

E1/T1/J1 PRI Card

Second Generation

Quick Installation Guide

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Preface

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 user interface 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 Second gen 4/8 port PRI card to use in PCI / PCIe server slot.

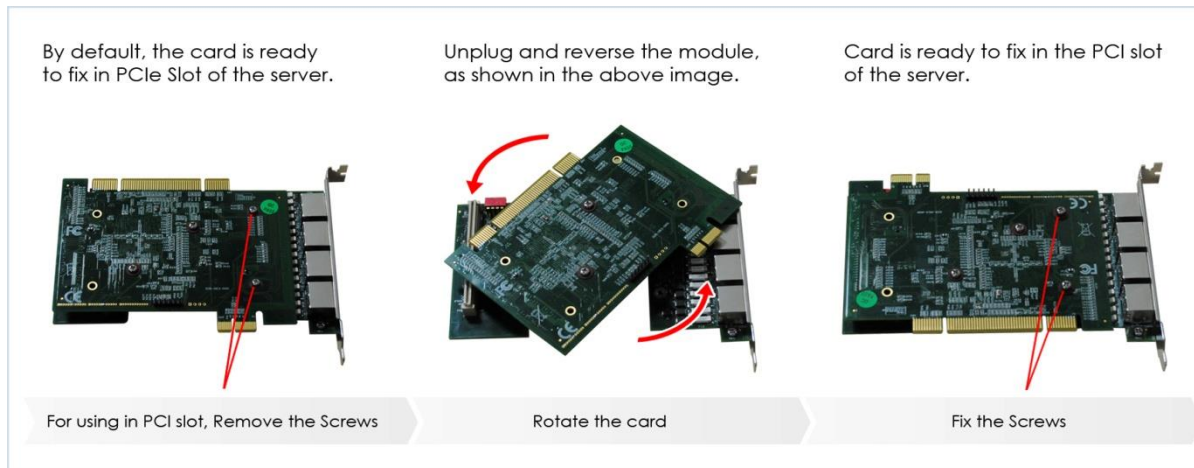


Figure 1: Customization of 2nd Generation PRI Card

2) Insert the Second Gen 4/8 port PRI (PCI/PCIe) card in the corresponding PCI/PCIe slot of the Server.



Figure 2: 2nd Gen of 8 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)
```



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.

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.

Test Environment

Libpri-1.4.14

ALLO Dahdi Driver - 2.9.1

asterisk-11.4.0

centos 6.2 (kernel version: 2.6.32)

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
```

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
```

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>

```
#wgethttp://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

Download latest ALLO firmware file “**allo-dahdi-fw-2aCP8e.bin**” and move it to path **/lib/firmware/**.

Firmware is available for download from: <http://www.allo.com/firmware/pri-card-second-gen/allo-dahdi-fw-2aCP4e.bin>

```
#wget http://www.allo.com/firmware/pri-card-second-gen/allo-dahdi-fw-2aCP4e.bin
```

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. Then start the Dahdi service.

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

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



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

By running “**dahdi_genconf**”, it will generate `/etc/dahdi/system.conf` and `etc/asterisk/dahdi-channels.conf` automatically. Checking 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 -gvvvvvvvvvc
```

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

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/>