CONEXER

DIGITAL MODULATOR DMHD01L
SINGLE DVB-T ENCODER/MODULATOR

USER MANUAL

Congratulations on your purchase of the DMHD01L

This 'state of the art' product, is a HD encoder. The video and audio input can be taken from HDMI. After compressing the video into H264 and audio in AAC or MPEG1-L2 the output can be configured as DVB-T signal.

Stand alone configuration is made easy through 4 tact switches and ergonomic menu's.
To make the configuration of the DMHD01L ultra simple, a special software DMHDiface is available that you can download on our website: www.antiference.co.uk/conexer-hdmi-modulator and select the '**downloads**' tab.

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 Over Voltage
An over voltage on the mains supply, can cause short circuits 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 damp cloth without solvents.

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 places.
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 which is susceptible to electromagnetic radiation. Do not install the module on unstable items, a fall can cause physical or material damage.

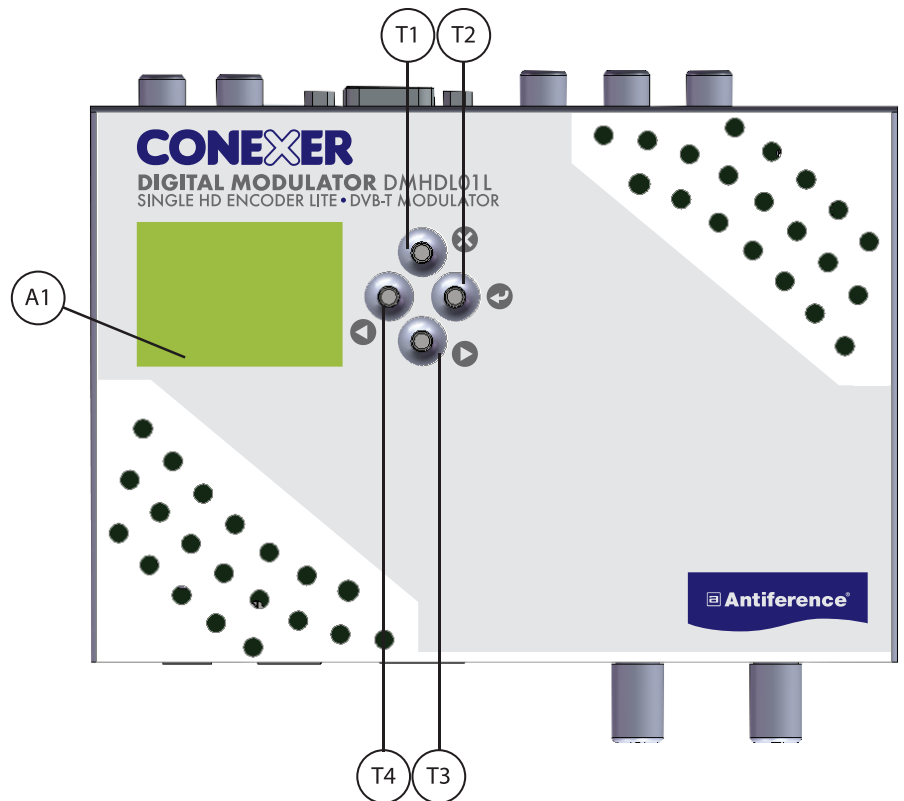## 2 - Description of the different elements

C1   Power supply input (5 V/2 A)
C2   USB input (for programming
      the DMHD01L by PC)
C3   RF input
C4   RF output
C5   USB
C6   HDMI input
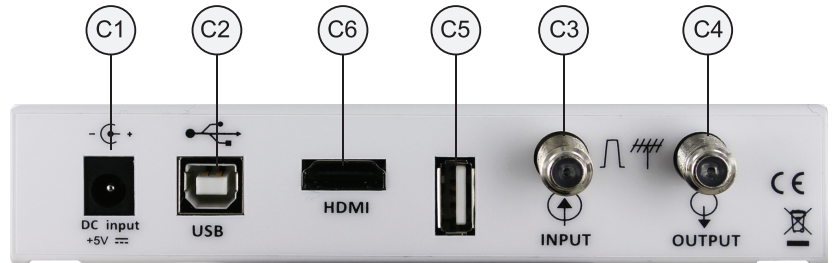
A1   Display
T1   Cancel/ Return button
T2   Enter button
T3   Forward/Down button
T4   Back/Up button

