



**Synway CTI Series**

**SHF-2D/PCI**

**SHF-4D/PCI**

**Analog Fax Board**

# Product Introduction



**Synway Information Engineering Co., Ltd**

**[www.synway.net](http://www.synway.net)**

## ➤ Functions

- A single SHF-2D/PCI board can be installed with at most 1 dual-channel modules and support 2 voice or fax channels; a single SHF-4D/PCI board can be installed with at most 2 dual-channel modules and support 4 voice or fax channels
- Support of the modem standards V.34, V.17, V.29, V.27ter and V.21, the rate up to 33.6kbps which can be reduced on the self-adaptive basis, and the V.8 modem negotiation protocol
- Support ring-alert for external calls
- Station phones on-hook/off-hook detection
- Direct connection between trunk and station keeps 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
- Board TDM support
- Automatic line voltage detection
- Automatically checks the board to determine the number and type of modules on the board
- 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
- The on-board lightning-proof circuit reaches the telecom standard and eliminates the damage caused by the lightning
- Support 32ms echo cancellation

## ➤ Characteristic Features

- **PCI 2.2 Bus Support**

Includes PCI 2.2 bus with 32/64-bit PCI slot and 3.3V/5V slot voltage; operable on device platforms which support PCI-X.

- **Module Configurable**

The on-board dual-channel modules can be freely arranged in pairs or groups for various complex.

- **Interface**

The on-board RJ11 jack can connect directly to telephone lines, making connection easy and malfunctions rare.

- **Power**

The power is supplied by PCI slot, eliminating the need for external power source.

- **Indicator**

Rear projection indicators. We make use of the gaps between RJ11 jacks and the light-admitting quality of the jack to hide the indicators behind the RJ11 jacks. Such design not only ensures the neatness of the board, but also allows you to get the module type and errors in running without opening the main frame.

- **Programmable Tone Detector**

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

- **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.

- **Various CODECs Support**

Offers a large selection of voice CODECs, including hardware-based A-law,  $\mu$ -law, IMA-ADPCM, software-based 16-bit linear PCM, MP3 and VOX.

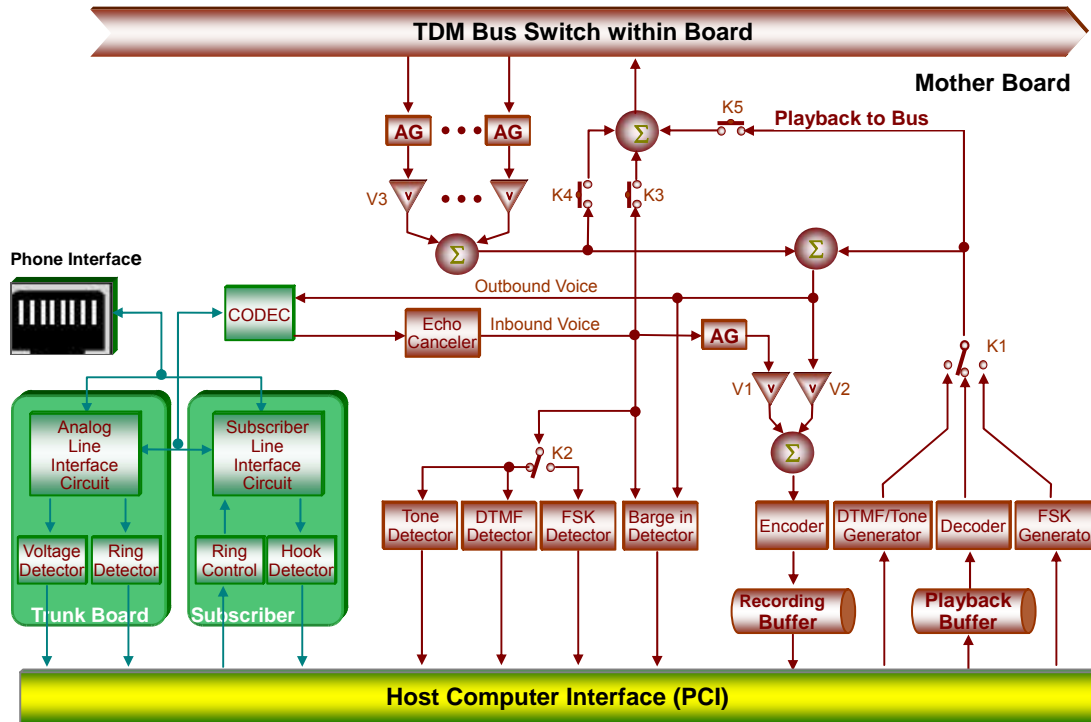
- **Supports WAV File**

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

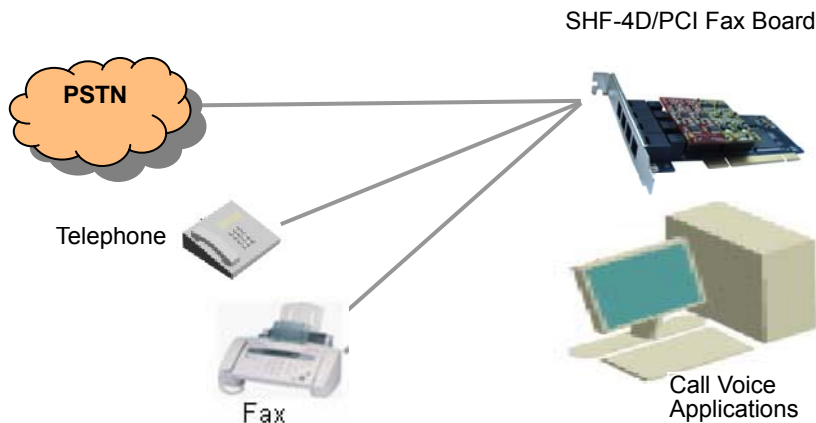
- **Synway's Unified SynCTI Driver Development Platform**

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



## ➤ Technical Specifications

### Dimensions

132.5x64 mm<sup>2</sup> (excluding L-bracket)

### Weight

Motherboard: about 70g  
(excluding modules)

Module: about 10g

### Environment

Operating temperature: 0 °C—55 °C

Storage temperature: -20 °C—85 °C

Humidity: 8%—90% non-condensing

Storage humidity: 8%—90%  
non-condensing

### Input/output Interface

Telephone line jack: 2~4 4-pin RJ11

### Audio Specifications

CODEC: CCITT A/ $\mu$ -Law 64kbps

IMA ADPCM 32kbps

Distortion:  $\leq 3\%$

Frequency response: 300-3400Hz ( $\pm 3$ dB)

Signal-to-noise ratio:  $\geq 38$ dB

Echo suppression:  $\geq 40$ dB

### Maximum System Capacity

Up to 100 channels concurrently per system

### Power Requirements

Only motherboards  
(with modules fully inserted)

+3.3V DC: 1500mA  
(power consumption: 4.95W)

+12V DC: 500mA  
(power consumption: 6W)

### Impedance

Insulation resistance for PC isolation from telephone line:  $\geq 2$ M $\Omega$ /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

$\mu$ -Law 64kbps

VOX 32kbps

ADPCM 32kbps

GSM 13.6kbps

MP3 8kbps

### Sampling Rate

8kHz

### Safety

Lightning resistance: Level 4

## > Purchasing Guide

The Synway CTI Series SHF-2D/PCI, SHF-4D/PCI fax 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
SHF-2D/PCI	PCI	2	√	√	√	√	—
SHF-4D/PCI	PCI	4	√	√	√	√	—

## > 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.**
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