



# **AREMBE Audacity**

**Audio Editing & Recording Software with  
I/O Control via Velleman K8055N  
USB Experiment Interface Boards**

***Instruction Manual***

10002-MNL-A

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Audacity® is a registered trademark of Dominic Mazzoni

Other product and company names mentioned are trademarks or trade names of their respective companies.

## **Business Name**

AREMBE is a trading name for Richard Burdett

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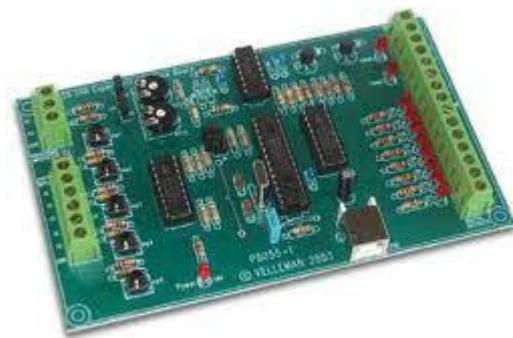
### 1.1 Overview

Audacity® is free, open source, cross-platform software for recording and editing sounds.

AREMBE Audacity is an extension to the standard Audacity program that includes support for up to four Velleman Model K8055N/K8055/VM110N/VM110 USB interface boards, allowing the setting of up to 32 digital and 8 analog outputs to be changed in synchronism with audio tracks. Programming the required outputs is very easy, using an additional window that displays a grid where the outputs at each step are specified. The position at which each step is activated is set by using a standard Audacity Label Track, where the labels are given step numbers corresponding to the output step required.

The digital inputs on the USB interface boards can be used as trigger inputs, so that audio playback can be paused until a trigger is received, and programs can be set to automatically start when Audacity is launched. In conjunction with the Audacity's command line mode this makes it possible to build systems that will automatically start running on computer bootup.

The software will run on PCs running Microsoft Windows XP and later.



Velleman K8055 USB Experiment Interface Board

### 1.2 Hardware Capabilities

The K8055 board has the following capabilities:

- Five digital inputs (0= ground, 1= open) (on board test buttons provided). Two of these inputs can also be counted via 16-bit counters with adjustable debounce times: 0 ms, 2 ms, 10 ms and 1 s
- Two 8-bit analog inputs with attenuation and amplification option (internal test +5 V provided)
- Eight digital open collector output switches (max. 50V/100mA) (on board LED indication)
- Two 8-bit analog outputs: 0 V to 5 V, output resistance 1.5 k $\Omega$
- PWM 0 to 100% open collector outputs max 100 mA / 40 V (on board LED indication)
- General conversion time: 20 ms per command
- Power supply through USB: approx. 70 mA

- Dimensions: 145 x 88 x 20 mm / 5.7 x 3 x 0.8"

The board has recently been updated and is now the model K8055N. This offers the same specifications, although there are few changes including the use of a mini-B USB socket. The models K8055 and K8055N are supplied in kit form; they are also available fully assembled as the models VM110 and VM110N respectively.

The AREMBE Audacity software supports all board features except the counters.

## 1.3 PC Requirements

Although the Audacity software can operate on PC, Mac, and Linux operating systems, AREMBE Audacity is only suitable for use on computers running Windows. It has been verified as operating correctly on computers running Windows XP SP3, Windows Vista 32 bit, and Windows 7 (both 32 and 64 bit versions). No special device drivers or DLL's are needed to use it, and operation does not rely on any of the software supplied by Velleman (although this can also be installed and used, though obviously not at the same time as AREMBE Audacity, without problem).

## 1.4 Typical Applications

The main application for the software is to build systems for creating light, motion and sound shows for entertainment – the classic *son et lumiere*. But the ability to use the software to synchronize sound and the switching of external circuits, and to pause playback until external hardware trigger signals are received, means that not only can it be used for entertainment, but also for educational projects.

# Installation & Initial Checks

## 2.1 Introduction

This chapter describes how to install the AREMBE Audacity software on a personal computer running a Windows operating system (Windows XP, Vista, or Windows 7).

## 2.2 Installation

### 2.2.01 Media and Setup Program

The AREMBE Audacity software is typically supplied as a zip file containing the full setup program. Unzip the contents of this file to an empty folder. Use Windows Explorer to navigate to this folder and double-click on the file `SETUP.EXE`

The Setup program should start. If the User Account Control (UAC) is active a warning dialog, similar to that shown in figure 2-1, will be shown. Click **Yes** to continue.



Figure 2-1, Setup.exe UAC Warning Dialog

The main setup dialog, figure 2-2, will then be shown.

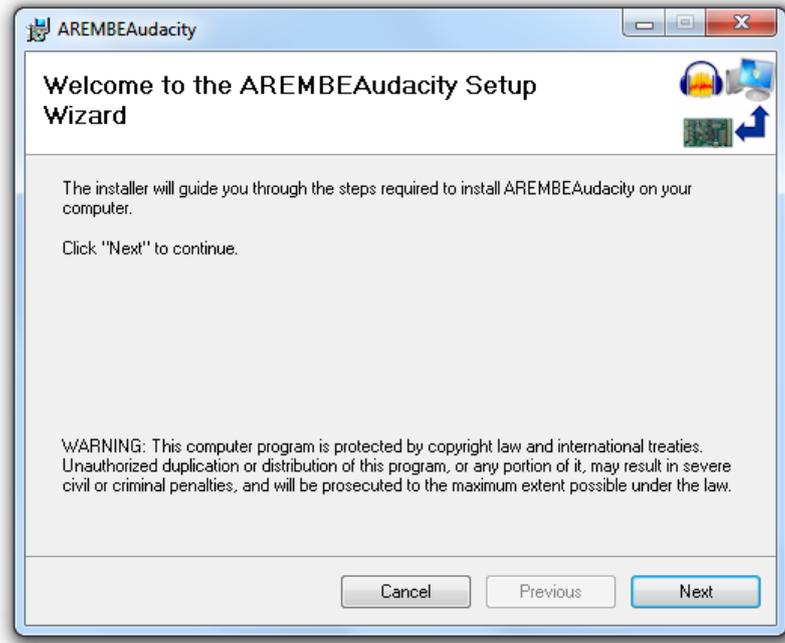


Figure 2-2, Main Setup Dialog

Follow the instructions on this and subsequent dialogs until the installation is complete.

### 2.2.02 Installed Files

The Setup program places the AREMBE Audacity software and support DLL files in the folder `C:\Program Files\AREMBE\AREMBEAudacity`.

