



OpenVox Communication Co Ltd

OpenVox DE115P/DE115E Installation (Trixbox 2.6 & Elastix 1.3 with zaptel)





OpenVox Communication Co Ltd

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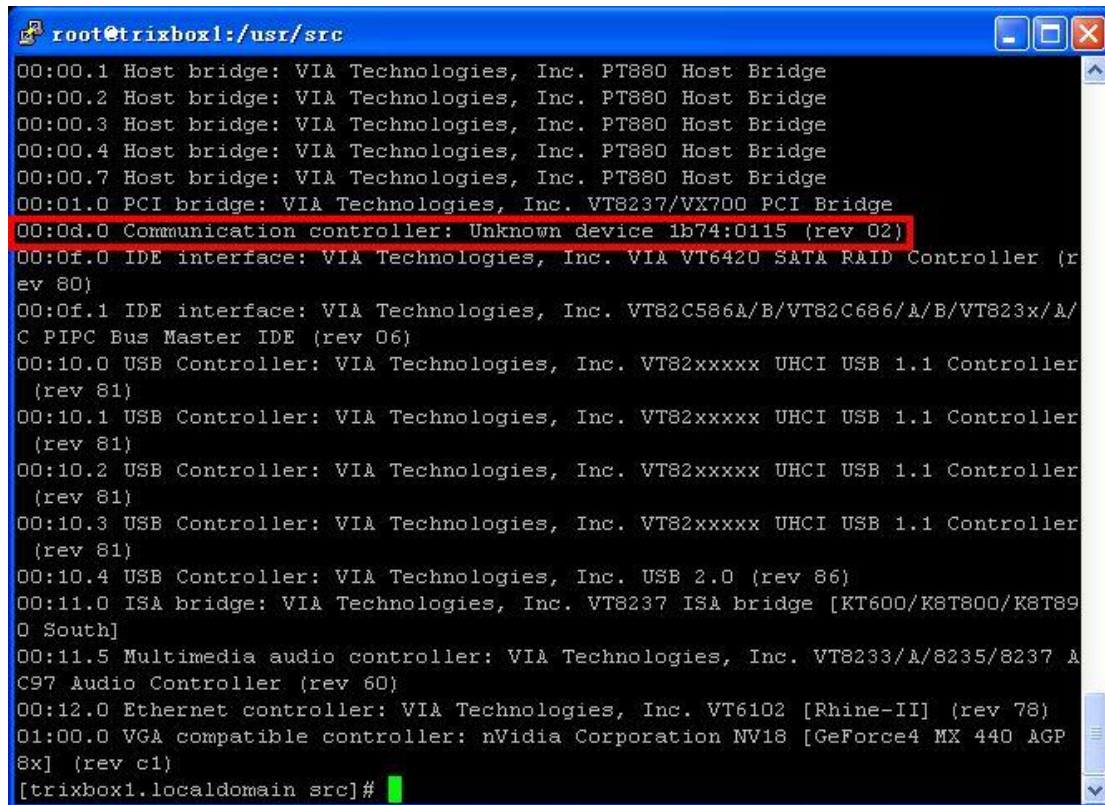
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Chapter 1 Installing Compiling Environment

- i. Installing trixbox 2.6 or elastix 1.3
- ii. Installing DE115P/DE115E
- iii. Starting trixbox or elastix
- iv. Checking the system recognition of DE115P/DE115E

