

Figure: AX-1600P

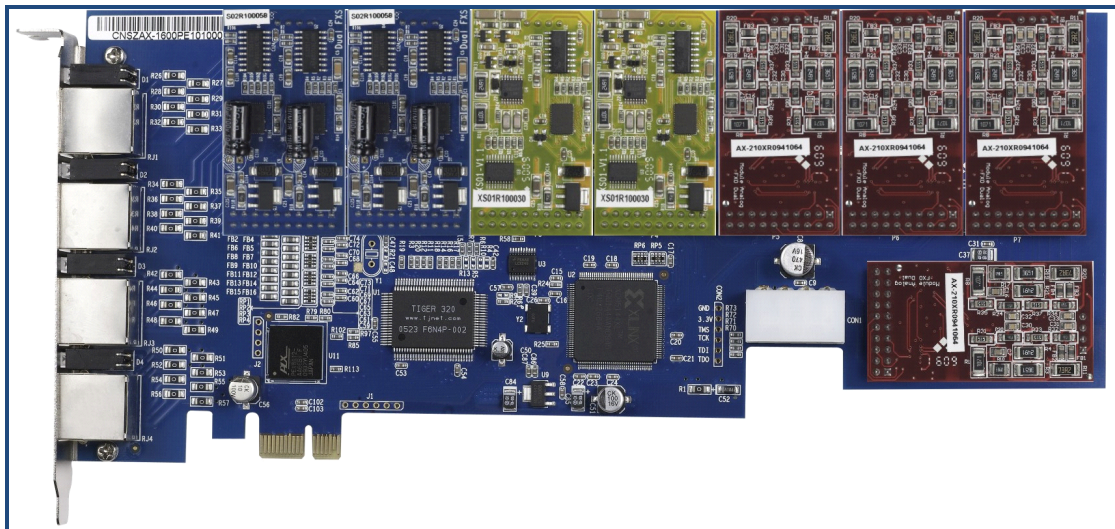


Figure: AXE1600P

ATCOM® Analog Card AX-1600P/AXE1600P Product Guide

Version: 1.1

The Installation of AX-1600P/AXE1600P with Debian 5.0.3

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Contact ATCOM

The Introduction of ATCOM

Founded in 1998, ATCOM technology has been always endeavoring in the R&D and manufacturing of the internet communication terminals. The product line of ATCOM includes IP Phone, USB Phone, IP PBX, VoIP gateway and Asterisk Card.

Contact sales:

Address	District C, east of 2nd floor, #3, Crown industry buildings, Chegongmiao Industry area, Futian district, Shenzhen, China
Tel	+(86)755-23487618
Fax	+(86)755-23485319
E-mail	sales@atcomemail.com

Contact Technical Support:

Tel	+(86)755-23481119
E-mail	Support@atcomemail.com

Website address: <http://www.atcom.cn/>

ATCOM Wiki Website: http://www.openippbx.org/index.php?title=Main_Page

Download Center: <http://www.atcom.cn/download.html>

Chapter 1 the Introduction of AX-1600P/AXE1600P

Overview of the AX-1600P/AXE1600P

AXE800P Asterisk card is the telephony PCI/PCI-E card that supports up to sixteen FXO/FXS ports. Using AX-1600P/AXE1600P analog card, open source Asterisk PBX and stand alone PC, users can create their SOHO telephony solution which include all the sophisticated features of traditional PBX, and extend features such as voicemail in IP PBX. The FXO and FXS modules are interchangeable to suit various requirements.

Features

Analog card for Asterisk PBX
Support Asterisk PBX, zaptel and dahdi driver
Support up to 8 FXO/FXS analog port
Suitable for SOHO PBX / VoiceMail / IVR.
Caller ID and Call waiting Caller ID
Conference

Applications

IP PBX
IVR system
Traditional Calls/VoIP Calls Conference

Hardware requirement

500-Mhz Pentium III
64MB RAM
3.3V or 5V PCI 2.2 slot

PCI card dimension:

264mm (length) × 121mm (height)

Chapter 2 Hardware Introduction

Hardware Configuration

Motherboard: AX-1600P/AXE1600P

Dual ports FXS module: AX-210S

Dual ports FXO module: AX-210X

One FXS port and one FXO port module: AX-210XS

Splitter: SP400

Customers can use the combination of AX-210S, AX-210X, AX-210XS modules according to their requirements. One AX-210S module supports two FXS ports, one AX-210X module supports two FXO ports, One AX-210XS module supports one FXS port and one FXO port.

Attention:

If you want to use FXS port with AX1600P, you have to provide 12V power for the card.

If you want to use any module with AXE1600P, you have to provide 12V power for the card.

Please download the dahdi-linux for the card in atcom website.

Warning:

Please do not plug and unplug the card and modules when the PC power is on.

