Synway PCM32 Series

PCM1280E

PCM640E

PCM32 Recording Board

Hardware Manual

Version 1.0

Synway Information Engineering Co., Ltd

www.synway.net

Contents

Copyright Declaration

Revision History

Version	Date	Comments
Version 1.0	2011-6	Initial publication

Note: Please visit our website http://www.synway.net to obtain the latest version of this document.

Chapter 1 Overview

The Synway PCM1280E and PCM640E recording boards are designed especially for PCM32 lines. The former supports voice recording concurrently on up to 128 channels while the latter supports voice recording concurrently on up to 64 channels.

1.1 Functions

- A single board supports the recording of up to 4 (PCM1280E) or up to 2 (PCM640E) PCM32 lines
- Half-length board, with PCIe bus
- Supports transparent transmission and one-way input of voice signals
- Shows the synchronization status, gives the signal alarm, and offers the line indicators
- Uses RJ45 connectors
- Two input modes-- 120Ω AC and high impedance (≥1000Ω AC)—are alternative via software configuration for each PCM32 line
- Uses the on-line frame sync signals for input
- Activity/silence detection

1.2 Features

- **PCIe Bus Support**

  Using the design of PCIe X1, supports PCIe X1, X2, X4, X8 and X16 slots.

- **DMA Transfer Support**

  The DMA transfer of recording data does not cost any of host CPU resources, which fully enlarges the recording capacity of a single board.

- **Available RJ45 Connector with Yellow/Green Bi-colour LED**

  This board adopts the widely used RJ45 connector, making connection easy and malfunctions rare. With the different ranges of the bi-color LED, it can indicate various line states.

- **Recording of On-line Source Code Stream**

  When using the board, any problem found on the monitored line can be located and settled as soon as possible via remote debugging with the cooperation of users.

- **High-impedance Recording**

  The recording impedance is over 1KΩ AC, ruling out interruption on transmission of monitored signals.

- **Instantly-upgradeable Hardware Circuit**

Using instantly-upgradeable hardware circuits helps the debugging for abnormal situations.

- **Unique Hardware Serial Number**

  Each board has a unique hardware serial number written in the firmware to distinguish itself from other boards and prevent piracy. The number is available via an easy function call with applications.

- **Authorization Code Identification Circuit**

  The on-board authorization code identification circuit is designed for software safety. Users can apply to our company for the authorization code.

- **Synway's Unified SynCTI Driver Development Platform**

  Synway owns the intellectual property rights for the unified high-intelligence SynCTI driver development platform. Each system supports up to 128 or 64 channels.

1.3 Operation Principle

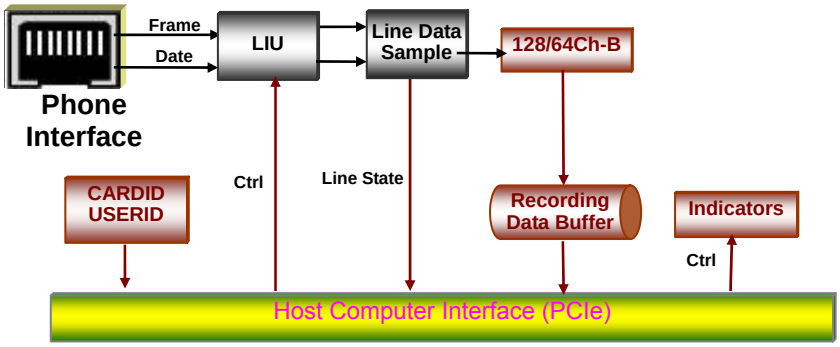

Figure 1-1 Operation Principle

1.4 Indicators

Indicator Status	Implication
Both OFF	Disconnection or Framer Reset
Green On	Normal Operation
Yellow ON	No Signal，Framer Started
Both ON	Signal Present & Alarm

