56 Kbps Modem/Sound Card Upgrade Installation Manual

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Note: 56Kbps is the theoretical maximum speed that data can be sent over a standard phone line. The maximum receiving speed of these modems is 56Kbps. However, FCC regulations restrict the power output of service providers' modems, so the true limit is 53Kbps. This restriction is based upon the FCC's concern that the higher voltage in these modems could potentially damage some "relay switches" your local phone company may be using. The maximum sending speed from the client to the server is approximately 31.2Kbps (depending on the quality of the phone lines between the client and server side). The 53Kbps maximum receiving speed is only possible on clean phone lines that have very few analog to digital relays between the communicating modems. Physical distance from each modem to the local telephone company's switching office is also very influential.

Upgrade Kit Check List

- Upgrade Modem/Sound Card
- Telephone Splitter
- Installation Manual (this document)
- Installation Diskette
- Limited Warranty and Technical Support and Service Information document

If you are missing any items contact Packard Bell NEC by following the instructions in the technical support document included in your product package.

System Requirements

- Windows 95 or Windows 98
- Open ISA Slot
- 486 DX processor or greater

Tools

- Phillips screwdriver (Phillips screwdriver needed to remove your computer chassis' cover and to replace existing sound card.)
- Windows 98 CD (if applicable): If you have upgraded to Windows 98 you will need your Windows 98 CD to complete this installation.

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Warranty Information

Please see the Limited Warranty included with your 56 Kbps Modem/Sound Card for important limitations and other warranty conditions.

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What's in this User's Guide

This user's guide gives you the information necessary to use your 56 Kbps Modem/Sound Card Upgrade. It includes:

Getting Started — describes how to setup and install your Upgrade Card.

Card Hardware Settings — describes the hardware settings for your Upgrade Card.

Removing FaxWorks — describes how to remove FaxWorks Call Center software from your computer system. If your computer system includes FaxWorks Call Center software, please note that FaxWorks is not compatible with the Upgrade Card. Follow the instructions in the *Removing Faxworks* section to remove FaxWorks Call Center from your system before using the Upgrade Card.

Technical Specifications — contains the Upgrade Card's product specifications.

Before You Begin

While the instructions in this manual have been checked for accuracy, it isn't possible to provide detailed information for every possible instruction. If you're new to the DOS and Windows environments, we suggest that you read an MS-DOS and a Windows user's guide, to learn basic DOS commands, such as how to change directories or access your floppy disk and hard disk drives. You can also learn basic Windows skills, such as starting and using Windows, using a mouse, clicking on icons and controls, and choosing menu items. By mastering these skills, you'll get more out of the material in this manual.

As a precaution you should make a backup copy of your files before installing new software or hardware. This ensures you have a duplicate copy in case of a hard disk drive failure.

Getting Started

This chapter will help you install your 56 Kbps Modem/Sound Card. Since computers come in different shapes and sizes, the installation instructions in this chapter are general. For easiest installation, be sure to compare the drawings in this section with your computer. You will need a Philips screwdriver to install the Upgrade Card into your system. Consult your **computer system user's guide** and **chassis guide** before you begin for information on removing/securing your computer's chassis cover and installing adapter cards.

WARNING: Follow these instructions carefully! Do not remove any equipment from your computer until you are instructed to do so. Several software operations are necessary before you remove or replace any equipment.

Safety Precautions

The 56 Kbps Modem/Sound Card is delicate, and must be handled with care. Before you begin installation, follow these precautions:

- Do not remove the Upgrade Card from its anti-static bag until you are ready to install it.
- Hold the Card by its edges. Don't touch any electronic components or metal connectors.
- Electrostatic Discharge (ESD). Static electricity can permanently damage your Card. To prevent this, be sure to ground yourself while installing the Card into your computer. To do this:
- Your computer must be plugged into a surge protector or grounded AC electrical outlet. Your computer's power switch must be turned **OFF** while you install the Card!
- Tip: For best results, purchase an anti-static grounding strap (coiled wire with a metal "alligator" clip on one end and an elastic wristband at the other) from an electronic supply store. Place the wristband around your wrist and attach the clip to a non-painted metal surface of the computer's chassis. Wear the strap throughout the installation procedure.
 - Touch any non-painted surface of the computer's chassis before you begin installation, and again every minute or so

until installation is complete.

