

BRI16 Full-length Board

Product Introduction



Synway Information Engineering Co., Ltd

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➤ Brief Introduction

The BRI16 full-length board (hereinafter referred to as BRI16) is designed with a smart appearance and a flexible structure. The voice quality it provides is rather splendid. The echo canceller which we developed out independently to cancel echoes in hardware supports 128ms for time delay estimation. With the extendable daughterboards and the selectable modules, you can customize systems to what you want. The half-height and full-length design it has minimizes the space to install in a chassis so that most common main frames you find in daily life are big enough to hold it. In a word, this product is really cost effective.

Note: The BRI16 full-length motherboard can extend with a daughterboard to set up a system involving up to 16 ports. To be exact, each motherboard supports up to 8 channels and the extension with a daughterboard which is achieved by the backboard BP200, enables the support of 16 channels (Note: Currently we do not support the use of daughterboard, therefore a single board can support 8 channels at most).

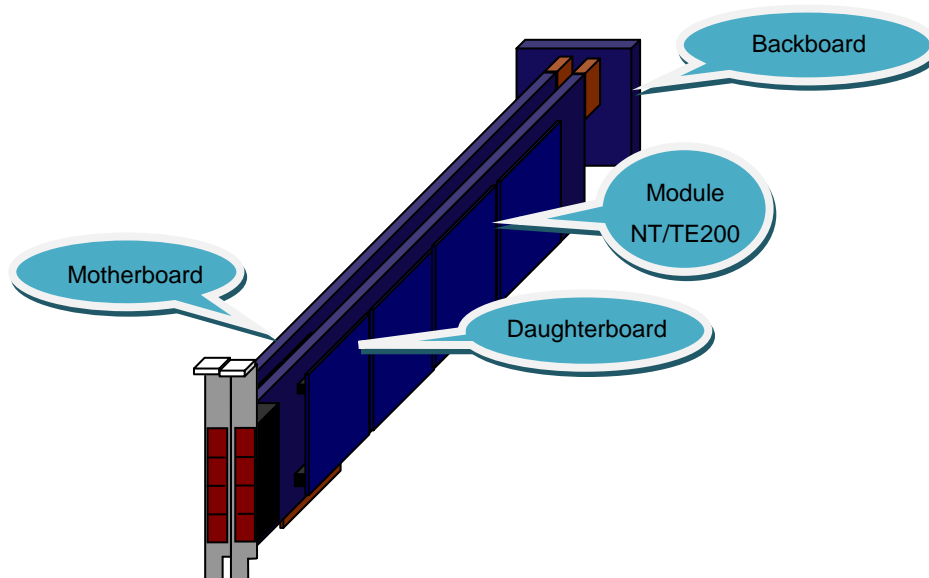


Figure 1 Overall Structure

➤ Characteristic Features

- **Echo Cancellation**

- 1) Compliant with G.168-2002.
- 2) The basic motherboard supports 256 point (32ms) for time delay estimation on each channel while the enhanced motherboard supports 1024 point (128ms).
- 3) Uses the DSPs on the motherboard to process echoes, not wasting any host resources.

- **DMA**

Uses the DMA technique for data reading and writing, greatly minimizing the cost of host CPU.

- **Structure**

- 1) Assembles piecemeal just like piling up building blocks. A motherboard offers 8 channels and you may use the backboard to extend with a daughterboard to support up to 16 channels. (The daughterboard is unsupported currently.) Although the daughterboard takes some space, it works without the need of PCI/PCIe slots (**at present we can only provide the motherboard that is applicable to PCI and PCI-X slots, and the daughterboard is unavailable now**).
- 2) Several kinds of modules are optional for you to install with the mother/daughter boards to achieve different purposes. At present we provide NT200 and TE200.
- 3) The half-height and full-length design (Height: 64mm, Length: 270mm) minimizes the space for installation, allowing a great many choices of mainboards and main frames.
- 4) You may use the spring steel buckle to fix the backboard on the mother/daughter board so as to prevent them from loosening or disengaging during transportation or removal.

- **Compatibility in Software and Hardware**

- 1) Compatible with all commercial and home mainboards.
- 2) PCI board 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; general PCI design supports 3.3V/5V PCI slot and PCI-X slot.
- 3) PCIe board includes PCI Express 1.0a bus with the single-way transmission rate up to 2.5Gb; supports PCI Express X1, X2, X4, X8, X16 slots (the board with PCIe bus is unavailable now).
- 4) Supports Unix, Linux and Solaris.
- 5) This board driver is compatible with Zaptel. So it supports a lot of open source PBX systems, like Asterisk, Trixbox, Yate, CallWeaver, FreeSwitch, etc.

- **Interface**

Four on-board RJ45 jacks: to connect with BRI lines (don't forget to install BRI modules correspondingly), use the BRJ48C-S/T2 adapter to convert each RJ45 to two S/T jacks which can directly connect to BRI lines, making connection easy and malfunctions rare.

- **Power**

The power is supplied by the host computer. In case only the motherboard is used, connect it with the HD power plug; in case the backboard and the daughterboard are also used, connect the backboard with the HD power plug.

