

E1/T1/J1 PRI Card

Second Generation

Quick Installation Guide

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About this manual

This manual describes the Allo product application and explains how to work and use its major features. It serves as a means to describe the configuration and how to use it to accomplish common tasks. This manual also describes the underlying assumptions and users make the underlying data model.

Document Conventions

In this manual, certain words are represented in different fonts, typefaces, sizes, and weights. This highlighting is systematic; different words are represented in the same style to indicate their inclusion in a specific category. Additionally, this document has different strategies to draw User attention to certain pieces of information. In order of how critical the information is to your system, these items are marked as a note, tip, important, caution, or warning.

Icon	Purpose
	Note
	Tip/Best Practice
	Important
	Caution
	Warning

- **Bold** indicates the name of the menu items, options, dialog boxes, windows and functions.
- The color blue with underline is used to indicate cross-references and hyperlinks.
- Numbered Paragraphs - Numbered paragraphs are used to indicate tasks that need to be carried out. Text in paragraphs without numbering represents ordinary information.
- The Courier font indicates a command sequence, file type, URL, Folder/File name e.g. <http://www.allo.com>

Support Information

Every effort has been made to ensure the accuracy of the document. If you have comments, questions, or ideas regarding the document contact online support: <http://support.allo.com/>

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1. Hardware Setup

- 1) Customization of the 2nd gen PRI card to use in PCI / PCIe server slot. By default, the card is ready to fix in PCIe slot of the server.

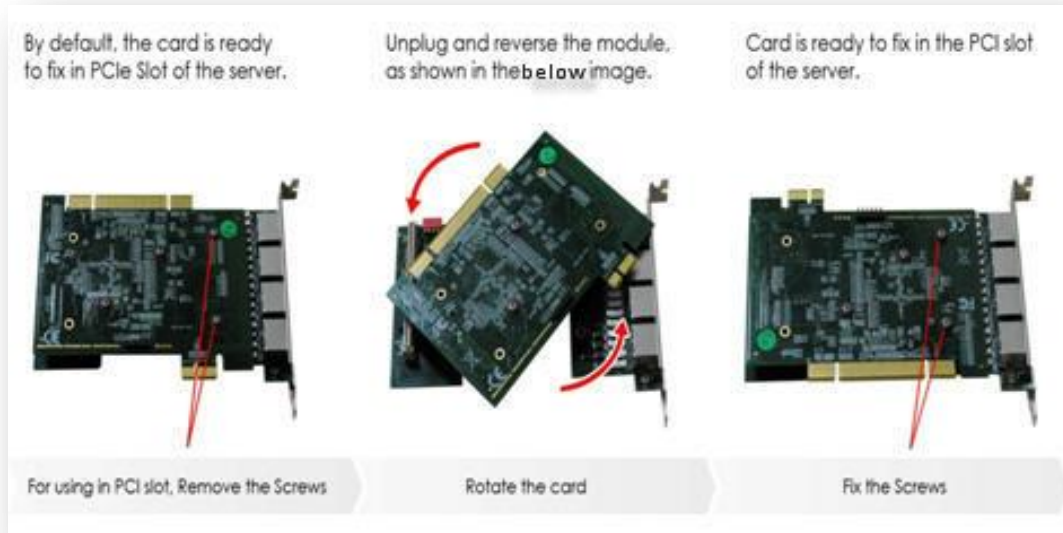


Figure 1: Customization of 2nd Generation PRI Card



If you want to use the 2nd gen 4 ports PRI PCIe card in a PCI slot. Before rotating you need to load the PCI firmware by installing in a PCIe slot.

For further assistance: please contact <http://support.allo.com/> under the category of “PRI Cards”

- 2) Insert the 2nd Gen 4 port PRI (PCI/PCIe) card in the corresponding PCI/PCIe slot of the Server.

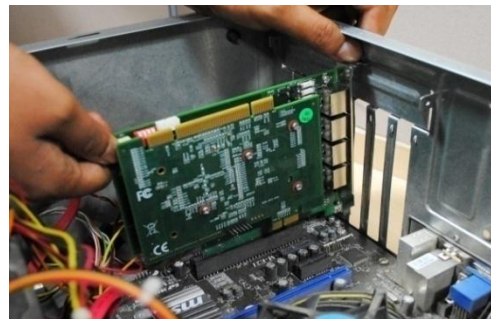


Figure 2: 2nd Gen 4 ports PRI Card

- 3) Check if the installed PRI card is detected using the below command

lspci

If the card has been recognized, it will be displayed in the output information.

```
root voiptest ~]# lspci
```

```
#04:00.0 Non-VGA unclassified device: Device 1d21:1280 (rev 01)
```

