



# TRM842CI

4 input - 8 tuner  
DVBS/S2 to DVBT/C transmodulator  
with 2 CI slots



## **Application**

The TRM84CI2 is composed of a 3RACK with a DTVRR12, DTVC12 and DTVDM4F module. The combination of these modules allows the conversion of satellite signals using DVBS or DVBS2 modulation in DVBT or DVBC signals and allows decrypting of scrambled channels using the appropriate CAM and CARD.

The DTVRR12 module has 4 inputs and integrates a 4x8 multiswitch. The 8 tuners (A,B,C,D,E,F,G,H) can select the satellite signal from inputs 1,2,3 and 4. After demodulation the received programs are available as a transport stream and are then fed into the DTVC12 and DTVDM4F modulator.

The DTVDM4F is a 4 channel flexible modulator. The modulation can be DVBT or DVBC. The output of the 4 channels can be freely selected in the VHF and UHF range. The level of each output channel can be adjusted independently.

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## **1. - Safety considerations**

### **1.1 CONNECTING TO THE MAINS SUPPLY**

This product has to be connected to the mains supply. If there is the slightest doubt concerning the type of connection available on the installation, please contact your supplier of electricity. Before carrying out maintenance operation or modification of the installation, the modulator has to be disconnected. Remark : only use the supplied power adaptor.

### **1.2 OVERVOLTAGE**

An overvoltage on the mains supply, can cause shortcircuits or fire. Never overload the power lines.

### **1.3 LIQUIDS**

This module should be protected from splashes. Please assure yourself that no containers containing liquids are placed on this module. Also be aware of other persons splashing liquids on the module.

### **1.4 CLEANING**

Disconnect the module before cleaning. Use only a humid cloth without solvent.

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### **1.5 VENTILATION**

In order to assure an adequate air circulation and to prevent overheating, the ventilation holes should not be obstructed. The module may not be installed in a hermetically sealed environment. Other electronic products or heat producing items may not be placed upon or near the module.

### **1.6 ACCESSORIES**

The use of accessories not manufactured by the manufacturer can cause damage to the module.

### **1.7 INSTALLATION OF THE MODULE**

The module must be installed in a place well protected from direct sunlight. All measures have to be taken to avoid installation in humid or sunny place. Do not install near heating elements or other devices producing heat. Assure yourself that the module is placed at least 10 cm from other equipment with is susceptible to electromagnetic radiation. Do not install the module on instable items. A fall can cause physical or material damage.

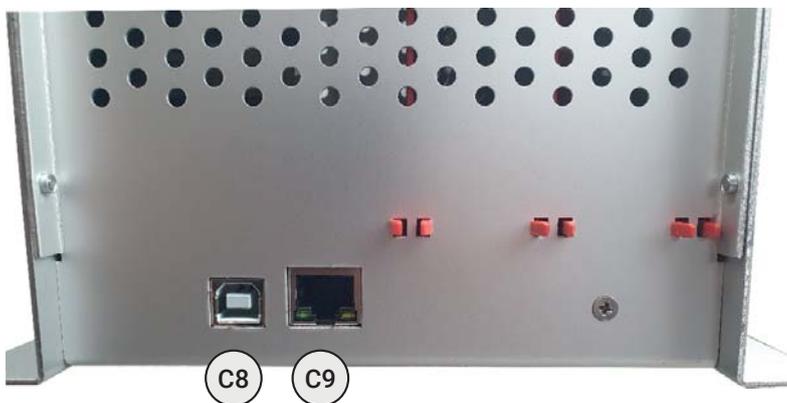
**2 - Description of the different elements**



- C1** AC input
- C2** Satellite input 1
- C3** Satellite input 2
- C4** Satellite input 3
- C5** Satellite input 4
- C6** RF input
- C7** RF output
- C8** USB connection (for PC connection)
- C9** RJ45 connection (for LAN or webconnection)
- C10** slot A DTVCi2
- C11** slot B DTVCi2



