

DevCoCast Reception Station Setup Guide Book

Marine Remote Sensing Unit, University of Cape Town, September 2009

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Overview

This document gives detailed instructions for the setup of the Technotrend Budget S-1401 DVB card, the EUMETCast Key Unit (EKU) license unit, the Tellicast Software and the GEONETCast data manager. These are all the components required to setup and configure the reception station for successful data retrieval. It is suggested that you print out this guide for reference during installation and configuration. It is suggested that you follow the order for installation outlined in this document:

- Install and configure the DVB PCI Card.
- Install the EUMETCast EKU software which manages the license.
- Install and configure the Tellicast software which allows for data reception.
- Install and configure the Geonetcast data management software which archives the data files on your PC.

The TD 15 EUMETCast Technical Description Document also provides useful information for the reception station setup. This can be found in the generic documentation folder in the EUMETCast client CD or at http://www.eumetsat.int/groups/ops/documents/document/pdf_td15_eumetcast.pdf. This document provides an overview of the EUMETCast system as well as installation instructions for the EUMETCast Tellicast client software. It is suggested that you print this document and use it throughout the installation as an additional reference guide. If you encounter any serious difficulties, please contact either the EUMETSat help desk at ops@eumetsat.int, or the Marine Remote Sensing Unit at Mark.matthews@uct.ac.za.

NOTE: This document does provide instructions on dish alignment and signal checking. Please ensure that you have a local Satellite TV agent align your dish to AtlanticBird 3 at 5°W and check your signal strength going into your computer.

Before you go further with the installations, the following software should be installed:

Adobe Reader Version 9 (if you are reading this then it is installed!)

Windows internet explorer

Java runtime application

1. Installation of the Technotrend budget DVB PCI Card

1.1. Installation of Card

Turn off the PC and remove the power cable. Open the computer by pushing the lever on top of the computer back and remove the left hand side board. There are two slots for PCI cards at the bottom at the back of the computer. You can identify the slots by their white/cream colour. To insert the card you must first open the gate at the back of the computer by squeezing the two blue levers together and pushing it backwards to open. Once this is open, the card slots will be accessible. If necessary remove the grating from one of the slots and insert the card. Be careful not to touch the gold connectors while you do this. Once the card is in place, close up the computer and connect the cable from the antenna to the card. Then you can turn on the PC.

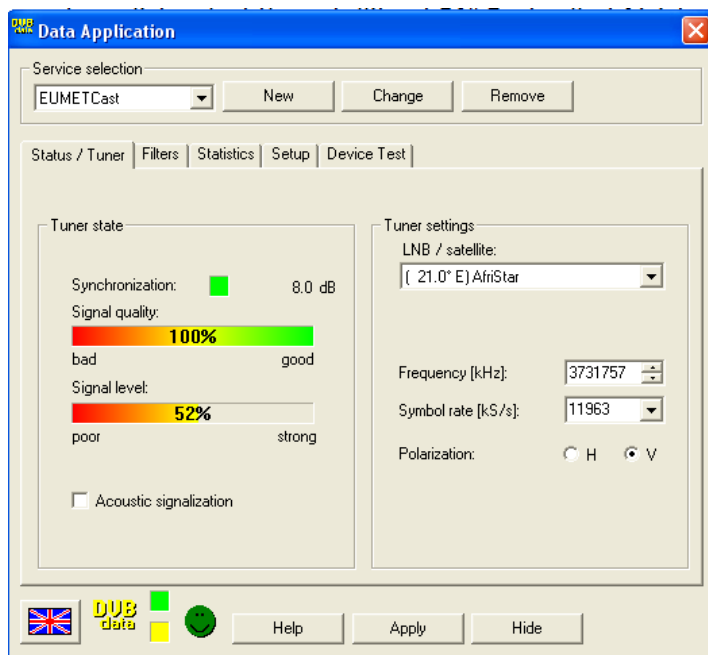
1.2. Installation of drivers and software

On start-up, your computer will automatically detect the new card and ask for the driver. Insert the CD labelled Bltech and follow the instructions to install the driver from the CD. Once the driver has been installed, double click on the CD drive again and double click on setup.exe. This will install the software needed to run the device.

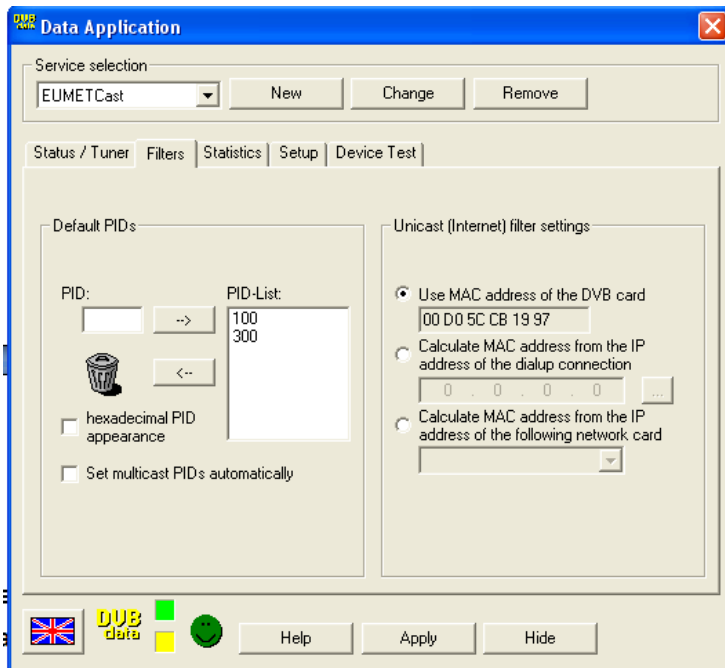
WARNING: DO NOT USE THE TECHNOTREND CDS FOR THE SOFTWARE INSTALLATIONS! IT WILL NOT WORK.