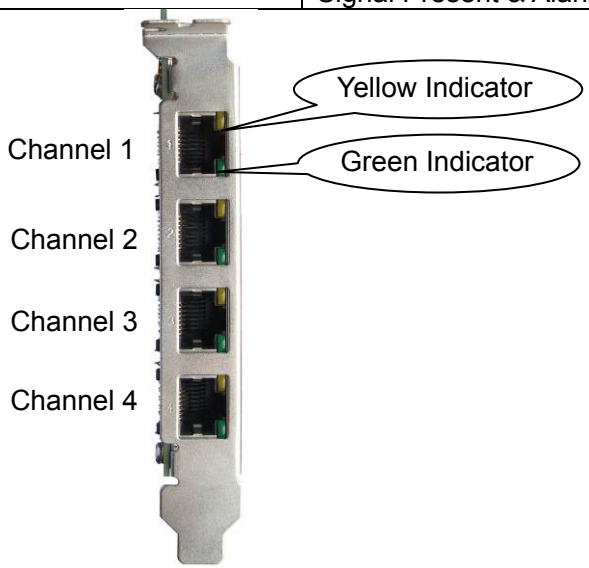

Figure 1-2

Chapter 2 Installation

2.1 Hardware Structure

- **PCM1280E Board**

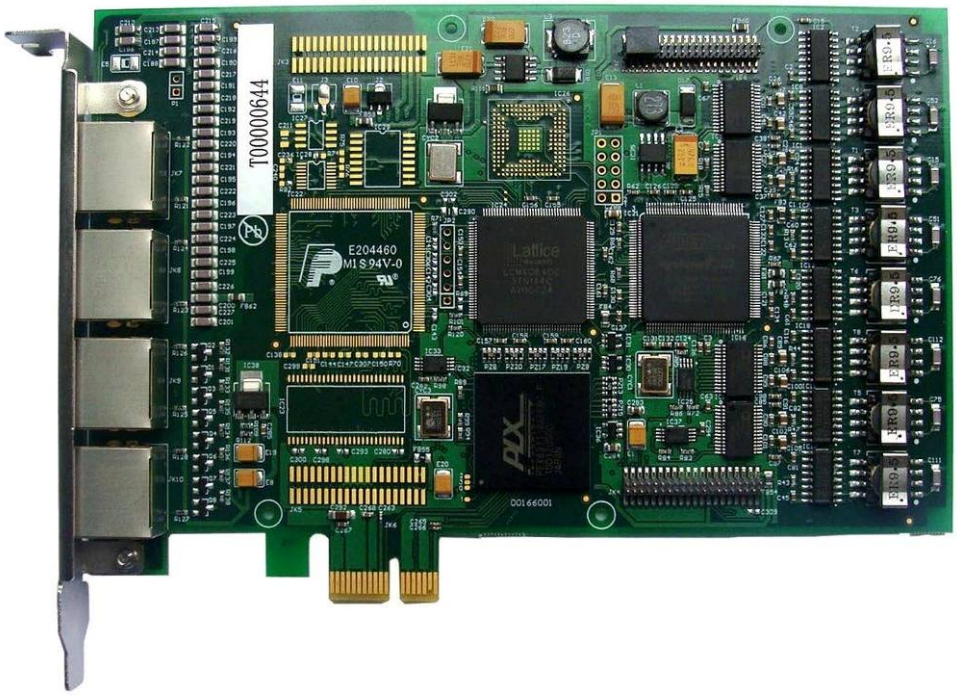

Figure 2-1 PCM1280E (Front View)

