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| v1A | 16 April 2015 | | Links Updated, New Version of BDADataEx software used |
| v1B | 29 April 2015 | | Tuner Frequency changed |
| v1C | 17 February 2016 | | New DVB Windows driver used (§3.2, p7), EUMETCast Europe PID table updated (§4.2e, p14), C-Band Africa IPTool Configuration added (§4.4, p17) |
| v1D | 18 February 2016 | | Paragraph structure updated (§4.4, p17) Tellicast Setup Updated (§6.1, §6.3, pp30-31) |
| v2 | 15 March 2016 | | New TBS-6903 device added (§1, p5) Prerequisites Updated (§2, p6) New IPTool software Version used (§4, p11) |



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1 INTRODUCTION

The purpose of this manual is to guide a user through the minimum necessary steps to allow the reception of EUMETCast data (DVB-S2) on the TBS-6903/TBS-6908 satellite receivers.



Figure 1 TBS-6903 Receiver

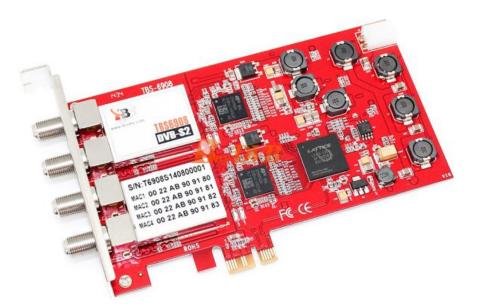


Figure 2 TBS-6908 Receiver

Please refer also to TBS "TBS Devices Manual_Version xxx" for more details, it is provided at the following link:

http://www.tbsdtv.com/download/document/common/tbs-quick-install-guide.zip



2 PREREQUISITES

Before performing the configuration please ensure the following steps have been addressed:

- A PC that covers the recommended technical specifications (see <u>TD15</u>: <u>EUMETCast Reception Sation Requirements – PC Hardware Specifications</u>). If the HVS is enabled PC RAM should be > 4 Gb.
- A PCIe slot port is available for connecting the receiver;
- Operating System is compliant;
- Internet explorer 7 and higher, Firefox 3 and higher or any other compatible browser;
- Administrator or Root access to the reception host system;
- The EUMETCast antenna pointing has been performed correctly to EUTELSAT10A for DVB-S2 reception. (For DVB-S2 reception the antenna pointing and LNB quality are crucial);
- An EKU has been obtained from the EUMETSAT user help desk;
- The reception host has the latest EUMETCast reception software installed;

3 DEVICE INSTALLATION

3.1 Physical Connections

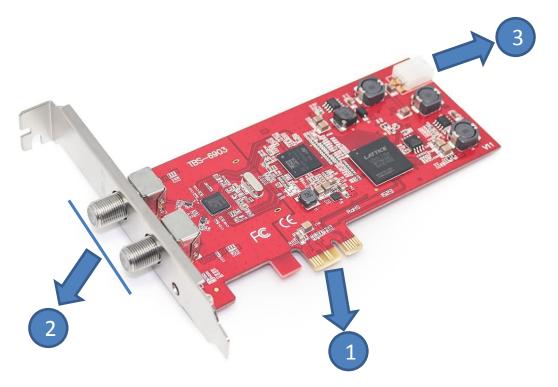


Figure 3 TBS-6903 Connectors



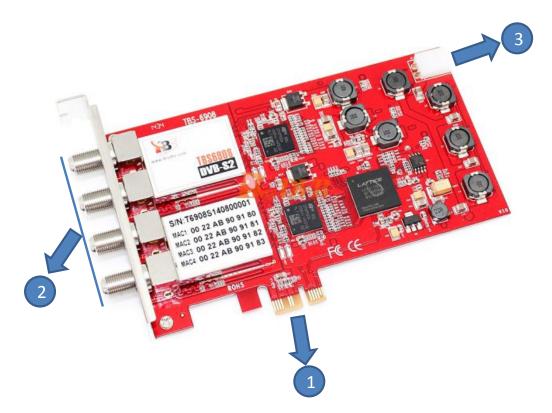


Figure 4 TBS-6908 Connectors



Figure 5 TBS-6903/6908 Power Cable



The connectors used in the TBS-6903/TBS6908 device configuration are described in the following table:

| Number | Connector |
|--------|-----------------------|
| 1 | PCIe 1.x Connector |
| 2 | RF In |
| 3 | Power Cable Connector |

- Plug-in the connector 1 to a free PCIe slot of your PC ;
- Connect the antenna cable to one of the four connectors 2;
- Connect the Power Cable Connector 3 to the power using the TBS-6908 power cable (Figure 3)
- Install the windows drivers (see paragraph 3.2);
- Install and Configure IP Tool (see paragraph 4);
- Instead of IP tool you can use BDADataEx (see paragraph 5)
- Configure Tellicast (see paragraph 4.1);

Notes:

- i. On TBS-6903/6908 to get adapter 0 use the lower plug.
- ii. The external power plug is optional. It needs to be used in very rare cases when there is no enough power from PCIe slot. (The LNB Input on TBS cards can provide 450mA. If the user has only LNB connected on the coaxial cable, then the external power is not needed as one LNB is on average 100mA. If there are things like motor, DiSEqC devices on the same coaxial cable, then the power consumption can go up and external power be needed).

