User Guide for DVB-S2 Octa-Tuner TV-Card, TBS-6909 and DVB-S2X/-S2 Octa-Tuner TV-Card, TBS-6909-X

1. Hardware Installation

Step 1.1:

Please make sure that your PC is completely disconnected before installing the TV card. Make sure that all parts are potential-free, otherwise there is a risk that by static electricity (when touching with your hands), the card could be damaged.

Put the TV card into a free PCIe slot (see the operating instructions of your PC Motherboards). In no case does the card fit into other slots that do not conform to the PCIe specification. Please note that there is enough space for installation and for example no graphics card fan disturbs. Please make sure the card fit in PCIe Slot tightly.



Step 1.2:

If you want to connect the card to a large motor, or the power supply is with the PCIe slot not sufficient, the supplied internal power cable must be additionally connected.



Step 1.3:

The TBS-6909 and the TBS-6909-X are powerful Octa-Tuner Cards. Here is some information that you need to know before using:

- C-Signal 5150 V access to Input 0
- H access to Input 2
- C-Signal 5750 V access to Input 1
- H access to Input 3

There are three ways of signal input for TBS-6909/TBS-6909-X, which are shown on the pictures below:

Mode	1:
<u>iniouo</u>	

Multiswitch









Mode 2:



Mode 3:



Linux Open Source driver model

Multiswitch mode: (Mode 0)

If you are using Quad-LNB, you can directly connect the 4 cables to the 4 ports of TBS-6909/TBS-6909-X.

If you are using Quattro-LNB, you have 4 cables (V/L, V/H, H/L, H/H). Connect the right one to you TBS-6909/TBS-6909-X like the above picture (input 0 - input 3 should be connected to V/L, V/H, H/L, H/H respectively).

If you are using C or Ku band single, then two inputs are enough. You just need to connect the cables to Input 0 and Input 2.

Input 0 Interface:

You can only receive DVB-S/-S2 TV channels from V/L TV signals with low frequency noise. After connecting these TV signals via "Input 0 Interface", you can receive SD/HD channels from all eight satellite transponders simultaneously.

Input 1 Interface:

You can only receive DVB-S/-S2 TV channels from high-frequency V/H TV signals. After connecting these TV signals via "Input 1 Interface", you can receive SD/HD stations from all eight satellite transponders simultaneously.

Input 2 Interface:

You can only receive DVB-S/-S2 TV channels from low-frequency H/L TV signals. After connecting these TV signals via "Input 2 Interface", you can receive SD/HD channels from all eight satellite transponders simultaneously.

Input 3 Interface:

You can only receive DVB-S/-S2 TV channels from high-frequency noise H/H TV signals. After connecting these TV signals via "Input 3 Interface", you can receive SD/HD channels from all eight satellite transponders simultaneously.

Hint:

If you want to receive TV broadcasts entirely from V/H satellite TV signals at the same time, you need to connect your satellite TV signal cable to the corresponding input interface.

Normal Mode (Mode 1)

At the very beginning, you need to create a configuration file under the Linux system directory: **/etc/modprobe.d/mxI58x.conf**.

The contents of the configuration file: **options mxI58x mode = 1**. After completing the configuration, restart your computer please.



In normal mode: You can watch TV channels from high frequency/low-frequency noise V/H TV signals search through all four interfaces "Input 0, Input 1, Input 2, Input 3".

Connecting to a satellite cable:

Input 0: Only works for tuner 0 and tuner 1

Input 1: Only works for tuner 2 and tuner 3

Input 2: Only works for tuner 4 and tuner 5

Input 3: Only works for tuner 6 and tuner 7

Hint:

If you want to receive full TV channels from V/H satellite signals at the same time, you need to connect more than 2 satellite TV signal cables to the corresponding input interface.

For example, connect the satellite cable to the Input 0 and Input 1 interface, and you can then simultaneously search for TV channels from the V/H satellite TV signal.

In normal mode:

Input 0 (corresponds to Tuner 0 or Tuner 1) can only use V or H if the corresponding signal is sent to it.

