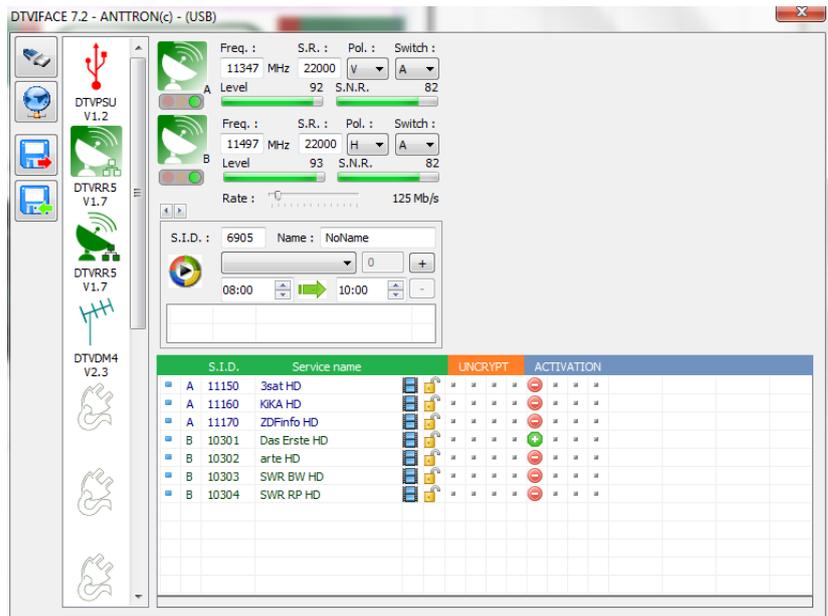




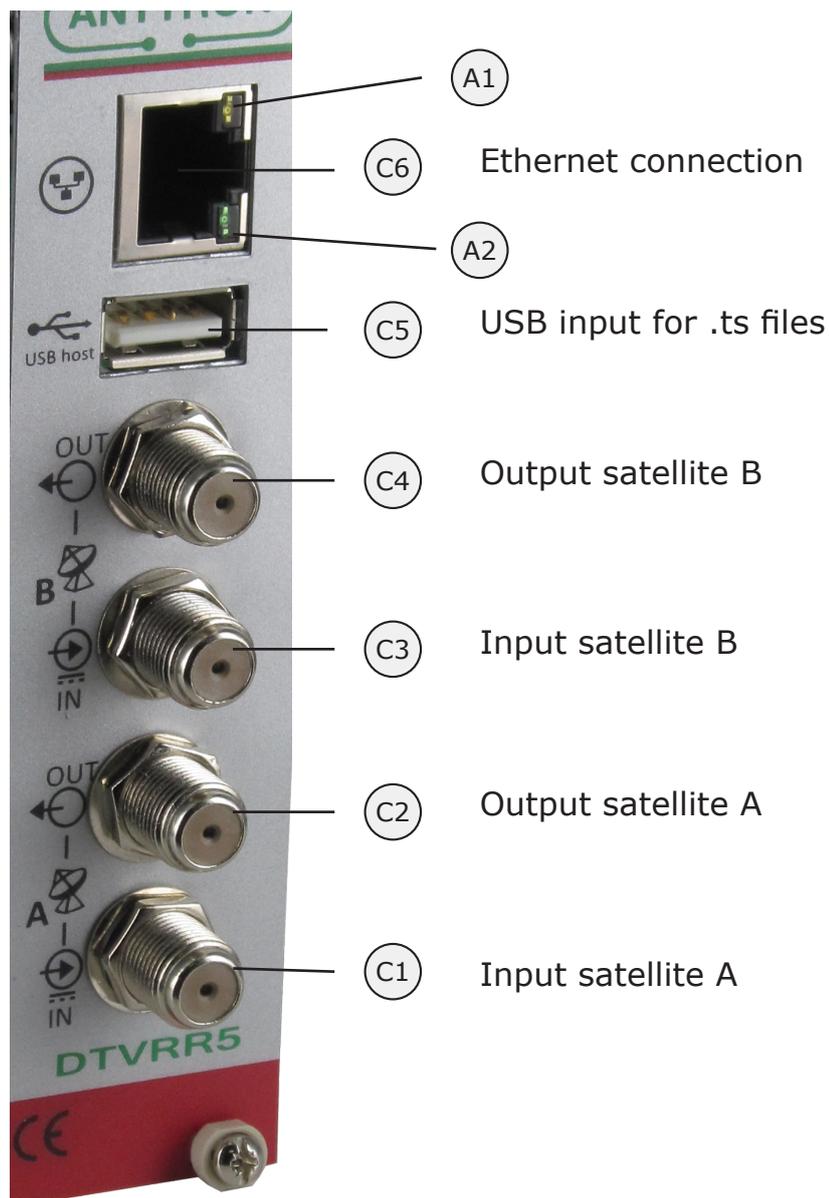
DTVRR5

Twin satellite receiver module for DTVRack



This manual is also applicable for DTVRR5 modules in the compact headends, TRM3x2, TRM3x2CI and TRM6x4 etc....





A1 and A2 are status indicator LEDs. The LEDs blink in a sequence of seven. In each sequence a condition is tested. If the test is positive then LED A2 (GREEN) blinks, if the test is negative then the LED A1 (ORANGE) blinks.

The 7 tests are as follows :

- 1) Ethernet connected (YES/NO)
- 2) USB stick connected (YES/NO)
- 3) Time/date received from satellite (YES/NO)
- 4) Tuner A locked (YES/NO)
- 5) Analysis on tables from satellite A OK (YES/NO)
- 6) Tuner B locked (YES/NO)
