TM250HD

HD encoder
DVB-T/DVB-C/IP out

USER MANUAL V1.0

Congratulations on your purchase of the TM250HD !

This 'state of the art' product, is a HD encoder. The video input can be taken from HDMI, PC or Component Video. The audio can be taken from HDMI or analog audio.

After compressing the video into H264 and audio in AAC, the output can be configured as DVB-T, DVB-C modulator or as IP streamer.

Stand-alone configuration is made easy through 4 tact switches and ergonomic menu's. To make the configuration of the TM250HD ultra simple, a special software TMHDIface is available that you can download on our website anttron.com

Contents

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 solvant.

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

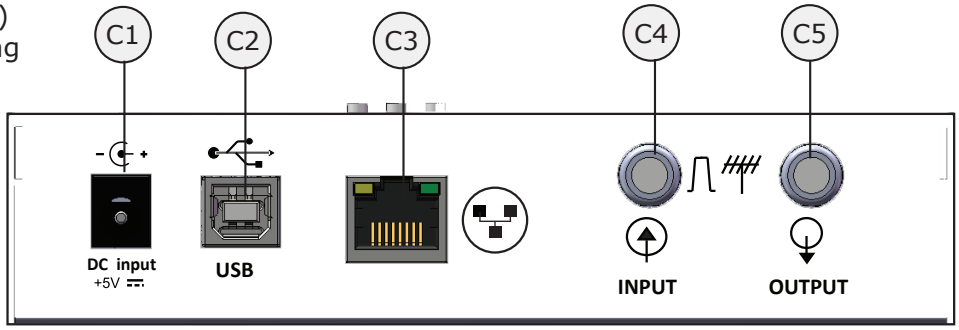
The use of accessories not manufactured by the manufacturer can cause damage to the module.

1.7 INSTALLATION OF THE MODULE

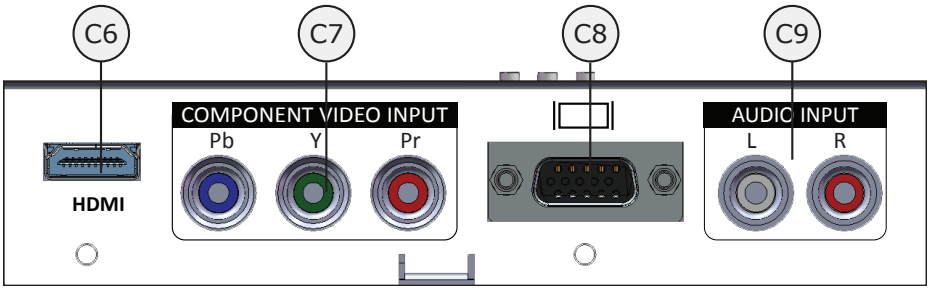
The module must be installed in a place well protected from direct sunlight. All measures have to be taken to avoid installation in humid or sunny place.Do not install near heating elements or other devices producing heat. Assure yourself that the module is placed at least 10 cm from other equipment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

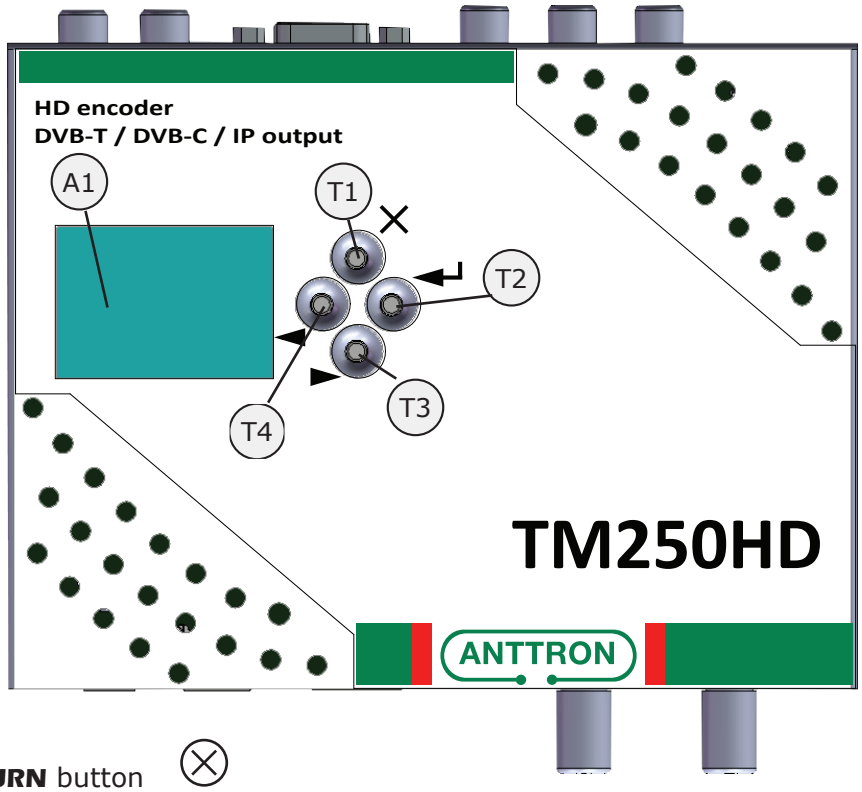
2 - Description of the different elements

