

TBS6522 User Guide

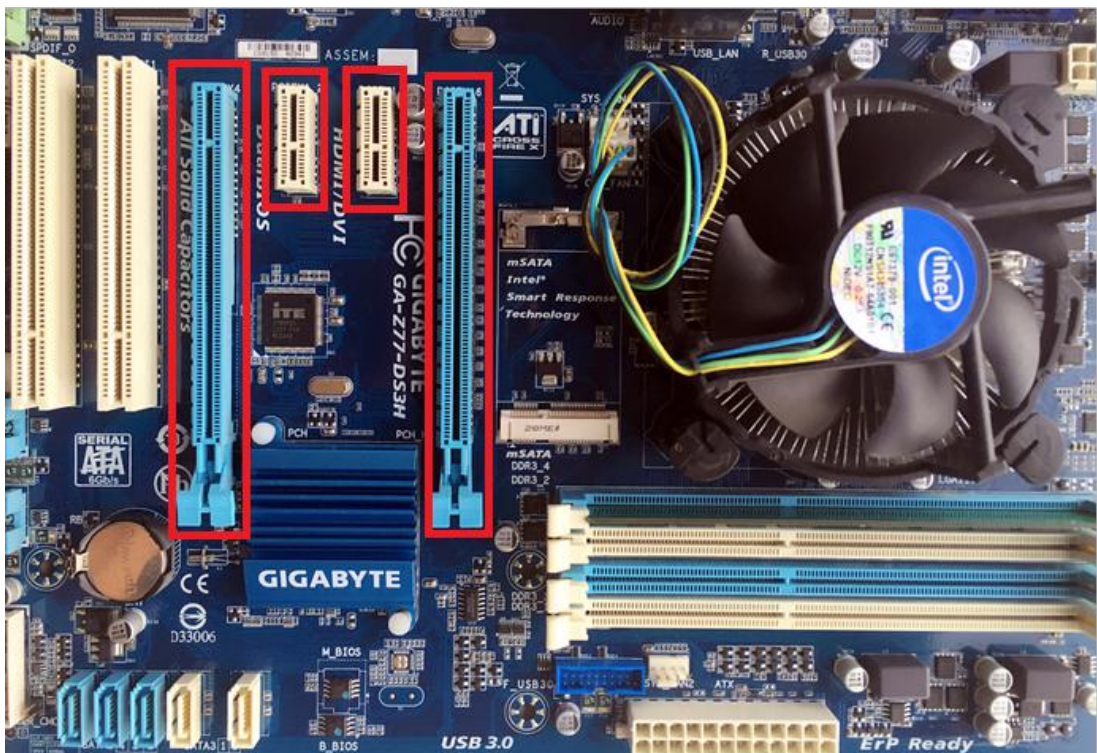
Dear Customers,

Thank you so much for choosing this product .TBS6522 is a Dual PCI Express TV tuner card that supports multiple digital TV standards including these standards DVBS2/S/S2X/T/T2/C/C2/ISDB-T and enables you to watch TV channel from one transponder/satellite while recording another channel from other transponder/satellite at the same time.
In order to use this item correctly, please read this manual carefully at the beginning.

1. Hardware Installation

1.1 Install Tuner Card

Power off the computer, remove computer cover and take out cover panel of PCIe slot in which you want to put the card. Insert the card in PCIe slot and fix card bracket with screw. Make sure the card fit in PCIe slot tightly. Then put back computer cover.

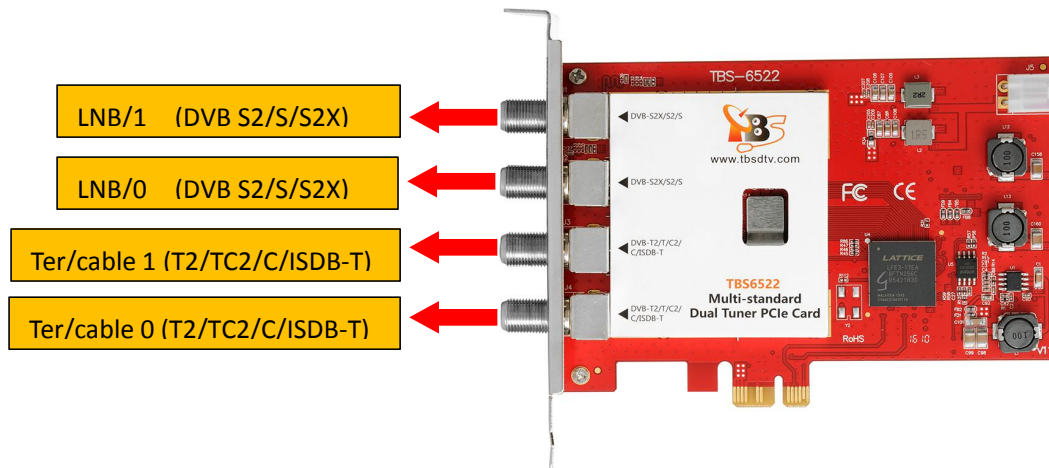


ATTENTION:

- ① When turn off the computer, please do not touch the PC internal components especially the CPU and VGA chip, which has a high temperature with a risk of burns.
- ② Please make sure to see the user manual of PC and peripheral equipment.

1.2 Connect TV Signal Cable to the TV Tuner Card on Your PC

Please make sure you properly connect the TV signal to the TV tuner on computer in case of the damage to antenna device. The following TBS6522 TV Signal Table is for your reference.

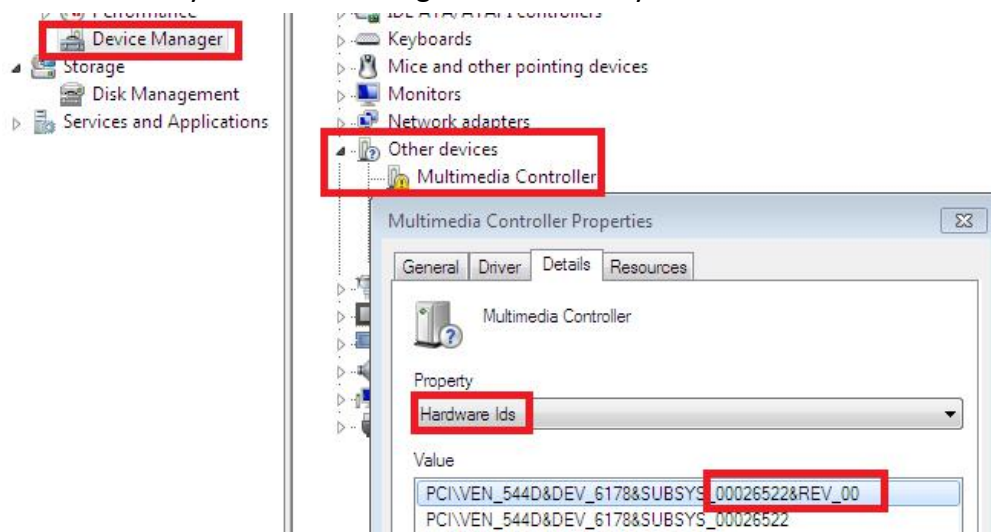


2. windows driver installation

2.1 Start your PC and jump to “Computer Management”. There will pop up a notice “Failed to install the device driver” if you use Windows 7 operating system.

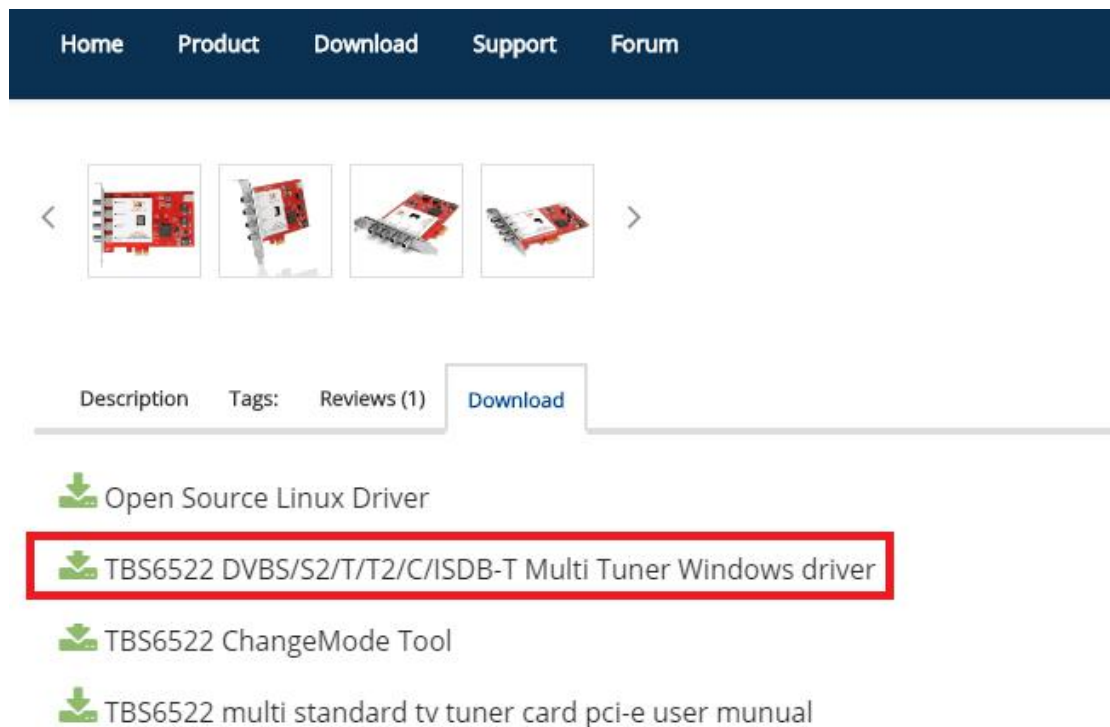
In order to install the driver successfully, you have to do as the prompts step by step. Then you can check the TBS TV tuner hardware device ID as follows: Open “Computer Management”, click “Other devices”, finally choose and double click the right hardware device for more details.

Please kindly see the following screenshot for your reference.



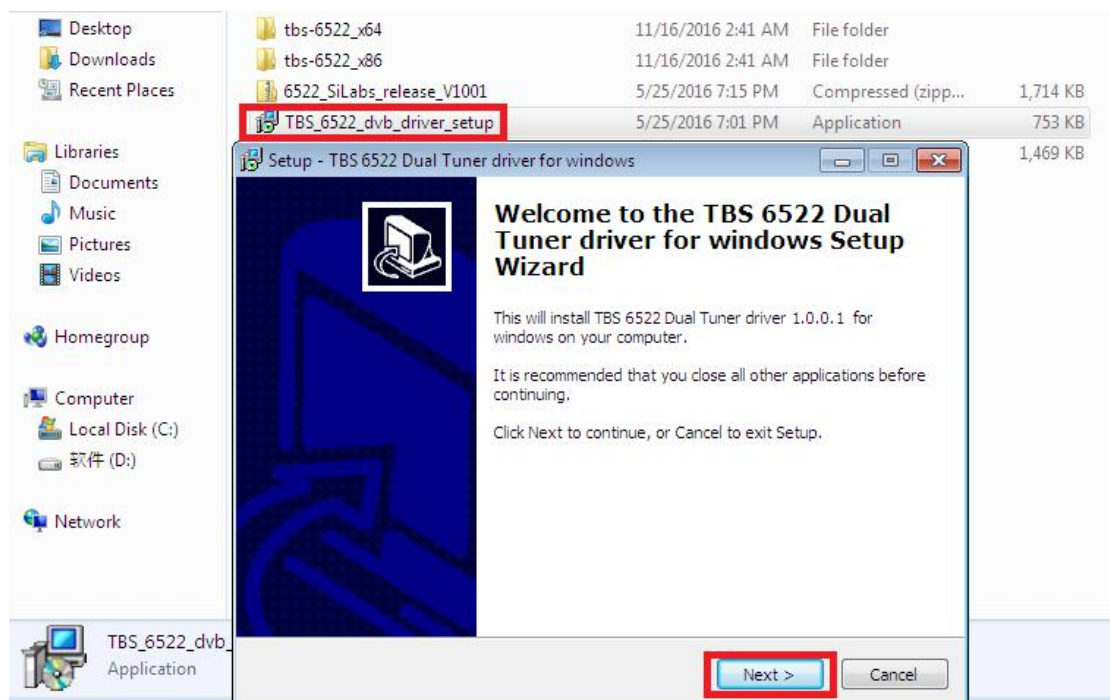
2.2 Download TBS6522 Windows Driver from Our Website (See screenshot below)

