

# **ALLEGRO PCI SOUND CARD**

## **Hardware Configuration User Manual**

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## 1. Description

The ES1989 Allegro PCI audio accelerator is a highly integrated PCI solution for the multimedia PC. The high bandwidth PCI bus is utilized to deliver advanced PC audio features, such as DirectSound acceleration and HRTF3-D positional audio.

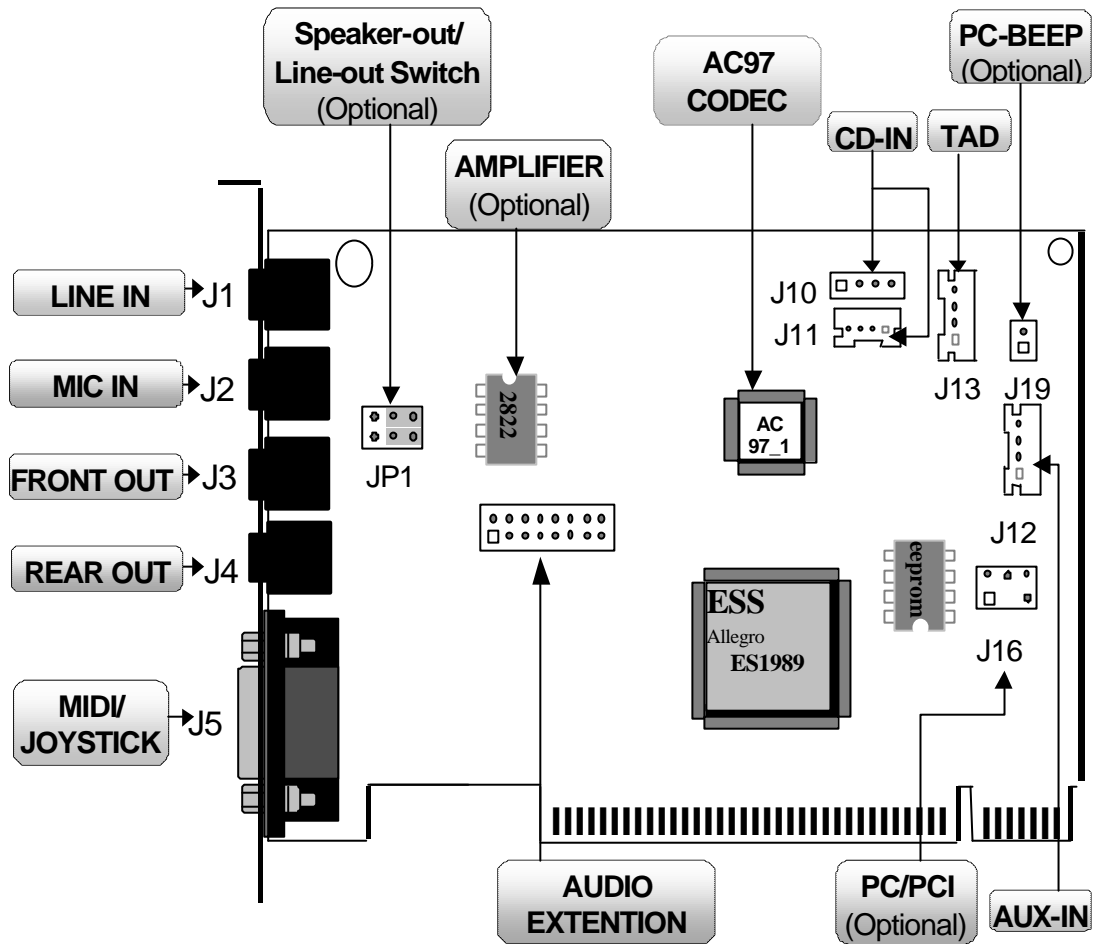
The ES1989 implements multi-stream DirectSound and DirectSound3D acceleration with digital mixing, sample rate conversion, and HRTF 3-D filtering. It includes a programmable audio digital signal processor and provides simultaneous support for multiple audio streams. With its built-in DSP core, the ES1989 uses its dedicated DMA engine to handle complex signal processing tasks with a bus-mastering PCI interface.

### 1.1 Features

- High-performance single-chip PCI audio acceleration.
- Integrated high-fidelity AC'97 codec.
- Multi-stream DirectSound and DirectSound 3D acceleration.
- Sensaura CRL Positional 3D.
- High-quality sample rate conversion and digital mixing.
- DirectMusic support.
- Real-time effects processing.
- S/PDIF output for DVD content.(Optional)
- Full legacy DOS game support using PC/PCI, DDMA or TDMA hardware implementation methods (Optional).
- Compliance with APM 1.2, ACPI 1.1, and PPMI 1.1
- 3.3 volt digital operation with 5V-tolerant inputs.
- Compliant with PCI 2.1/2.2 PCI specification.
- SoundBlaster® and SoundBlaster® Pro compatible.
- Microsoft® Windows Sound System compatible.

