

USER MANUAL

Configuration and Hardware

December 1998

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1. DESCRIPTION

“Solo-1 L70” 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 the SoundBlaster Compatible, PC97, Windows Sound System and PCI 2.1 bus specification.

1.1. Features

- ⇒ Single, high performance, mixed signal, 16-bit stereo VLSI chip
- ⇒ PCI parallel bus interface, version 2.1
- ⇒ Full native DOS games compatibility, via three technologies:
 - ⇒ TDMA
 - ⇒ DDMA
 - ⇒ PC/PCI
- ⇒ High-Quality **ESFM™** music synthesizer
- ⇒ Dynamic range (SNR) over 80 dB
- ⇒ Integrated *Spatializer®* 3-D audio effects processor

Record and Playback Features

- Record, compress, and play back voice, sound, and music
- 16-bit stereo ADC and DAC
- Programmable independent sample rates from 4 kHz up to 48 kHz for record and playback
- Full-Duplex operation for simultaneous record and playback

Inputs and Outputs

- Stereo inputs for line-in, auxiliary A (CD audio), and auxiliary B (wavetable), and a mono input for microphone
- MPU-401 (UART mode) interface for wavetable synthesizers and MIDI devices
- Integrated dual game port
- Separate mono input (MONO-IN) and mono output (MONO-OUT) for speakerphone

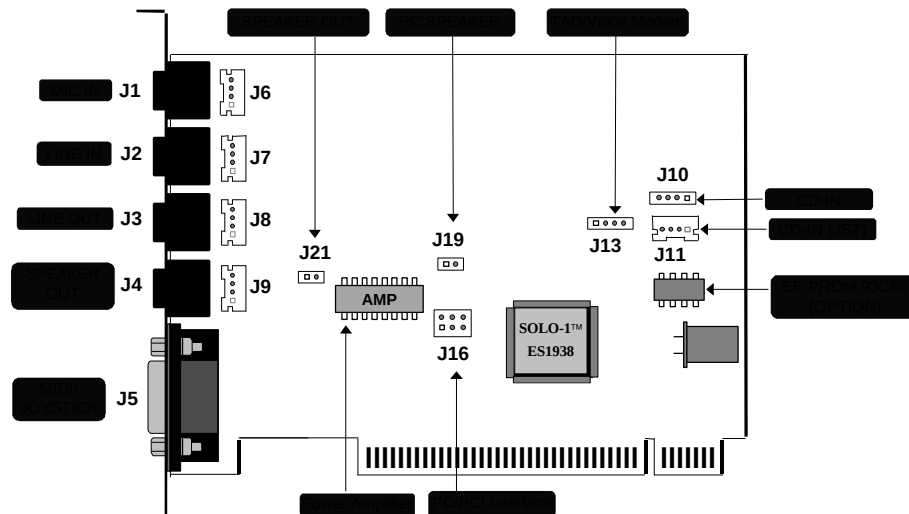
Mixer Features

- 6-channel mixer with stereo inputs for line, CD audio, music synthesizer, digital audio (wave files), and mono inputs for microphone and speakerphone
- Programmable 6-bit logarithmic master volume control

Compatibility

- Supports PC games and applications for SoundBlaster™ and SoundBlasterPro™.
- Supports Microsoft® Windows™ Sound System®.
- Meets PC 97/PC 98 and WHQL specifications

1.2. Card Figure



1.3. Connectors

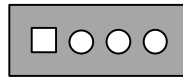
“Solo-1 L70” includes up to ten internal connectors, four external Jack Ports, and one external MIDI/ Joystick connector.

1.3.1. External Connectors:

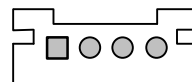
J1: 3.5mm Phone Jack for **MIC IN**
J2: 3.5mm Phone Jack for **LINE IN**
J3: 3.5mm Phone Jack for **LINE OUT**
J4: 3.5mm Phone Jack for **SPEAKER OUT**
J5: Connector for **MIDI/JOYSTICK**