3.2 Windows Drivers Installation

a) You can find the latest windows driver at tbsdtv web site :

http://www.tbsdtv.com/download/

The version used for EUMETSAT testing the TBS-6903 card was v.1.0.0.3,, for the TBS-6908 card was v.1.0.0.6.

b) Run the driver installer (TBS_69xx_driver_setup.exe)

B TBS_6908_driver_setup = Double Click and run

c) In case you get a security message, select "Yes"



| ۲ | | User A | ccount Cont | rol | × |
|----|-----------|--|---|------------------|----------------|
| | | u want to allow es to this comp | | ng program t | o make |
| | 18 | Program name: Verified publisher: File origin: | TBS 6908 drive SHENZHEN TU CO,.LTD Hard drive on t | IRBOSIGHT TEC | CHNOLOGY |
| Sh | ow detail | s | | Yes | No |
| | | | <u>Change w</u> | hen these notifi | cations appear |

d) Select the preferred language to use during the installation

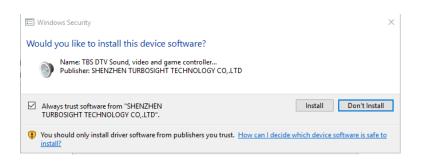
| | Select Setup Language | × |
|----------------|---|---|
| 1 8 | Select the language to use during the installation: | |
| | English | ~ |
| | OK Cance | 1 |

e) Select "Next" & "Install" to start the installation

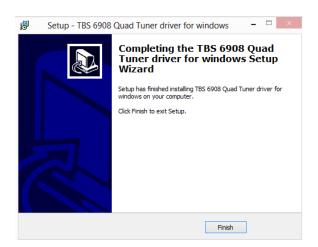
| 📳 Setup - TBS 6908 Quad Tur | ner driver for windows — 🗆 🗙 | 😥 Setup - TBS 6908 Quad Tuner driver for windows 🗧 | □ × |
|-----------------------------|--|--|--------|
| | Welcome to the TBS 6908 Quad Tuner driver for windows Setup Wizard This will install TBS 6908 Quad Tuner driver 1.0.0.6 for windows on your computer. It is recommended that you dose all other applications before | Ready to Install Setup is now ready to begin installing TBS 6908 Quad Tuner driver for windows on your computer. Click Install to continue with the installation. | |
| | continuing. Click Next to continue, or Cancel to exit Setup. | | |
| | Circl Next & contribue, or Carrier to exit setup. | | |
| | Next > Cancel | < Back Install | Cancel |

f) In case you get a security message, select "Always trust" and "Install"





g) Select "finish". You have now installed the drivers for the TBS-6908 device



- h) You can now see the TBS-6908 under the Windows Device Manager :
- Image: Second Disk drives
 Display adapters DVD/CD-ROM drives Floppy disk drives Floppy drive controllers Human Interface Devices DE ATA/ATAPI controllers Keyboards Mice and other pointing devices Monitors Network adapters
 Ports (COM & LPT) Print queues Processors Smart card readers Software devices a 🐗 Sound, video and game controllers 🐗 TBS 6908 Quad DVBS/S2 BDA Tuners Storage controllers System devices 🏺 Universal Serial Bus controllers Þ



4 CHANNEL TUNING USING IP TOOL

4.1 IP Tool installation

a) You can find the latest IPTool software at tbsdtv web site :

http://www.tbsdtv.com/download/

The version used for EUMETSAT testing was v.3.0.4.9

i) Run the IP Tool installer

B TBS_IP_TOOL_V3.0.4.9.exe Couble Click and run

j) Select the preferred language to use during the installation

| | Select Setup Language | × |
|---|---|---|
| 1 | Select the language to use during the installation: | |
| | English | ~ |
| | OK Cancel | |

k) Select "Next" to start the Installation & then "Next" again to select the installation directory :

| 😽 Setup - TBS IP Tool | – 🗆 X | 🔂 Setup - TBS IP Tool | - | × |
|-----------------------|---|--|---------------|--------|
| | Welcome to the TBS IP Tool Setup Wizard | Select Destination Location Where should TBS IP Tool be installed? | | |
| | This will install TBS IP 3.0.4.9 on your computer. | Setup will install TBS IP Tool into the following folder. | | |
| | It is recommended that you close all other applications before continuing. | To continue, click Next. If you would like to select a different folder, | click Browse. | |
| | Click Next to continue, or Cancel to exit Setup. | CA/Program Files\TBS IP | Browse | |
| | Next > Cancel | At least 0.7 MB of free disk space is required. | t> | Cancel |

1) Select "Next" to create the programs shortcut & "Install" to continue the installation :



| 🐉 Setup - TBS IP Tool - 🗆 🗙 | 😼 Setup - TBS IP Tool — 🗆 🗙 |
|--|---|
| Select Start Menu Folder Where should Setup place the program's shortcuts? | Ready to Install Setup is now ready to begin installing TBS IP Tool on your computer. |
| Setup will create the program's shortcuts in the following Start Menu folder. | Click Install to continue with the installation, or click Back if you want to review or change any settings. |
| To continue, click Next. If you would like to select a different folder, click Browse. | Destination location: C:\Program Files\TBS IP Start Menu folder: TBS IP |
| < Back Next > Cancel | < Back Install Cancel |

m) In case you get a security message, select "Always trust" and "Install"

| 📰 Windows Security | × |
|---|----------|
| Would you like to install this device software? | |
| Name: TBS Technologies Co,.Ltd Network adapter Publisher: Shenzhen Turbosight Technology Co,.Ltd | |
| Always trust software from "Shenzhen Turbosight Install Don't Install Don't Install | |
| You should only install driver software from publishers you trust. <u>How can I decide which device software i safe to install?</u> | <u>s</u> |

n) Select "finish". You have now installed the TBS IP TOOL for the TBS-6925/6983 device