C1 Power supply input (5V/4A)
C2 USB input (for programming the TM250HD by PC)
C3 Ethernet connection RJ45
C4 RF input
C5 RF output



C6 HDMI input
C7 Component video input
C8 PC input
C9 Analog audio input





A1 Display

T1 ***CANCEL/RETURN*** button

T2 ***ENTER*** button

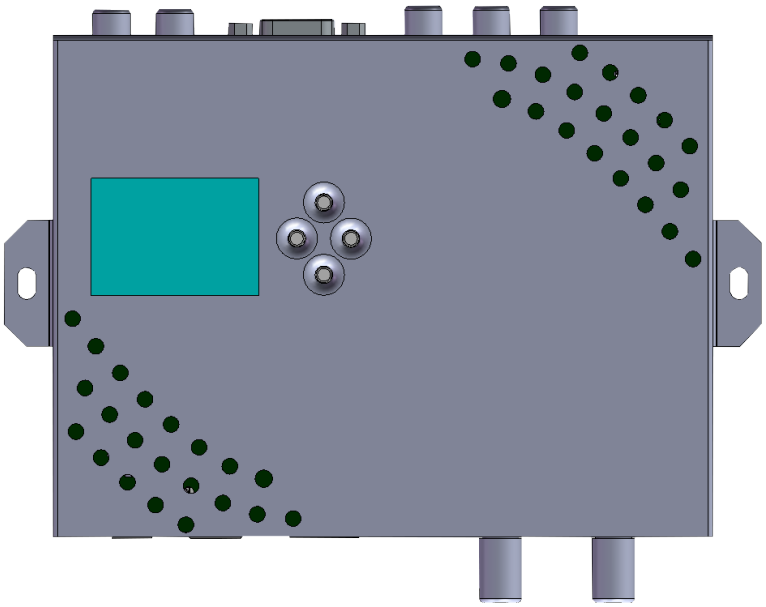
T3 ▶ (move forward/down) button

T4 ◀ (move backward/up) button

3 - Installation and menu structure

3.1 - Installation

Install the TM250HD against a wall using the wall fixation brackets to ensure cooling of the housing through natural convection. (see drawing)
Connect the audio and video source using HDMI, PC, or component VIDEO and ANALOG audio cables. Connect the RF input cable (if present) and the RF output cable. If the RF input is not used, please connect a 75 ohm terminating resistor to it. Once the modulator installed and the cables connected, please proceed connecting the power supply to the modulator.

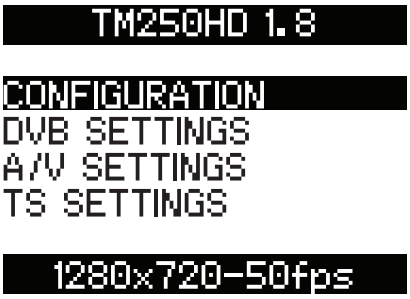


3.2 - Powering up

Plug in the connector of the power supply. The display will show the ANTTRON logo while booting.Once the modulator has booted correctly the main menu will appear.

