

OPL3-SA_x
CONFIGURATION AND HARDWARE
USER MANUAL

May 1997

DESCRIPTION

This is a 16-bit PC stereo sound card using the YAMAHA OPL3-SAx (YMF-71x-OPL3-SAx) chipset with the Bundle Software "SOFT SYNTH" Software Wavetable. This Plug-and-Play sound card is comprised of the following optional functions: IDE CD-ROM interface, 3D sound effect and a Hardware Wavetable (Upgrade) function. This lets you add an IDE CD-ROM drive and stereo audio to your personal computer system.

Features

- ◆1 Compatible with Plug-and-Play ISA 1.0a.
- ◆2 Compatible with PC game and Windows Sound System.
- ◆3 Built-in 16-bit Sigma-Delta Stereo CODEC.
- ◆4 Programmable sampling rate from 5.5 kHz to 48 kHz for recording and playback.
- ◆5 64-step master volume control.
- ◆6 Dual DMA with FIFO for Full-Duplex.
- ◆7 Support IMA ADPCM, A-Law, -Law compression and decompression.
- ◆8 Support DMA demand mode.
- ◆9 MPU-401 compatible MIDI interface.
- ◆10 Built-in OPL3 (FM-Synthesizer).
- ◆11 Built-in 6-channel stereo mixer [Line, AUX1, Synth (AUX2), SB, CODEC, Mic]
- ◆12 Built-in 5-channel analog input [Line, AUX1 (CD), AUX2 (External Synthesizer), Mic, Mono-In].
- ◆13 Standard IBM PC joystick interface.
- ◆14 Support ATAPI IDE CD-ROM drive.
- ◆15 Transfer rate up to 2M Bytes per second.

Built-in high power amplifier (Option)

Bundle Software: "SOFT SYNTH" Software Wavetable (Option)

- ◆16 Maximum 32 voices (may be less than 32 voices depending on CPU performance and the effect of other loading)
- ◆17 128 instruments and drum kits.
- ◆18 Stereo/Mono output waveform.
- ◆19 Compatible to General MIDI level 1.
- ◆20 Software enable/disable reverb effect.
- ◆21 Work under Win 3.1/Win 95 environment.

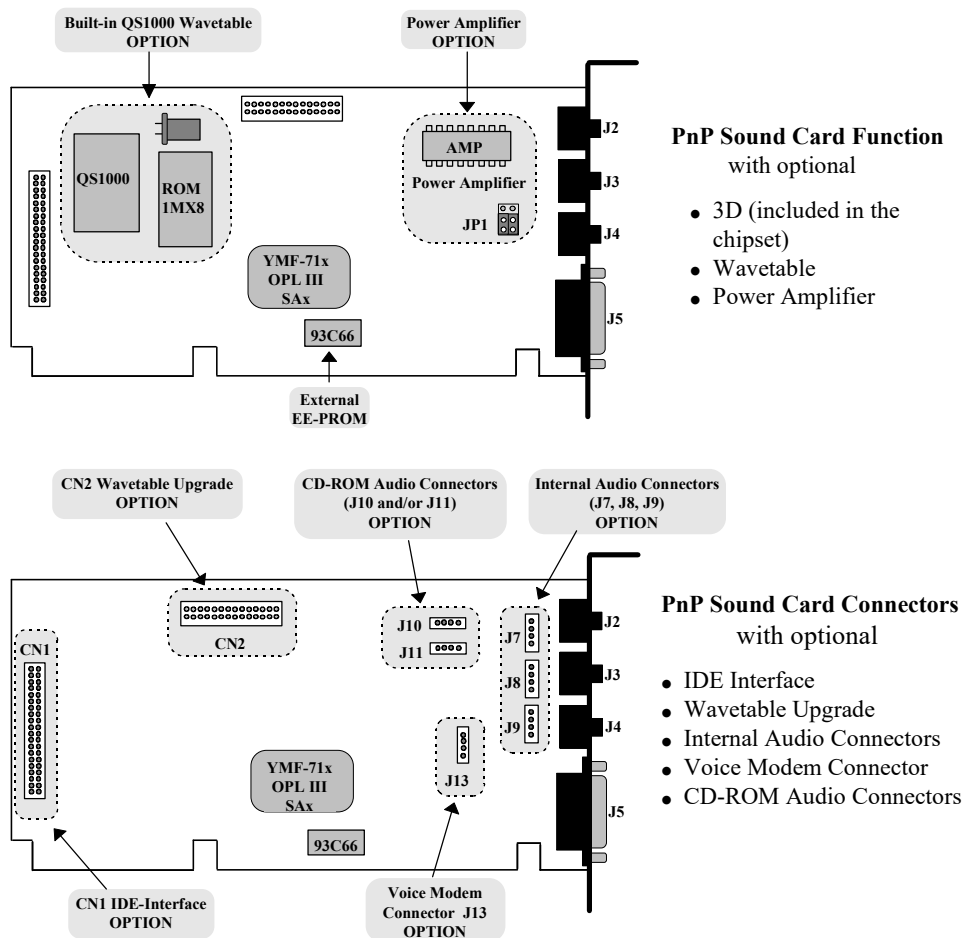
3D Sound Effect (Option)

