WARNING

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver in connected.

- Consult the dealer or an experienced radio/TV technician for help.

Notice:

Changes or modigications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not causeharmful interference,and (2) this device must accept any interference received, including interference that may cause undesired operation.

GVC SW304
Audio Card
user's Guide

Installation Under Windows 95

This Document contains the following:

A. Installing Crystal Audio Drivers
B. Uninstalling Crystal Audio Drivers
C. Dos Mode
D. Crystal 3D Audio

A. Installing Crystal Audio Drivers

1. Turn PC off and insert audio card into an ISA slot unless audio device is present in your motherboard.
2. Turn PC on and start up Win95.
3. Win95 is a PnP OS. It automatically recognizes new PnP audio hardware and creates a database for the hardware. The following shows the the Crystal logical devices:

    a. Win95 detects the Crystal PnP Audio System Codec. Win95 asks for the manufacturer's Disk. Please select the approriate drive (for example D:\CS4236\WIN95 or D:\CS4237\WIN95). If the Windows default driver is not grayed out, installing DirectSound games replaces Crystal drivers with Microsoft Windows Sound System drivers.

    b. Win95 detects the Crystal PnP Audio System Joystick (Joystick in some platforms). On certain versions of Windows 95, Windows will prompt for the Win 95 CD in order to re-install the joystick drivers.

    c. Win95 detects the Crystal PnP Audio System Control Registers.

    d. Win95 detects the Crystal PnP Audio System MPU-401 Compatible.

    If any of the above (A thru E) is not detected, a previous Win95 sound card installation was done. For a clean reinstallation, the user should see the Uninstalling Crystal Audio drivers section below.

B. Uninstalling Crystal Audio Drivers

1. From Win95, run setup.exe(D:\CS4236\WIN95\SETUP.EXE or D:\CS4237\WIN95\SETUP.EXE) provided in the Crystal installation diskette. The Setup will do an automatic cleaning up of the Win95 Crystal Audio registry entries. Many problems with reinstallation occur because of existing registry entries from previous installations and because of the \WINDOWS\INF\OEMx.INF files. After running setup, the various Crystal devices from the Control Panel should disappear. It is recommended that prior to running Setup, remove the device entries in the Sound, Video, and Game Controller of the System Device Manager, and Crystal entries (if any) in the Other detected devices section of the Device Manager.
2. Shutdown and turn off your PC.
3. Turn PC on, Start Win95, Win95 will now detect new hardware, create an information database, and proceed with the
  installation of Crystal device drivers.

C. Dos Mode

1. Restarting the computer in MS-DOS mode.

Shutting down to MS-DOS mode from the Shutdown Win95 Menu will automatically run the CWBINIT.EXE /A in dosstart.bat. Therefore, shutting down to MS-DOS mode will automatically have the audio card configured for Dos games.

2. Enabling Dos support in Dos prompt icon.

To enable real DOS mode with CS4236/37b support:

a. Select a DOS prompt icon.
b. Select Properties.
c. Go to the Program tab.
d. Select the Advanced... button.
e. Click MS-DOS Mode.
f. Click "Specify a new MS-DOS configuration."

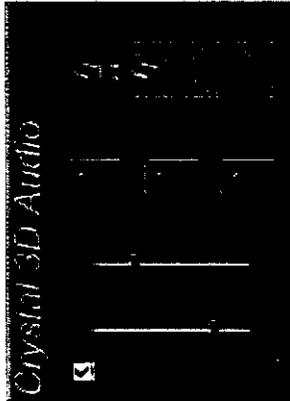g. The following line will be automatically placed into the new MS-DOS configuration (with right path):

    DEVICE=C:\WIN95\CWBINIT.EXE /A

D. Crystal 3D Audio

 is the Crystal CS4236 3D Audio Control icon. (in the Voyetra Application)
cwb3dsnd.exe is the Crystal CS4237B 3D Audio Control Applet. When installed with a CS4237B the SRS panel will be available.