- 7) Analysis on tables from satellite B OK (YES/NO)

DTVRR5 : this module performs the following function in the DTVRack

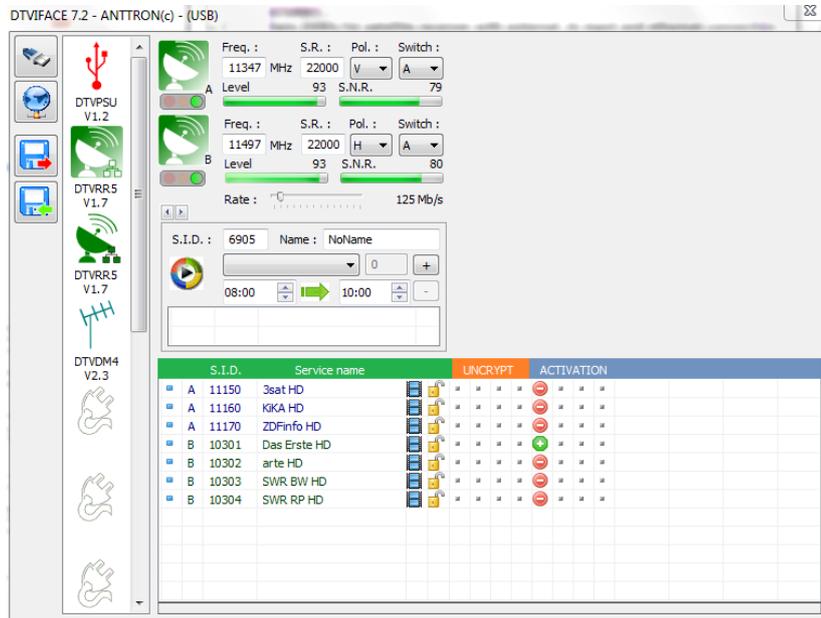
- a) It receives the satellite programs from two satellite frequencies.**
- b) The programs of the two satellite inputs are remultiplexed together eventually with programs coming from a DTVRR5 (or DTVAV2) module preceding this DTVRR5.**
- c) An extra USB input, allows connection of an USB stick containing .ts files. These .ts files can be used for broadcast purposes, by creating its own program or replacing an existing program based on a time schedule.**
- d) An ethernet connection allows connection to the web. By connecting one DTVRR5 module to the web, remote control of the complete DTVRack over the web is possible**