However, it is not possible to use V with Tuner 0 and at the same time to use Tuner 1 H.

Unicable (Mode 2)

At the very beginning, you need to create a configuration file under the Linux system directory: **/etc/modprobe.d/mxl58x.conf.**

The contents of the configuration file: **options mxl58x mode = 2**. After completing the configuration, restart your computer.

Step 1.4:

Multiswitch:



In some cases, multi-switches have multiple satellite inputs. First, the corresponding satellite must be selected by sending the Diseqc command. Subsequently, this mode can be used.

If in this mode input 0 to input 3 has at least one active input, all tuners can be disabled, for example:

If a VH signal is connected to input 1 of satellite B, use dvblast to scan the channels: As with VH DVB-S, please use the following:

dvblast -f 12538000 -s 41250000 -v 13 -a 0 -5 DVBS

This means that the VH port in this case is satellite B, the other 7 tuners can receive the satellite B VH signal.

If a HL signal connected to input 2 is sent from satellite A, use dvblast to scan the channels: As with VH DVB-S2, use the following:

dvblast -f 11080000 -s 43200000 -v 18 -m psk_8 -a 0 -5 DVBS2

This means that the HL port in this case is satellite A, the other 7 tuners can receive the satellite A HL signal.

If you have four types of active signals connected to the correct 4 inputs, you can receive all the VL, VH, HL and HH signals.

2. Windows Driver installation

Step 2.1:

Download the TBS-6909 Driver (<u>https://tbs-technology.de/produkte/dvb/6909-octa-tuner/?lang=en</u>) **OR** the TBS-6909-X Driver (<u>https://tbs-technology.de/produkte/dvb/6909-x-octa-tuner/?lang=en</u>) from our Website by clicking on the respective driver. Please make sure that there are drivers for Windows 10 or older versions of Windows and that you select the correct driver for your operating system.

Download & Service
Windows TBS 6909 v1.0.0.3 (Older Windows versions)
Windows 10 TBS 6909 v1.0.0.3 (Windows 10)
Linux (Link to GitHub)
Software
Manual
FAQ

<u>2.2</u>) After downloading, a window opens. Start the setup.exe installation by double clicking on it.



2.3) Confirm this window with "Extract all".

Compre	essed (zippe <mark>d</mark>) Folder	S	×
	This application may o in this folder. For the application to r you first extract all files	lepend on other un properly, it is r	compressed files recommended that
	Extract all	Run	Cancel

2.4) Continue with "Extract".

Extract Compressed (Zipped) Folders	
Select a Destination and Extract Files	
Files will be extracted to this folder:	
C:\Users\Qing\Downloads\tbs6909_win10_driver_v1.0.0.3	Browse
Show extracted files when complete	
✓ Show extracted files when complete	



2.5) This window opens. Now select the setup file again.

2.6) Then select the language and confirm with "OK".



2.7) Confirm with "Install".

Setup - TBS 6909 Tuner driver for windows	85 8		×
Ready to Install			
Setup is now ready to begin installing TBS 6909 Tuner dr computer.	river for windows or	your (
Click Install to continue with the installation.			
	Install	Car	ncel

2.8) End the installation with "Finish".



2.9) Once the driver installation is complete, the TBS-6909 is detected by your PC and shown in the Device Manager at "Sound, video and game controllers".

📇 Device Manager	1	_	×
File Action View Help			
V 📇 DESKTOP-2UTIUUK			
> 🖬 Audio inputs and outputs			
> 💻 Computer			
> 👝 Disk drives			
> 🔙 Display adaptors			
> 🛺 Human Interface Devices			
> 📷 IDE ATA/ATAPI controllers			
> 🚡 Imaging devices			
> 🧱 Keyboards			
Mice and other pointing devices			
> 🛄 Monitors			
> 🚅 Network adapters			
> 📃 Portable Devices			
> 📇 Print queues			
> 🛱 Printers			
> Processors			
Software devices			
Sound, video and game controllers			
High Definition Audio Device			
TBS 6909 Octuple DVBS/S2 BDA Tuners			
> 🍇 Storage controllers			
> 🛅 System devices			
Universal Serial Bus controllers			
> 📇 WSD Print Provider			

