Contents

DSP Solutions Parallel Audio Device Driver, v4.05

DSP Solutions, Inc. Web site: **http://dsp34.dsps.com/**

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, chose 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.

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, only 16-bit or 8-bit PCM files (uncompressed standard .WAV files), or MuLaw PCM files may be played with the WAVE driver.

Mix Audio-In
This control is available on the **PORT·ABLE Sound Plus** and **CD·NET Sound** device models. When checked, audio from the Audio-In jack is 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 or recorded.

Notes:

1.   When the sound device is NOT playing or recording digitized and/or synthesized audio, sound from the Audio-In jack is always routed through the sound device speaker.
2.   Audio-In mixing is always enabled on the **Digispeech Plus** device model.

AGC Off

This control is available on the **Digispeech Plus** audio device model. When not checked (check box is clear), the audio device automatically adjusts the recording gain based on the input signal level.   If the input signal level is low, the recording gain is raised, if the signal level is high, the gain is reduced.   For recording with the internal microphone leave this check box clear.

For applications such as speech recognition systems that require constant recording gain, turn AGC off by activating this check box and use external microphone.

Notes:

1.   AGC (Automatic Gain Control) is always enabled on the PORT·ABLE Sound Plus product. It is hardware jumper selectable on the **CD·NET** Sound product.
2.   This control is labeled **Gain+** in Windows 95 or Microsoft Sound System compatible mixer. It can be reached from Advanced options of Recording Mixer control. When **Gain+** is checked, AGC is turned on.

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 - 255, with 255 being the maximum volume.

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

During the Windows session audio applications may affect these settings.   The audio driver retains the volume level set by the last application to access the driver until Windows is exited and restarted.

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.
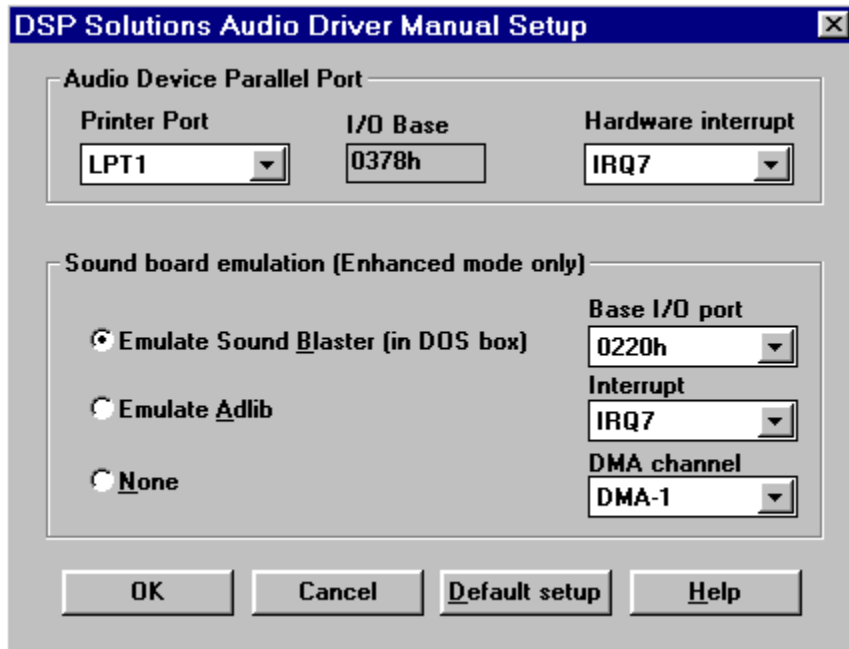
Printer Port

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 (values are shown in hexadecimal notation):

```
          000-108   1F0-1F8   200-20F   2F8-2FF

          320-324   3B4-3BB   3C0-3DF   3F0-3FF
```

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 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 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 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 selected 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   Tour →

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 <u>Audio Driver Options</u> 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.

DSP Solutions, Inc. Web site: **http://dsp34.dsps.com/**

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 base I/O port.

Interrupt

Select the Sound Blaster interrupt.

DMA Channel

Select the Sound Blaster 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

When checked, audio from the Audio-In jack is mixed with the digitized and/or synthesized audio during playback or recording (this option is available on **PORT·ABLE Sound Plus** and **CD·NET Sound** models).

AGC Off

When left clear, the audio device automatically adjusts the recording gain based on the input signal level (this option is available on **Digispeech Plus** model). Clear this check box to record from internal microphone.

Audio Mixer 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 file DS3XXWIN.INI each time Windows is started. The range is 0 to 255, with 255 being the maximum volume.

Volume Level

Displays the current values of each of the default Volume Setting controls.   The range is 0 to 255, with 255 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

When set, turns on protection against loss of/noisy parallel port interrupts, which can cause disruption of sound playback or recording. Turn this flag on if you see blue screen error message complaining about possible interrupt conflict or power loss. Contact DSP Solutions Technical Support for further help.

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.