3 - Installation and menu structure

3.1 - Installation

Install the DMHD01L against a wall using the wall fixing brackets to ensure cooling of the housing through natural convection. (see drawing)

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 is installed and the cables connected, please proceed connecting the power supply to the modulator.
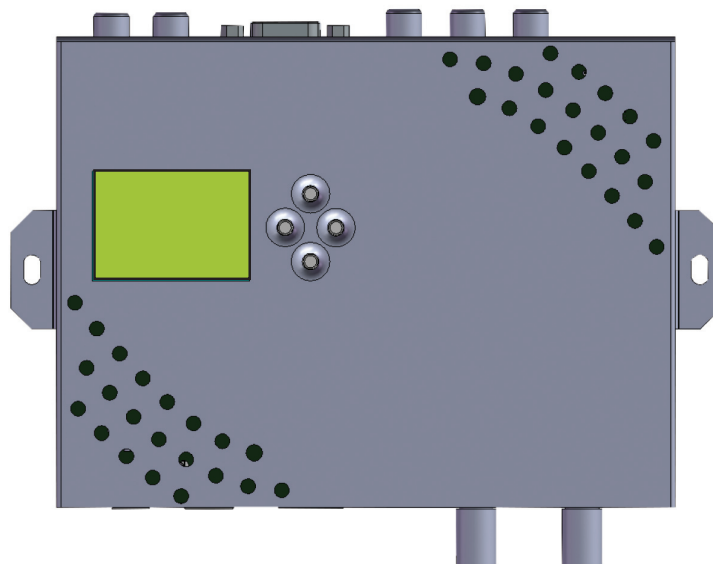
3.2 Powering Up

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

In the first line the model number is displayed (DMHD01L) followed by the installed firmware version.

DMHDL01 1.5

DVB SETTINGS
A/V SETTINGS
TS SETTINGS
LANGUAGE
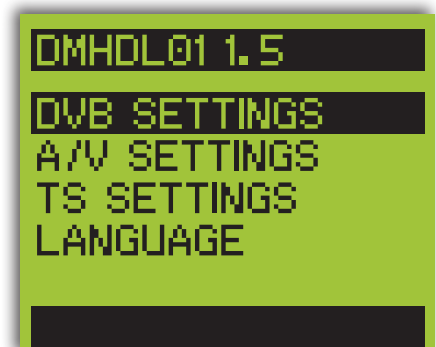
3.3 - Menu Structure

The DMHD01L 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:

MAIN MENU
- DVB SETTINGS
- A/V SETTINGS
- TS SETTINGS
- LANGUAGE
- DEFAULT CONFIG
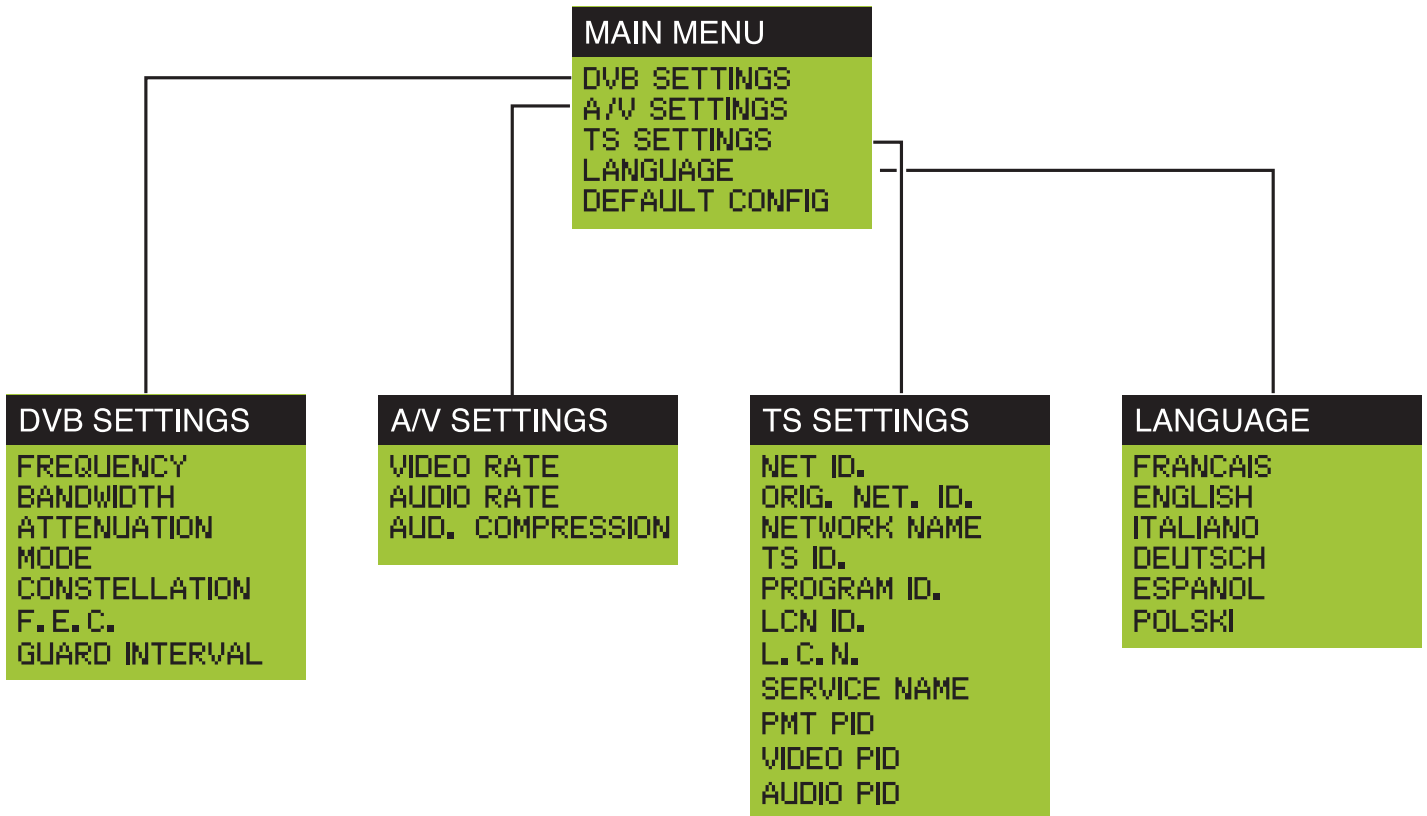
DVB SETTINGS
- FREQUENCY
- BANDWIDTH
- ATTENUATION
- MODE
- CONSTELLATION
- F.E.C.
- GUARD INTERVAL

A/V SETTINGS
- VIDEO RATE
- AUDIO RATE
- AUD. COMPRESSION

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

LANGUAGE
- FRANCAIS
- ENGLISH
- ITALIANO
- DEUTSCH
- ESPANOL
- POLSKI

In order to go from one menu to the other use the move up/down (◄ and ►) keys to select the menu options. Press the enter (↵) button to select this option. Press the cancel (X) 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 forward / down
⇦	move cursor backward / up

4 Setting up the DMHD01L
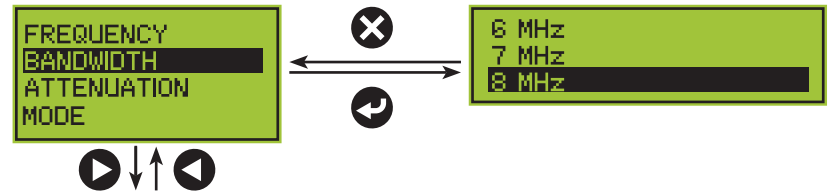
4.1 - The DVB settings menu

DVB SETTINGS	In this menu you can set the output frequency, and width, output level and specific parameters for DVB-T. Select the appropriate option with the ◄ and ► buttons and press the enter ↵ button to confirm.
FREQUENCY BANDWIDTH ATTENUATION MODE CONSTELLATION F.E.C. GUARD INTERVAL	

• Set the output frequency

```
FREQUENCY
BANDWIDTH
ATTENUATION
MODE
```
⊗ ↵
```
FREQUENCY
474000_kHz
↵ x←⇦⇨0123456789
```
► ↓↑ ◄

• Select the bandwidth

```
FREQUENCY
BANDWIDTH
ATTENUATION
MODE
```
⊗ ↵
```
6 MHz
7 MHz
8 MHz
```
► ↓↑ ◄

