

ANTTRON

TM190HD

HD encoder
DVB-T out
Record and play



USER MANUAL V1.0

Congratulations on your purchase of the TM190HD !

This 'state of the art' product, is a HD encoder. The video and audio input or taken from HDMI.

After compressing the video into H264 and audio in AAC or MPEG1-L2, the output is available as DVB-T signal.

The modulator is also able to record the input of the HDMI as .ts file to an external USB stick. Also .ts files can be played from the USB stick over the DVBT network.

Stand-alone configuration is made easy through 4 tact switches and ergonomic menu's. To make the configuration of the TM190HD ultra simple, a special software TMHDIface is available that you can download on our website anttron.com

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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

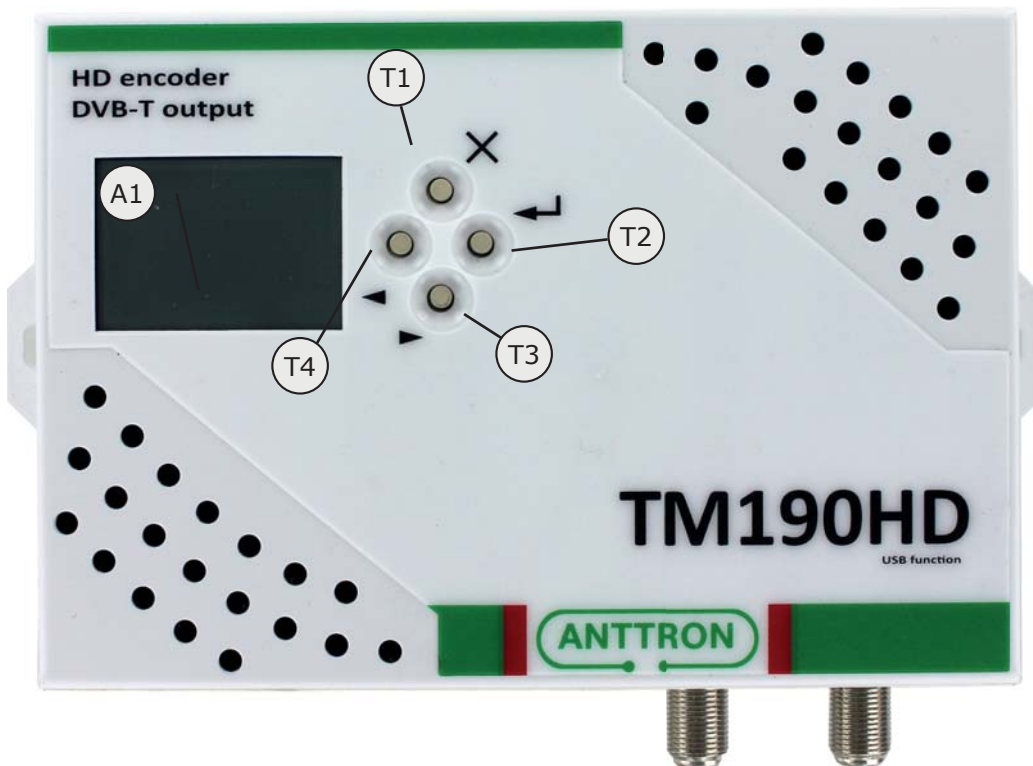
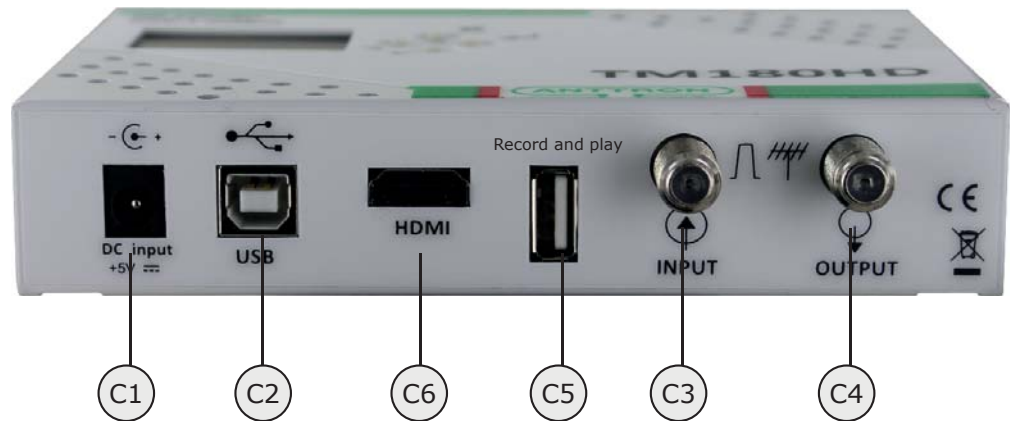
The use of accessories not manufactured by the manufacturer can cause damage to the module.