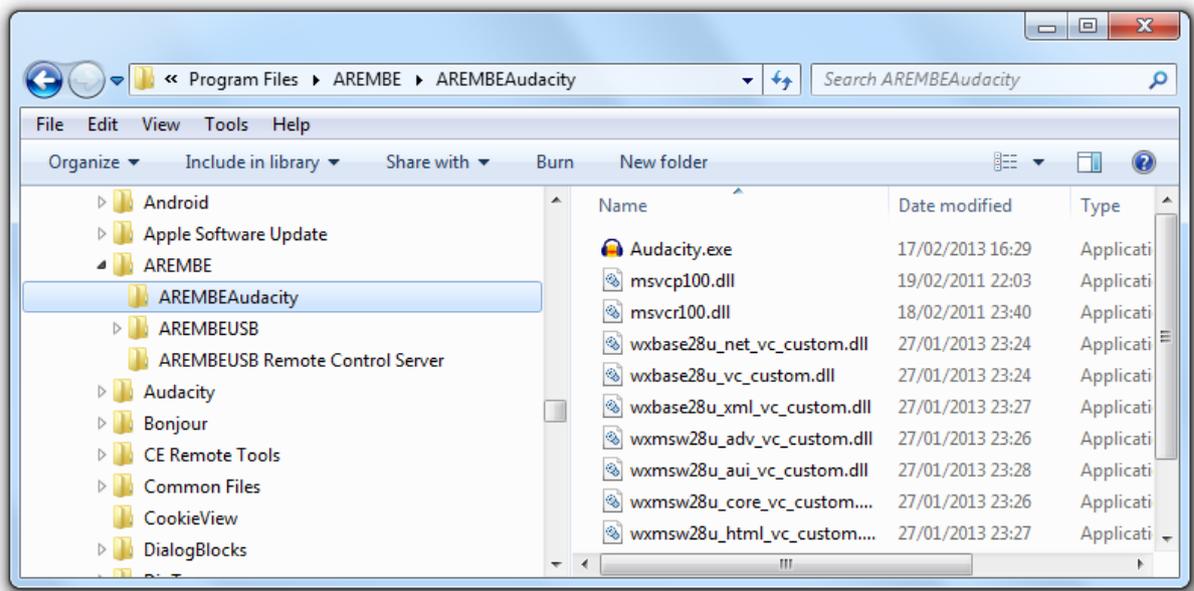


Figure 2-3, Program Files Location

## 2.3 Initial Checks

### 2.3.01 Procedure

The simplest way of checking that the AREMBE Audacity software is properly installed is to run it and create a simple project to demonstrate its use. Proceed as follows.

- 1) Take a K8055/K8055N/VM110/VM110N board and connect it to a free USB port on the computer using a suitable cable. If this is the first time it has been connected then Windows will automatically install the required USB HID driver. This driver is included with Windows - it does not need loading from disk or downloading from the web.
- 2) Start the AREMBE Audacity software from the windows **Start** menu. Navigate the list of programs to the **AREMBE**, **AREMBE Audacity** folder and click the **AREMBE Audacity** item in it. The main program window, figure 2-4, will be shown.

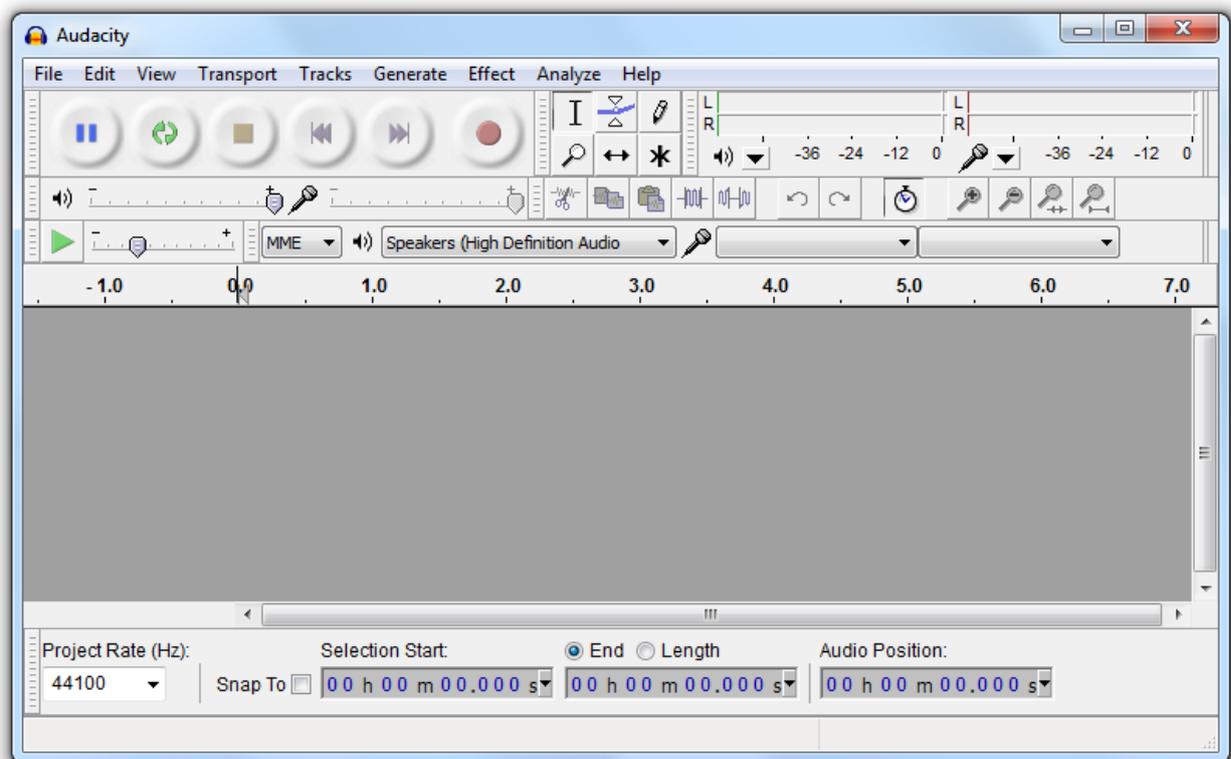


Figure 2-4, AREMBE Audacity Main Program Window

- 3) Use the **File** menu to locate and open an audio MP3 track. This will be imported and displayed in the project window. In Figure 2-5, a stereo audio file titled “Sleigh Ride” has been imported.

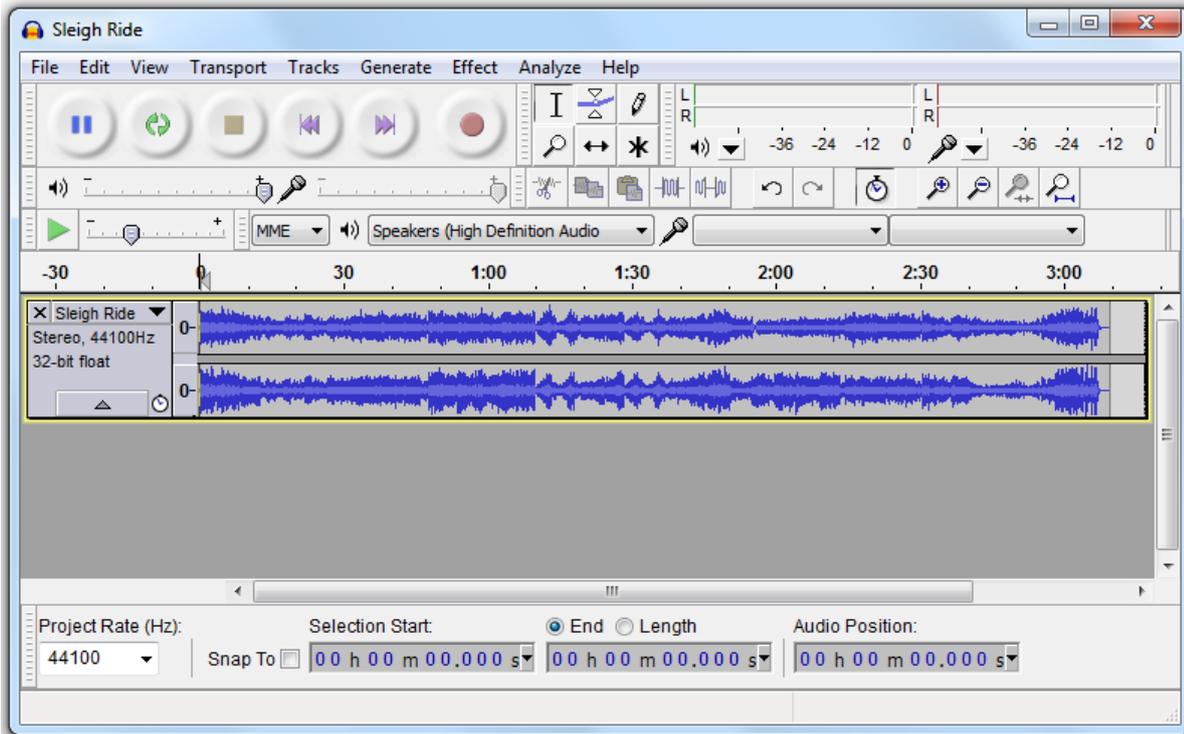


Figure 2-5, “Sleigh Ride” File Imported

- 4) Use the **Tracks, Add New, Label Track** menu to add a Label Track to the project, as shown in figure 2-6.