4.2 IP Tool Ku Band Europe Configuration

a) Run the IP Tool software



Note: After the double-click, you may get a security warning, which you should accept.

b) Select the used DVB Device and "OK"

| | TBS | Data Se | ervice | e: Sel | ect De | evice | × |
|------------|--------------|--------------------------------------|----------------|----------------|--------|-------|-----|
| Devic | e: | | | | | | |
| TBS TBS | 6908 6908 | DVBS/S DVBS/S DVBS/S DVBS/S | 2 Tun 2 Tun | ier 3 ier 1 | | | |
| | | | | | | | |
| | | | | (| ОК | Can | cel |

c) Input the correct parameters into *Tuner Setting*, and select *Lock TP*. When you have a signal lock the device LOCK LED lights green.

The following settings should be entered:

- Select: Eutelsat W2A (10.0E) Satellite
- Frequency: 11262.500 MHz
- Polarity: Horizontal
- Symbol rate: 33000 KSps
- Press: "Add"
- Press: "Save"
- Code: 0, Code Type: Root Code and then press "Set"



| ITBS 6908 DVBS/S2 Tuner 3 - Version: 3.0.4.9 - □ × |
|--|
| TBS Data Services |
| Tuner Setting MAC Filter IP Over DVB Motor/Positioner |
| Satellite: 0100 Eutelsat W2A (10.0E) |
| LOF 1: 9750 LOF 2: 10600 Switch: 11700 Diseqc: Diseqc NUL ▼ If GoldCode need to be set,Please input it here. |
| Code: 0 Code Type: Root Code 💌 Set |
| Set MODCODES Lock TP |
| Strength 83 Quality 90 SNR: 13.000000 dB Option LockStatus LOCKED |
| BER: 0.000000 bps Option LOCKED |
| Input Stream Identify: 1 Apply |

- Now press "Lock TP" to lock the signal.



 d) Click the *Set MODCODs* button, and then select the MODCODs you want to receive. For Basic Service (BS) select 8PSK_3/5 and for High Volume Service (HVS) select 16APSK 2/3. Select *OK*

| ▼ TBS 6908 DVBS/S2 Tuner 3 - Version: 3,0,4,9 - □ × | Select Mode Code | | | |
|---|------------------|------------|--------------|-------------|
| TBS Data Services | QPSK_1/4 | QPSK_4/5 | E 8PSK_5/6 | 16APSK_8/9 |
| Satellite: 0100 Eutelsat W2A (10.0E) | QPSK_1/3 | QPSK_5/6 | BPSK_8/9 | 16APSK_9/10 |
| LOF 1: 9750 Transponder: 11263,H,33000 - | QPSK_2/5 | QPSK_8/9 | 8PSK_9/10 | 32APSK_3/4 |
| LOF 2: 10600 Frequency: 11263 MHz Switch: 11700 Polarity: Horizont - | QPSK_1/2 | QPSK_9/10 | ✓ 16APSK_2/3 | 32APSK_4/5 |
| Diseqc: Diseqc NUL SymbolRate: 33000 KSps | QPSK_3/5 | ✓ 8PSK_3/5 | 16APSK_3/4 | 32APSK_5/6 |
| Add Save Delete | QPSK_2/3 | 8PSK_2/3 | 16APSK_4/5 | 32APSK_8/9 |
| If GoldCode need to be set. Please input it here. Code: 0 Code Type: Root Code Set | QPSK_3/4 | 8PSK_3/4 | 16APSK_5/6 | 32APSK_9/10 |
| Set MODCODES Lock TP | | | ш | |
| © Strength 83 | | ОК | Can | cel |
| C Quality 90 | | | | |
| SNR: 13.000000 dB BER: 0.000000 bps Option LockStatus LOCKED Image: Contract of the second sec | | | | |
| Input Stream Identify: 1 Apply | | | | |

- e) After setting the MODCODS filters, press "Lock TP" to lock the signal again and then click on the "IP Over DVB". Add the selected PIDs :
- Ensure the Hex box is unchecked.
- Enter a PID value starting with 100 in the PID value box, and press the Insert PID button. It should appear in the Selected PIDs list.
- Repeat this for all the remaining PIDs you need, typically: 300, 301, 500, 509, 511, 600 & 601 (600 & 601 are for the HVS).

| TBS 6908 DVBS/S2 Tuner 3 - Version: 3,0,4,9 - - × TBS Data Services |
|---|
| Tuner Setting MAC Engl IP Over DVB Motor/Positioner Status: Device Opened Successfully |
| Active PIDs: Selected PIDs: PID Type MAC 100 301 301 509 511 600 601 Remove Pid Remove Pid |
| Rate: 31.518318 M bps Show all active PIDs Packet Received: 3719.362011 M Bytes |
| Image: Constraint of the strength of the stre |
| SNR: 13.100000 dB BER: 0.000000 bps Option LockStatus LOCKED Image: Content of the state of the |
| Input Stream Identify: 1 Apply |



f) Virtual MPE Decoder Adapter Configuration.

