



# ViSi-Genie Play Sound

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## Description

This Application Note explores the possibilities provided by ViSi-Genie for the **Sounds** object:

- Play
- Pause
- Stop
- Change volume
- And how to control the **Sounds** object by linking it to other objects.

This application note requires:

- Workshop4 has been installed according to the document Workshop4 Installation;
- The user is familiar with the Workshop4 environment and with the fundamentals of ViSi-Genie, as described in Workshop4 User Guide and ViSi-Genie User Guide.
- When downloading an application note, a list of recommended application notes is shown. It is assumed that the user has read or has a working knowledge of the topics discussed in these recommended application notes.

***A ViSi-Genie project is provided as example to help you along this application note.***

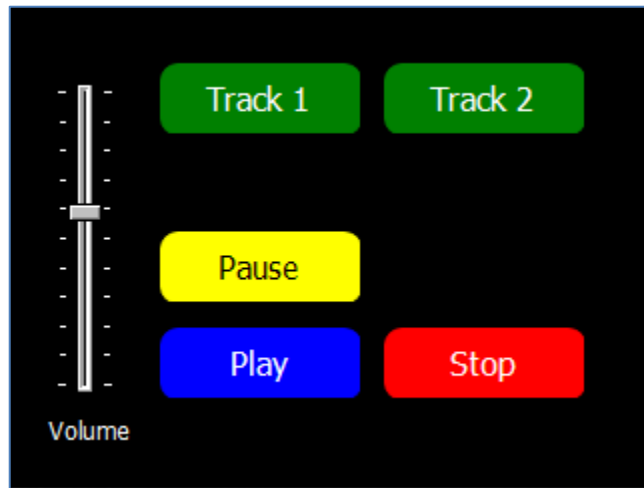
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## Application Overview

Adding sound to a graphical user interface increases the user experience dramatically. 4D Systems screens feature a built-in speaker.

The application discussed in this application note is a fully featured music player:

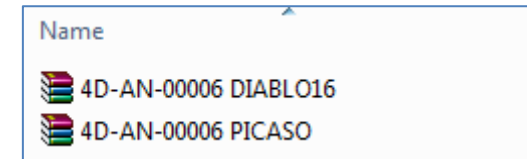


ViSi-Genie makes building such an application as simple as click-and-drop elements on the screen.

This application note describes how to add a **Sounds** object and how to customise it.

## Setup Procedure

This application note comes with a zip file which contains two ViSi-Genie projects.



For instructions on how to launch Workshop4, how to open a ViSi-Genie project, and how to change the target display, kindly refer to the section “**Setup Procedure**” of the application note:

**ViSi Genie Getting Started – First Project for Picaso Displays**

**ViSi Genie Getting Started – First Project for Diablo16 Displays**

## Create a New Project

### Create a New Project

For instructions on how to create a new ViSi-Genie project, please refer to the section “**Create a New Project**” of the application note

**ViSi Genie Getting Started – First Project for Picaso Displays**

**ViSi Genie Getting Started – First Project for Diablo16 Displays**

## The Sounds Object

You can load the ViSi-Genie project example...

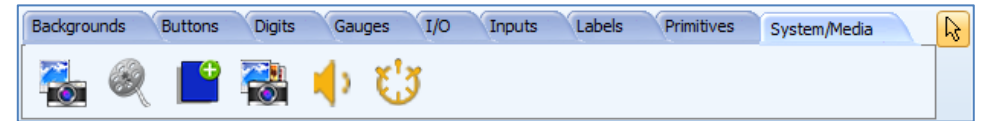
**Example: 4D-AN-00006 PICASO or 4D-AN-00006 DIABLO16**

...or follow the procedures described hereafter.

