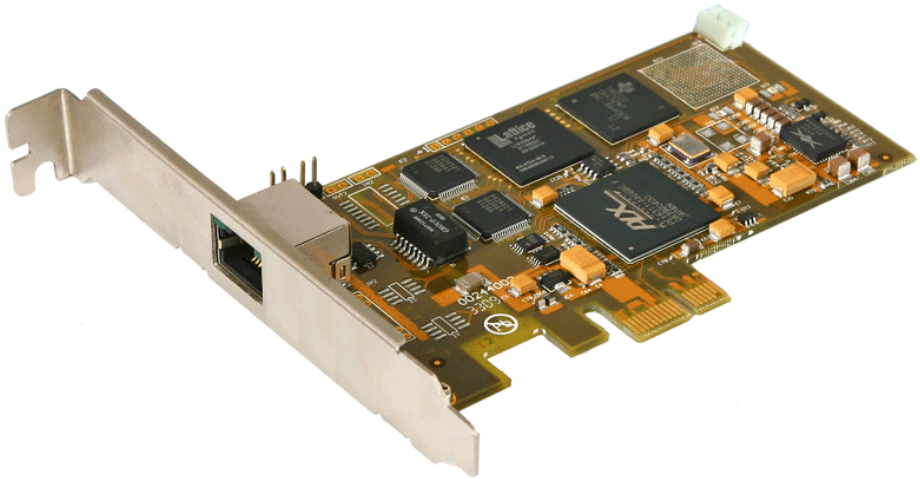
Synway®

Synway AST Series

TEJ100P/TEJ200P
TEJ100E/TEJ200E
TEJ101P/TEJ201P
TEJ101E/TEJ201E

Digital Trunk Interface Board

Product Introduction



Synway Information Engineering Co., Ltd

www.synway.net

Brief Introduction

The Synway TEJ100P, TEJ200P, TEJ100E, TEJ200E, TEJ101P, TEJ201P, TEJ101E and TEJ201E are digital trunk interface boards which support E1, T1 and J1 environments. They are in 2U size, 120mm in length, compact in structure and high in integration. TEJ100P, TEJ200P, TEJ101P, TEJ201P include PCI bus while TEJ100E, TEJ200E, TEJ101E and TEJ201E include PCIe bus, designed especially for various application systems that require high performance.

They all perform echo cancellation by on-board DSPs. The enhanced capability of TEJ101P, TEJ101E, TEJ201P, TEJ201E in echo cancellation reaches 128ms for time delay estimation, which ensures high-quality voice talk without extra modules or devices to support echo cancellation. They are cost-effective. The design of on-board EMC and lightning-proof circuits further guarantee the security in use.

Characteristic Features

- **PCI/PCIe Bus Support**

  TEJ100P/TEJ200P/TEJ101P/TEJ201P includes PCI 2.2 bus; in the universal PCI design, it supports 3.3V/5V PCI slot and PCI-X slot.

  TEJ100E/TEJ200E/TEJ101E/TEJ201E includes PCIe bus; supports PCI Express X1, X4, X8, X16 slots and PNP (plug and play) feature.

- **DMA Read and Write**

  The use of DMA technique for data reading and writing helps minimize the cost of the host CPU.

- **Compatible with Asterisk**

  Entirely compatible with Asterisk at the hardware/driver level, with all source codes open.

- **RJ48C Jack**

  The TEJ100P/TEJ100E/TEJ101P/TEJ101E and TEJ200P/TEJ200E/TEJ201P/TEJ201E boards respectively have 1 and 2 RJ48C jacks which can either connect directly with digital trunks or convert to BNC connectors via a proper adapter, making connection easy and malfunctions rare.

- **Echo Cancellation**

  The echo cancellers developed by Synway for these boards use on-board DSPs to work. TEJ101P/TEJ101E/TEJ201P/TEJ201E supports up to 128ms for time delay estimation per channel, and TEJ100P/TEJ100E/TEJ200P/TEJ200E supports 32ms, really cost-effective. It not only cancels out the effect of voice playback on DTMF and busy tones detection, but also avoids self-excited oscillation and howling, and minimizes the possibility of registering wrong DTMF and busy tones in a conference call, designed especially for VoIP application environments.

- **Voice CODEC Support**

  Supports A-law, μ-law codecs.

- **Clock Sync Support**

  The TEJ101E and TEJ201E boards support input and output of CT clock, allowing clock synchronization with multiple boards.

