Contents:

Email : Flavio.Antonioli@flashnet.it
World Wide Web **: http://authors.alberts.com/AuthorPages/00013881/ntrack.htm**

Introduction

----

n-Track: *A digital multitrack recorder*.
Version 1.1
(c) 1996-97 Flavio Antonioli (Flavio.Antonioli@flashnet.it).
All rights reserved.

This program is shareware. It is not free.
You may try this program for 40 days.
After this period you must either **register** or stop using the program
------

Welcome to n-Track

This program will turn your computer in to a powerful multitrack recorder:

All you need is a full duplex soundcard, Windows 95 or NT, a microphone and some free space on your hard drive.

There are no limitations on what you can realize with this program:
the most powerful feature is that the tracks (wave files) aren't mixed together in a sigle wave file and then played. The mixing process is done "on the fly": in this way you can alter the volume and pan settings while listening to your song or even while recording.

Wave files and MIDI tracks are threated in the same fashion : all the mixer control will act in similar way on a MIDI track or a Wave track.

You can use your favourite wave editor (for example Cool Edit) to add some effects on a particular track: you won't have no more the need of sophisticated and very expensive multieffects devices.
You can add reverb, delay, chorus, flanging etc. via software, listen to the overall result, restore the original track (having made a backup copy before modifying it), make some other changes etc.

The program has no theorical limitations on the number of tracks:
with my Pentium 100, 32 megabytes of RAM and a quite slow hard drive, I can easily work with 6 tracks.

To install n-Track: unzip the file you've just downloaded and run the installation program (since you're reading this you have probably already done this).
To uninstall n-Track select "Installed software" from the Windows Control Panel, select the correct entry and press "add/remove".

Working with n-Track:

Working with nTrack is easy: to start a new song, record the first track (usually the rithm base).
Once you have finished click on the stop button.
You will notice that the filename of the track you've just recorded will appear on the list box. Select it and adjust the volume and pan settings (you can do so while listening to the track).
Now you are ready to add a new track or to **overdub** the one previously recorded: click again on the record button, make sure you are ready to play and click on the OK button.

To edit a track you've recorded with a wave editor (such as Cool Edit), specify a path to it in the preferences dialog box, and the simply double click on the desired track in the list box.

While you are recording, notice the value that will appear near the "lag" writing on the window. Once you have finished recording the track, write this value in the preferences dialog box (accessible via the Options menu).
This values represents the shift that occurs between the recorded track and the ones being played. If this value is < 0, write it positive in the preferences. When playing back, the program will shift all the tracks by this value against the first track. So always check that the first track (the upper one) that appears in the list box, is the first one that you have recorded. Anyway this is not a critical factor, because the lag value usually is some hundreds. To obtain the actual shift divide this value by the sampling frequency (typically 44100 hz).

If the lag value oscillates too widely, it means that there is some problem and that the program may not work properly.
Once you have finished your song save it via the File menu.
The .sng file that the program will create will contain the mixing information and the compensation value.
Now you may want to mix down all the recorded tracks in to a single wave file using the "render" feature.

When recording, make sure that the recording level is adeguate:
use the soundcard mixer toghether with the program vu-meters to adjust the levels. If the rec level is too high you will notice distortion, while if the rec level is too low, the signal-to-noise ratio will be low.

Writing in the "MIDI file" edit box the filename of a midi file, this will be played back in sync with all the other wav tracks.
Make sure that you have selected the desired MIDI output device in the Multimedia/Midi sheet of the control panel.
If you record any MIDI track, this will exclude the MIDI file you've specified in the MIDI dialog from the playback.

n tracks!

The "n" in the name n-Track stands for the number of tracks that the program can handle: substitue n with any integer number ranging from 0 to infinity!
In fact the number of tracks is limited only by the speed of the computer.
With a medium configuration Pentium-100 PC it's confortable to work with as mutch as 6 tracks!
There are only 4 volume and pan sliders only for convenience: to work with other tracks, simply record them and to adjust their volume and pan settings, click on their names and use the sliders near the list-box.

Rendering the final song

Once you'll have finished adding tracks and you'll have adjusted the volume and pan settings, you may want to mix down all the tracks to a single wav file:
just select "Render song" from the file menu and write the destination filename in the requester.
This operation may take a while.

"Rendering" works only on audio tracks, so if you have included a midi file, you'll have to "record" it selecting MIDI as the recording input in your soundcard mixer, so the program will be able to treat it as a wave file.

On slow machines, or when the number of tracks you're using becomes high, it may be a good idea to render some or all the tracks to one single wav file, and then proceed to record other tracks. In this way you'll be able to manage more tracks and you won't suffer from possible synchronization failures that may happen when the computer is too loaded by the high number of tracks.

This feature will work only on the registered versions of the program.

