

# **USER MANUAL**

## **ESS AUDIO/MODEM COMBO CARD**

November 1998

Reference  
Version 1.0

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### 1. DESCRIPTION

Thank you for choosing our ESS Modem/Audio Combo Card, which uses the ES56CV-PI chipset. It includes the Maestro-2EM digital audio accelerator, the ES2890S modem processor, the AC'97-compliant ES1918 audio CODEC and the ES2818 modem AFE.

The main chipset Maestro-2EM (ES1978) features a hardware wavetable synthesizer with Downloadable Sample (DLS) and complete DirectSound acceleration.

Both Microsoft®'s PC98 and PC97 logo requirements and DOS game compatibility are supported.

The Maestro-2EM audio accelerator interfaces with the ES2890S modem processor to offer users a cost-effective PCI audio/modem combination solution.

#### 1.1. Audio Features

- ⇒ Interface with ES56 DSP modem solution
- ⇒ Hardware wavetable and effect synthesizer
- ⇒ Multi-stream Direct Sound and DSSD acceleration
- ⇒ 500 MIPSS equivalent processor performance to accelerate multi-stream PC audio
- ⇒ 64-channel Wave Processor for direct sound and/or wavetable applications
- ⇒ Distributed and PC/PCI DMA, Compaq serial IRQ support and Transparent DMA
- ⇒ 3.3 V power supply, 5V - input tolerant
- ⇒ Multiple AC'97 CODEC interface with up to 20-bit ADC/DAC audio and signal resolution

#### 1.2. Modem Features

##### Data Mode Capabilities

- ⇒ V.90 56 Kbps
- ⇒ ITU-T V.34 33600 bps and fallbacks

##### Fax Mode Capabilities

- ⇒ ITU-T V.17, V.29, V.27ter, V.21 Ch2
- ⇒ Group 3 (TIA/EIA 578 Class 1 and Class 2)

##### Telephone Capabilities

- ⇒ Telephone Answering Machine
- ⇒ DTMF generation and detection
- ⇒ Full Duplex Speakerphone
- ⇒ Caller ID

##### TIES escape sequence

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## ESS Audio/Modem Combo Card

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### Windows 95

⇒ UNIMODEM/V

⇒ TAPI

### DOS box compatible

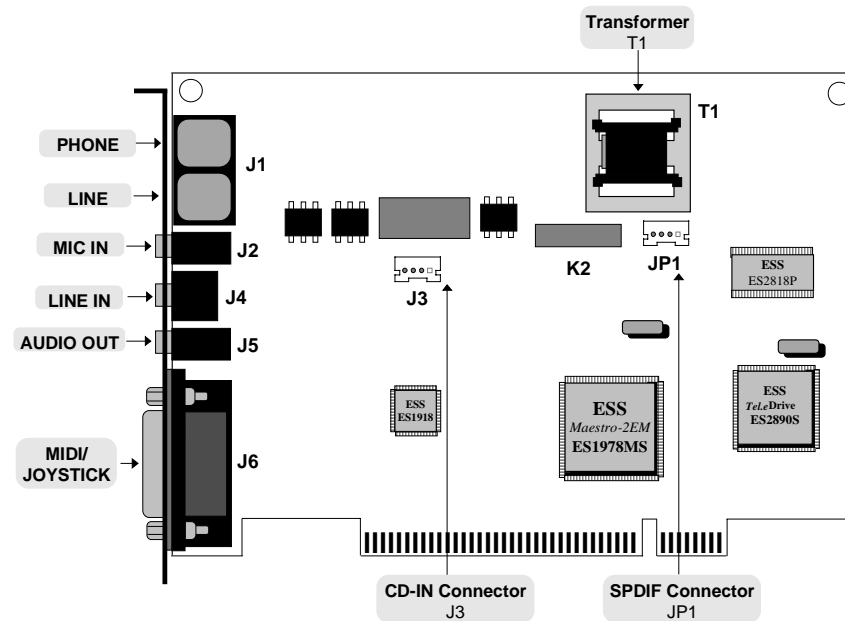
V.80 (H.324 software stack compatible)

## 1.3. Hardware Features

### DSP

⇒ ESS Maestro-2EM, ES2890, ES2818, ES1918

## 1.4. Card Figure



This Combo Card includes four external Jack Ports, and one external TELEPHONE/LINE Connector, and two internal connectors.