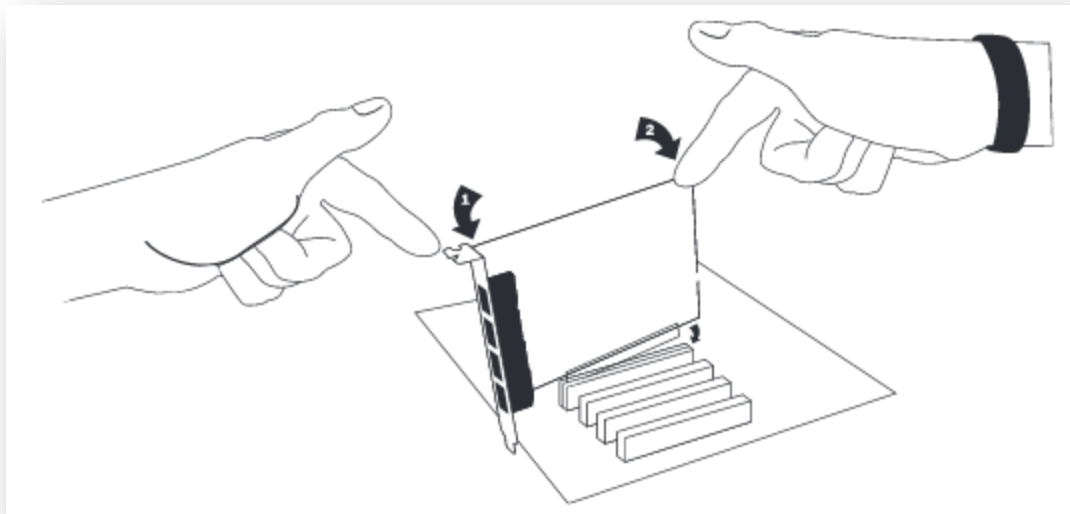
Device PRI Id	Type of PRI Card
1280	8 ports PRI Card
1240	4 ports PRI Card
1220	2 ports PRI Card
1210	1 port PRI Card



If the PRI card is not recognized by the system, you have to power off and take out the card, and then insert it into another PCI-E slot.

1.1 Hardware Installation

1. Now that you are acquainted with the 2nd Gen PRI cards, power down your computer and unplug it from its power source.
2. Attach a static strap to your wrist and open the case.
3. Take away the section place holder and addition the card into a PCI or PCI Express Slot.



Insert Card

4. Replace the cover to your computer
5. Plug the T1 or E1 equipment cable into the RJ45 port.



Use only shield cables to ensure compliance with the international EMC standards.

2. Software Installation Steps

This chapter describes how to install the software on your computer. Before you proceed please make sure that your computer meets the requirements.

2.1 Test Environment (Example)

Libpri-1.4.14

ALLO Dahdi Driver - 2.9.1

asterisk-11.4.0

centos 6.2 (kernel version: 2.6.32)

Telephony Card : 4 port PRI PCIe card (Model:2aCP4e)

2.2 Installation of Pre requisite packages:

Install all of Asterisk's dependencies that are required to compile asterisk. Run the followings commands to install the required packages needed for compiling drivers from source.

```
[root@localhost ~]# yum install bison bison-devel ncurses ncurses-devel zlib zlib-devel openssl  
openssl-devel gnutls-devel gcc gcc-c++ libxml2
```

2.3 Installation of LibPRI package

Go to /usr/src directory and Download LibPRI by running the following command

```
[root@localhost src]# wget http://downloads.asterisk.org/pub/telephony/libpri/libpri-1.4.14.tar.gz
```

After downloading LibPRI extract the LibPRI tar file by the command

```
[root@localhost src]# tar -xvzf libpri-1.4.14.tar.gz
```

Install the LibPRI by following the commands

```
[root@localhost src]# cd libpri-1.4.14
```

```
# make clean
```

```
# make
```

```
#make install
```

2.4 Installation of Dahdi Driver

Download latest ALLO Dahdi Drivers and available for download from:

<http://www.allo.com/firmware/pri-card-second-gen/dahdi/dahdi-linux-complete-2.9.1.1+2.9.1.tar.gz>

You can download the respective Dahdi version from <http://allo.com/pri-card-second-gen.html> under “Guides & Drivers”.