- **EMC & Lightning-proof Circuits Available**

Operation Principle

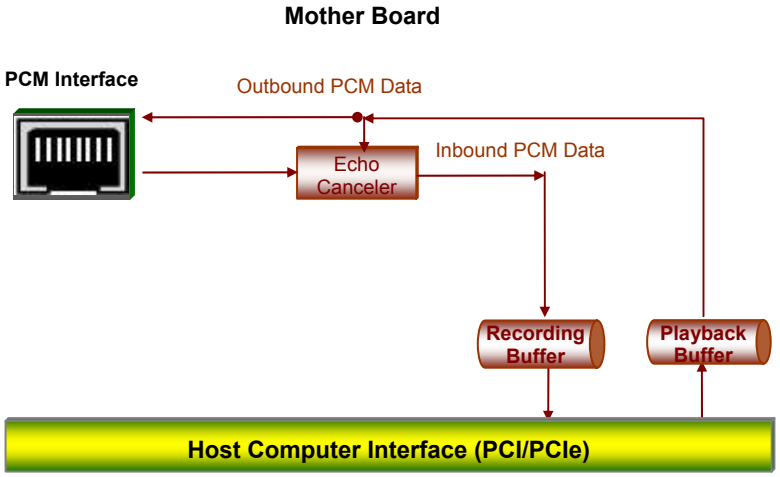


Figure 1 Operation Principle

Typical Application

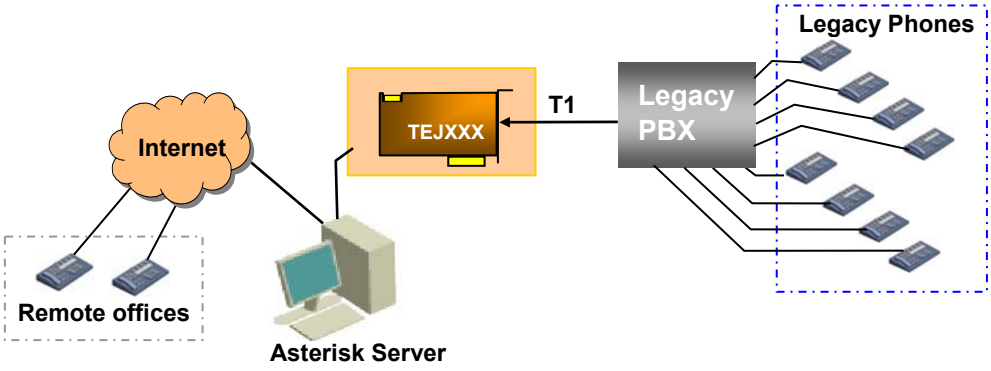
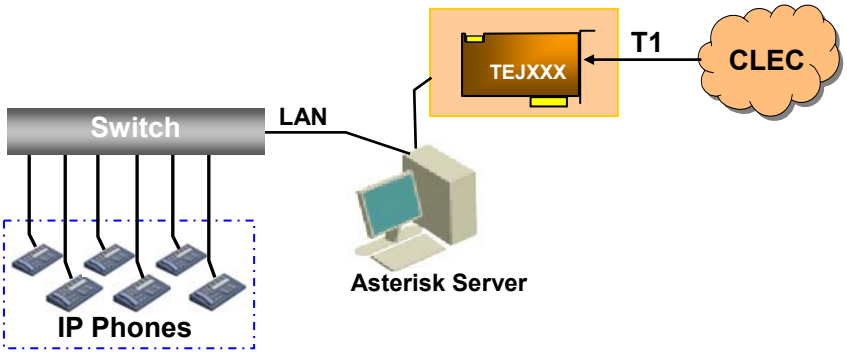


Figure 2 Application Model I: Traditional Telephony System



Note: TEJXXX in Figure 2 and Figure 3 represent available TEJ series boards

Figure 3 Application Model II: VoIP Telephony System

Technical Specifications

Dimensions

120×64mm^2 (excluding L-bracket)

Weight

≤100g

Environment

Operating temperature: 0℃—50℃

Storage temperature: -20℃—75℃

Humidity: 10%—90% non-condensing

Storage humidity: 10%—90% non-condensing

Input/output Interface

Digital trunk interface:

TEJ100P/TEJ100E/TEJ101P/TEJ101E:

1 RJ48C jack

TEJ200P/TEJ200E/TEJ201P/TEJ201E:

2 RJ48C jacks

E1 interface:

Compliant with G.703, including 75Ω unbalanced interface and 120Ω balanced interface

T1/J1 interface:

DSX-1 and CSU line build-outs available for different extents of signal losses, including 100Ω and 110Ω balanced interfaces

Audio Specifications

CODEC: CCITT A/μ-Law 64kbps

Distortion: ≤3%

Frequency response: 300-3400Hz (±3dB)

Signal-to-noise ratio: ≥38dB

Echo suppression: ≥40dB

Maximum System Capacity

Depends on the system consumption of Asterisk and the processing capability of computer.

Power Requirements

+3.3V DC: 1000mA

Maximum power consumption: ≤5W

Audio Encoding & Decoding

A-Law 64kbps

μ-Law 64kbps

Sampling Rate

8kHz

Safety

Lightning resistance: Level 4

Purchasing Guide

These Synway TEJ Series PCI and PCIe boards provide a complete range of features to meet all requirements.

Model Description

Model	PC Bus	Voice Channels	Voltage Detection	Echo Cancellation	ANI	T1/E1/J1	A-Law μ-Law	DTMF Detector	Board TDM	Between-board TDM
TEJ100P	PCI	30	—	√	√	√	√	√	√	—
TEJ200P	PCI	60	—	√	√	√	√	√	√	—
TEJ100E	PCIe	30	—	√	√	√	√	√	√	—
TEJ200E	PCIe	60	—	√	√	√	√	√	√	—
TEJ101P	PCI	30	—	√	√	√	√	√	√	—
TEJ201P	PCI	60	—	√	√	√	√	√	√	—
TEJ101E	PCIe	30	—	√	√	√	√	√	√	—
TEJ201E	PCIe	60	—	√	√	√	√	√	√	—

Technical/sales Support

Headquarters

Synway Information Engineering Co., Ltd

http://www.synway.net/

9F, Synway D&R Center, No.3756, Nanhuan Road, Binjiang District, Hangzhou, P.R.China, 310053

Tel: +86-571-88860561

Fax: +86-571-88850923

Technical Support

Tel: +86-571-88864579

Mobile: +86-18905817070

Email: techsupport@sanhuid.com

Email: techsupport@synway.net

MSN: synway.support@hotmail.com

Sales Department

Tel: +86-571-88860561

Tel: +86-571-88864579

Fax: +86-571-88850923

Email: sales@synway.net

TIPS

- **All the content and data herein have been scrupulously checked. However, we do not guarantee the absence of errors.**
- **Product specifications and relevant data are subject to conditions on the purchase contract.**
- **Our company reserves the right to modify this document without prior notice and the right for final explanation.**