's leading edge
- Records and styli last longer
- Improves record fidelity and tracking
- For LP/EP use only

A two-ounce bottle of A-T Record Care Solution is available separately as AT634

System Requirements:
Minimum System Requirements
Intel or AMD processor, 500MHz or better
Windows® 2000/XP
128 MB RAM
CD-R or CD-RW writer for burning CDs & installation
Recommended System Requirements
Intel or AMD processor, 1.5GHz or better
Windows® 2000/XP
256 MB RAM
CD-R or CD-RW writer for burning CDs & installation
1 GB free disk space

Note: Pyro is not compatible with Windows 98/98SE/ME/95 or NT

What if you don't want to buy this turntable/package?

If you already have a good turntable and would like to be able to transfer music from records to your computer, type "**phono preamp**" into your search engine. You will find a number of sources that can provide this essential component.

If you already have a good turntable and are able to transfer music from records to your computer but would like to use this software, go to www.cakewalk.com – click on "Products" and you will find that you can purchase the latest version of "Pyro".

Part 2 – Connect to computer

When I received the turntable and tried to connect it to my computer, I found that I needed to purchase an additional cable because the cable that came with the turntable was not long enough to reach my computer.

You need a cable like the one pictured, with (2) RCA Female connectors on one end and (1) stereo 3.5 mm (1/8”) mini-plug on the other end. The cable needs to be long enough to comfortably reach the sound card on your computer.

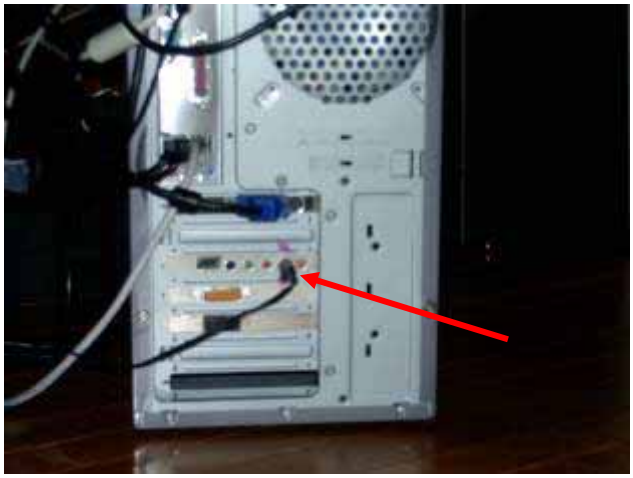
After assembling the cables, I plugged the stereo 3.5 mm (1/8”) mini-plug into the “**Line-In**” jack on the sound card of my computer.

Note: Your sound card must have a “Line-In” jack for this process to function in an acceptable manner.

I then plugged the power cord into the surge protector side of my computer UPS unit and I was ready to start copying music from my vinyl records into digital files in my computer.

While it’s not easy to see, the sound card on my computer has (5) jacks for me to choose from. To make life easier, none of the jacks are marked “Line-in”. While each of them has some kind of symbol near them, none of those symbols meant anything to me. I finally found the information that I needed (somewhere on the Internet) and then marked the correct jack with a colored marker.

<u>Now</u> life is easier.



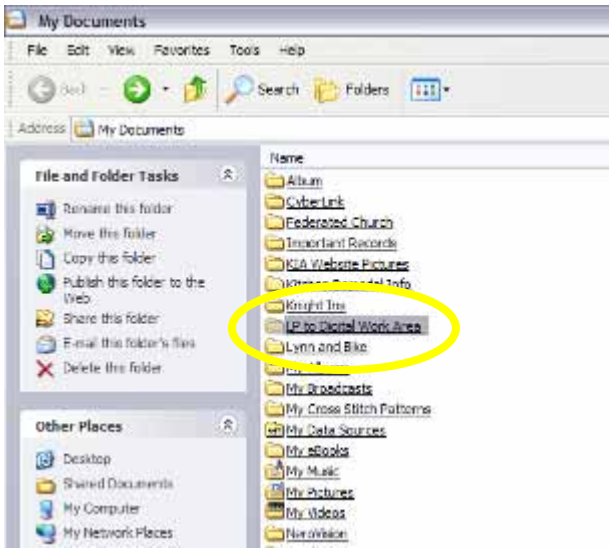
Part 3 – Transfer the music from a record to a computer

For this demonstration we will assume that you have purchased this turntable and have installed the Cakewalk PYRO software. This demonstration will utilize the products that are found in the **AT-LP2D** LP-to-Digital Recording System.

The Cakewalk PYRO software has everything you need to copy the music from a record to a computer. It will remove most of the noise in the recording, adjust the volume of the audio, split your recording into individual tracks, and record the tracks to a CD. **However, the turntable does not need this particular software to get the music into your computer.** As with most software that is bundled with a product, you can purchase other software that will perform the same functions. Other software may perform additional functions to those provided in the Cakewalk PYRO software or you may feel that it may perform some of the same functions better or easier. I have not found any stand alone software that does everything you ever wanted, better than everyone else.

Now let's get ready to record the music from your vinyl disk to your computer.

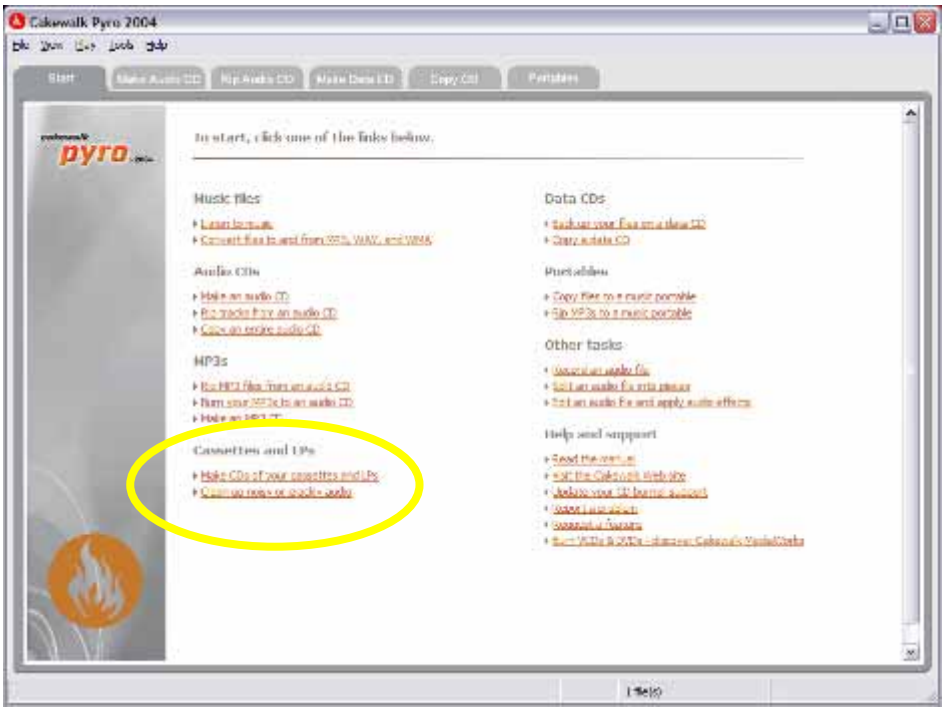
To record an audio file, we should have someplace to save or store the file, so for this example, I created a folder named "**LP to Digital Work Area**".



At this point we have the turntable connected to the computer, and we have a place to save anything we transfer from the turntable to the computer.

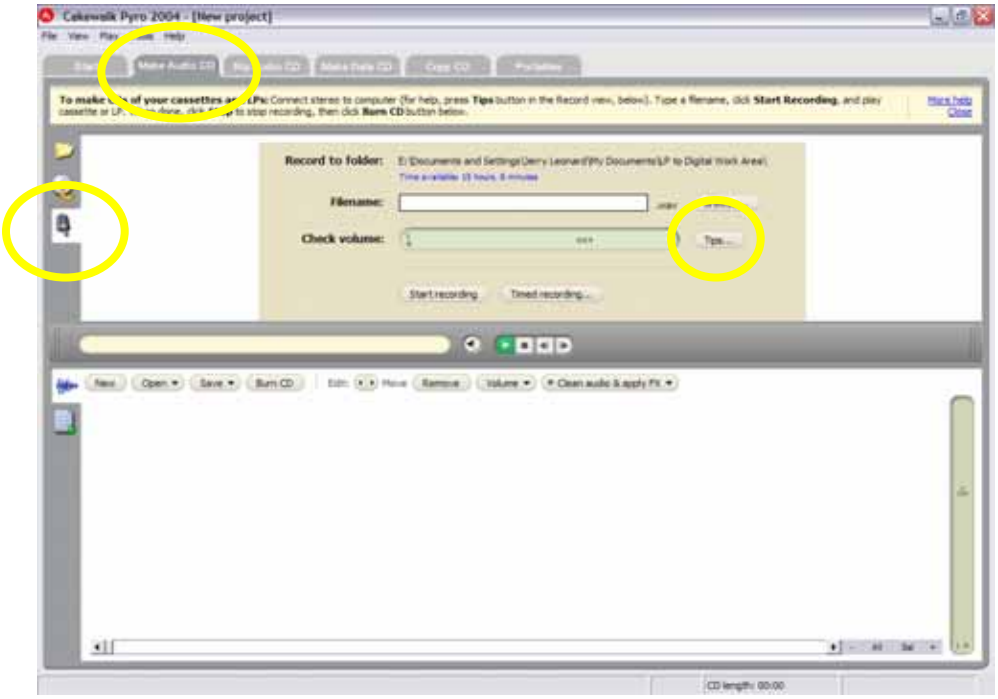
Now we need to make sure your computer is set to properly accept the audio signal from the turntable.

Open the Cakewalk software.



Under the "**Cassettes and LPs**" Heading, Click on the "**Make CDs of your cassettes and LPs**".

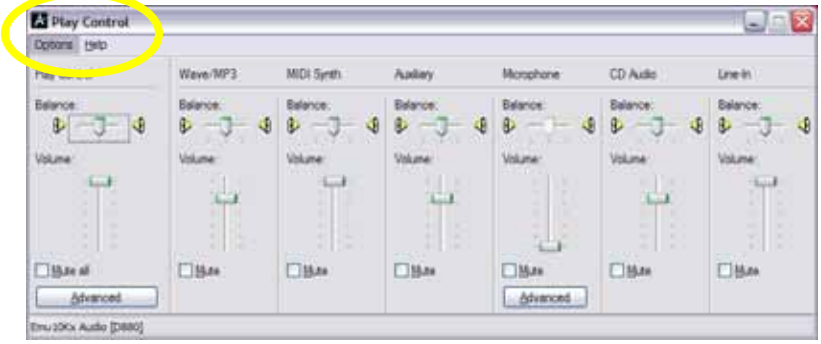
The software should open to the Recording pane (The Recording pane is the one with the **microphone icon** in the top half of the screen.) of the **Make Audio CD** tab. If it opens to any other screen, **click on the microphone icon.**



Click the "**Tips**" button to open the **Recording Help** dialog.

Click the "**Open Windows Mixer"** button at the bottom of the **Recording Help** dialog.

The Windows Mixer looks like this:

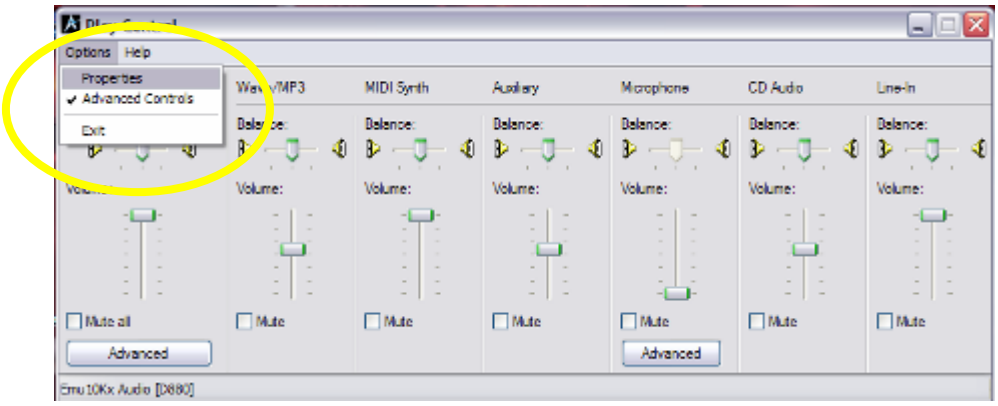


The Windows Mixer controls if and how an audio signal gets into your computer.