<u>2.10</u> Here you can also find all details about the drivers.

ieneral	Driver	Details	Events	Resources	
•	TBS 6	909 Octuj	ole DVBS	/S2 BDA Tuners	
	Device Manufi	e type: acturer:	Sound TBS I	l, video and game controllers DTV Technology Ltd.	
	Locatio	on:	PCIb	us 1, device 0, function 0	
	0010010	WORKING	propeny.		
		working	propeny.		< >
		working	propeny.		¢ v

Hint:

• In some cases, the TBS-6909 will not be detected by your PC. We recommend to change the PCIe slot.

• If, for example, channels are not found during the channel search or the picture has small dropouts, the power supply of your PC via the PCIe plug is probably too low. In this case, please additionally connect the supplied power cable (yellow-black) to the TBS-6909.

• It is important to note that the PC should be turned off and disconnected when installing the TBS-6909. Otherwise, the TV card and also the PC can be damaged.

3. Software Installation

To enjoy satellite TV on the PC and / or record videos, you will need a TV application.

We recommend the TBS-Viewer, which you can download free of charge at the following link:

https://tbs-technology.de/wp-content/uploads/tbsviewer-v20181026.zip

Of course, the TBS-6909 is also compatible with other manufacturers' TV applications. Here is a list of downloads of TV applications and links to their respective providers of free and paid software:

https://tbs-technology.de/service/software/?lang=en

The following list shows downloads for TV-applications and links to the provider with free and chargeable software. Please look for the information on the website for the software. After an upgrade the software could became chargeable.

4. Linux Open Source driver installation

<u>4.1</u> Restart your PC and right-click the operating system webui. Enter the "**sudo-s**" command and the Ubuntu default password to open "Terminal". It is now possible to access the operating system.

4.2) # Ispci -vvv | grep 6909

This command detects whether there is "Device 6909", displaying as the following webui.



<u>4.3</u>) Set up a directory called "tbsdriver". In our example, the directory is saved on the desktop: **# mkdir tbsdriver**



4.4) Execute the command # apt-get install git and install the package "git".



4.5) Open the directory of "tbsdriver" and then download "media build" and "media".

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



4.6) Enter the directory of "media build" and execute "make dir DIR = .. / media".

make dir DIR=../media

root@xtream-To-be-filled-by-O-E-M:~/Desktop/tbsdriver# ls
root@xtream-To-be-filled-by-O-E-M:~/Desktop/tbsdriver# cd media_build/
root@xtream-To-be-filled-by-O-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/cpla2/stv0672_vp4.bin.inex
sync file: include/linux/ti_wilink_st.h
sync file: include/linux/pci_ids.h

4.7) # make distclean



4.8) # make -j4



4.9) # make install

root@xtream-To-be-filled-by-0-E-M:~/Desktop/tbsdriver/media_build# make install
make - C /nome/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/dvb/ttpci:
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/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/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/hdpvr:
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/hdpvr:
Removing obsolete files from /lib/modules/4.7.0-040700rc3-generic/kernel/drivers/media/video/hdpvr:

<u>4.10</u> Install the firmware and run the following command. Please save the file in your favorite directory and unpack the file in the directory "lib / firmwares".

<u>4.10.1</u> Run **# wget** http://www.tbsdtv.com/download/document/linux/tbs-tuner-firmwares_v1.0.tar.bz2.