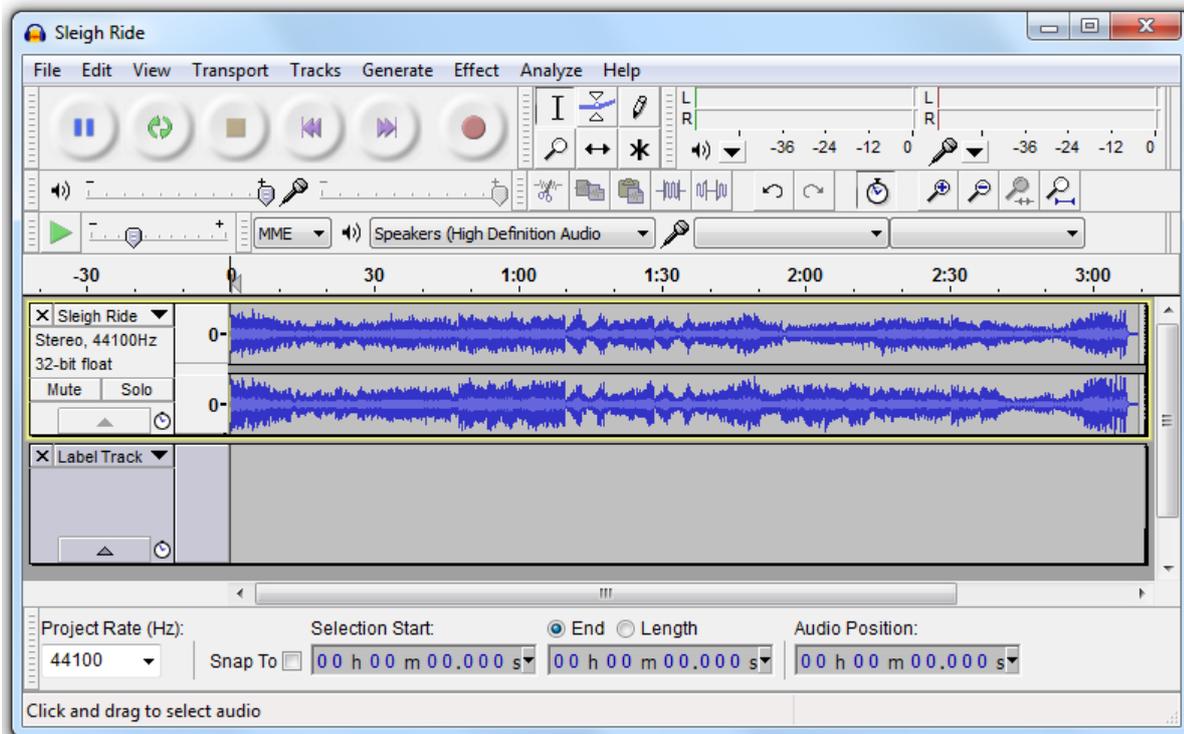


Figure 2-5, Project with added Label Track

- 5) Click the triangle next to the text Label Track and change the track’s name to “Control Track” .
- 6) Click **View, External I/O** menu item to display the External I/O Control Sequencer

in a new, floating window, as shown in Figure 2-6. Note that if, as will normally be the case, the software is not activated, another dialog (shown later in figure 2-12) will first appear; click **OK** to dismiss this.

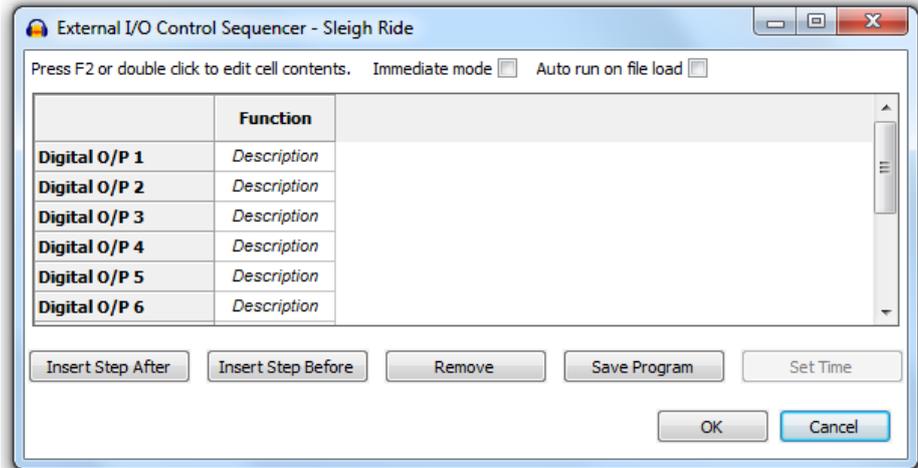


Figure 2-6, External I/O Sequencer Window with empty project

- 7) Click any cell in the **Function** column and then click the **Insert Step After** button. A new column 1 will be added to the right. Now click any cell in this column 1 and click the **Insert Step After** button again. The result will be two columns headed with the numbers 1 and 2, as shown in figure 2-6.

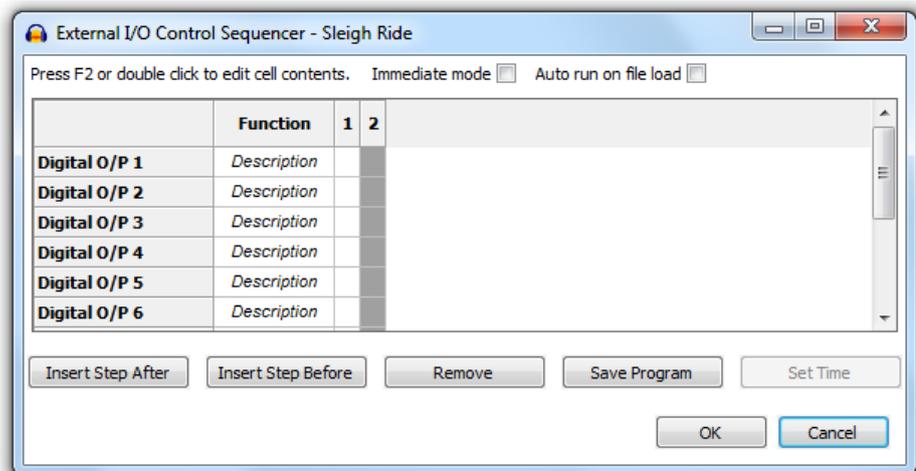


Figure 2-7, External I/O Sequencer Window with two empty steps

- 8) Now click in the cell on row **Digital O/P 1** and column **1**. Type the number 1 and press <return>. Click on the cell on row **Digital O/P 2** and column **2** and enter the number 1 in this cell too. The resulting program will be as shown in figure 2-8.

