Application Note: Installing a CODEC sound driver on the Trenton TQ9 System Host Board
Date: April 23, 2008

Introduction

This application note explains how to install the STAC9200 CODEC driver on the TQ9 SHB. This procedure assumes that the system with the TQ9 SHB is using the Windows XP Professional 32-bit SP2 operating system. STAC9200 CODEC driver installation may vary slightly with other operating systems.

TQ9 Audio Functionality

The TQ9 supports a digital audio interface or CODEC on SHB connector P40. An analog audio connection is also supported on connector P9. Here are some details on the functionality of the two TQ9 audio interfaces:

- Intel® High Definition Audio - This digital audio interface can be used to attach different types of codecs, such as audio and modem codecs to connector P40 of the TQ9. This audio link operates 3.3 V and supports multi-channel audio streams, a 32-bit sample depth, and an audio sample rate up to 192 kHz.

- Analog Audio - The TQ9's analog audio connector (P9) supports microphone input and HP-out audio functions.

Items Needed For Audio Driver Installation

The following items are needed to complete the audio driver installation on the TQ9.

- 92-xx6731-xxx TQ9 SHB
- 89-005945-xxx Trenton Driver CD Revision 33 or above*
- CDROM/DVD Drive
  *The Trenton driver CD contains the TQ9 audio driver. This driver is also available on-line in the driver section of the Trenton Technology support page located at: http://www.trentontechnology.com/support/

Audio Driver Installation Procedure

1. Load the driver CD into a CDROM/DVD Drive and allow the automated GUI to appear as shown in Figure 1:

TQ9(6731-xxx)

Video	**Audio**
Intel GFX 14.31.1.4864 32bit 2003/2000/XP	Sigmatel STAC9200 Driver
Intel GFX 14.31.1.64.4864 64bit 2003/XP	
Intel GFX 15.6.1.1359 Vista 32bit	
Intel GFX 15.6.1.64.1329 Vista 64bit	
SATA	**Utilities**
ICH9D0 AHCI/RAID SATA 32bit	Chipset 8.4.0.1016
ICH9D0 AHCI/RAID SATA 64bit	Matrix SATA Software
Ethernet	Sigmatel Audio Manager
Intel Pro Driver Set V. 12.3 32bit	
Intel Pro Driver Set V. 12.3 64bit	
Intel Pro Driver Set V. 12.3 Vista 32bit	
Intel Pro Driver Set V. 12.3 Vista 64bit	

back

Figure 1

Audio Driver Installation Procedure (continued)

2. Refer to Figure 1 and click on the SigmaTel Audio Manager located under Utilities in order to load the audio driver setup. Do not click on the SigmaTel STAC9200 Driver yet because it will not load the STAC9200 CODEC correctly at this point in the audio driver installation. This step will come later in the procedure.

3. Follow the on-screen instructions and run through the audio driver setup procedure.

Figure 2

4. Allow the SigmaTel installation wizard to setup the audio hardware configuration.
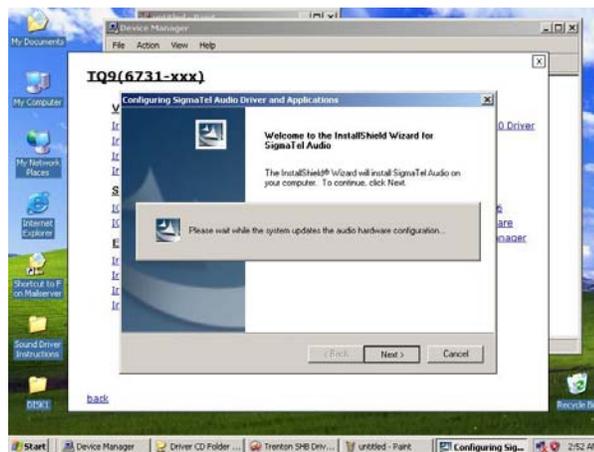
Figure 3

Audio Driver Installation Procedure (continued)

5. Open up the System Device Manager and verify that the PCI Device has been moved under the system devices tab as shown below in Figure 4.
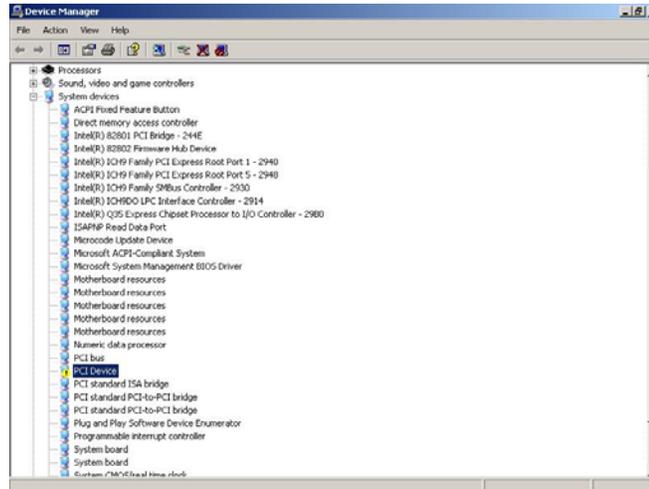