CAM direction



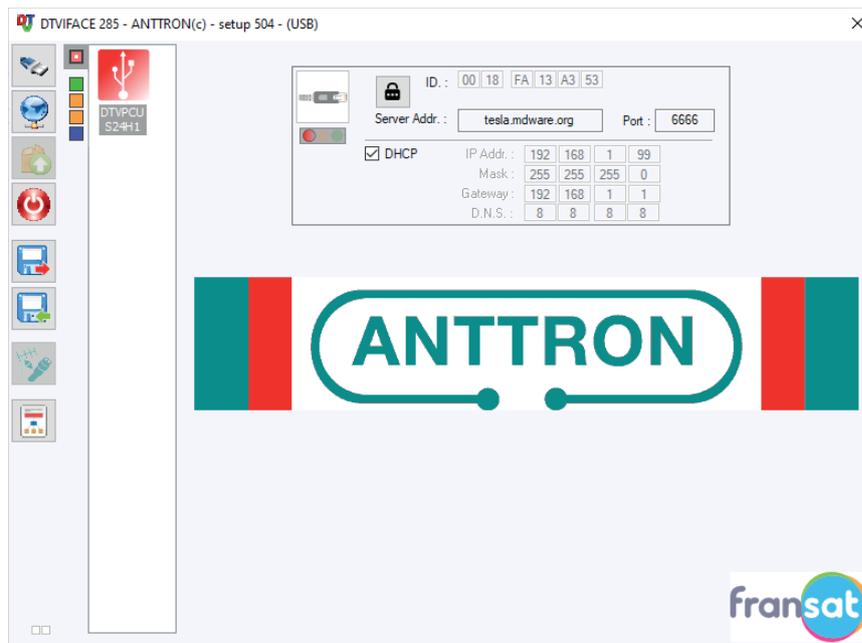
C8 C9

### 3 - Installing the software DTViface

For manipulating and programming the TRM84CI2, you will need the software DTViface. This you can download from our internet site [anttron.com](http://anttron.com). Please check regularly for new versions of the software.

After installation, you can startup DTViface using the new icon available in the program list in the Start menu of your computer.

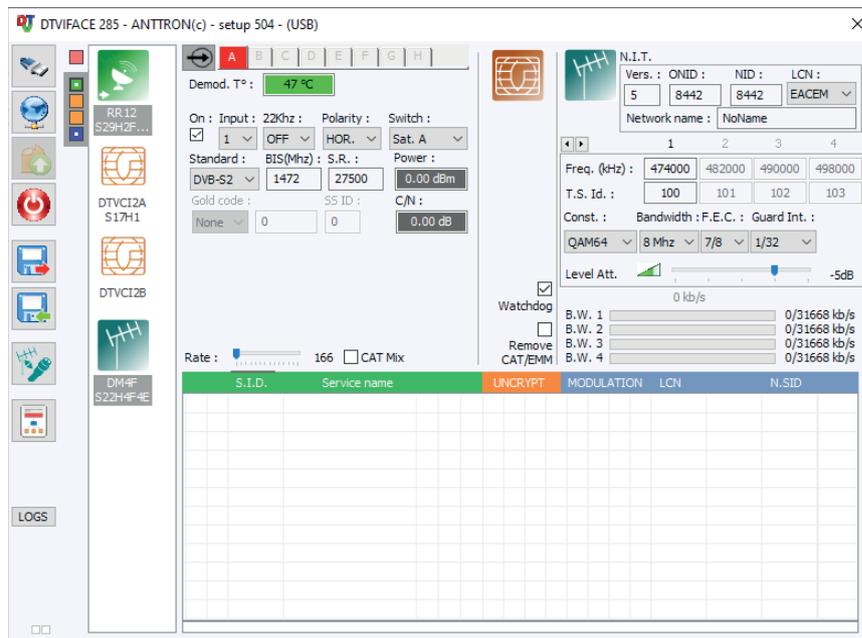
Once the TRM84CI2 connected with the USB cable and after starting up the unit, please launch DTViface. You should see the following screen.