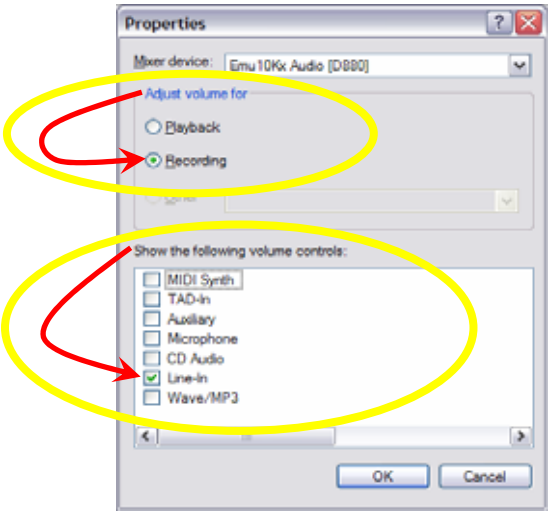
When you open the Windows Mixer it *may* be labeled either **Play Control** or **Recording Control**. We want to see the **Recording Controls**.

Note: Your Mixer may have different sound sources shown.

To View the Recording Controls:
In the Windows Mixer, click the "**Options**" menu and select "**Properties**".



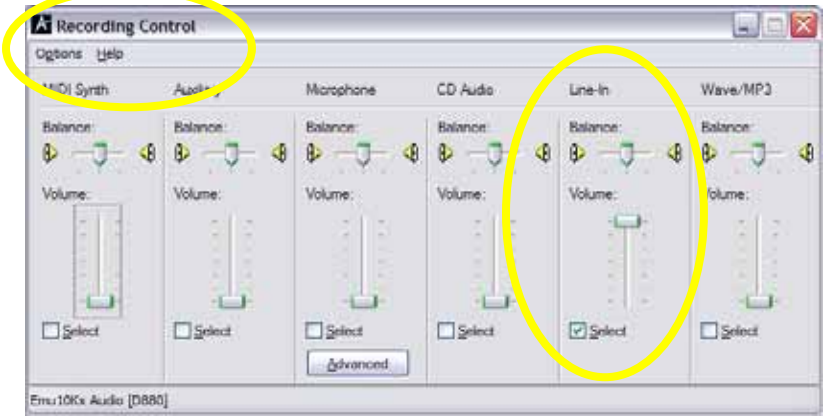
The Properties window opens.



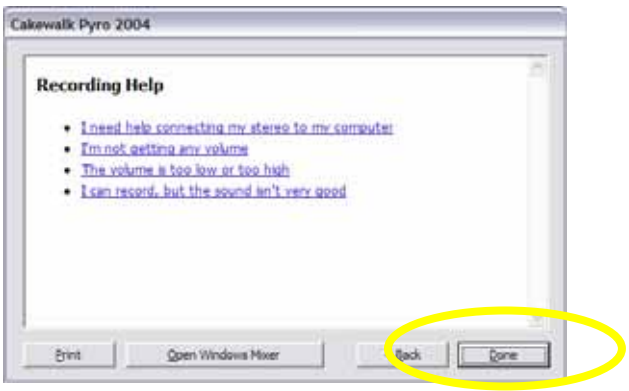
In the **Adjust Volume For** section of the Properties dialog, select the "**Recording**" radio button.

In the **Show the Following Volume Controls** section, the **Line-in** option should be checked.
Click "**OK**".

Your **Recording Control** should now look something like this.

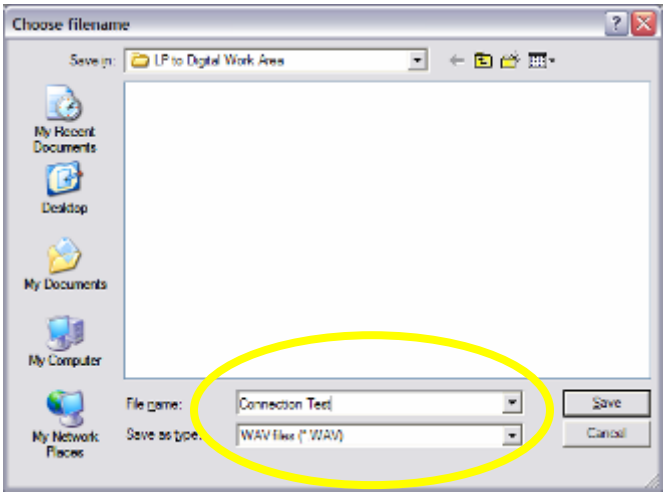


Close the Windows mixer.
Click "**Done**" at the bottom of the **Recording Help** dialog.



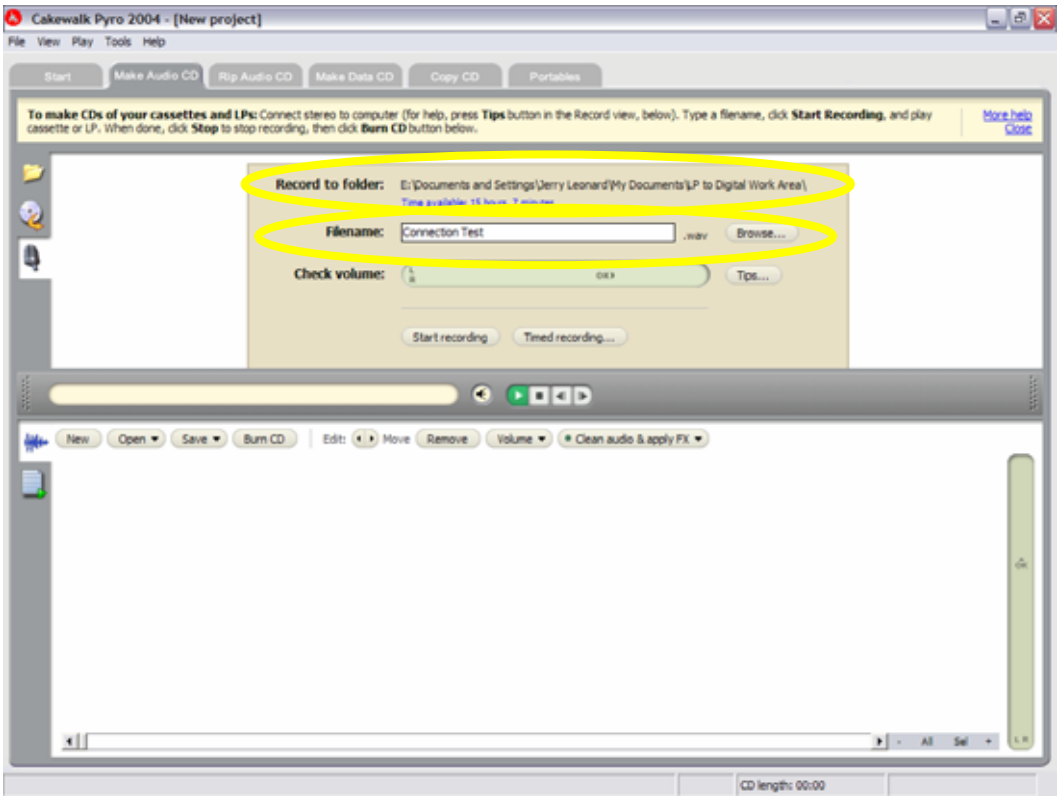
Now let's make a recording to test our connection.
In the **Recording pane** of the **Make Audio CD** tab. (It's the one with the **microphone icon** in the top half of the screen.) Click on the "**Browse**" button.

A window labeled **Choose filename** should open.
Make sure that it has opened to the location that you want to save your recordings.

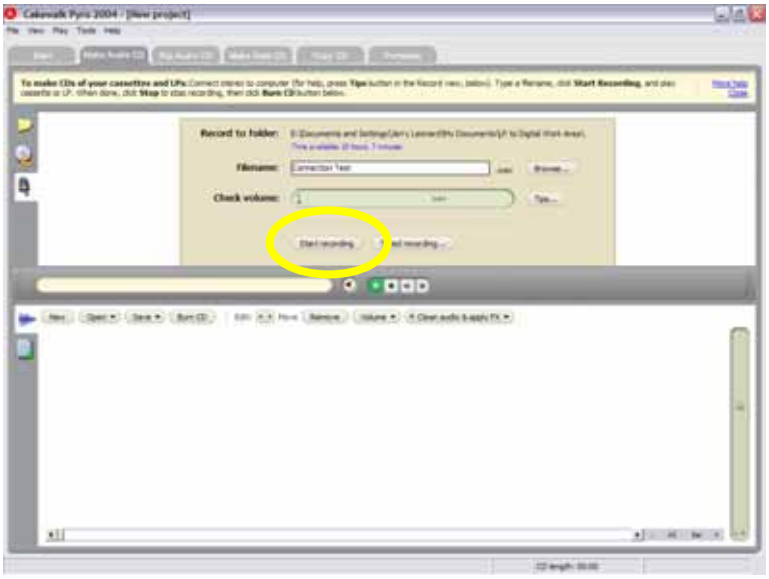


In the **File name** box, enter the name you want to use for your recording. (Use **Connection Test**) Click "**Save**".

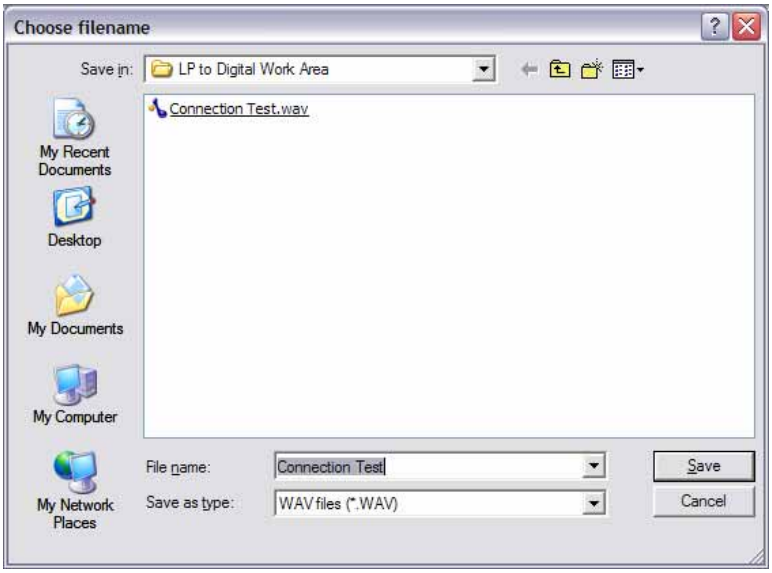
The location of your recording should be in the **Record to folder** area, and the name of the file you are going to record should be in the **Filename** window.



Click the “**Start Recording**” button on the “**Record to Folder**” screen and then push the “**Start**” button on the turntable



Count to (5) and then click the **“Stop”** button on the screen.
Click “**browse**” to look in the file folder you created, you will find your recording saved there.



Now that we know everything works, it’s almost time to transfer the music from a record to your computer as a digital file.

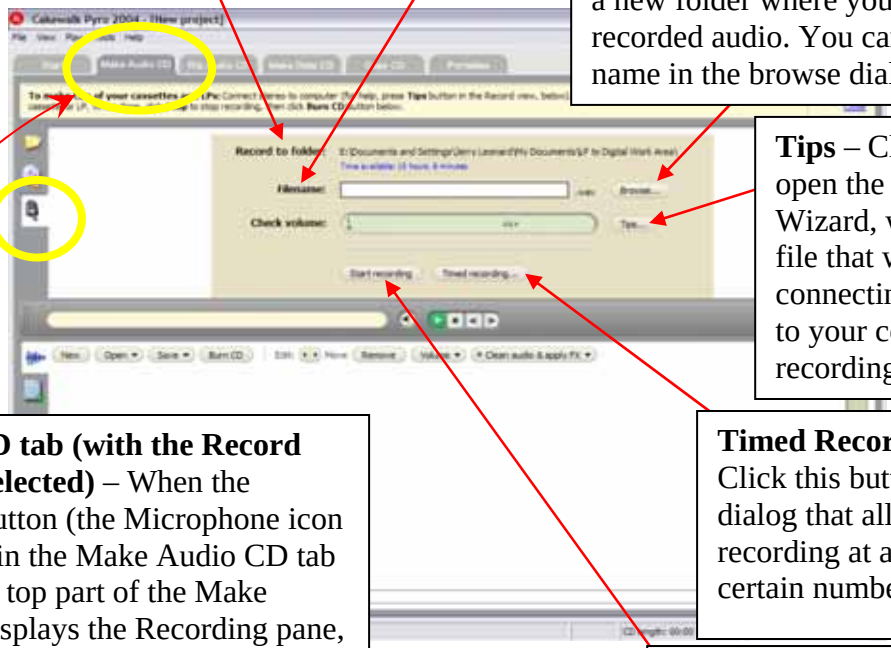
This is a good time to look at the screens we will be using.

The **Cakewalk Pyro** software should still be open at the Recording pane.

Record to Folder – The folder where Pyro stores your recorded audio. You can change this by clicking the Browse button that's at the end of the Filename field.

Filename – In this field, fill in the name of the audio file you're about to record.

Browse – Click this button to browse to a new folder where you want to store recorded audio. You can also select a file name in the browse dialog.



Tips – Click this button to open the Pyro Recording Wizard, which is a help file that walks you through connecting an instrument to your computer, and recording the sound.