Sound 4 Software Upgrade Installation

IMPORTANT: Be sure to follow the instructions in this manual exactly as written. Failure to do so may result in improper installation, which can produce unpredictable results.

Windows 98 Users: If you have upgraded to Windows 98, you will need your Windows 98 CD to complete this installation.

Before you begin, **open and print** (If you have a printer) **the "Readme.txt" file** that you'll find on your installation diskette. This file contains information that may have been updated since the manual was printed. It also contains valuable troubleshooting information. You can open and print the Readme.txt file with **"Wordpad."**

How to open and print "Readme.txt" file:

- A. Load the installation floppy disk into your computer's floppy drive *(typically, Drive A:\).*
- **B.** Click on **Start** in the Windows Task Bar. Highlight **Programs**, then **Accessories**.
- **C.** Click on **WordPad**. The program will open after a few moments.
- D. Click on File, then click on Open. If necessary, click on the arrow and highlight Drive A:\ in the Look In dialog box.
- E. Click on **Readme.txt** to display it in the File Name dialog box. Then click **Open** to view the file.

Restoring Your Computer to its Original Factory Configuration.

WARNING: Back up your files before you format and restore!

If you want to format and restore your computer system to its original factory configuration with your Master CD, it is best to do so *before* you install the Upgrade Card. Otherwise, you would need to physically remove the Upgrade Card from your system and re-install your original sound card *before* you format and restore. After successfully formatting and restoring, you would have to re-install the Upgrade Card (as discussed in *Getting Started-Safety Precautions and Installation-Installing the Upgrade Software*).

If You Use "FaxWorks Call Center" Software

This communications software package *(which was included with some Packard Bell - NEC computers)* is not compatible with your Modem / Sound Card upgrade. Installing the upgrade will prevent any future use of this software package. <u>If your</u> computer system currently has FaxWorks Call Center software installed, it is best to remove it before you install your new Modem/Sound Card upgrade. By doing so, you'll avoid unnecessary error messages during installation. See the *Removing Faxworks* section of this manual for instructions on removing FaxWorks. Once FaxWorks has been removed from your computer, you're ready to continue.

Part 1 Installing the upgrade software

These instructions are to be followed while the original Sound Card/Modem is still installed in your computer system. (Note: If your computer system included Faxworks Call Center software, you should have already removed it, as detailed in Removing Faxworks.

- 1) Open Device Manager:
 - A. Click on the "Start" button
 - B. Click on "Settings"
 - C. Click on "Control Panel"
 - D. Double-click on the "System" icon
 - E. Click on the "Device Manager" tab
- 2) Remove the Old Device Drivers

(Note: While performing this step, be sure to check whether any of the devices listed under Sound Video and Game Contollers begins with: "Sound III" or "Snd III." If so, a Sound III Card is installed in your system. Make a note of this information for Step 4 below.)

- A. Remove all devices from "Sound Video and Game Controllers"
 - a) Click on the "+" sign next to this category (if it appears as a "-", go to **b**)

- b) Highlight an item in this category by clicking on the item
- c) Click "Remove"
- d) Click "**OK**" in the Warning dialog box that appears
- e) Repeat Steps **a)** through **d)** for each item in this category
- B. Remove all devices from "Modems" (if "Modems" appears in Device Manager)
 - a) Repeat steps a) through e) in subsection 2 A. (above) for this category
- C. Remove all devices from "Other Devices" (if "Other Devices" appears in Device Manager)
 - a) Repeat steps a) through e) in subsection 2 A.
 (above) for this category
- D. Close Device Manager
- E. Close Control Panel
- 3) Insert the "Sound 4 Upgrade" floppy disk into your computer's Drive A.
- 4) Remove any Sound 3 files from you system if you have a Sound 3 card as determined in step 2 above. If your original sound card/modem is not a sound 3, go to Step B below
- A. Remove any *Sound 3* files from your computer system.
 - a) Click on the Start button in Windows 95 or 98.
 - b) Click on Run

c) Type A:\DEL3 in the Run dialog box, then press the Enter key on your keyboard.