1. Accessing the parameters of a DTVRR5 module.

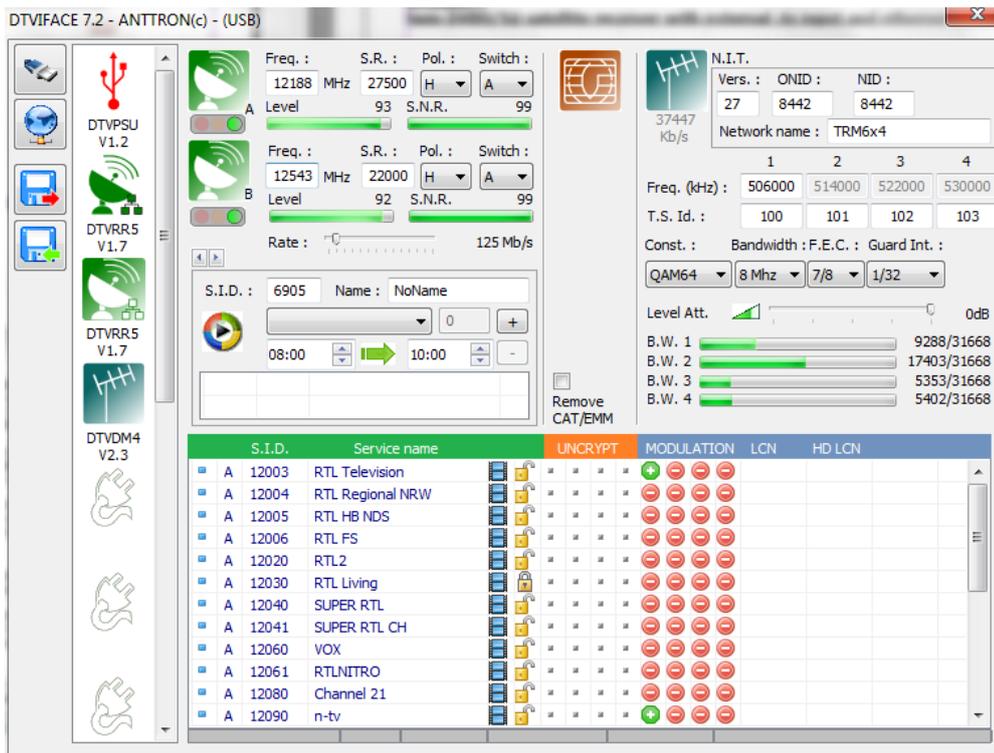
When in DTVIface, click on a DTVRR5 symbol to get access to the parameters of the DTVRR5 module.

Depending of where the DTVRR5 module is located in the rack, following windows may appear :

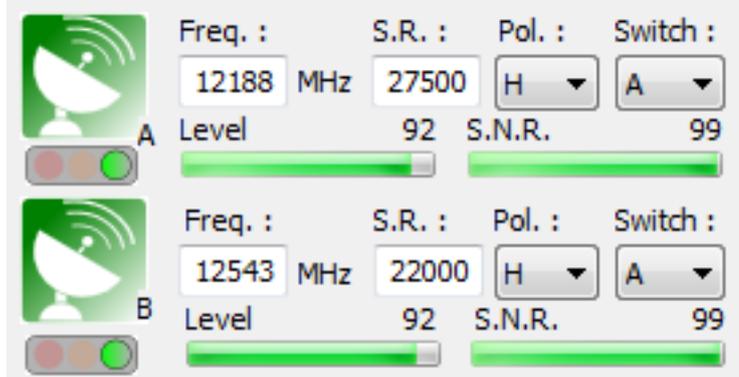
- a) the DTVRR5 module is followed by a another module DTVRR5



b) the DTVRR5 module is followed by a modulator DTVDmX or DTVCmX



2. Setting the input parameters on the satellite tuners

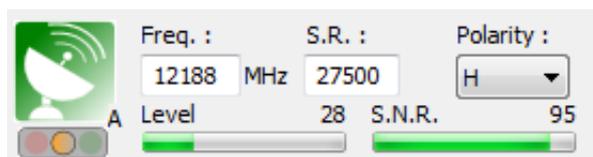
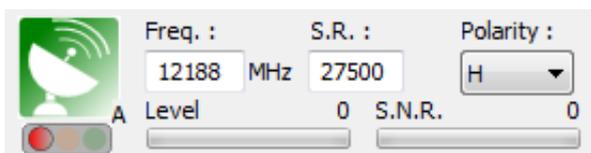


For both satellite input A and B, following parameters can be set :

- Frequency :** for values > 11700, automatically a 22 kHz tone is inserted on the LNB voltage.
- Symbol rate :** enter here the symbol rate.
- Polarity :** select between V (vertical) and H (horizontal).
- Switch :** if the DTVRR5 is connected to a multiswitch, please select the DiSEqC input A,B,C or D

When the settings are valid and a signal is received, a green dot appears under the dish symbol. Also bargraphs allow you to evaluate the level and the quality of the received signal.