• Set the output level

```
FREQUENCY
BANDWIDTH
ATTENUATION
MODE
```
⊗ ↵
```
ATTENUATION
0_ dB
↵ x←⇦⇨0123456789
```
► ↓↑ ◄

• Select the mode

```
MODE
CONSTELLATION
F.E.C.
GUARD INTERVAL
```
⊗ ↵
```
2K
8K
```
► ↓↑ ◄
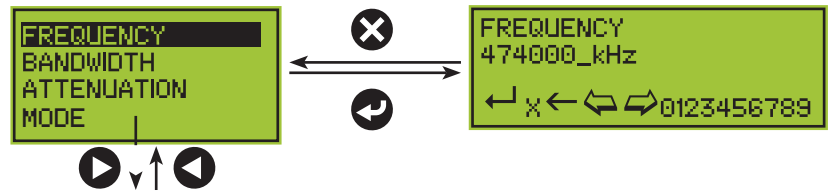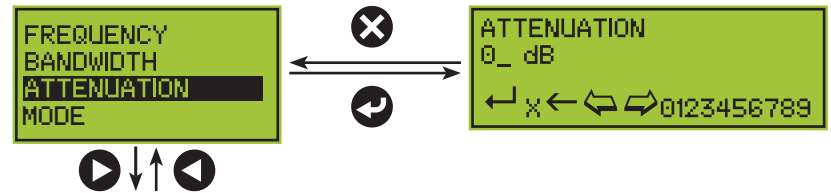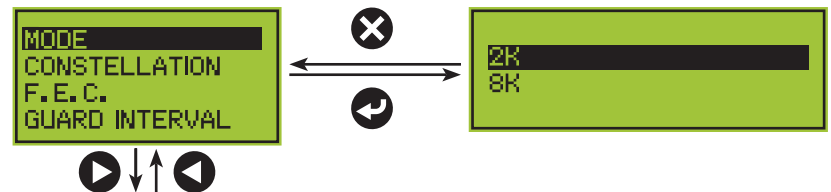
• Select the constellation

```
MODE
CONSTELLATION
F.E.C.
GUARD INTERVAL
```
⊗ ↵
```
QPSK
QAM16
QAM64
```
► ↓↑ ◄

• Select the F.E.C

```
MODE
CONSTELLATION
F.E.C.
GUARD INTERVAL
```
⊗ ↵
```
1/2
2/3
3/4
5/6
7/8
```
► ↓↑ ◄
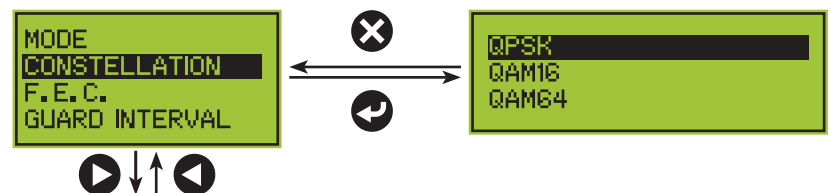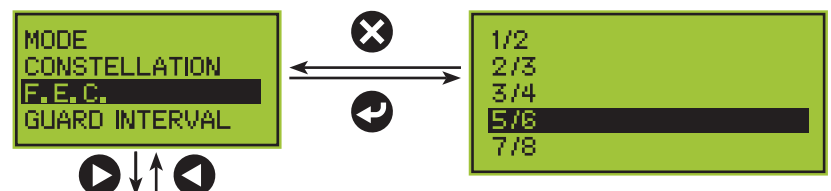
• Select the Guard Interval

```
MODE
CONSTELLATION
F.E.C.
GUARD INTERVAL
```
⊗ ↵
```
1/4
1/8
1/16
1/32
```
► ↓↑ ◄
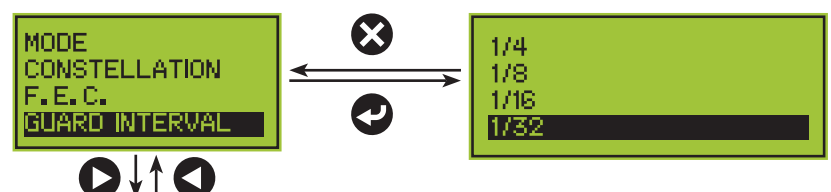
4.2 The AV Settings menu