Select the **Home** menu to display the objects:



The **Sounds** object is located on the System/Media pane:



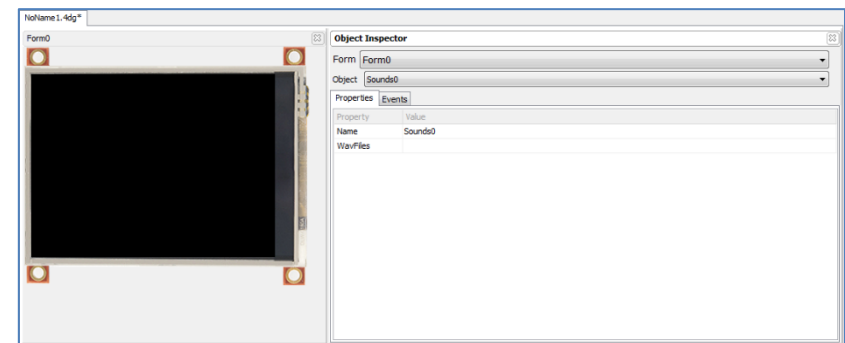
### Add a Sounds Object

Click first on the Sounds icon...

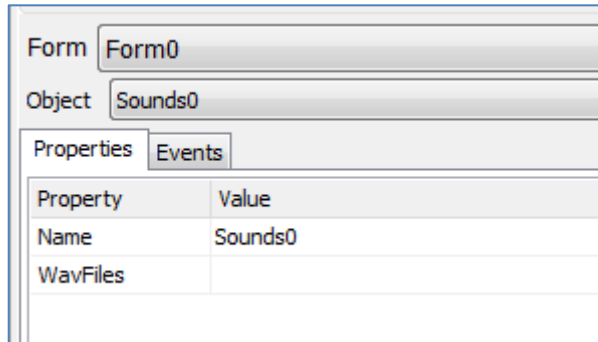


...and there is no need to click on the WYSIWYG screen to place it as the **Sounds** object is a hidden object.

If the WYSIWYG screen remains unchanged, the Object Inspector shows the newly added **Sounds0** object:

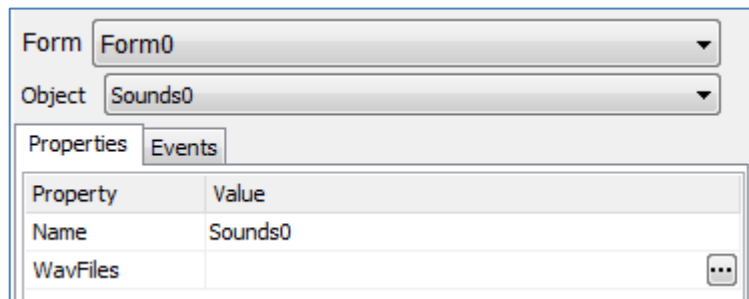



The **Sounds0** object is empty and contains no tracks to play, as shown on the **WavFiles** property:



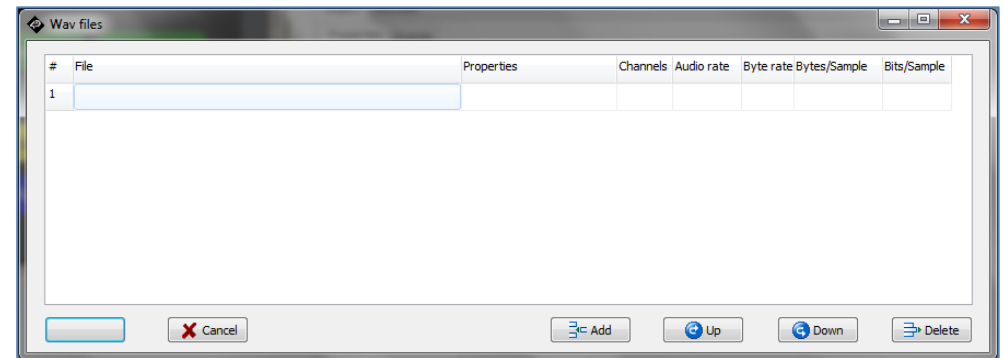
### Add Tracks to the Sounds Object

Click on the WavFiles property.



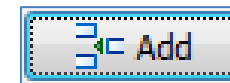
A  symbol appears. Click on it.

