

ATCOM® Digital Card AX-1E

Product Guide

Version: 1.0

The Installation of AX-1E with Trixbox 2.6.2.3

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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.

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

Chapter 1 the Introduction of AX-1E

Overview of the 1E

AX-1E Asterisk card is the telephony PCI card that support one ISDN PRI E1 port. Using AX-1E digital PRI card, open source Asterisk PBX and stand alone PC, users can create their IP PBX telephony solution include all the sophisticated features of traditional PBX, and extend features such as voicemail in IP PBX

Features

- One ISDN PRI E1 port 30 channels
- Hardware DTMF detection
- Conference Bridge
- PRI ISDN protocol stack
- Suitable for 3.3 volts and 5.0 volts 32 bit PCI 2.2 slots

Applications

- ISDN PRI IP PBX
- ISDN least cost router
- Voice over IP PRI termination gateways
- IVR system
- Call Center
- Traditional Calls/VoIP Calls Conference
- Callback Service

Hardware requirement

- 1.6-Ghz Pentium IV
- 512 MB RAM
- 3.3V or 5V PCI 2.2 slot

PCI card dimension:

72mm (height) × 144mm (Length)

Chapter 2 Hardware Introduction

Hardware Configuration

Motherboard: AX-1E

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

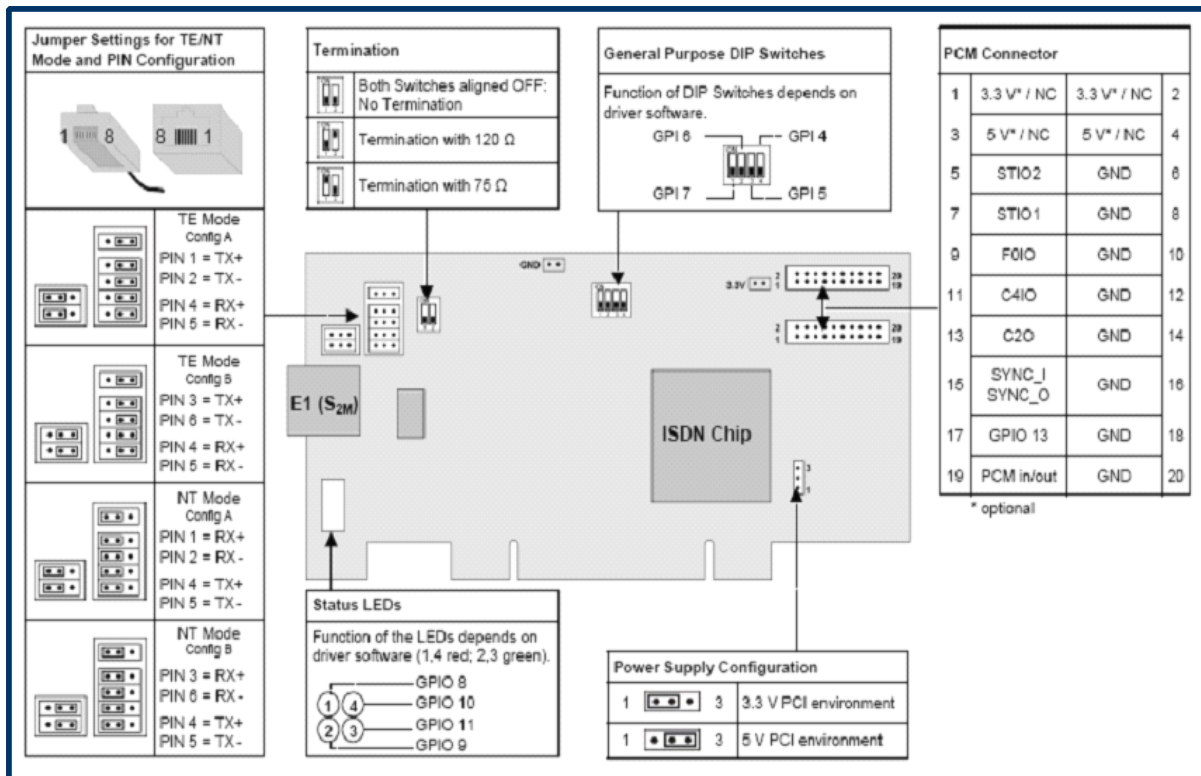


Figure 1: Jumper Setting of AX-1E

Chapter 3 Software Installation

Test Environment:

mISDN-1_1_7
mISDNuser-1_1_7
Trixbbox 2.6.2.3
AX-1E

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

```
=====
05:04.0 Ethernet controller: Cologne Chip Designs GmbH ISDN network Controller [HFC-
E1] (rev 01)
=====
```

An Cologne Chip Designs GmbH ISDN network Controller [HFC-E1] (rev 01) will be found, if you can not see it, 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.