A/V SETTINGS
VIDEO RATE
AUDIO RATE
AUD. COMPRESSION

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

• Set the video bit rate

VIDEO RATE
AUDIO RATE
AUD. COMPRESSION
⟷
VIDEO RATE
12000_
↵x←⇦⇨0123456789

• Select the audio bit rate

VIDEO RATE
AUDIO RATE
AUD. COMPRESSION
⟷
192 kb/s
256 kb/s
320 kb/s
384 kb/s

• Select the compression type

VIDEO RATE
AUDIO RATE
AUD. COMPRESSION
⟷
AAC-LC
MPEG1-L2
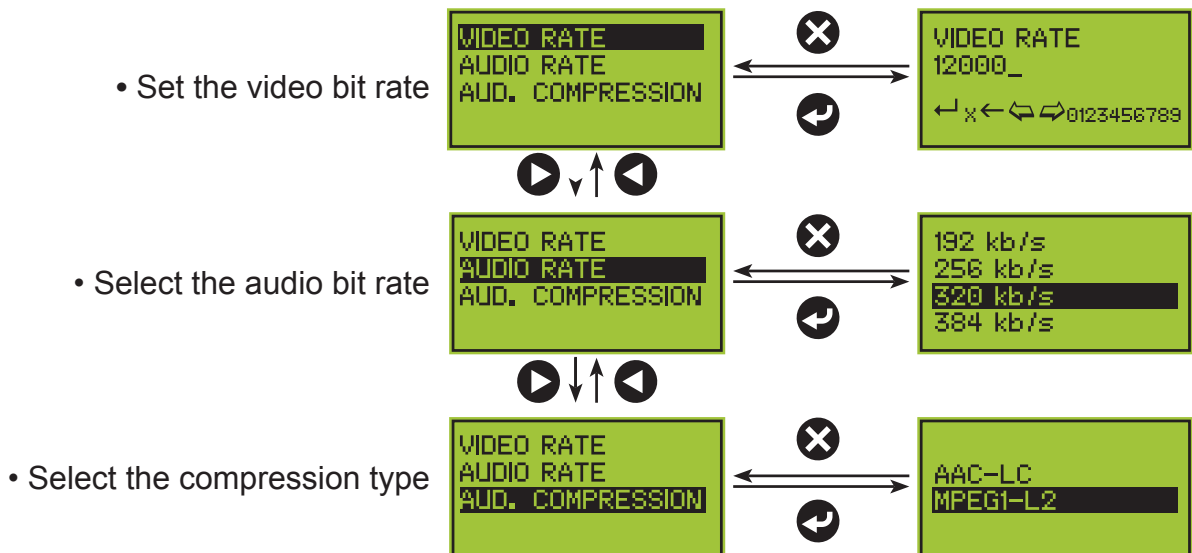
4.3 The TS Settings menu

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

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

• Set the Network ID

NET ID.
ORIG. NET. ID.
NETWORK NAME
TS ID.
⟷
NET ID.
12293_
↵x←⇦⇨0123456789

• Set the Original Network ID

NET ID.
ORIG. NET. ID.
NETWORK NAME
TS ID.
⟷
ORIG. NET. ID.
9018_
↵x←⇦⇨0123456789

• Set the Network Name

NET ID.
ORIG. NET. ID.
NETWORK
TS ID.
⟷
NETWORK NAME
NoName_
↵x←⇦⇨0123456789

• Set the Transport Stream ID.

```
NET ID.
ORIG. NET.ID.
NETWORK NAME
TS ID.
```
⊗ ⟷ ↵
```
TS ID.
100_
↵ x← ⟵ ⟶ 0123456789
```

▶ ↓↑ ◀

• Set the Program ID.

```
ORIG. NET.ID.
NETWORK NAME
TS ID.
PROGRAM ID.
```
⊗ ⟷ ↵
```
PROGRAM ID.
1_
↵ x← ⟵ ⟶ 0123456789
```

▶ ↓↑ ◀

• Set the LCN ID.

```
NETWORK NAME
TS ID.
PROGRAM ID.
LCN ID.
```
⊗ ⟷ ↵
```
EACEM
ITC
```

▶ ↓↑ ◀

• Set the LCN number

```
TS ID.
PROGRAM ID.
LCN ID.
L.C.N.
```
⊗ ⟷ ↵
```
L.C.N.
1_
↵ x← ⟵ ⟶ 0123456789
```

