Synway TEJ Series

TEJ-1A/PCI
TEJ-2A/PCI
TEJ-4A/PCI
Product Introduction

Synway Information Engineering Co., Ltd

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Brief Introduction

The Synway TEJ series are digital trunk interface boards newly developed for Asterisk system. Compared with other products in Synway AST series, the TEJ board has high integration. It is integrated with the capability of 64ms echo cancellation, eliminating the need of getting supports from extra modules or devices, bringing an obviously better effect of echo cancellation than other subseries in AST.

Characteristic Features

1. **PCI 2.2 Bus Support**

   Includes PCI 2.2 bus with burst data transmission rate up to 132 MB/s; PNP (plug and play) feature eliminates the need for jumper leads; universal PCI design supports 3.3V/5V PCI slot.

2. **DMA Read and Write**

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

3. **Compatible with Asterisk**

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

4. **RJ48C Jack**

   TEJ-1A/PCI, TEJ-2A/PCI and TEJ-4A/PCI boards respectively have 1, 2 and 4 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.
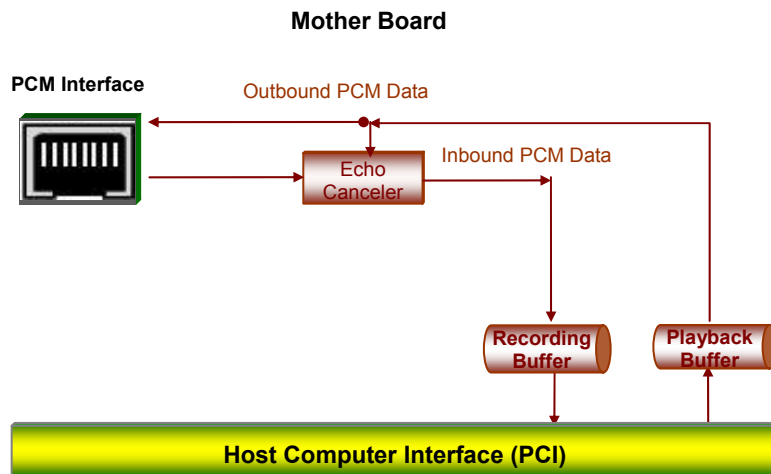
5. **Echo Cancellation**