2. vi /etc/modprobe.d/blacklist
add the following lines at the end:

```
=====
blacklist hisax
blacklist hisax_fcpcipnp
blacklist hisax_isac
blacklist crc_ccitt
blacklist isdn
blacklist slhc
blacklist capi
blacklist capifs
blacklist kernelcapi
blacklist kernel_capi
blacklist avmfritz
blacklist hfc4s8s_11
=====
```

3. Install necessary packages:
[trixbox1.localdomain ~]# yum install gcc flex asterisk-chan_misdn bc usbutils
[trixbox1.localdomain ~]# yum install kernel-* ncurses*
4. Download and install mISDN , mISDNuser:

```
[trixbox1.localdomain src]# wget http://www.misdn.org/downloads/releases/mISDN-1\_1\_7.tar.gz
[trixbox1.localdomain src]# wget http://www.misdn.org/downloads/releases/mISDNuser-1\_1\_7.tar.gz
[trixbox1.localdomain src]# tar -xzvf mISDN-1_1_7
[trixbox1.localdomain src]# tar -xzvf mISDNuser-1_1_7
[trixbox1.localdomain src]# cd mISDN-1_1_7
[trixbox1.localdomain mISDN-1_1_7]# make clean
[trixbox1.localdomain mISDN-1_1_7]# make install
[trixbox1.localdomain mISDN-1_1_7]# cd ../mISDNuser-1_1_7
[trixbox1.localdomain mISDNuser-1_1_7]# make clean
[trixbox1.localdomain mISDNuser-1_1_7]# make install
```

5. We need to copy the misdn.conf file from asterisk-1.4.22_samples to asterisk:

```
[trixbox1.localdomain mISDNuser-1_1_7]# cp /etc/asterisk-1.4.22_samples/misdn.conf
/etc/asterisk/misdn.conf
```

Then reboot your computer.

Chapter 4 Software Configuration

1. Please use the following command to stop the server:

```
[trixbox1.localdomain ~]# amportal stop
```

2. Please use the following command to check the AX-1E card information:

```
[trixbox1.localdomain ~]# misdn-init scan
```

You will see:

```
=====
```

```
[OK] found the following devices:
```

```
[ii] run "/usr/sbin/misdn-init config" to store this information to /etc/misdn-init.conf
```

```
=====
```

3. Set the configuration file :

```
[trixbox1.localdomain ~]# misdn-init config
```

You will see:

```
=====
```

```
[OK] /etc/misdn-init.conf already present. backing it up to /etc/misdn-init.conf.save
```

```
[OK] /etc/misdn-init.conf created. It's now safe to run "/usr/sbin/misdn-init start"
```

```
[ii] make your port (1) available in asterisk by editing "/etc/asterisk/misdn.conf"
```

```
=====
```

4. Start the mISDN with following command:

```
[trixbox1.localdomain ~]# misdn-init start
```

```
=====
```

```
-----
```

```
Loading module(s) for your misdn-cards:
```

```
-----
```

```
/sbin/modprobe --ignore-install hfcmulti type=0x1 protocol=0x2 layermask=0xf poll=128  
debug=0
```

```
/sbin/modprobe mISDN_dsp debug=0x0 options=0 poll=128 dtmfthreshold=100
```

```
=====
```

Then the LED of AX-1E green light.

5. Add "misdn-init start" before "/usr/sbin/amportal start"

```
[trixbox1.localdomain ~]# vi /etc/rc.d/rc.local
```

Just like:

```
=====
```

```
#!/bin/sh
```

```
#
```

```
# This script will be executed *after* all the other init scripts.  
# You can put your own initialization stuff in here if you don't  
# want to do the full Sys V style init stuff.
```

```
touch /var/lock/subsys/local  
misdn-init start  
/usr/sbin/amportal start  
chmod 755 /usr/local/sbin/motd.sh && /usr/local/sbin/motd.sh > /etc/issue
```

6. Start the asterisk and check via asterisk to show the stacks:

Tips: the zaptel should be load before asterisk, or you can't start the asterisk, so just use the following command .

```
[trixbox1.localdomain ~]# chkconfig --del zaptel  
[trixbox1.localdomain ~]# amportal start  
[trixbox1.localdomain ~]# asterisk -vvvvvvvvvgrc  
trixbox1*CLI> misdn show stacks
```

You will see:

```
BEGIN STACK_LIST:  
* Port 1 Type TE Prot. PTP L2Link DOWN L1Link:DOWN Blocked:0  Debug:0
```

That means your AX-1E have been installed successfully and can work now.

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/>