FEDERAL COMMUNICATIONS COMMISSION (F.C.C.) STATEMENT

This device complies with Part 15 of the 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.

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 will not occur in a particular installation, if this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1.   Reorient / Relocate the receiving antenna.

2.   Increase the separation between the equipment and receiver.

3.   Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

4.   Consult the dealer or an experienced radio/ TV technician for help.

NOTE: 1.   The use of a non-shielded interface cable with this equipment is prohibited.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

USER MANUAL

PCI - SOUND CARD

July 1998

Reference
Version 1.0

TABLE OF CONTENTS

1. DESCRIPTION

This is a new audio adapter that provides the next generation of PCI audio performance to the PC market. The adapter not only meets the new demands of advanced PC audio applications but also enables the integration of a complete multimedia subsystem on a single adapter. The adapter functionality and interfaces are compliant with all major industry standards, including SoundBlaster Compatible, PC97, Windows® 95 Direct Sound, Windows® Sound System and PCI 2.1 bus specification.

1.1 Features

Chipset:
⇒ ESS/ES1968 + AC'97 CODEC.

System Interface:
⇒ 32-bit PCI bus master, PCI V2.1 compliant

Hardware Interface:
⇒ MPU401 compatible MIDI interface
⇒ High Performance Game Port
⇒ Programmable Audio Codec interface
⇒ Supports AC-1 interface (AC-Link)
⇒ 5V Power supply for I/O, 3.3V Power supply for internal core logic
⇒ EEPROM interface (option)

Wavetable Synthesizer:
⇒ 64-voice wavetable synthesizer with downloadable sample
⇒ 128 voice XG capital S/W wavetable synthesizer including

Hardware Acceleration:
⇒ Direct Music Hardware Acceleration
⇒ Direct Sound Hardware Acceleration

Software Compatibility:
⇒ Fully SoundBlaster and SoundBlaster Pro compatible
⇒ Direct Sound compatible
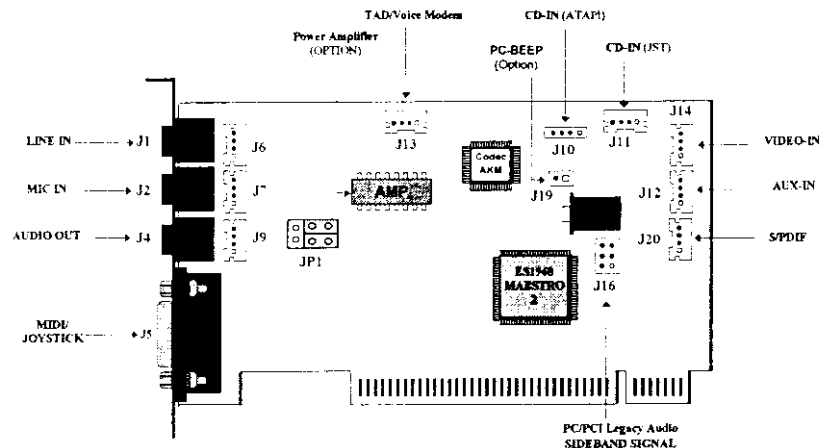
Software Support:
⇒ Windows 95/98
⇒ Windows NT

Amplifier:
⇒ 2 Watt per channel output

3D Effect:
⇒ Direct Sound 3D
⇒ Positional 3D

1.2 Card Figure

1.3 Connectors

This PCI Sound Card includes up to twelve internal connectors, three external Jack Ports, and one external MIDI/ Joystick connector.