lspci



```
root@trixbox1:/usr/src
00:00.1 Host bridge: VIA Technologies, Inc. PT880 Host Bridge
00:00.2 Host bridge: VIA Technologies, Inc. PT880 Host Bridge
00:00.3 Host bridge: VIA Technologies, Inc. PT880 Host Bridge
00:00.4 Host bridge: VIA Technologies, Inc. PT880 Host Bridge
00:00.7 Host bridge: VIA Technologies, Inc. PT880 Host Bridge
00:01.0 PCI bridge: VIA Technologies, Inc. VT8237/VX700 PCI Bridge
00:0d.0 Communication controller: Unknown device 1b74:0115 (rev 02)
00:0f.0 IDE interface: VIA Technologies, Inc. VIA VT6420 SATA RAID Controller (rev 80)
00:0f.1 IDE interface: VIA Technologies, Inc. VT82C586A/B/VT82C686/A/B/VT823x/A/C PIPC Bus Master IDE (rev 06)
00:10.0 USB Controller: VIA Technologies, Inc. VT82xxxxx UHCI USB 1.1 Controller (rev 81)
00:10.1 USB Controller: VIA Technologies, Inc. VT82xxxxx UHCI USB 1.1 Controller (rev 81)
00:10.2 USB Controller: VIA Technologies, Inc. VT82xxxxx UHCI USB 1.1 Controller (rev 81)
00:10.3 USB Controller: VIA Technologies, Inc. VT82xxxxx UHCI USB 1.1 Controller (rev 81)
00:10.4 USB Controller: VIA Technologies, Inc. USB 2.0 (rev 86)
00:11.0 ISA bridge: VIA Technologies, Inc. VT8237 ISA bridge [KT600/K8T800/K8T890 South]
00:11.5 Multimedia audio controller: VIA Technologies, Inc. VT8233/A/8235/8237 A/C97 Audio Controller (rev 60)
00:12.0 Ethernet controller: VIA Technologies, Inc. VT6102 [Rhine-II] (rev 78)
01:00.0 VGA compatible controller: nVidia Corporation NV18 [GeForce4 MX 440 AGP 8x] (rev c1)
[trixbox1.localdomain src]#
```

Chapter 2 Installing Driver

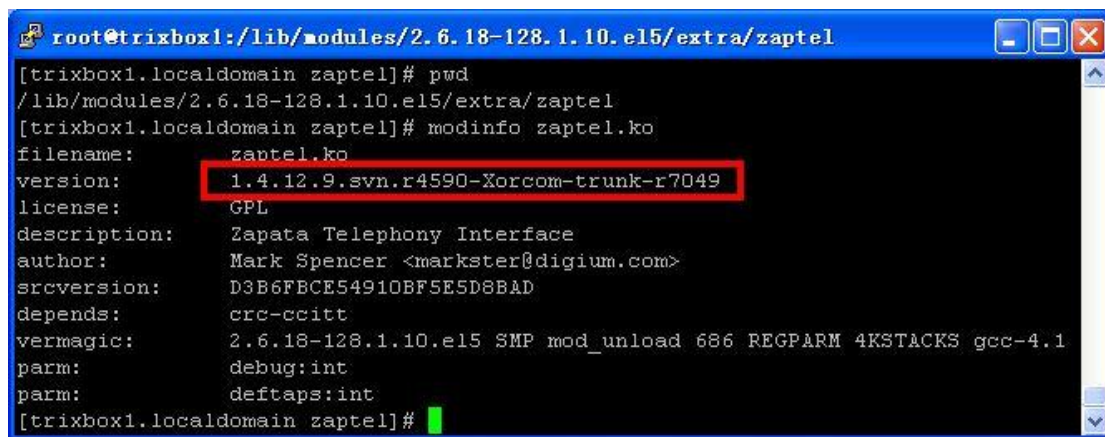
Installing Openvox DE115P/DE115E driver for trixbox-2.6.2.3

