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1 INTRODUCTION



Figure 1: TECHNOTREND TT-budget S2-4200 Twin Receiver

The purpose of this manual is to guide a user through the minimum necessary steps to allow the reception of EUMETCast Africa data (DVB-S) on the TECHNOTREND TT-budget S2-4200 Twin satellite receiver.

Please refer also to the TECHNOTREND TT-budget S2-4200 Twin Product Description Web Page:

http://www.technotrend.eu/2993/TT-budget S2-4200 Twin.html

2 PREREQUISITES

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

- A PC with a PCIe port is available for connecting the receiver;
- Operating System is compliant;
- Internet Explorer 9 and higher, Firefox 55 and higher or any other compatible browser;
- Administrator or Root access to the reception host system;
- The EUMETCast Africa antenna pointing has been performed correctly to EUTELSAT5W for DVB-S reception;
- 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 2: TECHNOTREND TT-budget S2-4200 Twin Connectors

The connectors used in the TECHNOTREND TT-budget S2-4200 Twin device configuration are described in the following table:

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

Table 1: TECHNOTREND TT-budget S2-4200 Twin Connectors

- Plug-in the connector 1 to a free PCIe slot of your PC ;
- Connect the antenna cable to one of the two connectors 2;
- Connect the Power Cable Connector 3 to the power using a power cable (Optional)
- Install the windows drivers (see paragraph 3.2);
- Install and Configure BDADataEx (see paragraph 4);
- Configure Tellicast (see paragraph 5.1);



- i. On TECHNOTREND TT-budget S2-4200 Twin to get adapter 1 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 TECHNOTREND 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 the Technotrend web site :

http://www.technotrend.eu/2899/PC-Produkte.html

The version used for EUMETSAT testing was v.4.2.0.0

bda-treiber_4.2.0.0

b) Go to Windows Devices



c) Right Click on the "Multimedia Video Controller" and select "Update Driver Software"



🗄 🖓 Other devices				
🖾 Multimed	ia Video Controller			
E Ports (COM	Update Driver Software			
Processors	Disable			
🗄 📲 Smart card r	Uninstall			
🗄 📢 Sound, vide	Corre for bootstand and a second			
🗄 👰 System devi	Scan for hardware changes			
🗄 🖷 🖣 Universal Se	Properties			

d) Select "Browse my computer for driver software"



e) Select the directory where you have extracted the bda drivers and click on "Next"



f) You will now see a message "Installing driver software ..."





g) And then a pop window informing you that the "Windows has successfully updated your driver software"



h) You can now see the TECHNOTREND TT-budget S2-4200 under the Windows Device Manager :





4 CHANNEL TUNING USING BDADATAEX

In order to tune your DVB card with the satellite you need a generic Tuning Tool like BDADataEx made by CrazyCat. This Tool is working with many DVB devices. The choice is up to the users.

4.1 **BDADataEx installation**

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

http://crazycat69.narod.ru/sattelite/DVBDataEx/BDADataEx-setup.zip

The version used for EUMETSAT testing was v.1.1.4.9

- a) Download / unzip BDADataEx-setup.zip on your disk
- b) Install BDADataEx-setup.exe

💮 BDADataEx-setup.exe

c) Click on Next> to select the needed components (select all) and then Next

🏶 BDADataEx 1.1.4.9 Setup		🌍 BDADataEx 1.1.4.9 Setup	
	Welcome to the BDADataEx 1.1.4.9 Setup Wizard	Cho Ch	oose Components oose which features of BDADataEx 1.1.4.9 you want to install.
	This wizard will guide you through the installation of BDADataEx 1.1.4.9.	Check the components you want install. Click Next to continue.	t to install and uncheck the components you don't want to
	It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.	Select components to install:	BDADataEx TAP DVB adapter Shortcut on Start menu
A.	Click Next to continue.		Shortcut on Desktop
		Space required: 2.7MB	Description Position your mouse over a component to see its description.
	Next > Cancel	Copyright © 2010-2014 CrazyCat -	< Back Next > Cancel



d) Click on Next> to select the installation path and then Finish to complete the installation



4.2 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 Sha	ring Center 🔹 🔻	Search Co	ontrol Panel	
Control Panel Home	View your basic network inforn	nation and set up cor	nnections		0
Change adapter settings	ių —	— 🌗			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 Local Area	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"

Internet Protocol Version 4 (TCP/IPv4) Properties	Local Area Connection 3 Properties	
General	Networking Sharing	
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. © Obtain an IP address automatically © Use the following IP address: IP address: Subnet mask: Default gateway:	Connect using: TAP-Windows (DVB) Adapter V9 Configure This connection uses the following items: Configure This connection uses the following items: Configure Configure This connection uses the following items: Configure This connection uses the following items: Configure Conf	
C Obtain DNS server address automatically	 Link-Layer Topology Discovery Mapper I/O Driver Link-Layer Topology Discovery Responder 	
Use the following DNS server addresses: Preferred DNS server: Alternate DNS server:	Install Uninstall Properties Description Allows your computer to access resources on a Microsoft network. Allows the second	
Validate settings upon exit Advanced OK Cancel	OK Cancel	



4.3 BDADataEx Configuration

4.3.1 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_v2.0.reg.

BDAData-EUMETCast_v2.0.reg

c) If you see any security message just click "Run" and "Yes"



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



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





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 :		
1: TT-budget S2_4200 DVB-S/S2 Tuner 2 - Satellite		-
Default device	ОК	Cancel

h) In the pop up window and in the first TAB "Status/Tuner" select the EUMETCast Africa Service

If everything is OK the "Tuner-Status" should be green, if not check your reception (antenna pointing, optimization, cabling etc) :

BDADataEx - v.1.1.4.9					
Service selection					
EUMETCast Africa DVB-S	New Edit Delete				
Status/Tuner DiSEqC/LNB MPE-Filter Setup					
Tuner-Status	Tuner-Settings				
Lock: 🗾 🔽 Log signal statistic	Frequency (MHz): FEC:				
Quality:	3732 - Auto				
57%	Symbol-Rate (KS/s): Polarization:				
bad good	11963 • H/L O V/H				
Level:	🔲 DVB-S2 Mode 📈 Inversion				
63%					
weak strong					
 Acoustic signalization: Combo Notify, when no signal Say each digit 	Apply settings				
Device: 1 - TT-budget S2_	4200 DVB-S/S2 Tuner 2				
Bestunar BDA extension	Hide Exit				

Figure 3: BDADataEx - EUMETCast Africa C-Band



5 TELLICAST AND SYSTEM CONFIGURATION SETUP

5.1 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!

5.2 Firewall

Make sure the firewall allows traffic from the interface address in 5.1!

5.3 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 route -p ADD 224.0.0.0 mask 240.0.0.0 192.168.238.238 metric 1

Then restart the computer



APPENDIX A LIST OF ACRONYMS, TERMS & ABBREVIATIONS

Acronyms, Terms & Abbreviations		
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	