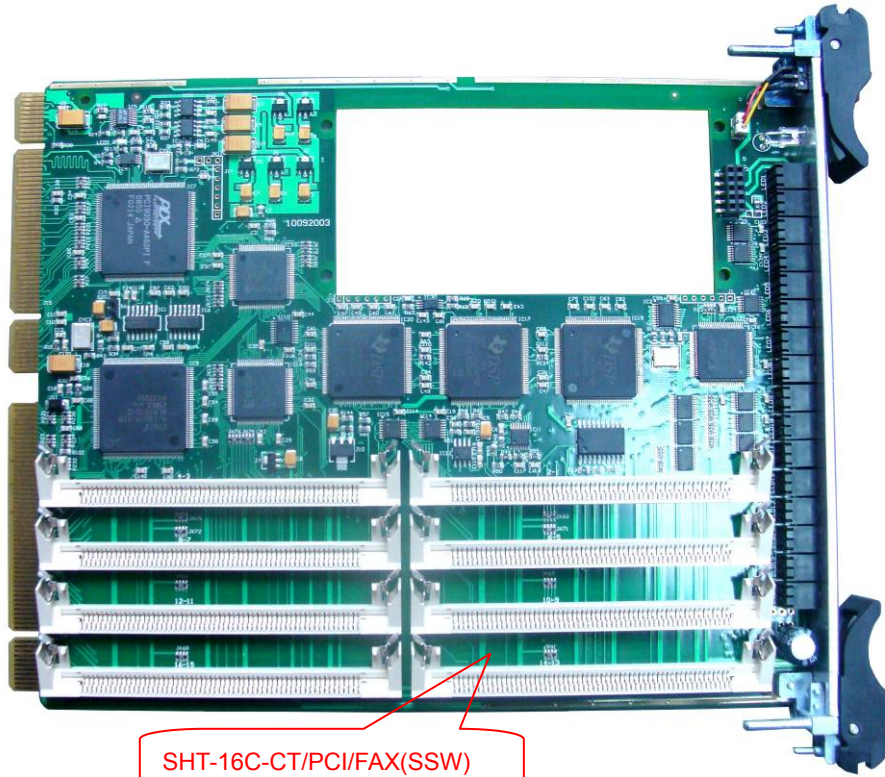# Synway

Synway SSW Series

SHT-16C-CT/PCI/EC(SSW)
SHT-16C-CT/PCI/FAX(SSW)
Analog Voice Board
Special-for-PBX