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 Power supply input (5V/2A)
- C2 USB input (for programmig the TM190HD by PC)
- C3 RF input
- C4 RF output
- C5 USB for record and play
- C6 HDMI 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

Connect the audio and video source using a HDMI cable. 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

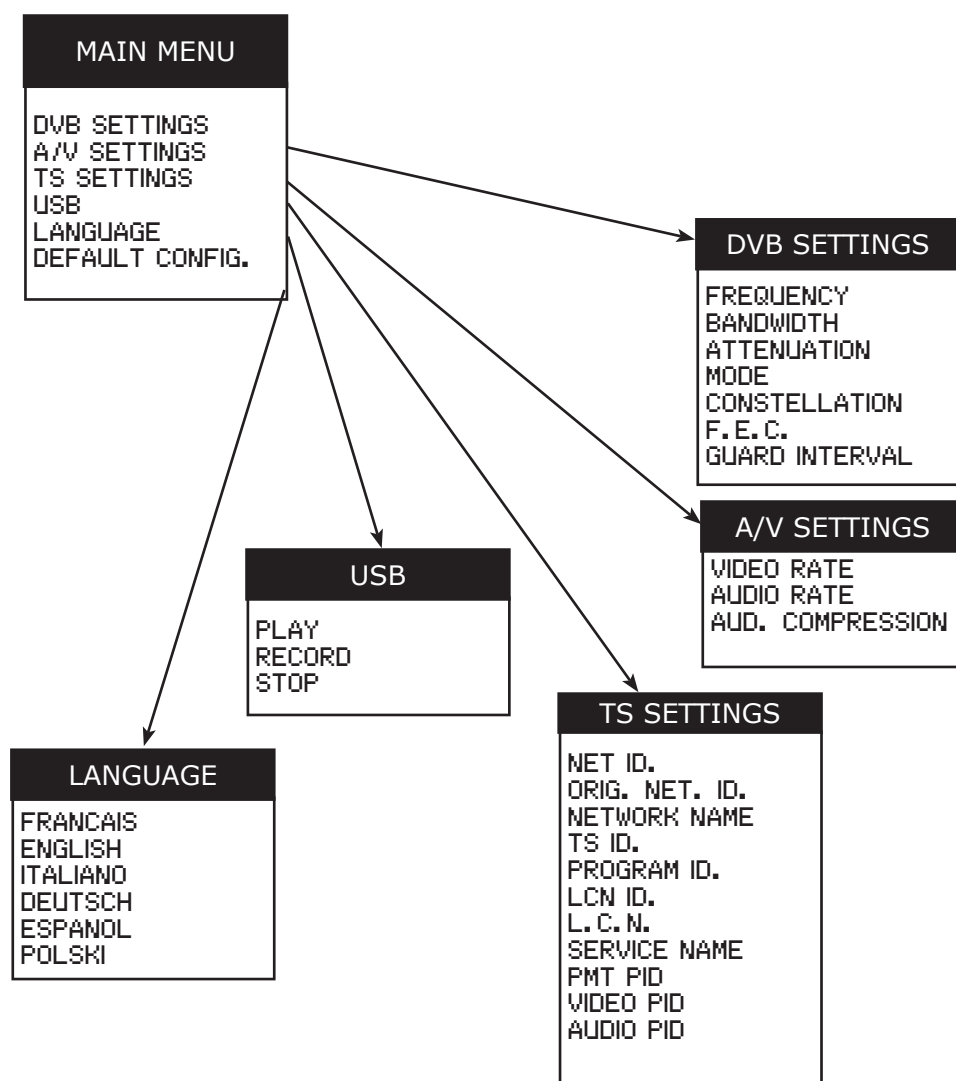
Plug in the connector of the power supply. The display will show the ANTTRON logo while booting. Once the modulator has booted correctly the main menu will appear.