The red square refers to the control unit, showing its MAC address and the network settings.

The green square refers to the DTVCRR12 and the blue square refers to the modulator DTVD4M4F. The two orange squares refer to the two CI slots of the DTVC12 module.

When clicking on the green or blue square the menu for DTVCRR12, DTVC12 and DTVD4M4F opens.



## 4- Programming

### 4.1 - Programming the DTVRR12

First of all, define for each input (1..4) the tone, polarity and DiSEqC command.

Input :	22Khz :	Polarity :	Switch :
1	OFF	HOR.	Sat. A

Once defined, program the necessary tuners (A,B,C,D,E,F,G and H) .  
For each tuner needed, please follow this procedure :

- a/ Activate the tuner
- b/ Select the satellite input that is needed for that tuner (1,2,3 or 4)
- b/ Fill in the satellite frequency. You can use the real frequency (fi 12188 MHz) or the intermediate frequency (fi. 1528 MHz). In any case when you use the real frequency the software will immediately convert this frequency to the intermediate frequency.
- c/ Set the symbol rate and select if the standard is DVBS or DVBS2
- d/ Repeat this procedure for all tuners needed. If a tuner is not needed, it is better not to activate it in order to reduce the power consumption in the module.

On :	Input :	22Khz :	Polarity :	Switch :
<input checked="" type="checkbox"/>	4	ON	HOR.	Sat. A
Standard :	BIS(Mhz) :	S.R. :	Power :	
DVB-S	1510	27500	-40.00 dBm	
Gold code :	SS ID :	C/N :		
None	0	0	15.50 dB	

When the settings are valid and a signal is received, the letter of the tuner will turn GREEN.

When no signal is present or the settings are incorrect, the letter of the tuner will be RED. When the satellite tuner is locked (signal found), but the module is identifying the programs received, the letter of the tuner will be ORANGE, indicating that the module is analysing the information.

When the tuner is not activated the letter of the tuner will have a GREY color.

For each tuner the DTVRR12 will indicate the power and quality (C/N) of the mux received.

←	A	B	C	D	E	F	G	H	▶	
Demod. T° :	48 °C									
On :	Input :	22Khz :	Polarity :	Switch :						
<input checked="" type="checkbox"/>	4	ON	HOR.	Sat. A						
Standard :	BIS(Mhz) :	S.R. :	Power :							
DVB-S	1510	27500	-40.20 dBm							
Gold code :	SS ID :	C/N :								
None	0	0	15.40 dB							