1. Installing compiling environment

```
# yum install gcc  
# yum install kernel-devel
```

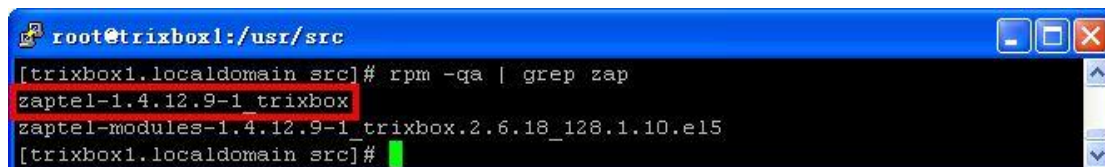
2. Checking the version of the driver

```
# modinfo /lib/modules/`uname -r`/extra/zaptel/zaptel.ko
```



```
root@trixbox1:/lib/modules/2.6.18-128.1.10.el5/extra/zaptel  
[trixbox1.localdomain zaptel]# pwd  
/lib/modules/2.6.18-128.1.10.el5/extra/zaptel  
[trixbox1.localdomain zaptel]# modinfo zaptel.ko  
filename:      zaptel.ko  
version:      1.4.12.9.svn.r4590-Xorcom-trunk-r7049  
license:      GPL  
description:   Zapata Telephony Interface  
author:       Mark Spencer <markster@digium.com>  
srcversion:    D3B6FBCE54910BF5E5D8BAD  
depends:       crc-ccitt  
vermagic:     2.6.18-128.1.10.el5 SMP mod_unload 686 REGPARM 4KSTACKS gcc-4.1  
parm:         debug:int  
parm:         deftaps:int  
[trixbox1.localdomain zaptel]#
```

```
# rpm -qa | grep zap
```



```
root@trixbox1:/usr/src  
[trixbox1.localdomain src]# rpm -qa | grep zap  
zaptel-1.4.12.9-1 trixbox  
zaptel-modules-1.4.12.9-1 trixbox.2.6.18_128.1.10.el5  
[trixbox1.localdomain src]#
```

3. Downloading driver

Downloading zaptel-1.4.12.9-1_trixbox.src.rpm

```
# cd /usr/src  
# wget http://yum.trixbox.org/centos/5/SRPMS/zaptel-1.4.12.9-1\_trixbox.src.rpm
```

Downloading opvxd115-for-zaptel-1.4.12.1.tar.gz

```
# wget http://downloads.openvox.cn/pub/drivers/zaptel/de115/opvxd115-for-zaptel-1.4.12.1.tar.gz
```

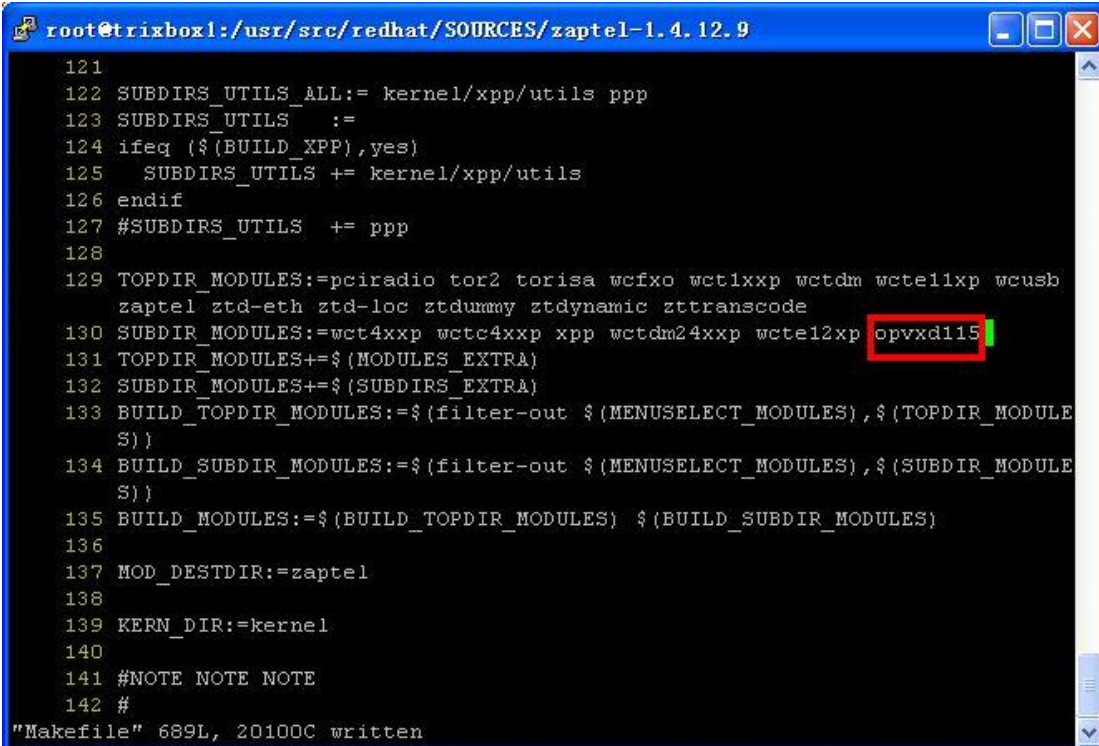
4. Compiling driver

```
# mkdir -p redhat/SOURCES
# rpm -ivh zaptel-1.4.12.9-1_trixbox.src.rpm
# tar -xzvf opvxd115-for-zaptel-1.4.12.1.tar.gz

# cd /usr/src/redhat/SOURCES
# tar -xzvf zaptel-1.4.12.9.tar.gz
# cd zaptel-1.4.12.9
# cp -a /usr/src/opvxd115 kernel/
```