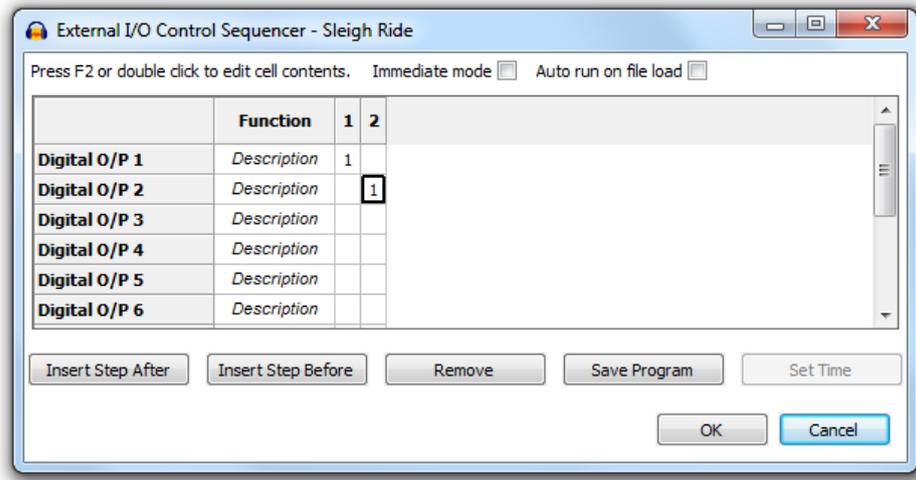


Figure 2-8, External I/O Sequencer Window with two programmed steps

- 9) Return to the main AREMBE Audacity window without closing the External I/O Sequencer window, and note that the Control Track now has two labels in it, marked 1 and 2, as shown in figure 2-9.

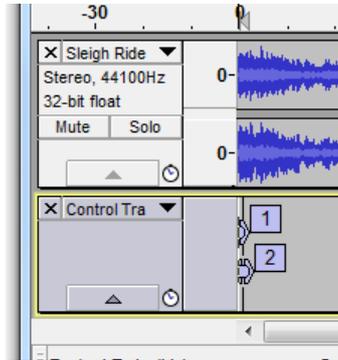


Figure 2-9, Labels on the Control Track

- 10) Use the main program zoom controls to expand the view of the audio and label tracks, as shown in figure 2-10

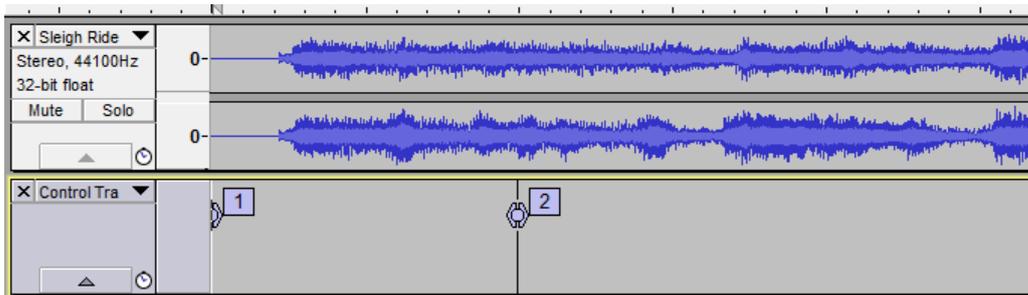


Figure 2-10, Expanded View of Tracks

- 11) Move the mouse over the centre of a label icon, which will change to white to show that it is selected. Click and drag the two labels so that they occur at chosen points on the audio waveform, as shown in figure 2-11.

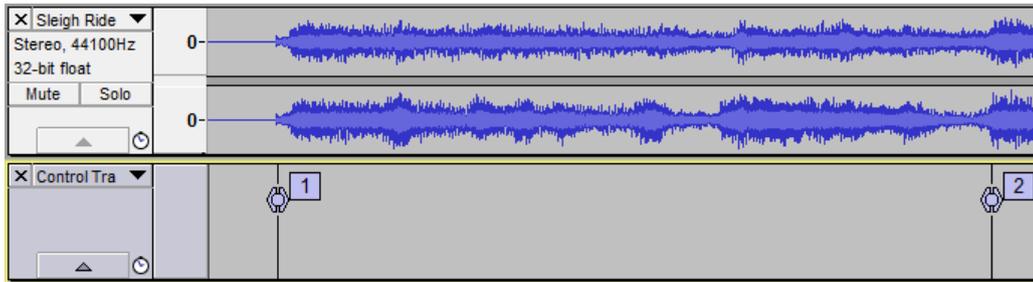


Figure 2-11, Expanded View of Tracks – repositioned labels

- 12) Look at the LEDs LD1 and LD2 on the K8055/K8055N/VM110/VM110N board, and then click the Play button in the AREMBE Audacity software. As the Audacity cursor passes label 1, note that LD1 will light, and as it passes label 2, LD2 will light. LD2 will remain lit until the stop button is clicked.
- 13) It is suggested that the project now be saved using functions on the main program's File menu.

Assuming that above tests operate as described then you can be certain that the AREMBE Audacity software has been installed correctly and is functioning properly.

### 2.3.02 Software Activation

When first installed the AREMBE Audacity software functions in a demonstration mode, in which it is fully functional except that there is a limit of ten I/O operations after which further control is not possible without closing and reopening the project. This allows the user to test that the software will work in the intended application before purchasing an activation code. While in this mode, if the number of I/O operations exceeds ten, the following warning will be displayed, figure 2-11.

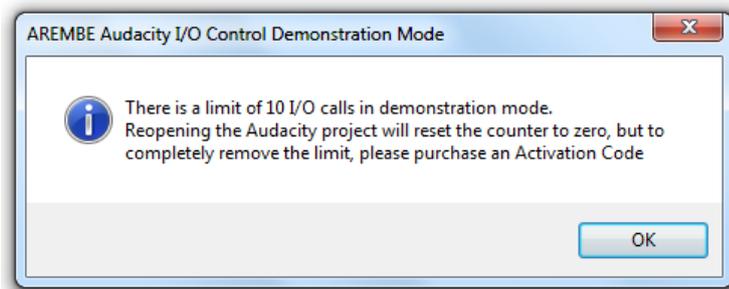


Figure 2-11, Demonstration Mode Warning Dialog

If the demonstration mode is active, the dialog shown in figure 2-12 will be displayed when the External I/O Sequencer menu is opened.

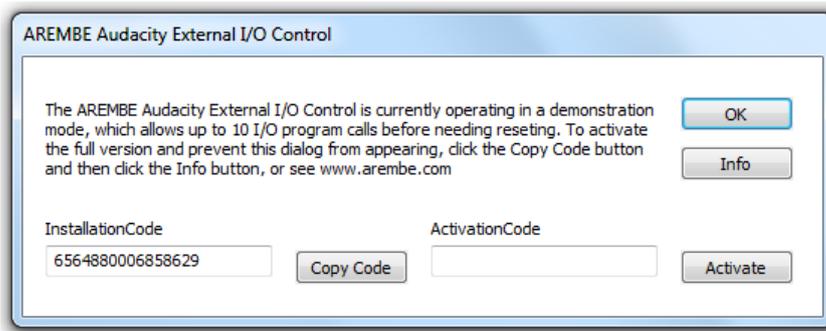


Figure 2-12, Activation Dialog

To remove the restriction please proceed as follows.