- B. Run the installation program on the floppy disk.
 - a) Click on the Start button in Windows 95 or 98.
 - b) Click on Run

c) Type **A:\SOUND4** in the Run dialog box, then press the Enter key on your keyboard.

5) You should see the following message on your monitor:

" This program is set to run in MS-DOS mode and cannot run while other programs are running. All other programs will close if you choose to continue. Do you want to continue?"

Click on "YES."

Note: If your computer cannot automatically shutdown due to programs that are running, you'll need to manually close them, then repeat Step 5 *(above)*.

6) You should see the following message on your monitor:
"You may now install your Sound 4 card. Turn off the power and install the Card according to the installation instructions in your user's guide." At this point, turn off the power as soon as you see this message on your monitor.
(Don't wait for the normal Windows shutdown message, "It's now safe to turn off your computer.")

Next, follow the *Part 2 Installing the Modem/Sound Card Upgrade* instructions in this User's Guide (and your personal computer user's guide) to install the Card into your computer.

Part 2 Installing the Modem/Sound Card Upgrade

Note: The software installation instructions in part 1 must be completed before you begin the hardware installation portion of the installation.

How to Install Your Modem/Sound Card Upgrade

To upgrade your computer's modem/sound card:

1. Make sure your computer's power switch is turned OFF throughout this procedure. *(Leave your computer plugged into a surge protector or grounded electrical outlet.)* **Also**, be

sure to follow the grounding procedure *(Getting Started-Safety Precautions)* to avoid damaging your equipment.

- 2. Using a Phillips screwdriver remove your computer chassis' cover and set it aside. (See your computer's Chassis User's Guide for details on removing and replacing the cover.)
- If a mounting screw secures your original sound card to your computer chassis (see illustration), carefully remove it and set it aside



- 4. Disconnect all external cables connected to your original sound card's rear panel audio connectors.
- 5. If your computer system features a CD-ROM drive or TV Card *(optional),* look for a small cable connector that connects either of these devices to your original sound card. Be careful to note the orientation of the cable connector, then carefully disconnect it from your original sound card.
- Note: Depending on your system configuration, you may find it easier to disconnect the CD-ROM and TV card cables after you remove the sound card from the slot it is plugged into.

- 6. **Remove original modem/sound card**. Carefully grasp your original modem/sound card by its outer edge, then pull gently (without flexing the board or slot connector) to remove it.
- 7. **Install upgrade modem/sound card.** Use a gentle backand-forth rocking motion to press the Upgrade Card firmly into the selected expansion slot until it snaps in place.
- 8. Secure the Upgrade Card by replacing the slot cover mounting screw (from Step 3).
- 9. Carefully reconnect the cable from your computer's CDROM drive (from Step 5) to the Upgrade Card's CDAUDIO1 connector. If a TV card is installed in your computer, reconnect its small cable to the Upgrade Card's TVAUDIO connector. (See Upgrade Installation Finishing Touches-Card Layout for the location of these connectors on the Upgrade Card.)
- 10. Replace your computer's chassis cover, then secure it with the cover mounting screws. (See your computer's **Chassis User's Guide** for details on removing and replacing the cover.)

Part 3 Installing the Modem/Sound Card Upgrade

Once the card is installed, eject the floppy disk from the floppy disk drive. Then turn the computer power on again.

 The updated files will be automatically copied when Windows restarts. Each time the system asks you to insert the "Sound 4 Upgrade diskette," make sure that the Sound 4 diskette is loaded into the computer's Drive A then click OK.

The next screen will ask where to copy files from. When you see this screen, type A:\ in the dialog box, then click **OK**.

- 2) The system may notify you that it found a file that is newer than the file being installed, and may ask whether you would like to keep any files. If this happens, click "**YES**" (*This may occur several times.*)
- 3) When the system has finished installing all of the devices and displays the Windows desktop, follow this procedure to restart your computer:

- A. Remove the diskette from the floppy drive.
- B. Click on the **Start** button in Windows 95 or 98.
- C. Click on Shut Down.
- D. Click on Restart your computer?
- E. Click Yes.
- Note Failure to execute Step 3 above will result in no sound, no volume control on the Windows Task Bar, and an inoperative modem.