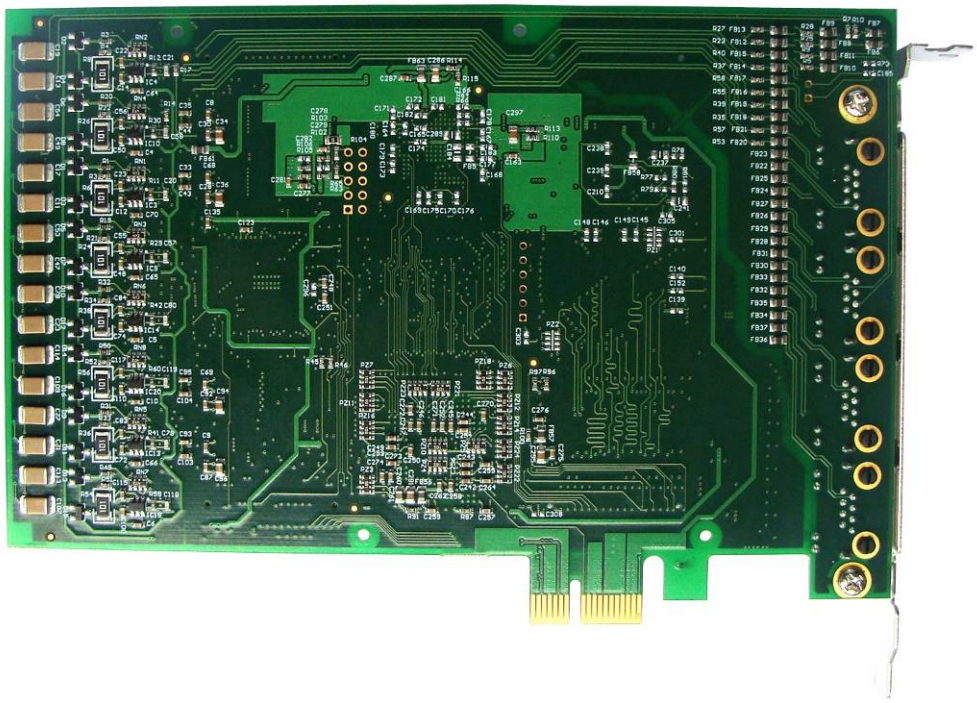

Figure 2-2 PCM1280E (Rear View)

2.2 System Requirements

Host System Requirements

CPU: 2.0GHz Intel® Celeron® or above

Memory: 512M or more

HD: Depends on individual requirements

Supported Operating Systems

Refer to *SynCTI Programmer's Manual.pdf*.

2.3 Installation Procedure

Note: Always turn off the power before installation!

Step 1: Properly fit the board onto the PC chassis.

Step 2: Connect lines. See Figure 2-3.

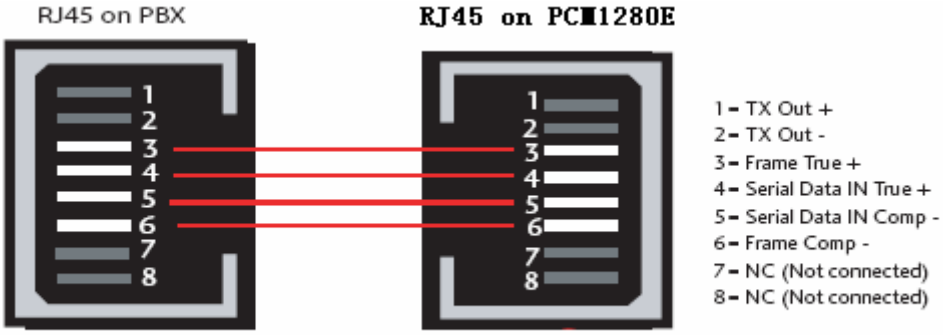

Figure 2-3

Step 3: Boot your computer and install the driver.

Regarding driver installation, refer to *SynCti_InstManual.pdf*.

Key Tips:

- As the system is expected to run for long hours unmanned, 'energy-saving' mode should be turned off for both the CPU and the HD in CMOS or WINDOWS operating system. This is to ensure full-speed operation of the computer, or it may lead to a drop in performance or unexpected errors after running for some time.
- A chassis installed with recording boards must be grounded for safety reasons, according to standard industry requirements. A simple way is earthing with the third pin on the plug. No or improper grounding may cause instability in operation as well as decrease in lightning resistance.

Appendix A Technical Specifications

Dimensions

160×111mm^2 (excluding L-bracket)

Weight

≈ 115g

Environment

Operating temperature: 0℃—55℃

Storage temperature: -20℃—85℃

Humidity: 8%— 90% non-condensing

Storage humidity: 8%— 90% non-condensing

Input/output Interface

Input: Four RJ45(PCM1280E)

Two RJ45(PCM640E)

Recording Specifications

Recording Format: CCITT A/μ-Law 64kbps (original line format, unconverted)

Maximum System Capacity

Up to 10 PCM1280E boards concurrently per system; up to 128 channels per recording board

Power Requirements

+3.3V DC: 1200mA

+12V DC: 150mA

Maximum power consumption: ≤6.8W (PC power supply only)

Impedance

Input impedance: 120Ω AC or ≥1000Ω AC

Insulation resistance for PC isolation from telephone line: ≥20MΩ/500V DC

Appendix B Technical/sales Support

Thank you for choosing Synway. Please contact us should you have any inquiry regarding our products. We shall do our best to help you.

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