   The self-adaptive echo cancellation feature gives the board the capability of 64ms echo cancellation so as to effectively eliminate echoes under various conditions, canceling out the effect of voice playback on DTMF and busy tones detection, avoiding self-excited oscillation and howling, and minimizing the possibility of registering wrong DTMF and busy tones in a conference call, designed especially for VoIP application environments.
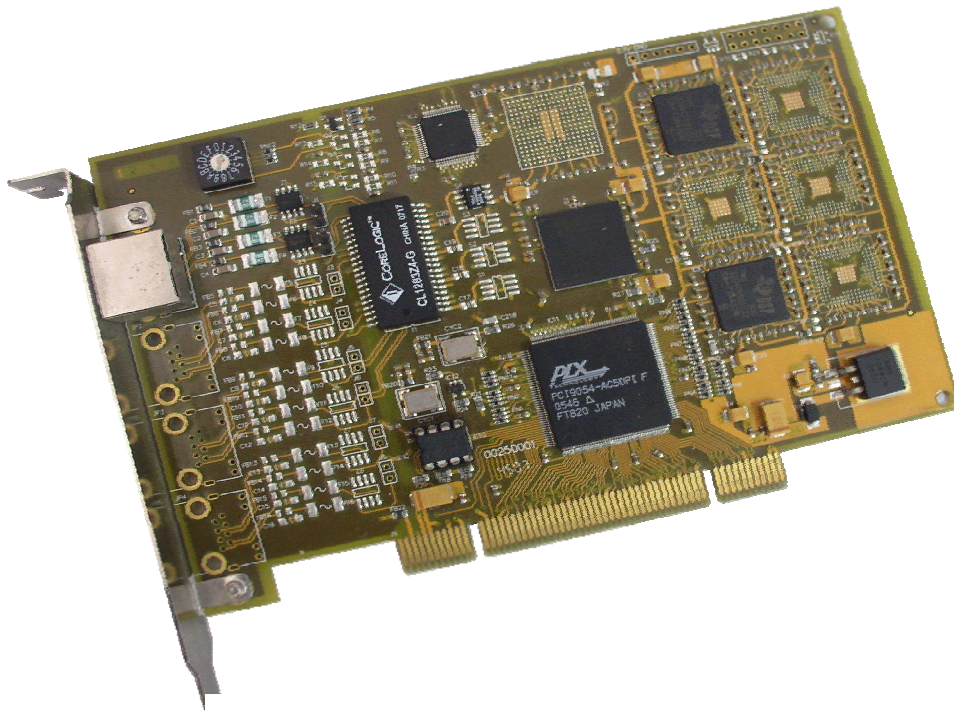
6. **Voice CODEC Support**
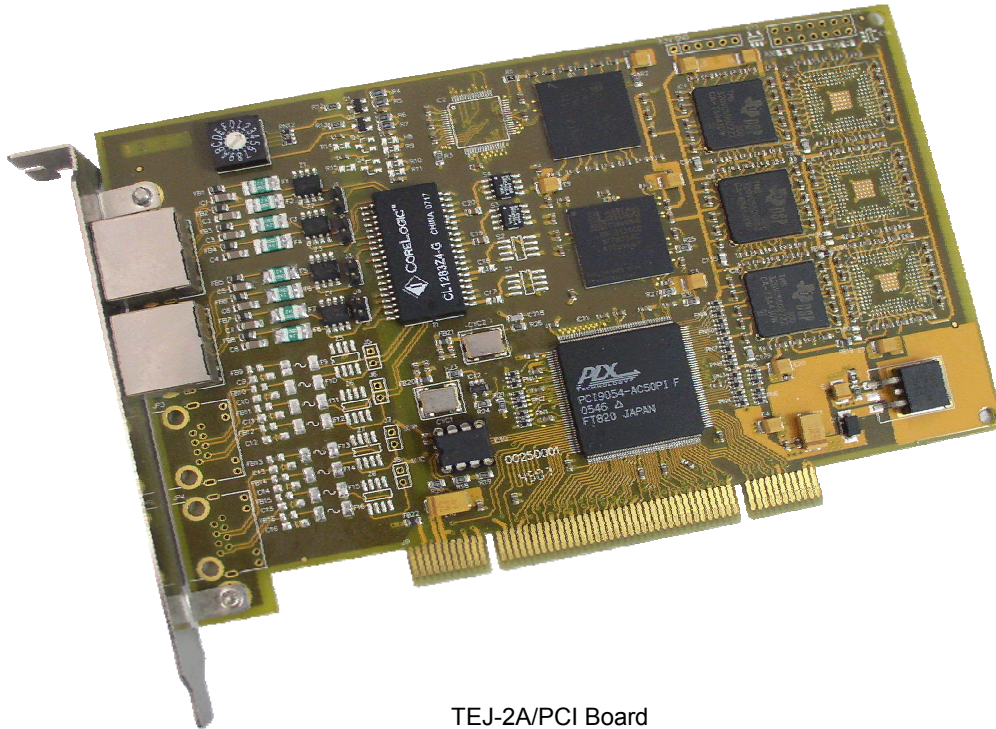
   Supports A-law, μ-law codecs.

