SoundCheck™
Help Contents

SoundCheck™ is a product of
Voyetra Technologies.

NOTE

Before running any of SoundCheck's diagnostics, make sure to locate and run the Mixer Application that came with your sound card. You will most likely need to run this application again during testing to adjust volume and settings.

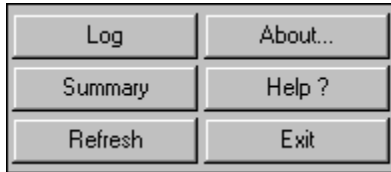## The following Help Topics are available:

MIDI

Digital Audio

CD Audio

Utilities

Utilities

The status box at the right of the WAV and MIDI modules suggest procedures to follow.

Click on the button about which you wish to learn more.

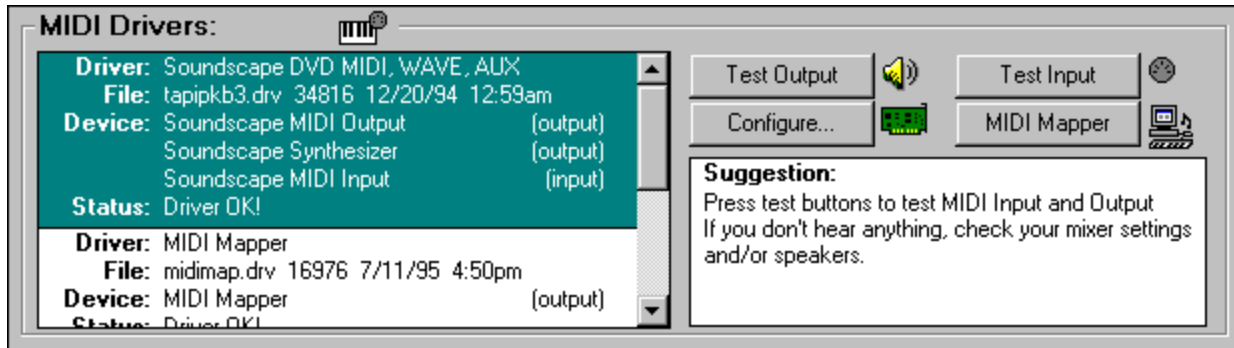|	
Log	About...
Summary	Help ?
Refresh	Exit

MIDI Diagnostics

When the program is opened, the MIDI diagnostic screen shows all the installed MIDI drivers with the driver File Name, input and output devices used by the driver and the status of the driver, shown as an OK or Error condition.

File, device and status information for the Windows MIDI Mapper setup are also shown.

If the status of any MIDI driver does not read OK, consult the manual for the device to make sure the hardware and drivers are correctly installed.

Click on the area of the about which you wish to learn more.

Once the status box shows OK, you can configure and test the MIDI device. If you have performed device configuration changes from within SoundCheck, click the refresh button to update SoundCheck before performing any of the tests.

Digital Audio Diagnostics

When the program is opened, the WAV diagnostic screen shows all the installed WAV drivers with the driver File Name, input and output devices used by the driver and the status of the driver, shown as an OK or Error condition.

File, device and status information for the Windows Sound Mapper are also shown.