➤ Operation Principle

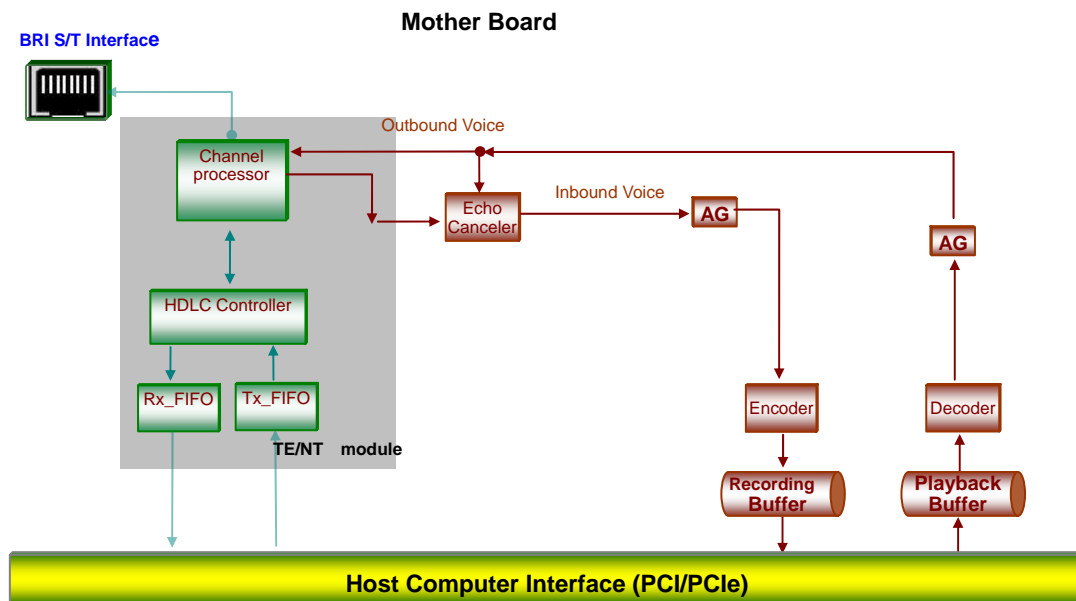


Figure 2 BRI16 Full-length Board Operation Principle

➤ Typical Application

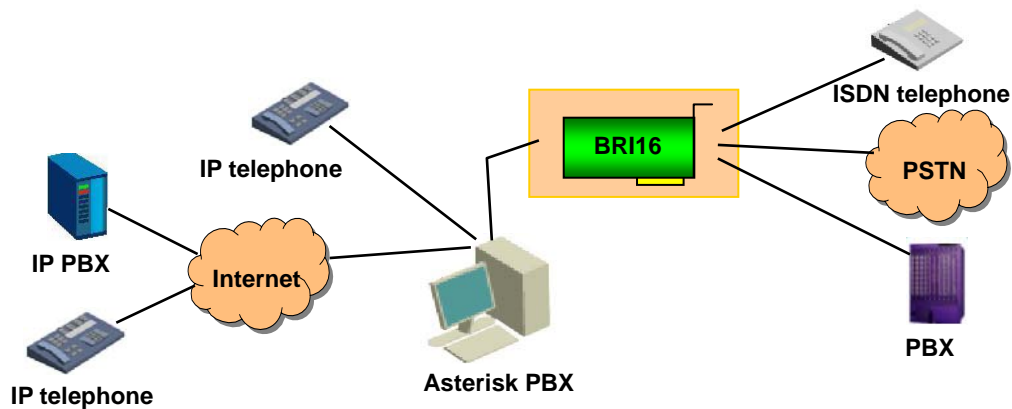


Figure 3 BRI16 Full-length Board Application Model

Note: All pictures in this document are for reference only, please prevail in kind.

➤ Technical Specifications

Dimensions

270x64 mm² (excluding L-bracket)

Weight

Motherboard: about 120g
(excluding modules)

Module: about 15g

Backboard: ≤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

4 RJ45 jacks which can be converted into
8 S/T interfaces per signal motherboard or
daughterboard

Interface type: S/T ITU-T I.430

Transmission code: AMI code

Terminating Resistance: 100 Ω (optional)

Output power: 38V±2V (NT only, optional)

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

1 board per system; up to 8 channels per
board

Power Requirements

**Total Power Consumption includes the
electricity use of all motherboards and
daughterboards.**

A single motherboard
(with modules fully inserted)

+3.3V DC: 1100mA
(power consumption: 3.63W)

+12V DC: 1000mA
(power consumption: 12W,
supplied by power socket, all
NT200)

+5V DC: 1000mA
(power consumption: 5W,
supplied by power socket)

A single daughterboard
(with modules fully inserted)

(The daughterboard is unsupported
currently)

+12V DC: 1000mA
(power consumption: 12W,
supplied by power socket, all
are NT200)

+5V DC: 1000mA
(power consumption: 5W,
supplied by power socket)

Audio Encoding & Decoding

A-Law 64kbps

μ-Law 64kbps

Sampling Rate

8kHz

Safety

Lightning resistance: Level 4

➤ Purchasing Guide

The Synway BRI16 full-length board provides a complete range of features to meet all requirements (models in grey are not yet published).

➤ Model List of BRI16 Full-length Motherboard, Daughterboard, Module & Backboard

Component	Model	PCI Bus	Echo Cancellation
Motherboard	BRI1610P	PCI	Basic
	BRI1611P	PCI	Enhanced
	BRI1610E	PCIe	Basic
	BRI1611E	PCIe	Enhanced
Daughterboard	BRD810	—	—
Module	TE200	—	—
	NT200	—	—
Backboard	BP200	—	—

➤ Technical/sales Support

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