J1: ..... φ 3.5mm Phone Jack for **TELEPHONE**  
φ 3.5mm Line Jack for **LINE/WALL**

J2: ..... φ 3.5mm Phone Jack for **MIC IN**

J4: ..... φ 3.5mm Phone Jack for **LINE IN**

J5: ..... φ 3.5mm Phone Jack for **AUDIO OUT**

J6: ..... Connector for **MIDI/JOYSTICK**

φ 3.5mm Line Jack for **LINE/WALL**

J4: .....  $\phi$  3.5mm Phone Jack for **LINE IN**

J6: ..... Connector for **MIDI/JOYSTICK**

J3: ..... Internal Connector for **CD-IN** (JST)  
JP1: ..... Internal Connector for **SPDIF** (JST)

JP1:..... Internal Connector for **SPDIF** (JST)

## 2.1. Handling the Combo 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 board:

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.

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.

Keep other people from touching the board. They might have a static-electricity build-up.

**Limit your movement.** Movement causes a build-up of static electricity.

- 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 Combo Card, and tighten it with the screw.
- Step 5.** Plug the telephone cable of the PHONE Jack **J1** into the Jack on the back of your telephone.

**Step 2.** Disconnect the power cord and all peripheral devices from the system.

**Step 4.** Unscrew the slot cover plate, plug in the Combo Card, and tighten it with the screw.

**Step 5.** Plug the telephone cable of the PHONE Jack **J1** into the Jack on the back of your telephone.

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- Step 6.** Plug the telephone line of the LINE Jack **J1** into the Wall Jack on the back of your telephone.
- Step 7.** Plug your microphone cable directly into the MICROPHONE IN Jack **J2** of your Combo card.
- Step 8.** Plug your CD-In cable directly into the internal CD-In Connector **J3** of your Combo card.
- Step 9.** Plug your LINE-In cable into the external Phone Jack **J4** of your Combo card.
- Step 10.** Plug the cable of your Speaker system into **J5** of your Combo card.
- Step 11.** Plug the SPDIF cable into the internal SPDIF connector **JP1** of your Combo card.
- Step 12.** 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.

### 3. SOFTWARE INSTALLATION

#### 3.1. Software Contents

There is one Installation CD-title that comes with this package. This CD includes the device driver and application software that you may use under your Microsoft® Windows® 95 operating system.

#### 3.2. Before Installing the Combo Card for the First Time

##### Unimodem/V Installation

For proper TAPI function, UNIMODEM/V must be installed on the system prior to the modem installation. *It is not necessary to check the existence of Unimodem/V in your system before you plug in the modem card because the provided driver will auto-install the subsystem.*

**Note:** UNIMODEM/V is the new UNIMODEM subsystem provided by Microsoft for Windows® 95. These binaries are not included with the Windows® 95 release and may change without prior notice.

### **3.3. DEVICE DRIVER**

#### **3.3.1. Device Driver Installation Under Windows 95**

If you want to install modem and audio device driver onto your system, please follow the steps as described below:

- 1.) Start up your Microsoft® Windows® 95 operating system.
- 2.) The “New Hardware Found” dialog box will display the message “PCI Multimedia Audio Device”. Choose the option “Driver from disk provided by hardware manufacturer”.
- 3.) Please, insert the installation-CD into your CD-ROM drive D or E.
- 4.) Assuming drive D is used, type **D:\DRV** in the command line and click on the OK push button.
- 5.) The necessary device drivers will be installed and you will be prompted to restart your computer.

#### **3.3.2. Device Driver Uninstallation Under Windows 95**

You may wish to replace your present Combo card with another type.

Before doing so go to the Windows Control Panel and select the “Add/Remove Programs” icon. Under the “Add/Remove Programs Properties” dialog box choose the “Install/Uninstall” tab.

Select now the “**Uninstall ESS Modem**” software and click on the “Add/Remove” push button. Windows® 95 will enter the Setup program “ESS Maestro-2E Modem Utility”, and the first Setup dialog box will appear as shown on the following page.

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Select now the radio button “Uninstall Drivers” and click on the “Next>” push button to complete the device driver uninstallation.