Tracks formats, mono & stereo playback:

Tracks can be either mono or stereo: the pan slider will simply act as a balance control for the stereo tracks while it will actually pan to the left or to the right the mono tracks.
Playback will always be in stereo, but it's possible to disable stereo playback while recording ather tracks: in fact many soundcard are capable of full-duplex operation only when used in mono mode. If you get messages such as "waveOutOpen(): udefined error" try to enable the option "mono playback while recording" in the preferences dialog. To verify if your soundcard can work in full-duplex with the recording parameters you you have set, use the "Full duplex test" button in the Preferences/Wave Devices dialog box.

For Creative Labs Sound Blaster owners

For Sound Blaster owners:
clicking the right mouse button on the creative mixer and then selecting "Input-output settings", will allow you to set the mic and line-in gain roughly (*1, *2, *4).
Make sure you have enabled the driver's full duplex support and that you have disabled the stereo enhanchement feature.
When operating in full duplex, the sound quality you'll hear while recording will be very poor. In fact the 16 bit audio samples are truncated by the SB's driver to 8 bit. This is not a pogram's fault, but a limitation of the hardware:

the Sound Blaster hardware can use only one 16 bit and one 8 bit DMA channel at a time, so either the recorded data will be 8 bit (even if the actual format is 16 bit) or the same will happen to the data being played. I've obviously choosen to make the playing tracks sound worse so the recorded one will be effectively 16 bit.
So when playing back all the tracks without recording the audio quality will not be penalized.

Remember to always turn off the recording vu-meter befor playing back the song: in fact the vu-meter actually opens the soundcard for recording, so if it is turned on, the playback will be effectively 8 bit.

Troubleshooting & Known bugs

If, even with few tracks you can often hear jumps in the music, try to increase the buffer size in the preferences dialog box. Increasing this parameter however will increase the time delay between any action done with the mixer and its audible result.

It may be possible to use two different soundcards, one for recording and one for reproduction, but there will be probably some synchronization problems, and will be be also possible some pitch-shifting effects due to non perfectly adjusted samplyng frequencies.

If you get messages such as "waveOutOpen(): udefined error" try to enable the option "mono playback while recording" in the preferences dialog.
Also, do the "full-duplex test" in the Preferences/Wave devices dialog box. Some soundcards work in full duplex only when recording with certain parameters : if the test fails, try to make some changes in the recording parameters and try again.

The only sample format supported is 16 bit.
System exclusive MIDI messages are not supported.

Known Bugs :
The 48000 Hz sampling frequency is not tested at all.

Bug reports, as well an any kind of suggestions and comments are welcomed.

Feedback

Any comments, bug reports, suggestions, are welcome:
Send email to *Flavio.Antonioli@flashnet.it*.

n-Track World Wide Web site :
http://authors.alberts.com/AuthorPages/00013881/ntrack.htm

Credits

Credits

Thanks to:
> **Alessandro De Murtas** for his precious help in beta-testing
> and **Richard Fairthorne** for the web page and the great help logo.

Obtaining new versions:

Main n-Track URL :

ftp://shareware.alberts.com/Win95/ntrack10.zip

Simtel site:
ftp://ftp.simtel.net/pub/simtelnet/win95/sound/ntrack10.zip

Or at any Simtel mirror (/pub/simtelnet/win95/sound/ntrckxxx.zip) ("xxx" stands for version number i.e. 096), such as :

ftp://ftp.cdrom.com/pub/simtelnet/win95/sound/ntrack10.zip
ftp://ftp.digital.com/pub/micro/pc/simtelnet/win95/sound/ntrack10.zip
ftp://ftp.flashnet.it/pub/simtelnet/win95/sound/ntrack10.zip
ftp://cis.utovrm.it/simtelnet/win95/sound/ntrack10.zip
ftp://nctuccca.edu.tw/mirror/simtelnet/win95/sound/ntrack10.zip
ftp://mirrors.aol.com/pub/simtelnet/win95/sound/ntrack10.zip

Always check for the latest version at the program's web page :

http://authors.alberts.com/AuthorPages/00013881/ntrack.htm

or connect to **www.alberts.com** and search for "ntrack".

Registering Information

Registered users will get a password to register "on-line" the program, free upgrade to future versions, technical support.
Registration fee is 22$.

The Registered Version of this program can be purchased and received   immediately on the Internet at **Albert's Ambry**. Registration at Albert's also eliminates shipping and handling costs. Please go to:

http://www.alberts.com/Ambry/Register?File_Name=ntrack10.zip&OS=Win95&Source=KeyWord

Or connect to:

http://www.alberts.com

- Search on: ntrack10.zip
- Click on the "Buy It" Hotlink to register this software.

Or follow the "Get it now" link from the program web page:
http://authors.alberts.com/AuthorPages/00013881/ntrack.htm

Thank you for registering this program.

You can also become a registered user of this program by drawing 22$ (or 37000 lire, in italian currency) on this bank account:

Account number 3354965/01/53
Agenzia n.34
BANCA COMMERCIALE ITALIANA

Or you can also send a check (drawn on an italian bank) or cash to the address below.

When you'll have done the payment or if you have some trouble making it, contact me via email at Flavio.Antonioli@flashnet.it, or via snail mail at this address:

Flavio Antonioli,
Via Focilide 44,
00125 Rome,
Italy.