A new window **WAV Files** appears and shows all the tracks available:

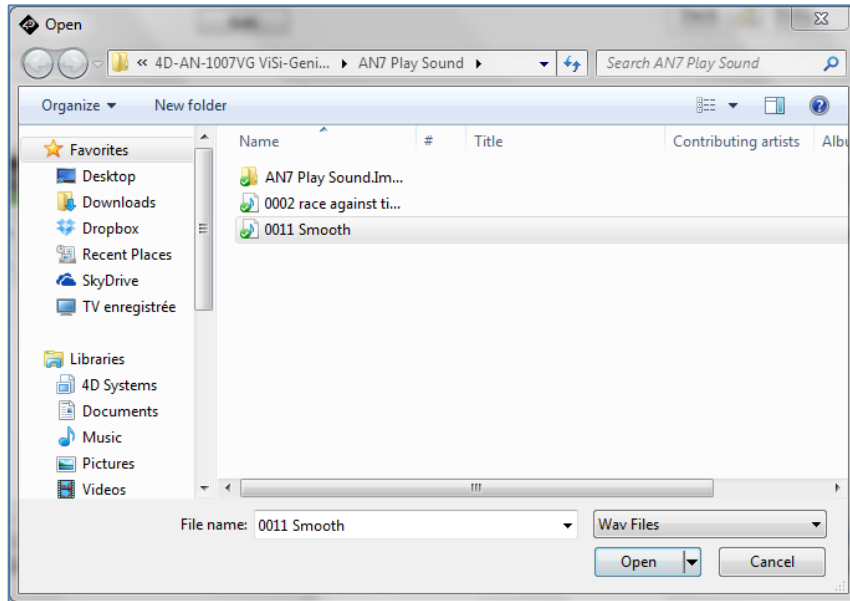


For the moment, the list is empty.

To add a track, click on

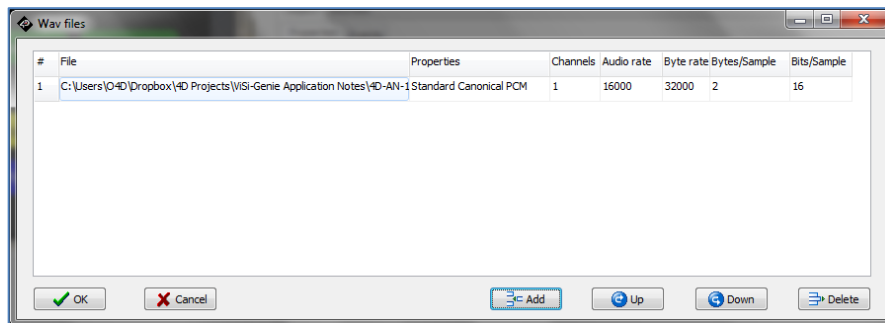


The standard Windows Open file appears:

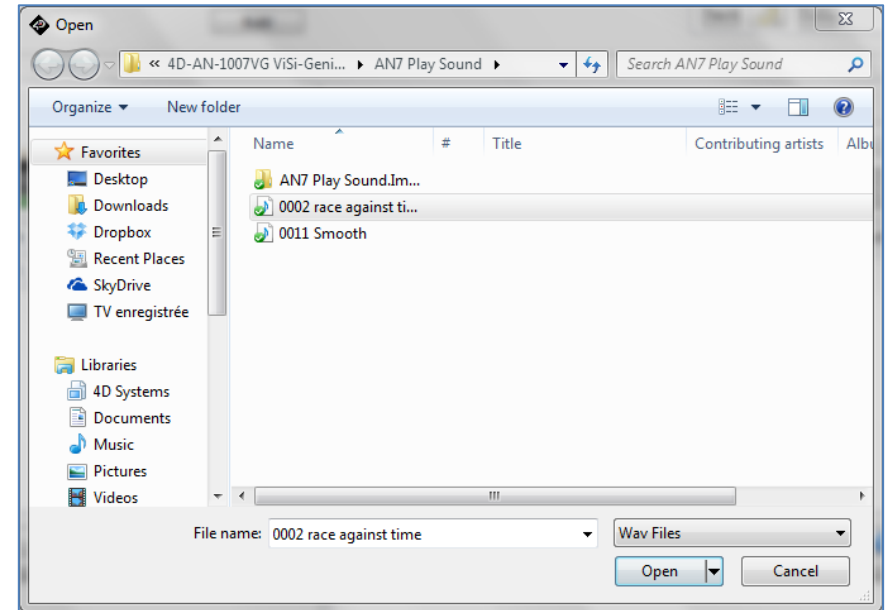


Select one WAV file, here *0011 Smooth*, and click on **Open**.

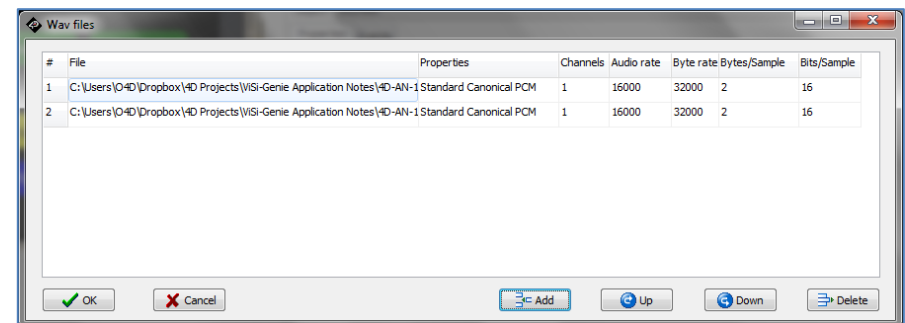
The list of tracks is updated:



Repeat the procedure to add a second track, here *0002 Race against time* and click on **Open**:



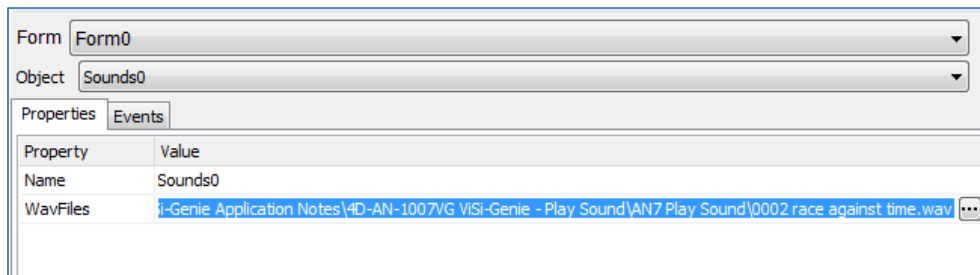
The list of tracks shows two files now, with their full paths:



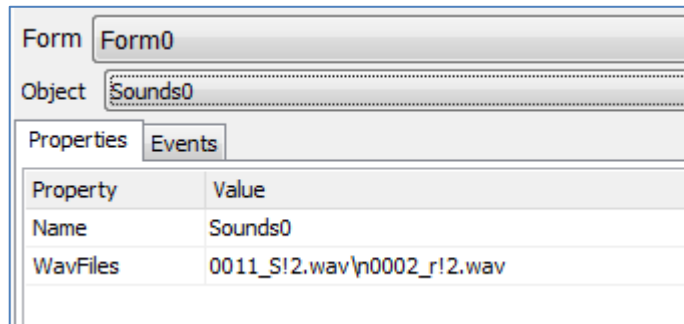
To close the **Wav Files** window, click on



The **WavFiles** property of the **Sounds0** object shows the same list:



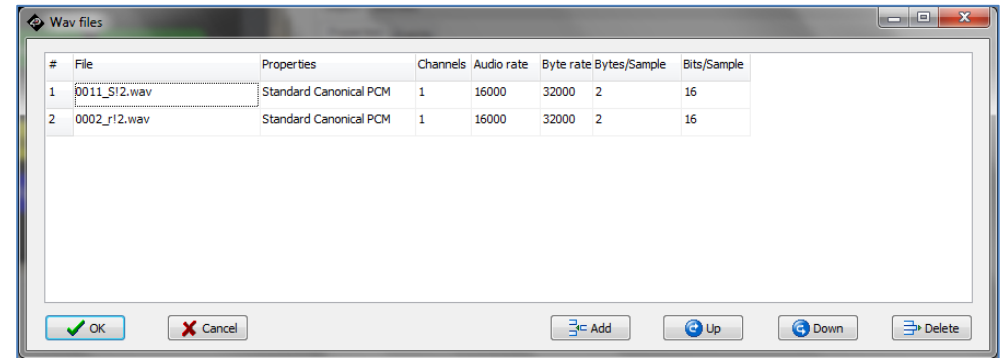
Saving the project and selecting another object then going back to the **Sounds0** object change the display of the names of the WAV files:



The WAV files are now referenced with their Windows short names.

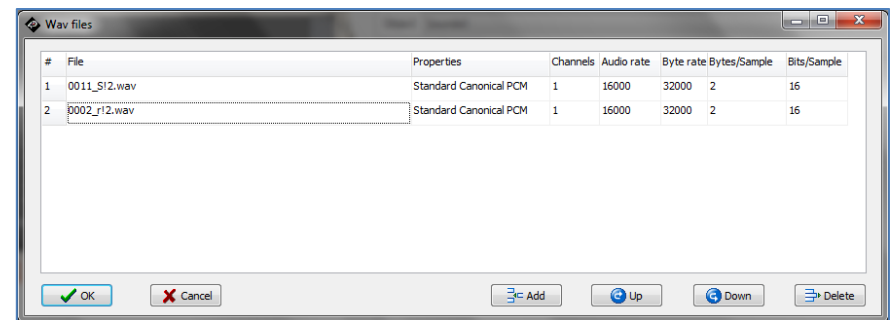


Clicking on the  of the **WavFiles** property shows the **Wav Files** window with the short names:



### Sort the Tracks

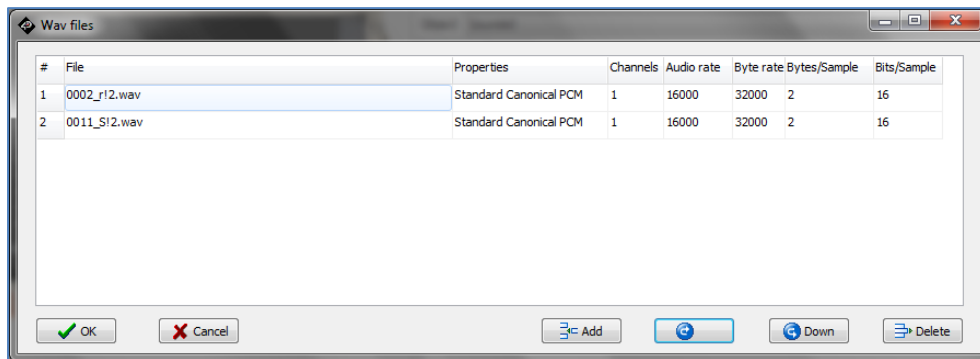
To sort the list, click on the track you want to move, here *0002\_r!2.wav* on line 2:



Click on the button **Up...**



...and the list is sorted:



The reverse for Up is the **Down** button



### Delete a Track

To delete a track, select it and press **Delete**:



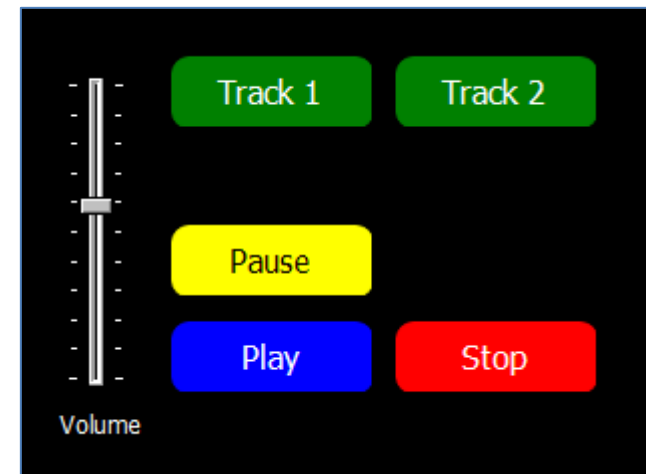
Caution: there is no confirmation dialog.