### **3.3.3. Checking the Audio Device Driver Installation Under Windows 95**

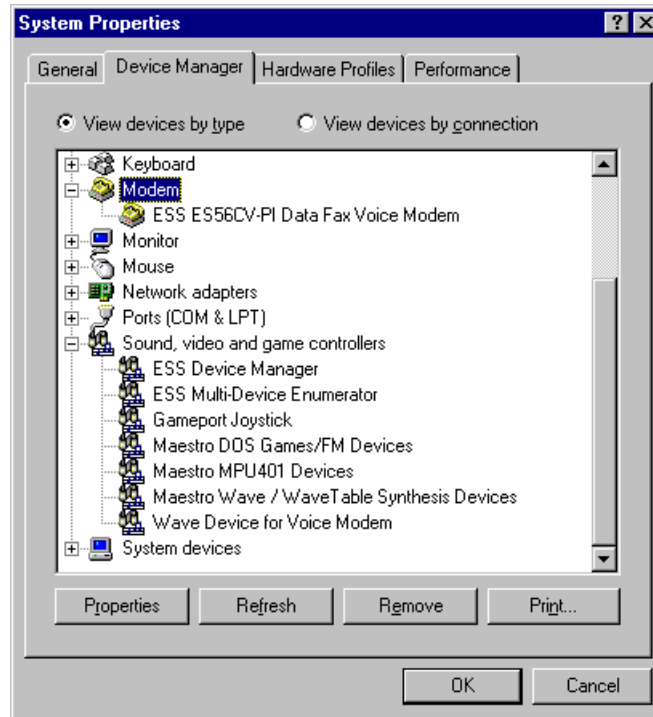
- 1.) Click on the “Start” button on the taskbar.
  - 2.) Select “Settings” and open the “Control Panel”.
  - 3.) Double-click on the “System” icon.
  - 4.) Click on the “Device Manager” tab.
  - 5.) Double-click on the “Sound, video and game controller” icon.
- If everything has been installed correctly, no exclamation mark indicating a conflict will appear next to the list of audio devices. If an exclamation icon does appear, see the trouble shooting section of the modem manual.
- Please see the “System Properties” window as displayed on the following page.



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### 3.3.4. Checking the Modem Installation Under Windows 95

- 1.) Click on the "Start" button on the taskbar.
  - 2.) Select "Settings" and open the "Control Panel".
  - 3.) Double-click on the "Modem" icon.
  - 4.) Click on the "Diagnostics" tap.
  - 5.) Select the COM port that the modem "ESS ES56CV-PI Data Fax Voice Modem" has been assigned to.
  - 6.) Click on "More Info".
- If everything has been installed correctly, the following commands and their results are displayed, "ATI1, ATI2, ATI3, ATI4, ATI5, ATI6, ATI7, AT+FCLA"

### 3.4. APPLICATION SOFTWARE

The bundled software package “TeleConnect” (modem application) and “**AudioRack 32**” (audio application) might be installed together or separately.

#### 3.4.1. “TeleConnect” and “AudioRack 32” Application Installation Under Windows® 95

If you want to install the application software onto your system please follow the steps as described below.

- 1.) After you have started up your Microsoft® Windows® 95 operating system click on the START button and choose the RUN item.
- 2.) Please insert the installation CD-title into your CD-ROM drive D or E.
- 3.) Assuming your CD-ROM drive is D, type in the command line of the RUN dialog box **D:\SETUP.EXE** and click on the OK push button.
- 4.) The necessary application software will be installed onto your system and you will be asked whether or not you want to continue installing the audio application software “**AudioRack 32**”. Choose the YES push button to proceed with the installation.

<p><i>NOTE: For installing the audio application software at a later time, please type the command <b>D:\AudioRack\SETUP.EXE</b> in the command line of the RUN dialog box and click on the OK push button. Follow the on-screen instructions.</i></p>
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#### 3.4.2. Application Uninstallation Under Windows® 95

You may wish to remove your application software.

Before doing so go to the Windows Control Panel and select the “Add/Remove Programs” icon. Under the “Add/Remove Programs Properties” dialog box choose the “Install/Uninstall” tab.

Select now:

AudioRack p3.03	to remove the Audio application software
TeleConnect 1.22	to remove the Modem application software

Click on the “Add/Remove” push button. Windows® 95 will remove the application software from your system.

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