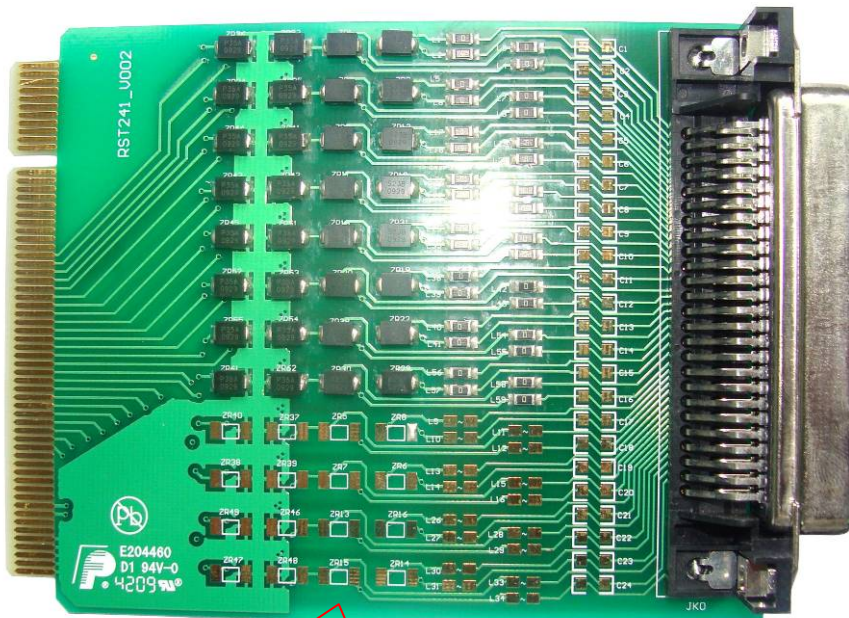# Product Introduction

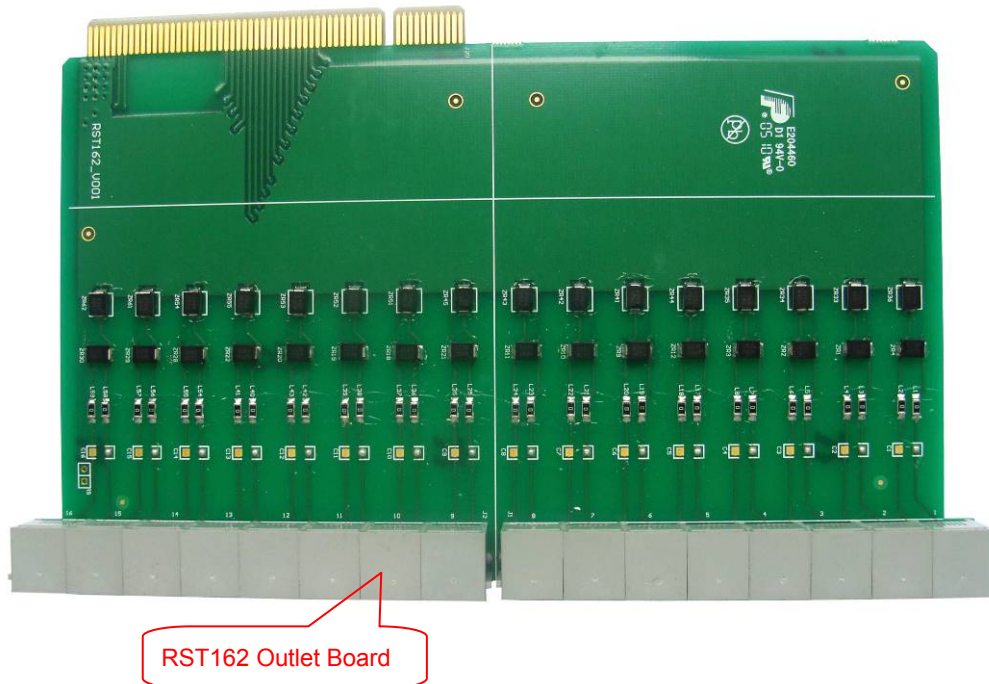**Synway Information Engineering Co., Ltd**

www.synway.net

➤ Board Model

SHT-16C-CT/PCI/FAX(SSW)

RST161 Outlet Board

RST162 Outlet Board

➤ Functions

- A single board can be installed with at most 8 dual-channel modules, supports 16 voice channels

- Supports ring-alert for external calls

- Station phones on-hook/off-hook detection

- Direct connection between trunk and station keeps a call uninterrupted during power outage

- Calling party info (Caller ID) detection/transmission, DTMF and FSK support

- Activity/silence detection

- Automatic Gain Control (AGC) support in recording operation

- DTMF transmission and detection

- Automatic line voltage detection

- Automatically checks the board to determine the number and type of modules on the board

- The flexible distributed conferencing system sets no limit on the number of simultaneous conferences and participants in each conference, allows monitoring and recording of the whole conference and each individual speaker

- Includes H.100 bus, facilitating smooth connectivity to third-party boards with H.100 bus for the transfer of acquired voice signals to other devices

- 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

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

- Equipped with hot-swap circuit, supports hot swapping of boards during system running, making maintenance and backup easy.

- The on-board lightning-proof circuit reaches the telecom standard and eliminates the damage caused by the lightning

- SHT-16C-CT/PCI/FAX(SSW) shares the fax channel with all voice channels on it, supporting the transmit/receive rate of 14400bps

- SHT-16C-CT/PCI/EC(SSW) supports 64ms echo cancellation per channel

- Compatible with other series of voice boards from Synway

Characteristic Features

- **On-board SIMM Slots**

  Fit modules to board. Contacts on both sides greatly improve connection and ease installation.

- **Module Configurable**

  8 on-board dual-channel modules can be freely arranged in pairs or groups for various complex, multi-functional applications, such as call center and recording functions available on a single board.

- **Available Outlet Board with RJ21 or RJ11**

  There are two kinds of outlet boards for you to choose. One is RST161 with RJ21 connector, facilitating the use of patch panel for connection layout. The other is RST162 with RJ11 connector, helping the use of telephone jack for direct connection.

- **Selectable Ringing Current & Battery Feed Power Supply Module**

  You may choose to install this module on the board to substitute the external ringing current and battery feed power supply, which will provide station modules with battery feed, and enable the phones that are linked to station channels to ring.

- **Programmable Tone Detector**

  Detects single or dual tones at any frequency, offering facility for use with a variety of PBXes and key telephone systems.

- **Hot Swapping Supported**

  Both the motherboard and the outlet board support hot swapping, allowing users to replace and maintain the board during system running.

- **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.

- **Professional Driver Algorithm**

  Uses SPECDial - a professional driver algorithm - to perform a complete automatic dial process through analog lines, accurately identifies called-party statuses and precisely distinguishes an answering machine from a fax machine that is responding at the remote end.