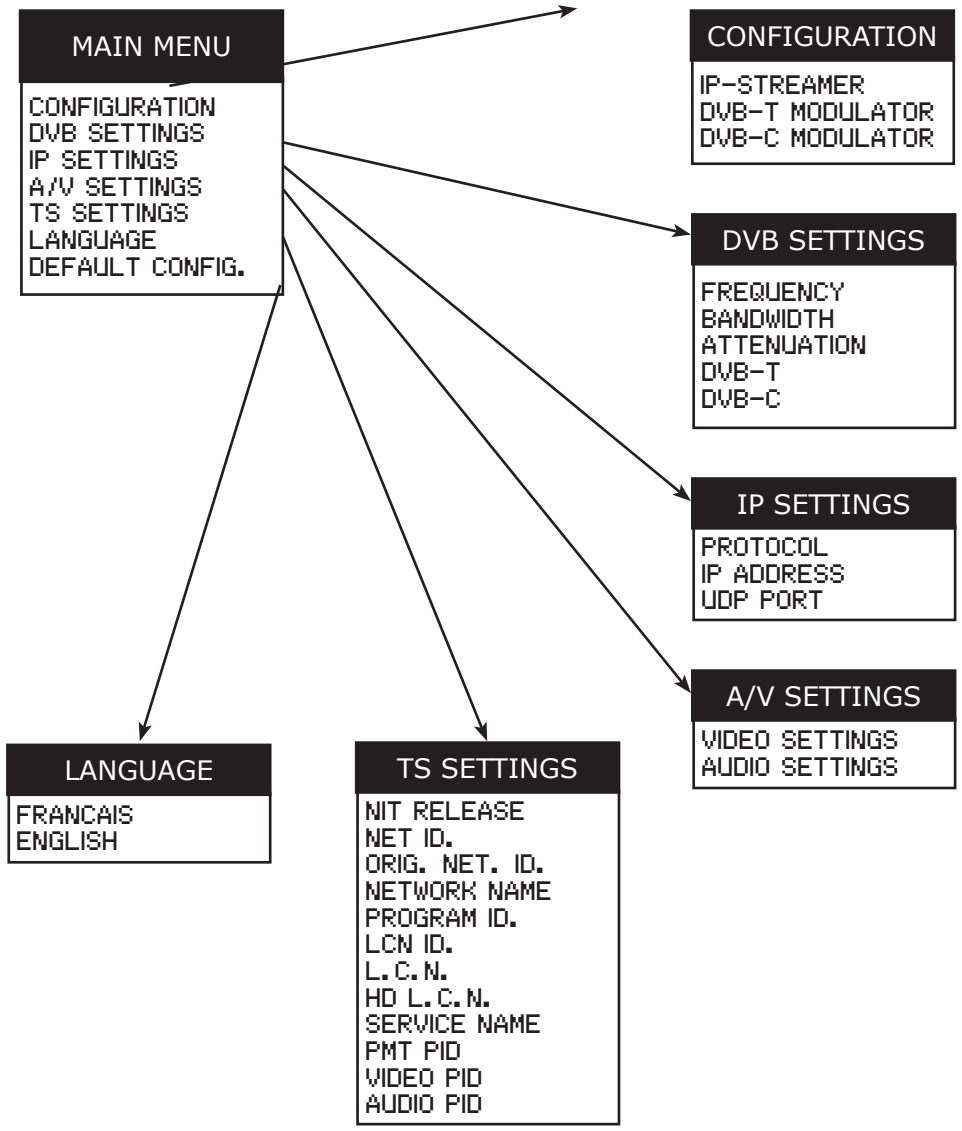
In the first line the model number is displayed (TM250HD) followed by the installed firmware version.

When the modulator is encoding, the actual resolution is displayed in the bottom line of the display
When the modulator in intiialising, the mention INIT is displayed at the bottom line.



3.3 - Menu structure

The TM250HD has different menus allowing easy access to the differents parameters and to change them when necessary. Below you will find the structure of the different menus.



In order to go from one menu to the other use the MOVE ***UP/DOWN*** keys to select the menu option. Press the ***ENTER*** button to select this option. Press the ***CANCEL*** button to go back to the previous menu.

To set parameters, whether you have the option to select a specific value. In the other case some number or text string should be entered. In that case, use the buttons ▶ and ◀ to move to the desired character and press the ENTER button to confirm. Please note the following ***SPECIAL CHARACTERS*** :

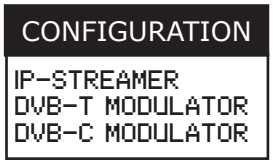
↵ confirm the modified value / ⨯ erase all / ← backspace

