

Choose one of below methods to install driver

1. [Patch TDM800/1600 Driver for Asterisk \(Page 2~4\)](#)
2. [Patch TDM800/1600 Driver for Asterisk with DAHDI-complete and oslec echo cancellation \(Page 5~7\)](#)
3. [Install TDM800/1600 Driver Manually \(Page 8~10\)](#)

Method 1: Patch TDM800/1600 Driver for Asterisk

Before You Proceed:

1. Make sure you have already installed TDM800/1600 card and plugged in power cable.
2. Make sure you have already installed the kernel source code and gcc compiler.
3. Take version dahdi-linux-2.2.0.2 for example.

Begin to Install:

1. Choose a path to save the installation file, such as /usr/src
[root@localhost ~]# **cd /usr/src**
2. Download dahdi you want to use from asterisk website, such as dahdi-linux-2.2.0.2
[root@localhost src]# **wget http://downloads.asterisk.org/pub/telephony/dahdi-linux/releases/dahdi-linux-2.2.0.2.tar.gz**
3. Download the driver patch for corresponding dahdi version. Here we take dahdi-linux-2.2.0.2 for example, and download the corresponding patch.
[root@localhost src]# **wget http://www.yeostar.com/download/dahdi/ystdm-dahdi-2.2.0.2.patch.tar.gz**
4. Decompress the downloaded files
[root@localhost src]# **tar xzvf dahdi-linux-2.2.0.2.tar.gz**
[root@localhost src]# **tar xzvf ystdm-dahdi-2.2.0.2.patch.tar.gz**
5. Install patch
[root@localhost src]# **patch -p0 < ystdm-dahdi-2.2.0.2.patch**
You should see the following lines after entering the above command
patching file dahdi-linux-2.2.0.2/drivers/dahdi/Kbuild
patching file dahdi-linux-2.2.0.2/drivers/dahdi/Kconfig
patching file dahdi-linux-2.2.0.2/drivers/dahdi/ystdm16xx.c
patching file dahdi-linux-2.2.0.2/drivers/dahdi/ystdm8xx.c

Note 1: If it appears the lines shown like follow:

-bash: patch: command not found

That is mainly the system doesn't have patch command, please follow below steps to install patch:

```
[root@localhost src]# yum install patch
```

Note 2: If it appears the lines shown like follow:

patching file dahdi-linux-2.2.0.2/drivers/dahdi/Kbuild

Reversed (or previously applied) patch detected! Assume -R? [n]

It indicates that you had patched something before. If you want to keep the previous patch, please refer to <[Install TDM800/1600 Driver Manually](#)>; or please delete the dahdi file and decompress and install patch again. Steps as show below:

```
[root@localhost src]# rm dahdi-linux-2.2.0.2 -rf
```

```
[root@localhost src]# tar xzvf dahdi-linux-2.2.0.2.tar.gz
```

```
[root@localhost src]# patch -p0 < ystdm-dahdi-2.2.0.2.patch
```

6. Install kernel code and gcc compiler

```
[root@localhost src]# yum install kernel-devel-`uname -r`  
[root@localhost src]# yum install gcc
```

Note: For lack of *newt.h* file in kernel-headers, please download it from Yeastar website:

```
[root@localhost src]# wget http://www.yeastar.com/download/newt.h  
[root@localhost src]# mv newt.h /usr/include/
```

7. Compile and Install

```
[root@localhost src]# cd dahdi-linux-2.2.0.2  
[root@localhost dahdi-linux-2.2.0.2]# make  
[root@localhost dahdi-linux-2.2.0.2]# make install
```

8. Install dahdi-tools

```
[root@localhost ~]# cd /usr/src/  
[root@localhost src]# wget http://downloads.asterisk.org/pub/telephony/dahdi-tools/releases/dahdi-tools-2.2.0.tar.gz  
[root@localhost src]# tar xzvf dahdi-tools-2.2.0.tar.gz  
[root@localhost src]# cd dahdi-tools-2.2.0  
[root@localhost dahdi-tools-2.2.0]# ./configure  
[root@localhost dahdi-tools-2.2.0]# make  
[root@localhost dahdi-tools-2.2.0]# make install  
[root@localhost dahdi-tools-2.2.0]# make config
```