4.10.2) # tar jxvf tbs-tuner-firmwares_v1.0.tar.bz2 -C /lib/firmware/

🔘 😑 😗 root@zhangweihua: -/Desktop/tbsdriver
<pre>root@zhangweihua:~/Desktop/tbsdriver# tar jxvf tbs-tuner-firmwares_v1.0.tar.bz2</pre>
-c /ccb/tcrmware/
dvb-demod-drxk-pctv.tw
dvb-demod-mn88472-02.tw
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-drx1-mc-vsb-1.0.8.fw
dvb-fe-drxj-mc-vsb-gam-1.0.8.fw
dvb-fe-ds3000.fw
dvb-fe-ds300x.fw
dvb-fe-ds3103.fw
dvb-fe-mxl5xx.fw
dvb-fe-or51132-gam.fw
dvb-fe-or51132-vsb.fw
dvb-fe-or51211.fw

<u>4.11</u> Please execute all the above commands first. Thus, the installation is completed successfully. Then restart the PC and enter the following commands to see if everything is correct:

reboot # dmesg | grep frontend

-	oot@zwh-desktop:~# dme	esg grep frontend					
L	30.018031] IBSECP3	ariver 0000:02:00.0:	DVB:	registering	adapter	0	frontend
0	(TurboSight TBS 6909	DVB-S/S2)					
[36.143258] TBSECP3	driver 0000:02:00.0:	DVB:	registering	adapter	1	frontend
0	(TurboSight TBS 6909	DVB-S/S2)					
[36.232291] TBSECP3	driver 0000:02:00.0:	DVB:	registering	adapter	2	frontend
0	(TurboSight TBS 6909	DVB-S/S2)					
[36.357308] TBSECP3	driver 0000:02:00.0:	DVB:	registering	adapter	3	frontend
0	(TurboSight TBS 6909	DVB-S/S2)					
Γ	36.452323] TBSECP3	driver 0000:02:00.0:	DVB:	registering	adapter	4	frontend
0	(TurboSight TBS 6909	DVB-S/S2)					
[36.544847] TBSECP3	driver 0000:02:00.0:	DVB:	registering	adapter	5	frontend
9	(TurboSight TBS 6909	DVB-S/S2)					
[36.670108] TBSECP3	driver 0000:02:00.0:	DVB:	registering	adapter	б	frontend
0	(TurboSight TBS 6909	DVB-S/S2)					
[36.794276] TBSECP3	driver 0000:02:00.0:	DVB:	registering	adapter	7	frontend
0	(TurboSight TBS 6909	DVB-S/S2)					

5) If you want to update the drivers in the future, please enter the "tbsdriver / media" and execute the following commands:

cd media
git remote update
git pull
cd ../media_build
git remote update
git pull
make
sudo make install
reboot



6. Using dvblast with Linux Operational Environment

6.1) Connect the satellite cable to the LNB.

6.2) Lock the TV channels from the DVB-S signal.



(Tuner 0) dvblast -f 12538000 -s 41250000 -v 13 -a 0 -5 DVBS (Tuner 1) dvblast -f 12538000 -s 41250000 -v 13 -a 1 -5 DVBS (Tuner 2) dvblast -f 12538000 -s 41250000 -v 13 -a 2 -5 DVBS (Tuner 3) dvblast -f 12538000 -s 41250000 -v 13 -a 3 -5 DVBS (Tuner 4) dvblast -f 12538000 -s 41250000 -v 13 -a 4 -5 DVBS (Tuner 5) dvblast -f 12538000 -s 41250000 -v 13 -a 5 -5 DVBS (Tuner 6) dvblast -f 12538000 -s 41250000 -v 13 -a 6 -5 DVBS (Tuner 7) dvblast -f 12538000 -s 41250000 -v 13 -a 7 -5 DVBS

6.3) Lock the TV channels from the DVB-S signal.

root@zwh-desktop:~
 zwh@zwh-desktop:~\$ sudo -s
 [sudol password for zwh:
 root@zwh-desktop:~# dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 0
 votast 5.1 (gtt-5.0-0-g1/91049-utily)
warning: restarting
debug: compiled with DVB API version 5.10
debug: using DVB API version 3.0
debug: Frontend "TurboSight TBS 6905 DVB-S/S2 " supports:
 debug: frequency min: 950000, max: 2150000, stepsize: 0, tolerance: 0