1) <http://www.tbsiptv.com/tbs6522-multi-standard-dual-tuner-pci-e-card>

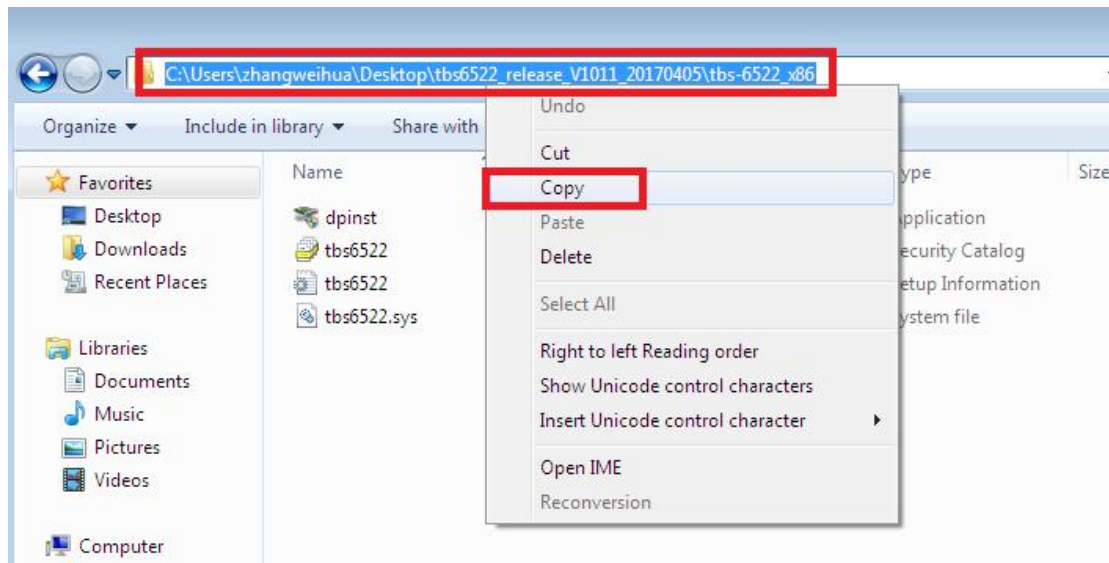


2) download and then unzip TBS 6522 Windows driver

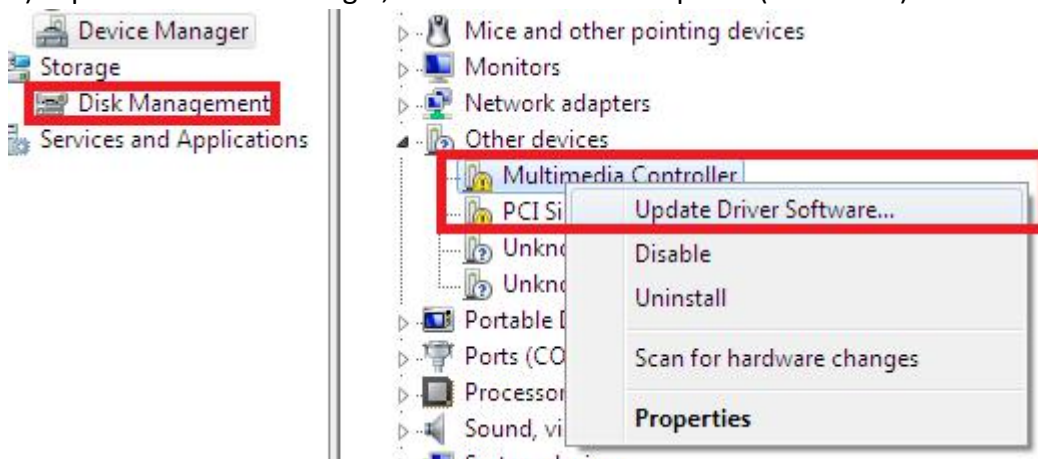
3) Click “TBS_6522_driver_setup”, and then a new window will pop



4) If the quick installation fails to try to manually install, open the drive compression package, according to their own system, copy the drive path (see below)



5) Open the device manager, to drive the manual update (see below)

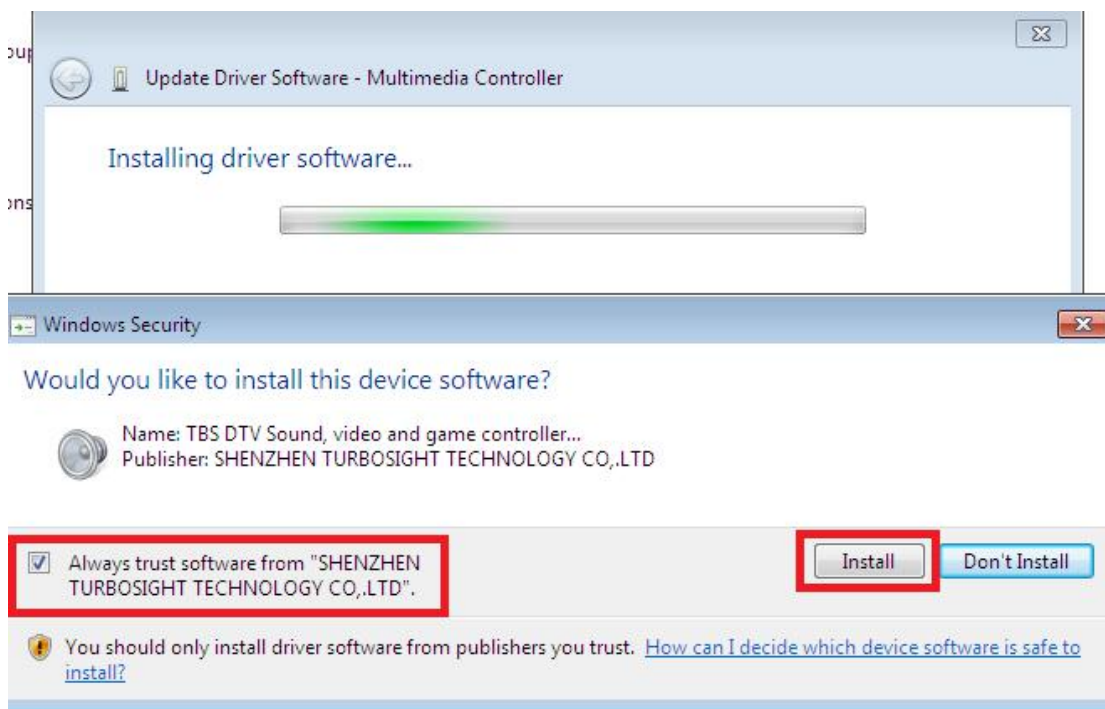
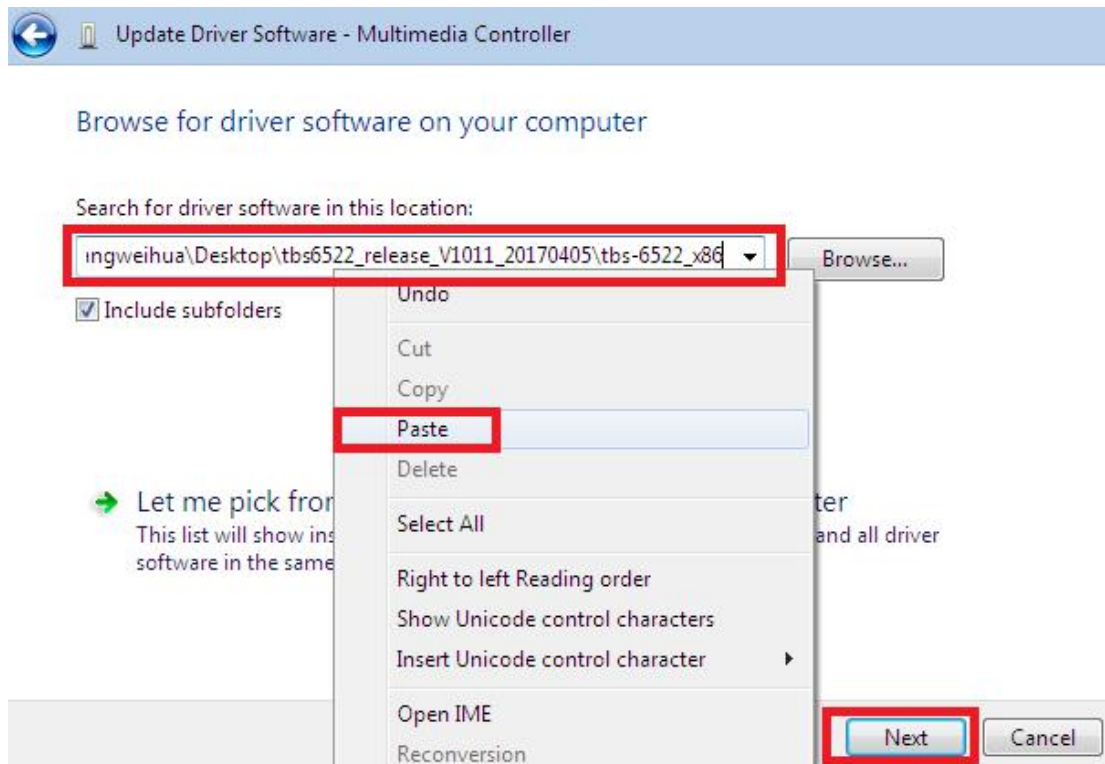


How do you want to search for driver software?

