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OpenVox A400P ?????? Asterisk ??? PSTN ?????????? Asterisk ????????????????

A400P ??? 4 ?????????? FXS ? FXO????? Asterisk/Trixbox/Elastix/PIAF ????????????

????

- ?? 4 ? RJ11 port ? FXS ? FXO ???
- 32 bit 33MHz PCI ?????? PCI 2.2?
- ?? 5V ? 3.3V PCI ??????????
- ????? 0~50 C?
- ????? -40~125 C



??????

- ?? - <http://www.openvox.cn/>
- Wiki - [http://wiki.openvox.cn/index.php/Main\\_Page](http://wiki.openvox.cn/index.php/Main_Page)
- ?? - <http://bbs.openvox.cn/>

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- [A400P ??????](#)
- [dahdi monitor ??](#)
- [DAHDI ??????](#)
- [system.conf ?????](#)

????

1. ?????????? PCI ???
2. ??????????(?? FXS ????????)
3. Linux ??????

#lspci

...

00:0a.0 Communication controller: Tiger Jet Network Inc. Tiger3XX Modem/ISDN interface

...

#lspci -vvv

...

00:0a.0 Communication controller: Tiger Jet Network Inc. Tiger3XX Modem/ISDN interface

Subsystem: Unknown device b100:0003

Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B-

Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=medium &gt;TAbort- &lt;TAbort- &lt;MAbort- &gt;SERR-

&lt;PERR-

Latency: 32 (250ns min, 32000ns max)

Interrupt: pin A routed to IRQ 11  
Region 0: I/O ports at b000 [size=256]  
Region 1: Memory at f5000000 (32-bit, non-prefetchable) [size=4K]  
Capabilities: [40] Power Management version 2  
Flags: PMEClk- DSI+ D1- D2+ AuxCurrent=55mA PME(D0+,D1-,D2+,D3hot+,D3cold+)  
Status: D0 PME-Enable- DSel=0 DScale=0 PME+

...

Tips:

????? **????? FXS**, **????? FXO**?

?? Dahdi

?? Elastix/PIAF ????? Dahdi ???

# vi /etc/dahdi/genconf\_parameters

lc\_country tw

# dahdi\_genconf

????????????????????????????????????

- /etc/dahdi/system.conf
- /etc/asterisk/dahdi-channels.conf

PIAF ??? /etc/dahdi/modules

...

# Digium TDM400P: up to 4 analog ports

wctdm

...

???????????????

?? /etc/modprobe.d/dahdi.conf

options wctdm opermode=TAIWAN

???????????????

?? dahdi\_cfg

\$ dahdi\_cfg -vvv

DAHDI Tools Version - 2.4.1

DAHDI Version: 2.4.1

Echo Cancellor(s): MG2

Configuration

=====

Channel map:

Channel 01: FXO Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 01)

Channel 02: FXO Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 02)

Channel 03: FXS Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 03)

Channel 04: FXS Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 04)

4 channels to configure.

Setting echocan for channel 1 to mg2

Setting echocan for channel 2 to mg2

Setting echocan for channel 3 to mg2

Setting echocan for channel 4 to mg2

Tips:

?? channel ?? FXO kewlstart, ?? FXS port, ??????? 01-02 FXS, 03-04 FXO?

?? dahdi ?????

???? dahdi ??

```
root@pbx:~ $ dmesg | grep dahdi
```

```
dahdi: Telephony Interface Registered on major 196
```

```
dahdi: Version: 2.4.1
```

```
dahdi: Registered tone zone 0 (United States / North America)
```

```
dahdi_echocan_mg2: Registered echo canceler 'MG2'
```

```
dahdi: Registered tone zone 14 (Taiwan)
```

```
dahdi_cfg
```

```
root@pbx:~ $ dahdi_cfg -vvvv
```

DAHDI Tools Version - 2.4.1

DAHDI Version: 2.4.1

Echo Cancellor(s): MG2

Configuration

=====

Channel map:

Channel 01: FXO Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 01)  
 Channel 02: FXO Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 02)  
 Channel 03: FXS Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 03)  
 Channel 04: FXS Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 04)

4 channels to configure.

Setting echocan for channel 1 to mg2  
 Setting echocan for channel 2 to mg2  
 Setting echocan for channel 3 to mg2  
 Setting echocan for channel 4 to mg2

dahdi\_genconf

???? system.conf ? /etc/asterisk/dahdi-channels.conf

dahdi\_hardware

```
root@pbx:~ $ dahdi_hardware
pci:0000:00:08.0 wctdm+ e159:0001 Wildcard TDM400P REV E/F
```

dahdi\_scan

```
root@pbx:~ $ dahdi_scan
[1]
active=yes
alarms=OK
description=Wildcard TDM400P REV E/F Board 5
name=WCTDM/4
manufacturer=Digium
devicetype=Wildcard TDM400P REV E/F
location=PCI Bus 00 Slot 09
basechan=1
totchans=4
irq=10
type=analog
port=1,FXS
port=2,FXS
port=3,FXO
port=4,FXO
```

dahdi\_monitor

dahdi\_monitor 3 -v -r rx.raw

?? Asterisk

??? /etc/asterisk/chan\_dahdi.conf ??????????

[trunkgroups]

[channels]

usecallerid=yes

callwaiting=yes

usecallingpres=yes

callwaitingcallerid=yes

threewaycalling=yes

transfer=yes

canpark=yes

cancallforward=yes

callreturn=yes

echocancel=yes

echocancelwhenbridged=yes

group=1

callgroup=1

pickupgroup=1

#include dahdi-channels.conf

#include chan\_dahdi\_additional.conf

???