In the first line the model number is displayed (TM190HD) followed by the installed firmware version.

```
TM190HD 26.30
DVB SETTINGS
A/V SETTINGS
TS SETTINGS
USB
720P50 PCM
```

3.3 - Menu structure

The TM190HD has different menus allowing easy access to the different 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** :

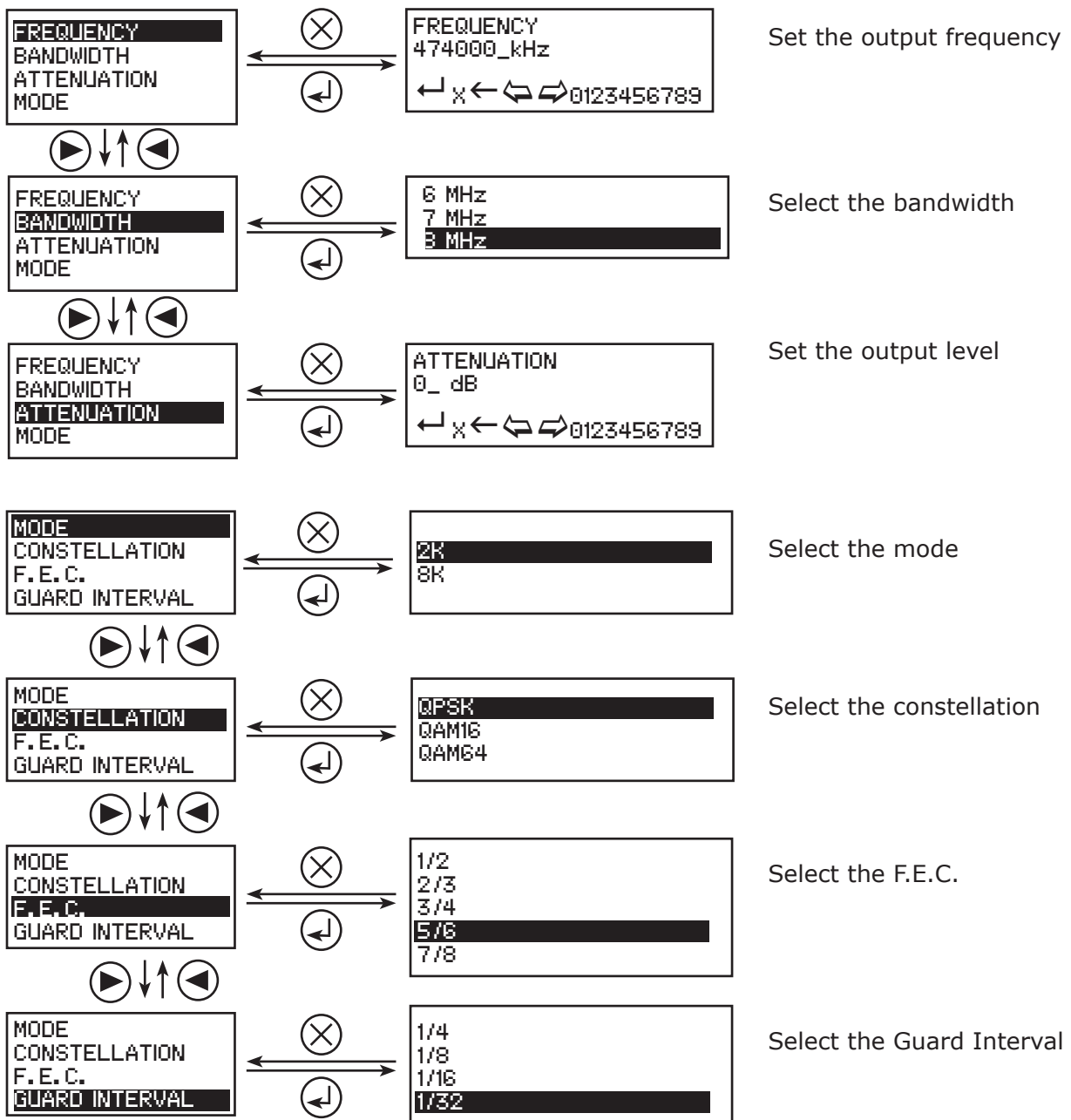
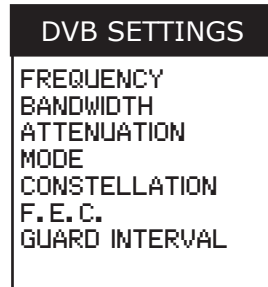
↵ confirm the modified value / * erase all / ← backspace