Make Audio CD tab (with the Record Audio button selected) – When the Record Audio button (the Microphone icon on the left side) in the Make Audio CD tab is depressed, the top part of the Make Audio CD tab displays the Recording pane, which is where you record audio.

Timed Recording button – Click this button to open a dialog that allows you to start recording at a certain time for a certain number of minutes.

Start Recording button – Click this button when you want to start recording. Click it again when you're finished.

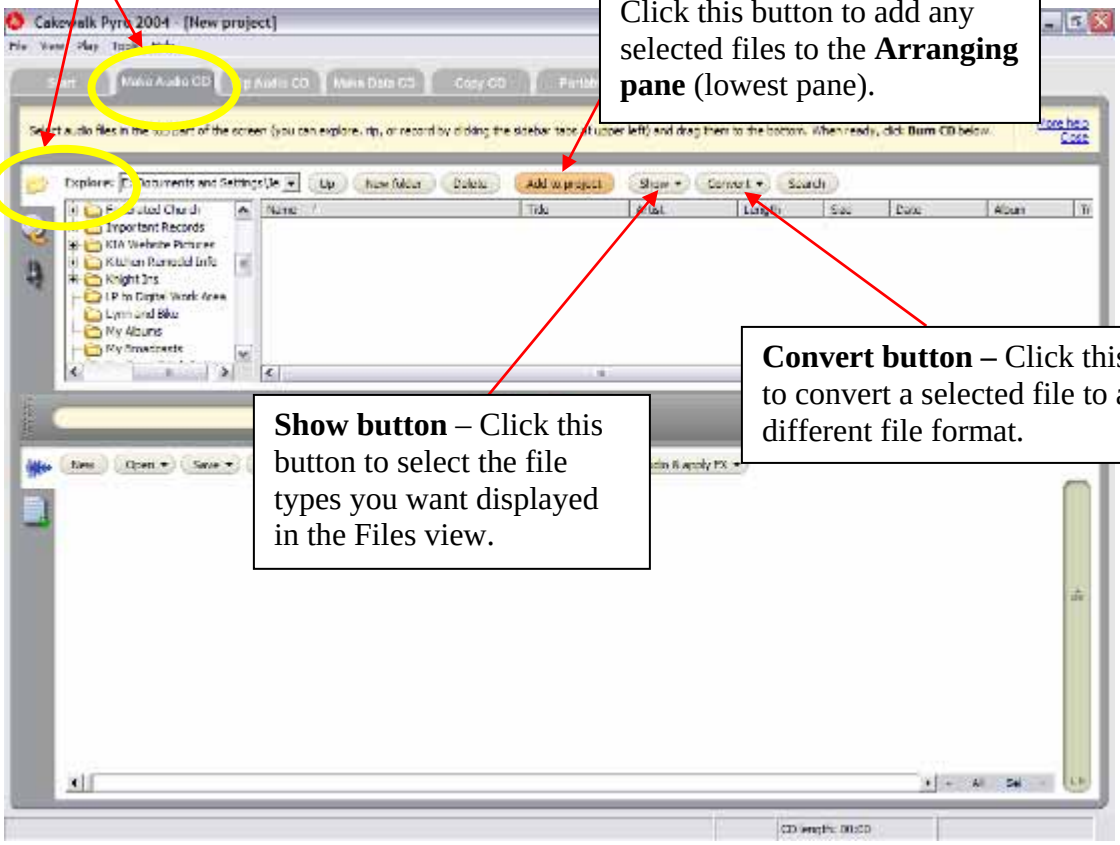
Check volume – If you are recording with a microphone, this meter shows you how loud your instrument is while you are recording. You want the indicator to reach the middle and into the right side of the meter, without activating the Too Loud warning which appears when the sound is too loud. **This meter is not used when recording through "Line-In"**.

The Explore View

Click on the folder icon (Explore button).
Use these panes to locate and select the files you want to use in your Pyro projects. Use the Folders and Files panes like you would use the Windows Explorer to search your various folders and hard drives, including network drives.

Make Audio CD tab (with the Explore button selected)--when the Explore button in the Make Audio CD tab (the top button of the three buttons on the left side) is selected, the top part of the Make Audio CD tab displays the Folders pane and the Files pane.

Add to Project button – Click this button to add any selected files to the **Arranging pane** (lowest pane).



Convert button – Click this button to convert a selected file to a different file format.

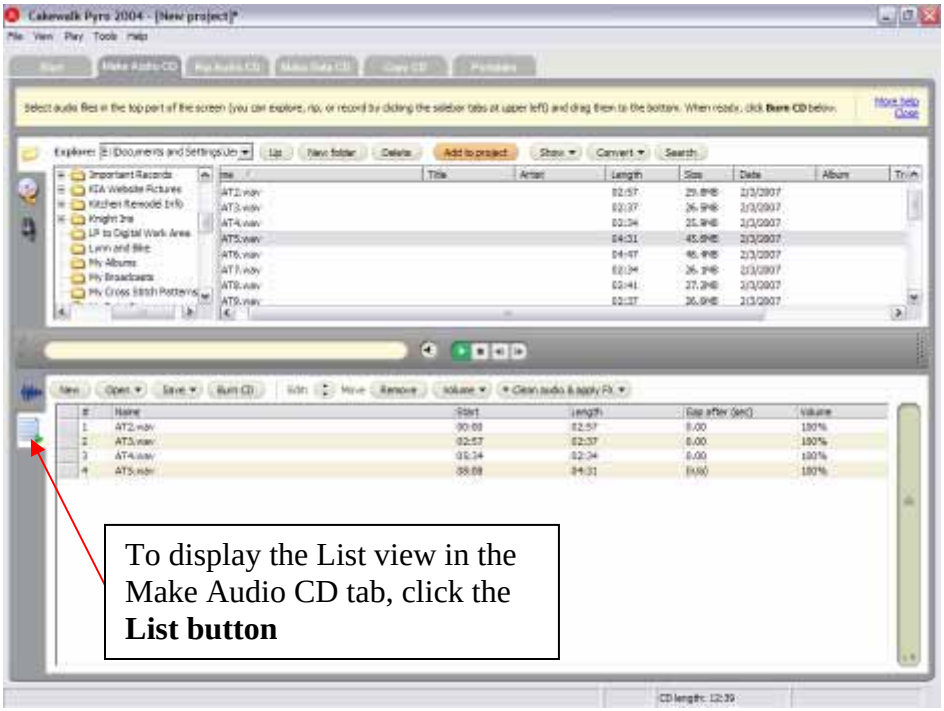
Show button – Click this button to select the file types you want displayed in the Files view.

The lowest pane on either screen is the **Arranging pane**.

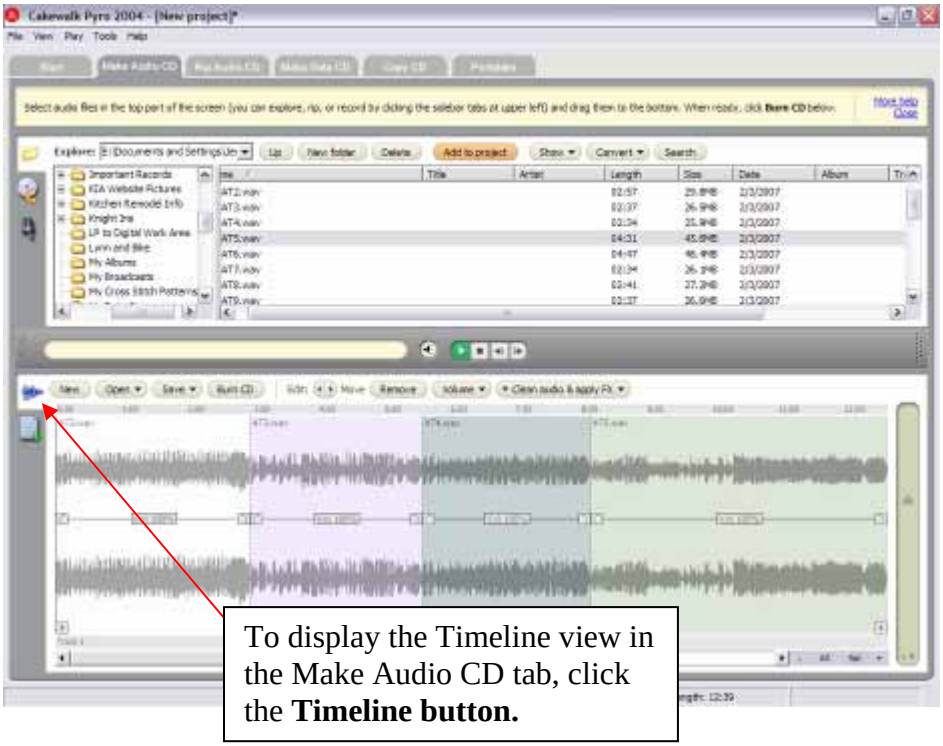
The Arranging pane can be displayed in (2) different formats.

1. The List View
2. The Timeline View

The List View



The Timeline View

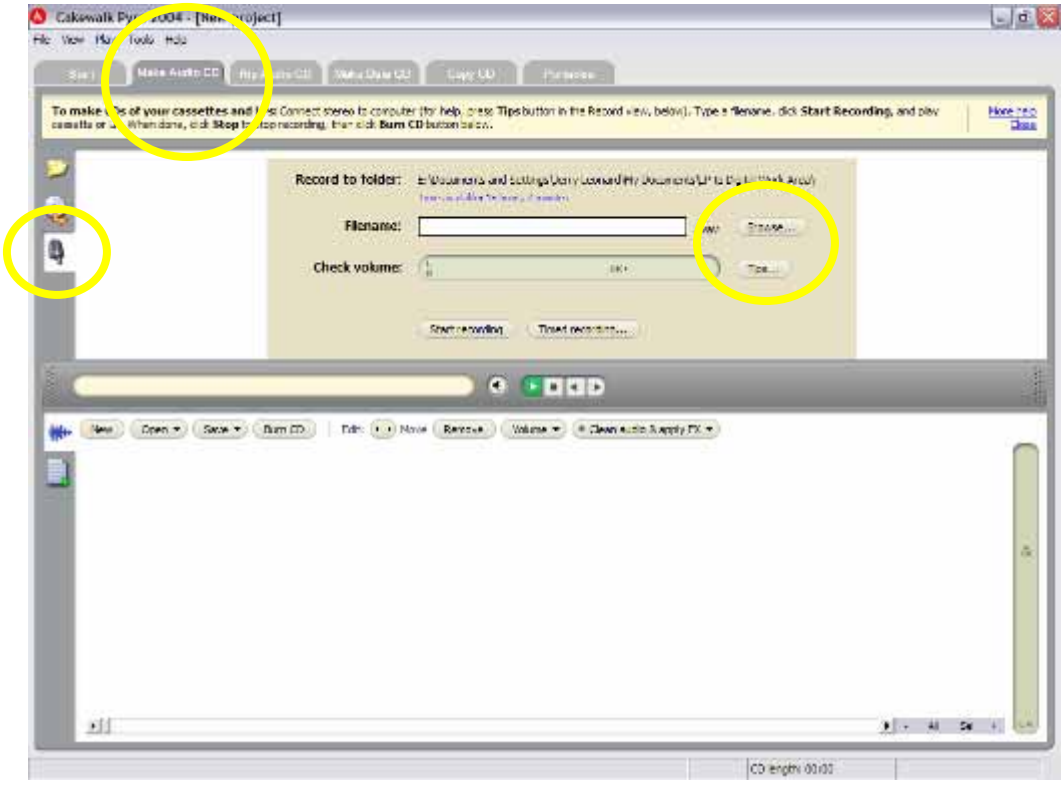


These views are functionally similar. One major difference is that in order to split a track or insert a Track Marker, you must be in the **Timeline View**.

