

# **Neuratron AudioScore**

## **Quick Start Guide**

**NEURATRON**  
— RECOGNIZING INTELLIGENCE® —

[www.neuratron.com](http://www.neuratron.com)

Edition 1 2009  
Edition 2 2009  
Edition 3 2009

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**Remember, it is illegal to record or transcribe copyrighted music without the owner's permission.**

## **What AudioScore Can Do**

AudioScore is able to recognize notes in polyphonic music with up to 16 notes playing at a time. To obtain the best results, the following points should be noted:

- AudioScore is most useful for transcribing and extracting melodies
- It is not designed for recognizing percussion instruments
- AudioScore has greater difficulty picking out light higher notes in the presence of heavy low ones
- AudioScore is unable to separate two instruments playing the same note at the same time
- It is more difficult for AudioScore to recognize rhythm in music with heavy sustain or reverb

## **What AudioScore Needs From You**

Once the music has been recognized, in order to produce accurate results, it is important to:

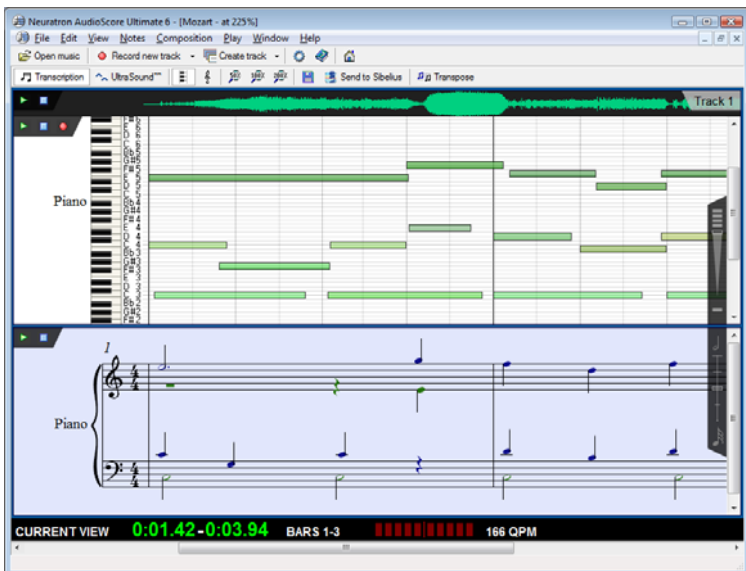
- Tell AudioScore if it has found too many or too few notes
- Tell AudioScore which notes were played by which instruments and voices
- Tell AudioScore the time signature
- Tell AudioScore where to start scoring from
- Ensure that the barlines are correctly positioned
- Tell AudioScore the shortest note length it should use
- Correct ambiguities involving the positioning and duration of notes

## Transcribing CDs & MP3s

To familiarize yourself with the basics of AudioScore Ultimate, please find a suitable CD track or MP3 file (see previous page) and step through each of the following points.

- 1) AudioScore Ultimate is able to transcribe polyphonic music from CDs, MP3s, WAV and AIFF (Mac only) files. Once installed on your computer, run AudioScore Ultimate and click the **Open music** button on its toolbar. Then browse to the location of the track/file on your CD/hard disk and click **Open**.
- 2) A dialog box should appear, allowing you to choose the time signature and instrument. Select the time signature and then click **Open** to proceed.
- 3) AudioScore Ultimate will begin to transcribe the music. The performance is depicted in the top half of the window; underneath is AudioScore's transcription of it.

Higher-pitched notes are displayed above lower ones, and later notes to the right of earlier ones. The screenshot below gives an indication of what you might see when using AudioScore for the first time.



- 4) If too many or too few notes have been found, drag the slider on the right hand side of the top half of the window to adjust AudioScore's note sensitivity. If the notation in the bottom half of the window looks too complex or too simple, drag the slider in the bottom half of the window to change the shortest note length that AudioScore can use.
- 5) All instruments will have been transcribed to a single piano track (consisting of one or two staves). If there is more than one instrument, the first thing you need to do is move each to its own track, as follows:
  - a) Ensure no tracks are selected by pressing **Esc** twice.
  - b) Identify notes performed by the instrument using these techniques:
    - i. Click on notes in the top half of the window to hear them
    - ii. Click on the same notes to select them and then click the topmost **Play** button (marked by a green arrow) to hear them within the original audio
    - iii. Compare the colors of notes: Those in similar shades relate to similar sounding instruments
    - iv. Hold down **F5** to view fluctuations in pitch, such as vibrato
  - c) In the top half of the window, select a group of notes that need to be moved by clicking on one of them and then **Ctrl**-clicking each of the others. If you accidentally add the wrong note to your selection, remove it by **Ctrl**-clicking it again.
  - d) Press **Enter** for AudioScore to move the selected notes into a selected track (marked by a blue triangle at its left). Since no track is selected for the first group of notes you are moving, AudioScore creates a new track and selects it automatically.
  - e) Repeat steps *b* to *d* to move another group of notes belonging to the same instrument to the newly created track.
  - f) Once you have moved all of the notes belonging to this instrument, repeat steps *a* to *e* for each of the remaining instruments.

**Note:** When transcribing monophonic music, it is not necessary to extract the melody to a new track. Any unwanted notes can be deleted by clicking on them in the top half of the window and pressing **Delete**.