If the status of any WAV driver does not read OK, consult the manual for the device to make sure the hardware and drivers are correctly installed.
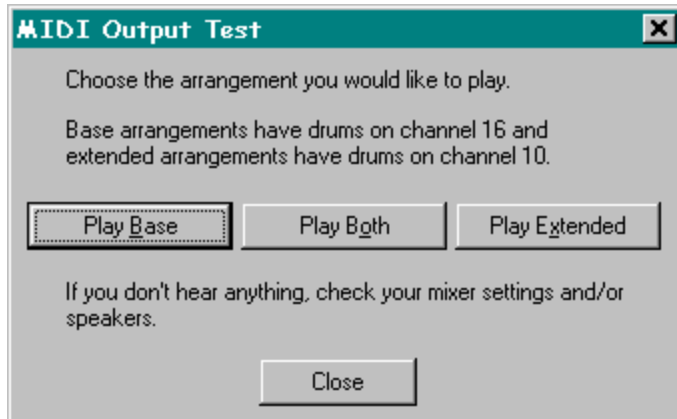
Click on the area of the about which you wish to learn more.
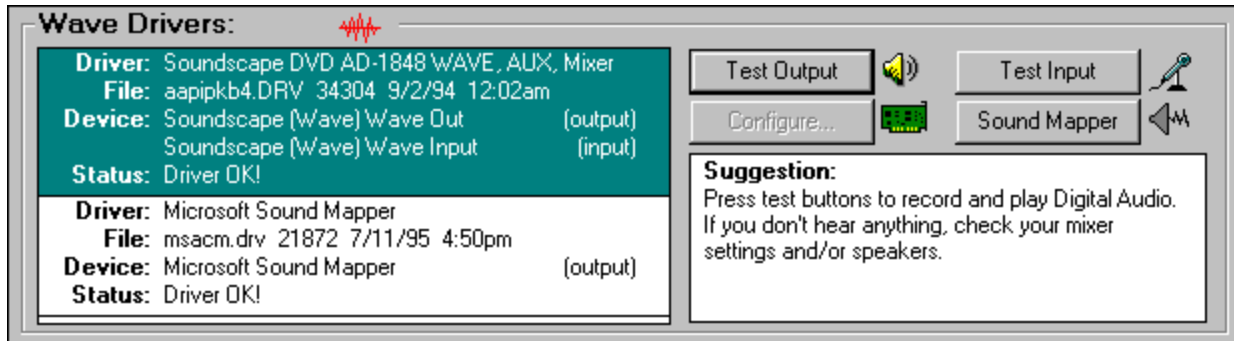
Once the status box shows OK, you can configure and test the device. If you have performed device configuration changes from within SoundCheck, click the refresh button to update SoundCheck before performing any of the tests.

Test MIDI Output

Clicking on the Test Output button brings up a series of MIDI Output Test dialog boxes.   The first box allows you to pick which MIDI device to test.   In the second box, you can elect to play a Base, Extended or Dual (Both) MIDI test file. A sample file for each type of synthesizer is played when you click the appropriate button.

```
┌─────────────────────────────────────────────┐
│ MIDI Output Test                        [X] │
│                                              │
│   Choose the arrangement you would like to play. │
│                                              │
│   Base arrangements have drums on channel 16 and │
│   extended arrangements have drums on channel 10. │
│                                              │
│  ┌──────────┐   ┌──────────┐   ┌──────────────┐ │
│  │ Play Base │   │ Play Both │   │ Play Extended │ │
│  └──────────┘   └──────────┘   └──────────────┘ │
│                                              │
│   If you don't hear anything, check your mixer settings and/or │
│   speakers.                                  │
│                                              │
│           ┌──────────┐                       │
│           │  Close   │                       │
│           └──────────┘                       │
└─────────────────────────────────────────────┘
```

Note that the SoundCheck diagnostic program bypasses the MIDI Mapper (unless the MIDI Mapper itself is being tested) and plays the file according to the parameters set by the device. This allows you to differentiate between incorrect MIDI Mapper settings and device driver problems.

By comparing the sound of the three different types of MIDI files as they play, you can determine the type of synthesizer in use and, consequently, which type of file to select for your MIDI programs.

See also...

Configure MIDI

MIDI Mapper

Test MIDI Input

Clicking on the Test Input button opens the MIDI Input dialog box. The Input dialog box shows a row of 17 LED's for each MIDI device connected. The first 16 LED's correspond to the 16 channels of   MIDI and the additional LED is for any MIDI messages that are not channel specific. One row of LED's is shown for each MIDI device connected and the port assignment for the device is shown alongside it.

