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DSP Solutions Parallel Audio Device Driver, v2.10

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Setup Menu

This dialog box allows the user to select a device, setup mode, or to change driver options.

Device Model

Shows the default sound device model. In most cases, the model displayed will reflect the user's device. If the incorrect model is displayed, choose the correct model from the drop-down list.

Setup Mode

Choose either Automatic or Manual setup. Automatic setup is the default, and is normally the best choice. Manual setup can be used by persons familiar with PC hardware and software, but is not normally necessary.

Setup

Click on this button to perform the setup in the specified mode. The user is prompted before the setup is actually performed

Options

Displays the Audio Driver Options dialog box. The Audio Driver Options dialog allows the user to set the default values for certain features of the audio driver.

Exit

Click on this button to exit Setup without performing an automatic or manual setup. Changes made in the Audio Driver Options dialog box will remain in effect.

Audio Driver Options

This dialog box allows the user to set the default values for certain features of the audio driver. These values will be loaded each time Windows is started. The DSP Solutions *DSPanel* utility also allows the user to change these values after the initial setup is complete.

Mix WAVE/MIDI

When checked, the audio driver allows both digitized audio (.WAV) and synthesized audio (.MID,.RMI,etc.) files to be played at the same time. When cleared, the driver reports that the device is busy if an application attempts to start playing one type of sound while the other is already being played. Because of limitations imposed by the mixing of WAVE and Synthesis modes, it is desirable to leave this box cleared unless a specific application requires combination of the two audio types.

Note: When this box is checked, the following limitations apply:

- Only 8 bit linear PCM format (standard .WAV files), or MuLaw PCM files may be played with the WAVE driver.
- Software volume control of .WAV files is disabled.

Mix Audio-In/AGC On

This control is labeled 'Mix Audio-In' for the PORT•ABLE Sound Plus and CD•NET Sound products, and 'AGC On' for the Digispeech Plus product.

Mix Audio-In

When checked, the audio driver allows audio from the Audio-In jack to be mixed with the digitized and/or synthesized audio from the sound device. Clear this check box if you want the external sound source to be temporarily muted while sounds from the computer are being played.

Notes: 1) When the sound device is NOT playing digitized and/or synthesized audio, sound from the Audio-In jack is automatically routed through the sound device speaker.

2) AGC is always enabled on the PORT•ABLE Sound Plus product. It is hardware jumper selectable on the CD•NET Sound product.

AGC On

When checked, the audio device automatically adjusts the recording gain based on the surrounding noise level. If the noise level is low, the recording gain is raised, if the noise level is high, the gain is reduced.

For applications such as speech recognition systems that require constant recording gain, clear this check box.

Note: 1) Audio-In mixing is always enabled on the Digispeech Plus product.

Default Startup Volume

These controls allow the user to set the default sound level for playback of digitized audio (.WAV) and synthesized audio (.MID,.RMI,etc.) files; and to set the default gain for digitized audio recording. The defaults are read from SYSTEM.INI each time Windows is started. The range is 0 - 31, with 31 being the maximum volume.

The current Windows session volume settings are also affected by these controls.

During the Windows session, applications such as the DSP Sound Station may affect these settings. The audio driver retains the level set by the last application to access the driver until Windows is exited and restarted.

Note that if **Mix WAVE/MIDI** is selected, only the synthesized audio volume will be in effect. The digitized audio volume value will be used only when the **Mix WAVE/MIDI** checkbox is cleared.

Advanced

The Advanced section contains driver parameters that are determined during Automatic or Manual setup. These parameters may be altered by the user if problems in sound quality or driver communications are encountered. **This section should be changed *only* after consultation with DSP Solutions Technical Support.**

These parameters are not available until the automatic or manual setup has been performed at least once.

Automatic Setup

Automatic setup is the default choice for configuring the audio device and driver. The driver scans the system for the selected device model, determines port and IRQ values, and performs appropriate communications and calibration tests.