Download the respective dahdi drive executing the following command

```
#wget http://www.allo.com/firmware/pri-card-second-gen/dahdi/dahdi-linux-complete-2.9.1.1+2.9.1.tar.gz
```

Extract the downloaded file and enter into that directory

```
# tar -xvzf dahdi-linux-complete-2.9.1.1+2.9.1.tar.gz
```

Use the following commands to install DAHDI drivers

```
# cd dahdi-linux-complete-2.9.1.1+2.9.1
```

```
#make
```

```
#make install
```

```
#make config
```

Successful Dahdi Driver installation shows the similar output & lists the detected Dahdi devices


```
#####
###
### DAHDI tools installed successfully.
### If you have not done so before, install init scripts with:
###
### make config
###
#####
make[1]: Leaving directory `/usr/src/dahdi-linux-complete-2.9.1.1+2.9.1/tools'
make -C tools config
make[1]: Entering directory `/usr/src/dahdi-linux-complete-2.9.1.1+2.9.1/tools'
install -D dahdi.init /etc/rc.d/init.d/dahdi
/usr/bin/install -c -d /etc/udev/rules.d
/usr/bin/install -c -D -m 644 dahdi.rules /etc/udev/rules.d/
install -D ifup-hdlc /etc/sysconfig/network-scripts/ifup-hdlc
/sbin/chkconfig --add dahdi
DAHDI has been configured.

List of detected DAHDI devices:

pci:0000:01:00.0      allo4xxp-      1d21:1280 Allocard 2aCP8e (2nd Gen)

run 'dahdi_genconf modules' to load support for only
the DAHDI hardware installed in this system. By
default support for all DAHDI hardware is loaded at
DAHDI start.
make[1]: Leaving directory `/usr/src/dahdi-linux-complete-2.9.1.1+2.9.1/tools'
[root@ajay-testing dahdi-linux-complete-2.9.1.1+2.9.1]#
```

Figure 3: Dahdi driver Installation output

After Dahdi driver installation to list out the Dahdi hardware devices run *dahdi_hardware* command and output are as follows:

```
root@ajay-testing ~]#
root@ajay-testing ~]# dahdi_hardware
ci:0000:01:00.0      allo4xxp-      1d21:1280 Allocard 2aCP8e (2nd Gen)
root@ajay-testing ~]#
```

Figure 4: Dahdi-Hardware command

2.5 Installation of Asterisk

Download the latest version of asterisk. Asterisk is available for download from: <http://downloads.asterisk.org/pub/telephony/asterisk/> after downloading asterisk, extract the asterisk tar file by giving following command.

```
#wget http://downloads.asterisk.org/pub/telephony/asterisk/asterisk-11-current.tar.gz
```

Go to asterisk folder and compile the packages as shown in the screenshot

To install asterisk give the following commands:

```
[root@pbx1 asterisk-11.4.0]#. /configure  
#make  
# make install  
# make config
```

If this is your first Asterisk Install, you should install the sample configuration files, to do this run:

```
# make samples
```

3. Software Configurations

Add the line **"allo4xxp"** at the end in /etc/Dahdi/modules file. The "start dhadi" is to "stop and start dhadi service" according to deployment scenario.

After compiling and installing DAHDI and Asterisk, load the Dahdi driver by running:

```
# /etc/init.d/dahdi start  
# dadhi_genconf -vvvvv
```



If there is any error, please trace the cause. Until all errors are clear up, you should execute "dadhi_genconf" again, and then go to the next step.

By running **"dadhi_genconf"**, it will generate /etc/dahdi/system.conf and etc/asterisk/dahdi-channels.conf automatically. Check whether the generated files information agrees with your hardware setup, if not, you should modify to your specific requirements.

```
[root@localhost ~]# dahdi_genconf -vvv  
Default parameters from /etc/dahdi/genconf_parameters  
Generating /etc/dahdi/system.conf  
Generating /etc/asterisk/dahdi-channels.conf
```

Figure 5: Dahdi channels configure with asterisk



Do not forget to confirm dahdi-channels.conf is included in chan_dahdi.conf to configure Dahdi channels with asterisk, if not, run command:

```
# echo "#include dahdi-channels.conf" >> /etc/asterisk/chan_dahdi.conf
```

Execute the following command:

```
# dahdi_cfg -vvvvv
```

This command is used for reading and loading parameters in the configuration file system.conf and writing to the hardware.

Start the Asterisk by executing

```
# asterisk -gvvvvvvvvvv
```

Make sure that PRI spans are up and active, before making calls. Here is the command to check the PRI span status

```
CLI> pri show spans
```

```
*CLI>
*CLI> pri show spans
PRI span 1/0: In Alarm, Down, Active
PRI span 2/0: In Alarm, Down, Active
PRI span 3/0: In Alarm, Down, Active
PRI span 4/0: In Alarm, Down, Active
PRI span 5/0: Up, Active
PRI span 6/0: In Alarm, Down, Active
PRI span 7/0: Up, Active
PRI span 8/0: In Alarm, Down, Active
*CLI>
*CLI>
```

Figure 6: PRI Span Status (8 Port PRI Card)

If you face any issues, please contact the reseller from whom you have purchased the ALLO product or submit a support ticket <http://support.allo.com/>

Thank you for choosing



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