➤ Operation Principle

Mother Board

PCM Interface

Outbound PCM Data

Echo
Canceler

Inbound PCM Data

Recording
Buffer

Playback
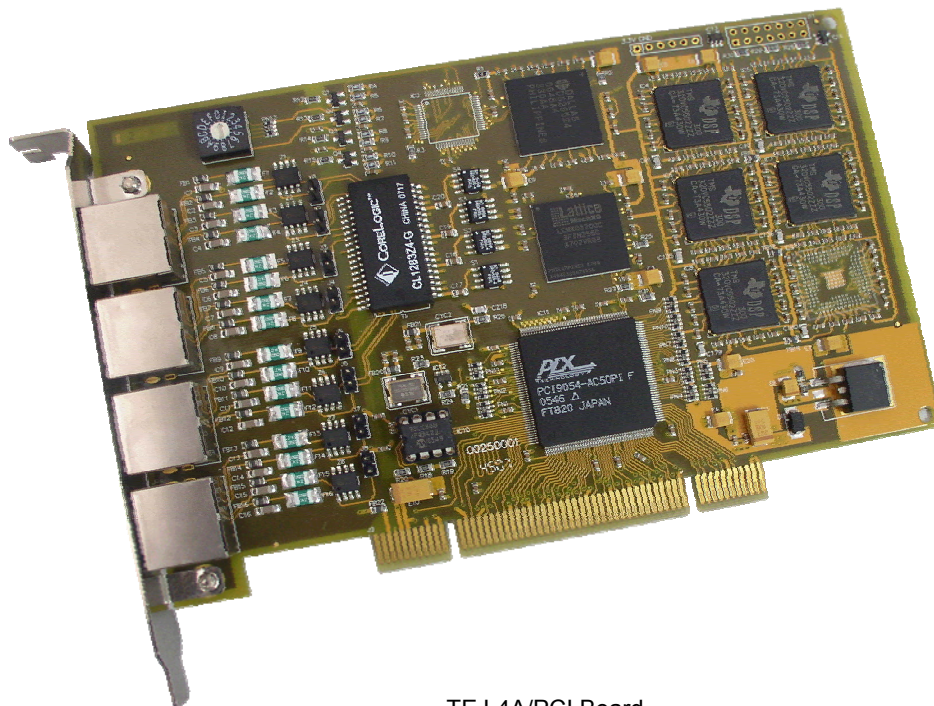Buffer

Host Computer Interface (PCI)

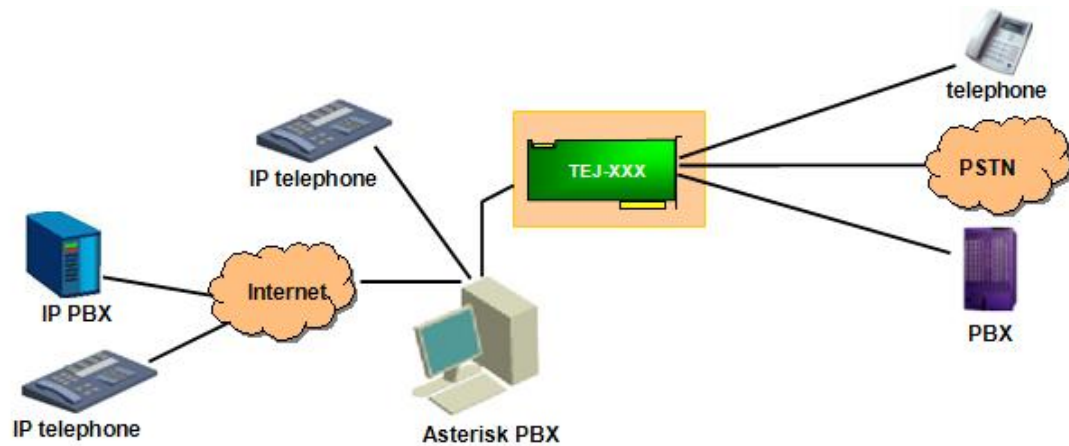# ➤ Board Structure

TEJ-1A/PCI Board

TEJ-2A/PCI Board

TEJ-4A/PCI Board

➤ Typical Application

xxx: represents the existing and future board models in the TEJ series

Note: Refer to the section <u>Purchasing Guide</u> for board models now available in the TEJ series.

➤ Technical Specifications

Dimensions

160×107mm^2 (excluding L-bracket)

Weight

≈100g

Environment

Operating temperature: 0℃—55℃

Storage temperature: -20℃—75℃

Humidity: 10%—90% non-condensing

Storage humidity: 10%—90%
non-condensing

Input/output Interface

Digital trunk interface:

TEJ-1A/PCI: 1 RJ48C jack

TEJ-2A/PCI: 2 RJ48C jacks

TEJ-4A/PCI: 4 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

The Synway TEJ Series boards provide a complete range of features to meet all requirements.

➢ Model Description

Model	PC Bus	Voice Channels	Voltage Detection	Echo Cancellation	ANI	T1/J1	A-Law µ-Law	DTMF Detector	Board TDM	Between-board TDM
TEJ-1A/PCI	PCI	30	—	√	√	√	√	√	√	—
TEJ-2A/PCI	PCI	60	—	√	√	√	√	√	√	—
TEJ-4A/PCI	PCI	120	—	√	√	√	√	√	√	—

➤ Technical/sales Support

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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.