⇦⇨ move cursor back or forward

4 - Setting up the TM250HD

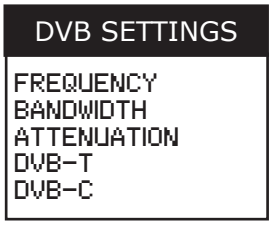
4.1 - The CONFIGURATION menu

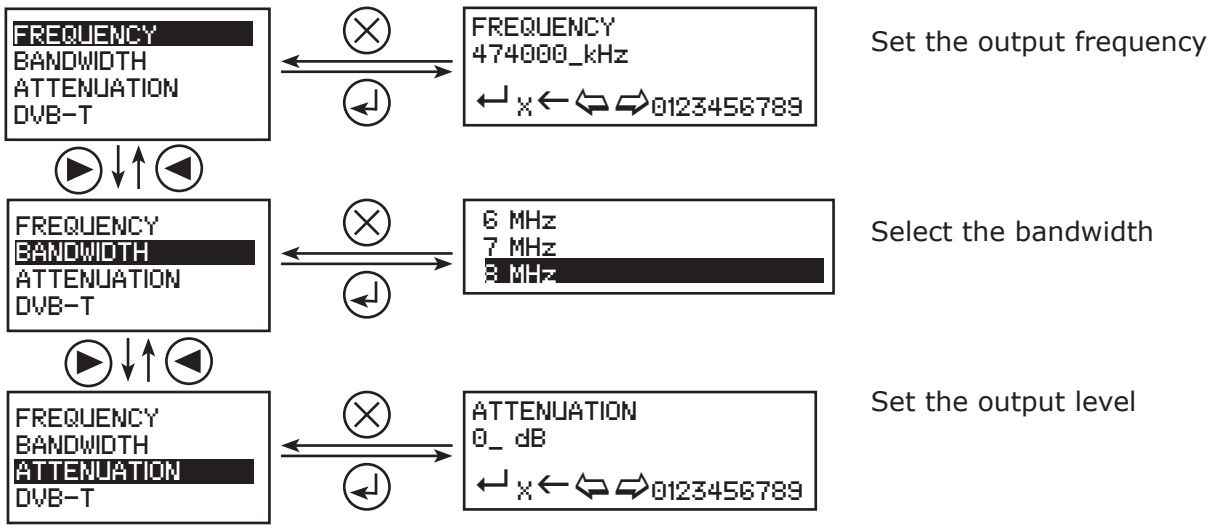
In this menu you can setup your TM250HD as IP streamer, DVBT modulator or DVBC modulator. Select the appropriate option with the buttons ▶ and ◀ and press the ENTER button to confirm.



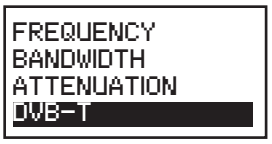
4.2 - The DVB settings menu

If the TM250HD is configured as DVBT modulator or DVBC modulator, you can set in this menu the output frequency, bandwidth, output level and specific parameters for DVB-T or DVB-C.

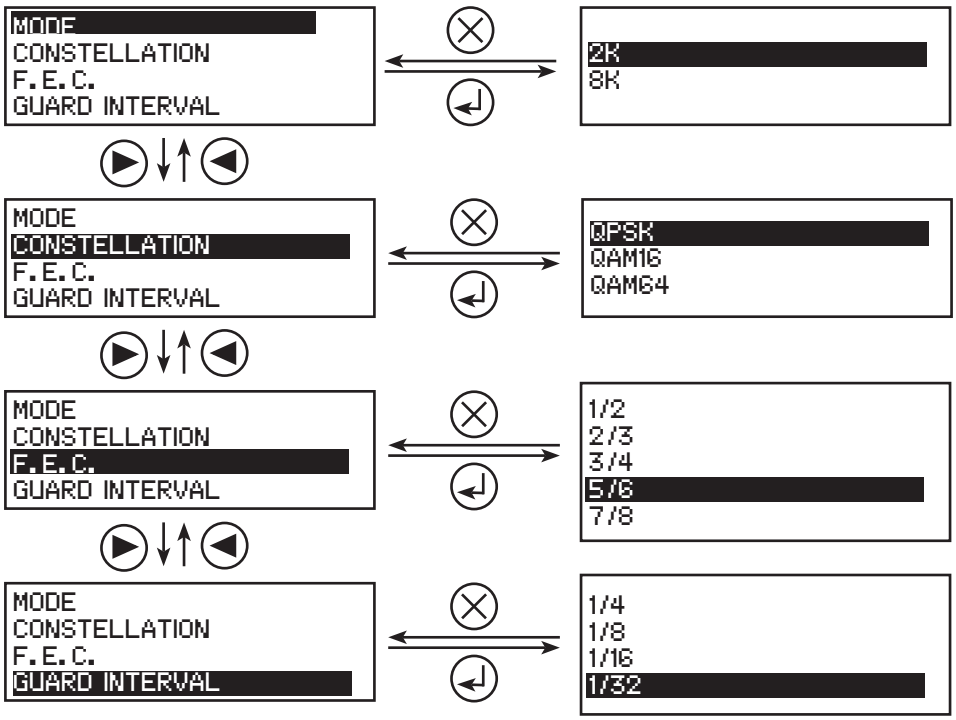




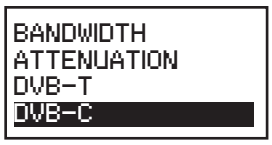
4.2.1 - Setting DVB-T parameters



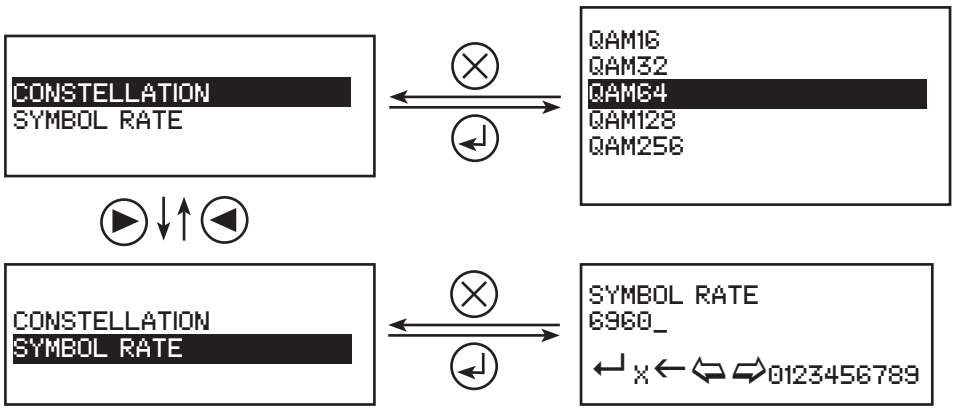
When you select DVB-T and press the ENTER button, the following submenu appears. It allows you to set the DVB-T parameters.