We now need to define the network address of the virtual network card presented by the software so that TelliCast knows where to find its data

Open "Network & sharing Center". Go to "Change adapter Settings". Double Click on the "Virtual MPE Decoder Adapter" and select properties.

| - Local Anna Constant C | | Local Area Connection 6 Stat | us 🔀 |
|---|--------------|------------------------------|--------------------|
| Local Area Connection 6 Unidentified network | Double Click | General | |
| Virtual MPE Decoder Adapter | | Connection | |
| | | IPv4 Connectivity: | No Internet access |
| | | IPv6 Connectivity: | No network access |
| | | Media State: | Enabled |
| | | Duration: | 00:40:03 |
| | | Speed: | 100.0 Mbps |
| | | Details | |
| | | Activity | |
| | | Sent | Received |
| | | Packets: (| |
| | | Properties 👔 🛞 Disable | Diagnose |
| | | | Close |

g) Change the IP address to 192.168.238.238 and the subnet mask to 255.255.255.0

| Local Area Connection 6 Properties | Internet Protocol Version 4 (TCP/IPv4) Properties ? General |
|--|---|
| Connect using: Image: Configure Con | You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. |
| | Use the following IP address: IP address: IP address: Subnet mask: 255 . 255 . 0 Default gateway: Obtain DNS server address automatically |
| Install Uninstall Properties Description Allows your computer to access resources on a Microsoft network. | Use the following DNS server addresses: Preferred DNS server: Alternate DNS server: Validate settings upon exit |
| OK Cancel | OK Cancel |

Note: It is suggested to uncheck all the items in the items list, except Internet Protocol Version 4 (TCP/IPv4). This may reduce the load on the network "card".



4.3 **Disabling the High Volume Service**

To disable the High Volume Service (HVS) and receive only the Basic Service (BS) change the "Set MODCODES" selecting only "8PSK,3/5" and click on "Apply settings". (see 4.2 d)

| Select Mode Code × | | | | |
|--------------------|-----------|------------|-------------|--|
| QPSK_1/4 | QPSK_4/5 | 8PSK_5/6 | 16APSK_8/9 | |
| QPSK_1/3 | QPSK_5/6 | 8PSK_8/9 | 16APSK_9/10 | |
| QPSK_2/5 | QPSK_8/9 | 8PSK_9/10 | 32APSK_3/4 | |
| QPSK_1/2 | QPSK_9/10 | 16APSK_2/3 | 32APSK_4/5 | |
| QPSK_3/5 | 8PSK_3/5 | 16APSK_3/4 | 32APSK_5/6 | |
| QPSK_2/3 | 8PSK_2/3 | 16APSK_4/5 | 32APSK_8/9 | |
| QPSK_3/4 | 8PSK_3/4 | 16APSK_5/6 | 32APSK_9/10 | |
| T ALL | | | | |
| | ОК | Cano | cel | |

4.4 IP Tool C-Band Africa Configuration

a) Run the IP Tool software



Note: After the double-click, you may get a security warning, which you should accept.

b) Select the used DVB Device and "OK"



| TBS Data Service: Select Device | × |
|--|---|
| Device: | |
| TBS 6908 DVBS/S2 Tuner 2 TBS 6908 DVBS/S2 Tuner 3 TBS 6908 DVBS/S2 Tuner 1 TBS 6908 DVBS/S2 Tuner 0 | |
| OK Cancel | |

c) Input the correct parameters into *Tuner Setting*, and select *Lock TP*. When you have a signal lock the device LOCK LED lights green.

The following settings should be entered:

- Select: Atlantic Bird 3 (5.0W) Satellite
- Frequency: 3732 MHz
- Polarity: Horizontal
- Symbol rate: 11963 KSps
- Press: "Add"
- Press: "Save"
- Code: 0, Code Type: Root Code and then press "Set"

| TBS Data Services |
|---|
| Tuner Setting AC Filter P Over DVB Motor/Positioner |
| Satelite: 3550 Atlantic Bird 3 (5.0W) |
| LOF 1: 5150 LOF 2: 0 Switch: 0 Diseqc: Diseqc NUL▼ YmbolRate: 11963 Add Save Delete If GoldCode need to be set.Please input it here. Code: 0 Code: 0 Code: 0 |
| Set MODCODES Lock TP |
| C Quality 33 |
| SNR: 9.100000 dB BER: 0.000000 bps Option LockStatus LOCKED Image: Control of the state of the s |
| Input Stream Identify: Apply |

- Now press "Lock TP" to lock the signal.