↔ move cursor back or forward

4 - Setting up the TM190HD

4.1 - The DVB settings menu

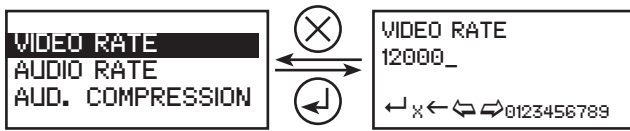
In this menu you can set the output frequency, bandwidth, output level and specific parameters for DVB-T.



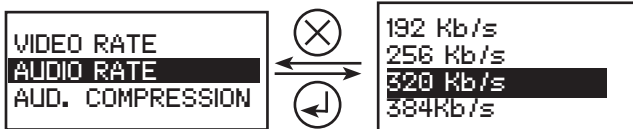
4.2 - The AV settings menu

In the A/V settings menu, you can set specific parameters for video and audio.

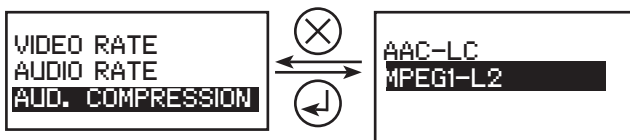
VIDEO RATE
AUDIO RATE
AUD. COMPRESSION



Set the video bit rate



Select the audio bitrate



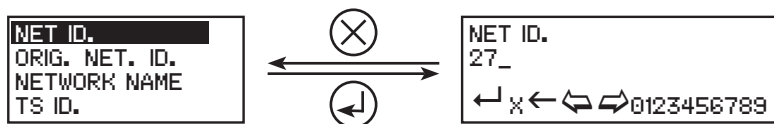
Select the compression type

4.3 - The TS settings menu

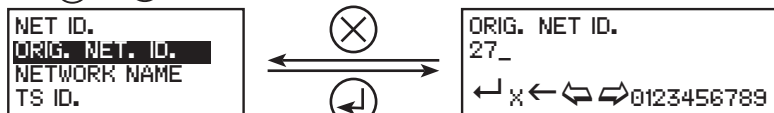
This menu allows you to adjust specific parameters of the transport stream.

TS SETTINGS

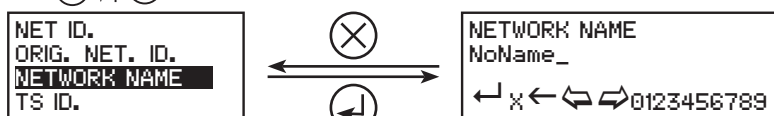
NET ID.
ORIG. NET. ID.
NETWORK NAME
TS ID.
PROGRAM ID.
LCN ID.
L. C. N.
SERVICE NAME
PMT PID
VIDEO PID
AUDIO PID



Set the Network ID.