4.2.2 - Setting DVB-C parameters

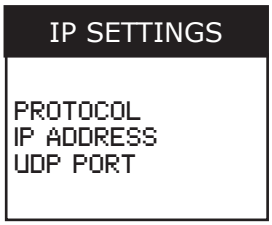


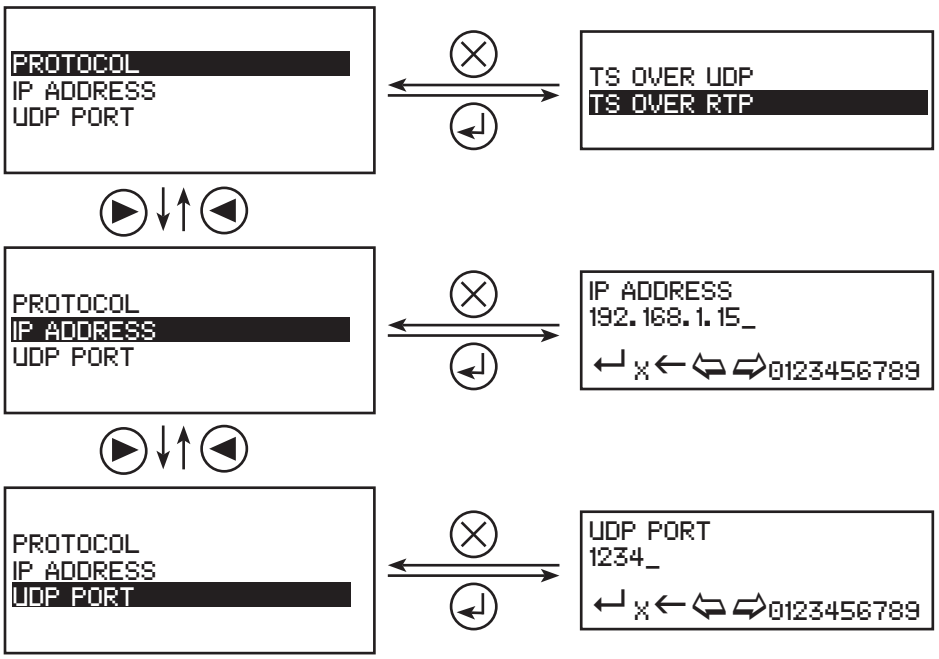
When you select DVB-C and press the ENTER button, the following submenu appears. It allows you to set the DVB-C parameters.



4.3 - The IP settings menu

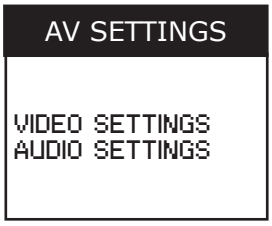
When your TM250HD is configured as IP streamer, the you can adjust the settings in the IP settings menu.