- ◆22 Producing a wide sound image from normal stereo input.
- ◆23 No encoding of input signals is required.

◆24 **Built-in QS1000 Hardware Wavetable** (Option)

- ◆25 32-voice polyphony
- ◆26 128 General MIDI instruments plus 80-piece drum kit.
- ◆27 No TSR General MIDI support through MPU-401 MIDI Port.
- ◆28 Subtractive sound synthesis.
- ◆29 Advanced Time variable filter and amplitude control (ATFA).
- ◆30 Built-in CPU data memory and TTL interface.
- ◆31 Dynamic voice assignment.

◆32 **Card Figure**



Connectors and Jumper

This Sound Card includes up to eight internal Connectors, three external Jack Ports, one external MIDI/Joystick Connector, and one Jumper Switch.

Standard Connectors:

J2:.....3.5mm Phone Jack for **SPEAKER OUT/LINE OUT**.

J3:.....3.5mm Phone Jack for **LINE IN**.

J4:.....3.5mm Phone Jack for **MIC IN**.

J5:.....Connector for **MIDI/JOYSTICK**.

Optional Connectors:

CN1:.....40-pin Connector for **IDE CD-ROM**.

CN2:.....26-pin Connector for **WAVETABLE UPGRADE**.

J7:.....Internal Connector for **SPEAKER OUT/LINE OUT**.

J8:.....Internal Connector for **LINE IN**.

J9:.....Internal Connector for **MIC IN**.

J10:.....Connector for **IDE CD-ROM AUDIO-IN. (ATAPI)**

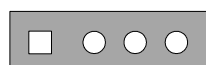
J11:.....Connector for **IDE CD-ROM AUDIO-IN. (JST)**

J13:.....Connector for **VOICE MODEM**.

JP1:.....Jumper for switching between **SPEAKER OUT/ LINE-OUT**.

Audio Connectors:

J10: IDE



L G G R

L: LEFT CHANNEL SIGNAL
G: GROUND
R: RIGHT CHANNEL SIGNAL

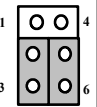
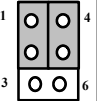
J11: IDE



R G L G

L: LEFT CHANNEL SIGNAL
G: GROUND
R: RIGHT CHANNEL SIGNAL

Audio Output Jumper Settings for JP1:

Audio	Setting
SPEAKER OUT with Power Amplifier (Default)	
LINE OUT without Power Amplifier	

HARDWARE INSTALLATION

- 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 16-bit slot.
- Step 4.** Unscrew the slot cover plate, plug in the Sound Card and tighten it with the screw.
- Step 5.** If you have speakers or amplifiers, plug the cable into the J2 Jack on the back of the Sound Card.

If you do not want to connect a CD-ROM device to the Sound Card, or if your Sound Card has no IDE CD-ROM Connector, go directly to Step 8.

OPTION: To install an ATAPI IDE CD-ROM drive follow the steps above then do the following:

- Step 6.** Plug one end of the 40-pin flat ribbon cable into CN1 on the Sound Card. Pin 1 of the ribbon cable is usually denoted with a red stripe.
- Step 7.** Plug the other end of the 40-pin ribbon cable into the back of the CD-ROM drive and connect the power plug from your system power into the CD-ROM drive power connector.
- Step 8.** 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 9.** 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.

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