1.3. Configuration of device

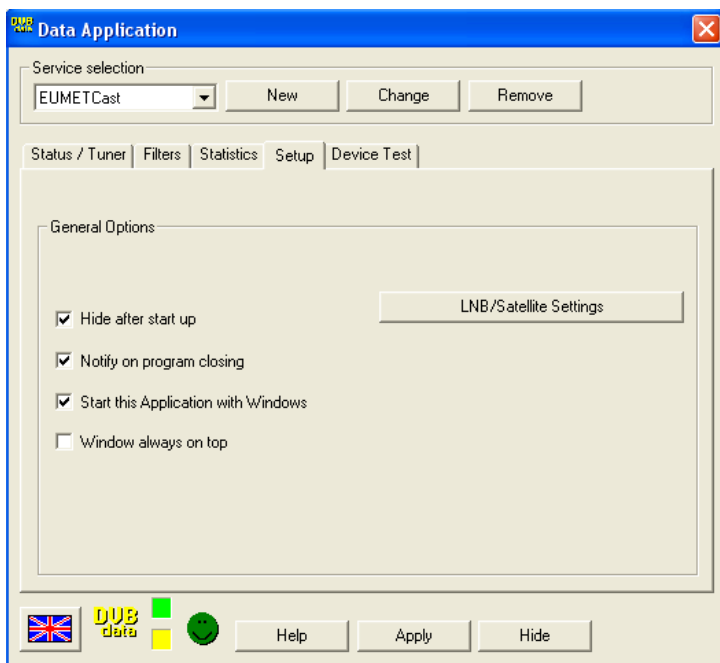
Once the software is installed, click on start, programmes, Technotrend, DVB data (TT-budget). This will open the software interface. On the Status / Tuner tab, next to the Service selection dropdown list click new. Type in the a name for the data service such as EUMETCast and click OK. In the LNB/satellite drop down list, select the satellite at 21° East called Afristar (Note that Atlantic Bird3 @ 5°W is not in the list). Insert the frequency in the box: 3731757kHz and the Symbol rate: 11963kS/s. The polarization should be set to V.



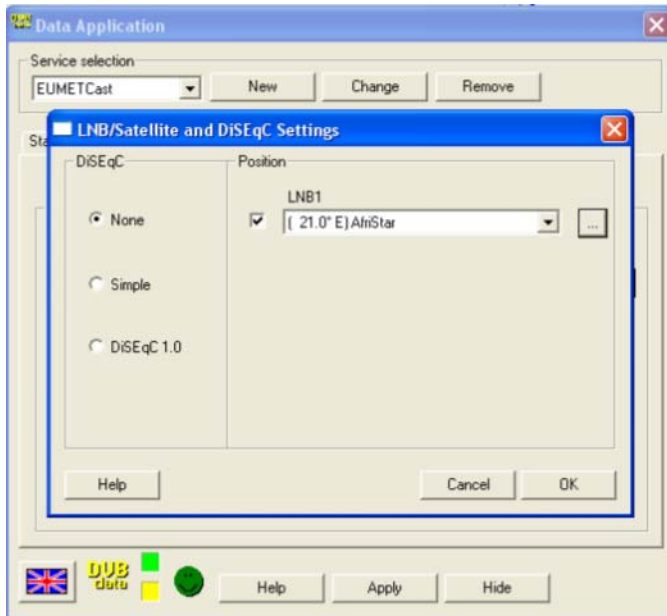
Once you have inserted these numbers, click on the Filters tab. Enter the PID 100 and click the add button. Then also add the PID 300 and click add. You will now have two PIDs, 100 and 300 in the PID list.



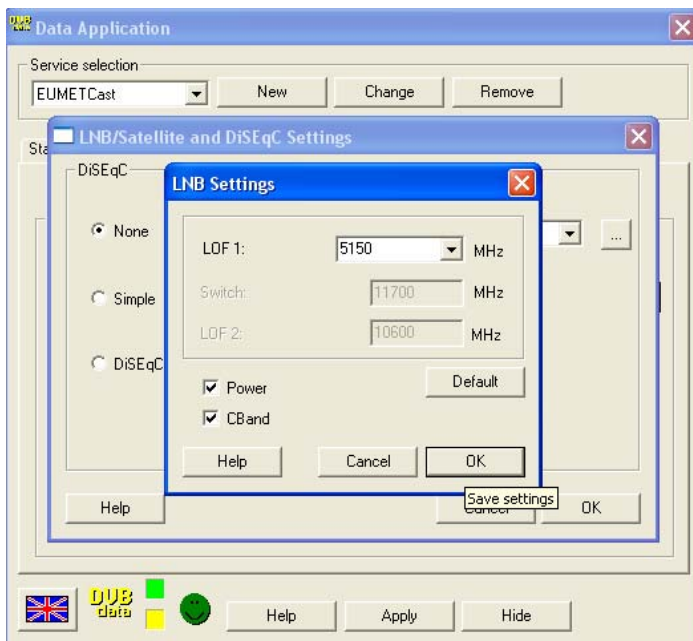
Make sure the “Set multicast PIDs automatically” box is not selected. Then click on the setup tab. Select the “Hide after startup”, “notify on programme closing” and “Start this application with windows” boxes.