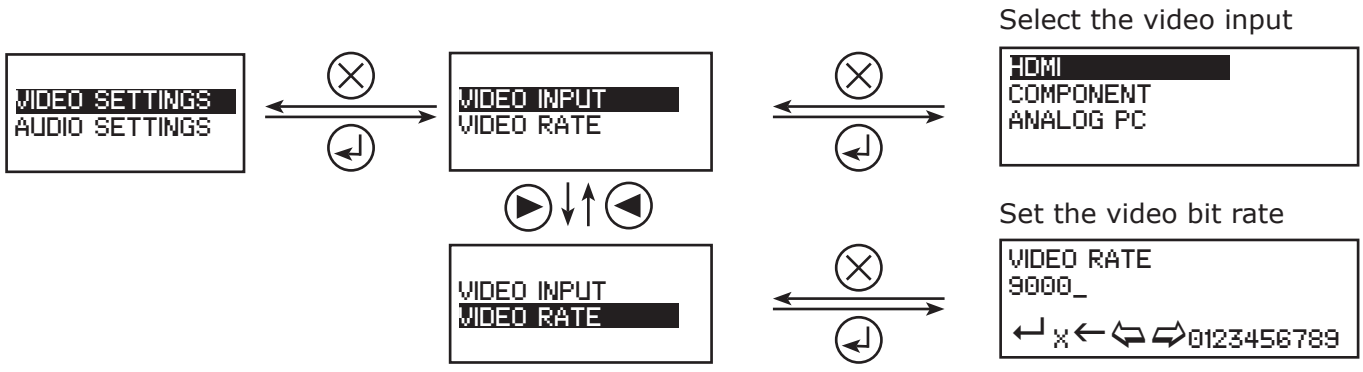


4.4 - The AV settings menu

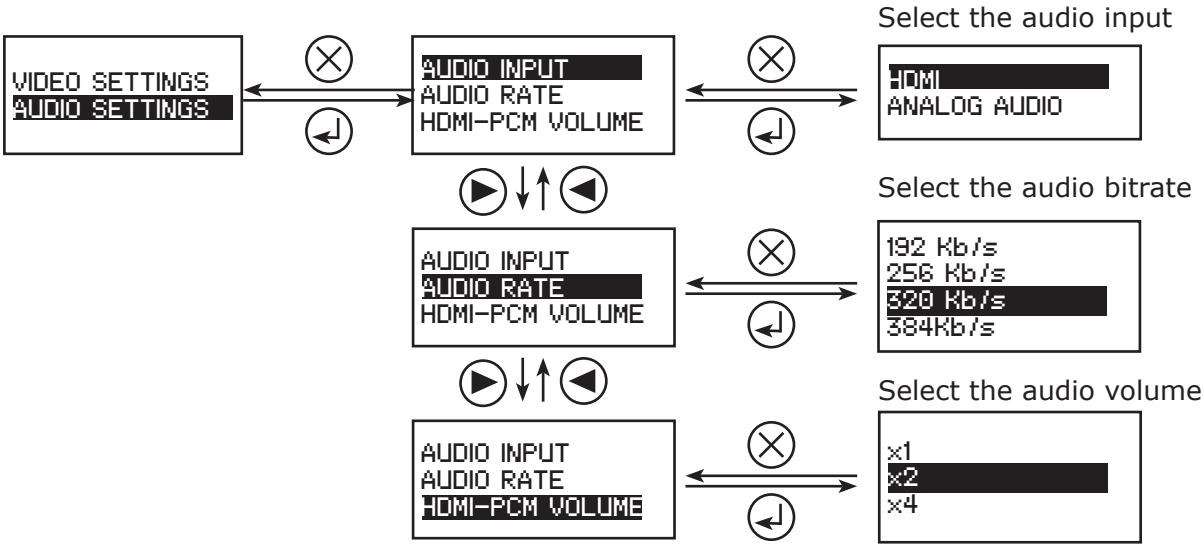
This menu allows you to configure which inputs should be used for the encoder and to adjust specific video and audio parameters.