When no signal is present, are the settings are incorrect, a RED dot appears under the dish symbol. When the satellite tuner is locked (signal found), but the module is identifying the programs received, an ORANGE dot appears under the dish symbol, indicating that the module is analysing the information.



If the status for a satellite input is GREEN, then the list of programs received will be shown. In the list you will find following information :

- Satellite input : A or B (or C if another DTVRR5 or an DTVAV2 is preceding this module.)
- Service ID of the received program
- Service name of the receive program.
- Symbol indicating if it concerns a television or radio program.
- Symbol indicating if the service is encrypted or clear.



S.I.D.	Service name	UNCRYPT	ACTIVATION
A 12060	VOX		
A 12061	RTLNITRO		
A 12080	Channel 21		
A 12090	n-tv		
A 12095	Channel 21 ALT		
B 17500	SAT. 1		
B 17501	ProSieben		
B 17502	kabel eins		
B 17503	N24		
B 17504	SIXX		
B 17505	SAT. 1 emotions		

If the next module in the DTVRack line up is a DTVRR5, you can now select the programs to be transferred to the next module DTVRR5. You do this by double clicking the activation symbol besides the requested program.

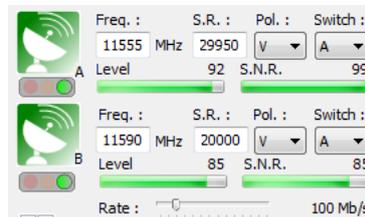


- the program is activated and will be sent to the next DTVRR5.
- the program is not activated will NOT be sent to the next DTVRR5.

If the next module in the DTVRack line up is a modulator DTVDMx or DTVCMx we refer to the manual about the modulators how to add and distribute programs over the available output channels on the modulator.

Rate settings in DTVRR5 module :

In the menu of DTVRR5 module, and under the satellite parameters there is rate setting for the module.

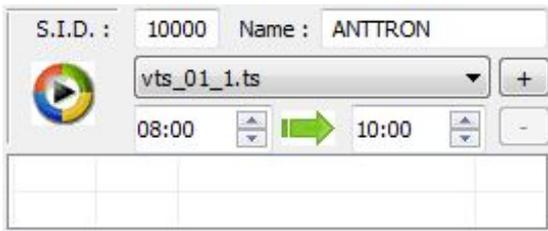


The rate defines the output speed of the transport stream of the DTVRR5 module to the backplane. This rate can be set between 166 Mb/s and 31 Mb/s.

How to set the rate ? Some rules to set the rate :

- a) If this DTVRR5 is followed by another **DTVRR5** set to maximum 166 Mb/s
- b) If this DTVRR5 is followed by a module **DTVCI1** then the rate should not exceed the maximum permissible rate specified by the CAM placed in the DTVCI1 module. Please check the specifications of the CAM used.
- c) If the DTVRR5 module is followed by a modulator **DTVCMx, DTVDMx** set rate to maximum 166 Mb/s

3 - Programming a video file (*.ts)



This transmodulator will also allow to program a video file on a certain received program or allows you to create your own channel, which you can give a specific name. The time window for the video can also be programmed.

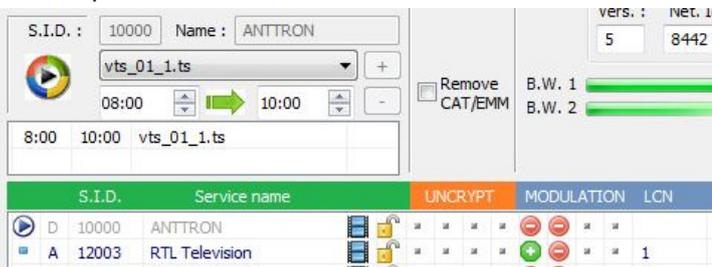
The video file is fed to the transmodulator the USB input in the front of the module.

