Synway AST Series

TEJ100P(SSW)
TEJ101P(SSW)
TEJ200P(SSW)
TEJ201P(SSW)
TEJ400P(SSW)
TEJ401P(SSW)
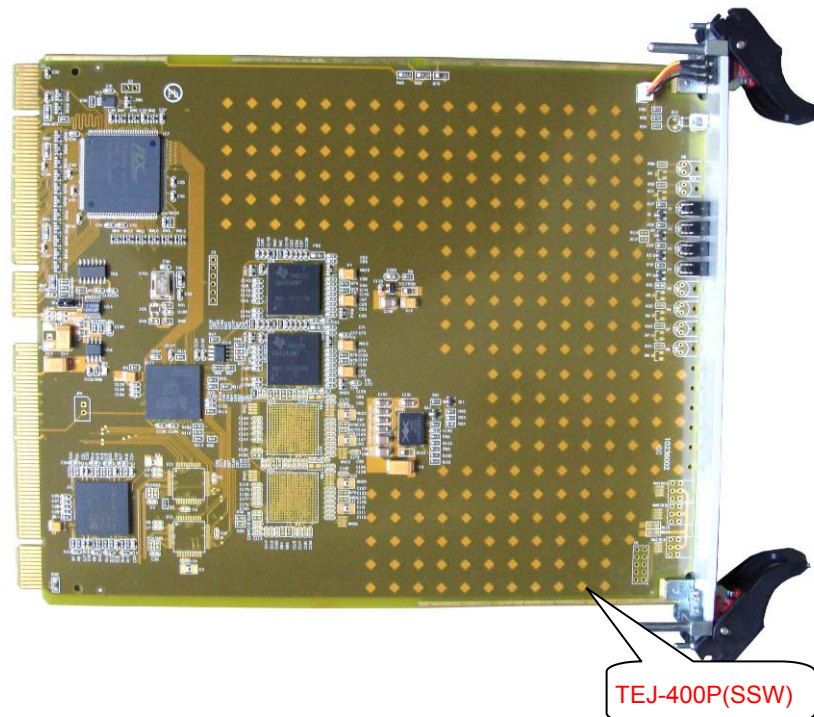# TEJ800P(SSW)
TEJ801P(SSW)
Digital Trunk Interface Board
Special-for-Switch

Product Introduction

Version 1.0

Synway Information Engineering Co., Ltd

www.synway.net

➤ Board Model

TEJ-400P(SSW)

➤ Brief Introduction

TEJ100P(SSW), TEJ101P(SSW), TEJ200P(SSW), TEJ201P(SSW), TEJ400P(SSW), TEJ401P(SSW), TEJ800P(SSW) and TEJ801P(SSW) are earmarked for Synway intelligent switch. They are digital trunk interface boards which support E1, T1 and J1 environments, all perform echo cancellation by on-board DSPs. The enhanced capability 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.

These boards are completely compatible with Asterisk in hardware and support smooth connection to Asterisk platform.

➤ Characteristic Features

● **DMA Read and Write**

Uses the DMA technology to read and write data, greatly reducing the CPU cost.

● **E1/T1/J1 Support**

Provides an easy selection of the E1, T1 or J1 trunk and its matching impedance via

software reconfiguration, not requiring any change in hardware.

- **Compatible with Asterisk**

  Entirely compatible with Asterisk in hardware, with all source codes open.

- **Echo Cancellation**

  The echo cancellers developed by Synway for these boards use on-board DSPs to work. TEJ101P(SSW), TEJ201P(SSW), TEJ401P(SSW), TEJ801P(SSW) support up to 128ms for time delay estimation per channel, and TEJ100P(SSW), TEJ200P(SSW), TEJ400P(SSW), TEJ800P(SSW) support 32ms. 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(G.711), μ-law codecs.

- **Clock Sync Support**

  Supports input and output of CT clock, allowing clock synchronization with multiple boards.

- **A Particular Separation Design**

  As the mainboard and the outlet board are designed independent from each other, when you pull out the mainboard or reinsert it or replace it with other boards, there is no need to reconnect lines as long as the outlet board is not changed or removed

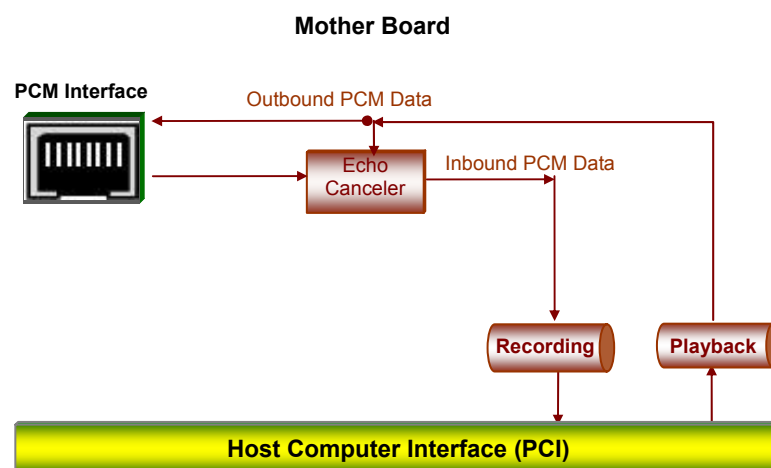- **EMC & Lightning-proof Circuits Available on Outlet Boards**

