Important Note
SGI® DMediaPro™ DM8 PCI Audio Operation

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This document explains the basic functions and operation of the SGI DM8 PCI audio option card. The DM8 is a half size PCI expansion board that provides audio expansion via the PCI bus. It connects to consumer and professional audio and video equipment via industry-standard interfaces. The DM8 interface panel is shown in Figure 1.
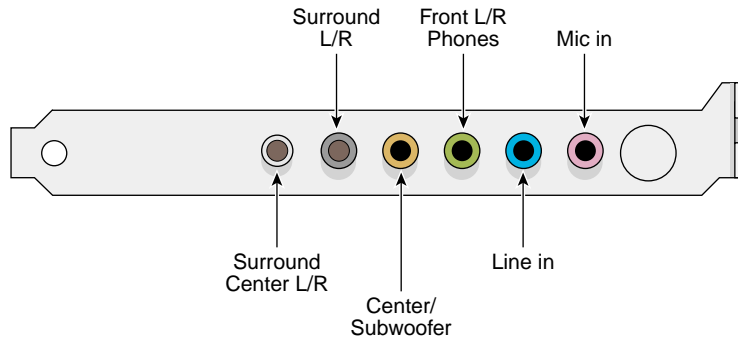

Figure 1   DM8 PCI Board Connectors

Board Installation

Your DM8 audio card is tested for operation in SGI Onyx4, Origin 350, and Onyx 350 visualization systems. Select SGI Linux based systems support use of a single DM8 audio card (check with your SGI sales or support representative for functional confirmation). It is recommended that it not be installed in other SGI systems. For IRIX systems, release 6.5.21 or later is required to properly support the functionality of the DM8.

You may have one or two DM8 boards installed in your IRIX SGI system (Linux based systems support only one card). Under most circumstances you should always leave the DM8 installed in the original factory-configured slot. If it does become necessary to either move or replace the board, use the information on removing and replacing PCI cards in your system user's guide for step-by-step instructions. If you don't have the printed user guide handy, it is available on the Internet in the SGI Technical Publications Library at the following location:

http://docs.sgi.com

Proceed to the next sections for information on verifying functionality, cabling, and basic operation.

Confirming Proper Installation

You can use the information in the following subsections to determine if your system properly recognizes the DM8. If you cannot confirm functionality, try using the information offered in "Troubleshooting Tips" on page 4.

IRIX Installation Confirmation

For IRIX based systems using the DM8 PCI audio board option, you can confirm that the system "sees" the board using the command:
hinv -c audio

This command should produce a response similar to:
```
Iris Audio Processor: version MAD revision 1, number x
```

Where x starts at 1 and is the card number allocated by the system. If another audio card is already installed, the MAD number for the DM8 could be either 1 or 2.

Linux Installation Confirmation

On approved SGI Linux platforms you can confirm installation recognition by the system using the command:
hinv | grep audio

If the board is properly installed you should receive a response similar to:

```
otherpci: Multimedia audio controller: IC Ensemble Inc ICE1724 [Envy24HT]
(rev 01) on pci02.02.0
```

If the response is not as expected, it is possible that the proper driver is not installed. To confirm that the correct driver is available, input the following inquiry:

lsmod | grep mad

If the proper driver is loaded, you should see a response similar to:
```
mad_dd                39968   0  (unused)
```

Cables and Connectors

The DM8 audio board has the following connectors on it's rear panel as shown from left to right in Figure 1:

- Surround Center L/R (silver) a line-level output connector for powered surround Center Left and Right channel speakers (no support under Linux). **This output supports channel 7 and 8 under the IRIX operating system only.**

- Surround L/R (black) a line-level output that can connect to powered Surround Left and Right speakers (no support under Linux). **This output supports channel 5 and 6 under the IRIX operating system only.**

- Center/Subwoofer (orange) a line-level output that can connect to powered Center and Subwoofer speakers (no support under Linux). **This output supports channel 3 and 4 under the IRIX operating system only.**

- Front L/R Phones (green) a jack that connects to powered Left and Right speakers. If you are using a basic two-speaker stereo setup, this is the jack you will use. This is also the jack to use for stereo headphones.

- Line In (blue) a stereo line-level input intended for recording into an audio recording program.

- Mic In (pink) a mic input for connecting a mono microphone for recording, videophone, or voice recognition applications. This jack is a three-conductor TRS-type jack for condenser (two-conductor) and electret (three-conductor) type microphones.

Functional Features

The DM8 PCI audio option has the following functional features:

Line outs:

- Dynamic range of 106 dB (typical, -60 dB input, a-weighted)
- Maximum line output level of 1.26 Vrms (+2 dBV)
- Frequency response of +0.8/-3.0 dB, 20Hz to 80 kHz

Mic in:

- Dynamic range of 90 dB (a-weighted)
- Maximum input level of 1.45 Vrms (3.2 dBV)

Line in:

- Dynamic range of 105 dB (a-weighted)

Sampling frequencies (in kHz):

- Supports sampling frequencies 8, 11.025 16, 22.05, 32, 44.1, 48, (96 and 192kHz supported only under IRIX)

Audio playback formats:

Output formats supported are:

- 24-bit linear PCM/192kHz playback capability (48kHz for Linux systems)
- 24-bit linear PCM/96kHz recording capability (48kHz for Linux systems)

Connector features:

- Analog connector for powered speakers (headphone jack)

- Stereo 1/8-inch mini analog line input

- Mono 1/8-inch mini analog microphone input (with electret mic power)

Troubleshooting Tips

Use the following information to help correct any functional problems with the DM8 audio PCI option card:

- If the sound is distorted or a channel is not producing sound, try the following:

    - Check all cable connections between the audio card and speakers

    - Confirm that any powered speakers are powered on

    - **For IRIX systems only.** If more than one DM8 audio option card is installed, verify that the correct *DEFAULT_INPUT* and *DEFAULT_OUTPUT* files are set in *apanel*

- If the audio is not working at all, try these solutions:

    - Reboot the system

    - Reseat the PCI audio card

    - **For IRIX systems only.** Confirm the system is running IRIX version 6.5.21 or later (update as needed)

If none of these solutions solve the problem, contact your SGI customer support representative or local service provider for additional help.

SGI Customer Support

SGI provides a comprehensive product support and maintenance program for its products. If you are in North America and would like support for your SGI products, contact the Technical Assistance Center at 1 800 800 4SGI, or contact your authorized service provider. If you are outside North America, contact the SGI subsidiary or authorized distributor in your country.