(Tuner 0) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 0 -5 DVBS2 (Tuner 1) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 1 -5 DVBS2 (Tuner 2) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 2 -5 DVBS2 (Tuner 3) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 3 -5 DVBS2 (Tuner 4) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 4 -5 DVBS2 (Tuner 5) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 5 -5 DVBS2 (Tuner 6) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 6 -5 DVBS2 (Tuner 7) # dvblast -f 12660000 -s 45000000 -v 13 -m psk_8 -a 6 -5 DVBS2

6.4) Proceed as with VH DVB-S2:

(Tuner 0) # dvblast -f 11080000 -s 43200000 -v 18 -m psk_8 -a 0 -5 DVBS2

7. Tvheadend manual

7.1) Connect the satellite cable to the LNB.

7.2) Install the software Run tvheadend -C.

🛞 🖨 🗊 root@xtream-To-be-filled-by-O-E-M: ~							
root@xtream-To-be-filled-by-O-E-M:~# tvheadend -C							
2010-10-08 09:55:02.110 L INF	oj Main: Log started						
2016-10-08 09:55:02.111 [INF	0] http: Starting HTTP server 0.0.0.0:9981						
2016-10-08 09:55:02.111 [INF	0] htsp: Starting HTSP server 0.0.0.0:9982						
2016-10-08 09:55:02.111 [ERRO	R] satips: usesatip_bindaddr parameter to sele						
ct the local IP for SAT>IP							
2016-10-08 09:55:02.111 [ERRO	R] satips: using Google lookup (might block the t						
ask until timeout)							
2016-10-08 09:55:02.213 [INF	0] config: loaded						
2016-10-08 09:55:02.214 [INF	0] config: scanfile (re)initialization with path						
<none></none>							
2016-10-08 09:55:02.240 [INF	0] linuxdvb: adapter added /dev/dvb/adapter1						
2016-10-08 09:55:02.500 [INF	0] linuxdvb: adapter 1 setting exlusive flag						
2016-10-08 09:55:02.528 [INF	0] linuxdvb: adapter added /dev/dvb/adapter0						
2016-10-08 09:55:02.784 [INF	0] linuxdvb: adapter 0 setting exlusive flag						
2016-10-08 09:55:02.784 [INF	0] dvr: Creating new configuration ''						
2016-10-08 09:55:02.785 INF	0] CSA: Using SSE2 128bit parallel descrambling						
2016-10-08 09:55:02 786 T THE	Ol descrambler: adding CATD 0963 as quick ECM (Sk						

7.3) Start the Firefox browser and enter the IP address of your PC and the port number 9981. You can then log into the tvheadend configuration webui.



<u>7.4</u>) Open "Networks" and enter the correct "Network name" with the product name. Unlock the required TV signal via the LNB and save these settings.

Electronic Program Guide	r Configuration	About No verifie
Ceneral Subsers DVB Inputs	inel / EPG	Bebugging
TV adapters 🐹 Networks 👰 Muxes 🔯 Se	ervices Mux Schedulers	
🕞 Save 💭 Undo 🔽 Add 🥥 Delete 📝 Edit	Horce Scan	
Network name 🔺		# Muxes
	O Add DVB-S Network	
	Basic Settings	
	Network name:	6909 S-0
	Pre-defined muxes:	Select Pre-defir
	Orbital position:	Select Orbital p
	Read-only Info Create Create Create Create	uncel

<u>7.5</u> Open "Muxes" and enter the frequencies and parameters. Save this afterwards.

Electronic Program Guide	Digital Video Recorder	Add Mux	Status	About	No verified acces	
General Series Derived	VB Inputs Char Char	Basic Settings				
Save D Undo O Add	🥥 Delete 🛛 🛃 Edit	Enabled:		Enat	le	
P Enabled	EPG scan	EPG scan:		Enat	vle (auto)	
		Scan status:		IDLE		
		Delivery system:		DVB	S	
		Frequency (kHz):		1098	8000	
		Symbol rate (Sym	/s):	4125	0000	
		Polarization:		V		
		Modulation:		Select Modulation		
		FEC:		AUT	c	
		Rolloff:		AUT	o	
		Pilot		AUT	C	
		PLS mode:		ROO	т	
		Read-only Info				
	Auto-refresh	Create	Apply	S Cancel	E. View lev	

<u>7.6</u> For "Delivery System" please save "DVBS2" and for "Modulation" please save "PSK / 8".

