

Media Vision Windows Software Release 1.44

1. Overview

This release of Media Vision's software for the Pro AudioSpectrum family of products, which includes the CDPC and the CDPC XL, contains enhancements and new functionality in several key areas:

- * Virtual Services
- * Mixer Configuration
- * IRQ and DMA Channel Setup
- * Pocket Recorder
- * Pocket CD
- * MV.INI

2. Virtual Services

Media Vision's virtual device driver for Windows allows your Windows and DOS software applications to share the Pro AudioSpectrum hardware without the ensuing conflicts that may cause one or more of the applications to terminate prematurely. In general, this enables you to load and run Windows and then use the DOS shell within Windows to run any DOS-based games, applications, and/or multimedia titles you have loaded on your system.

NOTE: Not all games and/or applications can be run in a DOS shell from Windows. If you experience difficulty with one or more applications in this regard, it is recommended that you contact the software vendor for an updated version of the software, or for further technical assistance.

Generally speaking, running Windows in enhanced mode allows you to have a DOS application active (in a DOS shell) at the same time with one or more Windows applications. And if the active DOS application is using the Pro AudioSpectrum hardware, it must share it with any Windows applications that also want to use it. However, since only one software application is able to use the audio hardware at a time, Media Vision's virtual device driver for the Pro AudioSpectrum will block access to the hardware until the first application is finished using it. This is one of the fundamental requirements of supporting multitasking, and it prevents harmful conflicts from arising out of the shared use of the hardware.

The basis of this scheme is the rule that the application currently using the hardware has first precedence. Thus, if you are running a DOS-based game from the DOS shell in Windows that is actively playing digital audio (also known as 'waveform'), Windows applications will not be able to play digital audio until after the game has stopped playing it. For example, if you first launched a DOS-based game from Windows and it started using the Pro AudioSpectrum hardware for playing waveform sounds, then the sound

from your alarm clock in Windows would not be heard until after the waveform from your DOS game finished playback. However, if your DOS game was not playing waveform at the time the Windows alarm clock went off, the audio from your alarm clock would be heard! Likewise, if you are using a Windows application to playback waveform sounds when you launch a DOS game from Windows that tries to play waveform sounds, the Windows application takes precedence and its waveform sounds will continue until they are finished. Once they are finished, the DOS game will be able thereafter to play waveform sounds.

3. Mixer Configuration

The analog audio mixer on the Pro AudioSpectrum is controlled by the Windows device driver program MVMIXER.DRV. This program is the equivalent in Windows of the DOS device driver MVSOUND.SYS, and provides control of both volume and play/record modes for each audio channel, as well as overall equalization settings. With this release MVMIXER.DRV has enhanced to allow the user to save certain driver configuration settings to a Media Vision specific file, MV.INI, in Windows' home directory. These settings are accessed from the Control Panel as follows:

- a) Start the Control Panel
- b) Start the Drivers applet within the Control Panel
- c) Select the entry "Pro AudioSpectrum/CDPC Mixer"
- d) Press the "Setup" button.

The options offered are:

Inherit DOS settings

Selecting this option directs the Windows audio mixer driver to use the mixer settings that were being used in DOS at the time Windows was started. For example, if you set the record level for the microphone at 100% in DOS using the PAS.EXE program, the same record level will be retained by the Windows mixer driver when Windows starts.

Restore DOS Mixer settings

If this option is selected, when you exit from Windows the Windows mixer driver will restore the audio mixer settings that were being used by DOS applications when Windows started. For example, if the record level for the microphone is set at 100% in DOS using the PAS.EXE program, and is changed to 50% while being used in Windows, the Windows mixer driver will return the record level for the microphone to 100% when you exit from Windows.

Save Windows Mixer settings

If this option is checked, upon exit the audio mixer settings used in Windows will be saved so that they can be restored the next time Windows starts. However, if

the user has also checked 'Inherit DOS settings', the DOS settings will override this option.

