AudioScience Win95 Driver FAQ

The following documentation discusses answers to frequenlty asked questions about the AudioScience Windows 95/98 Multimedia driver.

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1) Why do the meters and time counter stop before playback has completed?top

This will only occur if the buffering setting in ASIWAV.INI is set to be

Hardware Buffering=on

Application writers may trigger off any of several different events to update the peak meters and/or the time counter. If the application writer performs an update when an audio buffer is returned from the driver, there will be a significant pause in updating at the end of playback while the on-board audio buffers empty. App. note 0002 in the technical section of the AudioScience website contains more detail about how audio buffers are managed by the ASI driver.

It follows from the above that the best method for triggering GUI updates is to use a timer tick. A timer run at a rate of around 50ms is recommended.

2) Why doesn't the peak meter go down when I lower the volume control?top

On the ASI41xx and ASI1201 the volume control is "down-stream" from the peak meter. The audio output configuration is shown below for N streams (devices) and M lineouts:

Audio => Peak Meter => N x M mixer => line out

The peak meter therefore reflects the unmodified audio signal peak level, BEFORE the signal is passed through the volume controls.

3) How do I tell what version of the driver I am running?top

There are a couple of ways to do this. (1) Using Windows explorer, highlight c:\windows\system\asiwav16.dll and right click with the mouse. Select the properties option and then click on the version tab. The file version field tells you what version of the driver you have. (2) Run ASIMIXAP.EXE, the AudioScience mixer application (available from the download area of this website), and click on the Help//About menu option. The mixer driver version can be read from the dialog box. The mixer driver version is the same as the WAV driver version since they are both the same driver.

4) How do I set the level/trim?top

The level/trim settings can be set using ASIMIXAP.EXE, available from the download section of this website. The settings are stored in c:\windows\asiwav.ini so that they can be "remembered" and restored when the computer is powered down and then restarted. Note that it adapter types are changed, the settings will revert to the default settings of +14dBu. An example of changing adapter types would be swapping an ASI4113 with an ASI4111.

5) Why isn't the time counter correct?top

This will only occur if the buffering setting in ASIWAV.INI is set to be

Hardware Buffering=on

Some applications do not use the waveOutGetPos() call to compute the playback position. If an application counts bytes transferred to the adapter to work out the playback position it will get the wrong result because of the large buffers on the audio adapter. The correct method is to use the waveOutGetPos() call which gets an accurate samples played count from the DSP on adapter.

6) Why is my call to waveOutGetPos() returning incorrect numbers?top

The AudioScience driver supports return types of TIME_MS and TIME_SAMPLES. If you call this function requesting TIME_BYTES, wType will be changed to TIME_MS and the time in milliseconds will be returned. TIME_BYTES is not supported.

7) Why do peak meters differ between Antex and AudioScience?top

Antex and AudioScience implement peak meters differently. Application code must therefore handle peak meter values differently for Antex and AudioSciecne drivers. Antex peak meters return a number in the range of -32768 to 32767. AudioScience chose a peak meter return range that follows that implemented by popular SoundBlaster type products, ie., values in the range of 0 to 32767. Driver type can be determined by examining the manufacturer Id returned by a call to mixerGetDevCaps(). Microsoft has assigned AudioScience a manufacturer Id of 217.

8) How do I find what controls are supported by an AudioScience adapter?top

A complete listing of all AudioScience controls may be dumped using the ASIMIXAP.EXE program (available in the download section of this website). Select Help/Line and Controls for a complete listing of lines and controls available on the current adapter. The end of the listing defines control types and structures supported by AudioScience. The code used to query and generate the lines and controls listing can be displayed by selecting Help/Query Mixer Source Code.

9) How much hardware audio buffering do AudioScience adapters provide?top

The amount of hardware buffering an AudioScience adapter provides depends on the adapter type. All adapters of type ASI4xxx have at least 512 kbytes available per WAV device.

The amount of buffering actually utilized depends on a number of factors. The default driver buffering mechanism is configured to return an audio buffer to the calling application once it has been completely played. In this configuration, the maximum buffering available equals the smaller of 1) total buffering allocated in the user application, and 2) the adapter's hardware buffer size.

To guarantee maximum usage of hardware buffering, the following ASIWAV.INI field should be edited to read:

Hardware Buffering=on

This will allow audio buffers to be returned to the calling application before they have been played and the hardware buffer will be completely filled. Note that the last audio buffer in the queue is not returned until it has been completely played.