



# OpenVox Communication Co Ltd

## OpenVox DE115P/DE115E Installation

(Trixbox 2.8 & Elastix 1.5 with dahdi)





**OpenVox Communication Co Ltd**

***OpenVox-Best Cost Effective Asterisk Cards***

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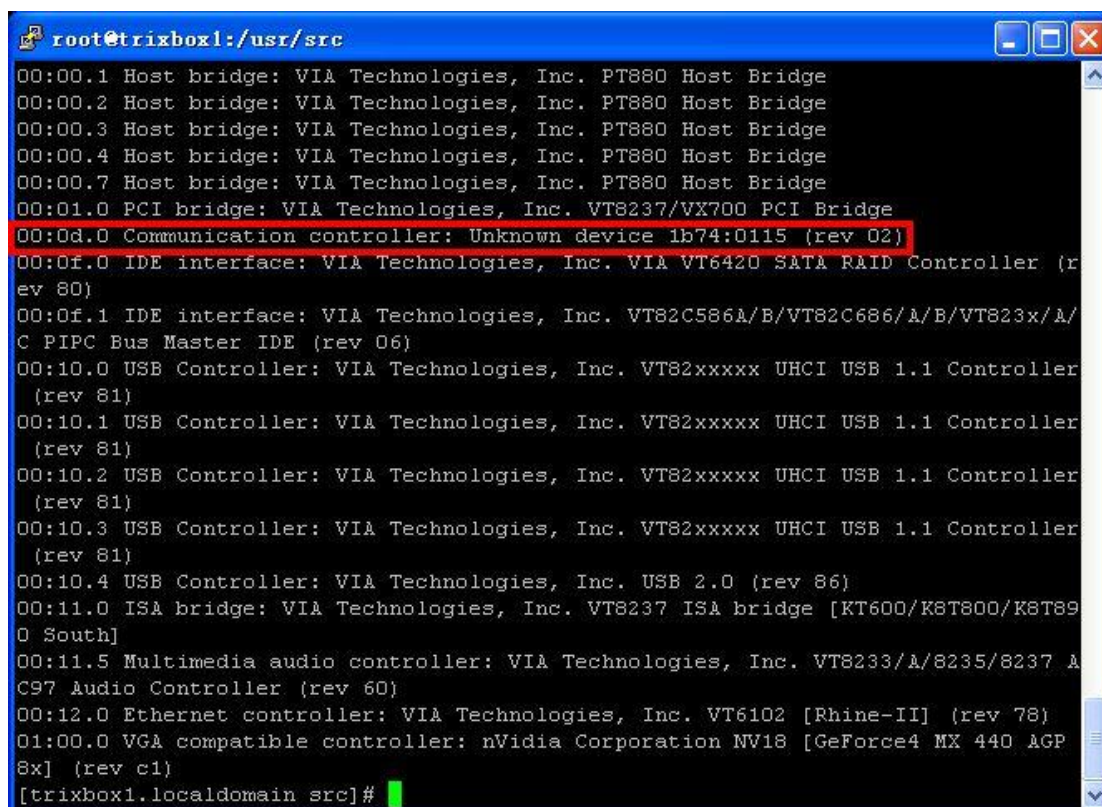
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# Chapter 1 Installing Compiling Environment

- I. Installing trixbox 2.8 or elastix 1.5
- 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]#
```

- V. Installing compiling environment

***# yum install gcc***

***# yum install kernel-devel***

## Chapter 2 Installing Driver

### I. Check the version of the dahdi

```
# modinfo /lib/modules/`uname -r`/dahdi/dahdi.ko
```

### II. Downloading Driver

If the version of dahdi is 2.2.0 or 2.2.0-rc4, you should download

openvox\_dahdi-linux-complete-2.2.0+2.2.0.tar.gz;

If it is 2.1.0.4, please download openvox\_dahdi-linux-complete-2.1.0.4+2.1.0.2.tar.gz

An example of installing OpenVox DE115P/DE115E with trixbox-2.8.0.1 is as below:

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

```
# wget
```

```
http://downloads.openvox.cn/pub/drivers/dahdi/openvox\_dahdi/linux-complete-2.2.0+2.2.0.tar.gz
```

```
http://downloads.openvox.cn/pub/drivers/dahdi-linux-complete/openvox\_dahdi-linux-complete-2.2.0.2+2.2.0.tar.gz
```

If you want to install OSLEC with DAHDI, please download the package linux-2.6.28.tar.bz2, copy the echo to DAHDI directory and recompile it. Please read this link for more:

```
http://bbs.openvox.cn/viewthread.php?tid=1063&pid=4555
```

### III. Downloading libpri, asterisk

(Please download the right version of libpri, asterisk with the version of trixbox or elastix )

Compiling libpri-xx