In addition to the standard Windows audio interface, Automatic Setup configures the driver to emulate a Sound Blaster in the DOS Box using the following default parameters:

| | |
|----------------------------|------|
| Sound Blaster Port: | 220h |
| Sound Blaster Interrupt: | IRQ7 |
| Sound Blaster DMA Channel: | 1 |

These defaults are sufficient for the majority of DOS software written for the Sound Blaster card. If a specific application or PC configuration requires different values, reconfigure the driver using Manual Setup.

Note that the values listed above are Sound Blaster **emulated values**, and do not bear any direct correlation to the DSP Solutions hardware parameters detected by Setup during installation.

Manual Setup

Manual setup can be used if the precise hardware configuration of the audio device connection to the PC is known. Manual setup is faster and is less intrusive than the Automatic test, since the automatic test must scan all ports on the system until the audio device is detected.

Printer Port

Select the parallel port used by the audio device. This control presents a list of available ports in the system, as determined by the PC BIOS. If CD•NET Sound is selected as the device model, the list consists of the jumper selections available.

Changing the **Printer Port** forces the **I/O Base** to display the physical location of the selected port.

I/O Base

Select the physical location of the parallel port used by the audio device. If the Printer Port list does not contain a selection with the correct physical location, the location may be entered in this edit box. Values are displayed and entered in hexadecimal notation.

Changing the **I/O Base** forces the **Printer Port** to display the corresponding LPT port number. If a value is entered that does not correspond to one of the ports available on the PC, the notation 'LPT?' will appear in the Printer Port control.

Note: The following I/O port ranges are not accepted by the I/O Base control:

0000h - 0108h
01F0h - 01F8h
0200h - 020Fh
02F8h - 02FFh
0320h - 0324h
03B4h - 03BBh
03C0h - 03DFh
03F0h - 03FFh

Warning: Incorrect I/O Base selection may cause erratic operation of the PC.

Hardware Interrupt

Select the physical interrupt used by the audio device. This control presents a list of common interrupts. Selection must be made from this list.

Warning: Incorrect interrupt selection may cause erratic operation of the PC.

Sound Board Emulation

Sound Board emulation allows you to run DOS programs that require Sound Blaster and/or ADLIB compatible sound cards from the Windows DOS Prompt. Windows Enhanced mode is required.

| | |
|--------------------------------|--|
| Emulate Sound Blaster - | Check this button to run DOS programs, which use Sound Blaster (TM) or ADLIB (TM) audio cards. |
| Emulate Adlib - | Check this button to run ADLIB audio card software without |

digitized speech.

None -

Check this button to disable emulation of Sound Blaster and ADLIB compatible boards.

Base I/O Port -

Select the Sound Blaster or ADLIB base I/O port. This value is the value requested by DOS programs that ask the user to specify a Sound Blaster port.

Interrupt -

Select the Sound Blaster or ADLIB interrupt. This value is the value requested by DOS programs that ask the user to specify a Sound Blaster interrupt.

DMA Channel -

Select the Sound Blaster or ADLIB DMA channel. This value is the value requested by DOS programs that ask the user to specify a Sound Blaster DMA channel.

The default values for the above are sufficient for the majority of DOS software written for the Sound Blaster card.

Note that the values listed above are Sound Blaster **emulated values**, and do not bear any direct correlation to the DSP Solutions hardware parameters specified in the **Audio Device Parallel Port** section.

Default Setup

Click this button to force selection of the default values for all fields in this dialog box.

Device Model

Shows the default sound device model. In most cases, the model displayed will reflect the user's device. If the incorrect model is displayed, chose the correct model from the drop-down list.

Automatic Setup

Automatic setup is the default choice for configuring the audio device and driver. The driver scans the system for the selected device model, determines port and IRQ values, and performs appropriate communications and calibration tests.