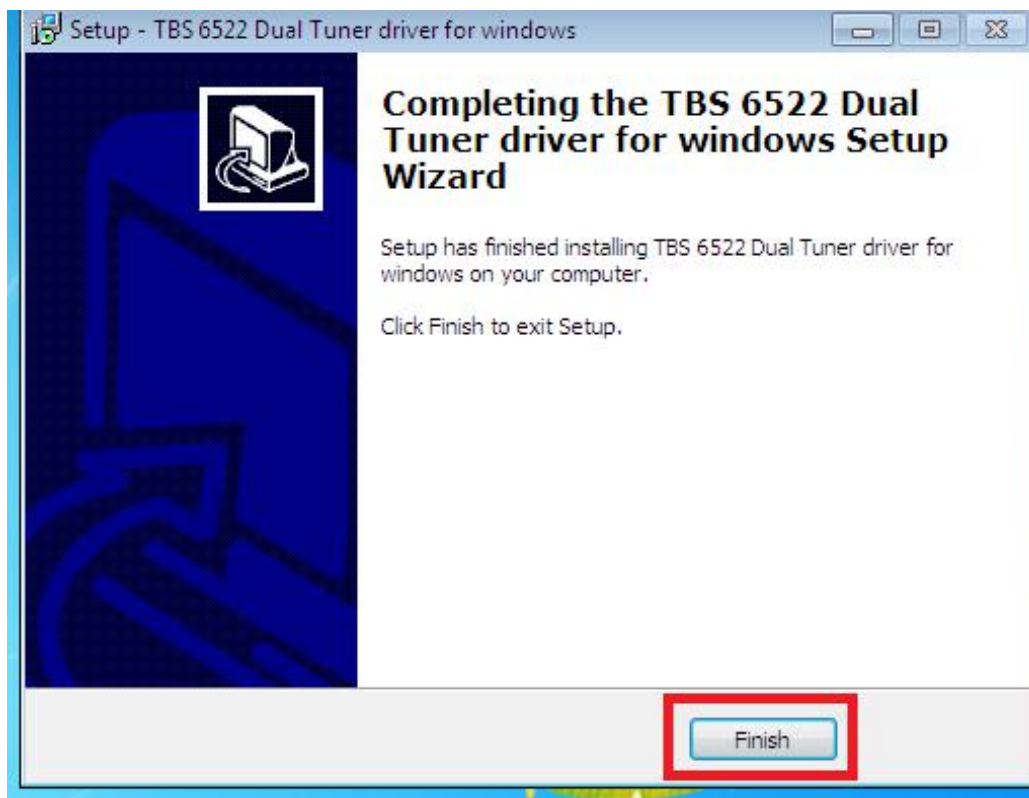
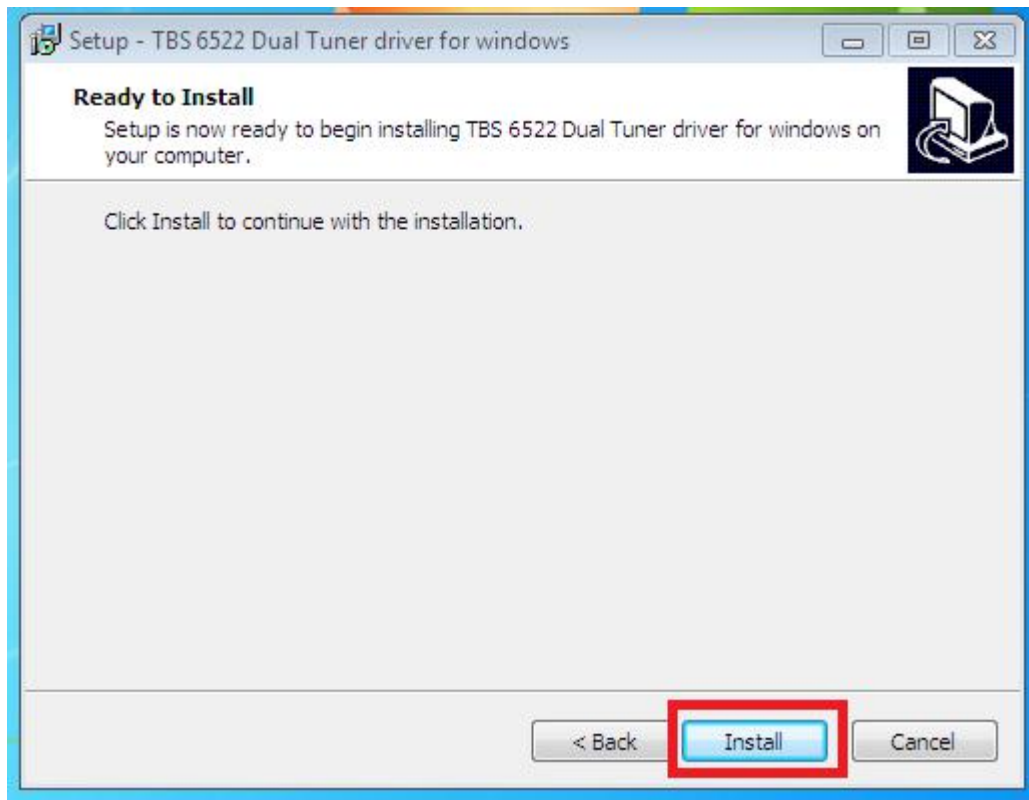
→ Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

→ Browse my computer for driver software
Locate and install driver software manually.

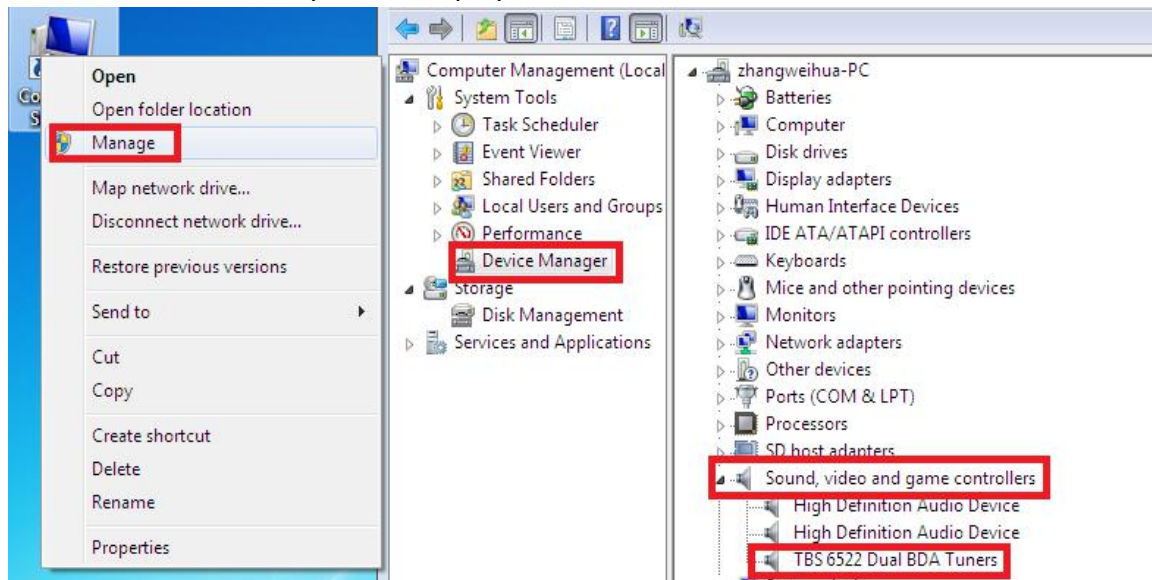
Cancel



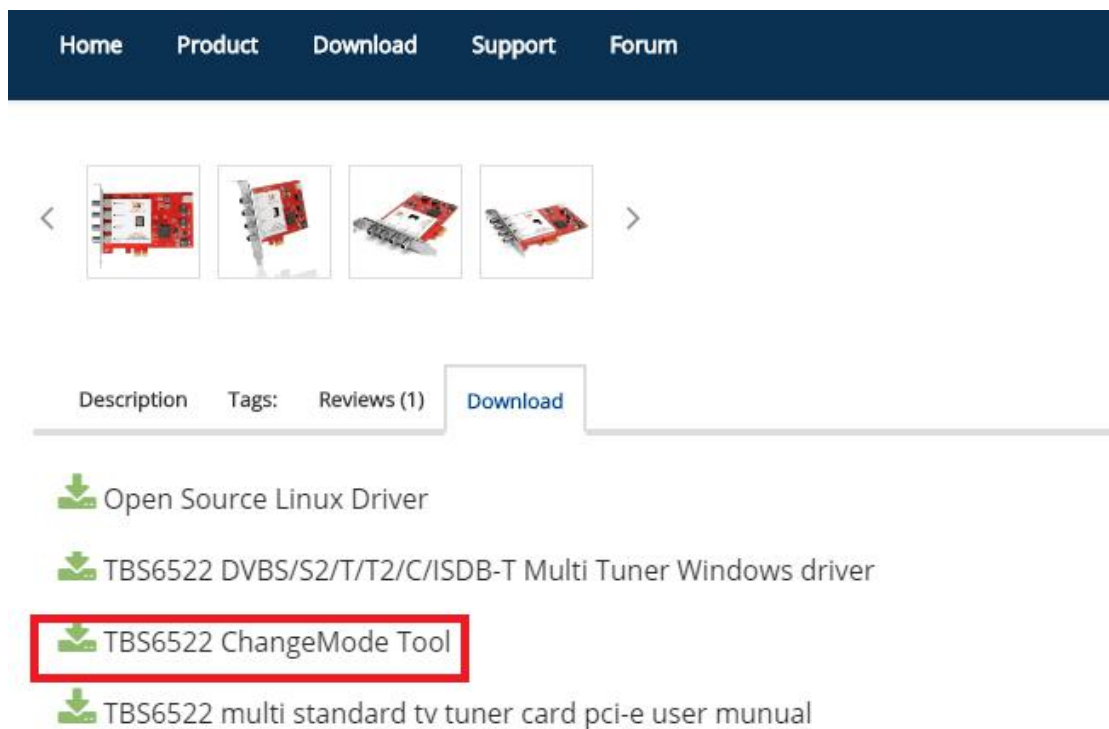
4) Click “Next”→ “Install”→ “Finish” to complete installation



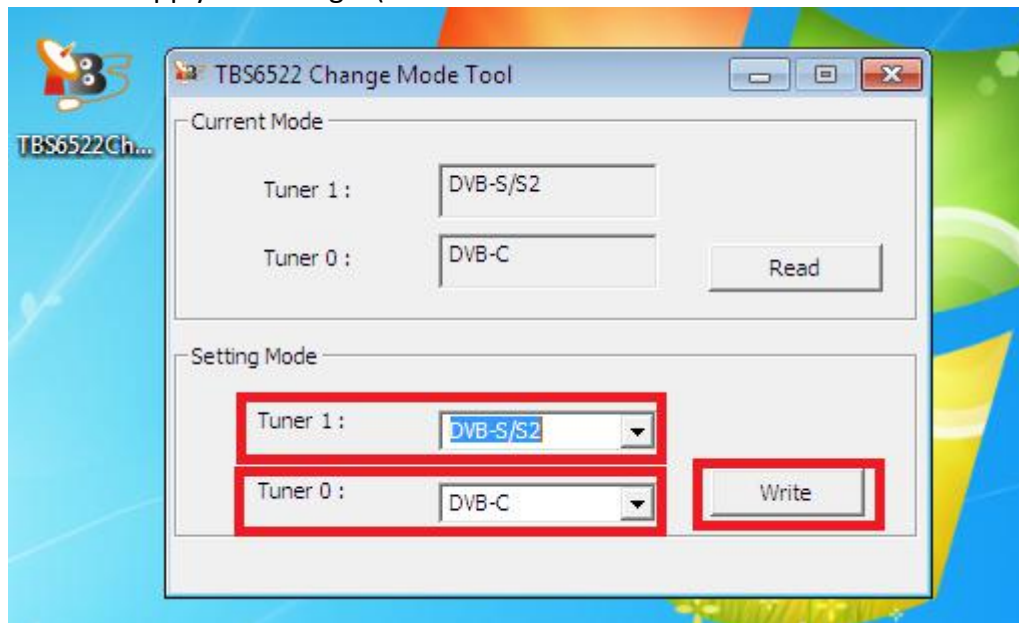
5) To verify if driver was correctly installed: Choose “My Computer”, right click and choose “System Properties” to pop up “System Properties” windows, click “Hardware” → “Device Manager”. Then click “+” in front of “Sound, video and game controllers”. If you can see “TBS6522 Dual BDA Tuners” that means you do have installed driver correctly. Just display as below:



6) TBS6522 Mode change tool (See screenshot below.)



7) Open the TBS6522 Mode Change tool choose the right Mode as you want then click Write to apply the change .(See screenshot below.)



3.Play Software Installation

To enjoy satellite TV on PC or record video, you still need to install player software and right set the search parameters.The above series of TBS TV tuner Card is compatible with a lot of software like TBSViewer, DVBDream, ProgDVB etc.

Here is a link is for downloading Player software. Fordetailed installation instructions, see its Software Installation Instructions.

<http://www.tbsiptv.com/index.php?route=product/download&path=6>

Moreover, you can check some Video Guide on the following link:

<https://www.youtube.com/user/buydVB/videos>

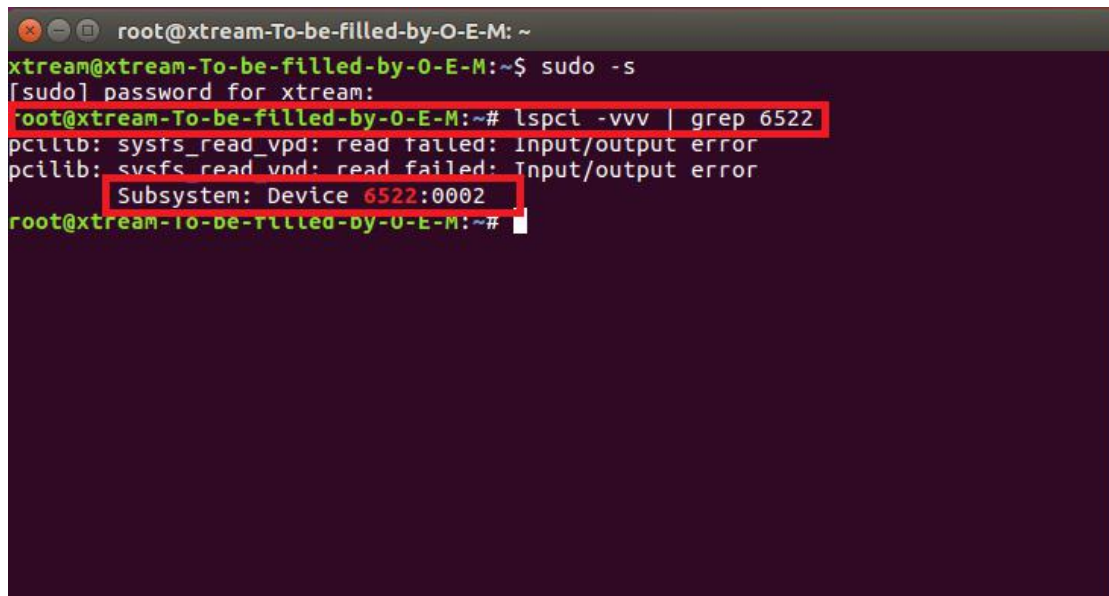
ATTENTION:

- ①In some case, the card can not be detected by your PC, you can' t see the device in Device manager, please try to change a PCIe slot and try again; or the golden finger is oxidized in the air, clear it by an eraser and try.
- ②Don' t insert or pull the card out directly when your computer is working, ot herwise it will damage your tuner card.