Now it's time to put the record on the turntable for recording. I can not stress too strongly that at this point I would clean the record surface with the cleaning kit that came with the turntable. (Follow the directions that are on the box.) This procedure picks up most of the dust or "Bad Stuff" that might be on the record surface. **I really recommend this cleaning process every time you are going to play a record.**

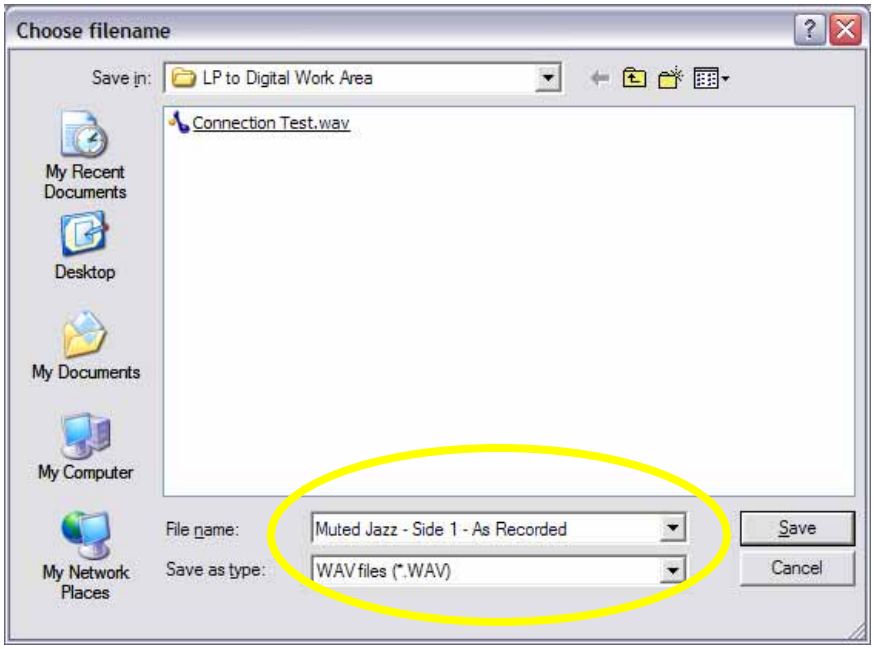
To perform this cleaning operation, I push the button that is all the way to the right on the front of the turntable. This raises the tone arm and stylus but does not move out over the record. To start the turntable, gently move the tone arm toward the record. Again, follow the instructions that are on the box with the cleaning set. When you are finished cleaning the record, don't forget to move the tone arm back and push the button again to lower the tone arm. **If you don't lower the tone arm now, it won't go down on the record when you try to play the record.**

We should be back at the **Make Audio CD** screen.



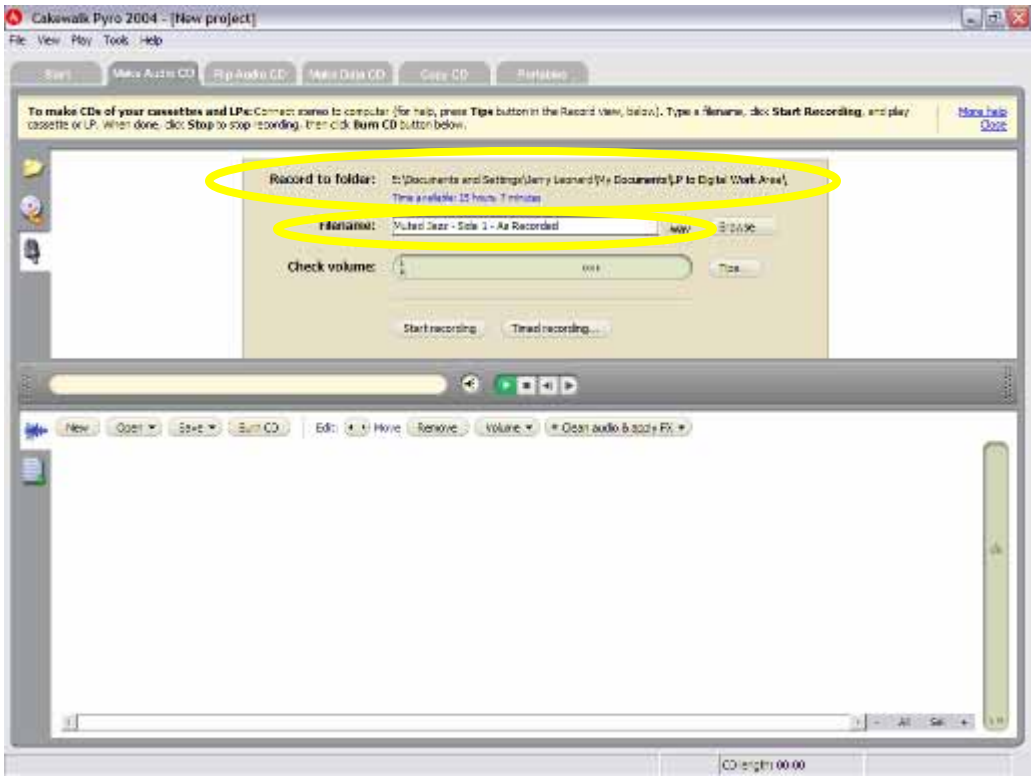
In the **Recording pane** of the **Make Audio CD** tab. (It's the one with the **microphone icon** in the top half of the screen.) Click on the "**Browse**" button.

A window labeled **Choose filename** should open.
Make sure that it has opened to the location that you want to save your recordings



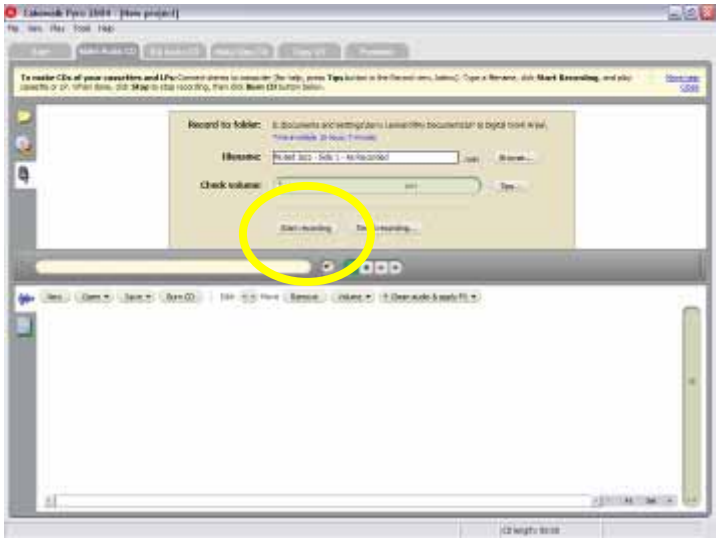
In the **File name** box, enter the name you want to use for your recording.
Click "**Save**"**.**

The location of your recording should be in the **Record to folder** area, and the name of the file you are going to record should be in the **Filename** window.

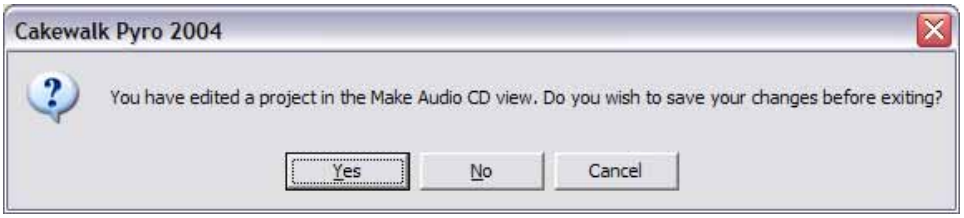


Now that we know everything works, it's time to transfer the music from a record to your computer as a digital file.

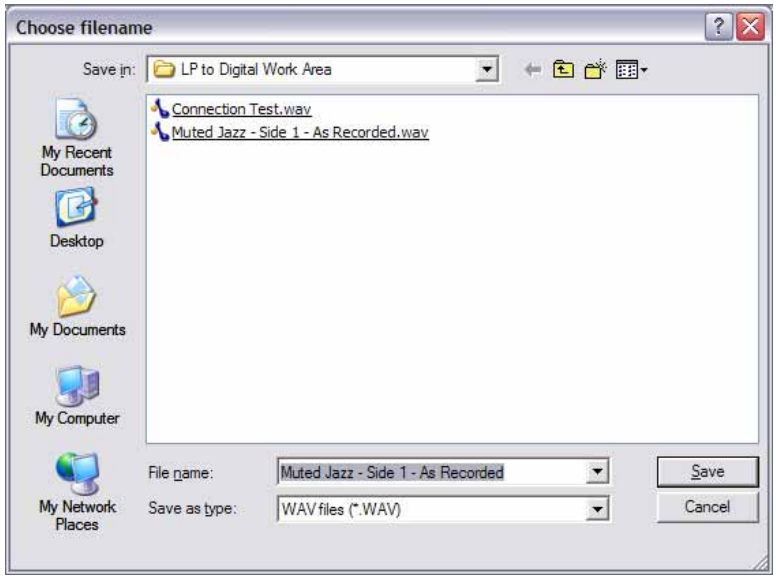
Push the "**Start**" button on the turntable and then click the "**Start Recording**" button on the **Record to Folder** screen.



When you are finished recording a side of the record, the tone arm will automatically return and the turntable will shut off. Click the "**Stop**" button on the screen, a dialog box may appear, asking if you want to make changes to a Project. Click "**No**" and it will go away.



If you look in the file folder you created, you will find your recording, saved there.



At this time I recommend the practice exercise of recording Side 2 of the record, following the same procedure.

You will notice that the File Type is “WAV”. This is the default file type and one reason it is used is because it has no compression. Don’t worry about this, you can convert to other file types when you are finished working on the files.

Working with sound is similar to working with pictures. When you want to edit a picture you will have a better result if you start with a higher resolution picture and complete any editing before you resize the picture for your end use.

This might be a good time to comment on the filename I selected. I have found that it is much less confusing if I choose a very descriptive filename (like “Muted Jazz-Side1-as recorded”, or “Muted Jazz-Side1-as recorded –NR1”) when I am processing music files because I save the music after each step. By using a filename that identifies the step, I can go back to my last “good” point and I don’t have to completely start over if I mess up or am not happy with the results of a particular step.

Congratulations! You have now transferred the music from a vinyl record into a digital file that you can play on your computer, record on a CD or Cassette, or copy to an MP3 Player.

If you are satisfied with hearing the music just as you would hear it on the record, the process is complete. However, if you would like to remove some of the noise from the recording or if you would like to separate the recording into the individual music tracks so you can play a particular track without listening to the whole record, or if you want to create a Playlist or CD made up of individual tracks from several different records, tapes, and/or CD’s we need to continue with the process.

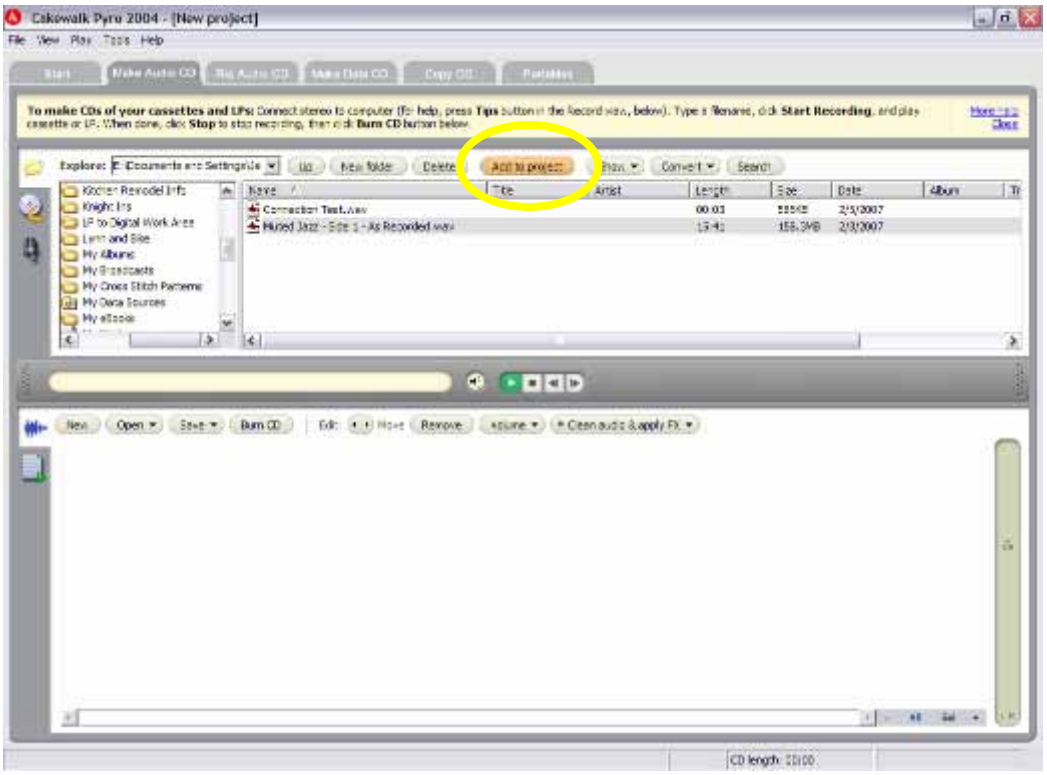
Part 4 – Create individual tracks of music and Clean up the sound

You have recorded several songs or tracks that are on one side of a record into a single file. Now you can choose to split the recording into its individual tracks or songs like you would find on a CD. If you split the recording into its individual tracks you can create a CD made up of tracks from several different records or other sources.

To summarize the next steps in this process, we are going to:

1. Move the large file that is one side of the record into a work area called the **Arranging pane**. (Anything that is in the Arranging pane is referred to as a "**Project**".)
2. Separate the music portion of the track from the "non-music portion of the track.
3. Save the music portions as separate files
4. Create a new file named "**Silence**".
5. Combine the music files with multiple copies of the "**Silence**" file.
6. Save the combined tracks.
7. Move each of the combined files into the arranging area to adjust the sound level, reduce the noise level, and save these files as the music titles from the original record.