If You Make a Mistake During Installation: Repeat Steps 1-3 above. Do not remove the upgrade card and re-insert your old sound card; just go through all of the steps with the Upgrade Card installed.

IMPORTANT Keep your original modem/sound card. In extreme cases (such as accidental erasure of your hard drive or damage from a virus), your system may require reformatting and restoring. Therefore you may need to reinstall your original modem/sound card.

THE UPGRADE MODEM/SOUND CARD INSTALLATION IS COMPLETE

V.90 Upgrade

The software included with your Upgrade Card allows your modem to support 56 Kbps X2[™] mode operation. In the near future, most Internet Service Providers will support V.90 mode as the new industry standard. You can download software from the web site listed in the Technical Support and Service Information document to upgrade your modem to operate in V.90 mode.

Note If you haven't already done so, follow the instructions in Part 1 Installing the Upgrade Software to install your Upgrade Card software before downloading the V.90 software.

The V.90 software upgrade takes approximately 15 minutes to download and install. (Installation instructions are included as part of the download.)

Your new modem/sound card should now function correctly. The following notes may be helpful in the use of your new modem.

- 1. Make sure you have re-connected the equipment that plugs into the back of your new sound card *(for example, speakers, microphone, telephone line and handset).* See Sections 1.7 and 1.8 for details.
- Certain programs may not function because they are configured for the old modem. A communications program that does not use normal Windows 95/98 modem settings may need to be manually configured, or may not work. For example, you may want to contact your Internet Service Provider for assistance configuring these settings.
- Some service providers' programs may display a list of modems that you can select from. In most cases, you should select "Hayes Smart Modem" or "Hayes compatible Modem" as your new modem type. (Note: In some cases, the service provider's list may not show a 56 Kbps modem. In this event, select the Hayes modem option that lists a speed as close to 56 Kbps as possible. The modem will auto adjust to your higher speed.

Upgrade Installation Finishing Touches

If You Need Technical Assistance

Consult the technical support document included in your product package for instructions.

Troubleshooting

The **Readme.txt** text file on your installation floppy disk contains information that may be useful for installation, troubleshooting and use of your sound card / modem.

To access this information:

- 1. Load the installation floppy disk into your computer's floppy drive (typically, Drive A:\).
- 2. Click on **Start** in the Windows Task Bar. Highlight **Programs**, then **Accessories**.

- 3. Click on **WordPad**. The program will open after a few moments.
- 4. Click on **File**, then click on **Open**. If necessary, click on the arrow and highlight Drive **A:** in the Look In dialog box.
- 5. Click on **Readme.txt** to display it in the File Name dialog box. Then click **Open** to view the file.

Connecting Audio and Telephony Equipment

Your Upgrade Card can accommodate several types of audio equipment. Use the illustration below as a general guide for connecting audio equipment to the audio telephony card.



Note: The locations and labeling of the Upgrade Card's rear panel connectors may vary slightly from the above illustration, depending on the product you purchased. The lower **Audio Equipment/Line Out** connector (closest to the **Game/MIDI port**) can accommodate devices such as speakers. The upper **Audio Equipment/Line In** connector (furthest from the Game/MIDI port) is the audio input port.

To use the Upgrade Card's telephony functions, you'll need a telephone splitter cable(included in the upgrade kit)

, a telephone *(handset)*, a telephone extension cord, and access to your telephone line socket *(wall jack)*.

- 1. Connect your telephone splitter cable to the Upgrade Card's **Telephone** jack, as shown above.
- 2. Connect your telephone *(handset)* to the telephone splitter cable's *PHONE* connector.
- 3. Connect one end of your telephone extension cord to the telephone splitter cable's *WALL* connector.
- 4. Connect the remaining end of your telephone extension cord to your telephone line socket *(wall jack).*

Card Layout (Connecting CD-ROM/TV Card Audio Cables)

Connect the small audio cable from your CDROM drive to your Upgrade Card's "CDAUDIO1" connector (see following illustration). If your system has a TV card, connect its small cable to your Upgrade Card's "TVAUDIO" connector. (Connector locations may differ slightly from the illustration, depending on the product you purchased.)