Figure 4

6. Go back to the Trenton Driver CD GUI. Refer to Figure 1 and click on the SigmaTel 9200 Driver located in the Audio section of the driver CD. Extract the files to a desired storage location on your system.

7. Open up System Device Manager and right click on PCI device and go to Properties. From here, click Reinstall Driver as shown in Figure 5.
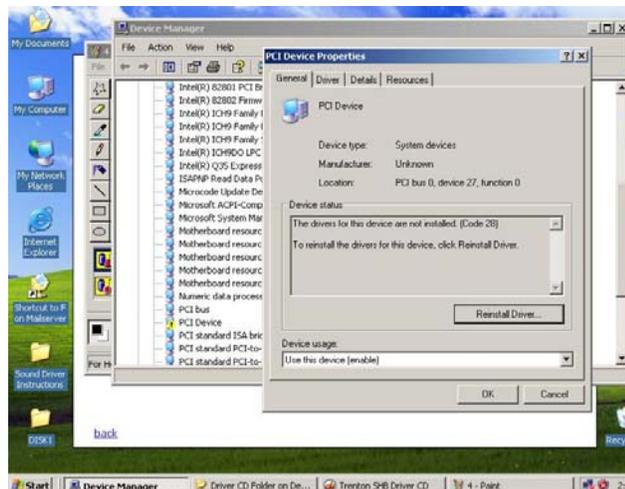
Figure 5

Audio Driver Installation Procedure (continued)

8. Refer to Figure 6 and select the "Microsoft UAA Bus Driver for High Definition Audio" and click "Next" as shown.

Figure 6

9. When this device installs it will show up as a second device as illustrated in the menu shown in Figure 7. This second device is the STAC9200 CODEC. Choose the "No, not this time" option and click "Next".


Figure 7

<u>Audio Driver Installation Procedure (continued)</u>

10. Figure 8 will now be displayed. Select the "Install from a list or specific location [Advanced]" option and click "Next".
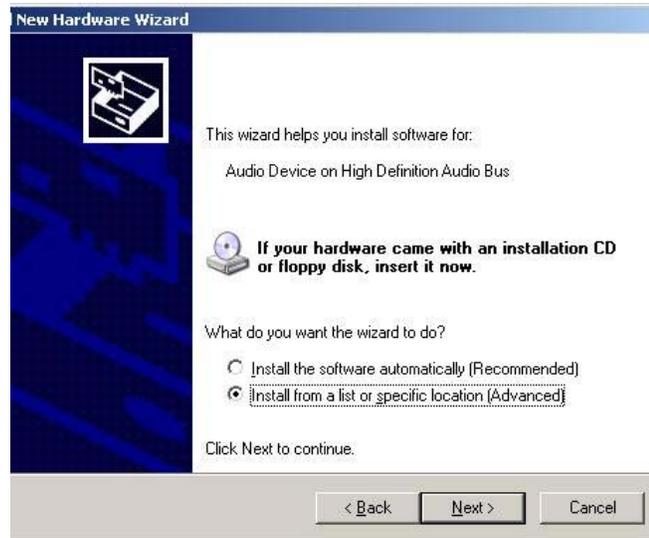
Figure 8

11. Navigate to the extracted file location of the STAC9200 drivers and select SigmaTel High Definition Audio CODEC as shown in Figure 9 and click "Next".
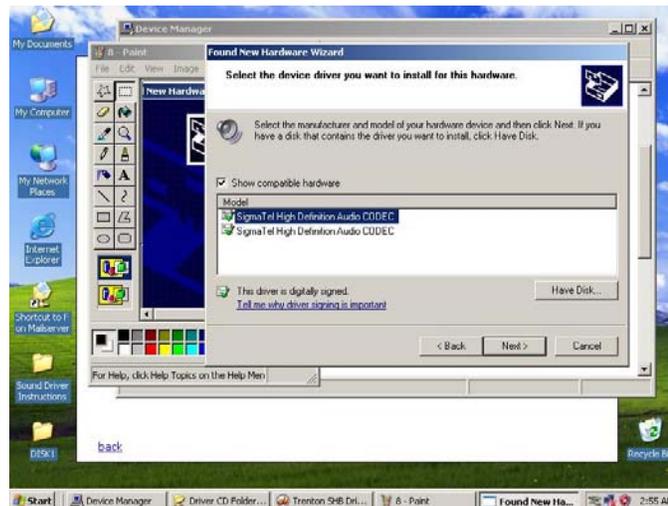
Figure 9

12. After clicking "Next" the audio device driver installation will begin. Allow the device to install as illustrated in Figure 10.