▶ ↓↑ ◀

• Set the Program Name

```
PROGRAM ID.
LCN ID.
L.C.N.
SERVICE NAME
```
⊗ ⟷ ↵
```
SERVICE NAME
Chan A_
↵ x← ⟵ ⟶ 0123456789
```

▶ ↓↑ ◀

• Set the Video PMT

```
LCN ID.
L.C.N.
SERVICE NAME
PMT PID
```
⊗ ⟷ ↵
```
VIDEO PMT
32_
↵ x← ⟵ ⟶ 0123456789
```

▶ ↓↑ ◀

• Set the Video PID

```
L.C.N.
SERVICE NAME
PMT PID
VIDEO PID
```
⊗ ⟷ ↵
```
VIDEO PID
48_
↵ x← ⟵ ⟶ 0123456789
```

▶ ↓↑ ◀

• Set the Audio PID

```
SERVICE NAME
PMT PID
VIDEO PID
AUDIO PID
```
⊗ ⟷ ↵
```
AUDIO PID
49_
↵ x← ⟵ ⟶ 0123456789
```

## 4.4 The Language menu
Select your preferred language in this menu.

4.5 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 DMHD01L can also be changed using a PC. First, please install the software DMHDiFace on your PC. You can download this software from our internet site www.antiference.co.uk/conexer-hdmi-modulator and select the '**downloads**' tab. After installation of this software, connect the DMHD01L using a USB cable (not included) to your personal computer. Then launch the program DMHDiFace. On the display of the DMHD01L the message <USB> appears, indicating that the programming is now performed through your PC. The following window appears on your screen
All parameters discussed in Chapter 4 of this user manual can be modified by DMHDiFace.
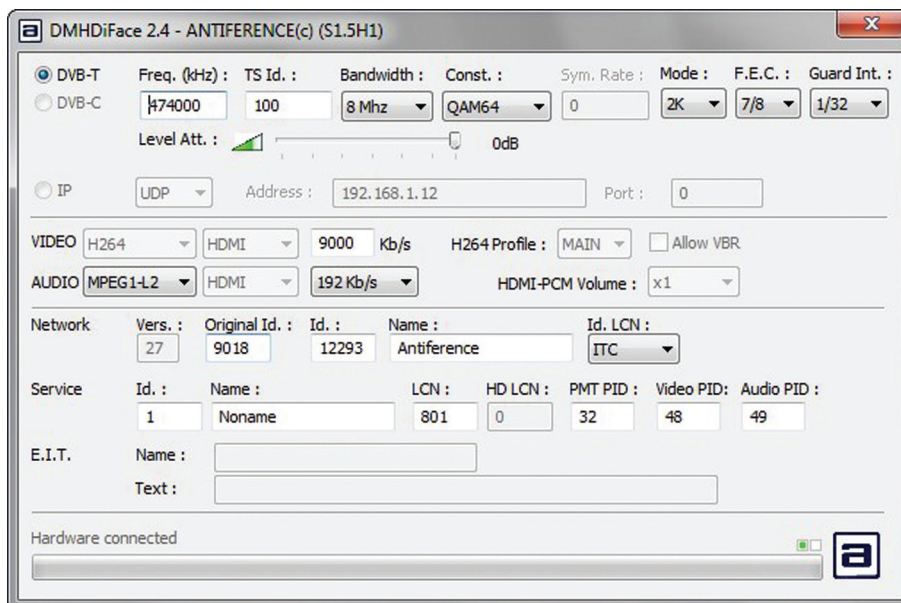
6 - Technical Specifications

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	0.6kg

7 - Declaration of Conformity:

We, ANTIFERENCE LIMITED herewith declare that the modulator CONEXER DMHD01L complies with all essential requirements and any other applicable conditions set forth on directive 1999/05/CE.

According to the WEEE (Waste Electrical and Electronic Equipment) EU Directive, do not dispose of this product as household waste or commercial waste. Waste electrical and electronic equipment should be appropriately collected and recycled as required by practices established for your country. For information on recycling of this product, please contact your local authorities, your household waste disposal service or the shop where you purchased the product.

Date of issue: January 2015

CONEXER

DIGITAL MODULATOR DMHD01L
SINGLE HD ENCODER LITE • DVB-T MODULATOR

Antiference

DC input
+5V

USB

HDMI

INPUT

OUTPUT

CE

a Antiference®

www.antiference.co.uk