As you play the sequencer or any other MIDI device connected to your system, one or more of the LED's will light to indicate which MIDI channel is in use.

MIDI input testing allows you to quickly determine the following:

1   Whether or not MIDI data is being received from the MIDI keyboard.

2   On which channel it is being received.

3   Which MIDI jack is connected to which MIDI device.

4   Whether or not the problem is a MIDI hardware problem.

See also...

Configure MIDI

MIDI Mapper

Configure MIDI

Clicking on the Configuration button brings up a dialog box in which you can change the configuration of the currently selected driver. Although you can access the same utility from the Windows Control Panel, this function allows you to change driver configuration without exiting SoundCheck. Once you've done this, click the refresh button so that SoundCheck will recognize the configuration changes.

If the change in the configuration settings was successful, the driver will be shown as OK in the status box. If not, you may need to change the jumper settings on your sound card. See your sound card manufacturer's manual for details.

See also...

> Test MIDI Output
>
> Test MIDI Input
>
> MIDI Mapper

MIDI Mapper

Clicking on the MIDI Mapper button opens the Windows MIDI Mapper configuration screen. If you have already determined that your synthesizer is set incorrectly, you can use this utility to set it to the correct channel assignments:

- Base Level Synth's, typically FM synthesizers, use channels 11 - 16 with drums mapped to channel 16;

- Extended Level Synth's, also FM synthesizers, use channels 1 - 10 with drums on channel 10;

- General MIDI, typically external keyboards as well as Wavetable synthesizers, use channels 1 - 16 with drums on channel 10.
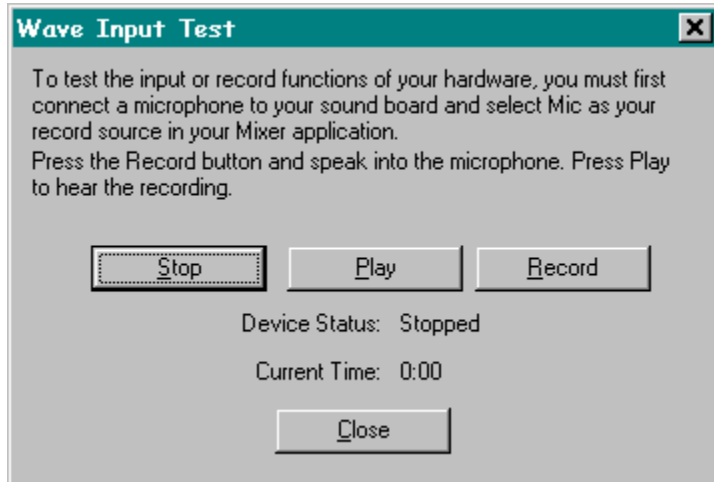
See also...

[Test MIDI Output](#)

[Test MIDI Input](#)

[Configure MIDI](#)

Test Digital Audio Input

Clicking on the Test Input button in the Wave Drivers module opens the Wave Input Test dialog box. You can use this box to check the recording capability of your sound card.

Wave Input Test

To test the input or record functions of your hardware, you must first connect a microphone to your sound board and select Mic as your record source in your Mixer application.
Press the Record button and speak into the microphone. Press Play to hear the recording.

[Stop]   [Play]   [Record]

Device Status: Stopped

Current Time: 0:00

[Close]

Click the Start button to begin recording, record a few seconds of speech or music through the recording source your mixer is set to, then click the Stop button.

If you're unsure of your mixer settings, check the documentation that came with your sound card.

Play back your test recording by clicking the Play button.

See also...

Test Digital Audio Output

Configure Digital Audio

Sound Mapper

Test Digital Audio Output

Clicking on the Test Output button in the Wave Drivers module plays a test file. A dialog box appears to indicate that the file is actually playing.

If there is no sound, first check the most likely sources of digital audio output problems:

- Cables or headphones connected incorrectly.
- Incorrect sound card volume setting.