Editing Makefile file

```
# vi Makefile
```



```
root@trixbox1:/usr/src/redhat/SOURCES/zaptel-1.4.12.9
121
122 SUBDIRS_UTILS_ALL:= kernel/xpp/utils ppp
123 SUBDIRS_UTILS :=
124 ifeq ($(BUILD_XPP),yes)
125     SUBDIRS_UTILS += kernel/xpp/utils
126 endif
127 #SUBDIRS_UTILS += ppp
128
129 TOPDIR_MODULES:=pciradio tor2 torisa wcfxo wct1xxp wctdm wctel1xp wctusb
zaptel ztd-eth ztd-loc ztdummy ztdynamic zttranscode
130 SUBDIR_MODULES:=wct4xxp wctc4xxp xpp wctdm24xxp wctel2xp opvxd115
131 TOPDIR_MODULES+=$(MODULES_EXTRA)
132 SUBDIR_MODULES+=$(SUBDIRS_EXTRA)
133 BUILD_TOPDIR_MODULES:=$(filter-out $(MENUSELECT_MODULES),$(TOPDIR_MODULE
S))
134 BUILD_SUBDIR_MODULES:=$(filter-out $(MENUSELECT_MODULES),$(SUBDIR_MODULE
S))
135 BUILD_MODULES:=$(BUILD_TOPDIR_MODULES) $(BUILD_SUBDIR_MODULES)
136
137 MOD_DESTDIR:=zaptel
138
139 KERN_DIR:=kernel
140
141 #NOTE NOTE NOTE
142 #
"Makefile" 689L, 20100C written
```

Editing zaptel.sysconfig file

```
# vi zaptel.sysconfig
```

```

root@trixbox1: /usr/src/redhat/SOURCES/zaptel-1.4.12.9
36 MODULES="$MODULES wcte11xp" # TE110P - Single Span T1/E1 Card
37
38 MODULES="$MODULES wctdm24xxp" # TDM2400P - Modular FXS/FXO interface (
1-24 ports)
39
40 MODULES="$MODULES wcfxo" # X100P - Single port FXO interface
41 # X101P - Single port FXO interface
42
43 MODULES="$MODULES wctdm" # TDM400P - Modular FXS/FXO interface (1
-4 ports)
44
45 MODULES="$MODULES wcusb" # S100U - Single port FXS USB Interface
46
47 #MODULES="$MODULES torisa" # Old Tormental ISA Card
48
49 #MODULES="$MODULES ztdummy" # Zaptel Timing Only Interface
50
51 MODULES="$MODULES xpp_usb" # Xorcom Astribank Device
52
53 MODULES="$MODULES opvxd115" # OpenVox DE115P/DE115E - Single Span T1
/E1/J1 Card
54
55 # Disables Astribank hotplug firmware loading
56 #XPP_HOTPLUG_DISABLED=yes
57 #
"zaptel.sysconfig" 71L, 2437C written