d) Click the *Set MODCODs* button, and then select the MODCOD QPSK_2/3. Select *OK*

| TBS Data Services |
|--|
| Tuner Setting MAC Filter IP Over DVB Motor/Positioner |
| Satelite: 3550 Atlantic Bird 3 (5.0W) |
| LOF 1: 5150 Transponder: 3732.H.11963 T LOF 2: 0 Switch: 0 Disegc: Disegc NUL SymbolRate: 11963 KSps Add Save Delete |
| If GoldCode need to be set, Please input it here. |
| Code: 0 Code Type: Root Code Z Set |
| C Strength 60 C Quality 33 |
| SNR: 9,100000 dB BER: 0.000000 bps Option LockStatus LOCKED Image: Control of the status |
| Input Stream Identify: Apply |

| Select Mode Code | 2 | | X |
|------------------|-----------|------------|-------------|
| QPSK_1/4 | QPSK_4/5 | 8PSK_5/6 | 16APSK_8/9 |
| QPSK_1/3 | QPSK_5/6 | 8PSK_8/9 | 16APSK_9/10 |
| QPSK_2/5 | QPSK_8/9 | 8PSK_9/10 | 32APSK_3/4 |
| QPSK_1/2 | QPSK_9/10 | 16APSK_2/3 | 32APSK_4/5 |
| QPSK_3/5 | 8PSK_3/5 | 16APSK_3/4 | 32APSK_5/6 |
| QPSK_2/3 | 8PSK_2/3 | 16APSK_4/5 | 32APSK_8/9 |
| QPSK_3/4 | 8PSK_3/4 | 16APSK_5/6 | 32APSK_9/10 |
| | T ALL | | |
| | ОК | Cancel | |
| | | | |

- e) After setting the MODCOD filter, press "Lock TP" to lock the signal again and then click on the "IP Over DVB". Add the selected PIDs :
- Ensure the Hex box is unchecked.
- Enter a PID value starting with 100 in the PID value box, and press the Insert PID button. It should appear in the Selected PIDs list.
- Repeat this for all the remaining PIDs you need, typically: 300, 301 and 511.

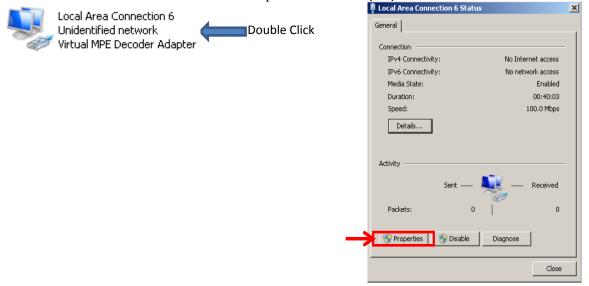
| Tuner Setting Status: | MAC Filter IP Over DVE | | |
|---|------------------------|----------------------------|---|
| Active PIDs: | , | Selected PIDs: | |
| PID Type | e MAC | > 100 300 301 511 | Hex PID value: 100 Insert Pid Remove Pid |
| Show all | | | 54109 M bps 3.666184 M Bytes |
| | 60 | | |
| Strength Quality | 34 | | |
| © Quality | 00000 dB | ption LockStatus | |



f) Virtual MPE Decoder Adapter Configuration.

We now need to define the network address of the virtual network card presented by the software so that TelliCast knows where to find its data

Open "Network & sharing Center". Go to "Change adapter Settings" . Double Click on the "Virtual MPE Decoder Adapter" and select properties.



g) Change the IP address to 192.168.238.238 and the subnet mask to 255.255.255.0

| Local Area Connection 6 Properties | Internet Protocol Version 4 (TCP/IPv4) Properties |
|---|---|
| Networking Sharing | General |
| Connect using: | You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. |
| Configure This connection uses the following items: | C Obtain an IP address automatically |
| Glient for Microsoft Networks Section 2 State Stat | Use the following IP address: IP address: 192 . 168 . 238 . 238 |
| Arroadcom Advanced Server Program Driver Internet Protocol Venion C (TCP/(P),C) | Subnet mask: 255 . 255 . 255 . 0 |
| 🗹 🔺 Internet Protocol Version 4 (TCP/IPv4) | Default gateway: |
| Link-Layer Topology Discovery Mapper 170 Driver Link-Layer Topology Discovery Responder | C Obtain DNS server address automatically |
| | Use the following DNS server addresses: |
| Install Uninstall Properties | Preferred DN5 server: |
| Description Allows your computer to access resources on a Microsoft | Alternate DNS server: |
| network. | Validate settings upon exit Advanced |
| OK Cancel | OK Cancel |

Note: It is suggested to uncheck all the items in the items list, except Internet Protocol Version 4 (TCP/IPv4). This may reduce the load on the network "card".



5 CHANNEL TUNING USING BDADATAEX

As an alternative to the TBS IP Tool, a generic IP tool made by CrazyCat can be used. It works with many DVB devices. The choice is up to the users.

5.1 **BDADataEx installation**

You can find the latest BDADataEx software at the CrazyCat BDADataEx web site:

http://crazycatlab.sat-fishers.com/bdadataex.html

The version used for EUMETSAT testing was v.1.1.2.1240

- a) Download / unzip BDADataEx.exe and Common files BDADataEx (Tap-Win32driver, dll, sounds) on your disk
- b) Under the tap-win-dvb subdirectory there are two directories (i386 and amd64). If your system is a 32bit WIN OS go to the i386 otherwise if it is a 64bit WIN OS go to the amd64.
- c) Install the TAP drivers

install.cmd — Double Click and run

d) If you see a Security Warning just click "Yes"