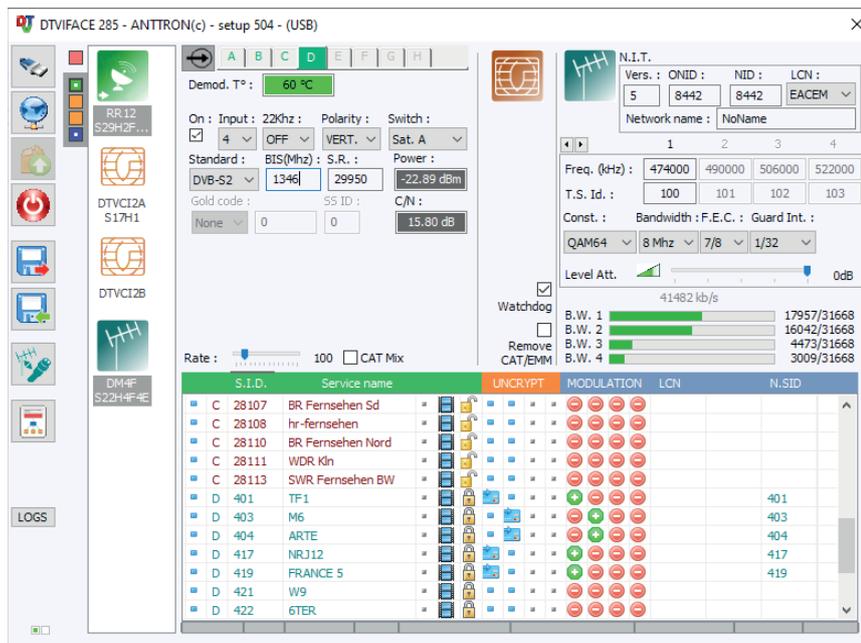


### 4.4 - Decrypting services

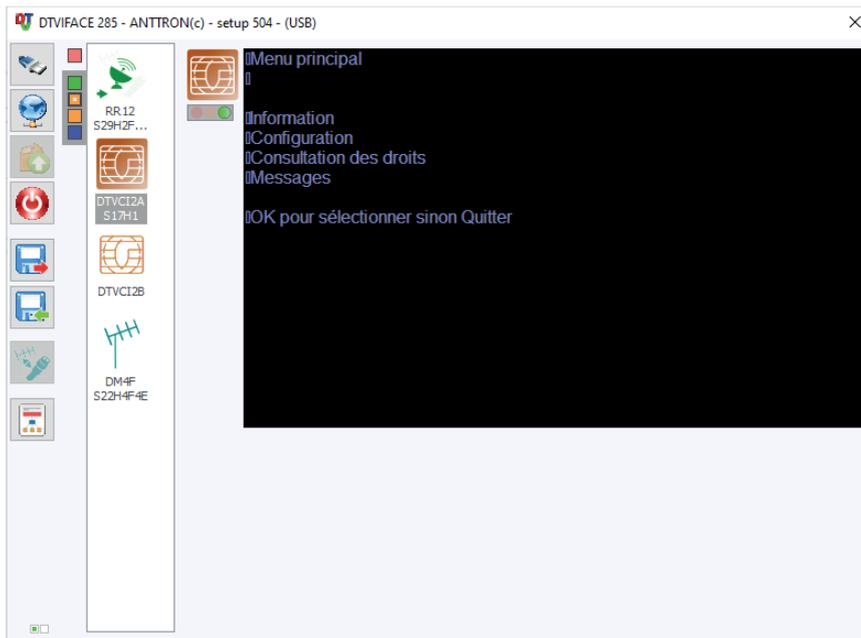
Once the programs you have selected are modulated, you can now activate the decryption of the selected programs. The activation is performed by double clicking the dot besides the program name in the colon of the CAM you chose.

A bankcard symbol appears indicating that the program should be decrypted.

The number of programs that can be decrypted is only dependant of the CAM and CARD used. So please check on this to define how many programs you can decrypt on one CAM/CARD.



**Accessing the CAM menu** : in order to access the CAM and CARD information simply click one of the two DTVC1 symbols in the left column. A new window will appear where you can read the information on the CAM and CARD. Please note that to access this menu, at least one program should be decrypted on that specific DTVC1 module.





### 5.3 - Sorting lists

S.I.D.	Service name	UNCRYPT	MODULATION	LCN
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To get a better overview in the list of programs, the columns Service Name, modulation and LCN, can be sorted. Please click on the specific column, to have the service names sorted in alphabetical order or according to modulation or according to LCN.

### 5.4 - Resetting the TRM84CI2

In order to go back to the factory settings of the TRM84CI2, please move your mouse over the following button: Then right click, and left click. All your settings will be erased and the TRM84CI2 will go back to its factory settings.



### 5.5 - Creating a .html report of your configuration

Pressing this button



creates a html report of the configuration of your TRM84CI2.

### 5.6 - Rebooting your headend

Pressing this button



reboots your TRM84CI2.

### 5.7 - Saving and loading a configuration

DTViface allows to save the settings you have made on the TRM84CI2 on your PC. Afterwards this configuration can be reloaded in the TRM84CI2 or in another TRM84CI2.