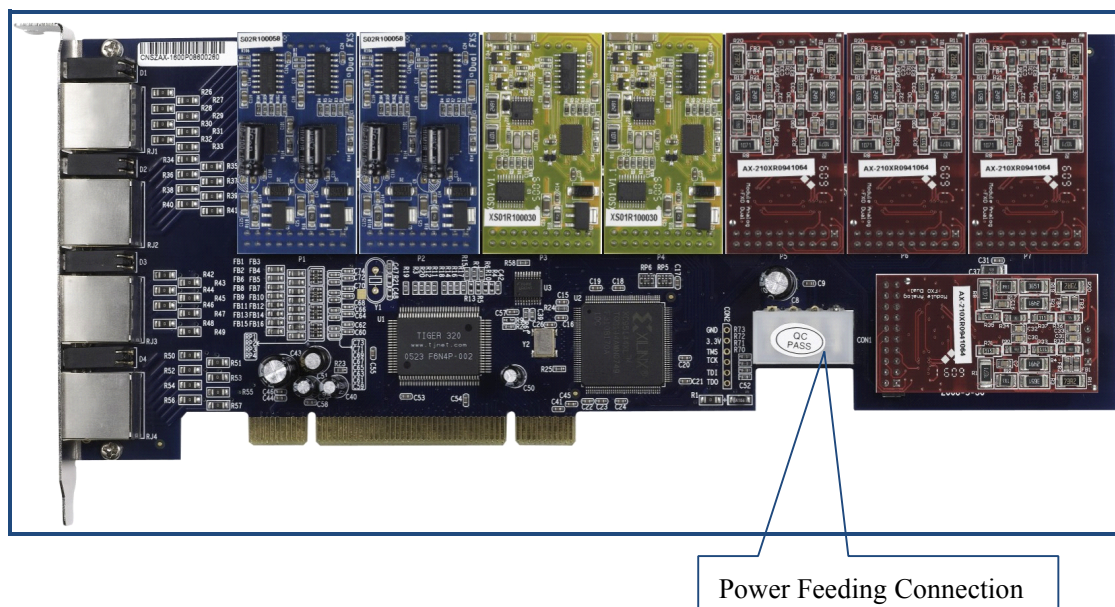


Figure 1: AX-1600P

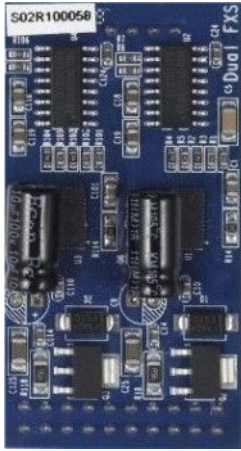


Figure 2: AX-210S

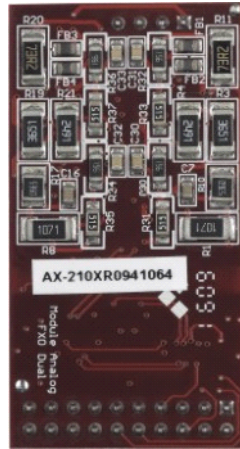


Figure 3: AX-210XS

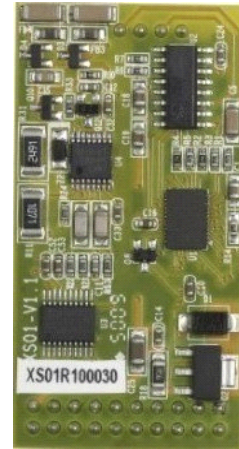


Figure 4: AX-210X



Figure 5: SP400

Chapter 3 Software Installation

Test Environment:

asterisk-1.6.2.6
dahdi-linux-complete-2.4.2.1+2.4.1
Debian 5.0.3
AX-1600P+8AX-210X

After inserting the card into your PCI slot and boot your server, please use the “lspci -vv” command to check the PCI bus compatibility. The correct output will like the following:

05:04.0 Communication controller: Tiger Jet Network Inc. Tiger3XX Modem/ISDN interface

A Tiger Jet device will be found, if you can not see the Tiger Jet device, please poweroff your server and try another PCI slot, if it still does not help, you have to check the compatibility issue between the card and your PCI bus.