 Basic Settings 					
Enabled:					
EPG Scan:	Enable (auto)	Y			
Scan Status:	IDLE	Y			
Delivery System:	DVBS2	Y			
Frequency (kHz):	12500000				
Symbol Rate (Sym/s):	7200000				
Polarization:	V	~			
Modulation:	PSK/8	۲			
FEC:	5/6	Y			
Rolloff:	AUTO	Y			
ISI (Stream ID):	-1	104.0			
PLS Mode:	ROOT	Y			
PLS Code:	1	in the second			

<u>7.7</u>) Enter the TV adapter, select the LNB port you want to use, open TurboSight and set the reference card to save.

📴 Electronic Program Guide 🛛 🏝 Digital Video Recorder 🗍 🌽 Configuration 🗎 💿 Sk	About No verified access (login) Storage s	pace: 100GiB/0/112GiB 下午2:25:28
💥 General 👩 Users 🛛 🖬 DVB Inputs 🛛 🎽 Channel / EPG 🛛 🛃 Stream 🛛 🤹 R	a 🛛 🞯 Debuggina	
📷 TV adapters 🛛 🦹 Networks 🛛 🕖 Muxes 🛛 🔯 Services 🛛 🐯 Mux Schedulers 🖉		
🗟 🔂 TV adapters	Parameters	
Contraction of the state of the	A Basic Sattings	
TurboSight TBS 6909 DVB-S/S2 : DVB-S#0	C. Milely Skilling	1
Iden (de beladastar) Turbe Siebt TRS 6000 DVR 5/61	Enabled:	
Control Solution Control Contro Control Control Control Control Control Control Control Control C	Name:	TurboSight TBS 6909 DVB-S/S2 : DVB-S #0
Be Universal LNB only	Over-the-air EPG	2
🗃 😋 /dev/dvb/adapter2 (TurboSight TBS 6909 DVB-S/S2	Downer source	
🗟 📇 TurboSight TBS 6909 DVB-S/S2 : DVB-S #0	Planet Sale	
🖉 🔤 Universal LNB only	Satellite config:	Advanced (non-universal LNBs, rotors, etc.)
👜 😋 /dev/dvb/adapter3 [TurboSight TBS 6909 DVB-S/S2	Master tuner:	Universal LNB only
TurboSight TBS 6909 DVB-S/S2 : DVB-S #0		2-Port switch (universal LNB)
en Universal LNB only	Read-only info	4-Port switch (universal LNB)
//dev/dvb/adapter4 [TurboSight TBS 6909 DVB-S/S2		Unicable switch (universal LNB, experimental)
Iurbosight TBS 6909 DVB-S/S2 : DVB-S #0		Advanced (non-universal LNBs, rotors, etc.)
An and the state of the state o		
Grad And A Contract and A Contr		
Inversal LNB onv		
🖃 🗁 /dev/dvb/adapter6 [TurboSight TBS 6909 DVB-S/S2		
A Contraction Cont	Save	📰 View level: Basic 🔹

7.8) Click "Advance" and then "Save" to save the settings.



7.9) Click "Position # 1" and add the settings provided by the network channel. Save it afterwards.



<u>7.10</u> Open "Networks" and then click on "Force Scan" to lock TV channels.

Image: Service
Ceneral DVB Inputs Channel / EPG Stream Recording Debugging Image TV adapters Image Nuxces Image Services Image Nux Schedulers Image Services Image Nuxces Image Services Image Nux Schedulers Image Services Image Services Image Services Image Nux Schedulers
iege TV adaptors 👔 Networks 💯 Muxes 🔯 Services 😇 Mux Schedulers
🕞 Seire 🥥 Unds 🛛 🔕 Add 🥥 Delete 🛛 📓 Edit 📸 Force Scen
Network name 🔺 🕴 Muxes 🕴 & Services 🗰 # Mapped channels
6909S-0 2 11 0

<u>7.11</u> Open "Services". Here you can stream all the TV programs you want live. Also look at "Map services".