```

```

# ./configure
# make

```

5. Installing driver

```

# mkdir -p /lib/modules/`uname -r` /extra/zaptel/opvxd115
# cp kernel/opvxd115/opvxd115.ko
/lib/modules/`uname -r`/extra/zaptel/opvxd115/
# depmod -a

```

6. Downloading Firmware

```

# cd /usr/src
# wget

```

<http://downloads.openvox.cn/pub/firmwares/opvx-zaptel-fw-oct6114-032-1.07.01.tar.gz>

7. Downloading Firmware

```

# tar -xzvf opvx-zaptel-fw-oct6114-032-1.07.01.tar.gz
# cp zaptel-fw-oct6114-032.bin /lib/firmware/
# mkdir -p /usr/lib/hotplug/firmware/
# mv zaptel-fw-oct6114-032.bin /usr/lib/hotplug/firmware/

```

Installing Openvox DE115P/DE115E driver for trixbox-2.6.2.1

1. Installing gcc compiling environment

```
# yum install gcc
```

2. Installing Kernel source code

```
# cd /usr/src
```

```
# wget
```

```
http://ftp.scientificlinux.org/linux/scientific/52/i386/updates/security/kernel-devel-2.6.18-92.1.18.el5.i686.rpm
```

or

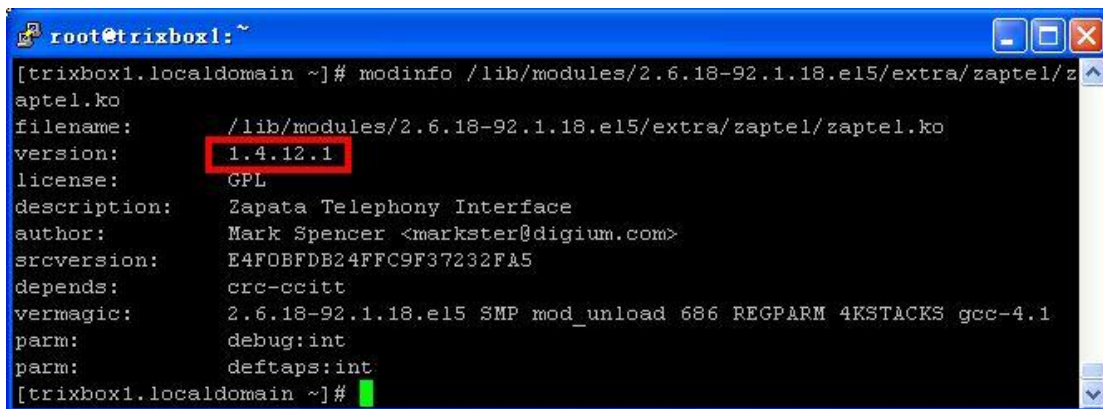
```
# wget
```

```
http://vault.centos.org/5.2/updates/i386/RPMS/kernel-devel-2.6.18-92.1.18.el5.i686.rpm
```

```
# rpm -ivh kernel-devel-2.6.18-92.1.18.el5.i686.rpm
```

3. Checking the version of the driver

```
# modinfo /lib/modules/`uname -r`/extra/zaptel/zaptel.ko
```



```
root@trixbox1: ~  
[trixbox1.localdomain ~]# modinfo /lib/modules/2.6.18-92.1.18.el5/extra/zaptel/zaptel.ko  
filename:      /lib/modules/2.6.18-92.1.18.el5/extra/zaptel/zaptel.ko  
version:      1.4.12.1  
license:      GPL  
description:   Zapata Telephony Interface  
author:       Mark Spencer <markster@digium.com>  
srcversion:   E4F0BFDB24FFC9F37232FA5  
depends:       crc-ccitt  
vermagic:     2.6.18-92.1.18.el5 SMP mod_unload 686 REGPARM 4KSTACKS gcc-4.1  
parm:        debug:int  
parm:        deftaps:int  
[trixbox1.localdomain ~]#
```