- 1) When the dialog shown in figure 2.12 is displayed, write down (or click the **Copy Code** button to copy the code to the Windows clipboard, and paste into another document) the **Installation Code**
- 2) If the computer is connected to the internet, click the **Info** button, which will open in the default web browser a registration page on the **www.arembe.com** website. If the computer has no internet connection then please visit the site using a computer that has a connection and follow the links to the AREMBE Audacity product registration page.
- 3) Use the registration page to submit the Installation Code and pay for the full version of the control.
- 4) Once the Installation Code has been verified, you will receive an e-mail containing an Activation Code.
- 5) In order to activate the software, it needs to be running with full administrative privileges. On Windows XP this will be achieved if the user account has such privileges and the program is simply started as normal.

On machines running Vista and Windows 7 with User Account Control in operation, go to the **Start Menu**, and navigate the list of programs to the **AREMBE, AREMBE Audacity** folder. Right click over the AREMBE Audacity item and select **Properties**. In the resulting dialog, on the **Compatibility**, check the box marked **Run this program as an administrator**. Then close the properties dialog and start the program, accepting the following warning dialog.

Open an Audacity project and then open the External I/O Sequencer menu. The dialog shown in figure 2.12 will be displayed again.

- 6) Enter the **Activation Code** and click the **Activate** button. If the code is correct then the Code Accepted dialog, figure 2-13, will be shown.

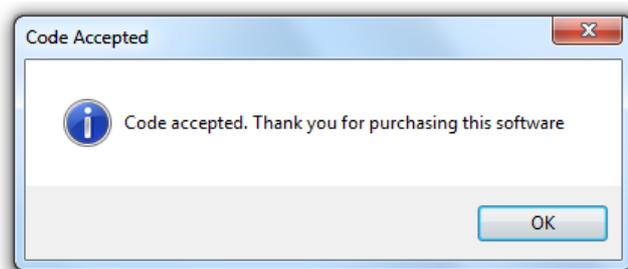


Figure 2-13, Code Accepted Confirmation Dialog

If for some reason the code is not correct, the Invalid Code dialog, figure 2-14, will be shown.

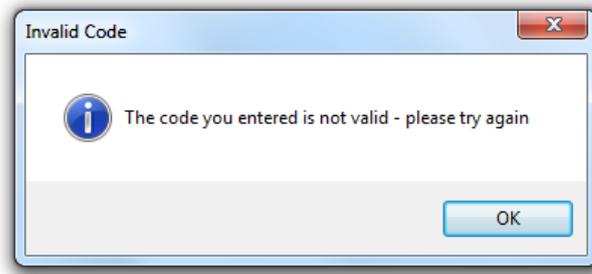


Figure 2-14, Invalid Code Dialog

If AREMBE Audacity is not running in administrative mode then the AREMBE Audacity Activation Error dialog, figure 2-15, will be shown.

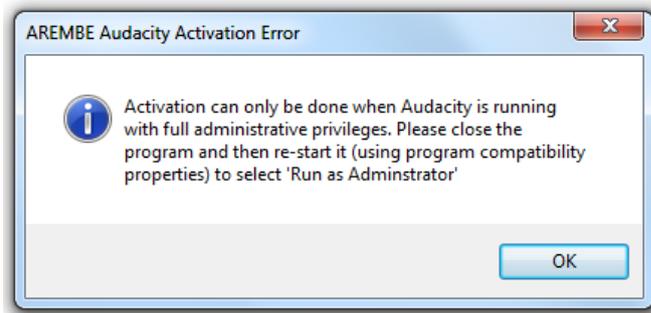


Figure 2-15, Activation Error Dialog

If this occurs, click OK, close the program and restart it in full administrative mode.

### 2.3.03 Upgrading an Existing Installation

If you are upgrading from an earlier version of AREMBE Audacity then you **must** remove the previous software version first. This is done by using the Windows Control Panel Programs and Features (or Add or Remove Programs) dialog. Select the AREMBE Audacity item from the list of installed programs and click **Uninstall** or **Remove**. Removing an existing installation using this method will not delete the activation information, or any Audacity projects that you may have created.



### 3.1 Introduction

This chapter describes how to use the external I/O Control features of the AREMBE Audacity software. The rest of the program operates in exactly the same way as the standard Audacity package and so is not described here.

### 3.2 Technical Background

The software is designed to support operation of up to four Velleman K8055N/K8055/VM110N/VM110 USB Experiment Interface Boards.

The boards have a USB vendor ID (VID) of 10CFh and a product ID (PID) that depends on the settings of the address jumpers SK5 and SK6, as follows:

Address	PID
0	5500h
1	5501h
2	5502h
3	5502h

The boards are of the Human Interface Device HID class and so are supported by the standard USB drivers included within the operating system, which also support the mouse and keyboard.

When a board is connected to the computer, the HID driver is loaded and the device appears as **HID compliant device** in the Device Manager display, as shown in figure 3-1.

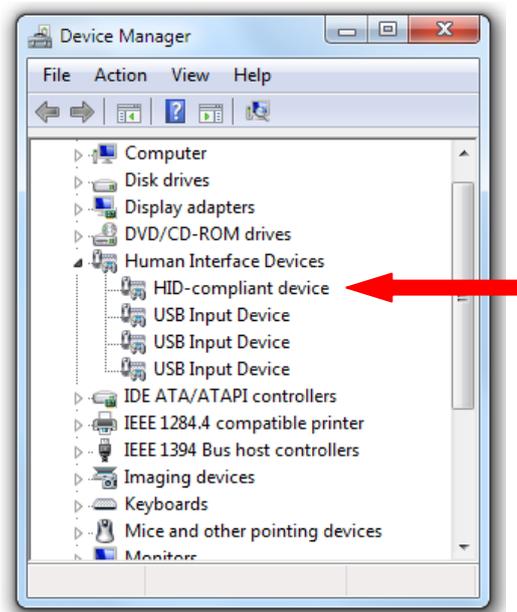


Figure 3-1, Device Manager Dialog

Once a board is connected the AREMBE Audacity software can control it. If more than one board is connected, then they must each be set to a different address using their SK5 and SK6 jumpers.

## 3.3 Operation

### 3.3.01 Introduction

The AREMBE Audacity software adds an External I/O Control sequencer menu to the standard Audacity software, and introduces a special form of Label Track that is used to select which program step in the sequencer menu is active at any time. This section describes these two program features and discusses how control programs can be created and edited.

### 3.3.02 External I/O Control Sequencer

This menu, shown in figure 3-1, is used to define which outputs will be active at each program step.

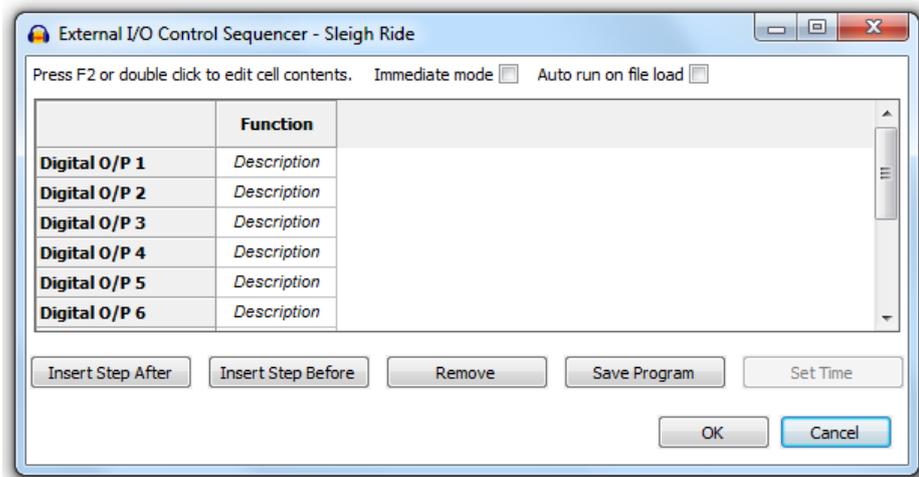


Figure 3-1, External I/O Sequencer Window

An I/O control program consists of a number of steps, each of which is a numbered column in the main grid area. Each output is represented by a horizontal row. When one interface board is connected there are eight digital outputs initially labeled **Digital O/P 1** to **Digital O/P 8**, two analog outputs labeled **Analog O/P 1** and **Analog O/P 2**, and a row labeled **Advance Mode**, which is used to specify when the program will pause until a trigger is received, and which trigger input will be used.