1.3.1 External Connectors:

J1:................................ ⌀ 3.5mm Phone Jack for **LINE IN.**
J2:................................ ⌀ 3.5mm Phone Jack for **MIC IN.**
J4:................................ ⌀ 3.5mm Phone Jack for **AUDIO OUT.**
J5:................................ Connector for **MIDI/JOYSTICK.**

1.3.2 Internal Connectors:

J6:................................ Internal Connector for **LINE IN.**
J7:................................ Internal Connector for **MIC IN.**
J9:................................ Internal Connector for **AUDIO OUT.**

J10:............................. Connector for **CD-AUDIO IN. (ATAPI)**
J11:............................. Connector for **CD-AUDIO IN. (JST)**
J12:............................. Connector for **AUX IN.**
J13:............................. Connector for **TAD/VOICE MODEM.**
J14:............................. Connector for **VIDEO IN.**
J16:............................. Connector for **PC/PCI Legacy Audio SIDEBAND SIGNAL. (Option)**
J19:............................. Connector for **PC-BEEP. (Option)**
J20:............................. Connector for **S/PDIF. (Option)**
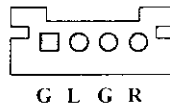JP1:............................. Jumper for switching between **SPEAKER OUT/LINE OUT.**

1.3.3 Audio Connectors:
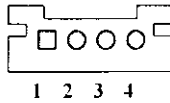
J10: CD-Audio-In
ATAPI

L G G R

L: LEFT CHANNEL SIGNAL
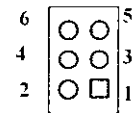G: GROUND
R: RIGHT CHANNEL SIGNAL

J11: CD-Audio-In
JST

G L G R

L: LEFT CHANNEL SIGNAL
G: GROUND
R: RIGHT CHANNEL SIGNAL

J13: TAD/
Voice Modem

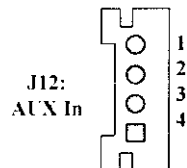1 2 3 4

1 PHONE IN
2 GROUND
3 GROUND
4 MONO OUT

J16: PC/PCI

6 [O O] 5
4 [O O] 3
2 [O □] 1

1 PCGNT #
2 GROUND
3 N.C.
4 PCREQ #
5 GROUND
6 SERIRQ #

J19: PC-BEEP

[O □]

1 PC SPEAKER OUT
2 + 5V

J12:
AUX In

O 1
O 2
O 3
□ 4

1 LEFT CHANNEL SIGNAL
2 GROUND
3 GROUND
4 RIGHT CHANNEL SIGNAL

J14:
VIDEO In

O 1
O 2
O 3
□ 4

1 LEFT CHANNEL SIGNAL
2 GROUND
3 GROUND
4 RIGHT CHANNEL SIGNAL

J20:
S/PDIF

O 1
O 2
O 3
□ 4
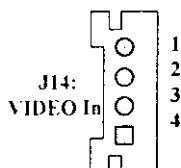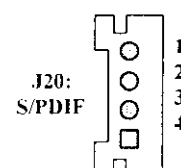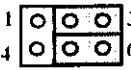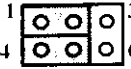
1 SPDIF OUTPUT
2 GROUND
2 GROUND
4 SPDIF OUTPUT

1.3.4 Audio Output Jumper Settings for JP1:

Audio	Settting
SPEAKER OUT with Power Amplifier (Default)	1 [o][o o]3 4[o][o o]6
LINE OUT without Power Amplifier	1[o o][o]3 4[o o][o]6

2. HARDWARE INSTALLATION

2.1 Handling the PCI Sound Card

WARNING: Static electricity can damage your equipment. Do not take the card out of its static protective bag until you are ready to work with it.

Follow these precautions when handling the card:

- Before you open the static protective bag, touch it to a metal expansion slot cover on the back of your computer. This drains static electricity from the package and from your body.
- Do not touch any exposed printed circuitry after opening the package.
- Keep other people from touching the card. They might have a static-electricity build-up.
- Limit your movement. Movement causes a build-up of static electricity.

Installing the PCI Sound Card

Step 1. Turn off the system and all peripheral devices.

Step 2. Disconnect the power cord and all peripheral devices from the system.

Step 3. Remove the system cover and identify an unused PCI slot.

Step 4. Unscrew the slot cover plate, plug in the PCI Sound Card, and tighten it with the screw.

Step 5. If you have speakers or amplifiers, plug the cable into the **J4** Jack on the back of the Sound Card.

Step 6. If you have a microphone, plug the respective cable into the **J2** Jack on the back of the Sound Card.