- Meets PC98/PC99 and WHQL specifications.
- Supports Win95/98, NT4.0 and Windows2000.

## 2 Card Figure



### 2.1. Connectors for “ES1989 T2x”

#### 2.1.1. External Connectors:

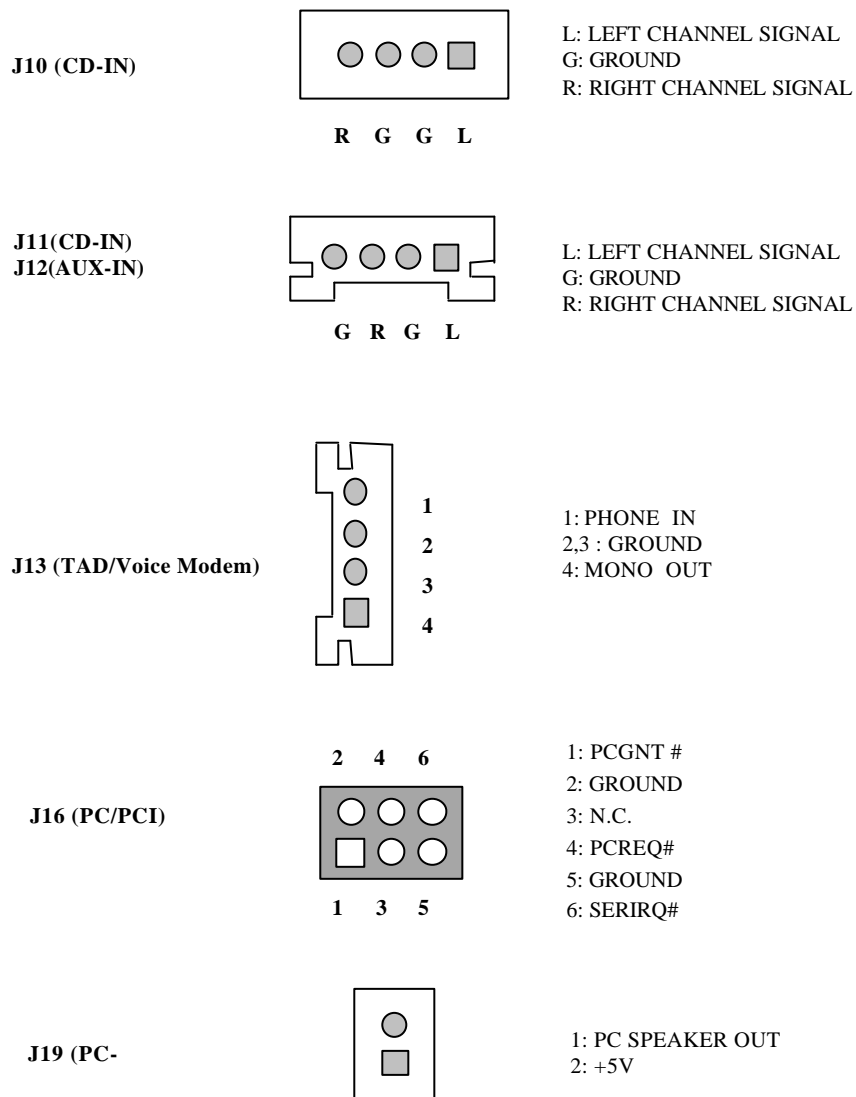
- J1: .....Ø 3.5mm Phone Jack for **LINE IN**  
 J2: .....Ø 3.5mm Phone Jack for **MIC IN**  
 J3: .....Ø 3.5mm Phone Jack for **FRONT OUT**  
 J4: .....Ø 3.5mm Phone Jack for **REAR OUT**  
 J5: .....Connector for **MIDI/JOYSTICK**

#### 2.1.2. Internal Connectors:

- J10: .....Connector for **CD AUDIO IN** (Base Pin)

- J11:.....Connector for **CD AUDIO IN** (JST)
- J12 .....Connector for **AUX IN**
- J13: .....Connector for **TAD/VOICE MODEM.**
- J16: .....Connector for **PC/PCI Legacy Audio SIDEBAND SIGNAL.**(Optional)
- J19: .....Connector for **PC-BEEP** (optional)
- CN3:.....Extension connector for **6-Channel AUDIO** (optional)

## 2.2. Audio Connectors Pin Assignment:



### **3 Installing the Sound Card**

1. Power off the system and all peripheral devices. Unplug all power cords from the power utility outlets.
2. Momentarily touch the chassis of the system unit with your bare hand to discharge any static electricity.
3. Remove the cover from the system unit.
4. Locate a free PCI expansion slot and remove its cover plate. Retain the screw.
5. Carefully remove the sound card from the anti-static envelope and install it into the expansion slot.
6. Secure the sound card with the screw removed earlier.
7. Attach any CD-ROM Audio to the sound card.
8. Put back the system unit cover.
9. Attach all external devices to the sound card.
10. Plug all power cords into power utility outlets.
11. Power on the system and install the appropriate software driver.

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.

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