If a track is mistakenly deleted, press the **Cancel** button to quit the **Wav Files** window without taking into account the modifications and then open it again:



## Control the Sounds Object

Add five **Button** objects, a **TrackBar** and a **Label** objects to the form, and customise their appearance properties as you like, in order to obtain the following screen:



Each object, among the buttons and the track-bar, when it is pressed and released, sends a specific command to the Sounds object.



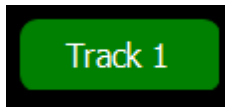
The hidden **Sounds** object has the following properties and 2 tracks:

Form	Form0
Object	Sounds0
Properties Events	
Property	Value
Name	Sounds0
WavFiles	0002_r!1.wav\n0011_S!1.wav

### Select and Play a Track

Because Sounds0 has 2 tracks, there are two buttons to select each of them.

**Winbutton0** selects the first track...



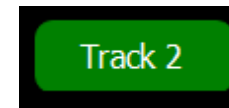
...and when pressed and released, the **onChanged** event is raised and sends the command **Sounds0Tune0**:

Form	Form0
Object	Winbutton0
Properties Events	
Event	Handler
OnChanged	Sounds0Tune0

The command **Sounds0Tune0** stands for *Tell the **Sounds0** object to play the track 0.*

Please note the first track is numbered 0, the second 1 and so on.

To select the second track, the **WinButton4** button...



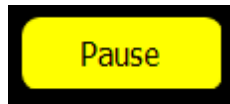
...sends the command **Sounds0Tune1**:

Form	Form0
Object	Winbutton4
Properties Events	
Event	Handler
OnChanged	Sounds0Tune1

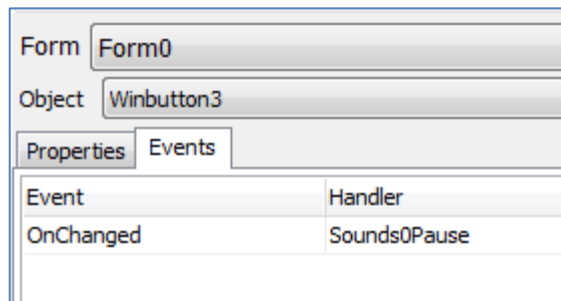
The command **Sounds1Tune0** stands for *Tell the **Sounds0** object to play the track 1.*

### Pause

To pause playing the track, the **WinButton3** button...



...sends the command **Sounds0Pause**:



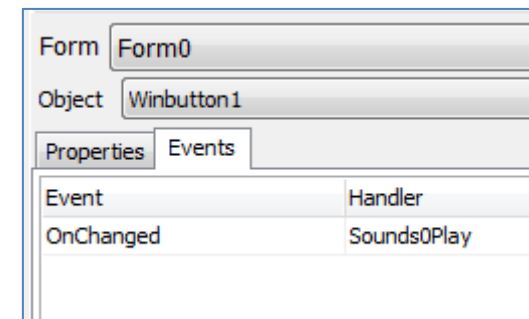
The command **Sounds0Pause** stands for *Tell the **Sounds0** object to pause playing the track.*

### Resume After Pause

To resume playing the track being paused, the **WinButton1** button...



...sends the command **Sounds0Play**:



The command **Sounds0Play** stands for *Tell the **Sounds0** object to resume playing the track being currently paused.*

## Stop

To stop playing the track, the **WinButton1** button...



...sends the command **Sounds0Stop**:

Form	Form0
Object	Winbutton2
Properties	Events
Event	Handler
OnChanged	Sounds0Stop

The command **Sounds0Stop** stands for *Tell the **Sounds0** object to stop playing the track.*

Contrary to the **Sounds0Pause** command which has a resume command with **Sounds0Play**, there is no resume command. A new **Sounds0Tune0** or **Sounds0Tune1** command is needed to start playing the track again.