4.4.1 - Changing the VIDEO settings

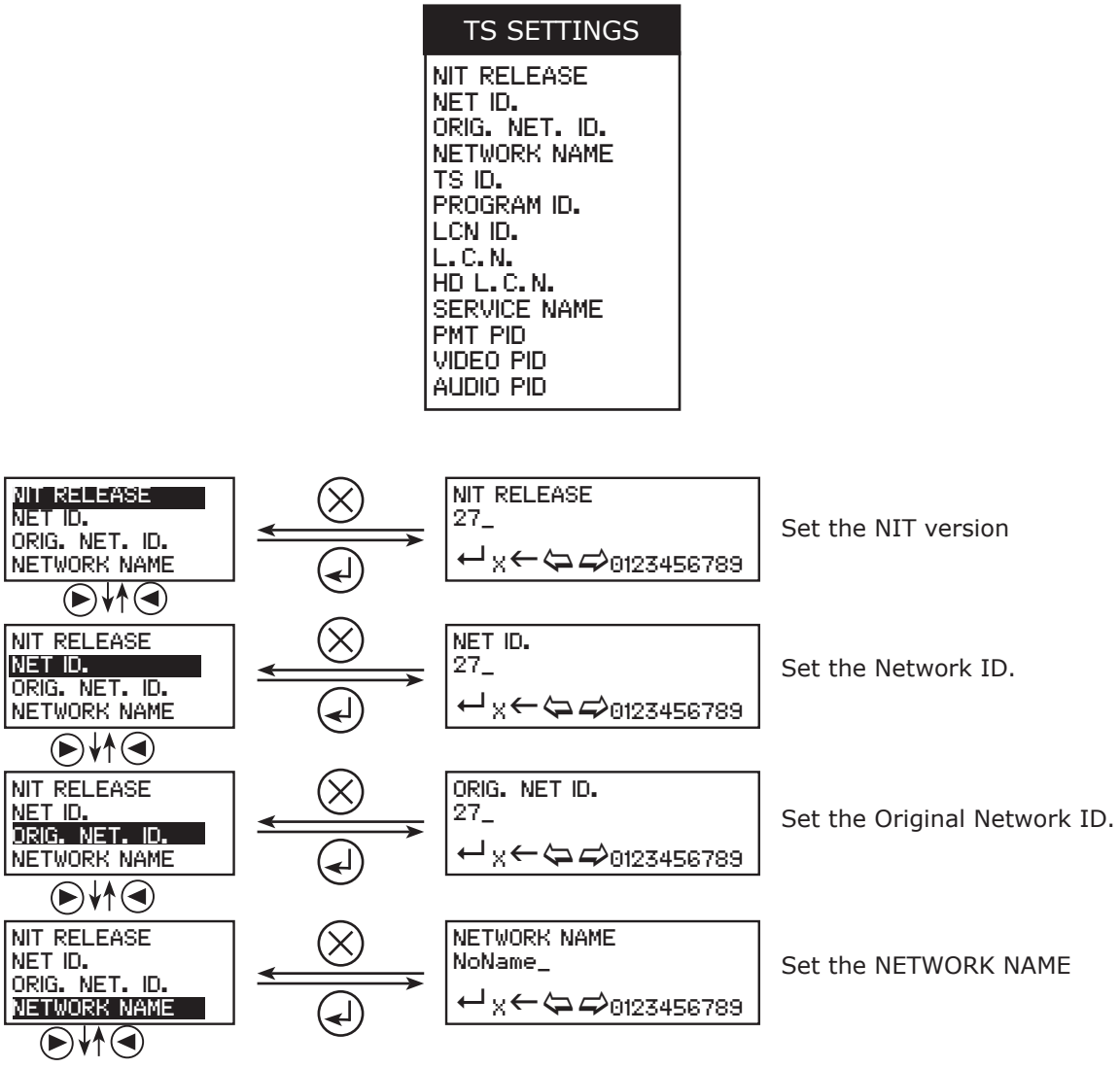


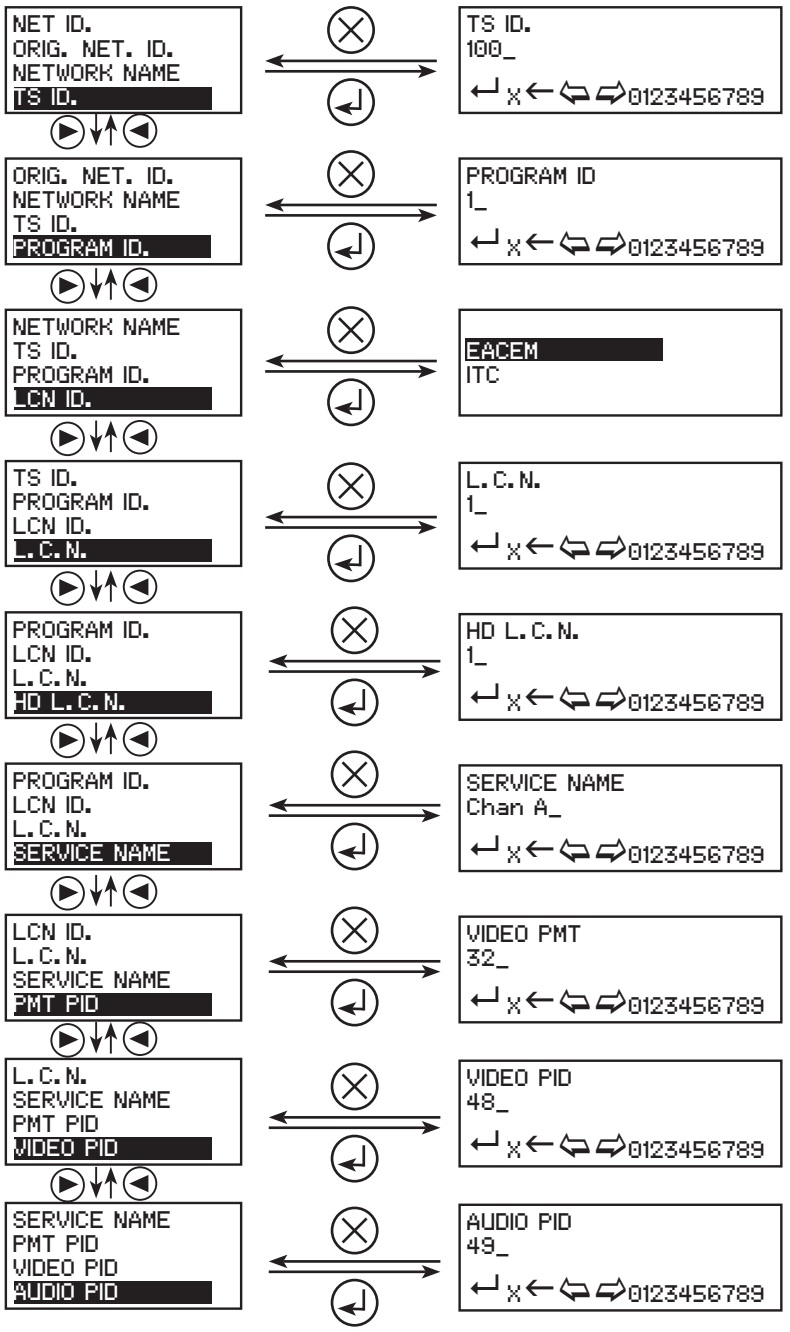
4.4.2 - Changing the AUDIO settings



4.5 - The TS settings menu

This menu allows you to adjust specific parameters of the transport stream.