Manual Setup



Manual setup can be used if the precise hardware configuration of the audio device connection to the PC is known. Manual setup is faster and is less intrusive than the Automatic test, since the automatic test must scan all ports on the system until the audio device is detected.

Setup

Click on this button to perform the setup in the specified mode. The user is prompted before the setup is actually performed.

Options



Displays the Audio Driver Options dialog box. The Audio Driver Options dialog allows the user to set the default values for certain features of the audio driver.

Exit

Click on this button to exit Setup without performing an automatic or manual setup. Changes made in the Audio Driver Options dialog box will remain in effect.

Help

Click on this button to enter the Audio Driver Help system (you are in it now). Help for the current dialog box will be displayed.

DSP Solutions, Inc.

DSP Solutions is a manufacturer of high quality audio peripherals for portable computing environments.

Printer Port

Select the parallel port used by the audio device.

I/O Base

Select the physical location of the parallel port used by the audio device.

Hardware Interrupt

Select the physical interrupt used by the audio device.

Emulate Sound Blaster

Select Sound Blaster emulation for DOS programs in the Windows DOS Prompt box.

Emulate Adlib

Select ADLIB emulation (no digitized audio) for DOS programs in the Windows DOS Prompt box.

None

Disable emulation of Sound Blaster or ADLIB cards.

Base I/O Port

Select the Sound Blaster or ADLIB base I/O port.

Interrupt

Select the Sound Blaster or ADLIB interrupt.

DMA Channel

Select the Sound Blaster or ADLIB DMA channel.

OK

Perform Manual Setup based on the values entered in this dialog box.

Cancel Manual Setup

Discard changes made to the values entered in this dialog box and exit back to the main setup dialog box.

Default Setup

Click this button to force selection of the default values for all fields in this dialog box.

Mix WAVE/MIDI

When checked, the audio driver allows both digitized audio (.WAV) and synthesized audio (.MID,.RMI,etc.) files to be played at the same time.

Mix Audio-In (AGC On)

PORT•ABLE Sound Plus, CD•NET Sound: When checked, the audio driver allows audio from the Audio-In jack to be mixed with the digitized and/or synthesized audio from the sound device.

Digispeech Plus: When checked, the audio device automatically adjusts the recording gain based on the surrounding noise level.

Default Startup Volume

These controls allows the user to set the default sound level for playback of digitized audio (.WAV) and synthesized audio (.MID,.RMI,etc.) files; and to set the default gain for digitized audio recording. The defaults are read from SYSTEM.INI each time Windows is started. The range is 0 - 31, with 31 being the maximum volume.

Volume Level

Displays the current values of each of the default Volume Setting controls. The range is 0 to 31, with 31 being the maximum volume.

SD 1 and 2

Driver parameters that are determined during automatic or manual setup. The range is 2 to 64. **These values should be changed *only* after consultation with DSP Solutions Technical Support.**

SD 3 and 4

Driver parameters that are determined during automatic or manual setup. The range is 2 to 32. **These values should be changed *only* after consultation with DSP Solutions Technical Support.**

Sync

Driver parameter that is determined during automatic or manual setup. **This control should be changed *only* after consultation with DSP Solutions Technical Support.**