If two or more boards are connected the number of analog and digital output lines increases accordingly; there is however always only one **Advance Mode** line.

The **Function** column allows a description to be assigned to the digital and analog output channels. To do this, simply click to select a cell and enter the required text; row titles are modified accordingly. The reason for duplicating the name in both the **Function** column and the row title is that it allows the name to still be seen if there are a lot of steps and the **Function** column scrolls out of view.

Figure 3-2 shows a project where there are eight circuits used to control garden lighting and the rows have been appropriately labeled.

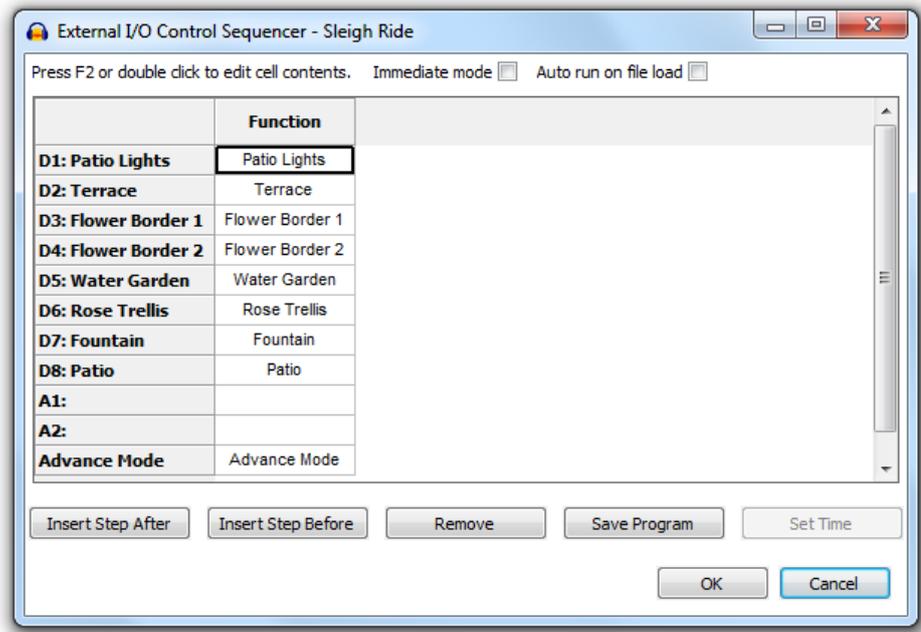


Figure 3-2, External I/O Sequencer Window with labelled rows

The **Insert Step After** button adds a program step immediately to the right of the currently selected column or cell within a column and the **Insert Step Before** button does the same except the step is inserted to the left of the current position. Clicking the **Remove** button removes the whole of the step in the currently selected column or cell within a column.

All editing of the I/O control program is not saved back to the main Audacity program until the **Save Program** button or **OK** buttons are clicked. The former saves the program but keeps the External I/O Control Sequencer window open; the latter closes it. Clicking the **Cancel** button or closing the window using the 'X' button with unsaved changes causes a warning dialog to be displayed, ensuring it is harder to accidentally forget to save a program.

Once a program step is displayed, indicated by a column to the right of the **Function** column, the individual outputs are activated as follows:

#### Digital Outputs

If a step has a "1" in the corresponding cell then the output is turned on; if the cell is empty, then it is off. A value of "P" can also be entered, which generates a pulsed output lasting nominally 500 ms.

#### Analog Outputs

The step value can be set an integer in the range 0 to 255, representing the fully off to fully on states. If the step value is empty then the output will remain at the last value to which it was set. Hence, for example there is a value of 128 in step 1, no values in steps 2 to 5, and a value of 255 in step 6, the output will be set to level 128 at step 1 and remain there until it is changed to 255 by step 6.

#### Advance Mode

If a step has an empty cell then this has no effect. If however it is set to an integer in the range 1 to 5 (if only one board is connected) then when the program reaches this step play will be paused until the corresponding digital input is triggered (e.g. by pressing the relevant test button on the board.) If a second board is connected then the value can also be set to 6 to 10, corresponding to the digital inputs on the second board, and so on. With the maximum of four boards connected the value can range from 1 to 20

The letter “E” can also be entered, which causes the playback to stop at that step. Finally the letter “R” can be entered, which causes the playback to stop, the program returns to the start, and playback starts again. Using this value as the last program step therefore allows “looped” programs to be created.

I/O control programs are therefore created by adding steps for each change of output condition that is required, and then selecting the required output for each step by entering legal values for that output type in the relevant rows.

It is useful when developing programs to be able to check the cumulative effect of selecting a number of outputs. Normally, when editing, changes made to each step do not affect the connected hardware. However, if the **Immediate Mode** box is checked then when any cell in a step is edited, the whole of the setting represented by that step will be applied to the hardware when the <return> key is pressed to complete the editing of a cell value.

The **Auto run on file load** checkbox is used to make an I/O control program run automatically when the Audacity project containing it is loaded. When this is checked and the corresponding project is saved, then when the project is reloaded the program will start without any further user intervention. If a shortcut to the program is created with the relevant project as a parameter, and the shortcut placed in the **Startup** folder then the whole system will start automatically when the computer boots (assuming it is set so as not to need a user login).

Finally the **Set Time** button is used when a project is playing to create corresponding labels in the associated Control Track. Its use is discussed later in section 3.3.04

### 3.3.03 Control Track



Figure 3-3, Control Track Example

The control track, an example of which is shown in figure 3-3, is used to select which output step is selected at each point in the audio playback. It is created and adjusted in the same way as a standard Audacity Label Track, except as follows:

#### Name

In order to function as a control track, the track must be named “Control Track” using exactly that format and capitalization.

#### Label Text

The label text is simply the number of the step to be selected when the position of the label is reached during audio playback. Hence it needs to be a number within the range of program steps defined in the External I/O Sequencer window. Text or numbers outside this range will be ignored.

#### Label Time Position

In a standard label track a label can be set up to occupy a range of times, i.e. it can have

different start and end times. These are specified by dragging the caret on either side of the central label position. Control Track labels do not need this capability – they simply act as a marker when the given program step should be activated. Hence when the mouse is used to adjust them dragging anywhere within the label icon moves the whole label position.

### Label Deletion

When the mouse is positioned over the label icon and the **Delete** key is pressed, the label is deleted.

### Interaction with External I/O Sequencer Window

If a Control Track is present in a project then it can be automatically updated as changes are made to the I/O control program, making it easier to edit the program. For example, figure 3-4 shows the control program that is part of the same project as the control track shown in figure 3-3.