If these are not at fault, use the Configure Digital Audio and Sound Mapper utilities along with your sound card's manual to locate the problem.

See also...

Test Digital Audio Input

Configure Digital Audio

Clicking on the Configuration button displays a dialog box in which you can change the configuration of the currently selected driver. Although you can access the same dialog box from the Windows Control Panel, this function allows you to change driver configuration without exiting SoundCheck. Once you've done this, click the refresh buttons so that SoundCheck will recognize the configuration changes, then check to make sure driver status is OK. If it is, go on to run the Digital Output test.

See also...

    Test Digital Audio Output

    Test Digital Audio Input

    Sound Mapper

Sound Mapper

Clicking on the Sound Mapper button to opens the Microsoft Sound Mapper utility. This lets you change digital audio settings.

See also...

Test Digital Audio Output

Test Digital Audio Input

Configure Digital Audio

Play Both

Plays a pre-selected file that conforms to the MIDI dual level synthesizer standards. Use this type of file if you have a General MIDI synthesizer.

Play Base

Plays a pre-selected file that conforms to the MIDI Base Level synthesizer standards.

Play Extended

Plays a pre-selected file that conforms to the MIDI Extended Level synthesizer standards.

Stop

Stops recording or playing the temporary WAV file you've created for this test.
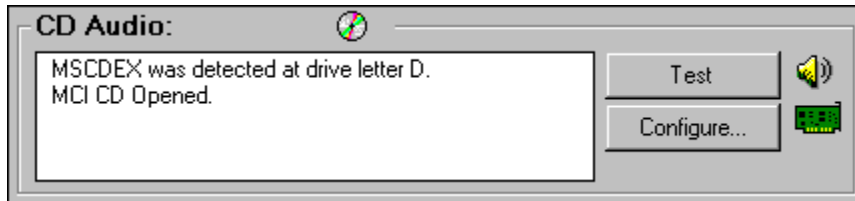
Play

Plays the temporary WAV file you have just recorded.

Record

Creates a WAV file for testing the Record function of the digital audio device currently in use.

CD Audio

When SoundCheck is opened, the CD information window shows the type of CD driver, the drive designation of your CD-ROM and its status.

Check the information box at the left of the CD Audio module to make sure that SoundCheck has detected the MSCDEX driver, a multimedia utility that enables your computer to read CD audio tracks as data. Also make certain that the MCI-CD driver has been Opened. If this box shows that SoundCheck was unable to locate the MSCDEX driver, check your Autoexec.bat file to make sure a line for the MSCDEX driver appears there. For an example, see your hardware documentation.

If no line for MSCDEX exists in the Autoexec file, you must install the MSCDEX utility and change your Autoexec file to include it. This can be done either through the MS-DOS (consult your DOS Manual) or the Setup Program that came with your CD-ROM or sound card.

If SoundCheck shows an Error condition in opening the MCI-CD driver, click the Configure button and set up the CD driver.

Before beginning to test, make sure there is a disc containing audio tracks currently in the CD-ROM drive.

Once everything checks out OK, click the Test button to test play a CD Audio track.

A dialog box appears to indicate that the CD audio is playing.

Configure CD Audio

Clicking the Configure button will open the Drivers Box in Windows Control Panel and automatically configure it for CD Audio. If you have more than one CD-ROM installed, you will be asked to select which one you want to use with Windows Audio.

See also...

[CD Audio](#)

Refresh Button

When pressed, this button updates all of SoundCheck's information displays.   This is useful when making changes to any of the configurations.

Test CD Audio

Plays the first track of the Audio CD.

Device Driver Display Area

This area lists all the installed devices and drivers.   Drivers are separated by a divider line.   Only one driver may be tested at a time. To select a different driver, simply click on it.

Log Button

Opens Notepad and creates a log file containing extensive configuration information. This file contains information generated during testing that can be useful to tech support people. SoundCheck is designed, of course, to enable you to resolve hardware and software problems on your own from the computer screen.