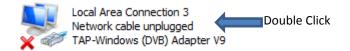


5.2 Windows Emulated Network Adapter Configuration

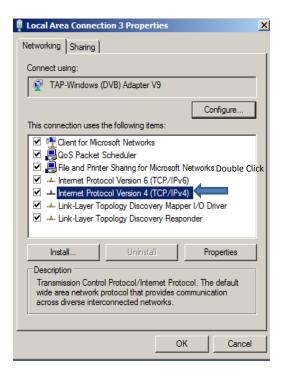
a) Open Network & Sharing Center & select "Change adapter settings"

| Network and Sharing Center | | | | | |
|----------------------------------|--|---------------------|------------------------------|---------------|-------------------------|
| 📀 🗢 😨 🔹 Control Panel 🗸 All C | Control Panel Items 👻 Network and Shar | ing Center 🛛 🔻 | Search (| Control Panel | <u> 2</u> |
| Control Panel Home | View your basic network inform | ation and set up co | nnections | | 0 |
| Change adapter settings | ių —— | —] p | | - 🎱 | See full map |
| Change advanced sharing settings | DAWBEE-PC1 (This computer) | Network | | Internet | |
| | View your active networks | | | | - Connect or disconnect |
| | Network Work network | | Access type: Connections: | Internet | Connection |

b) Double click on TAP Network Connection. We will define the network address of the virtual network card presented by the software so that TelliCast knows where to find its data.



c) Double click on the "TCP/IPv4"





d) Use 192.168.238.238 for IP address & Subnet Mask 255.255.255.0 and click OK. Close the main Local Area Connection Properties window by clicking on "OK"

| et Protocol Version 4 (TCP/IP | v4) Properties | ? × |
|--|-----------------------|-----|
| eral | | |
| u can get IP settings assigned autor s capability. Otherwise, you need to the appropriate IP settings. | | |
| O Obtain an IP address automatica | ally | |
| • Use the following IP address: | | |
| IP address: | 192 . 168 . 238 . 238 | |
| Subnet mask: | 255.255.0 | |
| Default gateway: | | |
| Obtain DNS server address auto | matically | |
| Use the following DNS server ad | dresses: | |
| Preferred DNS server: | | |
| Alternate DNS server: | | |
| Validate settings upon exit | Advanced | d |
| | | |

| Local Area Connection 3 Properties | X | | |
|--|---|--|--|
| Networking Sharing | | | |
| Connect using: | | | |
| TAP-Windows (DVB) Adapter V9 | | | |
| Configure | 1 | | |
| This connection uses the following items: | - | | |
| Glient for Microsoft Networks GoS Packet Scheduler GoS Packet Scheduler GoS Intermet Protocol Version 6 (TCP/IPv6) fintermet Protocol Version 4 (TCP/IPv4) A Intermet Protocol Version 4 (TCP/IPv4) | | | |
| Install Uninstall Properties | | | |
| Description Allows your computer to access resources on a Microsoft network. | | | |
| OK Cancel | | | |

5.3 BDADataEx Configuration

5.3.1 Automatic Configuration

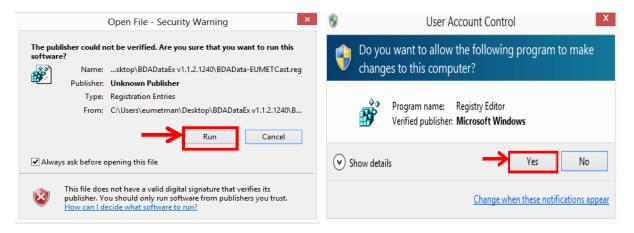
a) Download the BDAData-EUMETCast.reg file from the EUMETSAT ftp site :

ftp://ftp.eumetsat.int/pub/OPS/out/user/EUMETCast_Support/EUMETCast_Licence_cd/Win
dows/DVB_devices/TOOLS/

b) Double click on the BDAData-EUMETCast.reg file.

BDAData-EUMETCast.reg Double Click and run

c) If you see the following security messages just click "Run" and "Yes"





d) On the "Registry Editor" Window click on "YES"

| | Registry Editor |
|----------|---|
| <u>^</u> | Adding information can unintentionally change or delete values and cause components to stop working correctly. If you do not trust the source of this information in C:\Users\eumetman\Desktop\BDADataEx v1.1.2.1240\BDAData-EUMETCast.reg, do not add it to the registry. |
| | Are you sure you want to continue? |
| | Yes No |

e) If settings successfully added to the registry, you get the following message. Click then on "OK".

| 0 | Registry Editor × | |
|---|---|--|
| 0 | The keys and values contained in C:\Users\eumetman\Desktop\BDADataEx v1.1.2.1240\BDAData-EUMETCast.reg have been successfully added to the registry. | |
| | ОК | |

f) Start the BDADataEx program

🐶 BDADataEx.exe 🛑 Double Click and run

g) Select the used DVB Device and then Click on "OK". You can also select that this would be the

"Default device".