Function	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
D1: Circuit 1	Circuit 1	1	1							1									1
Digital O/P 2	Description		1								1								1
Digital O/P 3	Description	1	1									1							
Digital O/P 4	Description			1									1				1		
Digital O/P 5	Description	1			1									1					
Digital O/P 6	Description					1										1			
Digital O/P 7	Description	1					1											1	
Digital O/P 8	Description							1											1
Analog O/P 1	Description																		
Analog O/P 2	Description																		
Advance Mode	Advance Mode	1																	

Figure 3-4, I/O Control Program Example

When run, playback will proceed until the first label is reached at time  $t = 1s$ . Note that because there is no sound in the audio track in this region, no sound will be output. At the first label position playback will pause until a trigger input is received on digital input 1, because there is a number “1” in the **Advance Mode** line. Once the trigger arrives, the music will start and further program steps will be activated in sequence.

Suppose now that an additional program step needs to be added between steps 4 and 5, but the remaining steps need to be activated at the same control track label positions. If a step were simply inserted in the I/O control program and a label corresponding to the new step were added to the Control track, then it would be necessary to manually renumber all Control Track labels having numbers equal to or greater than the new step in order to retain the existing program operation.

To avoid the need for this manual renumbering, when a control track and I/O control program are present in the same project, if a step is added to the program then a corresponding label is added to the control track, and the labels are renumbered. Similarly, when a step is deleted the first label in the control track having that number is deleted, and the remaining labels are renumbered.

For example, if a step is added between the existing steps 4 and 5 in the example shown

in figure 3-4, the Control Track will be updated, as shown in figure 3-5. Note how the label at the right hand end that was previously numbered “5” is now labeled “6”.

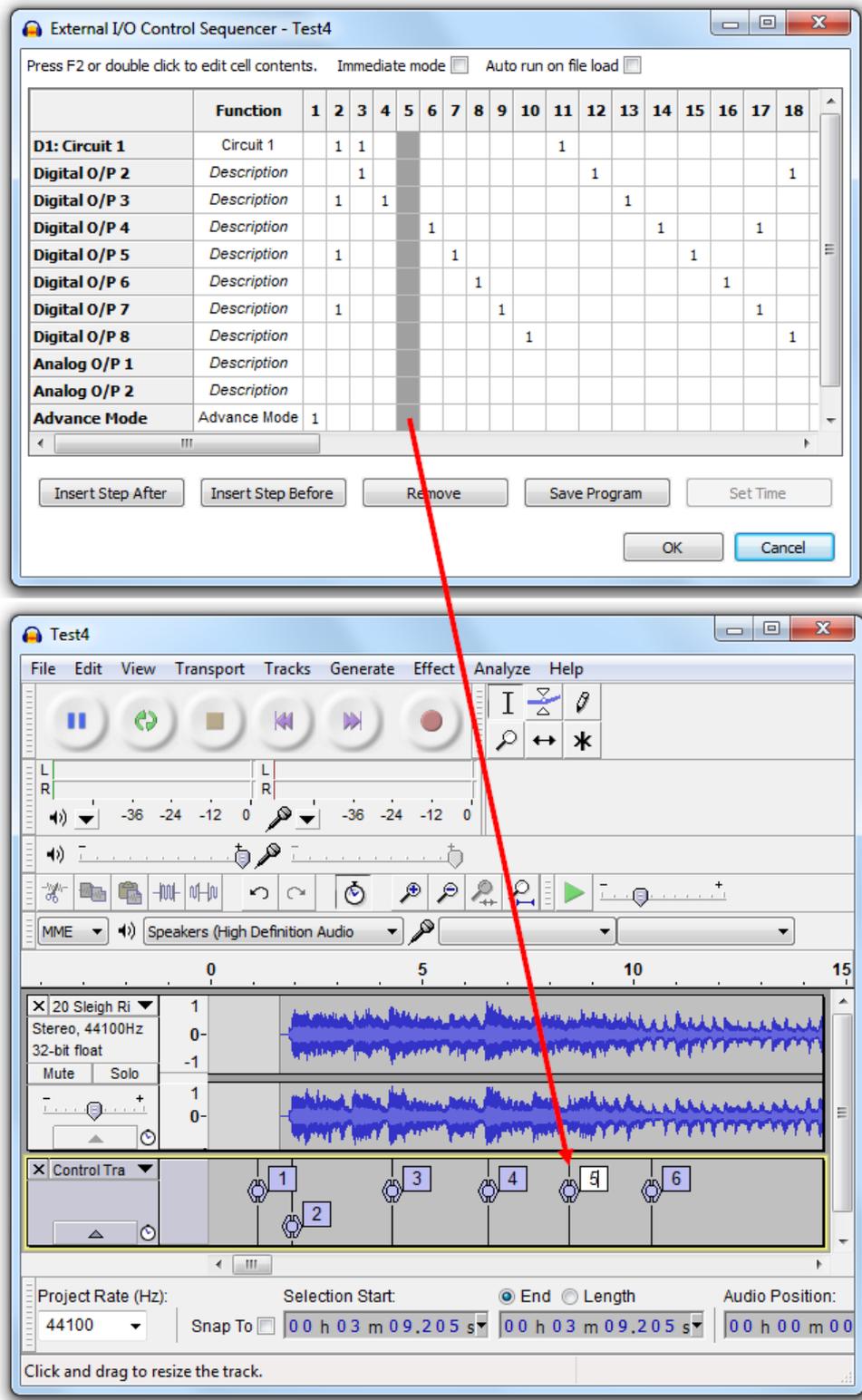


Figure 3-5, Automatic Label Creation

The other situation in which the I/O Control Program window interacts with the Control Track is when a program is running. In this case the **Set Time** button on the sequencer window is active. When it is clicked, a label with number equal to the next step in the program grid is created on the program track, and the program switches to this new step.

This allows the user to exactly synchronize the position at which changes occur with the actual sound or music being played.

### 3.3.04 Programming Methods

There are several ways of creating an I/O control project, but the following may help when deciding which is best for a given situation. There are two basic programming approaches. In the first, the I/O control program is created and then set to music; in the second decision are first made about the position at which program steps will occur and then an I/O control program with the required number of steps is created.

#### Create I/O Program and then Set to Music

- 1) Check that the K8055N/K8055/VM110N/VM110 USB Experiment Interface Boards are connected to the computer
- 2) Start AREMBE Audacity.
- 2) Import an audio track using the **File Import** menu.
- 3) Use **View External I/O control** to open the External I/O Control Sequencer window.
- 4) Enter descriptive names for each output in the **Function** column of the program grid.
- 5) Click **Insert Step After** to create an empty Step 1
- 6) Check the **Immediate mode** box and then test each output by entering a “1” into each row in turn.
- 7) Create the program by adding steps and selecting which outputs are active at each step.
- 8) Save the program by clicking **Save program**.
- 9) Return to the main program window and add a Label Track using **Track Add new Label Track**.
- 10) Rename this track “Control Track”
- 11) Start the playback by clicking the Play button in the main program window.
- 12) As the music is playing, click the **Set Time** button in the External I/O Control Sequencer once at each time that the I/O control program should switch to a new step. Note that when this is done a new label is added to the control track corresponding to the selected step.
- 13) On completion, save the project as an Audacity project. This will store control track, I/O program and music as a single set of linked files.