➤Operation Principle

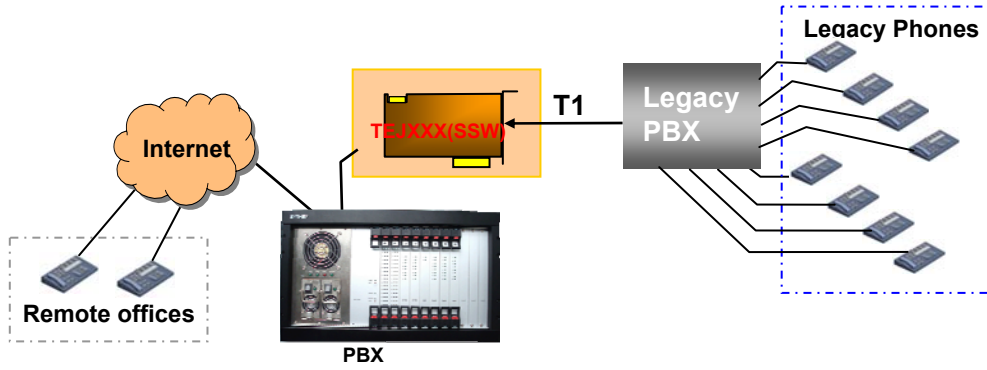Figure 1 Operation Principle
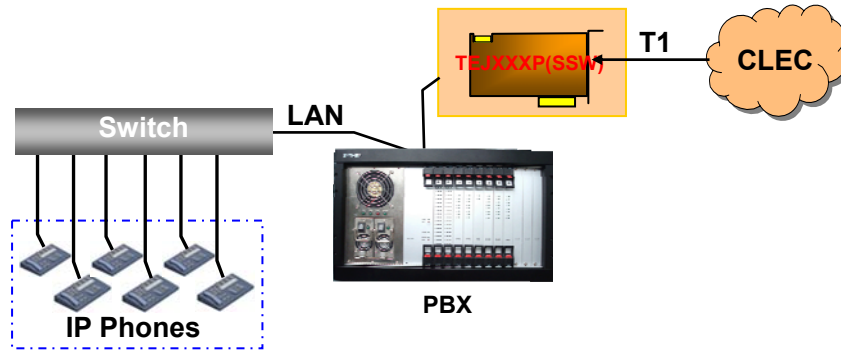
Typical Application

Figure 2 Application Model I: Traditional Telephony System

Note: TEJXXXP(SSW) in Figure 2 and Figure 3 represent available special-for-switch TEJ boards

Figure 3 Application Model II: VoIP Telephony System

Technical Specifications

Dimensions (excluding L-bracket)

Mainboard: 218.6×174.5mm^2

Full-length outlet board: 180×115.1mm^2

Half-length outlet board: 90×115.1mm^2

Weight

Main board: ≈250g

Full-length outlet board: ≈175g

Half-length outlet board: ≈75g

Environment

Operating temperature: 0℃—55℃

Storage temperature: -20℃—85℃

Humidity: 8%—90% non-condensing

Storage humidity: 8%—90% non-condensing

Input/output Interface

E1 physical ports: Compliant with G.703, including 75Ω unbalanced interface and 120Ω balanced interface

T1 /J1 physical ports：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

Maximum power consumption: ≤10W

Audio Encoding & Decoding

A-Law   64kbps

μ-Law   64kbps

Sampling Rate

8kHz

Safety

Lightning Resistance: Level 4

➤Purchasing Guide

The Synway AST series digital trunk interface boards (special-for-switch) provide a complete range of features to meet all requirements.

➢ **Model Description**

Model	Voice Channels	Voltage Detection	Echo Cancellation	ANI	T1/E1/J1	A-Law μ-Law	DTMF Detector	Board TDM	Between-board TDM
TEJ100P(SSW)	30	—	32ms	√	√	√	√	√	√
TEJ200P(SSW)	60	—	32ms	√	√	√	√	√	√
TEJ400P(SSW)	120	—	32ms	√	√	√	√	√	√
TEJ800P(SSW)	240	—	32ms	√	√	√	√	√	√
TEJ101P(SSW)	30	—	128ms	√	√	√	√	√	√
TEJ201P(SSW)	60	—	128ms	√	√	√	√	√	√
TEJ401P(SSW)	120	—	128ms	√	√	√	√	√	√
TEJ801P(SSW)	240	—	128ms	√	√	√	√	√	√

➤Technical/sales Support

<u>Headquarters</u>

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

<u>Technical Support</u>

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.
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