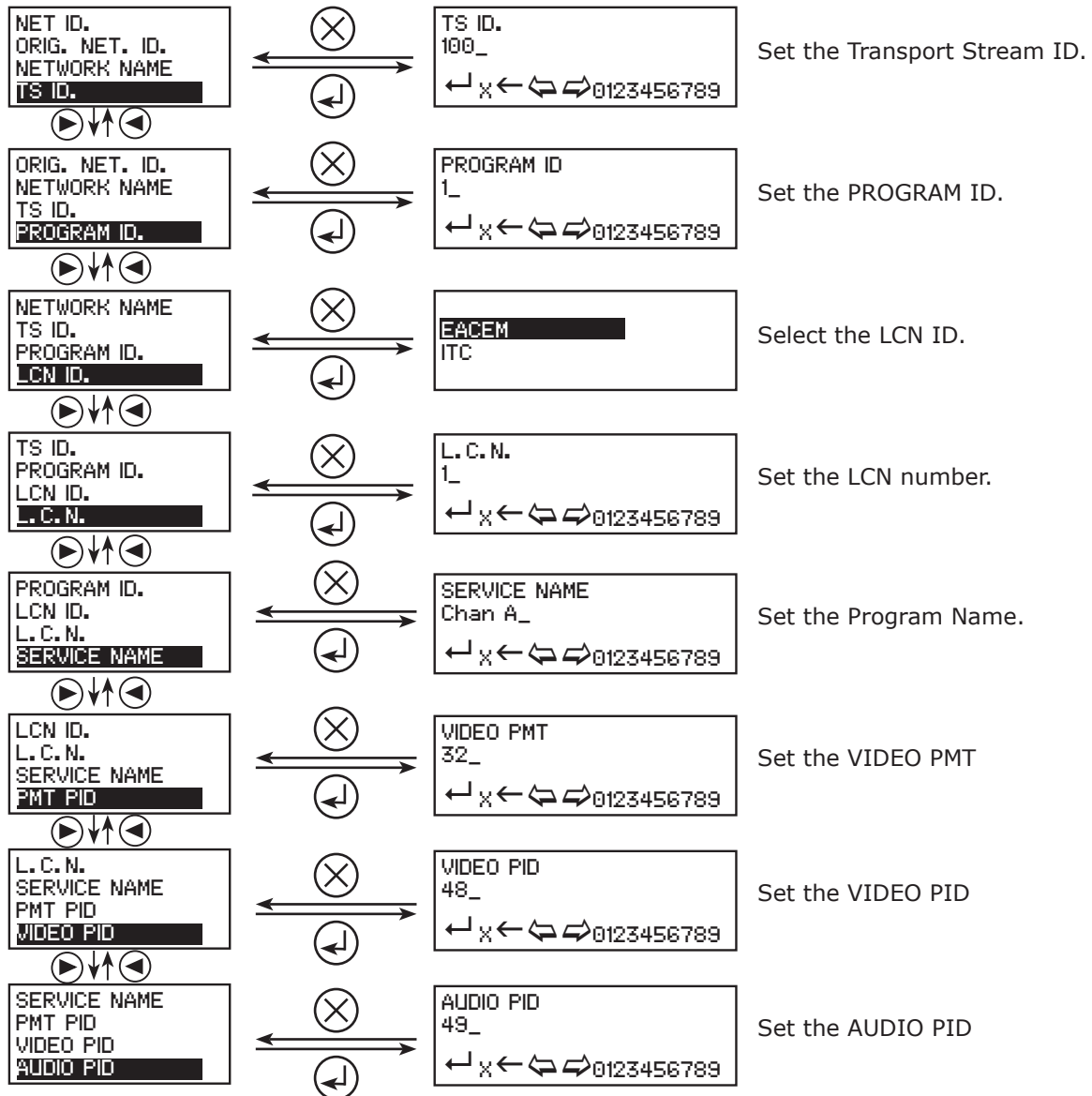


Set the Original Network ID.