To allow the module to detect this file, the file has to be converted in .ts with some particular parameters. Use a conversion program to edit your video file. (for instance "Ojosoft Total Video convertor" to convert a 'video' file to .ts or Moyea PPT to Video Converter. to convert a Powerpoint presentation to a .ts file)

Once your USB device is connected, select your file using the software. Chose the start and stop time for the video to be displayed.

Now you have to indicate if you want to create your own program, or if you want the video file to replace a certain program from the program list.

A) Creating your own program : in the field SID, put a number DIFFERENT from the S.I.D. of the programs listed in the window of the received programs. When a different number is entered the field NAME becomes editable and you can fill in your own program name.(for instance ANTTRON). Now you can program the start and stop time for your video. Then click the + bouton and the video will be added in the list. You can add as much .ts files in the list as you want, as far as time windows do not overlap.



The result is displayed in the above figure. A program named ANTTRON is added in the program list. This program, you can now add this program to the output.

B) Replacing a service with your video : in the field SID, please insert a S.I.D. which corresponds to the SID of the program you want to replace with the video file. For instance, if I want to replace the program RTL Television, I fill in as SID 12003. After setting up the time window please click the button +.



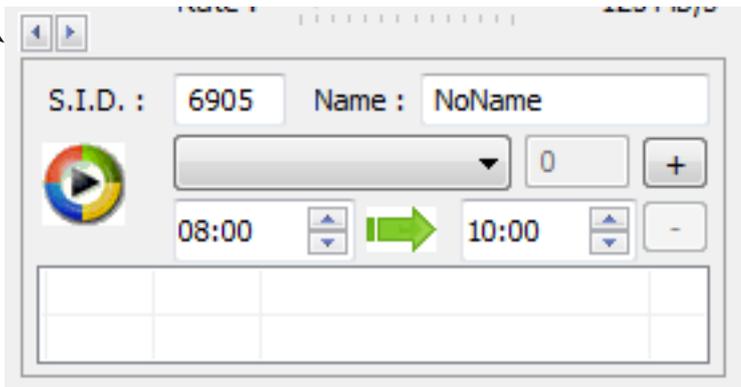
The symbol  is placed next to the program RTL Television, indicating that this program will be replaced with the .ts file that you have selected during the time window you have indicated.

4 - Connecting your DTVRR5 to internet

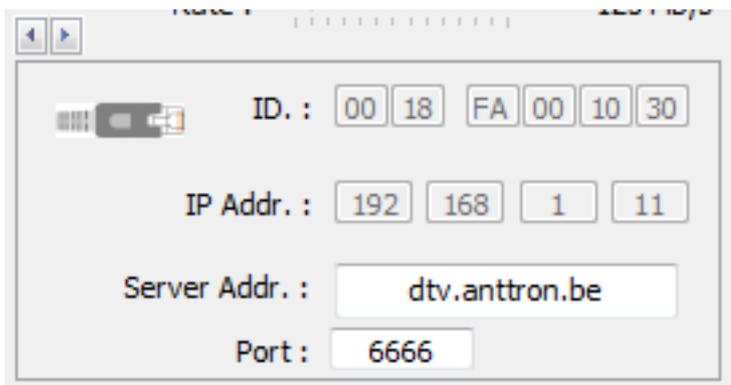
The DTVRR5 can be connected to the internet. This allows you to remotely control not only your module, but the whole DTVRack where is placed in the DTVRR5.

In order to arrange this, please make a connection between the DTVRR5 with an appropriate ethernet cable from the DTVRR5 to a router which has access to internet.

In the DTVIface and in the menu of the DTVRR5 module, please click on the arrows above the .ts file menu.



A new window appears and the ethernet data of the DTVRR5 module appear.



In this window, you can find back the following parameters :

- ID** : MAC address of the module
- IP Addr.** : IP address assigned to the module by your router
- Server Addr.** : in this field, the IP address, or name should be filled in where the server is located which handles all communications of DTVRR5 modules. A server called 'dtv.anttron.be' is put in service for this task. So fill in this address here.
- Port** : fill in port '6666' in this field.