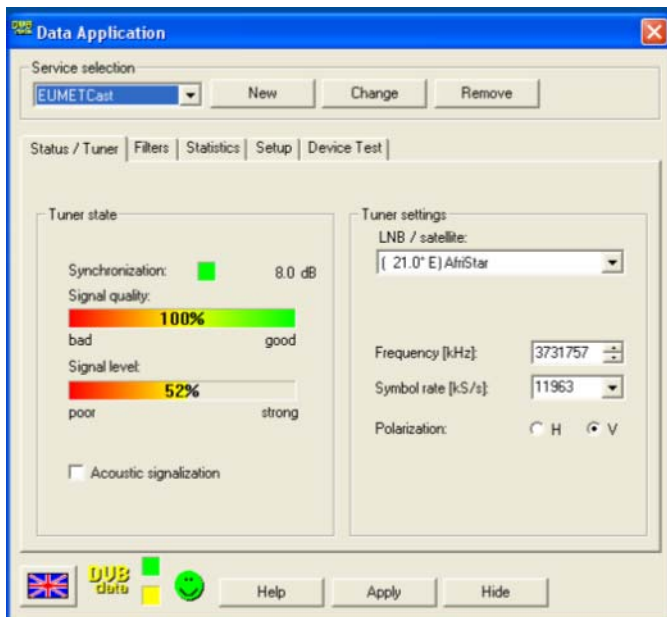
Then click on LNB/Satellite Settings. In DisEqC select “none”. The satellite selected in the dropdown list should be 21°E AfriStar.



Now click on the “...” button. In LNB settings make sure that the Power and C-Band boxes are selected. Click Ok then Ok.



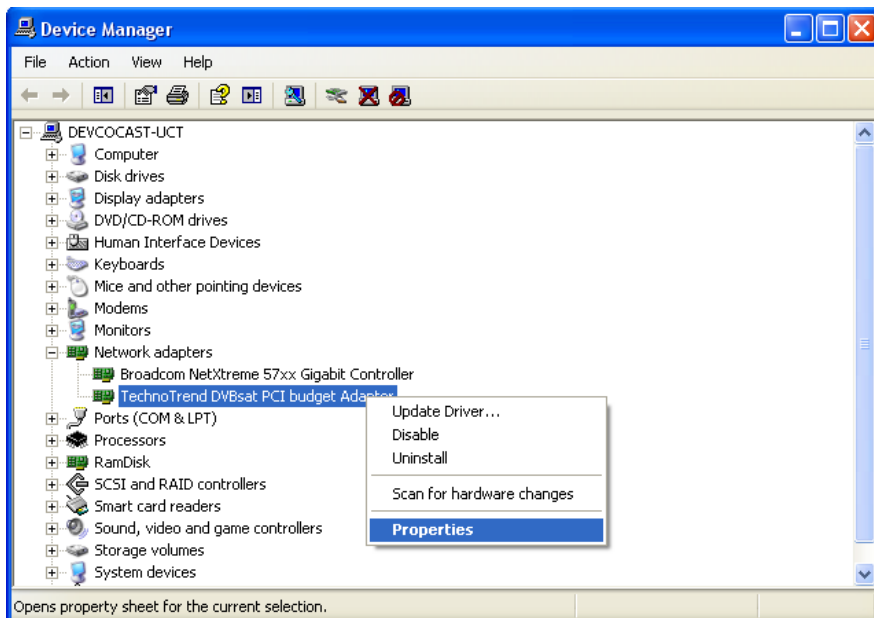
Once all these are selected click “Apply”. When data is being received you should see the bright green smiley face and the signal quality and strength boxes in the Status / Tuner tab indicating that data is being received.



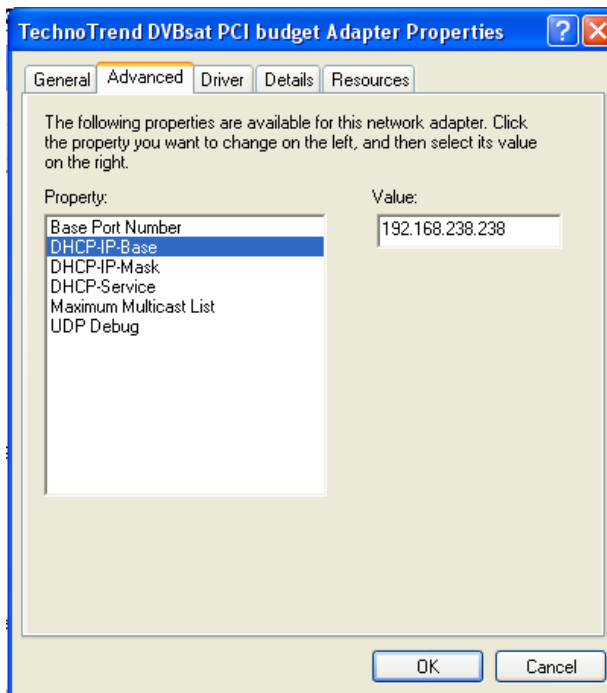
If you don't see this yet you need to install the EKU and Tellicast software first, as described below.