4. Linux open source drive installation

4.1 Reboot your computer and then enter the operating system webui, right click to open “Terminal”, input the command “sudo-s” and Ubuntu default password; finally you will get access to the operating system.

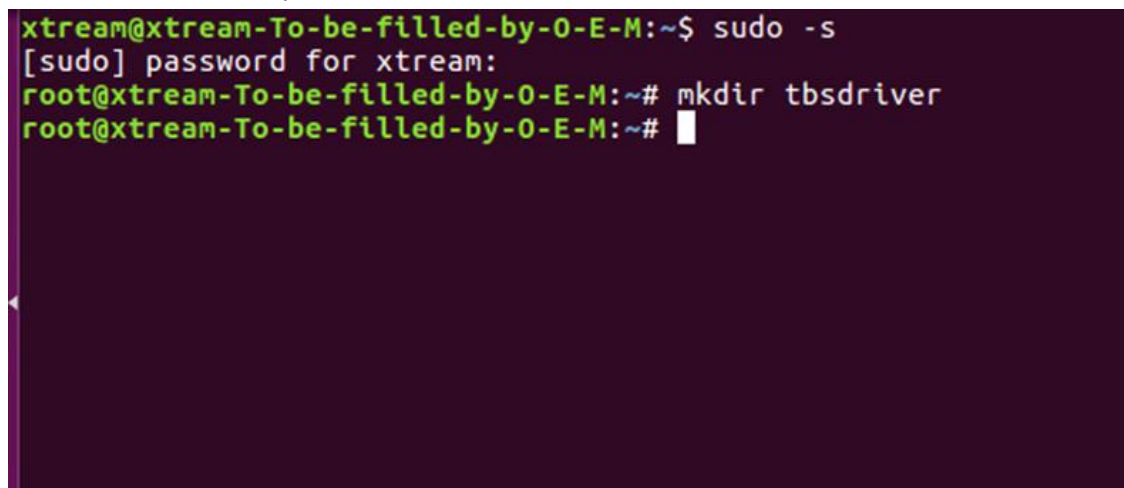
4.2 # lspci -vvv | grep 6522 (This command detects whether there is “Device 6522”, displaying as the following webui.)

A terminal window with a dark purple background. The prompt is 'root@xtream-To-be-filled-by-O-E-M: ~'. The user enters 'sudo -s' and provides the password 'xtream'. The prompt changes to 'root@xtream-To-be-filled-by-O-E-M:~#'. The user enters 'lspci -vvv | grep 6522'. The output shows several lines of error messages: 'pcilib: sysfs_read_vpd: read failed: Input/output error', 'pcilib: sysfs_read_vnd: read failed: Input/output error', and 'Subsystem: Device 6522:0002'. The last line is highlighted with a red box. The prompt returns to 'root@xtream-To-be-filled-by-O-E-M:~#'.

```
root@xtream-To-be-filled-by-O-E-M: ~
xtream@xtream-To-be-filled-by-O-E-M:~$ sudo -s
[sudo] password for xtream:
root@xtream-To-be-filled-by-O-E-M:~# lspci -vvv | grep 6522
pcilib: sysfs_read_vpd: read failed: Input/output error
pcilib: sysfs_read_vnd: read failed: Input/output error
Subsystem: Device 6522:0002
root@xtream-To-be-filled-by-O-E-M:~#
```

4.3 Set up a directory named “tbsdriver”. Here takes saving the directory on the desktop as an example.

mkdir tbsdriver (See screenshot below.)

A terminal window with a dark purple background. The prompt is 'xtream@xtream-To-be-filled-by-O-E-M:~\$'. The user enters 'sudo -s' and provides the password 'xtream'. The prompt changes to 'root@xtream-To-be-filled-by-O-E-M:~#'. The user enters 'mkdir tbsdriver'. The prompt returns to 'root@xtream-To-be-filled-by-O-E-M:~#'.

```
xtream@xtream-To-be-filled-by-O-E-M:~$ sudo -s
[sudo] password for xtream:
root@xtream-To-be-filled-by-O-E-M:~# mkdir tbsdriver
root@xtream-To-be-filled-by-O-E-M:~#
```

4.4 Execute the command and install “git” package. (See screenshot below.)

apt-get install git

```
xtream@xtream-To-be-filled-by-0-E-M:~$ sudo -s
[sudo] password for xtream:
root@xtream-To-be-filled-by-0-E-M:~# apt-get install git
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-el git-email git-gui gitk
  gitweb git-arch git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  git
0 upgraded, 1 newly installed, 0 to remove and 138 not upgraded.
Need to get 0 B/3,006 kB of archives.
After this operation, 24.0 MB of additional disk space will be used.
Selecting previously unselected package git.
(Reading database ... 211973 files and directories currently installed.)
Preparing to unpack .../git_1%3a2.7.4-0ubuntu1_amd64.deb ...
Unpacking git (1:2.7.4-0ubuntu1) ...
Setting up git (1:2.7.4-0ubuntu1) ...
root@xtream-To-be-filled-by-0-E-M:~#
```

4.5 Enter the directory of “tbsdriver”, and then download “media build” and “media” files. (See the following screenshot.)

git clone https://github.com/tbsdtv/media_build.git

git clone --depth=1 https://github.com/tbsdtv/linux_media.git -b latest ./media

```
root@xtream-To-be-filled-by-0-E-M:~/Desktop# cd tbsdriver/
root@xtream-To-be-filled-by-0-E-M:~/Desktop/tbsdriver# git clone https://github.co
m/tbsdtv/media_build.git
Cloning into 'media_build'...
remote: Counting objects: 3398, done.
remote: Total 3398 (delta 0), reused 0 (delta 0), pack-reused 3398
Receiving objects: 100% (3398/3398), 640.51 KiB | 3.00 KiB/s, done.
Resolving deltas: 100% (2415/2415), done.
Checking connectivity... done.
root@xtream-To-be-filled-by-0-E-M:~/Desktop/tbsdriver# git clone --depth=1 https:/
/github.com/tbsdtv/linux_media.git -b latest ./media
Cloning into './media'...
remote: Counting objects: 59051, done.
remote: Compressing objects: 61% (33904/55580)
```

4.6 Enter the directory of “media build”, execute “make dir DIR=../media” as the following screenshot.

make dir DIR=../media

```
root@xtream-To-be-filled-by-0-E-M:~/Desktop/tbsdriver# ls
media  media_build
root@xtream-To-be-filled-by-0-E-M:~/Desktop/tbsdriver# cd media_build/
root@xtream-To-be-filled-by-0-E-M:~/Desktop/tbsdriver/media_build# make dir DIR=../media
make -C linux/ dir DIR="..../media"
make[1]: Entering directory '/home/xtream/Desktop/tbsdriver/media_build/linux'
rm -rf drivers firmware include sound .patches_applied .linked_dir .git_log.md5 git_log
Searching in ..../media/Makefile for kernel version.
./use_dir.pl ..../media
sync file: firmware/av7110/Boot.S
sync file: include/uapi/linux/media-bus-format.h
sync file: include/uapi/linux/v4l2-dv-timings.h
sync file: include/linux/fence.h
sync file: include/linux/compiler-gcc.h
sync file: include/linux/dma-buf.h
sync file: sound/pci/bt87x.c
sync file: include/uapi/linux/videodev2.h
sync file: firmware/ttusb-budget/dspbootcode.bin.ihex
sync file: include/linux/cec-funcs.h
sync file: include/trace/events/vb2.h
sync file: include/sound/aci.h
sync file: include/uapi/linux/usb/video.h
sync file: firmware/cpia2/stv0672_vp4.bin.ihex
sync file: include/linux/ti_wilink_st.h
sync file: include/linux/pci_ids.h
```

4.7 # make distclean (See screenshot below.)

```
root@xtream-To-be-filled-by-0-E-M:~/Desktop/tbsdriver/media_build# make distclean
make -C /home/xtream/Desktop/tbsdriver/media_build/v4l distclean
make[1]: Entering directory '/home/xtream/Desktop/tbsdriver/media_build/v4l'
No version yet, using 4.7.0-040700rc3-generic
rm -f *~ *.o *.ko *.o.cmd *.ko.cmd *.mod.c av7110_firm.h fdump \
    config-compat.h Module.symvers Module.markers modules.order \
    *.unsigned *.ko.unsigned.cmd
make -C firmware clean
make[2]: Entering directory '/home/xtream/Desktop/tbsdriver/media_build/v4l/firmw
are'
rm -f ihex2fw
rm -f vicam/firmware.fw ttusb-budget/dspbootcode.bin cpia2/stv0672_vp4.bin av7110
/bootcode.bin
make[2]: Leaving directory '/home/xtream/Desktop/tbsdriver/media_build/v4l/firmw
are'
rm -f .version *.o.flags *.o.d *.mod.gcno Makefile.media \
    Kconfig Kconfig.kern .config .config.cmd .myconfig \
    .kconfig.dep
rm -rf .tmp_versions .tmp*.ver .tmp*.o *.gcno
rm -f scripts/lxdialog scripts/kconfig
make -C firmware distclean
make[2]: Entering directory '/home/xtream/Desktop/tbsdriver/media_build/v4l/firmw
are'
rm -f ihex2fw
rm -f vicam/firmware.fw ttusb-budget/dspbootcode.bin cpia2/stv0672_vp4.bin av7110
/bootcode.bin
```


4.8 # make -j4

```
root@xtream-To-be-filled-by-0-E-M:~/Desktop/tbsdriver/media_build# make -j4
make -C /home/xtream/Desktop/tbsdriver/media_build/v4l
make[1]: Entering directory '/home/xtream/Desktop/tbsdriver/media_build/v4l'
No version yet, using 4.7.0-040700rc3-generic
scripts/make_makefile.pl
make[2]: Entering directory '/home/xtream/Desktop/tbsdriver/media_build/linux'
Updating/Creating .config
make[2]: Entering directory '/home/xtream/Desktop/tbsdriver/media_build/linux'
Syncing with dir ../../media
Syncing with dir ../../media
Applying patches for kernel 4.7.0-040700rc3-generic
patch -s -f -N -p1 -i ../backports/api_version.patch
patch -s -f -N -p1 -i ../backports/pr_fmt.patch
make[3]: Entering directory '/home/xtream/Desktop/tbsdriver/media_build/linux'
Unapplying patches
patch -s -f -R -p1 -i ../backports/api_version.patch
make[3]: Leaving directory '/home/xtream/Desktop/tbsdriver/media_build/linux'
Applying patches for kernel 4.7.0-040700rc3-generic
patch -s -f -N -p1 -i ../backports/api_version.patch
patch -s -f -N -p1 -i ../backports/pr_fmt.patch
1 out of 1 hunk FAILED -- saving rejects to file drivers/media/platform/s3c-camif/camif-core.c.rej
1 out of 1 hunk FAILED -- saving rejects to file drivers/media/platform/s3c-camif/camif-regs.c.rej
```

4.9 # make install (See screenshot below.)

```
root@xtream-To-be-filled-by-0-E-M:~/Desktop/tbsdriver/media_build# make install
make -C /home/xtream/Desktop/tbsdriver/media_build/v4l install
make[1]: Entering directory '/home/xtream/Desktop/tbsdriver/media_build/v4l'
-e
Installing /lib/modules/4.7.0-040700rc3-generic/kernel/mm files:
frame_vector.ko

Removing obsolete files from /lib/modules/4.7.0-040700rc3-generic/kernel/drivers/media/dvb/firewire:

Removing obsolete files from /lib/modules/4.7.0-040700rc3-generic/kernel/drivers/media/common/tuners:

Removing obsolete files from /lib/modules/4.7.0-040700rc3-generic/kernel/drivers/media/dvb/ttpci:

Removing obsolete files from /lib/modules/4.7.0-040700rc3-generic/kernel/drivers/media/dvb/bt8xx:

Removing obsolete files from /lib/modules/4.7.0-040700rc3-generic/kernel/drivers/media/video/cx18:

Removing obsolete files from /lib/modules/4.7.0-040700rc3-generic/kernel/drivers/media/video/hdpvr:

Removing obsolete files from /lib/modules/4.7.0-040700rc3-generic/kernel/drivers/media/video/saa7164:

Removing obsolete files from /lib/modules/4.7.0-040700rc3-generic/kernel/drivers/media/video/pwc:
```


4.10 Install “firmware” and execute the following command. Please save the file in your favorite directory, and then unzip the file to “lib/firmwares” directory as the below screenshot.