In order for your DTVRR5 module to connect to the server, make sure that your router is not 'blocking' the port '6666'.

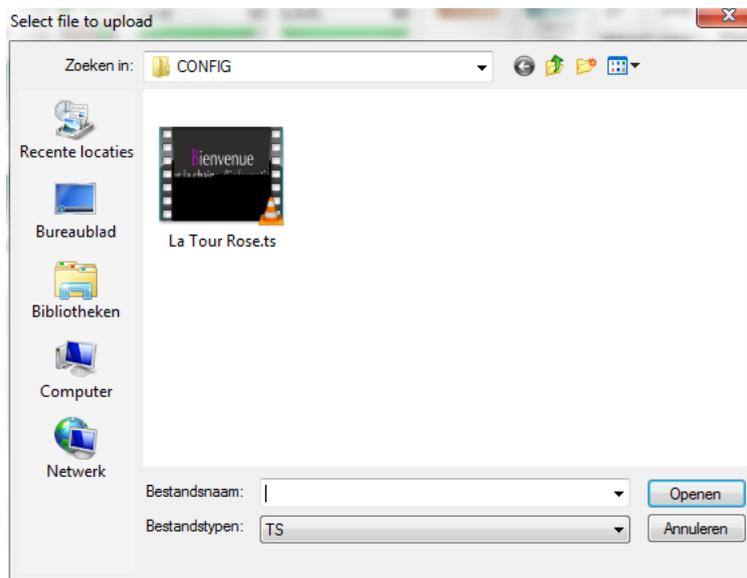
5 - Adding/removing .ts files from the USB stick

If the DTVRR5 module is accessible over the web and an USB stick is connected to the DTVRR5 module then, it is also possible to change the contents on the USB stick over the web.

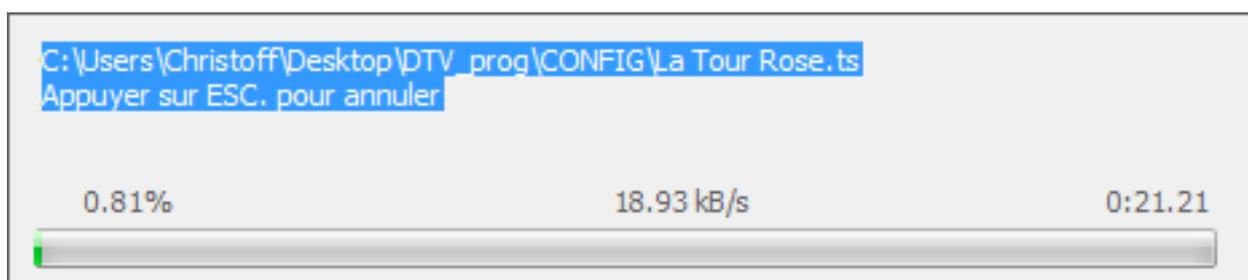
Once, you have made connection to the rack containing the DTVRR5 module, (to know how to do this please read the manual on DTViface first), just click on the following symbol :



DTViface asks you to select a file (TS format) from your computer to upload to your USB stick :



After the TS file selected, another window opens :



The TS file is now uploaded to the USB stick on your DTVRR5 module, indicating the speed, expected duration and % transferred.

After this procedure, the uploaded TS files will be available on the USB stick and can then be used to create your own content.

6 - Technical specifications

Input SAT (x2)	Frequency	950-2150 MHz
	Input level	-65 dBm to -25 dBm
	Insertion loss	2.5 dB
	LNB supply	13/18V - 22 kHz - DiSEqC (350mA each input)
Demodulator/decoder		
DVBS	Modulation	QPSK
	Symbol Rate	1....45 MSpS
	Code Rate (Viterbi)	1/2, 2/3, 3/4, 5/6, 7/8
DVB-S2	Modulation	QPSK/8PSK
	Symbol Rate	1....45 MSpS
	Code Rate (LDPC)	QPSK = 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
Output to 'backplane'	Transport stream	SPI (adjustable bitrate between 50 and 166 Mbit/s)
Ethernet connection	Ethernet port	10/100 BASE - T