| Choose Device | | | |
|---|--|--|--|
| Devices found : | | | |
| 4: TBS 6908 DVBS/S2 Tuner 0 - Satellite | | | |
| Default device OK Cancel | | | |

 h) In the pop up window and in the first TAB "Status/Tuner" select the needed Service. (EUMETCast Europe DVB-S2, EUMETCast Africa DVB-S, EUMETCast America DVB-S). In this case we are selecting EUMETCast Europe DVB-S2. If everything is OK the "Tuner-Status" should be green, if not check your reception (antenna pointing, optimization, cabling etc) :



| BDADataEx - v.1.1.2.1240 | | | | |
|--|---|--|--|--|
| Service selection | | | | |
| EUMETCast Europe DVB-S2 EUMETCast Africa DVB-S EUMETCast Americas DVB-S EUMETCast Europe DVB-S2 | New Edit Delete | | | |
| Standard Tuner-Status Lock: Code Signal Statistic Quality: BER: 0.000000 91% | Tuner-Settings Frequency (MHz): FEC: 11262.500 → Auto ▼ Symbol-Rate (KS/s): Polarization: 33000 ▼ ● H/L ○ V/R | | | |
| bad good Level: SNR: 13.20dB 84% weak strong | ✓ DVB-S2 Mode ✓ Inversion IS: Physical Layer Scramble: 1 Gold ▼ 0 | | | |
| RFLevel: -58 dBm | 1 Gold ● Modcode: SNR threshold for APSK All ● | | | |
| Notify, when no signal Say each digit | Apply settings | | | |
| Device: 4 - TBS 6908 DVB | Lide Cuit | | | |

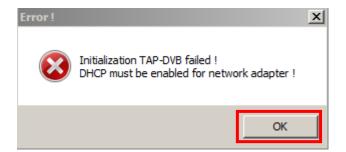
5.3.2 Manual Configuration

This section explains how to manually configure the software. It is only needed if the automatic configuration (steps 5.3.1 a was not successful)

a) Start the BDADataEx program

BDADataEx.exe Double Click and run

Note: After the double-click, you may get the following warning:



Click on "OK" to continue.

b) Select the used DVB Device and then Click on "OK". You can also select that this



| would | he the ' | "Default | device" |
|-------|----------|----------|---------|
| would | | Default | ucvice. |

| Choose Device | | | |
|---|----|--------|--|
| Devices found : | | | |
| 4: TBS 6908 DVBS/S2 Tuner 0 - Satellite | | | |
| ✓ Default device | OK | Cancel | |

c) In the pop up window and in the first TAB "Status/Tuner" change the "Tuner – Settings" as following, Click on "Apply Settings" and check "Lock", "Quality" & "Level". If "lock" is green click on "Edit", if not check your reception (antenna pointing, optimization, cabling etc) :

| | BDADataEx - | v.1.1.2.1240 |
|-------------------|---|--|
| | Service selection | New Edit Delete |
| Lock should be | Status/Tuner DiSEqC/LNB MPE-Filter S | etup |
| green | Lock: Log signal statistic Quality: BER: 0.000000 91% bad good Level: SNR: 13.20dB 84% weak strong RFLevel: -58 dBm Acoustic signalization: Combo 💌 Notify, when no signal | Tuner-Settings Frequency (MHz): FEC: 11262.500 Auto Symbol-Rate (KS/s): Polarization: 33000 ✓ H/L ○ V/R ✓ DVB-S2 Mode Inversion IS: Physical Layer Scramble: 0 Modcode: SNR threshold for APSK All ✓ 9 |
| | Say each digit | |
| | Device: 4 - TBS 6908 DVBS/S Use as default Turbosight-PCIE BDA extension | 62 Tuner 0 Hide Exit |



- TBS-6903/6908 DVB-S2 Receiver EUMETCast Windows Setup Guide
- d) By clicking the "Edit" the "Data Service" pop up windows appears. Change the name to "EUMETCast Europe DVB-S2" and click on "OK".

| | BDADataEx - v.1.1.2. | 1240 | |
|---|---|--|--------------------------|
| Service selection | ▼ New | Edit | Delete |
| Status/Tuner DiSEqC/LN | B MPE-Filter Setup | | |
| Quality: BER: 915 bad Level: SNR: 845 weak BFLevel: | ignal statistic Tuner-Settin Frequenc 1126 Data Service ata service name: UMETCast Europe DVB-S2 | MHz): FEC: Auto OK Cancel F OK F Cancel F O | larization: I/L O V/R |
| Notify, when no signal Say each digit | | Apply settings | |
| 😺 🔄 🔽 Use as d | TBS 6908 DVBS/S2 Tuner 0 Jefault PCIE BDA extension | Hide | Exit |

e) Click on the second TAB "DiSEqC/LNB" and check the "LNB-Settings". It should be as following :

| BDADataEx - v.1.1.2.1240 | | | | |
|--|--|--|--|--|
| Service selection | | | | |
| EUMETCast Europe DVB-S2 | New Edit Delete | | | |
| Status/Tune DiSEqC/LNB MPE-Filter Setup | | | | |
| DiSEqC-Settings | - LNB-Settings | | | |
| Simple (tone burst) A (TB 0) B (TB 1) | LOF 1 (MHz): 9750.000 | | | |
| Version 1.0 Position: O A O B | Switch (MHz): 11700.000 | | | |
| Option: | LOF 2 (MHz): 10600.000 KU-Linear KU-Circular C-Band | | | |
| Version 1.2 Position: 0 | LNB-Power supply | | | |
| Repeat: 2 V Delay, ms: 100 V | | | | |
| Apply settings | | | | |
| Device: 4 - TBS 6908 DVBS/S2 Tuner 0 Image: Use as default Turbosight-PCIE BDA extension | | | | |

Change the settings if needed and click on "Apply Settings"