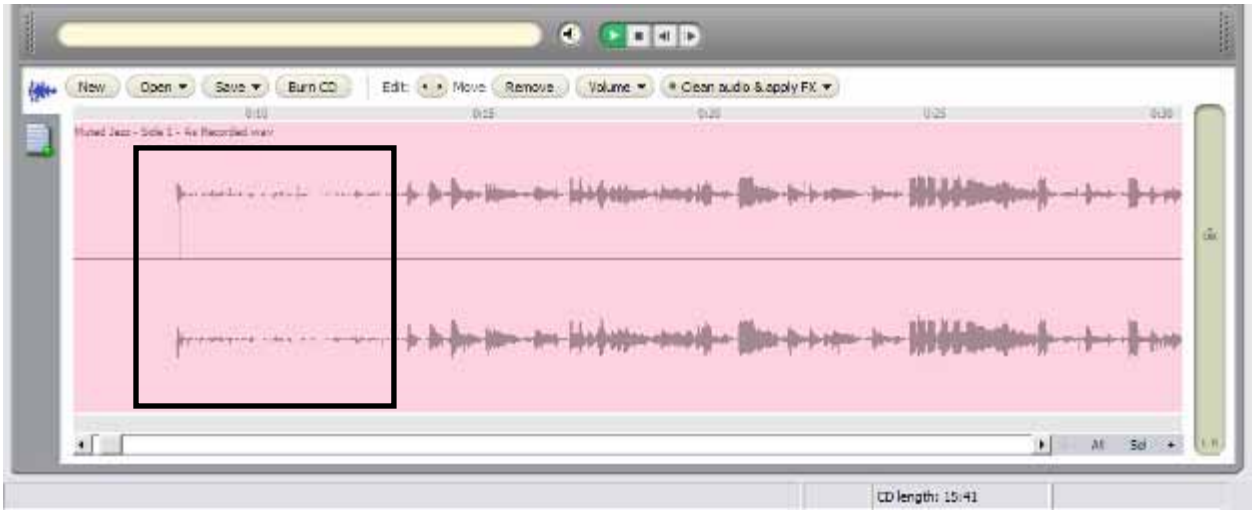
First, we will **Open** the Cakewalk Pyro software to the **Make Audio CD tab (with the Explore button selected)**. Next, select the file "**Muted Jazz – Side 1 – As Recorded.wav**" and click the "**Add to Project**" button.



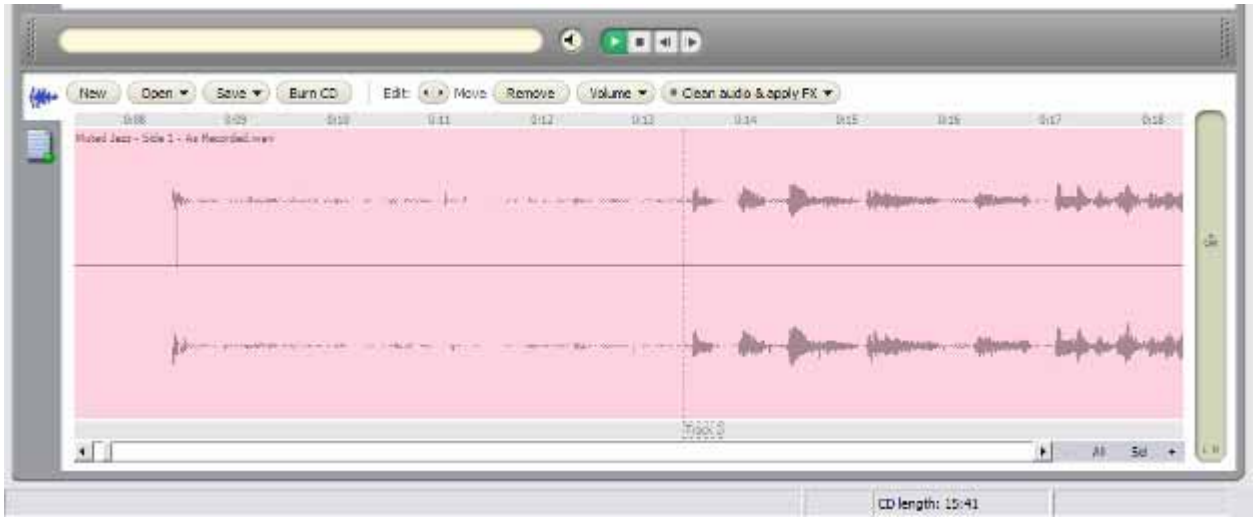
Our recording of Side – 1 appears. This graphic represents the complete recording we made earlier, including both the music and the noise where there is no music.

Note: If you want to magnify the view of the music file, move the cursor to the lower right corner of the view where you will find a "-"and a "+" symbol. Clicking on the "+" symbol magnifies the view, providing more detail. Clicking on the "-" symbol allows you to see more of the file, with less detail.

After clicking the "+" symbol a number of times, we have "zoomed in" on the graphic and can see the beginning of our recorded sound, all of track 1, the noise between track 1 and track 2, and the beginning of track 2.



The waveforms at the left end of the graphic (in the rectangle) represent the random noise of the needle coming down on the record and playing the noise only until the stronger, repetitive waveforms begin just to the right of the rectangle.



If we zoom in even more we can clearly see the beginning of the music. By inserting a **Track Marker** we can define the beginning of the music.

What is a Track Marker?

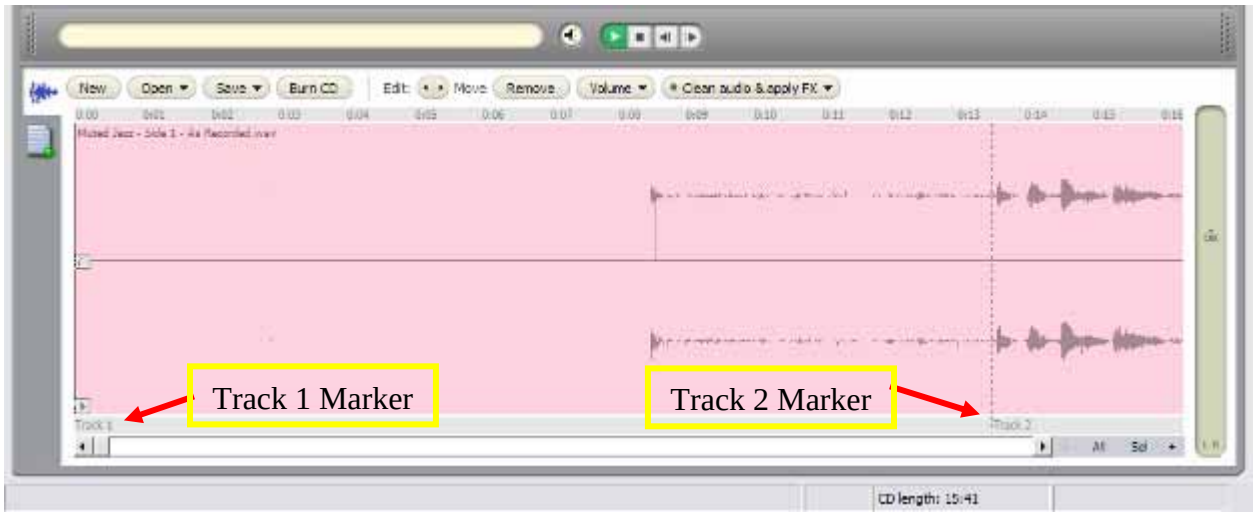
If you choose to separate a recorded track into several smaller tracks because you recorded a whole side of an LP and now want to separate it into its individual component tracks, an easy way is to use a feature called "**Track Markers".** When you insert a track marker, Pyro sees that as the beginning of a track. You can save the track you inserted markers into as multiple tracks – where each track marker is, Pyro creates a separate track.

To Insert a Track Marker

Click in the split bar (the horizontal bar immediately below your file's waveform) – Pyro inserts a new track marker at the place where you clicked.

To Move a Track Marker
Click and drag the track marker to a new location.

To Delete a Track Marker
Click the track marker so that a dotted line appears around it, and press the Delete key or click the Remove button.

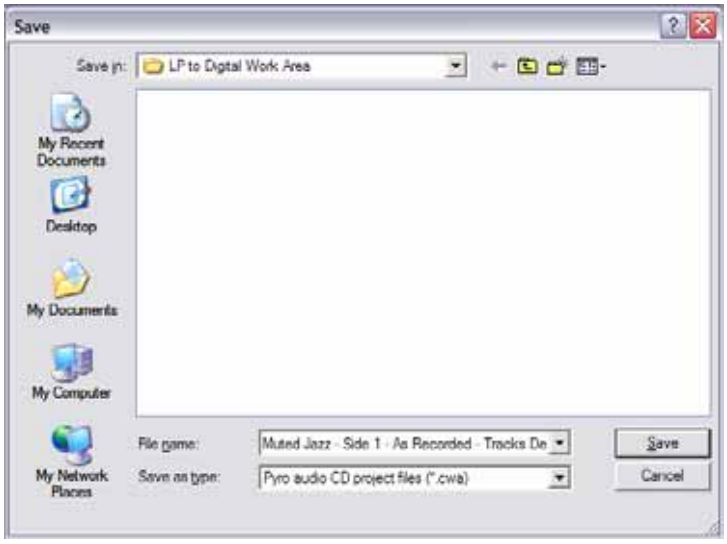


You can see the small markers for track 1 & track 2. They are located in what is called the “split bar”.

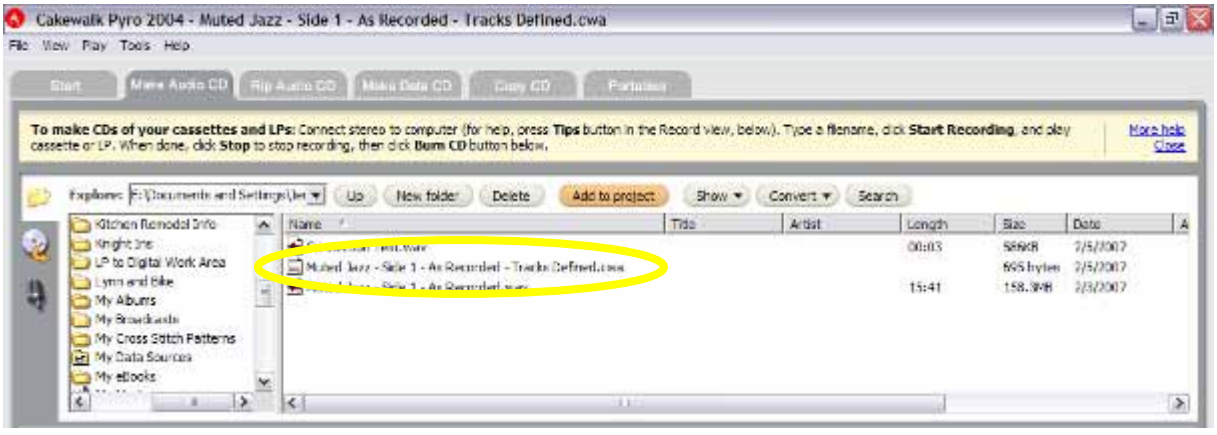
Next we will repeat this process to define the beginning and end of each music portion of this file.

This might be a good place to save a copy of our work.

Click "**Save**", then "**Save project as**".