E	lectroni	ic Program	Guide	er 🖉 Configuration 💽 Status	About No verified access (login) Storage space: 100GiB/
XG	eneral	Use Use	rs M DVB Inputs Cha	nnel / EPG	rding 🛛 🥶 Debugging
T (Real	V adap	ters	Networks 🤯 Muxes 💽 S	ervices Mux Schedulers	
a s	ave a	Undo	🔘 Delete 📄 Edit Hide:	Parent disabled 💌 📓 Map services	s •
Play	Det	Enabl C	Channel	Service name 🔺	Encr Network
0				BEIJING	6909S-0
0	0			Map services to channels	(m)
0		1			
0	0			Services'	69095-0/10988V/CCTV 4 69095-0/10988V/CCTV
0	0				60095-0/10989V/RELINIG
0				Map encrypted services:	04043-0110488V/CCD/ 4
0				Merge same name:	
0	0			-	09095-0/10988V/CCTV NEWS
0	0	V		Cancel Map services	09095-0/10988V/CCTV OPERA
0	0				V 69095-0/10988V/FUJIAN
O	0	1		XIAMEN	0 69095-0/10988V/GUANGDONG
					69095-0/10988V/HUNAN
					6909S-0/10988V/JIANGSU
					6909S-0/10988V/SHANGHAI
				1210 C	6909S-0/10988V/SHENZHEN
14 -	Pa	ge 1 of	1 👂 🕅 🧬 Auto-refresh		6909S-0/10988V/XIAMEN

If you want to work with Tuner 1 to Tuner 7, please set the correct configuration. Use the parameters according to steps 7.4 - 7.11.

7.12) Unicable mode settings

General 🖉 Access Entries 🕽 DVB Inputs 🛗 Channel / EPG 🕏 Stream 🧔 Recording	2 CAs 😂 Debugging					
TV adapters 👔 Networks 🛛 🐼 Muxes 🛛 🖾 Services 🛛 😇 Mux Schedulers						
TV adapters	Parameters	Parameters				
Turbo Sight TBS 6909 DVB-SIS2 : DVB-S #0	- Basic Settings					
Unicable Switch (Universal LNB)	Enabled:					
ar and a second a se	Name:	TurboSight TBS 6909 DVB-S/S2 : DVB-S	 #0			
- less Unicable Switch (Universal LNB)	Over-the-air EPG:	V				
Gevidvbladapter2 [TurboSight TBS 6909 DVB-S/S2]	Berner Const					
ian Universal LNB only	SatConfig:	Unicable Switch (Universal LNB)				
B / dev/dvb/adapter3 (TurboSight TBS 6909 DVB-8/S2)			0			
an Universal LNB only	 Advanced Settings 					
a 😋 /dev/dvb/adapter4 [TurboSight TBS 6909 DVB-S/S2]	Priority:	0				
G CTUrboSight TBS 6909 DVB-S/S2 : DVB-S#0	Streaming Priority:	0				
Conversal LNB only	Initial Scan:					
□ TurboSight TBS 6909 DVB-S/S2 : DVB-S #0	Idle Scan:	<u>[9]</u>				
- an Universal LNB only	Linked Input:	Not Linked	2			
a 😑 /dev/dvb/adapter8 [TurboSight TBS 6909 DVB-5/52]	Maximum PIDs :	32				
B I urodeight i Belosus DVB-ala2: DVB-al#0	and the second se					



7.13) Further steps to be taken: 7.4 and 7.5, 7.9 and 7.11

8. Astra manual

8.1) Connect the satellite cable to the LNB.

•

8.2) Install the Astra software and open the program.