Step 7. Please plug the cable for your MIDI/Joystick device into the **J5** Jack on the back of the PCI Sound Card.

Step 8. Depending on what type of CD Audio cable you have connect **J10** or **J11** on the Sound Card and the Audio output at the back of the CD-ROM drive. Make sure pin 1 of **J10** or **J11** is connected to the leftmost pin of the CD-ROM Audio output.

Step 9.   Put back the system cover, reconnect the system power cord and all peripheral devices. Check and make sure all connections are correct before you turn on the system.

3. SOFTWARE INSTALLATION

3.1 Software Contents

There is one CD-title which comes with this package.
This CD-title includes the necessary device driver and Application Software Bundles ("Win95Rac", "XG") for Microsoft® Windows® 95 operating system.

3.1.1 Device Driver Installation Under Windows® 95

To install the device driver under Windows® 95, please follow the steps below:
1.) After you have installed the PCI Sound Card, restart your Microsoft® Windows® 95 operating system.
2.) The "New Hardware Found" dialog box will display the message "PCI Multimedia Audio Device". Choose the option **"Driver from disk provided by hardware manufacturer"**.
3.) Insert your installation CD-title into your CD-ROM drive D or E. Assuming your CD-ROM drive is D, type **D:\D20soft\Win95** in the command line of the "Install From Disk" dialog box.
4.) Make sure the dialog box specifies the correct drive letter and click on OK. This will start the copying process.
5.) Follow the on-screen instructions and you should be able to install the device driver easily.

3.1.2 Installing the Device Driver for the first time under Windows® 95 OSR2

To install the device driver under Windows® 95 system, please follow the steps below:
1.) After you have installed the PCI Sound Card, restart your Microsoft® Windows® 95 OSR2 operating system.
2.) An "Update Device Driver Wizard" dialog box appears, showing you that an PCI Multimedia Audio Device has been detected by the system. Just click on the "Next" push button to continue the installation.
3.) The next "Update Device Driver Wizard" dialog box informs you that the system cannot find the device driver. Please insert your CD-title into your CD-ROM drive and click on the "Other Location" push button.

4.) The "Select Other Location" dialog box will ask you to specify the directory where the drivers are located. Please type **D:\D20soft\Win95** and click on the OK push button, assuming your CD-ROM drive is D.

5.) An "Update Device Driver Wizard" dialog box will inform you that the system has found the device driver. Please click on the "Finish" push button to continue.

6.) An "Insert Disk" dialog box will ask you to insert the CD-title into your CD-ROM drive, please click on OK.

7.) The "Copying Files..." dialog box will appear. You are asked to specify the directory. Please type **D:\D20soft\Win95** and click on OK.

8.) An "Insert Disk" dialog box may ask you to insert your Windows® 95 CD-ROM into your CD-ROM drive. Just do it and click on OK.

9.) A "Copying File" dialog box may ask you to locate the Windows directory, please locate it and click on OK.

10.) You will see that Windows® 95 is extracting the files from your Windows® 95 CD-ROM. The Sound System driver and Game Port driver should be installed onto your Windows® 95 OSR2 operating system.

11.) Follow the on-screen instructions and you should be able to install the device driver easily.

3.1.3 Application Installation Under Windows® 95

To install the Software application under Microsoft® Windows® 95 operating system, please follow the steps below:

1.) Start up your Microsoft® Windows® 95 system.

2.) Click on the START button and choose the RUN item.

3.) Please, insert the CD-title into your CD-ROM drive. Assuming your CD-ROM drive is D, type **D:\D20soft\Win95Rac\SETUP.EXE** in the command line of the RUN dialog box.

4.) Click on the OK push button and follow the on-screen instructions. The Software application will be installed into your system.

How to Play Games Under DOS Mode

If you want to play games under the DOS mode, please specify your drive letter first. Assuming drive C is used please add the following line to your CONFIG.SYS file:

DEVICE=C:\AECU.SYS

After rebooting your system, please type the file name "MAESTRO.COM" under the root directory. For example: **"C:\MAESTRO.COM"**.

Follow the on-screen instructions to continue the program.

Reference
Version 1.0