Note: You may want to click on the device test tab to make sure the device is working properly by clicking the start test button.

Now you need to change the IP address of the device so that the Tellicast Client Software will see it. To do this click start / control panel / system. Select the hardware tab and click on Device manager. In the device manager, click on network adapters. The Technotrend card should then be visible, alongside your Ethernet card.



Double click on the Technotrend card and select the advanced tab. Click on the DHCP-IP Base and enter the IP address as follows: 192.168.238.238. Then click OK.

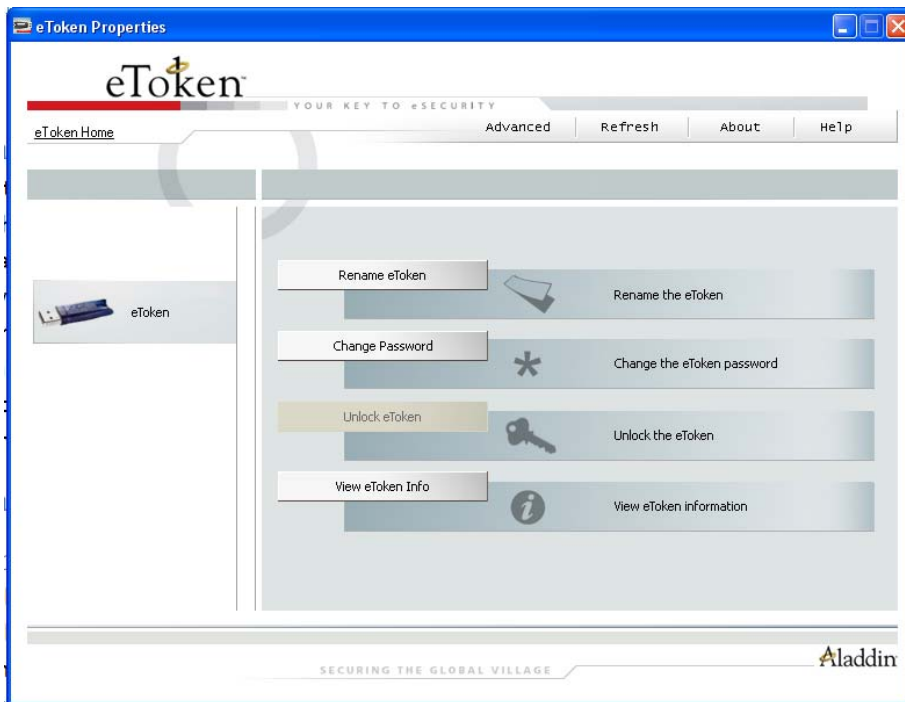


Only if you have already installed the T-Systems Tellicast Client then follow these instructions, otherwise move to number 2 below:

The cards IP address must be the same as in the T-Systems recv.ini file. To check that the IP in the recv.ini file is the same as for the card, right click on the start menu and click explore. Navigate to programme files / T-Systems / Business TV-IP folder. Double click on the recv.ini file. Scroll down to the [parameters] line. Set the interface_address=192.168.238.238. Close the WordPad and save. This will ensure that the T-Systems software IP address is the same as for your DVB card.

2. Installation of the EKU

Insert the EUMETCast Client Software cd which was delivered with the EKU dongle. You may want to print the PDF file in the generic documentation folder for reference. Otherwise open the EKU-software folder in the windows folder. Open the read_me text file and read the installation notes. Following the instructions, double click on the RTE_3.65.msi windows installer package to install the run time environment. Follow the installation instructions. Once installed restart the computer and plug in the USB dongle. The red light on the dongle should illuminate. To check that the EKU is functional go to start/programmes/eToken/eToken properties. If the properties display the token is working. Exit without making any changes.



3. Installation and configuration of Tellicast Client software

3.1. Installation of software

Once the EKU is installed and working, continue to install the Tellicast client software. On the cd open the Tellicast folder and take the time to read the readme text file for additional installation information. When done double click on the t-systems-setup file. Follow the prompts and complete the installation. You will have to enter the username and user_key/password provided by EUMETSat (via e-mail). If you don't have this ask the helpdesk at ops@eumetsat.int.