- **Echo Cancellation**

  The self-adaptive echo cancellation feature effectively eliminates echoes under various conditions, which cancels out the effect of voice playback on DTMF and busy tones detection, avoids self-excited oscillation and howling, and minimizes the possibility of registering wrong DTMF and busy tones in a conference call. Compared with the B Series voice boards, the C Series EC boards have the enhanced capability in echo cancellation, i.e. each channel supports 64ms echo cancellation, designed especially for the VoIP and teleconferencing applications.

- **Various CODECs Support**

  Offers a large selection of voice CODECs, including hardware-based A-law, μ-law, IMA-ADPCM, software-based 16-bit linear PCM, MP3 and VOX.
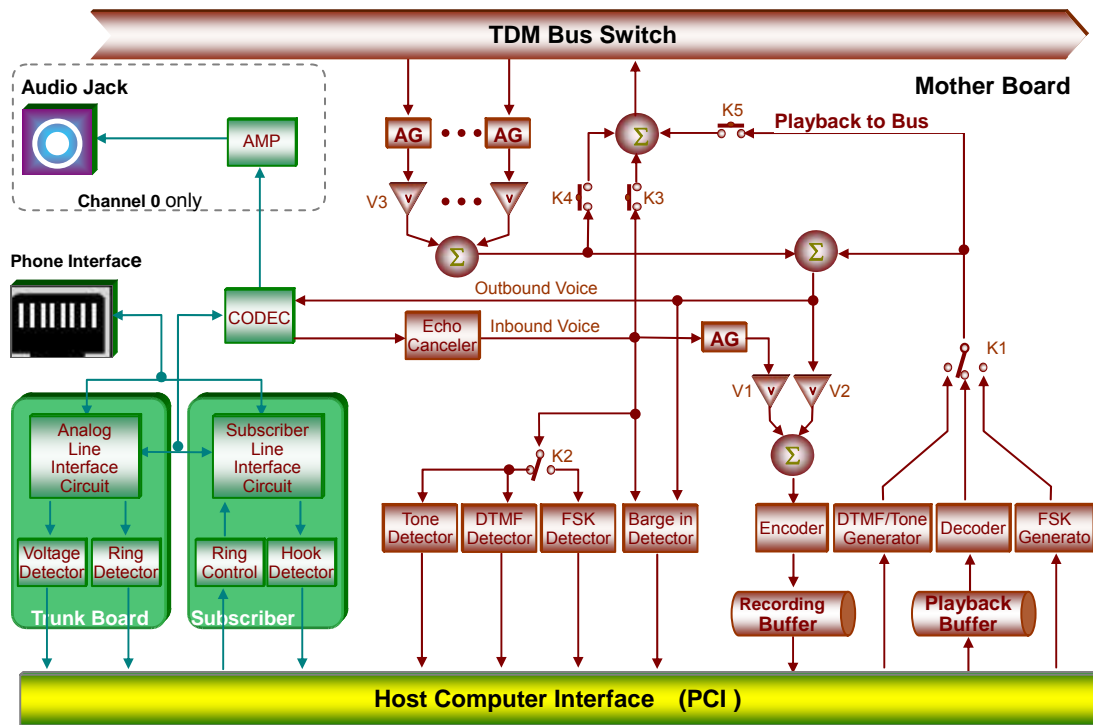
- **Supports WAV File**

  The recorded voice files can be edited and played by audio tools such as Cooledit.

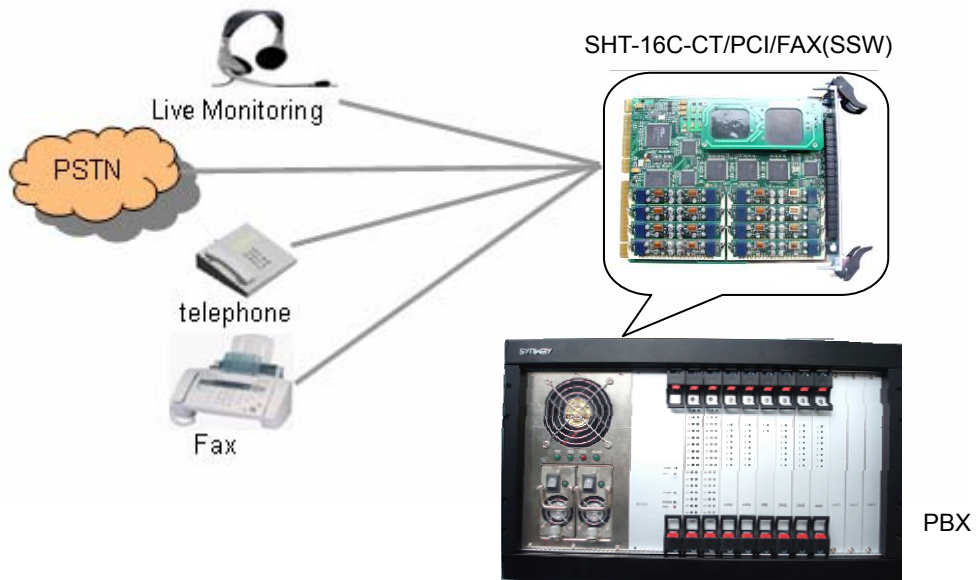- **Synway's Unified SynCTI Driver Development Platform**