- 6) Tell AudioScore where to begin notating from by scrolling to the beginning of the performance and clicking and dragging the vertical dashed line to the right. The transcription is automatically updated.
- 7) AudioScore automatically calculates the positions of barlines. If they are incorrect, starting from the first and going forward, click and drag each to the desired position.
- 8) Set the instrument for each track: Right-click over it in the bottom half of the window and choose **Set instrument for selected tracks...** from the menu. Then select an instrument and click **Rename**.
- 9) Correct ambiguities involving the positioning and duration of notes: Choose each track by clicking over its staff in the bottom half of the window, so that its performance is displayed. Click and drag the ends of notes horizontally to remove any overlaps caused by reverb or sustain. Any errors in the pitch can be corrected by dragging notes vertically.
- 10) Click the **Play** button (a green arrow) in the bottom half of the window to hear the notation played back using the appropriate MIDI instruments.

## Further information

Further information can be found in the user guide, available from AudioScore's **Help** menu.

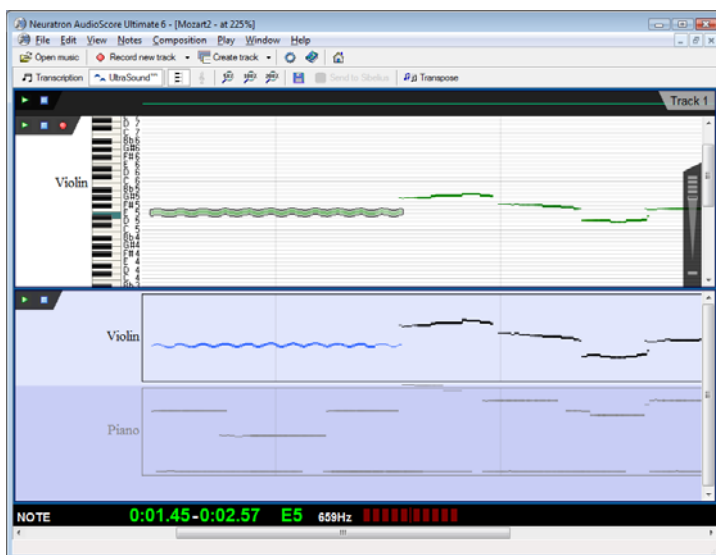
To find out more about what AudioScore can notate, see **What is notated in the score preview area?** in the chapter **TRANSCRIPTION – CREATING TRACKS**.

To learn more about how to edit notes and tracks within AudioScore, see the chapter **TRANSCRIPTION – ESSENTIAL EDITING**.

## UltraSound™

AudioScore Ultimate has two modes of operation, **Transcription** and **UltraSound™**, which can be switched between from the toolbar after a file has been opened. As described above, **Transcription mode** is designed for producing a musical score.

**UltraSound™ mode** allows you to view, edit, and play back the nuances of a performance, including subtle variations in pitch, volume and timing.



Because AudioScore analyzes the performance in such high detail, it is possible to create new 'realistic' versions of music with MIDI instruments of your choice – for example, open one of your favorite songs and hear it played back by a brass band or string quartet. For the best sounding MIDI play back, choose instruments with a low attack (such as flute).

The pitch across a note can be varied by clicking on it and dragging (or 'drawing') on the screen.

Further information about **UltraSound™ mode** can be found in the chapter **ULTRASOUND™** in the user guide.

Whether using AudioScore to analyze performances or create MIDI versions of your music, we recommend reading at least as far as the chapter **ULTRASOUND™** in the user guide.

## Recording From Mic or MIDI

AudioScore Ultimate can also transcribe music from a monophonic live performance made through a microphone, or a polyphonic one through a MIDI instrument (*not Mac version*).

Choose the recording device from **File>Select Devices...** and then click **Record new track** to begin. Press **Space bar** once you have finished recording.

### Microphone recording tips

- Avoid blowing directly into the microphone (especially when whistling or playing a wind instrument) as this causes a great deal of noise making it difficult for AudioScore to hear the notes being performed. Also avoid touching or moving the microphone as this can also create unwanted noise.
- Perform clearly and cleanly (e.g. for violin or guitar, ensure silent movement of fingers changing strings and avoidance of bow/fingers tapping on the instrument's body).
- Perform at a steady tempo and, if possible, no faster than 120 QPM (Quarters Per Minute).
- If you are performing using a bass instrument such as a tuba, ensure that the microphone you are recording with is capable of capturing the low frequencies – otherwise AudioScore will not be able to hear what you are playing!
- Avoid recording when a significant amount of background noise is present. Also, sensitive high quality microphones can pick up low frequency noise like traffic or household appliances, air conditioning or heating systems.
- Mains hum and electrical interference can be a problem and often contains far more than just the 50/60Hz hum. This can typically be observed as a large amount of 'green' showing in the input level window even when you are not performing. To minimize any mains hum effects:
  - Use as short a microphone cable as possible
  - Avoid rooms with fluorescent lighting and dimmer switches

- Keep the microphone cable away from computer monitors and mains power cables
- Perform more loudly or closer to the microphone (taking care not to touch or blow directly onto it)
- If the worst comes to the worst, obtain a better shielded microphone and/or sound card.

## Microphone recording problems

If no bars are shown in the input level window during recording, ensure your microphone is switched on and plugged into the microphone socket of your computer. In addition, make sure your sound card drivers are installed correctly and that you have the latest versions. The correct recording source (e.g. Microphone) must be selected from the **Devices** tab in the preferences dialog box (**File>Preferences...**). Also ensure the recording level is turned up in your computer's recording settings. Try singing or playing closer to the microphone.

## Why doesn't AudioScore record in real time?

If you would like AudioScore to open files more quickly or it does not record in real time, a better processor improves speed. In particular, AudioScore takes advantage of dual and quad core technologies. Increasing your RAM (computer memory) or shutting down other applications can also make a significant difference.