3.2. Configuration

After the installation navigate to the directory C:\Programme Files\T-Systems\Business TV-IP. Inside the folder open the recv.ini file. This contains important parameters which are used to configure the Tellicast Client. Beneath the line [recipient] you should see your user name and password entered. If not, enter it here. Make sure the parameters are entered as follows for all of the lines:

```
[shell]
login=none
port=2517
refresh=3
```

```
[watchdog]
#error_script=none./error.sh
#error_script_cause_announcement=30
```

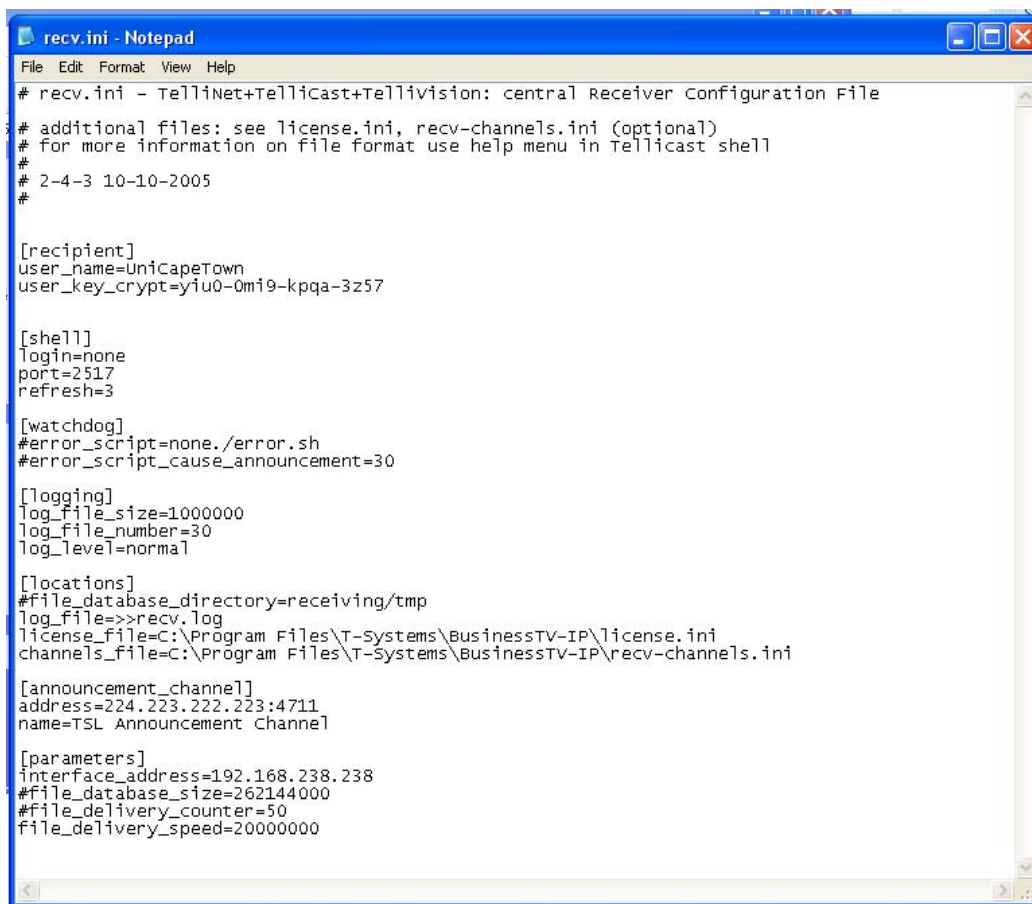
```
[logging]
log_file_size=1000000
log_file_number=30
log_level=normal
```



```
[locations]
#file_database_directory=receiving/tmp
log_file=>>recv.log
license_file=C:\Program Files\T-Systems\BusinessTV-IP\license.ini
channels_file=C:\Program Files\T-Systems\BusinessTV-IP\recv-channels.ini
```

```
[announcement_channel]
address=224.223.222.223:4711
name=TSL Announcement Channel
```

```
[parameters]
interface_address=192.168.238.238
#file_database_size=262144000
#file_delivery_counter=50
file_delivery_speed=20000000
```



```
recv.ini - Notepad
File Edit Format View Help
# recv.ini - TellinNet+Tellicast+Tellivision: central Receiver Configuration File
# additional files: see license.ini, recv-channels.ini (optional)
# for more information on file format use help menu in Tellicast shell
#
# 2-4-3 10-10-2005
#
[recipient]
user_name=UniCapeTown
user_key_crypt=yiu0-0m19-kpqa-3z57

[shell]
login=none
port=2517
refresh=3

[watchdog]
#error_script=none./error.sh
#error_script_cause_announcement=30

[logging]
log_file_size=1000000
log_file_number=30
log_level=normal

[locations]
#file_database_directory=receiving/tmp
log_file=>>recv.log
license_file=C:\Program Files\T-Systems\BusinessTV-IP\license.ini
channels_file=C:\Program Files\T-Systems\BusinessTV-IP\recv-channels.ini

[announcement_channel]
address=224.223.222.223:4711
name=TSL Announcement Channel

[parameters]
interface_address=192.168.238.238
#file_database_size=262144000
#file_delivery_counter=50
file_delivery_speed=20000000
```