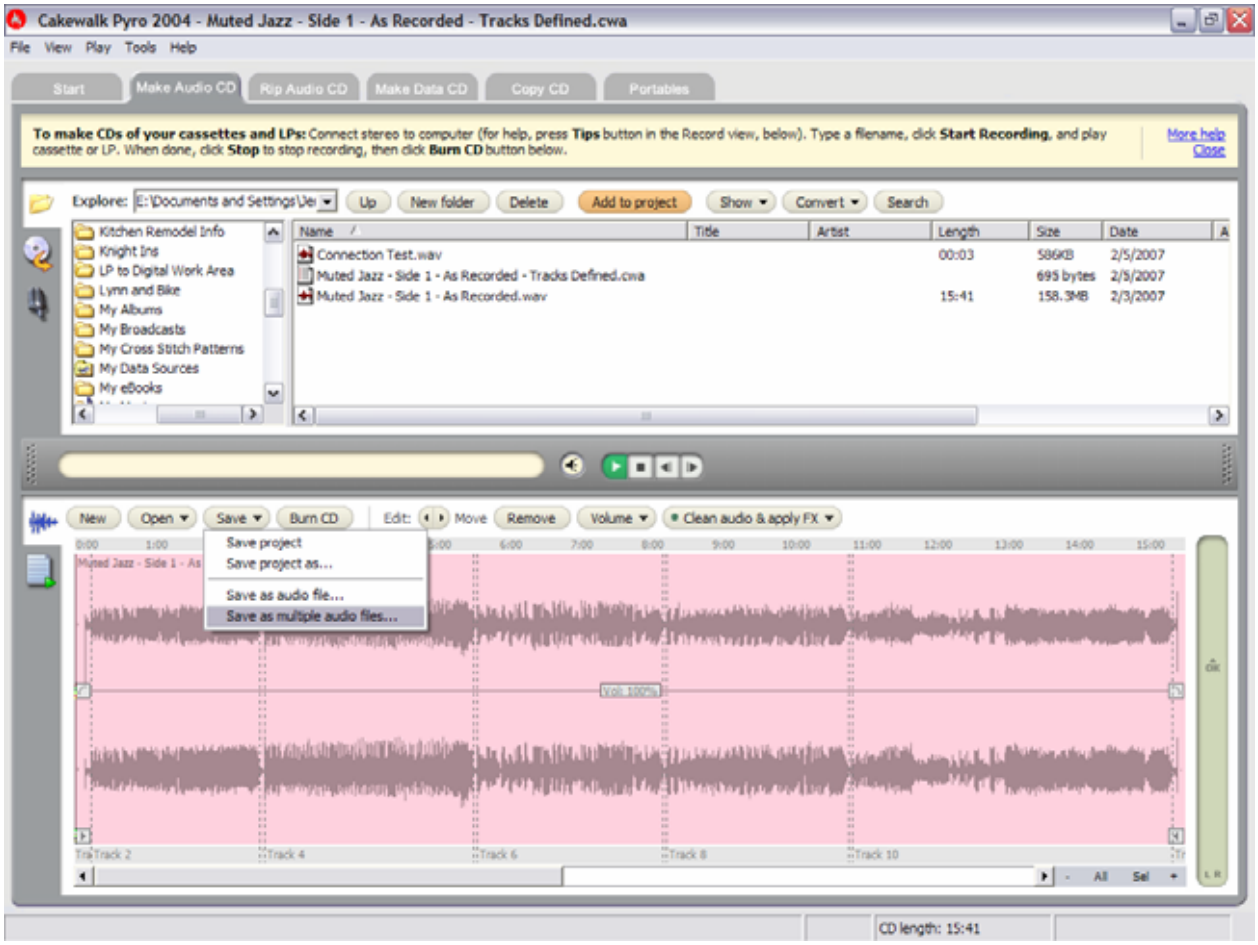


Enter a filename and Click "**Save**".

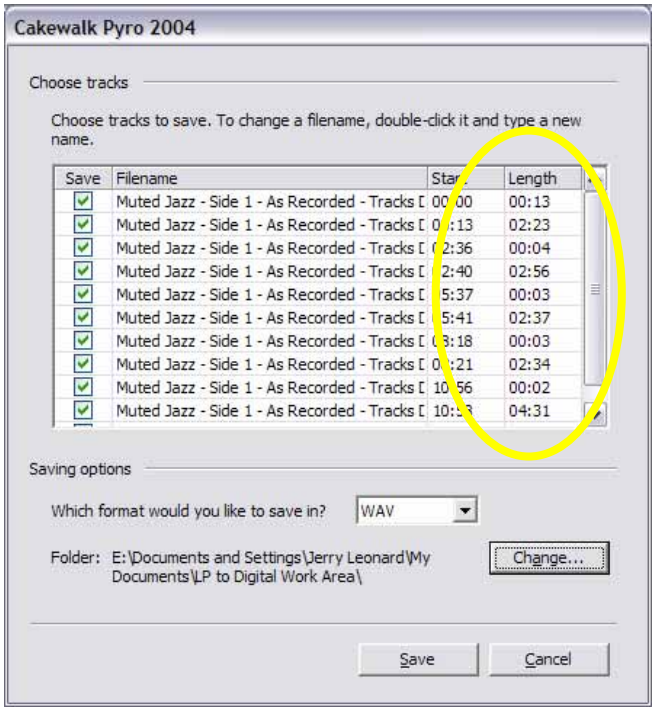


The saved project appears in the Explore pane and can be opened and edited and saved as another file if needed.

Let’s go back and cut apart our marked up “**Side 1**” file.

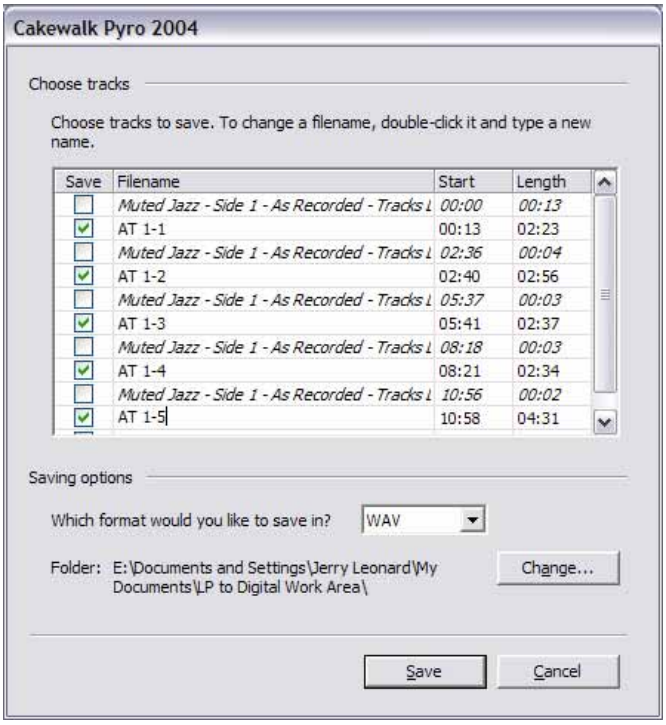


Click “**Save**” and then “**Save as multiple files**”.



This window opens with a list of each of the tracks we have defined. By looking at the length of the tracks, we can assume that those tracks that are more than 2 minutes in length are music and that the rest are noise.

Next uncheck the “**Save**” boxes for the “noise” files. Then we can rename the music files for further processing.



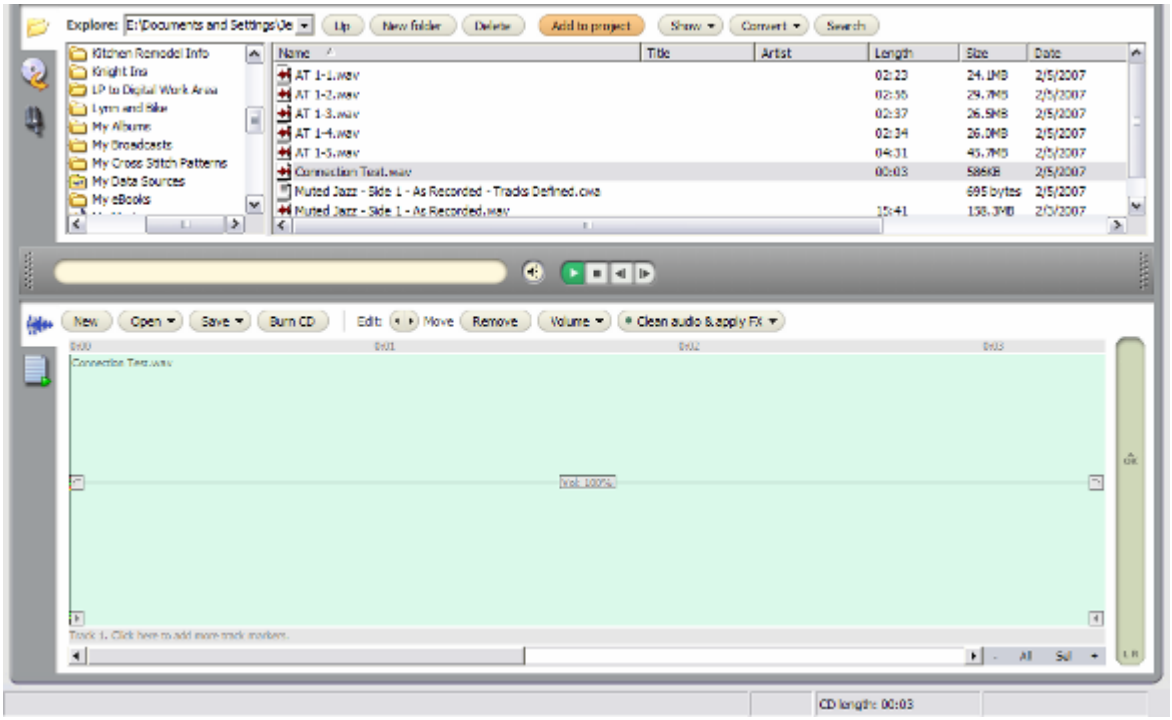
I chose to name these files AT 1-1, etc. (for Audio Track Side 1 – Track 1).

When we process Side 2, we can name the files AT 2-1, etc.

To edit the filename, doubleclick on the existing filename, then click and drag over it to highlight it. Type the new name and move to the next filename you want to edit. **Do Not click "Save" until you are finished with all the changes.**

Next we are going to create a special file that consists of about 2.5 seconds of silence. We will use a copy of this file before and after each music file.

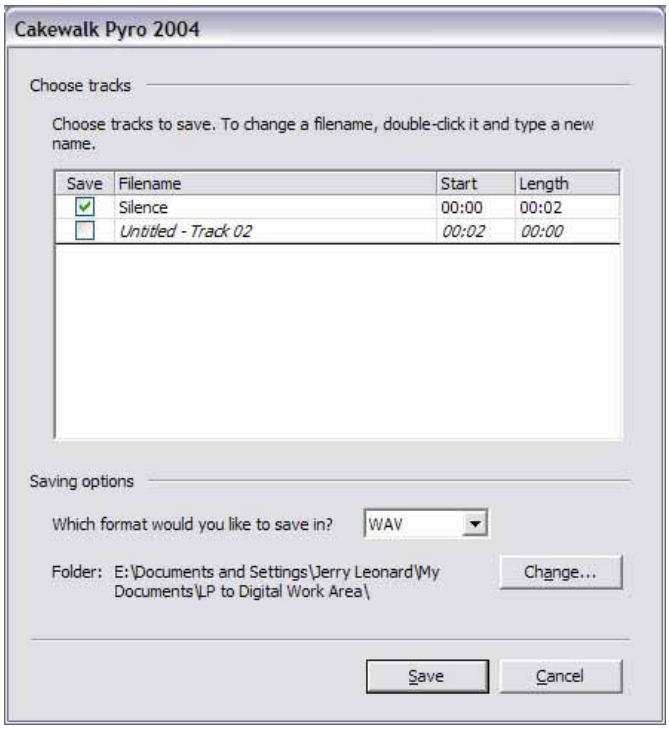
Click "**New**"**,** then highlight the file "**Connection Test**", finally click the "**Add to project button**".



"**Zoom in**" until we can see approximately the first 3 seconds of the file.

We need to insert a Track Marker 2.5 seconds into the file.

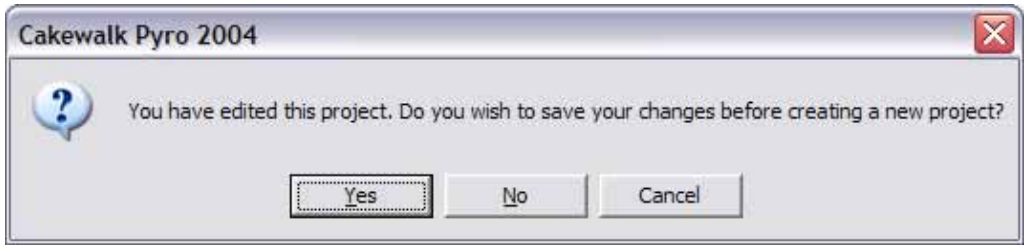
Click "**Save**" and then "**Save as multiple files**".



Name the 2.5 second file "**Silence**" and check the box to mark it to be saved. Then uncheck the unneeded file so it will not be saved.

Click "**Save**".

Click New.



When this window opens, click "**No**", and it will go away.

Click the file "**Silence**" then click **"Add to project"**.
Click the file "**AT 1-1**" then click **"Add to project"**.
Click the file "**Silence**" then click **"Add to project"**.

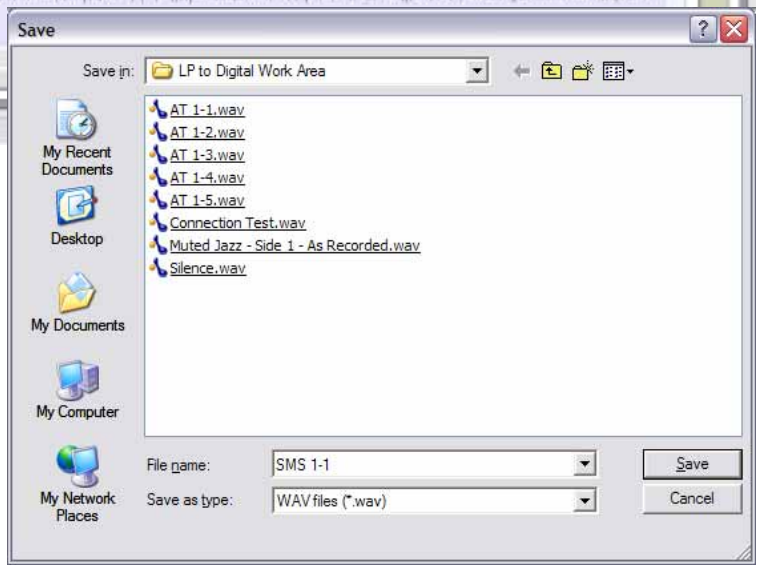
We can see three tracks in the project; "**Silence**", "**AT 1-1**", and "**Silence**".
We can click on the track 2 Track Marker to highlight it.