1) Execute `#wget http://www.tbsdtv.com/download/document/linux/tbs-tuner-firmwares_v1.0.tar.bz2`

```
root@zhangweihua:~/Desktop/tbsdriver# wget http://www.tbsdtv.com/download/document/linux/tbs-tuner-firmwares_v1.0.tar.bz2
--2016-08-25 09:25:31-- http://www.tbsdtv.com/download/document/linux/tbs-tuner-firmwares_v1.0.tar.bz2
Resolving www.tbsdtv.com (www.tbsdtv.com)... 45.79.75.140
Connecting to www.tbsdtv.com (www.tbsdtv.com)|45.79.75.140|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1018149 (994K) [application/x-bzip2]
Saving to: 'tbs-tuner-firmwares_v1.0.tar.bz2'

tbs-tuner-firmwares 100%[=====] 994.29K 423KB/s in 2.4s

2016-08-25 09:25:39 (423 KB/s) - 'tbs-tuner-firmwares_v1.0.tar.bz2' saved [1018149/1018149]

root@zhangweihua:~/Desktop/tbsdriver#
```

2) `#tar jxvf tbs-tuner-firmwares_v1.0.tar.bz2 -C /lib/firmware/` (See screenshot below.)

```
root@zhangweihua:~/Desktop/tbsdriver# tar jxvf tbs-tuner-firmwares_v1.0.tar.bz2 -C /lib/firmware/
dvb-demod-drxk-pctv.fw
dvb-demod-mn88472-02.fw
dvb-demod-mn88473-01.fw
dvb-demod-si2168-01.fw
dvb-demod-si2168-02.fw
dvb-demod-si2168-a20-01.fw
dvb-demod-si2168-a30-01.fw
dvb-demod-si2168-b40-01.fw
dvb-demod-si2183-b60-01.fw
dvb-fe-bcm3510-01.fw
dvb-fe-cx24116.fw
dvb-fe-cx24117.fw
dvb-fe-drxj-mc-1.0.8.fw
dvb-fe-drxj-mc-vsb-1.0.8.fw
dvb-fe-drxj-mc-vsb-qam-1.0.8.fw
dvb-fe-ds3000.fw
dvb-fe-ds300x.fw
dvb-fe-ds3103.fw
dvb-fe-mxl5xx.fw
dvb-fe-or51132-qam.fw
dvb-fe-or51132-vsb.fw
dvb-fe-or51211.fw
```

4.11 Execute all the above commands, you should have successfully completed installation. Reboot your computer and input the following commands to detect if you have done it.

reboot

dmesg | grep frontend

```
root@xtream-To-be-filled-by-O-E-M: ~
xtream@xtream-To-be-filled-by-O-E-M:~$ sudo -s
[sudo] password for xtream:
root@xtream-To-be-filled-by-O-E-M:~# lspci -vvv | grep 6522
pci 00:02:00:00: sysfs_read_vpd: read failed: Input/output error
pci 00:02:00:00: sysfs_read_vpd: read failed: Input/output error
Subsystem: Device 6522:0000

root@xtream-To-be-filled-by-O-E-M:~# dmesg | grep frontend
[ 5.846733] TBSECP3 driver 0000:04:00.0: DVB: registering adapter 0 frontend
0 (TurboSight TBS 6522 DVB-S/S2/DVB-T/T2/C )...
[ 5.850905] TBSECP3 driver 0000:04:00.0: DVB: registering adapter 0 frontend
1 (Silicon Labs Si2183)...
[ 6.009938] TBSECP3 driver 0000:04:00.0: DVB: registering adapter 1 frontend
0 (TurboSight TBS 6522 DVB-S/S2/DVB-T/T2/C )...
[ 6.010120] TBSECP3 driver 0000:04:00.0: DVB: registering adapter 1 frontend
1 (Silicon Labs Si2183)...
```

5. If you would like to get latest source program, please enter the “tbsdriver /media” directory and execute the following commands to update the drivers. (See the commands below.)

cd media

git remote update

git pull

cd ../media_build

git remote update

git pull

make

sudo make install

reboot

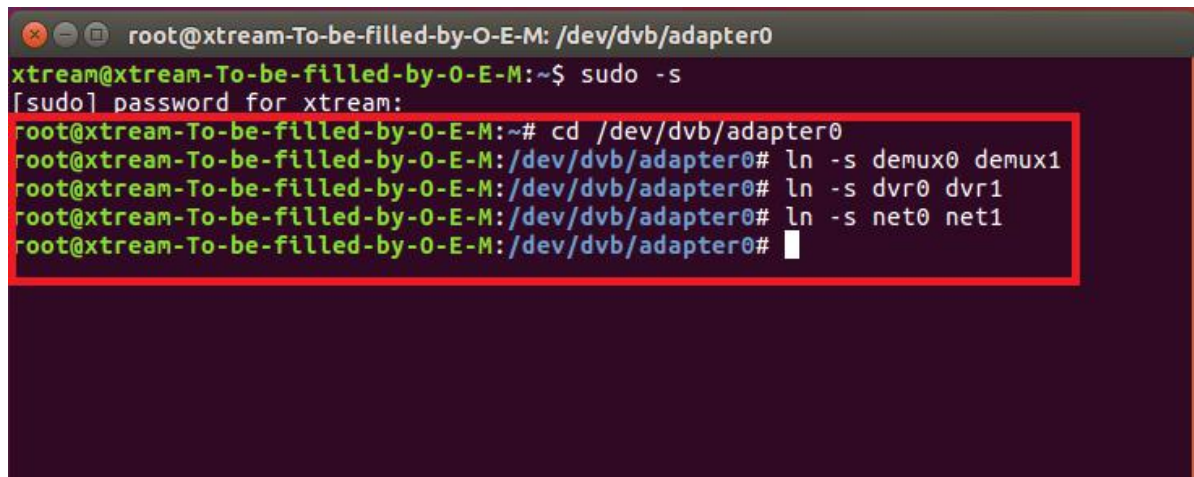
```
root@zhangweihua: ~/Desktop/tbsdriver/media_build
root@zhangweihua:~/Desktop/tbsdriver/media# git remote update
Fetching origin
root@zhangweihua:~/Desktop/tbsdriver/media# git pull
Already up-to-date.
root@zhangweihua:~/Desktop/tbsdriver/media# cd ../media_build
root@zhangweihua:~/Desktop/tbsdriver/media_build# git remote update
Fetching origin
root@zhangweihua:~/Desktop/tbsdriver/media_build# git pull
Already up-to-date.
root@zhangweihua:~/Desktop/tbsdriver/media_build# make
make -C /home/zhangweihua/Desktop/tbsdriver/media_build/v4l
make[1]: Entering directory '/home/zhangweihua/Desktop/tbsdriver/media_build/v4l'
creating symbolic links...
make -C firmware prep
make[2]: Entering directory '/home/zhangweihua/Desktop/tbsdriver/media_build/v4l/firmware'
make[2]: Leaving directory '/home/zhangweihua/Desktop/tbsdriver/media_build/v4l/firmware'
make -C firmware
make[2]: Entering directory '/home/zhangweihua/Desktop/tbsdriver/media_build/v4l/firmware'
make[2]: Nothing to be done for 'default'.
make[2]: Leaving directory '/home/zhangweihua/Desktop/tbsdriver/media_build/v4l/firmware'
```

6. Use dvblast under Linux Operational Environment

6.1 Connect Satellite Cable to LNB / 0

You need to do as follows. (See screenshot below.)

```
cd /dev/dvb/adapter0
# ln -s demux0 demux1
# ln -s dvr0 dvr1
# ln -s net0 net1
```

A terminal window titled 'root@xtream-To-be-filled-by-O-E-M: /dev/dvb/adapter0'. The prompt is 'xtream@xtream-To-be-filled-by-O-E-M:~\$'. The user enters 'sudo -s', and the prompt changes to '[sudo] password for xtream:'. The user then enters the password. The prompt changes to 'root@xtream-To-be-filled-by-O-E-M:~#'. The user enters 'cd /dev/dvb/adapter0', and the prompt changes to 'root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter0#'. The user then enters three commands: 'ln -s demux0 demux1', 'ln -s dvr0 dvr1', and 'ln -s net0 net1'. The prompt remains 'root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter0#'. The commands are highlighted with a red box.

```
root@xtream-To-be-filled-by-O-E-M: /dev/dvb/adapter0
xtream@xtream-To-be-filled-by-O-E-M:~$ sudo -s
[sudo] password for xtream:
root@xtream-To-be-filled-by-O-E-M:~# cd /dev/dvb/adapter0
root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter0# ln -s demux0 demux1
root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter0# ln -s dvr0 dvr1
root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter0# ln -s net0 net1
root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter0#
```

6.2 Connect Satellite Cable to LNB / 1

You need to do as follows. (See screenshot below.)

```
cd /dev/dvb/adapter1
# ln -s demux0 demux1
# ln -s dvr0 dvr1
# ln -s net0 net1
```

A terminal window titled 'root@xtream-To-be-filled-by-O-E-M: /dev/dvb/adapter1'. The prompt is 'xtream@xtream-To-be-filled-by-O-E-M:~\$'. The user enters 'sudo -s', and the prompt changes to '[sudo] password for xtream:'. The user then enters the password. The prompt changes to 'root@xtream-To-be-filled-by-O-E-M:~#'. The user enters 'cd /dev/dvb/adapter1', and the prompt changes to 'root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter1#'. The user then enters three commands: 'ln -s demux0 demux1', 'ln -s dvr0 dvr1', and 'ln -s net0 net1'. The prompt remains 'root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter1#'. The commands are highlighted with a red box.

```
root@xtream-To-be-filled-by-O-E-M:~# cd /dev/dvb/adapter1
root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter1# ln -s demux0 demux1
root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter1# ln -s dvr0 dvr1
root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter1# ln -s net0 net1
root@xtream-To-be-filled-by-O-E-M:/dev/dvb/adapter1#
```


6.3 (LNB 0) Lock TV Channels from DVB-T Signal (See screenshot below.)

```
root@xtream-To-be-filled-by-O-E-M: ~  
root@xtream-To-be-filled-by-O-E-M:~# dvblast -f 474000000 -b 8 -a 0  
DVblast 3.1 (git-3.0-6-g179f049-dirty)  
warning: restarting  
debug: compiled with DVB API version 5.10  
debug: using DVB API version 3.0  
debug: Frontend "TurboSight TBS 6522 DVB-S/S2/DVB-T/T2/C " supports:  
debug: frequency min: 42000000, max: 870000000, stepsize: 0, tolerance: 0  
debug: symbolrate min: 1000000, max: 45000000, tolerance: 0  
debug: capabilities:  
debug: INVERSION_AUTO
```

6.4 (LNB 1) Lock TV Channels from DVB-T Signal (See screenshot below.)

```
root@xtream-To-be-filled-by-O-E-M: ~  
root@xtream-To-be-filled-by-O-E-M:~# dvblast -f 474000000 -b 8 -a 1  
DVblast 3.1 (git-3.0-6-g179f049-dirty)  
warning: restarting  
debug: compiled with DVB API version 5.10  
debug: using DVB API version 3.0  
debug: Frontend "TurboSight TBS 6522 DVB-S/S2/DVB-T/T2/C " supports:
```

6.5 Lock TV Channels from DVB-T2 Signal

(LNB 0) # dvblast -f 474000000 -b 8 -a 0 -5 dvbt2

(LNB 1) # dvblast -f 474000000 -b 8 -a 1 -5 dvbt2

6.6 Lock TV Channels from DVB-C Signal

(LNB 0) # dvblast -f 474000000 -s 6900000 -a 0 -5 dvbc_annex_a

(LNB 1) # dvblast -f 474000000 -s 6900000 -a 1 -5 dvbc_annex_a

6.7 Lock TV Channels from DVB-S Signal

(LNB 0) # dvblast -f 12538000 -s 41250000 -v 13 -a 0 -n 1

(LNB 1) # dvblast -f 12538000 -s 41250000 -v 13 -a 1 -n 1

6.8 Lock TV Channels from DVB-S2 Signal

(LNB 0) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 0 -n 1

(LNB 1) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 1 -n 1

7. Tvheadend User Guide

7.1 Connect Satellite Cable to LNB / 0

You need to input the following information step by step.