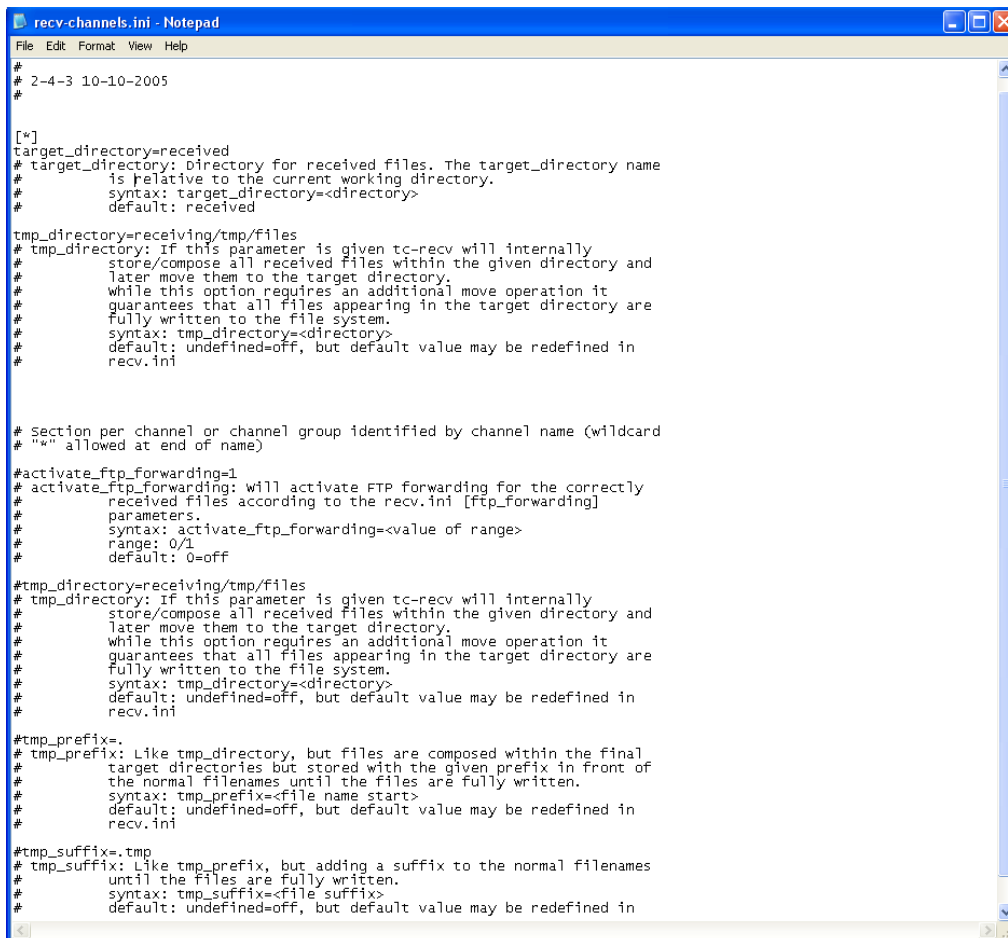
Once all the parameters are entered as above, click file / save, and then close the document. Now open the recv-channels.ini file. Set the target directory to "received" as follows:

```
target_directory=received
```

This is where the files are kept before being moved to the archive on the system. Then set the temporary directory as follows:

tmp_directory=receiving/tmp/files

make sure all the other lines in the file are prefixed with a # which means that the programme does not read them.