```
# tar -xvzf libpri-xx.tar.gz
```

```
# cd libpri-xx
```

```
# make && make install
```

Compiling dahdi

```
# tar -xzvf openvox_dahdi-linux-complete-2.2.0+2.2.0.tar.gz
```

```
# cd dahdi-linux-complete-2.2.0+2.2.0/
```

```
# make
```

### IV. Installing Driver

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

```
# cp
```

```
/usr/src/dahdi-linux-complete-2.2.0+2.2.0/linux/drivers/dahdi/opvxd115/opvxd115.ko /lib/modules/`uname -r`/dahdi/opvxd115/
```

```
# depmod -a
```



## V. Downloading Firmware

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

```
# wget
```

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

z

## VI. Installing Firmware

```
# tar -xvzf opvx-dahdi-fw-oct6114-032-1.07.01.tar.gz
```

```
# cp dahdi-fw-oct6114-032.bin /lib/firmware/
```

```
# mkdir -p /usr/lib/hotplug/firmware/
```

```
# mv dahdi-fw-oct6114-032.bin /usr/lib/hotplug/firmware/
```

## Compiling asterisk

```
# tar -xvzf asterisk-xx.tar.gz
```

```
# cd asterisk-xx
```

```
# ./configure
```

```
# make && make install
```

## Chapter 3 Editing Configuration Files

## I. Edit /usr/lib/perl5/site\_perl/5.8.8/Dahdi/Chans.pm

```
# cd /usr/lib/perl5/site_perl/5.8.8/Dahdi
```

```
# vi Chans.pm
```

```
root@rixbox1: /usr/lib/perl5/site_perl/5.8.8/Dahdi
145     } elsif ($fqcn =~ m(\b(TE[24]|WCT1|Tor2|TorISA|WP[TE]1|cwain[12])
    /.*) {
146         # TE[24]: Digium wct4xxp
147         # WCT1: Digium single span card drivers?
148         # Tor2: Tor PCI cards
149         # TorISA: ISA ones (still used?)
150         # WP[TE]1: Sangoma. TODO: this one tells us if it is TE
    or NT.
151         # cwain: Junghanns E1 card.
152         $stype = "PRI";
153     } elsif ($fqcn =~ m(\b(D115)/.*)) {
154         # D115: OpenVox opvxd115
155         $stype = "PRI";
156     } elsif ($fqcn =~ m(\b(B4|ZTHFC\d*|ztqoz\d*)/.*)) {
157         # B4: The Digium wcb4xxp DAHDI driver
158         # ZTHFC: HFC-s single-port card (zaphfc/vzaphfc)
159         # ztqoz: qozap (Junghanns) multi-port HFC card
160         $stype = "BRI";
161     } elsif ($fqcn =~ m(\bDYN/.*)) {
162         # DYN : Dynamic span (TDMOE)
163         $stype = "DYN"
164     } elsif ($fqcn =~ m(\bztgsm/.*)) {
165         # Junghanns GSM card
```

## II. Edit /usr/lib/perl5/site\_perl/5.8.8/Dahdi/Span.pm

**# vi Span.pm**

```

root@trixbox1: /usr/lib/perl5/site_perl/5.8.8/Dahdi
139
140 my @pri_strings = (
141     'Tormenta 2 .*Quad (E1|T1)',           # tor2.
142     'Xorcom XPD.*: (E1|T1)',             # Astribank PRI
143     'Digium Wildcard .100P (T1|E1)/',    # wct1xxp
144     'ISA Tormenta Span 1',                # torisa
145     'TE110P T1/E1',                       # wcte11xp
146     'Wildcard TE120P',                    # wcte12xp
147     'Wildcard TE121',                     # wcte12xp
148     'Wildcard TE122',                     # wcte12xp
149     'T[24]XXP \ (PCI\ ) Card ',          # wct4xxp
150     'D115P/D115E \ (PCI/PCI-E\ ) Card ', # @pvxd115
151 );
152
153 our $DAHDI_BRI_NET = 'bri_net';
154 our $DAHDI_BRI_CPE = 'bri_cpe';
155
156 our $DAHDI_PRI_NET = 'pri_net';
157 our $DAHDI_PRI_CPE = 'pri_cpe';
158
159 sub init_proto($$) {
160     my $self = shift;
161     my $proto = shift;

```

## III. Edit /usr/lib/perl5/site\_perl/5.8.8/Dahdi/Hardware/PCI.pm

**# vi Hardware/PCI.pm**

```

root@trixbox1: /usr/lib/perl5/site_perl/5.8.8/Dahdi
33     'd161:0210/0004' => { DRIVER => 'wct4xxp', DESCRIPTION =>
    'Wildcard TE210P (4th Gen)' },
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 @pvxd115
40     '1b74:0115' => { DRIVER => 'opvxd115', DESCRIPTION =
    > 'OpenVox D115P/D115E ' },
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' },

```

## IV. Edit /etc/dahdi/modules

**# vi modules**

```
root@trixbox1:/usr/lib/perl5/site_perl/5.8.8/Dahdi
# Contains the list of modules to be loaded / unloaded by /etc/init.d/dahdi.
#
# NOTE: Please add/edit /etc/modprobe.d/dahdi or /etc/modprobe.conf if you
#       would like to add any module parameters.
#
# Format of this file: list of modules, each in its own line.
# Anything after a '#' is ignore, likewise trailing and leading
# whitespaces and empty lines.