1.3.2. Internal Connectors:

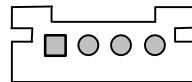
J6: Internal Connector for **MIC IN** (optional)
J7: Internal Connector for **LINE IN** (optional)
J8: Internal Connector for **LINE OUT** (optional)
J9: Internal Connector for **SPEAKER OUT** (optional)
J10: Connector for **CD-AUDIO IN**
J11: Connector for **CD-AUDIO IN** (JST) (optional)
J13: Connector for **TAD/VOICE MODEM**
J16: Connector for **PC/PCI Legacy Audio SIDEBAND SIGNAL**
J19: Connector for **PC BEEP**
J21: Connector for **SPEAKER OUT**

1.3.3. Audio Connectors:**J10: CD-Audio-In****L G G R**

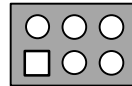
L: LEFT CHANNEL SIGNAL
 G: GROUND
 R: RIGHT CHANNEL SIGNAL

**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 MONO IN
 2 GROUND
 3 GROUND
 4 MIC/ MONO OUT

J16: PC/PCI**2 4 6****1 3 5**

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

J19: PC-BEEP**1 2**

1 +5V
 2 PC SPEAKER IN

J21: SPEAKER OUT**1 2**

1 Summed L, R SIGNAL OUTPUT
 2 GROUND

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.

2.2. 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 a microphone, plug the respective cable into the **J1** Jack on the back of the Sound Card.
- Step 6.** If you have speakers or amplifiers, plug the cable into the **J4** 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.** Plug the cable for your TAD/Voice Modem into the **J13** connector on the Sound Card.
- Step 10.** 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 are two installation diskettes that come with this package.

Those diskettes include the necessary device drivers and Application Software Bundles (“\Win95Rac”) for Microsoft

3.2. Device Driver

3.2.1. Installing the Device Driver for the first time under Windows

To install the device driver under Windows

1. After you have installed the PCI Sound Card, restart your Microsoft Windows
2. An “Update Device Driver Wizard” dialog box appears, showing you that a 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 driver diskette into your floppy disk drive and click on “Other Location”.
4. The “Select Other Location” dialog box will ask you to specify the directory where the drivers are located. Please type **A:** and click on the “OK” push button, assuming your floppy disk drive is A.
5. An “Update Device Driver Wizard” dialog box will inform you that the system has found the device driver. Please click on “Finish” to continue.
6. An “Insert Disk” dialog box will ask you to insert the “ES1938 PCI Audio Device Multimedia disk” into your floppy disk drive. Please click on “OK”.
7. The “Copying Files . . .” dialog box will appear. You are asked to specify the directory. Please type **A:** and click on the “OK” push button.
8. An “Insert Disk” dialog box may ask you to insert your Windows ROM into your CD-ROM drive. Just do it and click on the “OK” push button.
9. A “Copying File” dialog box may ask you to locate the Windows directory, please locate it and click on the “OK” push button.
10. You will see that Windows 95 is extracting the files from your Windows CD-ROM. The Sound System driver and Game Port driver should be installed into your Windows
11. Follow the on-screen instructions. You should be able to install the driver easily.

3.2.2. Device Driver Installation Under Windows

To install the device driver under Windows

1. After you have installed the PCI Sound Card, restart your Microsoft 98 operating system.
2. The "Add New Hardware Wizard" dialog box displays the message "PCI Multimedia Audio Device". Click on "Next>".
3. To continue the driver installation, select "Search for the best driver for your device (Recommended)" and click on "Next>".
4. Choose "Specify a location" and insert installation diskette, labeled "Driver for Windows 98" into your floppy disk drive. Assuming your floppy disk drive is A, specify the path as "A:\". Make sure the dialog box specifies the correct drive letter and click on "Next>". This will start the copying process.
5. Follow the on-screen instructions. When the "Add New Hardware Wizard" dialog box displays the message "Unknown Device", click on "Next>" and repeat step 3 and 4.

3.3. Application Software

3.3.1. Application Installation Under Windows

To install the application software under Microsoft system, please follow the steps below:

1. Start up your Microsoft
2. Click on the START button and choose the RUN item.
3. Please, insert the installation diskette into your floppy disk drive. Assuming you are using drive A, type **A:\SETUP.EXE** in the command line of the RUN dialog box.
4. Click on the "OK" push button and follow the on-screen instructions.
5. The Software application will be installed into your system.

3.4. How to Play Games Under DOS Mode

If you want to play games under 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:\ESSolo.SYS

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

Follow the on-screen instructions to continue the program.

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