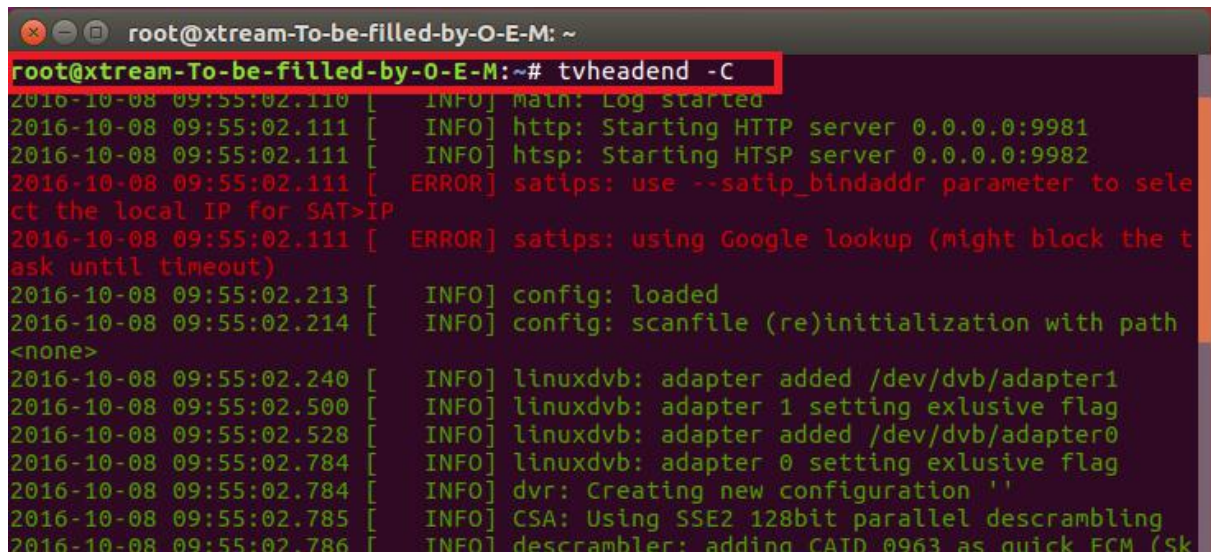
```
cd /dev/dvb/adapter0
# ln -s demux0 demux1
# ln -s dvr0 dvr1
# ln -s net0 net1
```

7.2 Connect Satellite Cable to LNB / 1

You need to input the following information step by step.

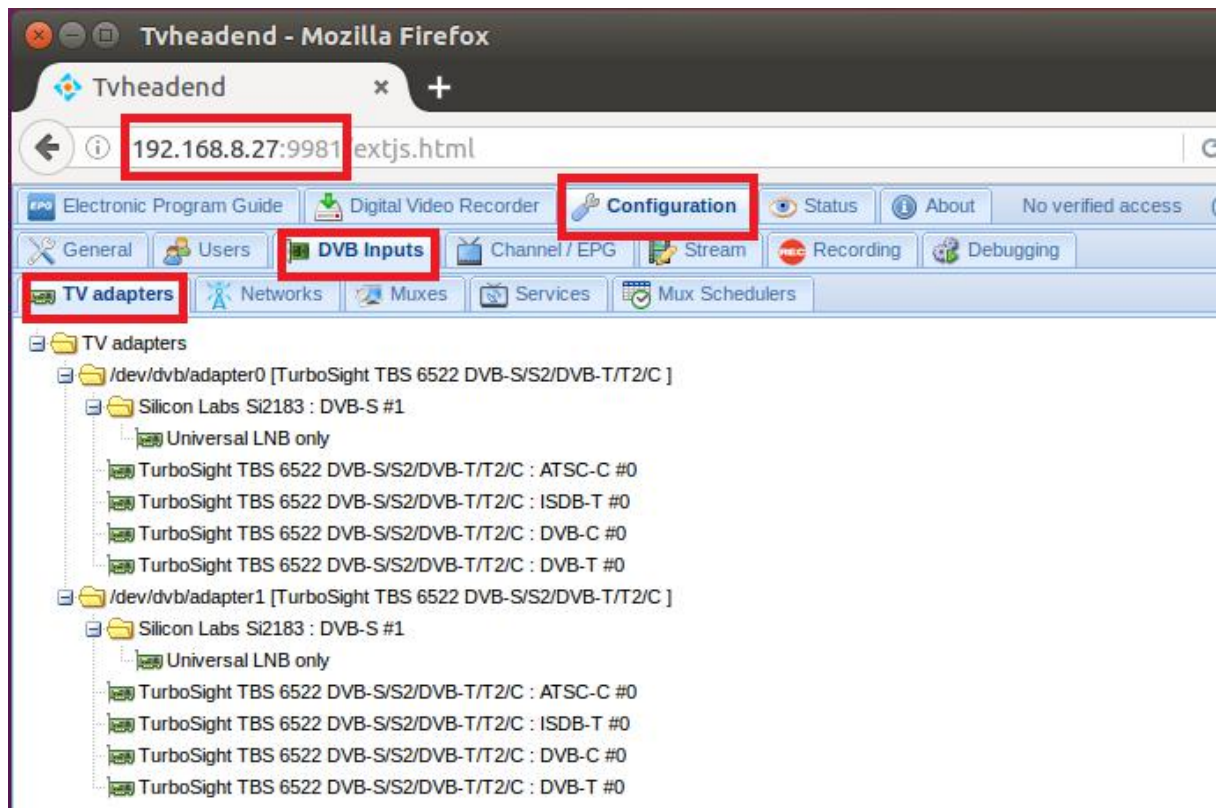
```
cd /dev/dvb/adapter1
# ln -s demux0 demux1
# ln -s dvr0 dvr1
# ln -s net0 net1
```

7.3 Install Software and Run tvheadend-c (See screenshot below.)

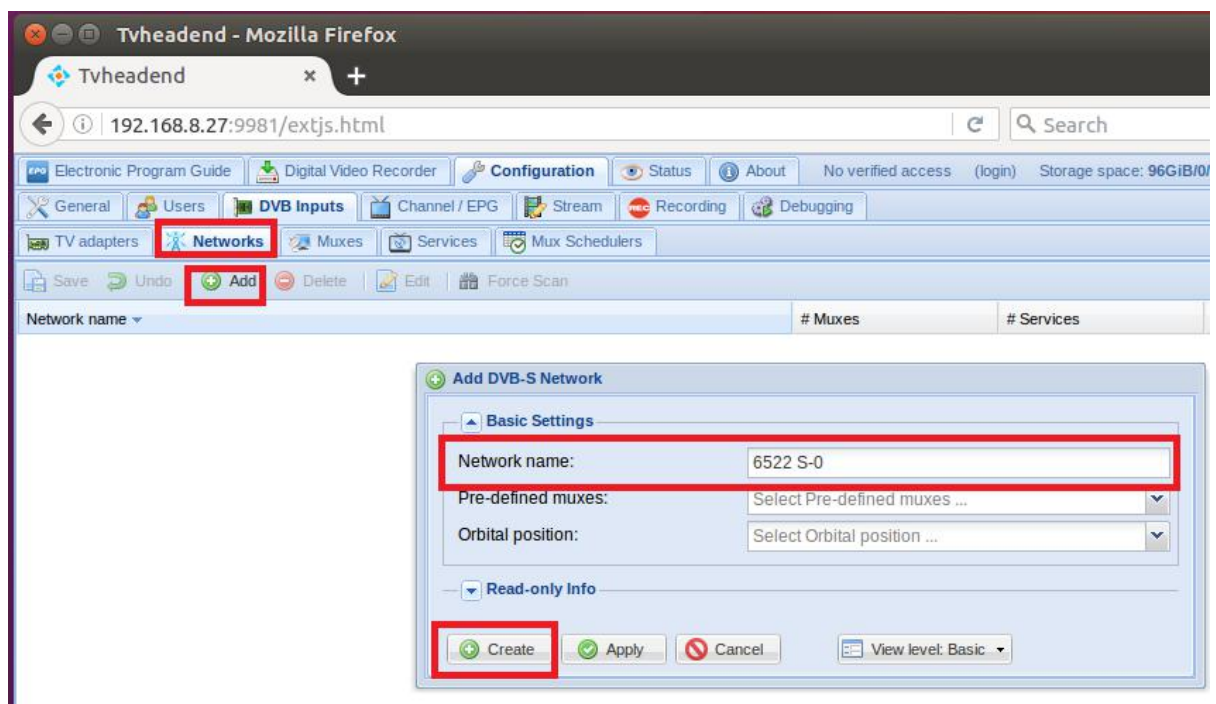


```
root@xtream-To-be-filled-by-O-E-M: ~
root@xtream-To-be-filled-by-O-E-M:~# tvheadend -C
2016-10-08 09:55:02.110 [ INFO] Main: Log started
2016-10-08 09:55:02.111 [ INFO] http: Starting HTTP server 0.0.0.0:9981
2016-10-08 09:55:02.111 [ INFO] htsp: Starting HTSP server 0.0.0.0:9982
2016-10-08 09:55:02.111 [ ERROR] satips: use --satip_bindaddr parameter to select the local IP for SAT>IP
2016-10-08 09:55:02.111 [ ERROR] satips: using Google lookup (might block the task until timeout)
2016-10-08 09:55:02.213 [ INFO] config: loaded
2016-10-08 09:55:02.214 [ INFO] config: scanfile (re)initialization with path <none>
2016-10-08 09:55:02.240 [ INFO] linuxdvb: adapter added /dev/dvb/adapter1
2016-10-08 09:55:02.500 [ INFO] linuxdvb: adapter 1 setting exclusive flag
2016-10-08 09:55:02.528 [ INFO] linuxdvb: adapter added /dev/dvb/adapter0
2016-10-08 09:55:02.784 [ INFO] linuxdvb: adapter 0 setting exclusive flag
2016-10-08 09:55:02.784 [ INFO] dvr: Creating new configuration ''
2016-10-08 09:55:02.785 [ INFO] CSA: Using SSE2 128bit parallel descrambling
2016-10-08 09:55:02.786 [ INFO] descrambler: adding CATD 0963 as quick ECM (Sk
```