1. To install asterisk and dahdi, we have to install the following prerequisite packages:
ssh libncurses-dev flex xsltproc libxml2-dev
linux-headers-`uname -r`
bison openssl libssl-dev libeditline0 libeditline-dev libedit-dev
gcc make g++ php5-cli mysql-common libmysqlclient15-dev libnewt-dev
Please use the apt-get install command to install the above packages.
2. Download asterisk,dahdi-linux and dahdi-tools
debian:/usr/src#wget
<http://downloads.asterisk.org/pub/telephony/asterisk/releases/asterisk-xx>
debian:/usr/src#wget
[http://www.atcom.cn/cn/download/cards/ax800p/dahdi-linux-complete-2.4.1.2+2.4.1-3.0.tar.g](http://www.atcom.cn/cn/download/cards/ax800p/dahdi-linux-complete-2.4.1.2+2.4.1-3.0.tar.gz)
[z](#)
3. Install dahdi-linux-complete
 - 1) debian:/usr/src# tar -zxvf dahdi-linux-complete-2.4.1.2+2.4.1-3.0.tar.gz
 - 2) debian:/usr/src# cd dahdi-linux-complete-xxx+xxx
 - 3) debian:/usr/src dahdi-linux-complete-xxx+xxx# make
 - 4) debian:/usr/src dahdi-linux-complete-xxx+xxx# make install
 - 5) debian:/usr/src dahdi-linux-complete-xxx+xxx# make config

Install asterisk

- 1) `debian:/usr/src# tar -xvzf asterisk-1.6.2.6.tar.gz`
- 2) `debian:/usr/src# cd asterisk-1.6.2.6`
- 3) `debian:/usr/src/asterisk-1.6.2.6# ./configure`
- 4) `debian:/usr/src/asterisk-1.6.2.6# make`
- 5) `debian:/usr/src/asterisk-1.6.2.6# make install`
- 6) `debian:/usr/src/asterisk-1.6.2.6# make samples`

Chapter 4 Software Configuration

1. Please add one command line: "#include dahdi-channels.conf" into the file: "/etc/asterisk/chan_dahdi.conf".
2. Please use the following command to load drivers:
modprobe dahdi
modprobe ax1600p
3. Please use the "dahdi_genconf" command to configure the /etc/dahdi/system.conf file and generate /etc/asterisk/dahdi-channels.conf file.
debian:~# dahdi_genconf
It does not show any output if dahdi_genconf run successfully.

system.conf

Span 1: WCTDM/16 "Wildcard TDM400P REV E/F Board 17" (MASTER)

fxsks=1

echocanceller=mg2,1

fxsks=2

echocanceller=mg2,2

... ..

... ..

fxsks=15

echocanceller=mg2,15

fxsks=16

echocanceller=mg2,16

Global data

loadzone = us (According to your country)

defaultzone = us (According to your country)

dahdi-channels.conf

; Span 1: WCTDM/16 "Wildcard TDM400P REV E/F Board 17" (MASTER)

;;; line="1 WCTDM/16/0 FXSKS"

signalling=fxs_ks
callerid=asreceived
group=0
context=from-pstn
channel => 1
callerid=
group=
context=default

;;; line="2 WCTDM/16/1 FXSKS"

signalling=fxs_ks
callerid=asreceived
group=0
context=from-pstn
channel => 2
callerid=
group=
context=default

... ..

... ..

;;; line="15 WCTDM/16/14 FXSKS (SWEC: MG2)"

signalling=fxs_ks
callerid=asreceived
group=0
context=from-pstn
channel => 15
callerid=
group=
context=default

;;; line="15 WCTDM/16/16 FXSKS (SWEC: MG2)"

signalling=fxs_ks
callerid=asreceived
group=0
context=from-pstn
channel => 16
callerid=
group=
context=default

```
debian:~# dahdi_cfg -vv
```

The right output of running dahdi_cfg -vv will like the following:

```
DAHDI Tools Version - 2.4.1
```

```
DAHDI Version: 2.4.1.2
```

```
Echo Canceller(s): MG2
```

```
Configuration
```

```
=====
```

```
Channel map:
```

```
Channel 01: FXS Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 01)
```

```
Channel 02: FXS Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 02)
```

```
... ..
```

```
... ..
```

```
Channel 15: FXS Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 15)
```

```
Channel 16: FXS Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 16)
```

```
16 channels to configure.
```

```
Setting echocan for channel 1 to mg2
```

```
Setting echocan for channel 2 to mg2
```

```
... ..
```

```
... ..
```

```
Setting echocan for channel 15 to mg2
```

```
Setting echocan for channel 16 to mg2
```

4. Please add the following line in the end of chan_dahdi.conf file

```
#include dahdi-channels.conf
```

5. Please run asterisk with the following command:

```
asterisk -vvgc
```

```
reload
```

6. Please run dahdi show channels command

The right output should like the following:

Chan Extension	Context	Language	MOH Interpret	Blocked	State
pseudo	default		default		In Service
1	from-pstn		default		In Service
2	from-pstn		default		In Service
... ..					
... ..					
15	from-pstn		default		In Service
16	from-pstn		default		In Service

Chapter 5 Reference

<http://www.asteriskguru.com/>

<http://www.asterisk.org/downloads>

http://www.openippbx.org/index.php?title=Main_Page

<http://www.atcom.cn/>