

# YMF754

## DS-1E

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Preliminary
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### ■ OVERVIEW

YMF754 (DS-1E) is a high performance audio controller for the PCI Bus. DS-1E consists of two separated functional blocks. One is the PCI Audio block and the other is the Legacy Audio block.

PCI Audio block provides 64-voice XG wavetable synthesizer with reverb and variation by using the software driver from YAMAHA. It also supports DirectSound hardware accelerator, Downloadable Sound (DLS) and DirectMusic accelerator.

Legacy Audio block supports FM synthesizer, Sound Blaster Pro, MPU401 UART mode and Joystick function in order to provide hardware compatibility for numerous PC games on real DOS without any software driver.

DS-1E supports the connection to AC'97 which provides high quality DAC, ADC and analog mixer, and it can connect two AC'97s. In addition, it supports consumer IEC958, Digital Audio Interface (SPDIF In/Out), to connect external audio equipment by digital.

In addition to support the same functions of YMF744B (DS-1S), DS-1E adds direct recording function for SPDIF In, and realizes to use SPDIF In and Zoomed Video Port at the same time. And, DS-1E is featured with the capability of dramatically reducing power consumption at normal operation.

### ■ FEATURES

- PCI 2.2 Compliant
- PC98 / PC99 specification Compliant
- PCI Bus Power Management rev. 1.0 Compliant (Support D0, D2 and D3 state)
- Supports clock run
- PCI Bus Master for PCI Audio
  - True Full Duplex Playback and Capture with different Sampling Rate
  - Maximum 64-voice XG capital Wavetable Synthesizer including GM compatibility
  - DirectSound Hardware Acceleration
  - DirectMusic Hardware Acceleration
  - Downloadable Sound (DLS) level-1
- Legacy Audio compatibility
  - FM Synthesizer
  - Hardware Sound Blaster Pro compatibility
  - MPU401 UART mode MIDI interface
  - Joystick
- Supports PC/PCI and Distributed DMA for legacy DMAC (8237) emulation
- Supports Serialized IRQ
- Supports I<sup>2</sup>S serial input for Zoomed Video Port
- Supports Consumer IEC958 Port (SPDIF In/Out)
- Supports direct recording function for SPDIF In
- Capability for using SPDIF In and Zoomed Video Port at the same time.
- Supports AC'97 Interface (AC-Link) Revision 2.1
- AC'97 Digital Docking
- Supports 4-Channel Speaker
- Hardware Volume Control
- EEPROM Interface
- Single Crystal operation (24.576MHz)
- Power supply: 3.3V for I/O (5V tolerant), 2.5V for Internal core logic
- 128-pin LQFP YMF754-V : 0.5mm pin pitch  
YMF754-R : 0.4mm pin pitch

**SONDIUS-XG™****Sensaura™**

The contents of this catalog are target specifications and are subject to change without prior notice. When using this device, please recheck the specifications.
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**YAMAHA CORPORATION**

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YMF754 CATALOG

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## ■ BLOCK DIAGRAM