Keyboad Layout

To manovarate more easily the mixer settings, you can use the keyboard in this way :

Q	**W**	**E**	**R**	**T**

A	**S**	**D**	**F**	**G**

will add (Q) or subtract (A) 1 from the volume setting of tracks 1, 2, 3, 4 respectively.
Holding down the **SHIFT** key or activating **CAPS-LOCK** will increase the step to 10 units.
Holding down **CONTROL** key or activating **SCROLL-LOCK**, will switch the preceding keys to operate on the pan settings.
For tracks other that the first four, you'll have to first select them in the list-box, and the use T and G to move the volume and pan sliders relative to the track selected.
Use **Y** and **H** to adjust the master volume setting.
P starts playback, **O** starts recording, **K** and **L** stop recording and playback.
Use **M** and **N** to move the time scroll bar.

Note that these keys will not work if the keyboard focus is on one button, slider or in the listbox. To activate them bring the focus to a dialog window by clicking on it.

Overdubbing

To overdub a track, remove it from the list and do one of the following actions :
 - move the time slider to the instant at wich you want to start the dub and press the record button, **or**
 0   - select "Overdub" from the track menu.
Select the filename of the track when the program will prompt you. Once you'll have done this, the program will start dubbing the track starting from the instant you've selecte. Recording will continue until you will press the stop button. The preceeding   and following parts of the track will be left as the were. For example, if you're recording a song with a guitar solo in the middle, you can record the guitar track once, and then overdub the solo until you come with a satisfying result, without having to play all the time all the other parts of the song.

0   Currently, the time resolution is in seconds.

Licence

n-Track is shareware. This means:

1. All copyrights to n-Track are exclusively owned by the author - Flavio Antonioli.

2. Anyone may use this software during a test period of 40 days. Following this test period of 40 days or less, if you wish to continue to use n-Track, you must **register**.

3. Once registered, the user is granted a non-exclusive license to use n-Track on one computer (i.e. a single cpu), for any legal purpose, at a time.   The registered n-Track software may not be rented or leased, but may be permanently transferred, if the person receiving it agrees to terms of this license.   If the software is an update, the transfer must include the update and all previous versions.

4. The n-Track unregistered shareware version, may be freely distributed, provided the distribution package is not modified. No person or company may charge a fee for the distribution of n-Track without written permission from the copyright holder.

5. **n-Track is distributed "as is".   No warranty of any kind is expressed or implied.   You use at your own risk. The author will not be liable for data loss, damages, loss of profits or any other kind of loss while using or misusing this software.**

All rights not expressly granted here are reserved by Flavio Antonioli.

6. Installing and using n-Track signifies acceptance of these terms and conditions of the license.

7. If you do not agree with the terms of this license you must remove n-Track files from your storage devices and cease to use the product.

Thank you for using n-Track,
Flavio Antonioli.

Preferences

- **Sampling Frequency :** Sets the sampling frequency of the recorded tracks. Make sure that all the tracks are recorded using the same frequency.
- **MONO/STEREO :** Choose here if you want to record a track in mono or stereo. Mono and stereo tracks can be used toghether in a song.
- **16/8 bit :** Only 16 bit format is supported.
- **Mono playback while recording :** Many soundcards work in full-duplex only in mono mode. If you experience some problems while recording, try this option.
- **Wave Devices :** choose here which soundcard to use as input device and which to use as output.
- **Playback buffer dimension :** Decrease this value to decrease the time between an action operated on the mixer and its effective result. Be aware that low values of this parameter will make the program more resource consuming : if you can hear jumps in the playback, try to increase this parameter. Default value = 32720
- **Playback buffers:** sets the number of playback buffers. The same consideration made above hold also for this parameter. Default = 10
- **Recording buffers dimension & recording buffers number:** For recording, the only advantage in decreasing this parameter is in the faster response of the vu-meter while recording.
  Default: Recording buffers dimension = 32720, recording buffers = 16.
- **Compensation :** While you are recording, notice the value that will appear near the "lag" writing on the window. Once you have finished recording the track, write this value in the preferences dialog box (accessible via the Options menu).
  This values represents the shift that occurs between the recorded track and the ones being played. If this value is < 0, write it positive as the compensation value. When playing back, the program will shift all the tracks by this value with respect to the first track. So always check that the first track (the upper one) that appears in the list box, is the first one that you have recorded. Anyway this is not a critical factor, because the lag value usually is some hundreds. To obtain the actual time shift divide this value by the sampling frequency (typically 44100 hz). Default = 0
- **Wave Editor Path :** Insert here the path to your wave editor. By double-clicking on a track in the tracks list box the program will launch the wave editor to edit that track.

Versions history:

New to version 1.1 beta 3:
- Added MIDI file exporting.
- Pressing the record button and then Cancel on the file requester crashed the program.
- New MIDI sequencer "engine", but still not so good.
- MIDI program changes filtering filtered every control message.
- Various bugfixes.

Back to the index