Allow Microphone And Monitor To Be Active Simultaneously

If this option is selected, both the microphone level and the monitor level on the CDPC and the CDPC XL can be raised (active) simultaneously. Ordinarily, the default condition of the Windows mixer driver is set to the opposite of this state to prevent feedback from the CDPC's built-in speakers through the microphone on the front panel of the CDPC. If you choose to allow both audio channels to be active, be careful not to raise the record level for the microphone too high as the feedback can be very loud. To avoid this happening, it is suggested that you gradually elevate the level settings until you obtain the proper balance without causing undue feedback.

4. IRQ and DMA Channel Setup

(Note: Herein IRQ refers to Interrupt Request)

Media Vision's virtual device driver and waveform (digital audio) drivers for the Pro AudioSpectrum products have been modified to alleviate potential IRQ conflicts between games or applications that are running in a DOS shell from Windows, and Windows applications.

The Windows waveform driver now retrieves the IRQ setting used by MVSOUND.SYS during Windows' system start-up, and uses it for record and playback of waveform data. Thus, the IRQ setting associated with MVSOUND.SYS overrides any IRQ setting that may have been assigned to the Windows driver either by manually editing Windows' SYSTEM.INI file, or by using the Drivers applet in the Control Panel. This scheme is the only practical way to avoid IRQ conflicts between Pro AudioSpectrum applications running simultaneously in DOS and Windows.

To change the IRQ setting used by Media Vision's Windows waveform driver modify the device load line in CONFIG.SYS using either the DOS installation program provided with your Pro AudioSpectrum product, or by manually editing the file. An example of the device load line in CONFIG.SYS before and after modification is:

Before: device=c:\proaudio\mvsound.sys /d:3 /q:7 /j:1

After: device=c:\proaudio\mvsound.sys /d:3 /q:10 /j:1

In the example above the second line changes the IRQ setting from 7 to 10. This change will be automatically utilized by the Windows waveform driver the next time Windows is started **after** the machine is rebooted.

If it is necessary to use a different IRQ in Windows than in DOS, the MVSOUND.SYS

device driver load line should be modified so that it begins with a remark statement. This will prevent the device driver from loading. An example of the device load line in CONFIG.SYS before and after modification is:

Before: device=c:\proaudio\mvsound.sys /d:3 /q:7 /j:1

After: rem device=c:\proaudio\mvsound.sys /d:3 /q:7 /j:1

The DMA Channel setting used by the Windows waveform driver does not have to match the setting used by MVSOUND.SYS. Any changes made to the DMA Channel setting that are made in Windows using the Drivers applet in the Control Panel will be reflected in the Windows system file SYSTEM.INI, and will be utilized by the waveform driver for record and playback of waveform data.

5. Pocket Recorder

Several new editing features and functions have been added recently to Pocket Recorder to allow for more flexibility in editing and using recorded waveform data. In addition, the file function 'Set Temp Directory has been added so that the temporary storage directory on disk volumes which are filling up (something likely to happen if you are accumulating multimedia data) can be moved to disks and volumes which have more free storage space. These new additions to Pocket Recorder include:

Drag and Drop

Pocket Recorder now supports drag and drop of waveform files (i.e., files that contain the .wav file extension). To use this feature place Pocket Recorder in a minimized state on the Windows desktop. Then, select one or more waveform files, e.g., using Windows' File Manager, and drag and drop the selected group to Pocket Recorder and release. Pocket Recorder will play It is now possible to select a region of the wave file by clicking down on a mouse button while in the waveform view area, and, while continuing to hold the mouse

Selecting A Region Of The Waveform File

It is now possible to select a region of the wave file by clicking down on a mouse button while in the waveform view area, and, while continuing to hold the mouse button down, moving the mouse to a new position within the same view area. Similarly, 'shift-click' selection is possible by simultaneously holding down the SHIFT key and clicking the mouse button at a point in the waveform view area. This will select a region between the current position and the position where the mouse was clicked.

This functionality works similar to the selection functionality found in many word processors in selecting a region of text, with the exception that you cannot scroll the waveform view while you are selecting (i.e., you cannot hold down the mouse button and drag the mouse cursor outside of the waveform view area to cause the

waveform to scroll).