Card Hardware Settings

Because your Upgrade Card was factory configured to operate in ISA Plug-and-Play mode, the hardware settings shown below should not conflict with settings for other devices in your computer system. If you ever need to change settings, the following information may be useful as a reference.

Plug-and-Play Resource ROM Definition

The Plug-and-Play Resource ROM defines all the logical devices *(including the I/O address; IRQ and DMA definitions)* supported by the Upgrade Card:

Logical Device 0 (IDE CD-ROM) - Disabled

Option	I/O Address	IRQ	DMA
1	First I/O address = none Second I/O address = none	None	None

Logical Device 1 (Audio) - Enabled

Option	I/O Address	IRQ	DMA
1	SB Pro I/O Address = 220H (16 I/O space) AdLib I/O Address = 388H (8 I/O space) WSS I/O Address = 534H (4 I/O space)	5	Playback = 1 Capture = 3
2	SB Pro I/O Address = 220H/240H (16 I/O space) AdLib I/O Address = 388H (8 I/O space) WSS I/O Address = 534H/608H (4 I/O space)	5/9/10	Playback = $0/1/3$ Capture = $0/1/3$
3	SB Pro I/O Address = 220H (16 I/O space) AdLib I/O Address = 388H (8 I/O space) WSS I/O Address = E84H/F44H (4 I/O space)	5/9/10	Playback = $0/1/3$ Capture = $0/1/3$
4	SB Pro I/O Address = 100H-3F0H (16 I/O space) AdLib I/O Address = 100H-3F8H (8 I/O space) WSS I/O Address = 100H-3FCH (4 I/O space)	5/9/10/11/15	Playback = $0/1/3$ Capture = $0/1/3$
5	SB Pro I/O Address = 100H-3F0H (16 I/O space) AdLib I/O Address = 100H-3F8H (8 I/O space) WSS I/O Address = 100H-3FCH (4 I/O space)	5/9/10/11/15	Playback = 0/1/3 Capture = none

Note:

SB Pro — Sound Blaster Pro Compatible AdLib — AdLib Compatible WSS — Microsoft Window Sound System Compatible

Logical Device 2 (MPU401 MIDI) - Enabled

Option	I/O Address	IRQ	DMA
1	I/O Address = 330H (2 I/O space)	9	None
2	I/O Address = 300H/330H (2 I/O space)	5/9/10/11/15	None
3	I/O Address = 100H-3FEH (2 I/O space)	5/9/10/11/15	None

Logical Device 3 (Game Port) - Enabled

Option	I/O Address	IRQ	DMA
1	I/O Address = 200H (8 I/O space)	None	None
2	I/O Address = 100H-3F8H (8 I/O space)	None	None

Logical Device 4 (Modem) - Enabled

Option	I/O Address	IRQ	DMA
1	I/O Address = 3F8H (8 I/O space)	4	None
2	I/O Address = 2F8H (8 I/O space)	3	None
3	I/O Address = 3E8H (8 I/O space)	3/4/5/9/10/11/15	None
4	I/O Address = 2E8H (8 I/O space)	3/4/5/9/10/11/15	None
5	I/O Address = 100H-3F8H (8 I/O space)	3/4/5/9/10/11/15	None

Logical Device 5 (EEPROM) - Enabled

Option	I/O Address	IRQ	DMA
1	I/O Address = 100H-3FFH (1 I/O space)	None	None

Removing FaxWorks

FaxWorks Call Center software is not compatible with your new modem / sound card and will not function with it. If FaxWorks Call Center software is installed in your system, you'll need to uninstall it. To do so, carefully follow the procedures below.

Preventing Automatic Scheduling of FaxWorks

- Important! We strongly recommend that you perform the following procedure to avoid receiving erroneous error messages after your new modem /sound card upgrade has been installed. Additionally, you'll avoid having to close FaxWorks every time you restart your computer.
- Note: If you have previously modified your system to prevent the automatic scheduling of FaxWorks, skip this section and go to *Section B.2*

Removing FaxWorks Auto-start

Depending on the computer system you purchased, you may find one or more of the following statements present in your system's .INI file.