# Digium TE205P/TE207P/TE210P/TE212P: PCI dual-port T1/E1/J1
# Digium TE405P/TE407P/TE410P/TE412P: PCI quad-port T1/E1/J1
# Digium TE220: PCI-Express dual-port T1/E1/J1
# Digium TE420: PCI-Express quad-port T1/E1/J1
wct4xxp

# OpenVox D115P/DE115P: PCI Single-port T1/E1/J1
# OpenVox D115E/DE115E: PCI-Express Single-port T1/E1/J1
opvxd115

# Digium TE120P: PCI single-port T1/E1/J1
# Digium TE121: PCI-Express single-port T1/E1/J1
# Digium TE122: PCI single-port T1/E1/J1
wctel2xp
"/etc/dahdi/modules" 55L, 1418C
```

## Chapter 4 Loading Driver

***# service dahdi start***

```
root@trixbox1:/lib/modules/2.6.18-128.1.10.e15
[trixbox1.localdomain 2.6.18-128.1.10.e15]# service dahdi start
Loading DAHDI hardware modules:
wct4xxp: [ OK ]
opvxd115: [ OK ]
wctel2xp: [ OK ]
wctl1xxp: [ OK ]
wctel1xp: [ OK ]
wctdm24xxp: [ OK ]
opvxa1200: [ OK ]
wcfxo: [ OK ]
wctdm: [ OK ]
wcb4xxp: [ OK ]
wctc4xxp: [ OK ]
xpp_usb: [ OK ]

Running dahdi_cfg: [ OK ]
[trixbox1.localdomain 2.6.18-128.1.10.e15]#
```

***# dahdi\_cfg -v***



```
root@trixbox1:/lib/modules/2.6.18-128.1.10.el5
[trixbox1.localdomain 2.6.18-128.1.10.el5]# dahdi_cfg -v
DAHDI Tools Version - 2.2.0-rc2

DAHDI Version: 2.2.0-rc4
Echo Cancellor(s): MG2
Configuration
=====

SPAN 1: CCS/HDB3 Build-out: 0 db (CSU)/0-133 feet (DSX-1)

31 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
Setting echocan for channel 5 to mg2
Setting echocan for channel 6 to mg2
Setting echocan for channel 7 to mg2
Setting echocan for channel 8 to mg2
Setting echocan for channel 9 to mg2
Setting echocan for channel 10 to mg2
Setting echocan for channel 11 to mg2
Setting echocan for channel 12 to mg2
Setting echocan for channel 13 to mg2
Setting echocan for channel 14 to mg2
Setting echocan for channel 15 to mg2
Setting echocan for channel 16 to none
Setting echocan for channel 17 to mg2
Setting echocan for channel 18 to mg2
Setting echocan for channel 19 to mg2
Setting echocan for channel 20 to mg2
Setting echocan for channel 21 to mg2
Setting echocan for channel 22 to mg2
Setting echocan for channel 23 to mg2
Setting echocan for channel 24 to mg2
Setting echocan for channel 25 to mg2
Setting echocan for channel 26 to mg2
Setting echocan for channel 27 to mg2
Setting echocan for channel 28 to mg2
Setting echocan for channel 29 to mg2
Setting echocan for channel 30 to mg2
Setting echocan for channel 31 to mg2
[trixbox1.localdomain 2.6.18-128.1.10.el5]#
```

### # dmesg

```
root@trixbox1:/usr/src
INFO-xpp: revision trunk-r6963 MAX_XPDS=64 (8*8)
INFO-xpp: FEATURE: without BRISTUFF support
INFO-xpp: FEATURE: with PROTOCOL_DEBUG
INFO-xpp: FEATURE: with sync_tick() from DAHDI
INFO-xpp_usb: revision trunk-r6963
usbcore: registered new driver xpp_usb
About to enter spanconfig!
Done with spanconfig!
dahdi_echocan_mg2: Registered echo canceler 'MG2'
dahdi: 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 src]#
```

The picture above shows loading the EC-32 successfully.

## 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](mailto:support@openvox.com.cn)

[mark.liu@openvox.cn](mailto:mark.liu@openvox.cn)

## Chapter 6 Reference

[www.openvox.cn](http://www.openvox.cn)

[www.digium.com](http://www.digium.com)

[www.asterisk.org](http://www.asterisk.org)

[www.voip-info.org](http://www.voip-info.org)

[www.asteriskguru.com](http://www.asteriskguru.com)