4. Downloading driver

```
# wget
```

```
http://downloads.openvox.cn/pub/drivers/zaptel/openvox\_zaptel/openvox\_zaptel-1.4.12.1.tar.gz
```

5. Compiling driver

```
# tar -xzvf openvox_zaptel-1.4.12.1.tar.gz
```

```
# cd zaptel-1.4.12.1
```

```
# ./configure
```

```
# make
```

6. Installing driver

```
# mkdir -p /lib/modules/`uname -r`/extra/zaptel/opvxd115
# cp /usr/src/zaptel-1.4.12.1/kernel/opvxd115/opvxd115.ko
/lib/modules/`uname -r`/extra/zaptel/opvxd115
# depmod -a
```

7. Downloading Firmware

```
# cd /usr/src
# wget
```

<http://downloads.openvox.cn/pub/firmwares/opvx-zaptel-fw-oct6114-032-1.07.01.tar.gz>

8. Installing Firmware

```
# tar -xzvf opvx-zaptel-fw-oct6114-032-1.07.01.tar.gz
# cp zaptel-fw-oct6114-032.bin /lib/firmware/
# mkdir -p /usr/lib/hotplug/firmware/
# mv zaptel-fw-oct6114-032.bin /usr/lib/hotplug/firmware/
```



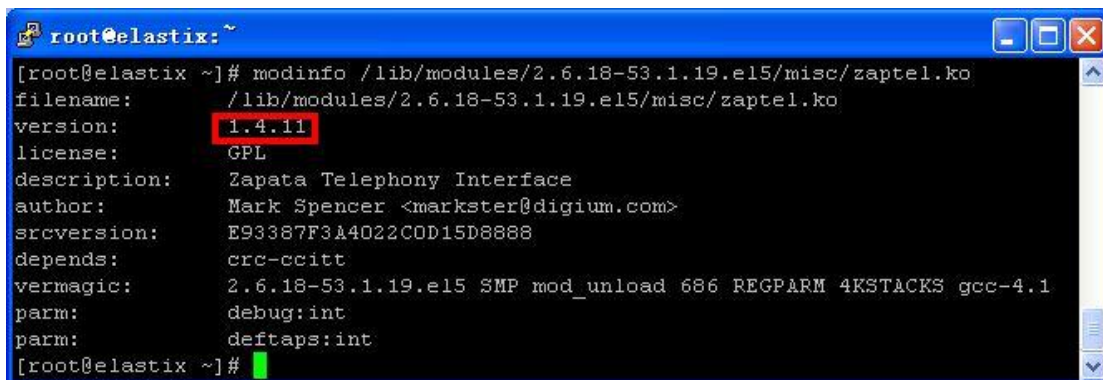
Installing Openvox DE115P/DE115E driver for elastix-1.3-stable-29sep2008

1. Installing gcc compiling environment

```
# yum install gcc
```

2. Checking the version of the driver

```
# modinfo /lib/modules/`uname -r`/misc/zaptel.ko
```



```
root@elastix:~  
[root@elastix ~]# modinfo /lib/modules/2.6.18-53.1.19.el5/misc/zaptel.ko  
filename:      /lib/modules/2.6.18-53.1.19.el5/misc/zaptel.ko  
version:      1.4.11  
license:      GPL  
description:   Zapata Telephony Interface  
author:       Mark Spencer <markster@digium.com>  
srcversion:    E93387F3A4022COD15D8888  
depends:       crc-ccitt  
vermagic:     2.6.18-53.1.19.el5 SMP mod_unload 686 REGPARM 4KSTACKS gcc-4.1  
parm:         debug:int  
parm:         deftaps:int  
[root@elastix ~]#
```