  Synway owns the intellectual property rights for the unified high-intelligence SynCTI driver development platform. Each system supports up to 2048 channels. Functions such as the detection and analysis of rings, tones and Caller IDs, are available via simple function calls on the driver platform, without having to understand complex call procedures.
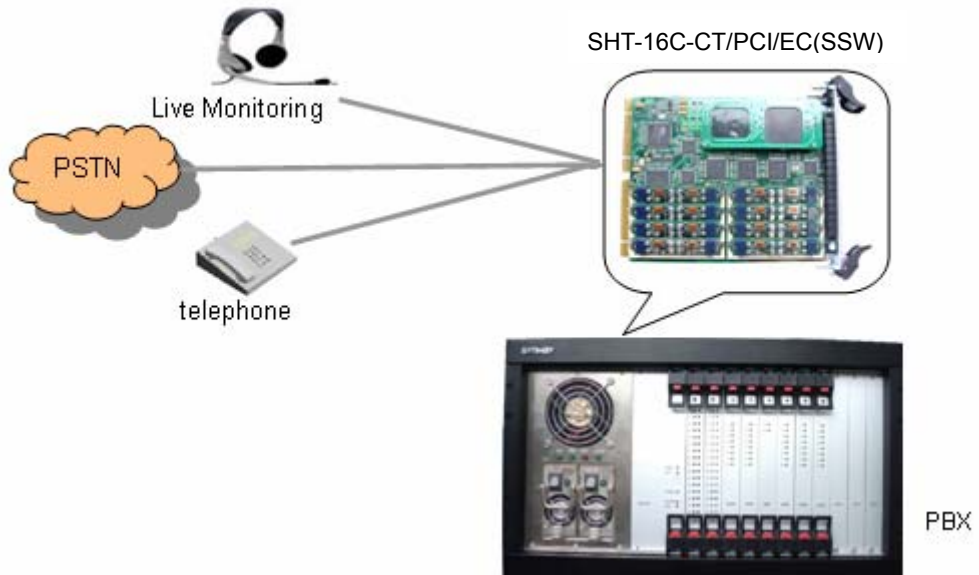
Operation Principle

➤ Typical Application

◆ SHT-16C-CT/PCI/FAX(SSW)

◆ SHT-16C-CT/PCI/EC(SSW)

⮞ Technical Specifications

Dimensions

Mainboard: 218.5×174.5mm^2

RST161: 180×115.1mm^2

RST162: 90×115.1mm^2

Weight

Main board: ≈400g (excluding modules)

RST161: ≈170g

RST162: ≈75g

Environment

Operating temperature: 0℃—55℃

Storage temperature: -20℃—85℃

Humidity: 8%—90% non-condensing

Storage humidity: 8%—90% non-condensing

Input/output Interface

Telephone line jack: One 50-pin RJ21 or
Sixteen 2-pin RJ11

Audio Specifications

CODEC: CCITT A/µ-Law 64kbps,
IMA ADPCM 32kbps

Distortion: ≤3%

Frequency response: 300-3400Hz (±3dB)

Signal-to-noise ratio: ≥38dB

Echo suppression: ≥40dB

Maximum System Capacity

Up to 8 voice boards concurrently per system; up to 16 channels per board

Power Requirements

Maximum power consumption: ≤20W

Impedance

Input impedance: ≥1MΩ/500V DC;

≥10kΩ/1000V AC

Insulation resistance for PC isolation from telephone line: ≥2MΩ/500V DC

Telephone line impedance:

Compliant with the national standard impedance for three-component network

Audio Encoding & Decoding

16Bit PCM	128kbps
8Bit PCM	64kbps
A-Law	64kbps
µ-Law	64kbps
VOX	32kbps
ADPCM	32kbps
GSM	13.6kbps
MP3	8kbps

Sampling Rate

8kHz

Safety

Lightning Resistance: Level 4

➤ Purchasing Guide

The Synway SSW series analog voice boards provide a complete range of features to meet all requirements.

➢ **Model Description**

Model	PC Bus	Voice Channels	Conferencing	Enhanced Echo Cancellation	Faxing	Board TDM	Between-board TDM
SHT-16C-CT/PCI/EC(SSW)	PCI	16	√	√	—	√	√
SHT-16C-CT/PCI/FAX(SSW)	PCI	16	√	—	√	√	√

➤ 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.