9. Make sure the driver will be loaded when system start up

```
[root@localhost dahdi-tools-2.2.0]# vi /etc/dahdi/modules
```

Add these 2 lines to the end of the file:

```
ystdm16xx  
ystdm8xx
```

10. Reboot to finish the installation of the card's driver

```
[root@localhost dahdi-tools-2.2.0]# reboot
```

11. Read card information

```
[root@localhost ~]# dahdi_genconf
```

Note: If it appears the lines be shown following lines:

```
/usr/sbin/dahdi_genconf: Cannot read '/etc/dahdi/genconf_parameters': No such file or directory
```

That is mainly the folder doesn't have file `genconf_parameters`, Please follow below steps to link the file:

```
[root@localhost ~]# touch /etc/dahdi/genconf_parameters  
[root@localhost ~]# dahdi_genconf
```

You can run `dahdi_cfg -vv` to show the card information

12. Modify configuration of asterisk

```
[root@localhost ~]# vi /etc/asterisk/chan_dahdi.conf
```

Add the following line at the end of the file:

#include dahdi-channels.conf

13. Patching is complete.
14. Restart asterisk to make the changes take effect.

Method 2: Patch TDM800/1600 Driver for Asterisk with DAHDI-complete and oslec echo cancellation

Before You Proceed:

1. Make sure you have already installed TDM800/1600 card and plugged in power cable.
2. Make sure you have already installed the kernel source code and gcc compiler.
3. Only version start from dahdi-linux-complete-2.2.0+2.2.0 support for this method.
4. Take version dahdi-linux-complete-2.2.1+2.2.1 for example.

Begin to Install:

1. Choose a path to save the installation file, such as /usr/src

```
[root@localhost ~]# cd /usr/src
```

2. Download dahdi-complete you want to use from asterisk website, such as dahdi-linux-complete-2.2.1+2.2.1

```
[root@localhost src]# wget http://downloads.asterisk.org/pub/telephony/dahdi-linux-complete/releases/dahdi-linux-complete-2.2.1+2.2.1.tar.gz
```

3. Download the driver patch for corresponding dahdi version. Here we take dahdi-linux-complete-2.2.1+2.2.1 for example, and download the corresponding patch.

```
[root@localhost src]# wget http://www.yeastar.com/download/dahdi-complete/ystdm-dahdi-complete-2.2.1+2.2.1.patch.tar.gz
```

4. Decompress the downloaded files

```
[root@localhost src]# tar xzvf dahdi-linux-complete-2.2.1+2.2.1.tar.gz  
[root@localhost src]# tar xzvf ystdm-dahdi-complete-2.2.1+2.2.1.patch.tar.gz
```

5. Install patch

```
[root@localhost src]# patch -p0 < ystdm-dahdi-complete-2.2.1+2.2.1.patch
```

You should see the following lines after entering the above command

```
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/dahdi/Kbuild  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/dahdi/Kconfig  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/dahdi/ystdm16xx.c  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/dahdi/ystdm8xx.c  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/bit_operations.h  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/echo.c  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/echo.h  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/.echo.ko.cmd  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/echo.mod.c  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/.echo.mod.o.cmd  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/.echo.o.cmd  
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/fir.h
```

```
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/Kbuild
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/Kconfig
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/Makefile
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/mmx.h
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/oslec.h
patching file dahdi-linux-complete-2.2.1+2.2.1/linux/drivers/staging/echo/TODO
patching file dahdi-linux-complete-2.2.1+2.2.1/tools/modules.sample
patching file dahdi-linux-complete-2.2.1+2.2.1/tools/xpp/genconf_parameters
```

Note 1: If it appears the lines shown like follow:

```
-bash: patch: command not found
```