## Control the Volume

The **TrackBar** object allows controlling the volume:



When pressed and released, the **onChanged** event is raised and sends the command **Sounds0Volume**:

Form	Form0
Object	Trackbar0
Properties	Events
Event	Handler
OnChanged	Sounds0Volume
OnChanging	

The command **Sounds0Volume** stands for *Tell the **Sounds0** object to set volume to the value sent.*

Minimum volume is 0 and maximum is 100, so the TrackBar should be defined accordingly:

Maxvalue	100
Minvalue	0

## Build and Upload the Project

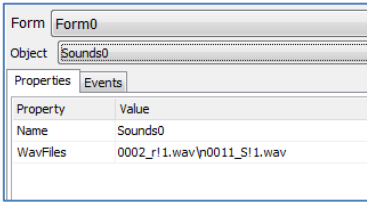

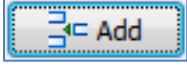

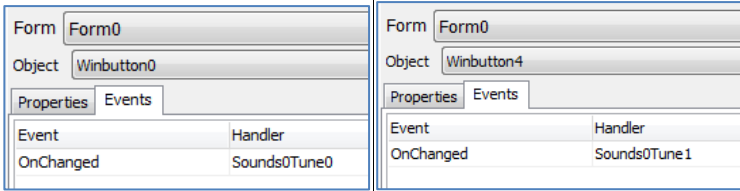

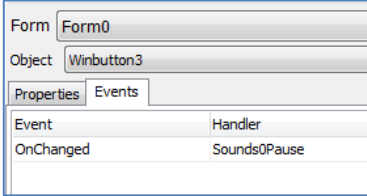

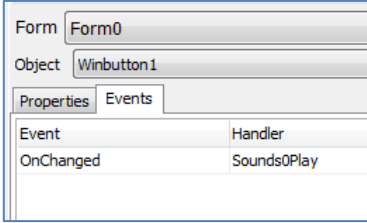
For instructions on how to build and upload a ViSi-Genie project to the target display, please refer to the section “**Build and Upload the Project**” of the application note


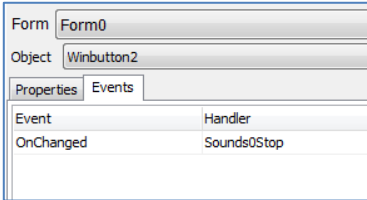
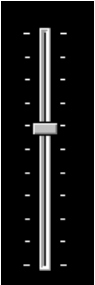
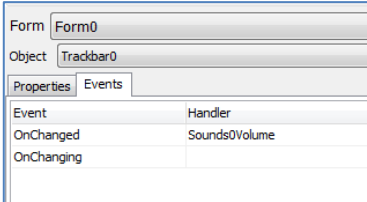
**ViSi Genie Getting Started – First Project for Picaso Displays**

**ViSi Genie Getting Started – First Project for Diablo16 Displays**

The uLCD-32PTU and/or the uLCD-35DT display modules are commonly used as examples, but the procedure is the same for other displays.

Summary

Element	ViSi-Genie	Command	Comment
Tracks	<i>hidden</i>		<p><b>Sounds object</b></p> <p>Click on  to open the Wav Files window, then  the tracks</p>
Play			Simple <b>WinButton</b> object
Pause			Simple <b>WinButton</b> object
Resume			Simple <b>WinButton</b> object

Element	ViSi-Genie	Command	Comment				
<p><b>Stop</b></p>			<p>Simple <b>WinButton</b> object</p>				
<p><b>Volume</b></p>			<p><b>TrackBar</b> object</p> <table border="1" data-bbox="1646 592 2063 684"> <tr> <td>Maxvalue</td> <td>100</td> </tr> <tr> <td>Minvalue</td> <td>0</td> </tr> </table>	Maxvalue	100	Minvalue	0
Maxvalue	100						
Minvalue	0						

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