Accept Option Selections

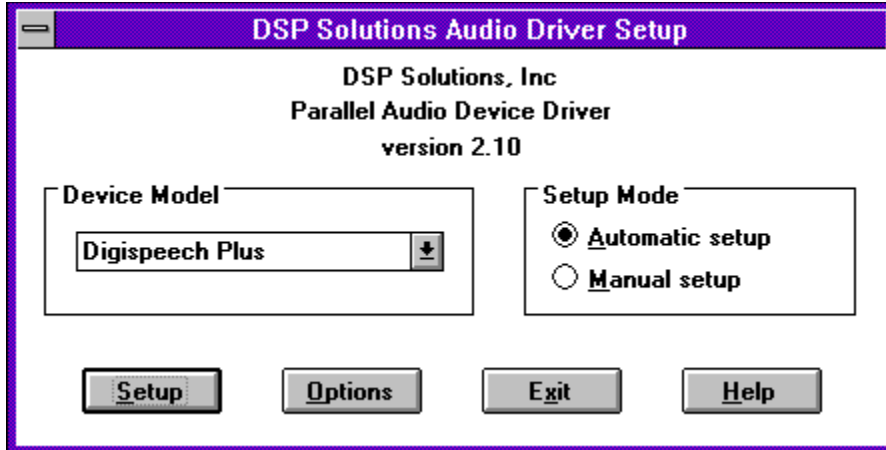
Click this button to accept changes made in the Options dialog box. Certain option changes will require restarting Windows before they take effect.

Cancel Option Selections

Click this button to discard changes made in the Options dialog box.

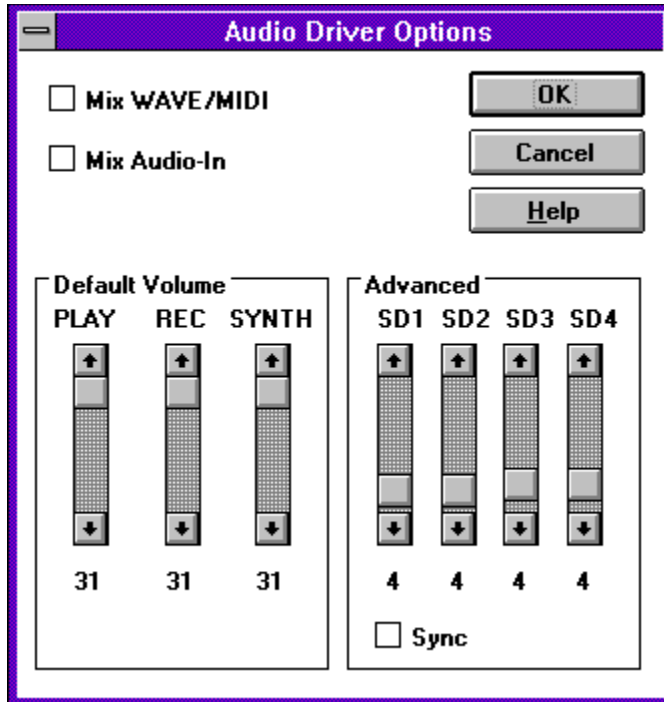
Audio Driver Setup (A Graphical Tour)

This part of help displays short informational bubbles about different areas of the *Audio Driver Setup* dialog box. Click the left mouse button on the area of the *Audio Driver Setup* dialog that you are interested in.



Options (A Graphical Tour)

This part of help displays short informational bubbles about different areas of the *Audio Driver Options* dialog box. Click the left mouse button on the area of the *Options* dialog that you are interested in.



Manual Setup (A Graphical Tour)

This part of help displays short informational bubbles about different areas of the *Audio Driver Manual Setup* dialog box. Click the left mouse button on the area of the *Manual Setup* dialog that you are interested in.

The screenshot shows a Windows-style dialog box titled "DSP Solutions Audio Driver Manual Setup". It contains two main sections: "Audio Device Parallel Port" and "Sound board emulation (Enhanced mode only)".

Audio Device Parallel Port

| Printer Port | I/O Base | Hardware interrupt |
|--------------|----------|--------------------|
| LPT2 | 0378h | IRQ5 |

Sound board emulation (Enhanced mode only)

| | |
|---|------------------------|
| <input checked="" type="radio"/> Emulate Sound <u>B</u> laster (in DOS box) | Base I/O port 0220h |
| <input type="radio"/> Emulate <u>A</u> dlib | Interrupt IRQ7 |
| <input type="radio"/> <u>N</u> one | DMA channel DMA-1 |

At the bottom of the dialog are four buttons: OK, Cancel, Default setup, and Help.