That is mainly the system doesn't have patch command, please follow below steps to install patch:

```
[root@localhost src]# yum install patch
```

Note 2: If it appears the lines shown like follow:

```
patching file dahdi-linux-complete-2.2.1+2.2.1/drivers/dahdi/Kbuild  
Reversed (or previously applied) patch detected! Assume -R? [n]
```

It indicates that you had patched something before. If you want to keep the previous patch, please refer to <[Install TDM800/1600 Driver Manually](#)>; or please delete the dahdi file and decompress and install patch again. Steps as show below:

```
[root@localhost src]# rm dahdi-linux-complete-2.2.1+2.2.1 -rf
```

```
[root@localhost src]# tar xzvf dahdi-linux-complete-2.2.1+2.2.1.tar.gz
```

```
[root@localhost src]# patch -p0 < ystdm-dahdi-complete-2.2.1+2.2.1.patch
```

6. Install kernel code and gcc compiler

```
[root@localhost src]# yum install kernel-devel-`uname -r`
```

```
[root@localhost src]# yum install gcc
```

Note: For lack of *newt.h* file in kernel-headers, please download it from Yeostar website:

```
[root@localhost src]# wget http://www.yeostar.com/download/newt.h
```

```
[root@localhost src]# mv newt.h /usr/include/
```

7. Compile and Install

```
[root@localhost src]# cd dahdi-linux-complete-2.2.1+2.2.1
```

```
[root@localhost dahdi-linux-complete-2.2.1+2.2.1]# make
```

```
[root@localhost dahdi-linux-complete-2.2.1+2.2.1]# make install
```

```
[root@localhost dahdi-linux-complete-2.2.1+2.2.1]# make config
```

8. Make sure the driver will be loaded when system start up

```
[root@localhost dahdi-linux-complete-2.2.1+2.2.1]# vi /etc/dahdi/modules
```

Make sure that there are these lines at the end of the file:

```
ystdm16xx
```

```
ystdm8xx
```

9. Reboot to finish the installation of the card's driver

```
[root@localhost dahdi-linux-complete-2.2.1+2.2.1]# reboot
```

10. Make sure we are using oslec

```
[root@localhost ~]# vi /etc/dahdi/genconf_parameters
```

Find and Uncomment this line #echo_can oslec

Before change:

```
#echo_can hpec
#echo_can oslec
#echo_can none # to avoid echo canceler altogether
```

After change:

```
#echo_can hpec
echo_can oslec
#echo_can none # to avoid echo canceler altogether
```

Save the changes

11. Generate card information

```
[root@localhost ~]# dahdi_genconf
```

You can run **dahdi_cfg -vv** to show the card information

12. Modify configuration of asterisk

```
[root@localhost ~]# vi /etc/asterisk/chan_dahdi.conf
```

Add the following line at the end of the file:

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

13. Patching is complete.

14. Restart asterisk to make the changes take effect.

Method 3: Install TDM800 Driver Manually

Before You Proceed:

1. Make sure you have already installed TDM800/1600 card and plugged in power cable.
2. Make sure you have already installed the kernel source code and gcc compiler.
3. Take version dahdi-linux-2.2.0.2 for example.

Begin to Install:

1. Choose a path to save the installation file, such as /usr/src
[root@localhost ~]# **cd /usr/src**
2. Download zaptel you want to use from asterisk website, such as zaptel-1.4.10
[root@localhost src]# **wget http://downloads.asterisk.org/pub/telephony/dahdi-linux/dahdi-linux-2.2.0.2.tar.gz**
3. Decompress the dahdi
[root@localhost src]# **dahdi-linux-2.2.0.2.tar.gz**
4. Get driver of TDM800/1600 card from Yeostar website
Enter into zaptel file.
[root@localhost src]# **cd dahdi-linux-2.2.0.2/drivers/dahdi/**
[root@localhost dahdi]# **wget http://www.yeostar.com/download/dahdi/dahdi-linux-2.2.0.2/ystdm8xx.c**
[root@localhost dahdi]# **wget http://www.yeostar.com/download/dahdi/dahdi-linux-2.2.0.2/ystdm16xx.c**
[root@localhost dahdi]# **ls**
Then you can find the file ystdm8xx.c and ystdm16xx.c