- ????? FreePBX???????????

- ??? FreePBX ????????????????

?? Asterisk ??

?? dahdi ??? channel ??

pbx\*CLI> dahdi show channels

Chan	Extension	Context	Language	MOH Interpret	Blocked	State
pseudo		default	default			In Service
1		from-internal	default			In Service
2		from-internal	default			In Service
3		from-pstn	default			In Service
4		from-pstn	default			In Service

Tips:

?????FXS port ??? from-internal, FXO port ? from-pstn ? from-zaptel?

????

???????????????? FXS/FXO port ????????????????? FXS, ????????? FXO?

??? port ???

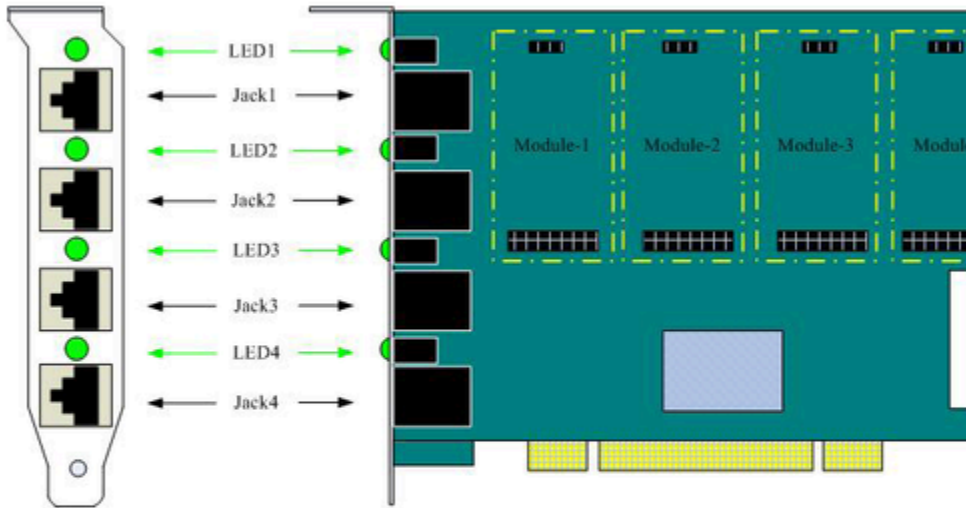
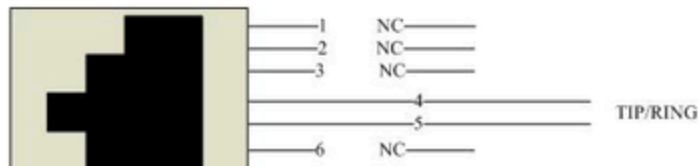


Figure 2: A400P Modules and Jacks/LEDS



FXS ??

FXO ??

FAQ

Q:???? CID

Ans:

- <http://www.openvox.cn/bbs/viewthread...extra=page%3D1>
- <http://tw.myblog.yahoo.com/jw!6eNJ.e.../article?mid=5>

Q:????????? FXO ?????

Ans: ?? /etc/asterisk/chan\_dahdi.conf???

;Uncomment these lines if you have problems with the disconnection of your analog lines

; for FXO Hangup Detection Issue

busydetect=yes

busycount=3

busypattern=250,250

?? rxgain=4.0 ??????????????????????????????

Q: FXO ??????????Asterisk ??? Answered??? Billing ? Auto-dialer ???????

Ans: ?? callprogress=yes, progzone=us ??? [Asterisk ? DSP ?????](#)

Q: ????????

Ans?

# cat /proc/dahdi/1

Span 1: WCTDM/4 "Wildcard TDM400P REV E/F Board 5" (MASTER)

1 WCTDM/4/0 FXOKS (In use) (EC: MG2 - INACTIVE)

2 WCTDM/4/1 FXOKS (In use) (EC: MG2 - INACTIVE)

3 WCTDM/4/2 FXSKS (In use) RED (EC: MG2 - INACTIVE)

4 WCTDM/4/3 FXSKS (In use) RED (EC: MG2 - INACTIVE)

# dahdi\_hardware

pci:0000:00:08.0 wctdm+ e159:0001 Wildcard TDM400P REV E/F

# dahdi\_cfg -vvvv

DAHDI Tools Version - 2.6.0-rc1

DAHDI Version: 2.6.0-rc1

Echo Cancellor(s): HWEC, MG2

Configuration

=====

Channel map:

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Channel 04: FXS Kewlstart (Default) (Echo Canceler: mg2) (Slaves: 04)

4 channels to configure.

Setting echocan for channel 1 to mg2

Setting echocan for channel 2 to mg2

Setting echocan for channel 3 to mg2

Setting echocan for channel 4 to mg2

????

- [a400p-dahdi????](#)
- Installing OSLEC with DAHDI
  - ? [http://www.rowetel.com/blog/?page\\_id=454](http://www.rowetel.com/blog/?page_id=454)
  - ? <http://bbs.openvox.cn/viewthread.php...extra=page%3D3>
  - ? [http://www.bsmdevelopment.com/Refere...\\_20100001.html](http://www.bsmdevelopment.com/Refere..._20100001.html)
- [Detecting CallerID before Ring in Asterisk](#)
- OpenVox: [Troubleshooting of Analog cards Chinese](#)
- [DTMF?????Asterisk DAHDI?????????](#)
- [PIAF ??](#)