Summary Button

The Summary screen displays an overview of your systems audio capabilities.   You can also run a speed diagnostic of your system from this screen.   Just select which hard drive you would like to test and click the Run button.

Not all sound card actually play at precisely the same sample rate. SoundCheck can measure how accurate the playback of your sound card is. At the bottom of this screen is the Wave Sync button.   This runs a diagnostic to test the actual sample rates of your sound card.

See also...

[Wave Sync](#)

About Button

Displays what version of SoundCheck you have.

Help Button

Opens Online Help.

Exit Button

Closes SoundCheck and returns to Windows.

Wave Sync

What is Wave Sync?

Voyetra's multimedia software, such as Digital Orchestrator Plus™ and Recording Station,™ have the capability to synchronize MIDI with digital audio. For MIDI and digital audio to synchronize accurately, these applications contain a feature called Wave Sync. This allows the MIDI and digital audio to "lock up" with each other so that they are in perfect sync. While the use of Wave Sync is not necessary, it can be a powerful tool that ensures MIDI and digital audio are synchronized accurately.

NOTE

If your are using Digital Orchestrator Plus to slave to SMPTE or MTC, the Wave Sync feature will have no effect when synchronizing the MIDI and digital audio.

The standard sample rates that most sound cards use are 11025H (11.025kHz), 22050Hz (22.05kHz), and 44100Hz (44.1kHz). Not every sound card manufactured has that exact sample rate. This can cause a drift in synchronization. The Wave Sync option in SoundCheck will determine what the true sample rate of your sound card is. With this information you can adjust the settings in your application to allow the synchronization to work properly.

To use the Wave Sync feature:

1   Choose the Wave Out Device. (This is how sound will be played out of your sound card. Usually you will see the name of the sound card contained within this box.)

2   Select the Sample Rate you desire to test.

3   Click the Start button.

When you are done, also check the Wave In Device by selecting "None" for Wave Out and selecting the sound card for Wave In.

You should repeat these steps for all sample rates which you plan on using.

If your sound card supports Full-Duplex, you may want to test Wave In and Wave Out at the same time to ensure that it is working correctly.

You will notice numbers calculating.

• The Elapsed Time is a measure of how much time has passed, in milliseconds, since you clicked the Start button.

• The Actual Sample Rate is the true sample rate of the sound card. As time passes, the accuracy of this number increases. You will be able to see the Actual Sample Rate number begin to stabilize as time goes on.

• The Deviation is the running margin of error that your sound card's drivers may produce.

The timing of digital audio playback is handled solely by your sound card driver. If you have a multimedia program that synchronizes digital audio with another function (such as MIDI to WAV) it must ask the sound card exactly where into the playback of the WAV file it is at any given moment. This information is gathered by the application communicating with your sound card's WAV driver. This information is then used to calculate at what point the WAV file should sound. If there is a large discrepancy in this number (where the sound is and where the sound card driver thinks it is), the application will not play the sound at

the correct moment. This can result in an out of sync playback.

Furthermore, although the sample rate of your card is relatively stable, the timing information the WAV driver reports may not be precise (this is mostly due to the way the driver is written, and to a much lesser extent, any other normal processes in your system that might be occupying your CPU).

Deviation will continue to process for about 10 seconds, and then the deviation number appears. This time is needed to calculate the value of the deviation. Soon, the numbers start to stabilize. You should wait for a couple of minutes until the digits have stopped changing to be sure the Actual Sample Rate field reports accurately. Note that this may take a LONG time.

If the Deviation number is:

- Between 0 and 10 — Excellent for using Wave Sync
- Between 11 and 50 — Good
- Between 50 and 500 — Fair (it may be a bit unstable)
- Over 500 — Do not use the Wave Sync option

Be aware that many sound cards have a very low Wave Out deviation and a high Wave In deviation.