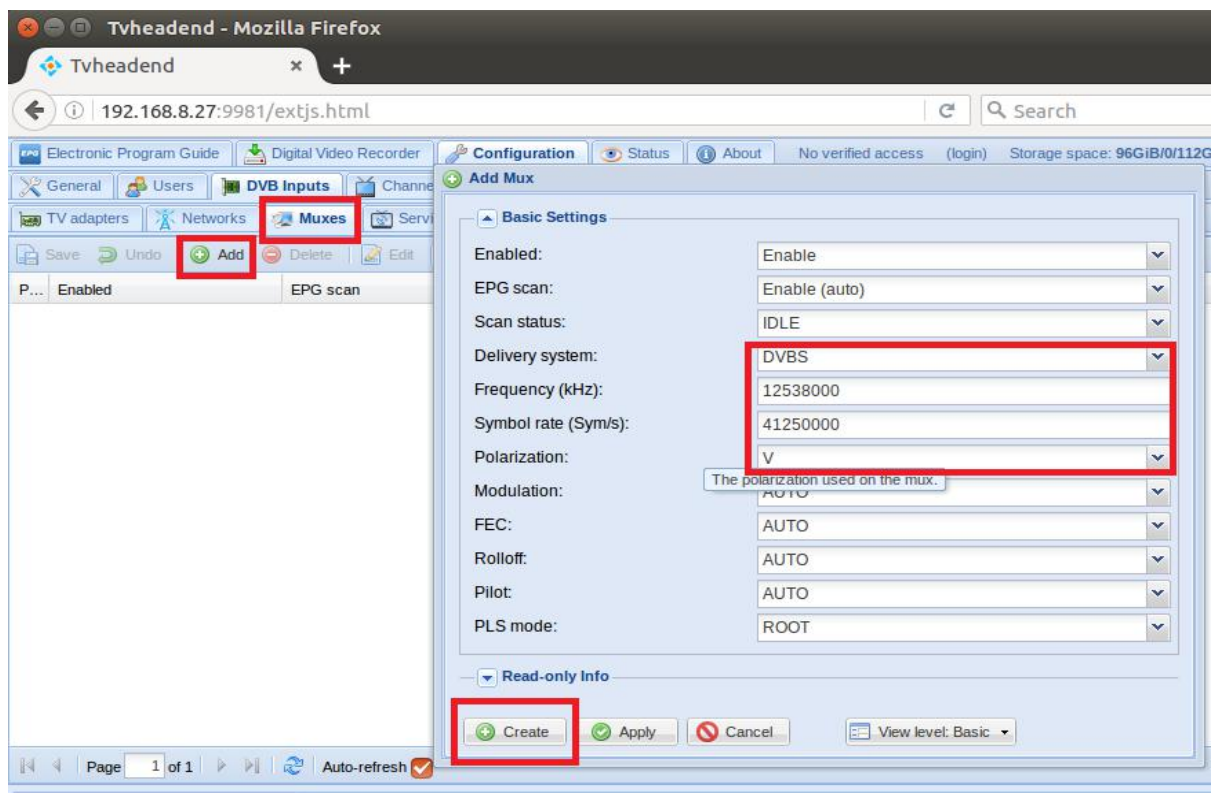
7.4 Launch Firefox browser, input the IP address of your PC and port number 9981 as below, then you can log in tvheadend configuration webui. (See the following screenshot.)



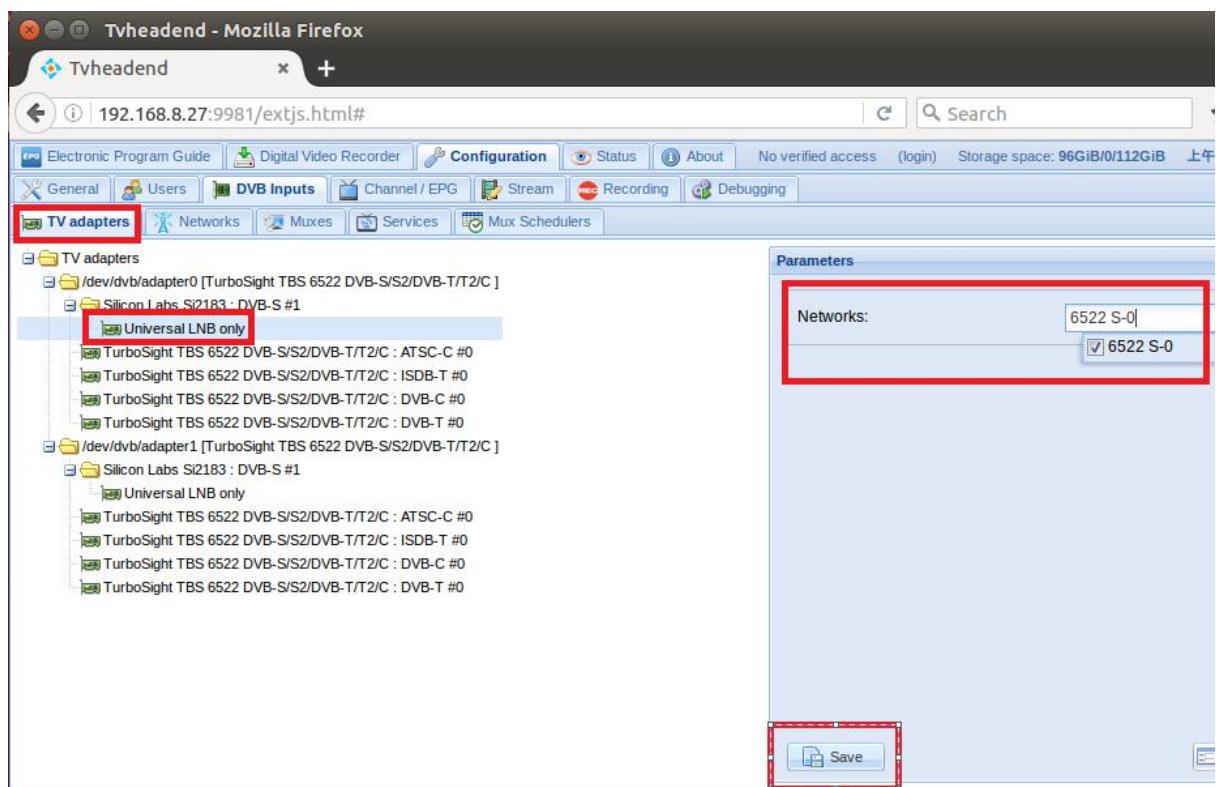
7.5 Log in “Networks”, set the right “Network Name” with product model number and required TV signal via LNB, and then save it. (See screenshot below.)



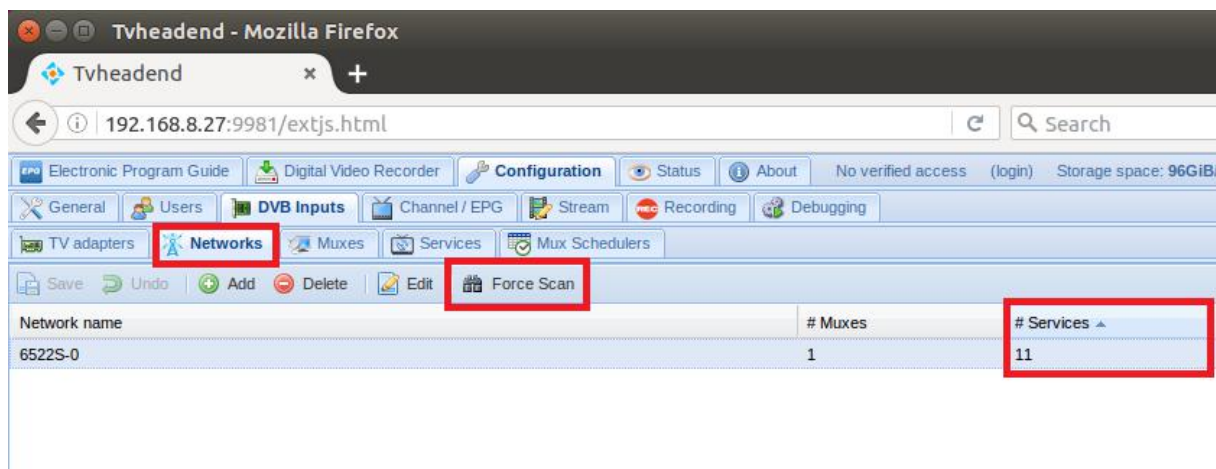
7.6 Log in “Muxes”, setup freq. parameters and save it. (See screenshot below.)



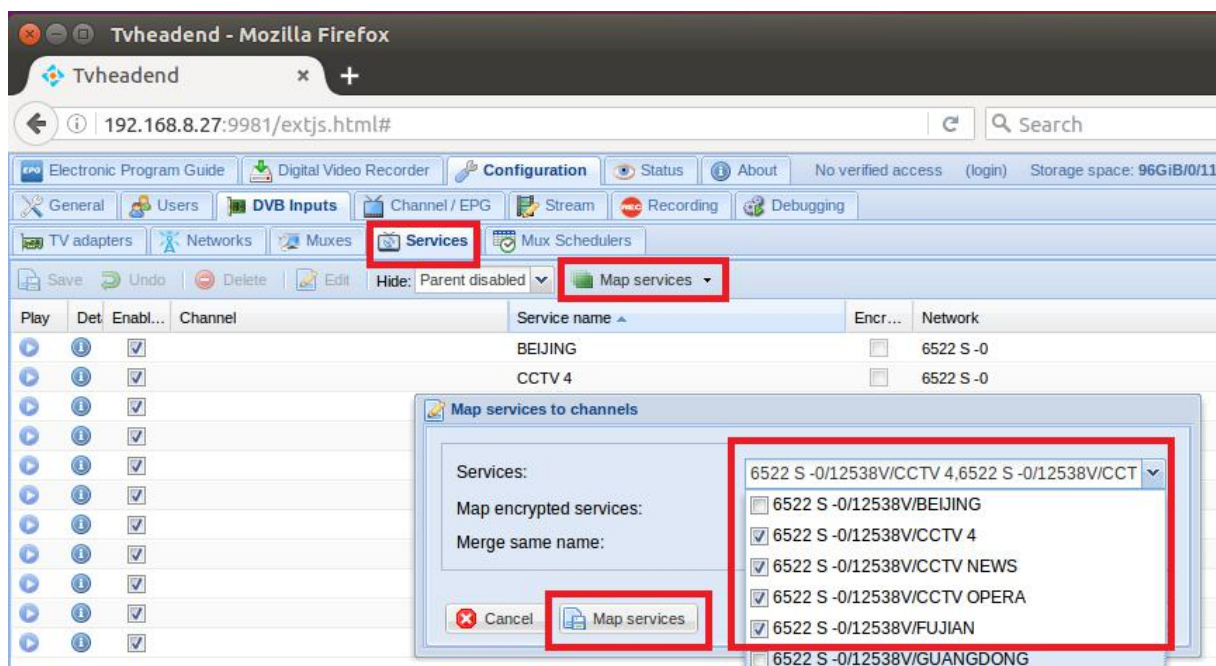
7.7 Log in “TV adapters”, add a new “Networks” same as you set up before, and then click “save”. (See screenshot below.)



7.8 Log in “Networks” and then click “Force Scan” to lock TV channels. (See screenshot below.)



7.9 Log in “Services”, you can live streaming all the TV programs that you would like to watch in “Map services”. (See screenshot below.)



7.10 If you would like to broadcast other satellite programs, please set up the right configuration parameters according to “tvheadend 7.5-7.9” steps.

8. Astra Linux use

8.1 Connect Satellite Cable to LNB / 0

You need to input the following information step by step.

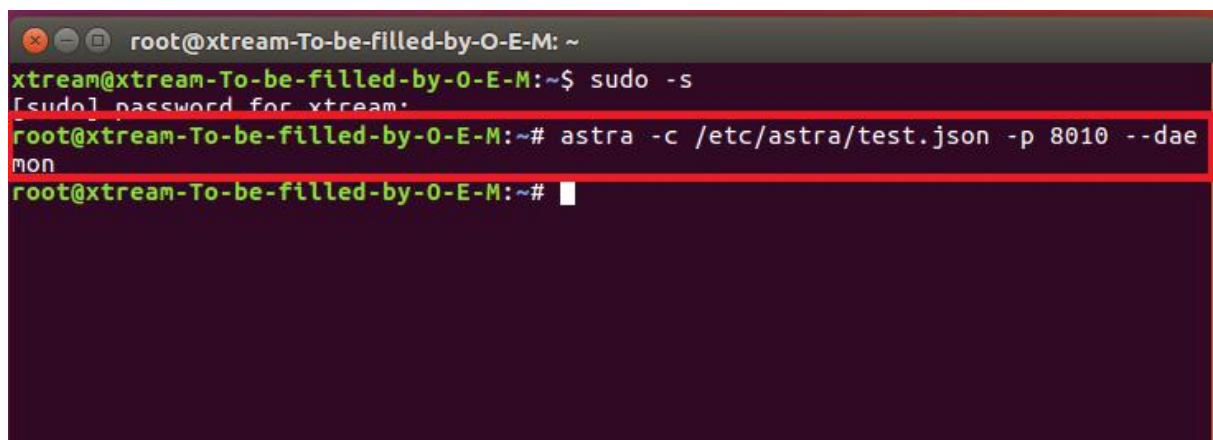
```
cd /dev/dvb/adapter0
# ln -s demux0 demux1
# ln -s dvr0 dvr1
# ln -s net0 net1
```

8.2 Connect Satellite Cable to LNB / 1

You need to input the following information step by step.