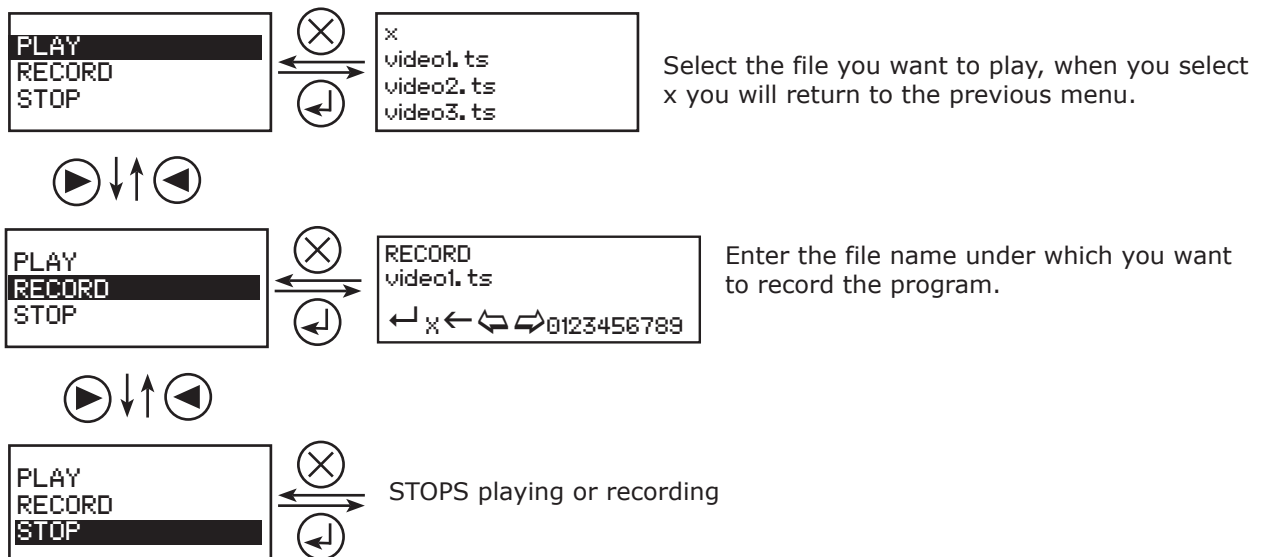


Set the NETWORK NAME





4.4 - The USB menu



4.5 - The language menu

Select in this menu your preferential language.

4.6 - Default configuration

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

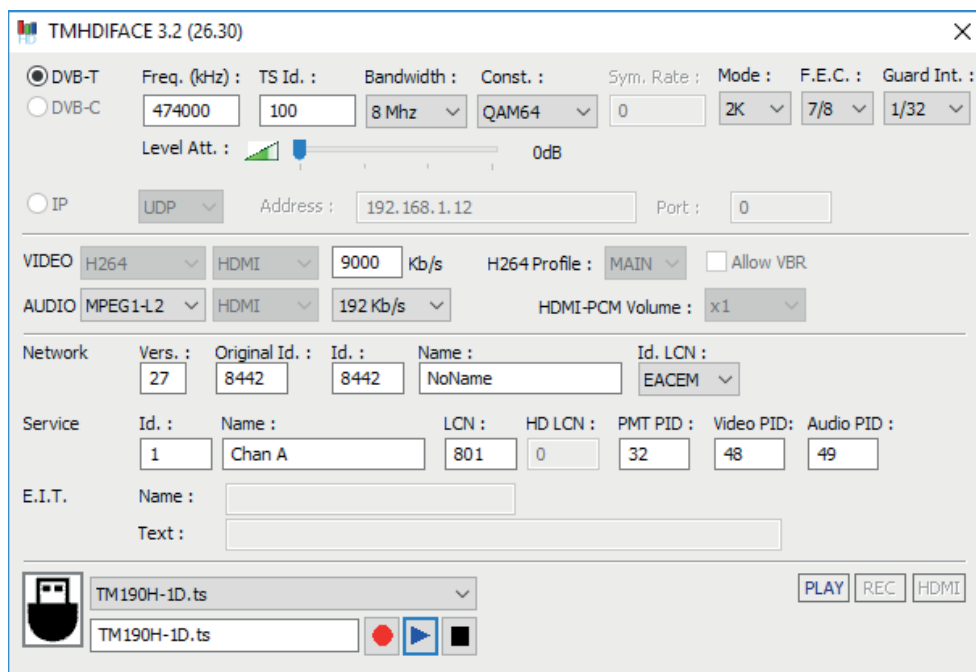
5 - Programming using a PC

The settings of the TM190HD 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 TM190HD using a USB cable (not included) to your personal computer. Then launch the program **TMHDIface**.

On the display of the TM190HD 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 input	Input	HDMI
	Resolution modes	480p -576p -720p - 1080i - 1080P
	Compression	H.264 – bitrate 5-15 Mb/s
Audio input	Input	HDMI
	Sample Rate	HDMI (32kHz / 44.1 kHz / 48 kHz)
	Compression	AAC-LC / MPEG1-L2– 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 / > 85 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 - 31 dB
Power	DC 2.1 mm connector	+5V
	Consumption	10 Watts
Dimensions	LxWxH	150x130x35mm
	Weight	0.6 kg
EAN code	TM180HD	5420037691807