The accessory runs each time you start your computer where it appears in the notification area of the task bar. The task bar is where the start button resides.

Installation Under Windows NT

This Document contains the following:

    A. Feature Summary
    B. Installing Crystal Audio Drivers
    C. Installing Compatible MPU-401 Driver
    D. Installing Compatible Joystick Drivers
    E. Un-installing Crystal Audio Drivers

A. Feature Summary:

1. WSS Support for Microsoft Mixer Panels (NT 3.51/NT 4.0)
2. Support for Microsoft Joystick driver (NT 4.0)
3. Generic WINNT 4.0 PnP Support
4. MIDI Internal FM Support (NT 3.51/NT 4.0)
5. Support for Generic MPU-401 Microsoft driver (NT 4.0)

B. Installing Crystal Audio Drivers

1. Turn PC off and insert audio card into an ISA slot unless audio device is present in your motherboard.
2. Turn PC on and start up WindowsNT.
3. NT 3.51:
     Double click the DRIVERS icon in the control panel.
   NT 4.0:
     Double click the Multimedia icon in the control panel and click on the Devices tab.
4. Press the ADD button. Select *Unlisted or Updated Drivers* and press   OK.
5. A dialog box will appear and request the path of the location of the driver files. You may search this path by clicking the BROWSE button.
6. Another dialog box will appear with the *CrystalWare Audio Driver* label. Press OK to continue with the installation. (for example D:\ )
7. If your system BIOS does not support Plug-and-Play, *the Business Audio Setup* dialog box will appear and request you to select the configuration resources.
8. WindowsNT may ask you to restart your system. Even though it is not

necessary to do so, we recommend that you click on the Restart Now button.

C. Installing Compatible MPU-401 Driver - WindowsNT 4.0 ONLY

NOTE: You will need your WindowsNT 4.0 installation disc(s).

1. Double click the Multimedia icon in the control panel and click on the Devices tab.
2. Upon clicking the ADD button, the ADD dialog box will appear.
3. Scroll down the list of drivers until you find the one labeled *MPU-401 Compatible Driver*. Selected and press OK.
4. A dialog box will appear and request the path of the location of the   drivers to be
   installed. Place your installation CD or Setup Disk #2 on the corresponding drive and press
   OK (the default path is the i386 directory).
5. The *Generic MPU-401 Setup* dialog box will pop up. To select the default configuration resources, press OK.
6. WindowsNT will ask you to restart your system. Press the Restart Now button.

D. Installing Compatible Joystick Drivers - WindowsNT 4.0 ONLY

NOTE: You will need your WindowsNT 4.0 installation disc(s).

1. Double click the Multimedia icon in the control panel and click on
2. Upon clicking the ADD button, the ADD dialog box will appear.
3. Scroll down the list of drivers until you find the one labeled *Microsoft Sidewinder 3D Pro Joystick*. Selected and press OK.
4. The Install Driver dialog box will appear and request the location of the driver files. Place
   your installation CD or Setup Disk #2 on the corresponding drive. The default path to the
   Microsoft Sidewinder Joystick drivers is the i386 directory.
5. Once you have found the driver, press OK to complete the installation.
6. WindowsNT will ask you to restart your system. Press the Restart Now button.

E. Un-installing Crystal Audio Drivers

1. NT 3.51:
   Double click the DRIVERS icon in the control panel. Once the DRIVERS dialog box appears, scroll down the list of drivers and select the entry labeled *Audio for CrystalWare Audio Driver*.

   NT 4.0:
   Double click the Multimedia icon in the control panel and click on the Devices tab.
   Double click on the Audio Devices entry and then select *Audio for CrystalWare Audio Driver*.
2. Press the REMOVE button. Verify your decision by pressing the YES
   button of the REMOVE dialog box.
3. The *System Setting Change* dialog box will appear and ask you to restart WindowsNT. Press the Restart Now button.

SPK-OUT

LIN-IN

MIC-IN

GAME-PORT

CD-EXT-IN

(MPC2)
CD-EXT

SW304