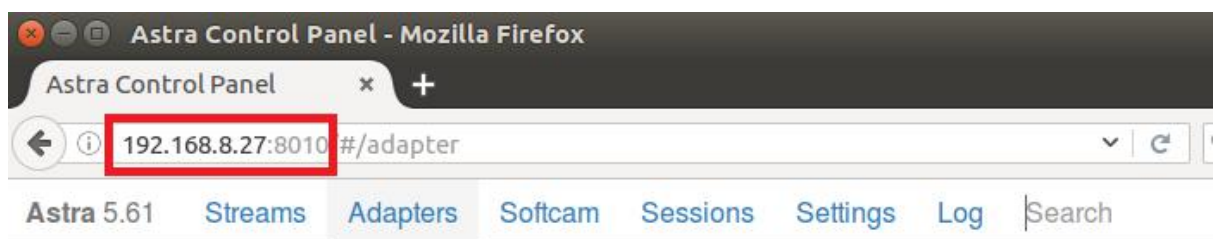
```
cd /dev/dvb/adapter1
# ln -s demux0 demux1
# ln -s dvr0 dvr1
# ln -s net0 net1
```

8.3 Install astra software and run the program. (See screenshot below.)



```
root@xtream-To-be-filled-by-O-E-M: ~
xtream@xtream-To-be-filled-by-O-E-M:~$ sudo -s
[sudo] password for xtream:
root@xtream-To-be-filled-by-O-E-M:~# astra -c /etc/astra/test.json -p 8010 --dae
mon
root@xtream-To-be-filled-by-O-E-M:~#
```

8.4 Open Firefox browser, input the IP address of your PC and port number 8010 as below, then you can log in astra configuration webui. (See the following screenshot.)



8.5 Create a new “Adapters” and then set the right satellite TV signal and frequency parameters via LNB, finally click “Apply”. (See screenshot below.)

Astra Control Panel - Mozilla Firefox

Astra Control Panel x +

192.168.8.27:8010/#/adapter/0

Astra 5.61 Streams Adapters Softcam Sessions Settings Log

Enable ☒

Name * 6522S-0

Adapter * 0.1 : Silicon Labs Si2183 [SIOCGIFHWADDR failed [No sucl Refresh

DVB-S2 ☐

TP * 12538 Vertical 41250

Advanced Options ☐

Save Apply Back Scan

8.6 Enter into “Adapters” again. If the LNB signal indication pops up in the window, you have successfully completed the configuration. Click it and enter into the operation interface. (See screenshot below.)

Astra Control Panel - Mozilla Firefox

Astra Control Panel x +

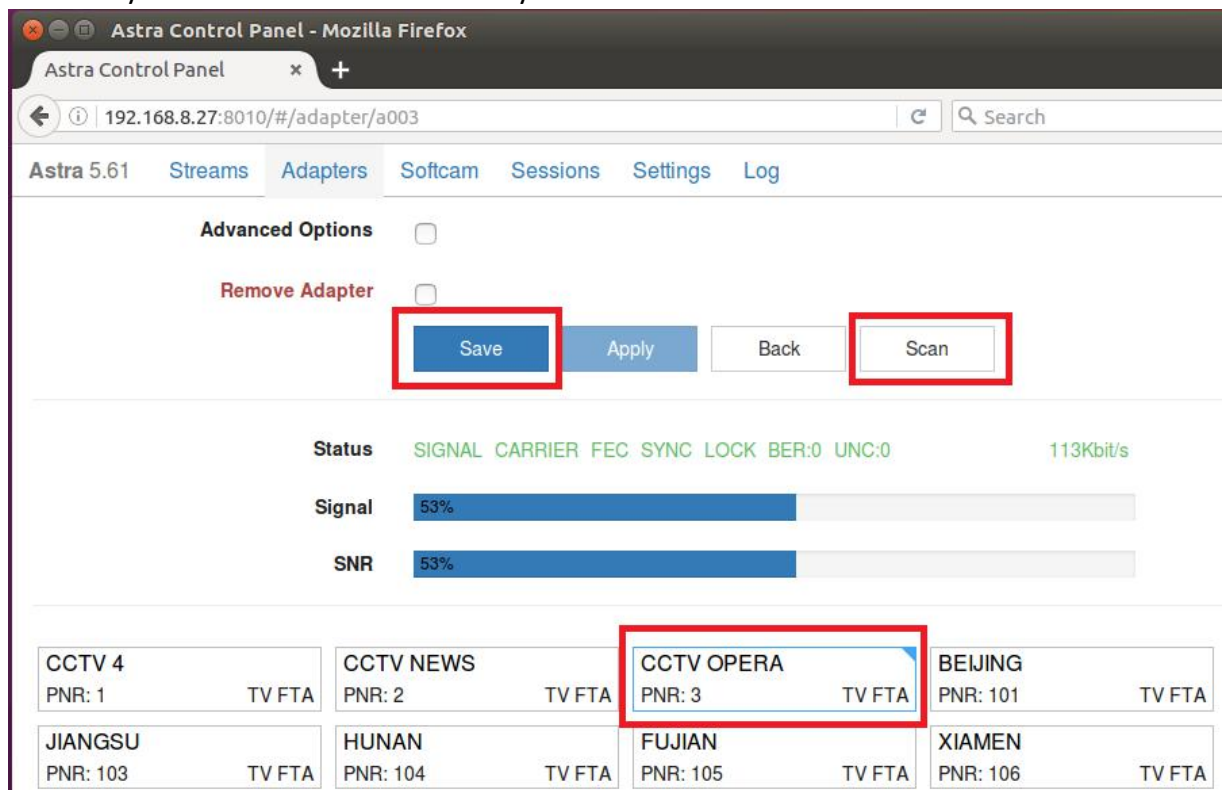
192.168.8.27:8010/#/adapter

Astra 5.61 Streams Adapters Softcam Sessions Settings Log Search

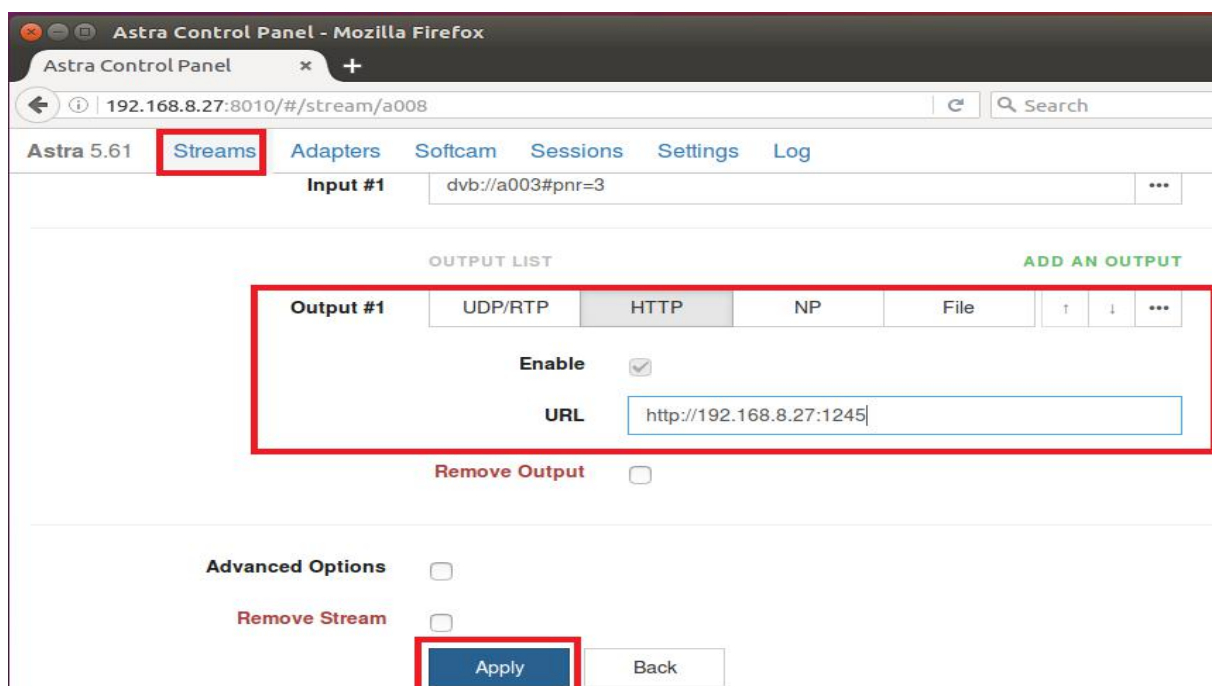
6522S-0

BER:0 UNC:0 LOCK

8.7 Enter into “Adapters” to scan TV channels, and then select the programs that you would like to watch. Finally click “Save” as below.



8.8 Save all the selected TV programs, you will find them in ”Streams”. Then please set the output protocol according to your needs. Finally click “Apply” as below.



FAQ

Linux:

1. How to install the driver

Closed Driver install steps:

<http://www.tbsdtv.com/forum/viewtopic.php?f=86&t=9875>

Open Source Detail steps:

<http://www.tbsdtv.com/forum/viewtopic.php?f=86&t=9960>

2. Can not compile the driver in CentOS 7

check your kernel version:

`uname -a`

Link the build folder .Go to this folder such as :

`cd /lib/modules/3.10.0-327.13.1.el7.x86_64/`

`ln -sf /usr/src/kernels/3.10.0-327.10.1.el7.x86_64/ build`

Then install the driver as normal steps

3. How to use tvheadend.

Check this:

<http://www.tbsdtv.com/forum/viewtopic.php?f=86&t=9949>

4. How to use astra.

Script Guide:

<http://www.tbsdtv.com/forum/viewtopic.php?f=86&t=9862>

Video Guide:

<http://www.tbsdtv.com/forum/viewtopic.php?f=86&t=9976>

5. How to use OSCAM with tvheadend

<http://www.tbsdtv.com/forum/viewtopic.php?f=86&t=10049>

6. How to use mumudvb

<http://www.mumudvb.net/doc/mumudvb-1.7.3/QUICKSTART.html>

http://www.mumudvb.net/doc/mumudvb-1.7.3/README_CONF.html

Windows:

1. Windows 7 x64 Code 52 issue

Please check this guide:

<http://www.tbsdtv.com/forum/viewtopic.php?f=86&t=9989>

2. Does your driver support windows 10?

No problem you can feel free using windows xp,vista/7/8/10

1. Can't watch the HD channels, only picture or only audio.
Make sure that you have installed the right video and audio decoder.
2. Where I can get the TSReader dll support?
You can get it on our download page :
http://www.tbsdtv.com/download/document/common/tsreader-bdasource_v1.0.8.7-20150604.zip
3. Where I can get the StreamReader dll support?
You can get it on our download page :
http://www.tbsdtv.com/download/document/common/streamreader-dll_v1.0.0.3.zip
4. Why can't use it with Windows Server 2008
Please install this patch for your windows server 2008:
http://www.tbsdtv.com/download/document/common/win2008_bda.zip
5. The card don't been detected by motherboard.
Please refer to attached pics to change some pcie setting on BIOS and update the BIOS to the latest version. make sure set the PCI-E link speed to Gen1 like this ,as most users after set the BIOS it can detect our card so you can have a try.
6. How to set dvbdream support 8 diseqc?
Open "Options" item then select "Diseqc", Diseqc Switch Type "None".
After add one satellite, open "Properties", can set diseqc port by "Uncommitted" from 0 to 15
7. What kind of antenna to use(DVBT/DVBT2 Card)?
Our all dvbt/t2 card just support the parasitic antenna. If you use the active antenna, you need supply power to antenna.
8. Whether support CI+?
Our all CI card just support the CI, do no support CI+.