YAMAHA YMF724 PCI - SOUND CARD

Configuration and Hardware

USER MANUAL

May 1998

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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 the SoundBlaster Compatible, PC'97, Windows 95 Direct Sound, Windows Sound System and PCI 2.1 bus specification.

Features

- PCI 2.1 compliant
- PCI Bus Power Management rev. 1.0 compliant
- PCI Bus master for PCI Audio
  - True Full Duplex Playback and Capture with different Sampling Rate
  - Maximum 64-voice XG capital Wavetable Synthesizer including
  - GM compatibility
  - Direct Sound Hardware Acceleration
  - Direct Music Hardware Acceleration
  - Downloadable Sound (DLS) level-1
- Legacy Audio compatibility
  - Genuine OPL3
  - Hardware SoundBlaster Pro compatibility
  - MPU-401 UART mode MIDI interface
  - Joystick
- Supports PC/PCI and distributed DMA for Legacy
- DMAC (8237) emulation
- Supports IẏS serial input port for Zoomed Video port (optional)
- Supports AC-1 interface (AC-Link)
- Single Crystal operation (24.576 MHz)
- 5V Power supply for I/O. 3.3V Power supply for internal core logic
- Compliant with AC'97 Requirements
  - 4 Stereo Inputs: LINE, CD, VIDEO, AUX
  - TAD connector for mono In and Output for modem Audio
  - 1 MIC Input
  - Stereo LINE Output/ Speaker Output
- 20 dB MIC Amplifier
- Analog Characteristics
  - A/D S/N: 85 dB
  - D/A S/N: 90 dB
- Low Power Consumption
- Built-in 2-Channel Power Amplifier

Card Figure
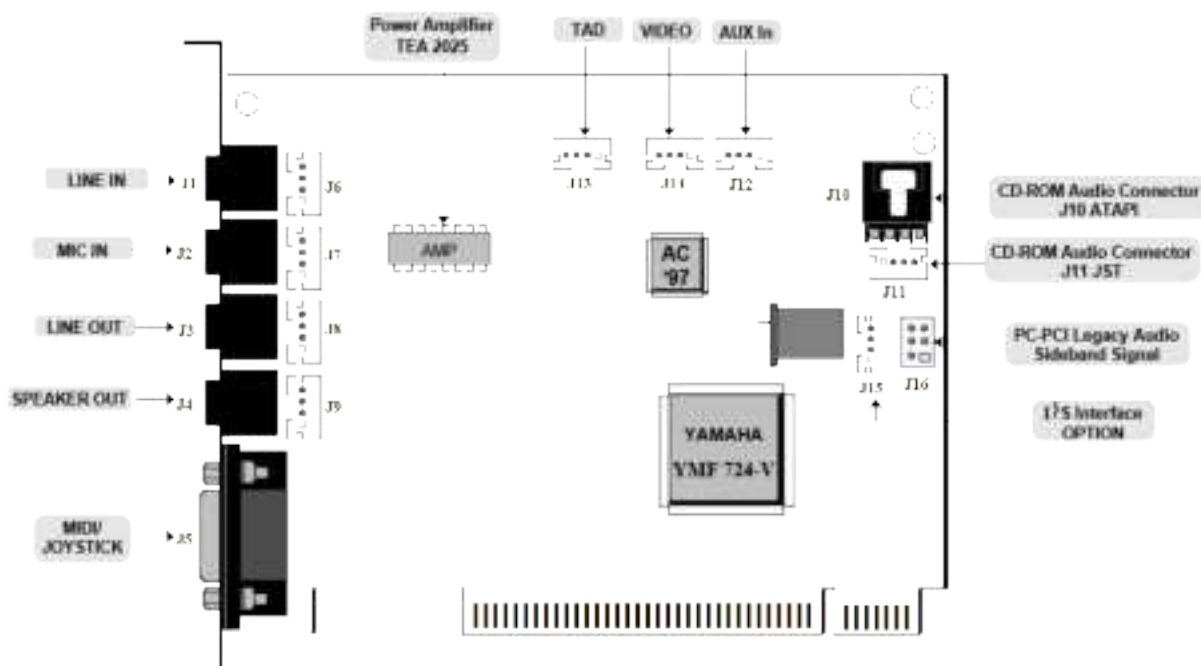
Connectors

This PCI Sound Card includes up to seven internal connectors, four external Jack Ports, one external MIDI/ Joystick connector, one VIDEO connector, one VOICE Modem connector, one IÿS Interface, and one PC-PCI Legacy AUDIO SIDEBAND SIGNAL connector.

External Connectors:

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

Internal Connectors:

J6:...........Internal connector for **LINE IN.** (optional)
J7:...........Internal connector for **MIC IN.** (optional)
J8:...........Internal connector for **LINE OUT.** (optional)
J9:...........Internal connector for **SPEAKER OUT.** (optional)
J10:.........Connector for **IDE CD-ROM AUDIO IN.** (ATAPI)

J11:..........Connector for **IDE CD-ROM AUDIO IN.** (JST)
J12:.........Connector for **AUX IN.**
J13:.........Connector for **TAD/VOICE MODEM.**
J14:.........Connector for **VIDEO IN.**
J15:.........Connector for **I²S Interface** (optional)
J16:.........Connector for **PC-PCI Legacy Audio SIDEBAND SIGNAL.**
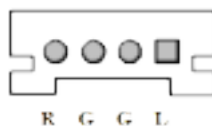
Audio Connectors:

J10: ATAPI CD-Audio		L: LEFT CHANNEL SIGNAL
		G: GROUND
		R: RIGHT CHANNEL SIGNAL

L   G   G   R

J11: CD Audio		L: LEFT CHANNEL SIGNAL
		G: GROUND
		R: RIGHT CHANNEL SIGNAL

R   G   L   G

J12: AUX In		L: LEFT CHANNEL SIGNAL
		G: GROUND
		R: RIGHT CHANNEL SIGNAL

R   G   G   L

J13: TAD/Voice Modem		1 PHONE IN
		2 GROUND
		3 GROUND
		4 MONO OUT

4   3   2   1

J14: VIDEO IN		L: LEFT CHANNEL SIGNAL
		G: GROUND
		R: RIGHT CHANNEL SIGNAL

R   G   G   L
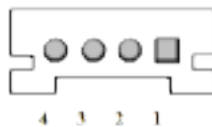
J15: I²S Interface		1 SERIAL DATA 1
		2 SERIAL CLOCK
		3 SERIAL DATA 0
		4 GROUND

4   3   2   1
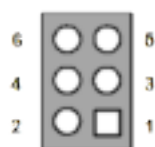
J16: PC-PCI		1 PCGNT #
6 5		2 GROUND
4 3		3 N.C.
2 1		4 PCREQ #
		5 GROUND
		6 SERIRQ Ø

HARDWARE INSTALLATION

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 **J1** or **J2** Jack on the back of the Sound Card.

Step 6. 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 7. 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.

NOTE: If you want to listen to the sound of DOS Games and your motherboard supplies the respective connector, please connect the cable for the PC PCI Legacy Audio Sideband Signal to J16 on the PCI Sound Card.

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