Next press the Delete key on your keyboard. The track 2 Track Marker goes away and the silence has been combined with the music.

Repeat this highlight and delete procedure with the Track Marker that is between the end of the music and the beginning of the second "**Silence**" file.

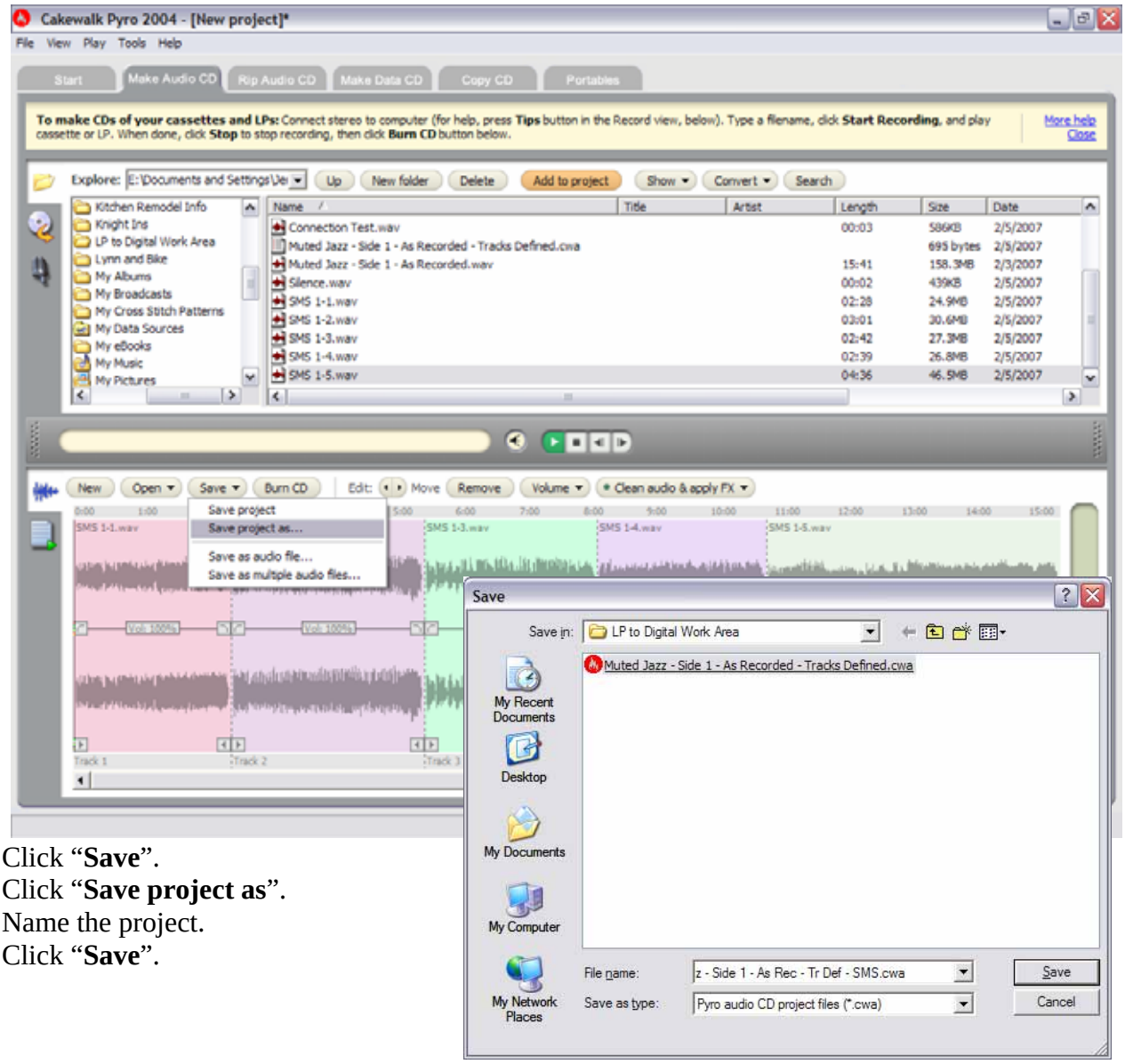
Now the three original files have been combined or merged into a single file.

Click Save, then Save as audio file, then name the file "**SMS 1-1**". (Silence Music Silence 1-1)



Click "**New**", and repeat this process for the remaining tracks.

When you finish, add all the “SMS” files to the Arranging pans and save your work as a project.

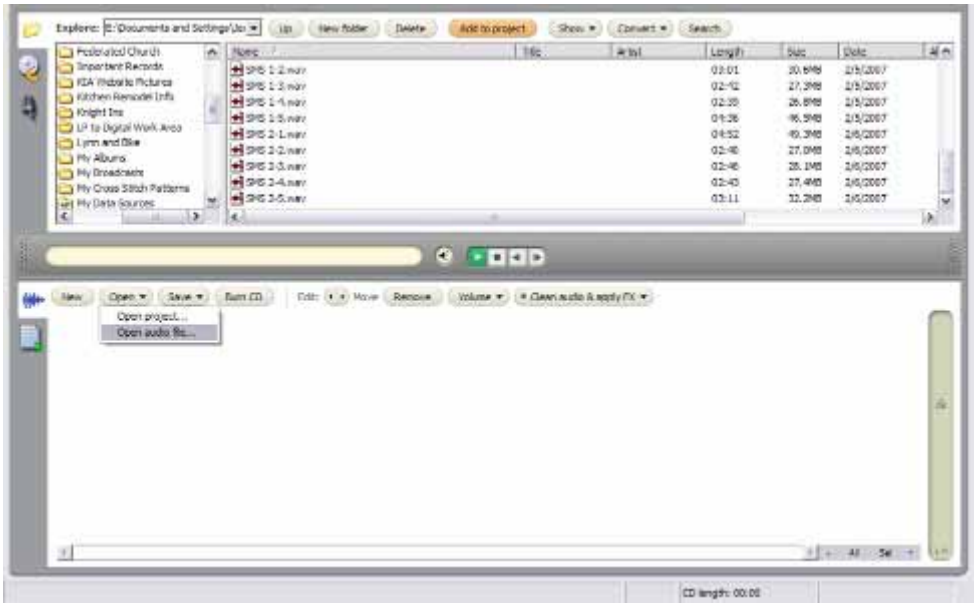


Click “**Save**”.
Click “**Save project as**”.
Name the project.
Click “**Save**”.

Repeat this process for Side 2 of the record.

At this time you should have all of the tracks from both sides of the record saved as individual music files with 2.5 seconds of silence at each end.

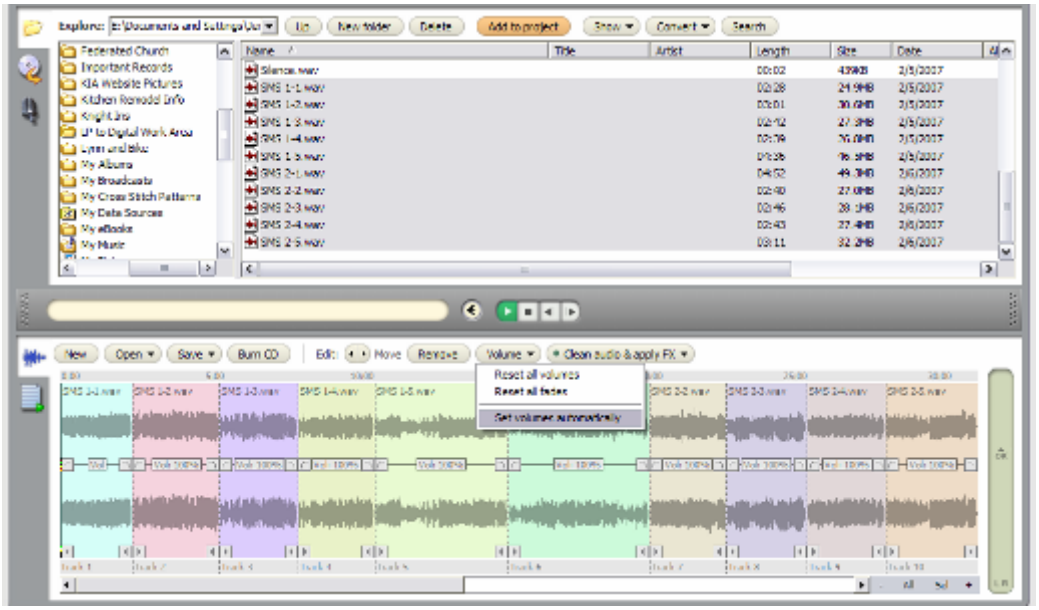
Next we want to optimize the volume and remove some of the record “noise”.
Click “**New**” to clear the Arranging pane.
Click “**Open**”, then “**Open audio file**”.



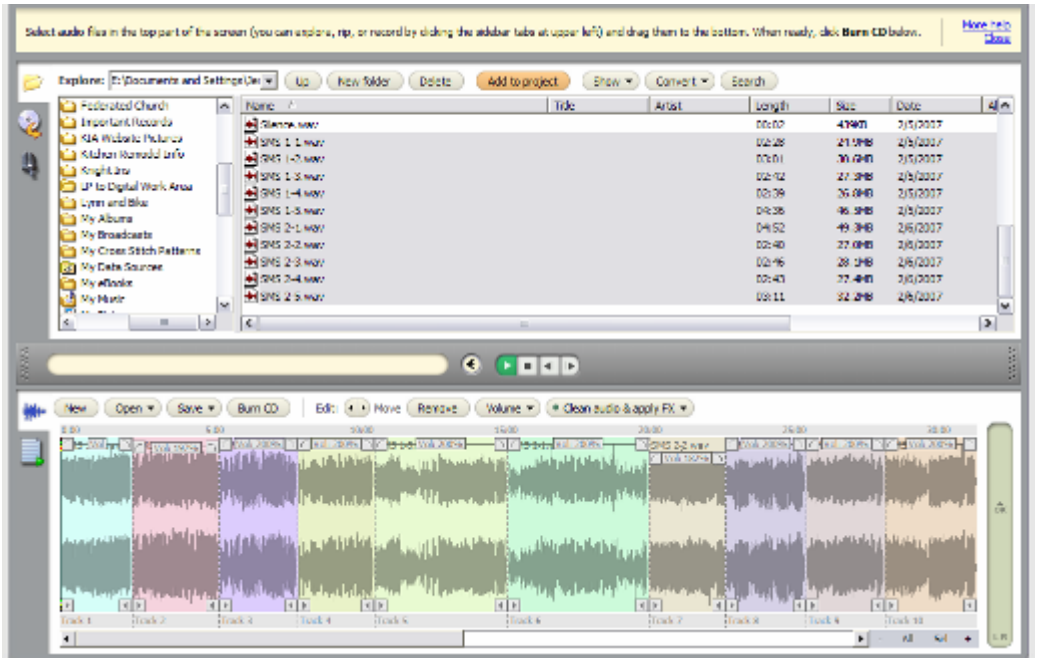
Select all of the (silence-music-silence) individual files, and then click “**Add to project**”.

All of the files we want are added to the Arranging pane in the same order as they were on the original record.

Before you clean the music file you may want to optimize the volume.
Click the "**Volume**" button, the select "**Set volumes automatically**".



Pyro sets the volumes of all tracks as high as they can go without distortion. This level may be 200% for some files, but less for others. If you raise the level of the other files (the ones that are at less than 200%), you will create distortion, and the volume meter that's at the right end of the Timeline view will display the Too Loud warning when you play the file(s).



You can see that the waveform has increased in size and that the largest (loudest) parts are about the same size (loudness).

Next we will remove some of the record “noise”. The “noise” you hear generally comes from two sources, (1) dirt and (2) scratches.

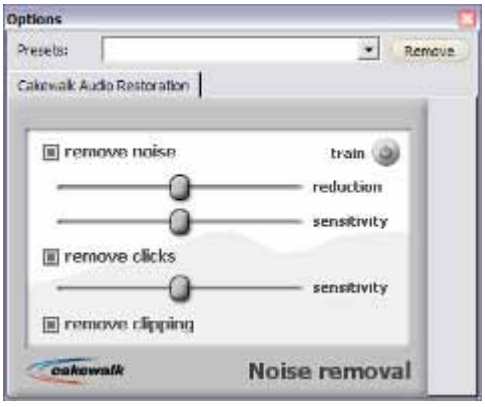
Dirt is the easiest to deal with because much of the dirt can be removed by simply cleaning the record. In most cases, using the type of cleaner that came with the turntable is sufficient, but **you need to clean your record before each use**. This seems to be especially effective if you use a wet cleaner before playing the side. But, try as you may, you will not get all of the noise out.