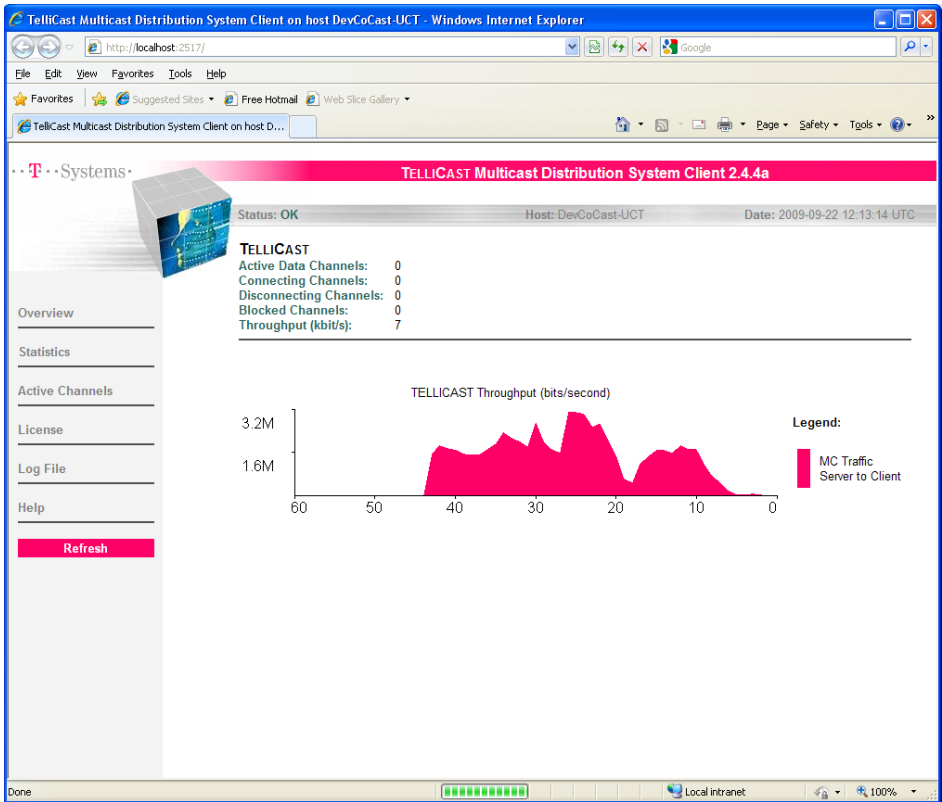


```
recv-channels.ini - Notepad
File Edit Format View Help
#
# 2-4-3 10-10-2005
#
[*]
target_directory=received
# target_directory: Directory for received files. The target_directory name
# is relative to the current working directory.
# syntax: target_directory=<directory>
# default: received
tmp_directory=receiving/tmp/files
# tmp_directory: if this parameter is given tc-recv will internally
# store/compose all received files within the given directory and
# later move them to the target directory.
# while this option requires an additional move operation it
# guarantees that all files appearing in the target directory are
# fully written to the file system.
# syntax: tmp_directory=<directory>
# default: undefined=off, but default value may be redefined in
# recv.ini
# Section per channel or channel group identified by channel name (wildcard
# "*" allowed at end of name)
#activate_ftp_forwarding=1
# activate_ftp_forwarding: will activate FTP forwarding for the correctly
# received files according to the recv.ini [ftp_forwarding]
# parameters.
# syntax: activate_ftp_forwarding=<value of range>
# range: 0/1
# default: 0=off
#tmp_directory=receiving/tmp/files
# tmp_directory: if this parameter is given tc-recv will internally
# store/compose all received files within the given directory and
# later move them to the target directory.
# while this option requires an additional move operation it
# guarantees that all files appearing in the target directory are
# fully written to the file system.
# syntax: tmp_directory=<directory>
# default: undefined=off, but default value may be redefined in
# recv.ini
#tmp_prefix=.
# tmp_prefix: Like tmp_directory, but files are composed within the final
# target directories but stored with the given prefix in front of
# the normal filenames until the files are fully written.
# syntax: tmp_prefix=<File name start>
# default: undefined=off, but default value may be redefined in
# recv.ini
#tmp_suffix=.tmp
# tmp_suffix: Like tmp_prefix, but adding a suffix to the normal filenames
# until the files are fully written.
# syntax: tmp_suffix=<File suffix>
# default: undefined=off, but default value may be redefined in
#
```

Click file / save, then close the window.

3.3.Confirming data reception

Now go to start / programmes / T-Systems / Business TV-IP. This should start the programme and an icon should appear in the taskbar at the bottom right hand of the screen. If the icon is yellow, it means it is connecting. If it is red it means it failed to connect. If it is white and pink, it means that it is connected and receiving data. If your icon is red, then make sure the ip address of the DVB card is set to the same ip as in the recv.ini file. For details see the box at the end of section 1.3. You will need to restart your computer after resetting the ip address to make it effective. If your icon indicates that you are receiving data, right click on the icon and select HTML shell. Internet explorer needs to be installed to view the shell and so does the Java runtime environment. If these are not installed, install them now. The Tellicast Multicast Distribution Client should now be visible in internet explorer. If data is being successfully received, there should be data traffic visible as a red moving chart on the screen. Your DVB Data smiley face icon in the right hand corner of the task bar should also be bright green if data is being received.



If you want to see which channels are being received, click on the “Active channels” link on the left hand side of the page. You should see the announcement channel active and other channels when they are receiving data.

The screenshot shows the TELLICAST Multicast Distribution System Client 2.4.4a interface with the Active Channels section selected. The status is OK, and the host is DevCoCast-UCT. The date is 2009-09-22 12:19:01 UTC.

Active Channels

Announcement Channel:

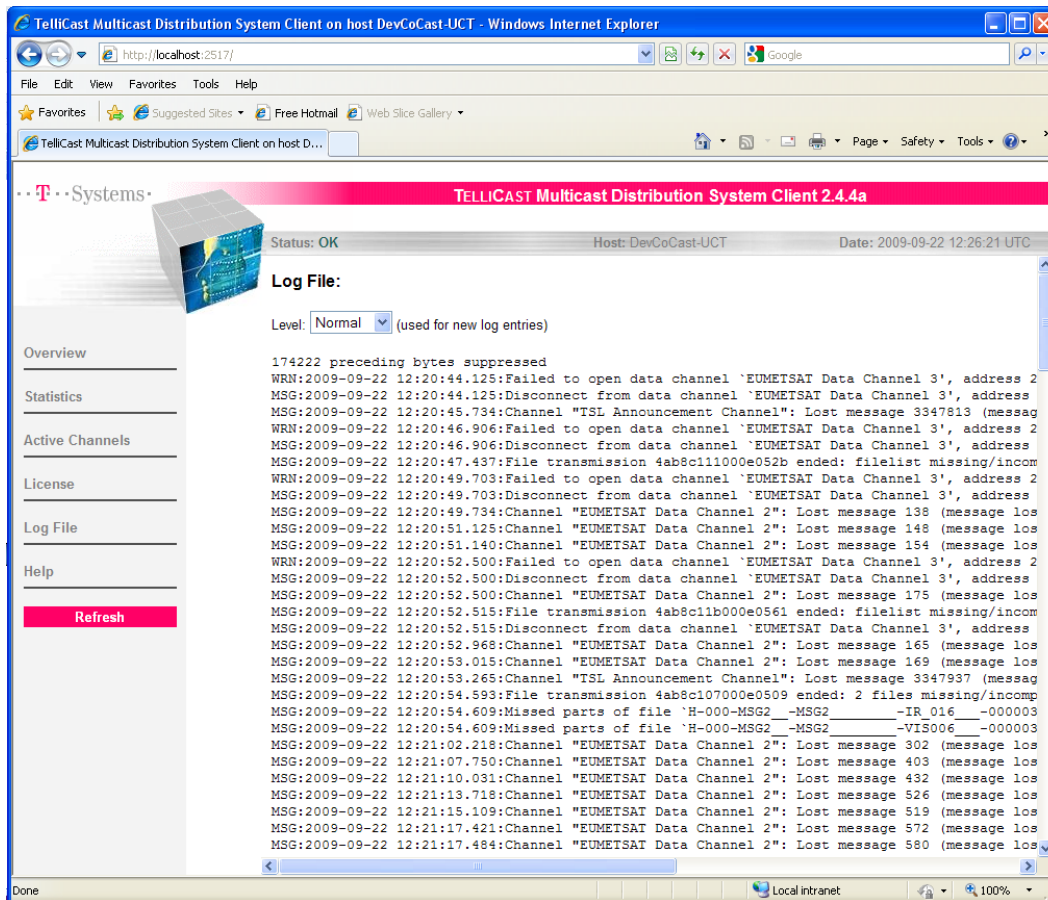
Name	State	Priority	Bandwidth	Received Bytes	Info
TSL Announcement Channel	Active	0	400000	21566852	Info

Data Channels:

Name	State	Priority	Bandwidth	Received Bytes	Info
EUMETSAT Data Channel 2	Active	500	1688000	473926	Info
EUMETSAT Data Channel 3	Available	500	659000	0	Info

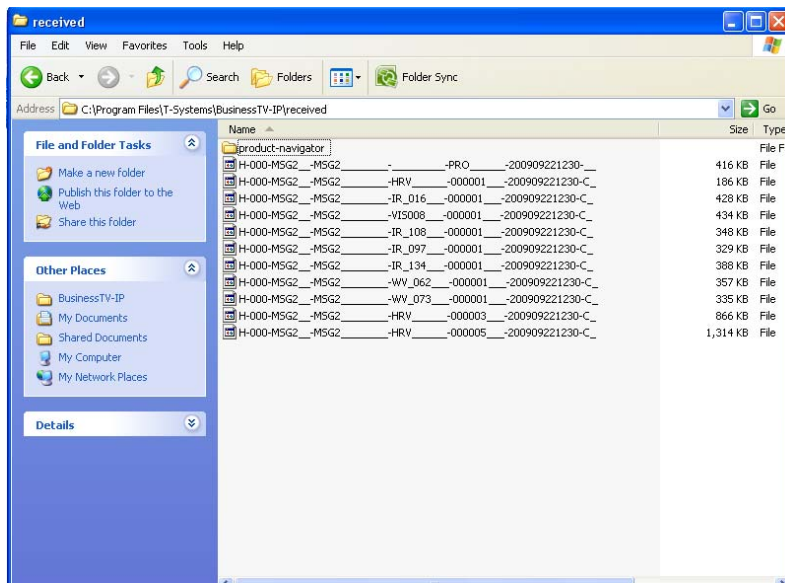
Please click on the text of the headline of a column to get information about the meaning of the entries.

The log file page shows the log of the programme. You may need to open this page and send the log details to the EUMETSat help desk if you are having problems with data reception.



The help page contain some troubleshooting information and details about the Client if you have any problems or want more information.

To see where the data packages are being delivered to the PC, navigate to C:\Program Files\T-Systems\BusinessTV-IP\received. You should see the files visible in the received directory.



The files are visible in the directory. An example of the file name is: H-000-MSG2__-MSG2_____-HRV_____-000001____-200909221230-C_. This is a Meteosat Second Generation (MSG2) High Resolution Visual (HRV) segment acquired on 2009/09/21 at 12:30 pm Greenwich Meridian Time (GMT). In order to archive, process and visualise the data, we now need to install the ILWIS 3.6 and the GEONETCast Data Manager.

4. ILWIS and GEONETCast Data Manager

You should use the second PC for further visualisation and processing with ILWIS and other software in order to avoid interrupting the reception of the data. However, to archive the data on the reception machine's hard drive you need to install the GEONETCast Data Manager in ILWIS 3.6 on the reception machine.

In the cd supplied with the hardware, open the software folder and open the 52n-Ilwis-v3.06.01 folder. Double click on the Ilwis.msi and click run. Complete the installation of the ILWIS software. Go to start / programmes/ ilwis / Ilwis 3.6 to check that the programme installed.

Now open the document ILWIS_GEONETCast FirstStepInstructions.pdf in the handbooks folder. This gives instructions on the configuration and setup of the GEONETCast Data Manager, which will archive the files on your reception station PC, or on the network drive of your second computers hard drive.