3. Downloading driver

```
# wget
```

```
http://downloads.openvox.cn/pub/drivers/zaptel/openvox\_zaptel/openvox\_zaptel-1.4.11.tar.gz
```

4. Compiling driver

```
# tar -xzf openvox_zaptel-1.4.11.tar.gz
```

```
# cd zaptel-1.4.11
```

```
# ./configure
```

```
# make
```

5. Installing driver

```
# mkdir -p /lib/modules/`uname -r`/misc/opvxd115
```

```
# cp /usr/src/zaptel-1.4.11/kernel/opvxd115/opvxd115.ko
```

```
/lib/modules/`uname -r`/misc/opvxd115
```

```
# depmod -a
```

6. Downloading Firmware

```
# cd /usr/src
```

```
# wget
```

```
http://downloads.openvox.cn/pub/firmwares/opvx-zaptel-fw-oct6114-032-1.07.01.tar.gz
```

7. Installing Firmware

```
# tar -xzvf opvx-zaptel-fw-oct6114-032-1.07.01.tar.gz  
# cp zaptel-fw-oct6114-032.bin /lib/firmware/  
# mkdir -p /usr/lib/hotplug/firmware/  
# mv zaptel-fw-oct6114-032.bin /usr/lib/hotplug/firmware/
```



Chapter 3 Edit Configuration file

Editing /usr/sbin/genzaptelconf

```
# cd /usr/sbin/  
# vi genzaptelconf
```

```
root@trixbox1:/usr/sbin  
84 # The main loop of genconf is run in a sub-process.  
85 tmp_dir=  
86  
87 # A list of all modules:  
88 # - the list of modules which will be probed (in this order) if -d is used  
89 # - The module that will be deleted from /etc/modules , if -d -M is used  
90 ALL_MODULES="wct4xxp opvxd115 wcte12xp wcte11xp wct1xxp wanpipe tor2 tor  
isa qozap vzaphfc zaphfc ztgsm wctdm24xxp wctdm opvxa1200 wcfxo pccradio  
wusb xpp_usb"  
91  
92 # The name of the variable in /etc/sysconfig/zaptel into which to set  
93 # the list of detected modules.  
94 modules_var=MODULES  
95 # On SuSE with the rpm package:  
96 #modules_var=ZAPTEL_MODULES  
97  
98 # What signalling to give to ZapBRI channels?  
"genzaptelconf" 1198L, 35606C written
```

```
root@trixbox1:/usr/sbin  
693 fi  
694 ;;  
695 *ztgsm/*})  
696 # Junghanns's GSM cards.  
697 echo 'ccs' >${tmp_dir}/span_framing  
698 #Does this mean anything?  
699 echo 'gsm' >${tmp_dir}/span_signalling  
700 ;;  
701 *TE[24]/* | *WCT1/* | *Tor2/* | *TorISA/* | *WP[TE]1/* | \  
702 *R[124]T1/* | *XPP_[TEJ]1_* | *D115/* | \  
703 # FIXME: handle cwain around here.  
704 # name: *cwain[12]/* . Always E1.  
705  
706 # PRI span (E1/T1)  
707 echo 'esf' >${tmp_dir}/span_framing  
708 echo 'b8zs' >${tmp_dir}/span_coding  
709 echo 'national' >${tmp_dir}/span_switchtype  
710 if [ "`cat $tmp_dir/span_termtype`" = 'nt' 2>/dev/null ]  
"genzaptelconf" 1198L, 35616C written
```

```

root@trixbox1:/usr/sbin
1019      # Astribank FXS span (input port)
1020      print_pattern -a input $chan_num fxo $mo
      de
1021      ;;
1022      *ZTHFC*/ * | *ztqoz*/ * | *ztgsm*/ * | *TE[24]/* | \
1023      *WCT1/* | *Tor2/* | *TorISA/* | \
1024      *XPP_BRI_*/ * | *WP[TE]1/* | *R[124]T1/*
      | \
1025      *XPP_[TE]1*/ * | *D115/*
1026      detect_digital_channel "$line" "$chan_num"
      m" "$span_num"
1027      ;;
1028      ' ' ) ;;          # Empty line (after span header)
1029      *)
1030      case "$mode" in
1031      list) echo "# ?? : $line";;
1032      files)
"genzaptelconf" 1198L, 35625C written