When the waveform view area is in 'zoomed-in' mode, it is possible to select a region larger than what can be displayed in the view area. To do this, use the following 'SHIFT-click' functionality:

- a, Set the current-position-cursor (the red line in the waveform view area) to the beginning of the region you wish to select.
- b, Scroll the view area to the part of the waveform where you want the region to end.
- c, While holding down the SHIFT key, simultaneously click on a mouse button, and the region between the current position (which may have scrolled out of view), and where you clicked the mouse, becomes the selected region.

Note that if there currently is a region selected, clicking on any mouse button in the waveform view area will remove that selection. This does limit selecting to one zoom mode at a time. That is, you cannot select a region in 'zoomed-in' mode, then zoom-out while maintaining that selection, because to zoom-out you must double click on the waveform view window, which will remove any defined selection.

Cut, Copy, Paste And Delete (Edit Functions)

The options in previous versions of Pocket Recorder which allowed limited editing of a waveform data have been replaced with standard Cut, Copy, Paste, and Delete options.

To use Cut, Copy, and Delete, select a region of the wave file and use one of options in the Edit menu to perform the desired action. These options behave similarly to other windows applications: Cut will copy the deleted region to the clipboard, then delete the region from the wave file; Copy will simply copy the selected region to the clipboard; Delete will delete the selected region from the wave file without affecting the contents of the clipboard.

To use the Paste function, place the current-position-cursor at the position in the waveform view area where you want the paste to occur, and select the Paste option from the Edit menu. The Paste functionality differs slightly from many standard Windows applications in that it is not possible to paste into a region. Instead, the waveform data which is pasted will be placed starting at the current position, and is appended to any selection currently defined.

Please note: It is only possible to paste data which is of the same format as the waveform which is being displayed. Format includes sampling rate, bits per sample, and number of channels. You cannot paste a 44kHz, 16 bit, stereo format

into a 22kHz, 8 bit, mono file. Functionality to enable pasting different waveform formats will be added in a future release of this application.

Set Temporary Directory

Through the Set Temp Directory option in the File menu you can set the directory in which the application will create it's necessary temporary files.

In previous versions of Pocket Recorder, the directory for temporary files was derived from the TEMP environment variable in DOS. Because people often set this variable to a RAMdrive of limited size, it unnecessarily constrained the size of recordings and/or file editing operations that could be performed by Pocket Recorder.

The **Set Temp Directory** option makes it possible to bypass the TEMP environment variable by specifying a temporary directory which will be used only by this application.

To use this option, perform the following steps:

- a, Select the Set Temp Directory option in the File menu.
- b, If a file is loaded and has been modified, a message box querying whether the modifications should be saved will appear. Either the Yes or No option must be chosen to change the temporary directory.
- c, A Set Temp Directory dialog box will appear in which it is possible to select the current drive and directory for the applications temporary files.

Selecting the OK button in this dialog box will cause the applications temporary files to be recreated on the newly specified drive and directory. Selecting the Cancel button in this dialog will cause the application to ignore any changes made to the specified drive and/or directory. Selecting the Remember check box makes it possible for the specified temporary drive and directory to be remembered in future instances of the application.

As an example, if volume D: is a RAMdrive, and the TEMP environment variable in DOS is set to a directory on this drive, it may be desirable for this application's temporary files to always be created on C:\TMP (or in some other directory not on the RAMdrive). In this case, use the Set Temp Directory dialog box to change the drive and directory to the desired settings, and check the Remember check box, then click on the OK button. If the application is able to create a file in the assigned directory, all future instances of the application will default to the new temporary directory just defined.

It should be noted that in the design of Pocket Recorder a trade off was made

between speed of execution and the size of waveform files which can be recorded or edited. Because the ability to handle large files was considered a primary design criterion, all editing changes are stored in a temporary file which is essentially a mirror image of the original file, plus (or minus) any modifications. This makes the Revert option possible - by simply reinitializing the temporary file - and makes large amounts of editing possible, since changes are not stored in memory.