#### 5.7.1 Saving your configuration.

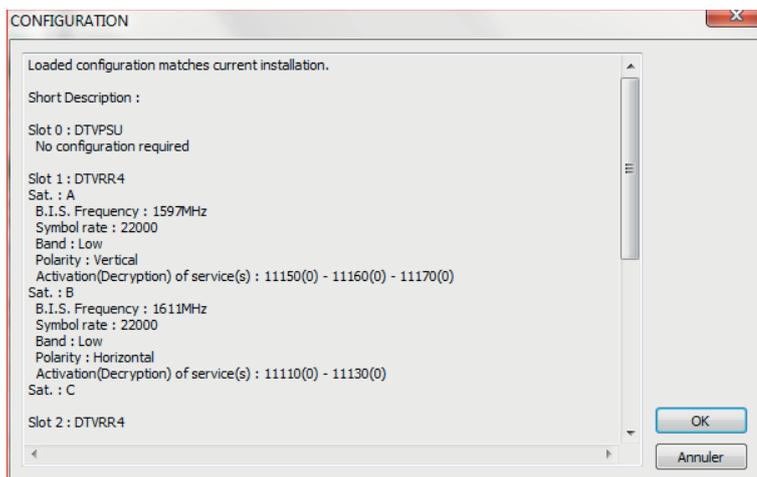


Press the save button. This opens a window where you can save your configuration under a configuration format (.dtc file).

#### 5.7.2 Opening a configuration.



Press the open file button. This opens a window where you can open a previously stored configuration. Once the .dtc file is selected, DTViface checks if this configuration matches your installation and gives you a brief description of the configuration. If the configuration matches your installation press OK to load this configuration in your product.

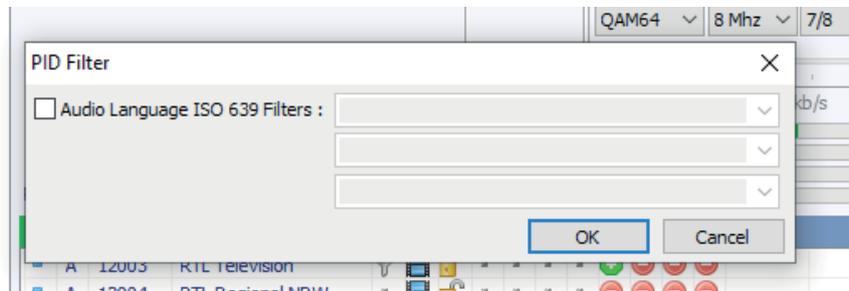


## 5.8 - Audio PID filter

In normal operation, the DTVRR12 transmits all audio pids that are available for the program. In order to filter out a specific audio PID from a service, please double click on the following dot



A pop menu appears, where you can select up to 3 audio PIDs.



After modification of this window, a filter symbol will appear in the list indicating that for this program an audio filter is in place.



## 6 - LEDs on TRM84CI2

### 6.1 - LED on DTVRR12

When the unit starts up, the LED status on the DTVRR12 is characterised by a quick toggle between red and green. When the startup phase of the DTVRR12 is completed the LED blinks as follows :

a/ For each tuner activated a blink is present ( for instance if 6 tuners are activated), the LED on the DTVRR12 will blink 6 times showing a GREEN blink or RED blink. A green blink means that the specific tuner is OK. A red blink means this tuner is not OK (no signal received or tables not ready).

b/ The blinks for the tuners are then followed with a small pause. Followed by a final green (transport stream available ) or red blink (transport stream not ready).

### 6.2 - LED on DTVC12

When no CAMs are inserted in the DTVC12 slots, the LED on the DTVC12 blinks RED. If two CAMs are detected by the DTVC12 the LED will blink GREEN. If only one CAM is detected in the DTVC12 module, the LED will blink GREEN/RED or RED/GREEN dependant of the position of the detected CAM.

### 6.3 - LED on DTVDM4F

When the unit starts up, the LED status on the DTVDM4F is characterised by a quick toggle between red and green. When the startup phase of the DTVDM4F is completed the LED blinks as follows :

The LED blinks green : the modulator DTVDM4F is ready and transmits its 4 channels.

The LED blinks red : the modulator DTVDM4F is ready but does not receive a valid transport stream from the DTVRR12 module.