Audio Driver Installation Procedure (continued)
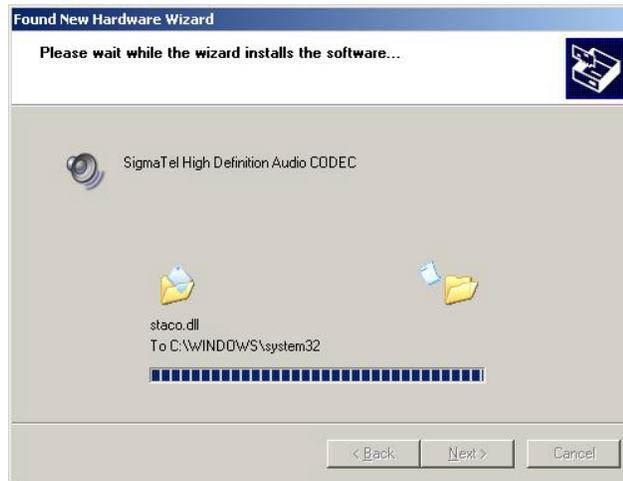
Figure 10

13. Click "Finish" to exit once the driver installation is completed.

Figure 11

14. Verify in the systems Device Manager that the SigmaTel High Definition Audio CODEC is installed under Sound Devices with no question/exclamation marks as shown in Figure 12.
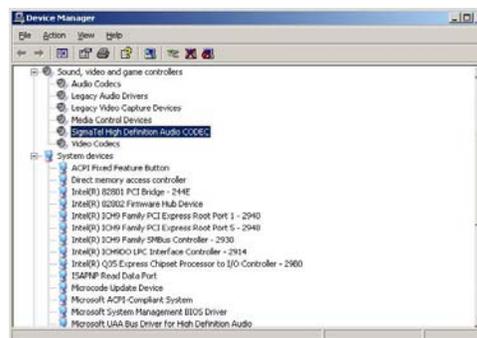

Figure 12

Audio Driver Installation Procedure (continued)

15. Restart the system and verify in the System Taskbar that the volume control speaker is visible. Again, open the System Device Manager and verify proper audio driver installation as illustrated in Figure 13.
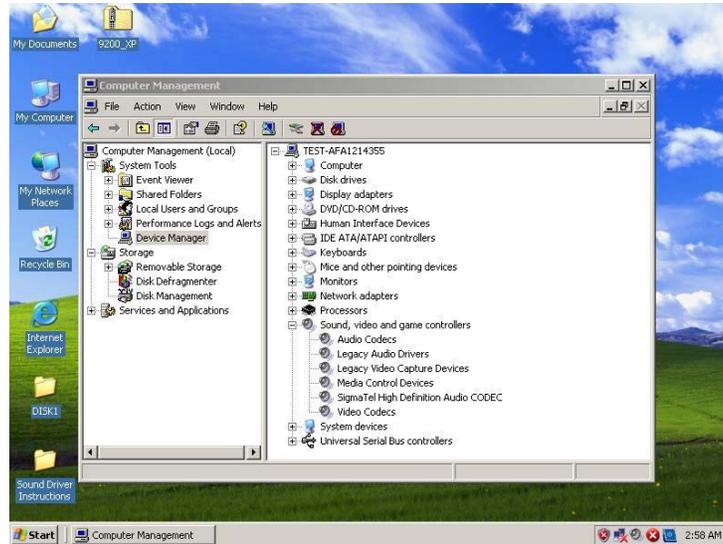
Figure 13