😣 🖨 💿 🛛 root@zwh-desktop: ~	
zwh@zwh-desktop:~\$ sudo -s [sudo] password for zwh:	
root@zwh-desktop:~# astra -c /etc/astra/test.json -p 8010daemon	
footwzwi-deskcop.~#	

8.3) Start the Firefox browser and enter the IP address of your PC and the port number 8010. You can then log into the astra configuration webui

🙆 🖨 🗊 Ast	ra Control P	anel - Mozill	a Firefox			
Astra Cont	r <mark>ol Panel</mark>	× +				
() () 192.4	168.8.30:8010)/#/adapter/a	001			
Astra 5.61	Streams	Adapters	Softcam	Sessions	Settings	Log

8.4) Create a new "adapter" and then set the right satellite TV signal and frequency parameters over LNB. Then click on "Apply".

• ① 192.·	168.8.30:8010	/#/adapter/0			C Q Sear	ch
stra 5.61	Streams	Adapters	Softcam Sessions	Settings Log		
		Enable				
		Name *	6909S-0			
		Adapter*	0.0 : TurboSight T	BS 6909 DVB-S/S2 [00:22:A	B:91:43:88]	Refresh
		DVB-S2				
		TP*	10988	Vertical	41250	
	Advan	ced Options				

8.5) Save "DVB-S2".

Ena	able 👩			_
Na	ame* 6909-0			
Adaj	pter* 0.0 : TurboSight TBS	\$ 6909 DVB-S/S2 [00:22:AB:91:5E:60]		Refresh
DVB	3-S2 👩			
	TP* 12660	Vertical	45000	
Advanced Onti	ons			
Advanced Opti	128 T 111			
Advanced opti-	Save	Apoly Back Scan		
Advanceu Opin	Save Signal CARRIER FE	Back Scan		Kbit/s
Sta Sig	Save SiGNAL CARRIER FE	Apply Back Scan		Kbit/s

<u>8.6</u>) Open "Adapters" again. When the LNB signal display appears, the configuration was successful. Click it and you come to the operation interface.

🥹 🗇 🔍 Astr	ra Control P	anel - Mozilla	a Firefox						
Astra Contr	ol Panel	× +							
() 192.1	168.8.30:8010	/#/adapter						Ct	Search
Astra 5.61	Streams	Adapters	Softcam	Sessions	Settings	Log	Search		
					69095-0				
					BER:0 UN	IC:0	LOCH	ĸ	
					BER:0 UN	1C:0	LOC	K	

8.7) Open "Adapters" to scan TV channels. Then select the programs you want to see and save with "Save".

Astra 5.61 Streams	Adapt	ers Softcam	Sessions	Settings Log			
Rer	nove Ada	apter 📄 Save	Ap	ply Bad	ck So	an	
	Si	atus SIGNAL C gnal 52% SNR 64%	ARRIER FEC	SYNC LOCK BI	ER:0 UNC:0		115Kbit/s
CCTV 4 PNR: 1	TV FTA	CCTV NEWS PNR: 2	TV FTA	CCTV OPERA PNR: 3	TV FTA	BEIJING PNR: 101	TV FTA
JIANGSU PNR: 103	TV FTA	HUNAN PNR: 104	TV FTA	FUJIAN PNR: 105	TV FTA	XIAMEN PNR: 106	TV FTA
				SHENZHEN PNR: 108	TV FTA		

8.8) Save all selected TV channels. You will find these under "Streams". Then set the output protocol (Output # 1) according to your wishes and save with "Apply".

€) ① 192.	168.8.30:8010/#/stream	/a002				C
Astra 5.61	Streams Adapter	s Softcam Se	ssions Settings Lo	B		
	19	Enable	CCTV 4 Single Program Stream			
		Name *				
		Type *				
			INPUT LIST			
Input #1 dvb://a001#pnr=1						
		OUTPUT LIST				
		Output #1	UDP/RTP	HTTP	NP	File
			Enable			
	URL [http://192.168.8.30:1245]					
		-	Remove Outpu	t O		
	Ac	lvanced Options				
		-				
		Hemove Stream				
			Apply Ba	ick		