With your system running in Windows 9x:

- Click on the Start button in the Windows 9x Taskbar, then click on <u>Run...</u>. Type SYSTEM.INI and press the Enter key on your keyboard.
- Click on Search, then click on Find.... Type COMM.DRV and press the Enter key on your keyboard.
- 3) Delete *FX* from the statement, *COMM.DRV=FX-COMM.DRV* so that it reads: *COMM.DRV=COMM.DRV*
- 4) Click on File, then Save. Next, click on File, then Exit.
- 5) Click on the **Start** button, then click on **Run**.... Type **SYSEDIT** and press the Enter key on your keyboard.
- 6) Choose the WIN.INI file. Find the lines, *Run=* and *Load=*. These lines may appear similar to the following *Run=* line example: *Run=C:WONEYMONEY.EXE;C:IFAXWORKSIFAXWORKS.EXE;C:INAVI NAVIGATOR.EXE*

 If you see the following statement in either the *Run=* or *Load=* lines, carefully delete the following: *C:\FAXWORKS\FAXWORKS.EXE;*

After you've deleted this phrase, your edited **Run=** and **Load=** lines would appear similar to the following example:

Run=C:\MONEY\MONEY.EXE;C:\NAV\NAVIGATOR.EXE

8) Click on File, then Save. Next, click on File, then Exit.

Removing FaxWorks Auto-start from Startup Menu

With your system running in Windows 9x:

- Place the mouse cursor on an empty portion of the Windows 9x Taskbar (the gray bar where the Start button appears), then click your right mouse button.
- 2) Click on Properties.
- 3) Click on the Start Menu Programs tab.
- 4) Click on the **Remove...** button.
- 5) Scroll down to the **Startup** folder, then click on the + symbol (*"plus" sign*) next to it.
- 6) If you see "FaxWorks Call Center" listed there, click on it, then click Remove. If you don't see it, click Cancel.
- 7) Click Close, then OK.

Removing FMEDIA Auto-start for FaxWorks

With your system running in Windows 9x:

- Click on the Start button in Windows 9*x*, then click on Run.... Type C:\FMEDIA\FMEDIA.INI and press the Enter key on your keyboard.
- Click on Search, then click on Find.... Type PHONE= and press the Enter key on your keyboard.
- If you see the following statement in the *Phone=* line, delete it: *C:IFAXWORKSICALLCENT.EXE*
- Click on File, then click on Save. Next, click on File, then click on Exit.
- 5) Shut down and restart your computer system.

Removing FaxWorks files from Your Hard Drive

By following the procedure below, you can eliminate FaxWorks files from your hard drive. This will free up valuable disk space that would otherwise be wasted (*since FaxWorks files are not functional with your Modem/Sound Card Upgrade*).

Note: The following procedure is optional. If you ever need to run FaxWorks in the future (for example, if you ever reinstall your old modem/sound card), you should skip this section.

With your system running Windows 9x:

- 1) Close any open software programs you may have been running.
- 2) Place your **Install** floppy disk into your floppy disk drive *(typically, Drive A:\)*
- Click on the Start button in Windows 9*x*. Click on Run..., then type
 A:\FAXDEL.BAT in the dialog box. Click OK.

The program will delete the FaxWorks files, then return you to Windows 9x.

Technical Specifications

Integrated Data/Fax/Voice Modem Features

- X2[™] (56Kbps downlink from Internet Service Provider; current FCC regulations restrict power output of ISP modems, limiting download speeds to approx. 53Kbps)
- V.34bis data modem (33.6Kbps)
- V.34 (28.8Kbps)
- V.32bis
- V.32
- V.23
- V.22bis
- V.22 A/B
- Bell 212A and 103
- V.42, MNP2-4
- V.42bis and MNP-5 data compression
- V.17/V.29/V.27ter and V.21 channel 2 group 3 fax mode
- Enhanced PCM voice operation with concurrent DTMF detection
- · Auto dialing and auto answer
- Full duplex speakerphone mode
- Voice monitoring function with automatic fax/voice switch
- Line quality and re-train
- DAA line interface
- Music-on-hold from radio, TV audio, CD audio, line-in, FM music/wavetable and digital voice
- Recording of telephone conversation through sound card
- Enhance AT, voice and Class 1 and 2 fax commands
- Caller ID (subject to availability)
- V.80 synchronous access