6. Pocket CD (Requires a CD-ROM Drive)

Pocket CD is a new application from Media Vision that is included with Media Vision's upgrade kits, including the Pro Multimedia System. It has been included with the Pro AudioSpectrum 16 package so that end-users who already have a CD-ROM drive can also use it to control their CD-ROM drives like a Compact Disc player.

NOTE: If you see the message "There is an undetectable error in loading the specified device driver!", it is possible that one of the Microsoft Windows device drivers that is utilized by Pocket CD, [MCI] CD Audio, is not installed and/or loaded. Use the Drivers applet in the Control Panel to add the driver; the driver is found on Microsoft Windows Installation (Setup) Disk #4. If the driver and CD-ROM drive are installed correctly, the driver will display a message indicating that it has sensed the presence of the CD-ROM drive.

The major features of Pocket CD include controls for governing play of Compact Discs in a CD-ROM drive, as well as functions for creating and saving play lists (i.e., the tracks displayed in the track calendar). Also, Pocket CD has the unique capability to recognize Compact Discs previously played with the Pocket CD program. The following information covers the basics of Pocket CD.

CD-ROM Control Functions

- a, Play - Starts playback of currently selected track. If no track is selected playback will begin with the first track displayed in the track calendar.
- b, Previous Track - Moves current playback position to the start of the previous track. The CD-ROM drive must be stopped for this function to work.
- c, Next Track - Moves current playback position to the start of the next track. The CD-ROM drive must be stopped for this function to work.
- d, Pause - Pauses playback of CD audio at the current playback position. Press this button again, or the Play button, to resume play.
- e, Stop - Stops playback of CD audio from the CD-ROM drive and resets the current playback position to the first track displayed in the track calendar.

- f, Eject - Ejects the Compact Disc from the CD-ROM drive.
- g, Linear/Random Play (Shuffle Button) - Playback of CD audio can be either sequential (the button looks like a staircase) or shuffled (the hashes on the button appear dispersed) . If linear playback is chosen CD audio will play sequentially from the first track in the track calendar to the last, in the order the tracks appear in the calendar. If shuffle play is selected, playback of CD audio will be unpredictable; tracks appearing in the calendar will be played back at random (however, they will be repeated if looping is selected).
- h, Continuous Play (Looping) - Playback of CD audio will loop continuously through the tracks displayed in the calendar. The order of playback is determined by whether linear or shuffle play is selected.
- i, Cueing - The cue button sets the current playback position for CD audio and places the CD-ROM drive in a paused ready state. When you press the record button in Pocket Recorder, Pocket Recorder will send a message to Pocket CD to begin playback of CD audio from the cue point. When the Stop button in Pocket Recorder is pressed, the current playback position in Pocket CD is reset to the cue point and the CD-ROM is returned to a paused ready state.

Creating And Saving Play Lists

- a, Add Songs - This function allows you to add a song(s) to your play list. Adding a song to the play list cannot be performed unless CD audio playback is stopped.
- b, Delete Songs - This function allows you to delete a song(s) from your play list. Deleting a song from the play list cannot be performed unless CD audio playback is stopped.

Selecting And Modifying CDs

- a, Select CD - This function allows you to select a play list that has been saved previously.
- b, Modify CD - This function allows you to enter the title and/or name of the artist for the current CD, as well as the title of each individual track. This information is saved along with the play list information for the CD. Thus, the next time you insert the CD in your CD-ROM drive, Pocket CD will recall the information you entered previously and will automatically associate it the CD.

7. MV.INI

The configuration options for Media Vision's mixer driver are now stored in the file MV.INI, which is located in Windows' home directory. For example, the following are the default settings for the audio mixer in MV.INI:

```
[mvmixer.drv]
SaveSettingsOnWindowsExit=NO
WindowsUsesDOSSettings=YES
RestoreDOSSettingsOnWindowsExit=NO
CDPCMicOverride=NO
```