5. Modify Kconfig and Kbuild
[root@localhost dahdi]# **vi Kconfig**
Add the following lines at the end of the file:

```
config DAHDI_YSTDM8XX
    tristate "Yeostar YSTDM8xx Support"
    depends on DAHDI && PCI
    default DAHDI
    ---help---
    This driver provides support for the Yeostar YSTDM8xx.

    To compile this driver as a module, choose M here: the
    module will be called ystdm8xx.

    If unsure, say Y.
```

```
config DAHDI_YSTDM16XX
```

```
    tristate "Yeostar YSTDM16xx Support"
```

```
    depends on DAHDI && PCI
```

```
    default DAHDI
```

```
    ---help---
```

```
        This driver provides support for the Yeostar YSTDM16xx.
```

```
        To compile this driver as a module, choose M here: the
        module will be called ystdm16xx.
```

```
        If unsure, say Y.
```

```
[root@localhost dahdi]# vi Kbuild
```

Add the following lines before `obj-m += $(DAHDI_MODULES_EXTRA)`

```
obj-$(DAHDI_BUILD_ALL)$ (CONFIG_DAHDI_YSTDM8XX) += ystdm8xx.o
```

```
obj-$(DAHDI_BUILD_ALL)$ (CONFIG_DAHDI_YSTDM16XX) += ystdm16xx.o
```

6. Compile and Install

```
[root@localhost src]# cd dahdi-linux-2.2.0.2
```

```
[root@localhost dahdi-linux-2.2.0.2]# make
```

```
[root@localhost dahdi-linux-2.2.0.2]# make install
```

7. Install dahdi-tools

```
[root@localhost ~]# cd /usr/src/
```

```
[root@localhost src]# wget http://downloads.asterisk.org/pub/telephony/dahdi-tools/dahdi-tools-2.2.0.tar.gz
```

```
[root@localhost src]# tar xzvf dahdi-tools-2.2.0.tar.gz
```

```
[root@localhost src]# cd dahdi-tools-2.2.0
```

```
[root@localhost dahdi-tools-2.2.0]# ./configure
```

```
[root@localhost dahdi-tools-2.2.0]# make
```

```
[root@localhost dahdi-tools-2.2.0]# make install
```

```
[root@localhost dahdi-tools-2.2.0]# make config
```

8. Make sure the driver will be loaded when system start up

```
[root@localhost dahdi-tools-2.2.0]# vi /etc/dahdi/modules
```

Add these lines to the end of the file:

```
ystdm16xx
```

```
ystdm8xx
```

9. Reboot to finish the installation of the card's driver

```
[root@localhost dahdi-tools-2.2.0]# reboot
```

10. Read card information

```
[root@localhost ~]# dahdi_genconf
```

Note: If it appears the lines be shown following lines:

```
/usr/sbin/dahdi_genconf: Cannot read '/etc/dahdi/genconf_parameters': No such file or directory
```

That is mainly the folder doesn't have file `genconf_parameters`, Please follow below steps to link the file:

```
[root@localhost ~]# touch /etc/dahdi/genconf_parameters
```

```
[root@localhost ~]# dahdi_genconf
```

You can run `dahdi_cfg -vv` to show the card information

11. Modify configuration of asterisk

```
[root@localhost~]# vi /etc/asterisk/chan_dahdi.conf
```

Add the following line at the end of the file:

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

12. Driver Installation is complete.

13. Restart asterisk to make the changes take effect.

14. Add support for OSLEC

Please see [How to add OSLEC for DAHDI for more detail.](#)

For any technical support, please contact

E-Mail: support@yeastar.com

Skype ID: support.yeastar

MSN ID: support@yeastar.com

<End>