```

Editing

/usr/lib/perl5/site_perl/5.8.8/Zaptel/Hardware/PCI.pm

```

# cd /usr/lib/perl5/site_perl/5.8.8/Zaptel/Hardware
# vi PCI.pm

```

```

root@trixbox1:/usr/lib/perl5/site_perl/5.8.8/Zaptel/Hardware
34      'd161:0205/0003'      => { DRIVER => 'wct4xxp', DESCRIPTION =>
      'Wildcard TE205P (3rd Gen)' },
35      'd161:0210/0003'      => { DRIVER => 'wct4xxp', DESCRIPTION =>
      'Wildcard TE210P (3rd Gen)' },
36      'd161:0205'          => { DRIVER => 'wct4xxp', DESCRIPTION =>
      'Wildcard TE205P ' },
37      'd161:0210'          => { DRIVER => 'wct4xxp', DESCRIPTION =>
      'Wildcard TE210P ' },
38
39      # from opvxd115
40      '1b74:0115'          => { DRIVER => 'opvxd115', DESCRIPTION =>
      'OpenVox DE115P/DE115E ' },
41
42      # from wctdm24xxp
43      'd161:2400'          => { DRIVER => 'wctdm24xxp', DESCRIPTION =>
      'Wildcard TDM2400P' },
44      'd161:0800'          => { DRIVER => 'wctdm24xxp', DESCRIPTION =>
      'Wildcard TDM800P' },
45      'd161:8002'          => { DRIVER => 'wctdm24xxp', DESCRIPTION =>
      'Wildcard AEX800' },

```

Chapter 4 Loading Driver

```
# genzaptelconf -sdvM  
# service zaptel restart
```



```
root@trixbox1: ~  
[trixbox1.localdomain ~]# service zaptel restart  
  
STOPPING ASTERISK  
  
STOPPING FOP SERVER  
wanpipe: unrecognized service  
Unloading zaptel hardware drivers:.  
Loading zaptel framework: [ OK ]  
Waiting for zap to come online...OK  
Loading zaptel hardware modules: opvxd115.  
Running ztcfg: [ OK ]  
[trixbox1.localdomain ~]#
```

```
# dmesg
```



```
root@trixbox1: ~  
About to enter spanconfig!  
Done with spanconfig!  
Registered tone zone 0 (United States / North America)  
About to enter startup!  
D115P/D115E: Span 1 configured for CCS/HDB3/CRC4  
Opvxd115: Setting yellow alarm on span 1  
SPAN 1: Primary Sync Source  
timing source auto card 0!  
VPM400: Not Present  
VPM450: echo cancellation for 32 channels  
VPM450: hardware DTMF disabled.  
VPM450: Present and operational servicing 1 span(s)  
Completed startup!  
[trixbox1.localdomain ~]#
```

The picture above shows the successful loading of EC-32 module.

Chapter 5 Technical Support

If you have any technical problems when using Openvox products, please access the related columns of the product in our website forum, and you can also contact us through the following methods:

I. Submit your technical problem to our Forum.

You can submit your technical problems to our website Forum, we will reply you as soon as possible. .

[Click](#) to enter our Forum

II. Email us

You can also send your technical problems via email to the following email address; we will also offer you the solution in the shortest time.

support@openvox.com.cn

mark.liu@openvox.cn

Chapter 6 Reference

www.openvox.cn

www.digium.com

www.asterisk.org

www.voip-info.org

www.asteriskguru.com