Audio Features

- Sound Standards Compatibility
 - Microsoft Windows Sound System Software compatibility
 - Sound Blaster and Sound Blaster Pro compatibility
 - AdLib compatibility
 - General MIDI compatibility
 - Roland MPU401 compatibility
- 16-bit/8-bit stereo digital sound recording and playback
 - Full duplex sound driver
 - Interrupt driven, 8-bit DMA or programmable I/O transfer mode
 - Selectable sampling up to 48kHz
 - Dynamic range exceeds 80dB with digital interpolation filter
 - Auto dynamic filtering programmable to sampling rate
- Stereo Analog/Digital Mixer
 - Analog Audio Input
 - Mono Microphone Input
 - Stereo Line-In/stereo TV Audio/stereo FM Radio
 - Stereo CD audio input
 - Stereo FM synthesizer/wavetable
 - Stereo PCM (digital) audio
 - Digital Recording Source is selectable from:
 - Mono microphone input or modem audio (from telephone set or telephone line)
 - Stereo line-in/stereo TV audio/stereo FM radio
 - Stereo CD audio
 - Stereo FM synthesizer/wavetable music
 - Mixing of PCM (digital) audio and any of the above
- Master and Mixer Volume Control

- Individual channel volume for:
 - Mono microphone input/modem audio (16/16 steps)
 - Stereo line-in/TV audio/FM radio (32/16 steps)
 - Stereo CD Audio (32/16 steps)
 - Stereo FM synthesizer music/wavetable music (32/16 steps)
 - Stereo Digital Voice (64/16 steps)
 - Stereo Master Voice (32/16 steps)
- Stereo FM music synthesizer producing 20 independent stereo voices of FM synthesized sounds using OPL3
- Wavetable Upgrade Header
- MIDI Interface
 - MPU401 UART mode MIDI interface or Sound Blaster Pro compatible MIDI interface
 - Full duplex interface connecting MIDI instruments (requires optional MIDI Kit)
 - 64-bytes MIDI input FIFO
 - MIDI time-stamp for Sound Blaster Pro compatible MIDI interface
 - Combined w/ Joystick Port
- Stereo to 3-D sound enhancement effects
- Modem/Telephone Line Connection

(Specifications subject to change without notice.)

FCC Compliance Statement

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference, and
- 2. This device must accept any interference received, including interference that may cause undesired operation.

Notice

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference to radio or television reception, (which can be determined by turning the equipment off and on) will not occur. If so, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Caution

To comply with the limits for the Class B digital device according to Part 15 of FCC Rules, this card must be installed in computer equipment certified to comply with the Class B limits. All cables used to connect the computers and peripherals must be shielded and grounded. Operation with non-certified/shielded cables may result in radio/TV interference.

Modification

Any modification not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

Part 68 FCC Compliance Statement (FCC ID: FCC AT6800w)

This equipment complies with Part 68 of the FCC Rules. On the

equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested; this information must be provided to your telephone company.

Connection to the telephone network should be made by using a standard modular telephone jack type RJ11.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

In the event this equipment should fail to operate properly, disconnect the unit from the telephone line. Try using another FCC approved telephone in the same telephone jack. If the trouble persists, call the telephone company repair service bureau. If the trouble does not persist and appears to be with this unit, disconnect the unit from the telephone line and discontinue use of the unit until it is repaired. Please note that the telephone company may ask that you disconnect this equipment from the telephone network until the problem has been corrected or until you're sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

IMPORTANT - PLEASE NOTE

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or individual sending message and the telephone number of the sending machine or such business, or entity, or individual.

To program this information into your fax machine, follow these steps:

- 1. After installing the telephony software, launch the Comm Central or other Fax application from Windows.
- 2. Fill in all required information into the dialog box when prompted.
- 3. Click on the **OK** button to save this information.

Industry Canada Radio Frequency Interference Statement

- **English** This Class B digital apparatus complies with Canadian ICES-003.
- *Français* Cet appareil numérique de la classe B est conformé à la norme NMV-003 du Canada.

Internet site http://www.info.ic.gc.ca

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