16. This same driver installation procedure is used when installing both 32-bit & 64-bit Windows O/S drivers. When installing STAC9200 audio drivers make sure to select the specific driver needed by your particular operating system. The STHDA is for a 32-bit O/S and the STHDA64 is use with a 64-bit operating system.
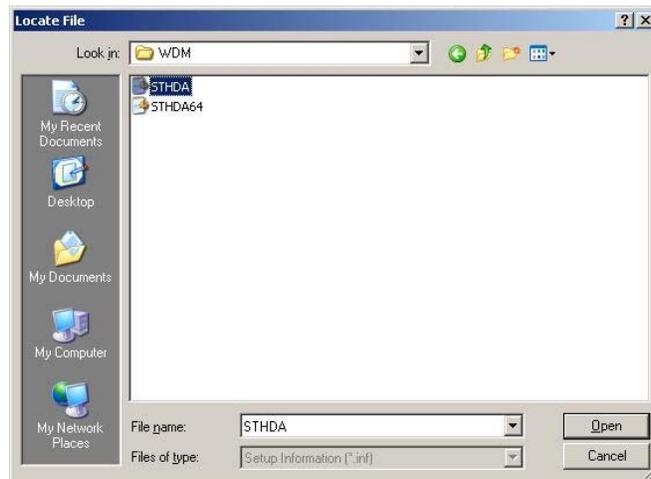

Figure 14

Audio Driver Installation Procedure – Notes

1. The STAC9200 CODEC provides Line-Out and MIC functionality ONLY.
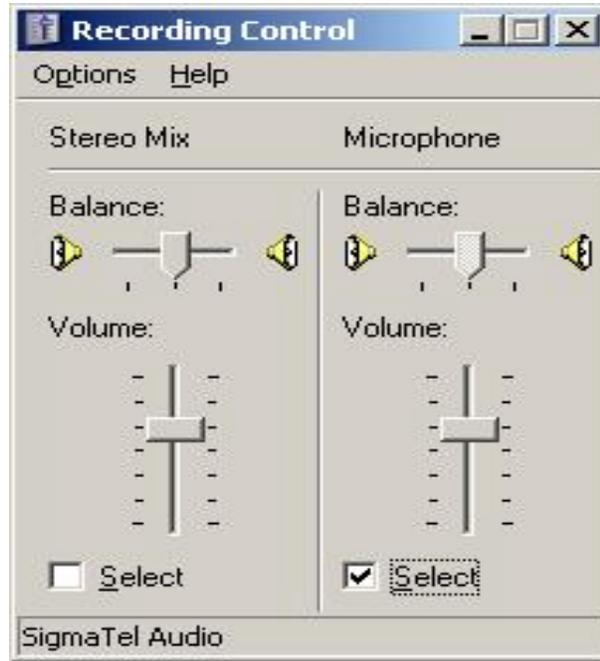
Figure 17 – SigmaTel Audio Controls
(Windows XP Professional 32-bit SP2 O/S)

2. Use P9 for an analog audio connection and P40 for HD Audio applications.
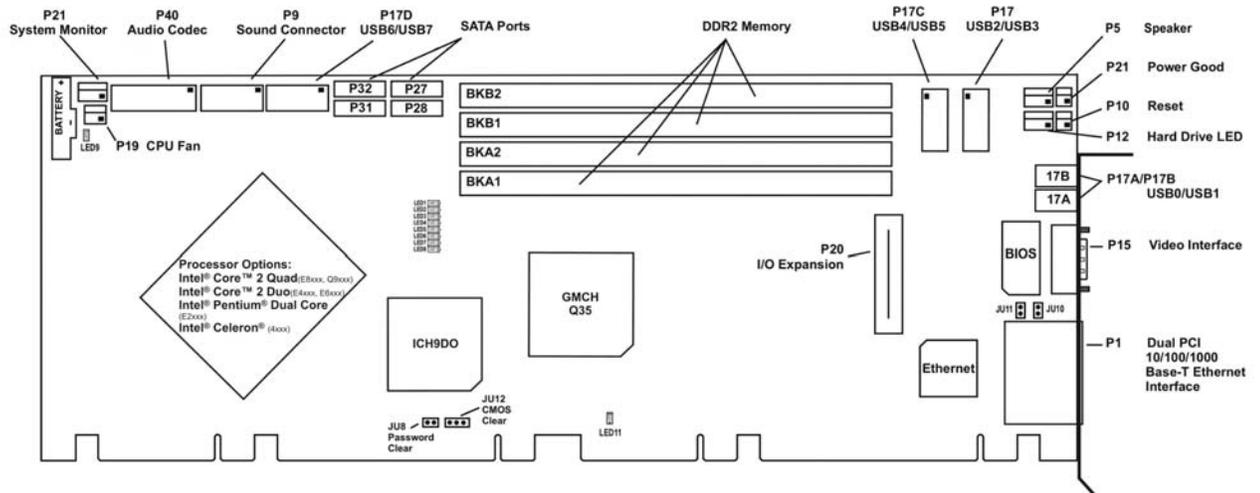
Figure 16 – Trenton TQ9 Connector Layout Drawing