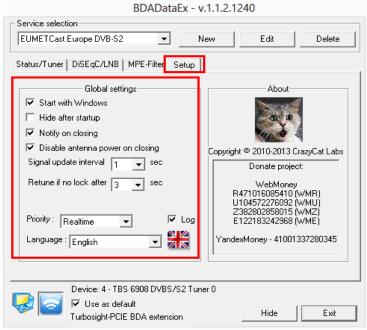


f) Click on the third TAB "MPE-Filter" and check the "IP" & "Multicast PID". It should be as following :

| BDADataEx - v.1.1.2.1240 | | |
|--|--|--|
| Service selection | | |
| EUMETCast Europe DVB-S2 New Edit Delete | | |
| Status/Tuner DiSEqC/LNB MPE-Filter Setup IP: 192.168.238.238 MAC: 00:02:C0:A8:EE:EE Hardware MAC Use DHCP for set IP Set MAC on TAP-Win MAC from IP Unicast-PID: 0 Broadcast-PID: 0 Total data rate (kBit/s): 46179.273 ✓ Stream statistic Apply settings TS: 45.692Mbps Disc: 11 MPE: 1540.615Mb GRE-IP: 0.000Mb IPv4: 1520.834Mb | | |
| PID Set MAC IP KBytes kBit/s | | |
| Rib Set MAC IF Rogies Roll/s 8192 MC 01:00:5E:??:?? 224.???.??? 1557334 46179.2 | | |
| | | |
| Device: 4 - TBS 6908 DVBS/S2 Tuner 0 | | |
| Vise as default Turbosight-PCIE BDA extension Hide Exit | | |

Also check $\sqrt{}$ "Stream Statistic" if Stream monitoring is needed

g) Click on the fourth TAB "Setup" and check the "Global Settings" . It should be as following :



Also check $\sqrt{$ "Log" if Log is needed.



5.4 Disabling the High Volume Service

To disable the High Volume Service (HVS) and receive only the Basic Service (BS) change the FEC from "All" \rightarrow "3/5", "Modcode" from "All" \rightarrow "8PSK,3/5" and click on "Apply settings".

| BDADataEx - v.1.1.2.1240 | | |
|--|--|--|
| Service selection | | |
| EUMETCast Europe DVB-S2 | New Edit Delete | |
| Status/Tuner DiSEqC/LNB MPE-Filter Setup | | |
| Tuner-Status Lock: Lock: Log signal statistic Quality: BER: 0.000000 91% bad good Level: SNR: 13.10dB 84% weak strong RFLevel: -58 dBm Acoustic signalization: Combo ▼ | Tuner-Settings FEC: Frequency (MHz): FEC: 11262.500 3/5 Symbol-Rate (KS/s): Polarization: 33000 ✓ ✓ DVB-S2 Mode ✓ DVB-S2 Mode ✓ Inversion IS: Physical Layer Scramble: 1 Gold Ø Modcode: SNR threshold for APSK 8PSK,3/5 9 | |
| Notify, when no signal Say each digit | Apply settings | |
| Device: 4 - TBS 6908 DVB | Hida Euit | |



6 TELLICAST AND SYSTEM CONFIGURATION SETUP

6.1 Tellicast Setup

After the steps above have been completed, the Tellicast application must be given the fixed IP from which the data can be taken:

Into the configuration file cast-client_xxx.ini the *"interface_address"* must be set to the reception host local IP Address:

interface_address=192.168.238.<nnn> e.g. interface_address=192.168.238.238

N-B: The interface_address parameter can be commented or deleted from cast-client_xxx.ini and the Tellicast application will search the multicast data on all the interfaces available on the host; that is not recommended when the reception host is used to receive another data flow, the Tellicast client application is not able to distinguish between the flows a priori!

6.2 Firewall

Make sure the firewall allows traffic from the interface address in 6.1!

6.3 Windows Routing Table

If the TelliCast fails to work, being either stuck in the yellow T-icon state or, if the network cable is connected after the system was working, the icon alternates between the "pink" and "red" states.

This may be related to the default multicast entries in the TCP/IP routing table.

To solve this problem, you need to tell Windows that the addresses handled by Tellicast must always be reached through the interface_address which you set up in cast-client_xxx.ini file (192.168.238.nnn).

In the Start menu, All Programs, Accessories menu, you will find an item named Command Prompt.

Right-click on this item, and select Run as administrator. Enter the following command (replace IP_address with the local IP address of 6.1):

route delete 224.0.0.0 (Please note that this might disable services which use multicast as protocol e.g. streaming services.

route -p ADD 224.0.0.0 mask 240.0.0.0 IP address metric 1

e.g., if *IP* adrress = 192.168.238.238



route delete 224.0.0.0 (Note : This might disable services which use multicast as protocol e.g. streaming services).

route -p ADD 224.0.0.0 mask 240.0.0.0 192.168.238.238 metric 1

Then restart the computer



7 ACRONYMS

| BS | Basic Service |
|---------------|--|
| DVB-S, DVB-S2 | Digital Video Broadcast, a broadcast standard |
| EUMETCast | EUMETSAT multicast based broadcast system |
| EUMETSAT | European Meteorological Satellite Organisation |
| HVS | High Volume Service |
| ISI | Input Stream Identifier |
| LNB | low-noise block downconverter |
| MODCOD | Modulation & Coding |
| PID | Packet IDentification |