Noises from scratches and residual dirt are just there and are going to stay there. The only way to remove this kind of noise is to remove it electronically.

To do this you need to use the “**Audio Restoration effect**”.
The Audio Restoration effect removes hiss and hum from your file: perfect for when you're making digital files from cassettes or vinyl recordings.

Click the “**Clean Audio and Apply FX**” button, and then “**Cakewalk Audio Restoration**”.

The **Noise Removal Options** window appears.



Start playing the file, and move the Reduction slider to the right and left to hear how much noise you can eliminate. Find a setting that sounds the best. Trying to remove all the noise on a recording can sometimes remove some of the music also.

You can move the Sensitivity slider if you want. Moving it to the right eliminates subtler kinds of noise, but increases the possibility of removing musical content also.

The Remove Clicks effect has its own Sensitivity slider that works just like the Remove Noise Sensitivity slider.

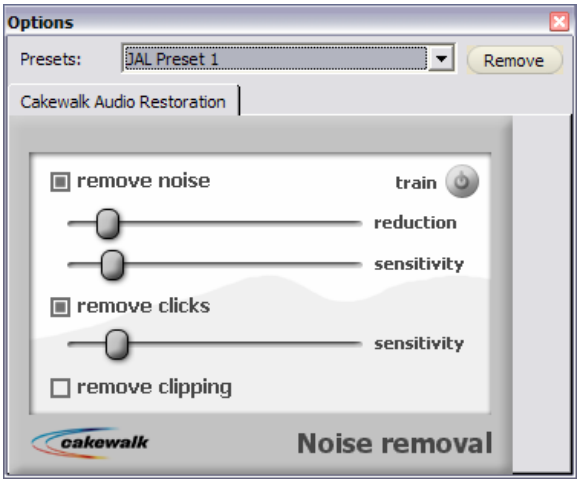
Checking the Remove Clipping checkbox removes most of the digital distortion that occurs when you record a digital audio file at too high a volume. If your file clips noticeably, though, it's usually best to re-record it.
You can uncheck any of the Remove Noise, Remove Clicks, and Remove Clipping checkboxes to hear your file without these effects.

The Audio Restoration Process is a lot like cutting weeds in your yard with your lawn mower.

If you set the mower high enough that you don't cut off any grass, you will be unhappy that you can still see some weeds.

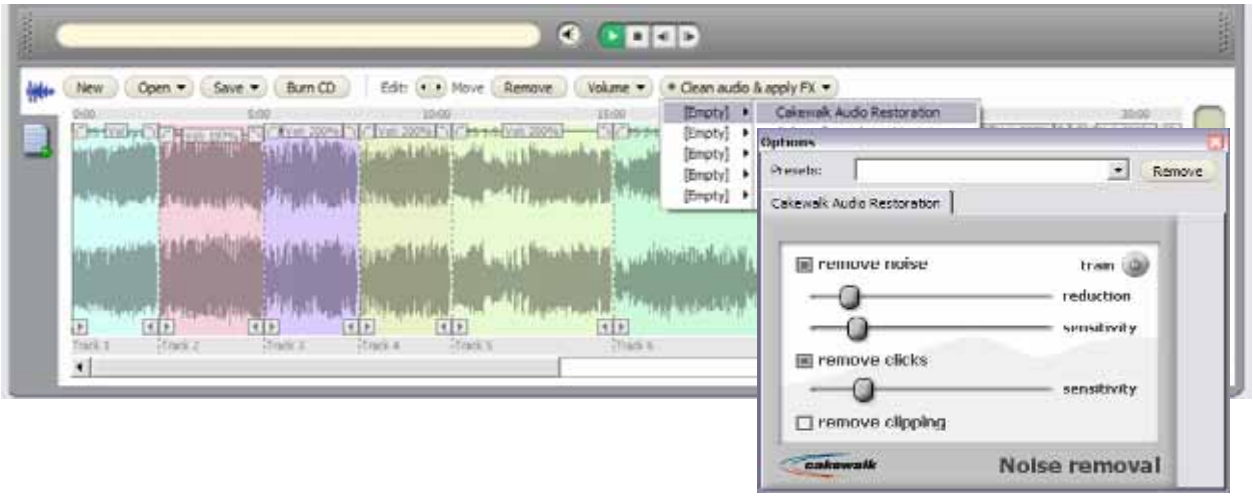
But if you set your mower low enough to get all the weeds, you will be unhappy because you have ruined your grass.

Note: The noise reduction process may be the most frustrating step in moving music from records to digital files on your computer. My first record took a week and a half to get past this step.



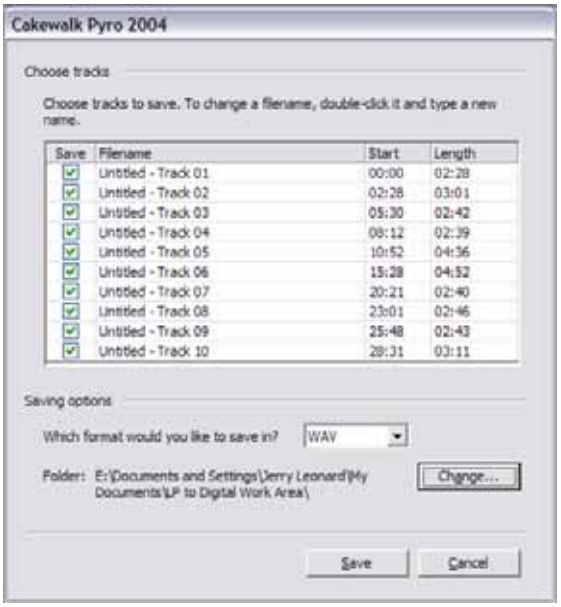
This is one of the presets that I have created and saved and found it to be very effective for me. It also appears that the effectiveness of this preset can be improved by eliminating the noise in your recording in areas where there is no music. (Before, after, or in between the music tracks.)

This is the main reason I recommend using the process we have just completed. I believe you will get a much better result if you apply the Audio Restoration Effect to individual files that have a buffer of silence on each side of them.



After opening the **Noise Removal Options** window I adjusted it to settings that I am comfortable with. When you have made your adjustments, close the window – it will stay in the dropdown and do its job.

When your file sounds the way you want, click the Save button and choose "**Save as multiple audio files**".



"Edit" the Filename of each track to be the same as they are listed on the record and then click "**Save**".

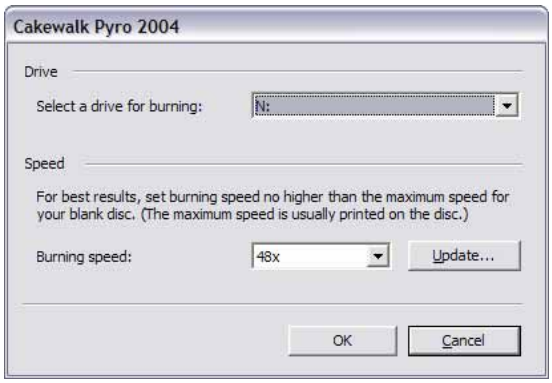
Part 5 – Create a CD

At this point the files are ready to burn to a CD or save to a storage location. Before you do either, please take the time to save the files as a project and save it as "**Muted Jazz – Ready to Burn to CD**". After you have a good CD in a safe place, you can throw the project away.

Now let's "**Burn a CD**".

Click "**New**" to clear the screen and then click "**Open**" then "**Open Project**".

Select the "**Muted Jazz – Ready to Burn to CD**" project.



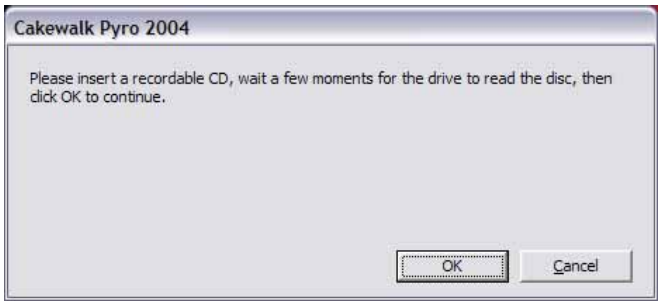
The saved project opens in the Arranging pane and is ready to be burned to CD.

Click "**Burn CD**".

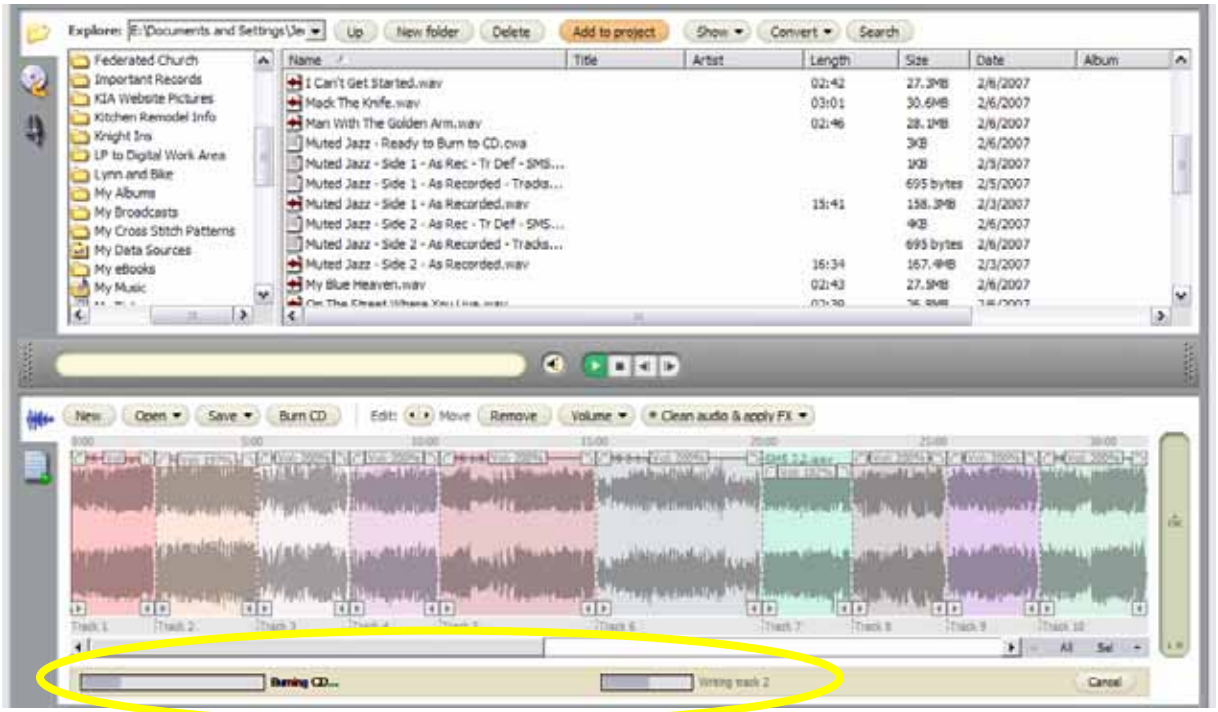
This dialogue box appears. Make any changes, if needed, and then click "**OK**".

The burning process begins and the first step is a "**Preparing CD**" operation that organizes and formats the files for the burning process.

When that step is complete, the CD burner tray opens and this message appears.



Follow the instructions and click **"OK"**.



As the burn continues its progress is displayed at the bottom of the screen.

When the recording is complete the CD tray will open and you have a music CD that you made from a record.

It is important to understand that in addition to saved projects, you can add individual *.**wav files** whether they are in the work folder you created or in any other location in your computer. The key is that they must be **wav** files.

If you have **wav** type audio files from any source, or at any location that you can access, you can add them to a project in the Arranging pane and burn them to a CD.

If you have music files on records, cassettes or CD's you can process and save them into your work file as **wav** type files and then burn a CD made up of music from these various sources.

OK, you've learned how to use the turntable and this software to copy music from an analog format record to a digital format file. You've learned how to adjust the level of the sound and to eliminate most of the "noise" from that file. You've learned how to split your digital file into smaller files or tracks. And you've learned how to save your work as a Project that you can burn to a CD.

What's next?

How about some housekeeping? I really recommend the following.

1. Instead of burning (1) CD, burn (2). If you have software to create labels for CD's this is the time to make labels. Since these labels come (2) to a sheet, it's as easy to make (2) as it is to make (1). Then store (1) of the CD's as a Master in a safe place, as an archive record.

2. Rip the second CD into your computer media library in whatever format you normally use. And then use that CD for playing in your car, home CD player, or wherever you like.

3. Go to the folder where you saved all the work in the process of creating your files to burn the CD. Because you were working in the highest quality, uncompressed format you will find that you have added about 1 GB of memory usage to your hard drive. **Delete every thing in that folder!** It's OK; everything you need is on the CD. Use that folder for your next record that you want to convert to digital.

4. Empty your recycle bin. Chances are, sometime during the process you deleted a large file that you were not happy with.

5. Finally, run Defrag. I have found that music files that are added to your computer are often very fragmented, and running Defrag will clean up the files you just deleted as well as the files you just added to your media library.

Good Luck on your next project!