4.6- The language menu

Select in this menu your preferential language.

4.7 - Default configuration

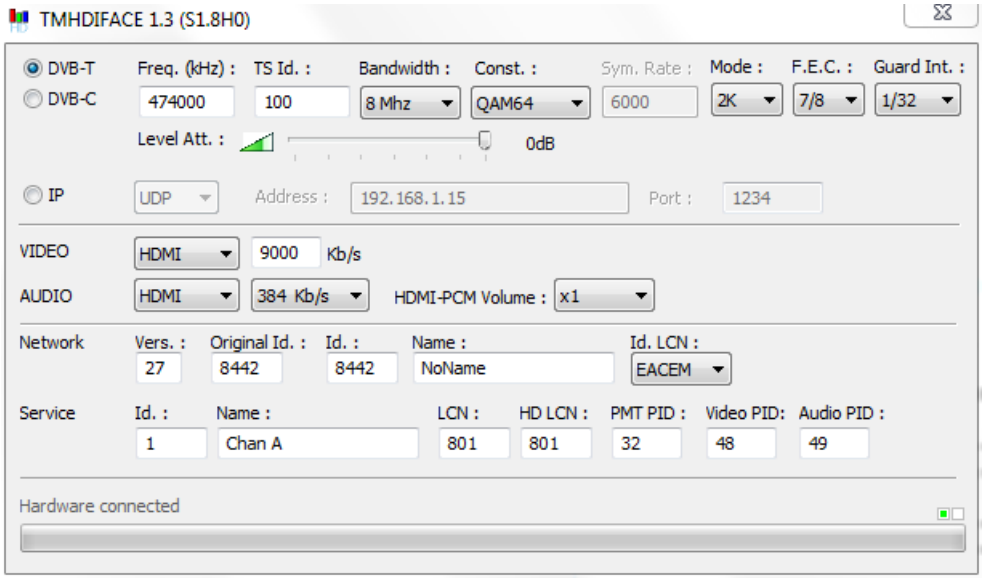
When selecting this option, all your modifications will be lost, and the default factory settings will be restored.

5 - Programming using a PC

The settings of the TM250HD can also be changed using a PC.

First, please install the software **TMHDIFace** on your PC. You can download this software from our internet site **anttron.com**
After installation of this software, connect the TM250HD using a USB cable (not included) to your personal computer. Then launch the program **TMHDIface.**

On the display of the TM250HD the message <USB> appears, indicating that the programming is now performed through your PC. The following window appears on your screen.



Now, all parameters discussed in Chapter 4 of this user manual can be modified by TMHDIface.

6 - Technical specifications

Video inputs	**Input**	HDMI - YUV - Computer analog input
	Resolution modes	480p -576p -720p - 1080i - VGA - SVGA - XGA - SXGA
	Compression	H.264 – bitrate 5-15 Mb/s
Audio inputs	**Input**	HDMI – L/R analog audio input
	Sample Rate	HDMI (32kHz / 44.1 kHz / 48 kHz) – Analog (48 kHz)
	Compression	AAC-LC – bitrate 128-384 Kb/s
DVB Processing	**Table insertion**	PAT, PMT, SDT, NIT
	Configuration	Channel/network name, SID, LCN, TSID, ONID, NID, versions, audio, video PIDs…
DVB-T output	Output frequency / level	170-230 MHz + 470-862 MHz / > 80 dBµV
	Constellation - FEC	QPSK/16QAM/64QAM - 1/2, 2/3, 3/4, 5/6, 7/8
	Guard interval	1/4, 1/8, 1/16, 1/32
	Mode - MER	2K/8K - 35 dB
DVB-C output	Output frequency / level	50-862 MHz / > 80 dBµV
	Constellation - Symbolrate	16, 32, 64, 128, 256 QAM (EN 300 429) - 4,00 - 6,96 Msps
IP streaming	Interface	10/100 Base-T
	Streaming	UDP/RTP…
Power	DC 2.1 mm connector	+5V
	Consumption	10 Watts
Dimensions	LxWxH	170x130x35mm
	Weight	0.6 kg
EAN code	TM250HD	5420037699230