#### Select Program Steps in Music and then Create I/O Program

- 1) Check that the K8055N/K8055/VM110N/VM110 USB Experiment Interface Boards are connected to the computer
- 2) Start AREMBE Audacity.
- 2) Import an audio track using the **File Import** menu.
- 3) Add a Label Track using **Track Add new Label Track**.
- 4) Rename this track “Control Track” .
- 5) Scroll through the audio track and at the positions at which there are to be changes

- in the output, add a label in the control track. For simplicity labels should be numbered sequentially from left to right, starting at “1” at the left-most position.
- 6) Rename this track “Control Track Saved”. The reason for doing this is to prevent additional labels being added automatically when steps are added to the I/O control program in step 9) below.
  - 7) Use **View External I/O control** to open the External I/O Control Sequencer window.
  - 8) Enter descriptive names for each output in the **Function** column of the program grid.
  - 9) Insert the same number of steps as there are labels in the Control track created at step 5) above.
  - 10) Check the **Immediate mode** box and then test each output by entering a “1” into each row of Step 1 in turn.
  - 11) Create the program by selecting which outputs are active at each step.
  - 12) Save the program by clicking **Save program**.
  - 13) Return to the main program window and rename the label track “Control Track”
  - 14) Start the playback by clicking the Play button in the main program window and verify it runs correctly.
  - 15) On completion, save the project as an Audacity project. This will store control track, I/O program and music as a single set of linked files.

### 3.3.05 Advanced Programming Techniques

Although at first sight the concept of using a programmable label number to select a programmable I/O control step may seem complex, it makes the software much more flexible. Suppose, for example, that there is a common sequence of five output steps that needs to be run at several points through the program. If these are labeled steps 10 to 14 then at each point in the music where this sequence is to occur there simply need to be labels in the control track numbered 10 to 15. In some ways this can be thought of as a subroutine that can be repeatedly called rather than need to be programmed every time it is needed.

It is also possible to use the standard label track export-import routines to export or import control track labels. This allows them to be edited outside the Audacity program.

The AREMBE Audacity program can be started with a command line parameter representing the Audacity project to automatically load on startup. For example, to start the project test2.aup stored in the folder c:\2012 the following command line would be needed:

```
" C:\Program Files\AREMBE\AREMBEAudacity\Audacity.exe"  
c:\2012\test2.aup
```

This technique allows programs to be started automatically on system bootup.

### 3.3.06 Running I/O Control Programs

External I/O control programs are only executed if the External I/O Control Sequencer window is shown. However, the status of this window is stored within the Audacity project when it is saved or created, so if a project includes external I/O control and the External I/O Control Sequencer window was displayed when it was saved, then when it

is reloaded the External I/O Control Sequencer window will reopen as well.

If an I/O control program is saved and the **Auto run on file load** checkbox is checked, then when the project is reloaded the program will always reopen the External I/O Control Sequencer window and start without any further user intervention.

### 3.3.07 Use with Standard Audacity Program

Projects created using AREMBE Audacity can be opened using the standard Audacity software, although external I/O control is not possible. **However if a project is then saved the external I/O control program within it will be permanently lost.**

### 3.3.08 Software Version

AREMBE Audacity includes an extra tab on the program's **About** dialog, shown below in figure 3-6.

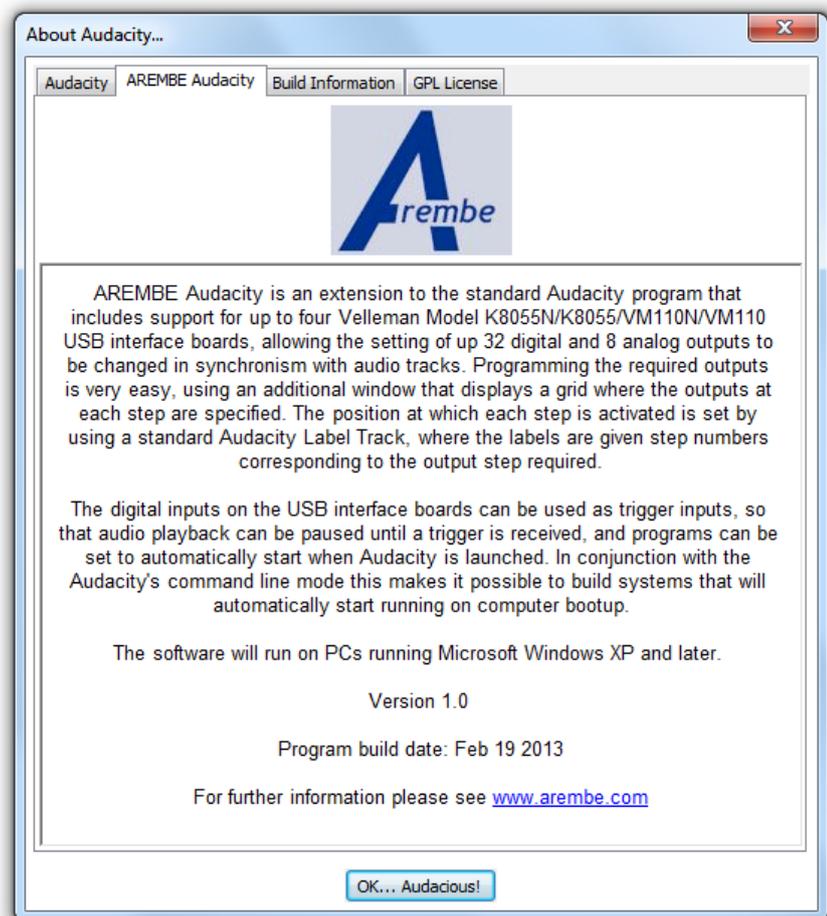


Figure 3-6, AREMBE Audacity About Dialog Tab

The software version listed on the Audacity tab is that of the main program; the version listed on the AREMBE Audacity tab is that of the extension that supports I/O control via the Velleman Model K8055N/K8055/VM110N/VM110 USB interface boards.



# Software License & Support

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## A.1 Introduction

This appendix provides details of the software license and support policy which applies to the AREMBE Audacity software.

## A.2 License

As a development of the Audacity program the software is distributed under the GNU General Public License Version 2 dated June 1991, as detailed on the program's **About** dialog.

## A.3 Software Support

AREMBE will provide technical support in the use of the AREMBE Audacity software to one registered, named, user for each activation code that is purchased to enable use of the external I/O control feature. In order to allow this to operate you must therefore complete the product registration form located on our website at **www.arembe.com**

Once registered, you may then e-mail any queries to AREMBE. You must give the product version, together with the registered user's name, on each occasion you contact us, or support will be denied.

Registered users of the software will also be informed of future product upgrades and enhancements.

## A.4 Software Errors

The AREMBE Audacity software has been extensively tested prior to release, but it is possible that some errors remain which were not revealed by the testing process. We would very much appreciate receiving, by e-mail to **info@arembe.com**, notification of any problems you discover.

When reporting problems, please try to be as specific as possible. Include details of the type of board used, the revision level of the software and the type of operating system being used.

If you feel there is a specific feature which would add to the software's functionality then please let us know. Naturally we cannot commit ourselves to adding any given new feature, but even so such suggestions are useful in identifying those areas in which the product may be improved.



- Activation Code 2-7, 2-8, A-1
- Compatible hardware 1-1, 3-1
- Control Track 2-5, 2-6, 3-4, 3-5, 3-6, 3-7, 3-8
- External I/O Control Sequencer window 2-5, 3-2, 3-3, 3-7, 3-8, 3-9
- Hardware capabilities 1-1
- Initial checks procedure 2-3
- Installation 2-1
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- Installed files 2-2
- Operating systems 1-2
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# WARRANTY

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- A. Check the **www.arembe.com** website to see if a solution to your problem is notified there
- B. If you are still having problems, please e-mail us at **info@arembe.com** with the following information
  - Product Version Number of the AREMBE Audacity software and version of Windows being used
  - Your name, address and other contact details
  - Your contact details.
  - Details of the problem

