

 **Antiference®**



CONEXER

DIGITAL MODULATOR DMHD02

TWIN HD ENCODER • DVB-T MODULATOR • USB REC./PLAY

USER MANUAL

Congratulations on your purchase of the DMHD02

This 'state of the art' product, is a twin HD encoder. Two HDMI sources (A and B) can be encoded and modulated simultaneously into one DVBT channel. Furthermore, a USB port is available which allows you to play a .ts file instead of using input A. The .ts file and input B are then available on the same DVBT channel.

Sequential files (e.g. file 001, file 002, file 003 etc) make it possible to play several files after each other in a loop.

The record function allows you to record your source connected to input A in a .ts file on a USB stick or drive.

Using **DMHDiFace** to operate the DMHD02 a wide scale of digital signage functions becomes available. Using a battery powered time and date function, different files can be played according to the schedule you can define by hour, day, week etc.

Different recordings can be programmed at the same time using **DMHDiFace**

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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.

N.B. Only use the supplied power adaptor.

1.2 Overvoltage

An overvoltage 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 ensure that no containers containing liquids are placed on this module. Be aware of other persons splashing liquids on the module.

1.4 Cleaning

Disconnect the module before cleaning. Use only a damp cloth and do not use 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.

Ensure 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) | A1 | Display | |
| C2 | USB input (for PC programming) | T1 | Enter button | ↵ |
| C3 | RF input | T2 | Left button | ◀ |
| C4 | RF output | T3 | Right button | ▶ |
| C5 | HDMI input A | | | |
| C6 | USB input for record and play | | | |
| C7 | HDMI input B | | | |



3. Display Screen information

The digital display on the DMHD02 will show basic status information. The status of input A and B is alternated with the set time and date. Typical information can be:

	Nothing connected to Input A and B		Input A playing, .ts file Input B encoding, resolution 1080P
	Input A encoding, resolution 720P Input B encoding, resolution 1080P		Input A recording Input B encoding, resolution 1080P

4 Setting up the DMHD02

The DMHD02 has a quick menu to allow for quick basic settings. For more detailed settings an advance menu is also available

4.1 - The Quick menu

To enter the quick menu please press the following sequence of buttons:

When entered successfully, the quick menu becomes available, use the buttons to move between the different menu options. Press and hold the to select that option and use to change the value to that option. Changes are automatically saved.

			Change the output channel
			Change the output level
			Change the output country
			Change the output TS ID
			Change the output language
			Change the factory settings
			Leave the menu



4.2 - The Advanced menu

To enter the advanced menu please press the following sequence of button: ◀ ▶ ▶ ▶

When entered successfully, the advanced menu becomes available, use the ◀ ▶ buttons to move between the different menu options. Press and hold the ◀ to select that option and use ◀ ▶ to change the value to that option. Changes are automatically saved.

	DMHD02 FREQUENCY	DMHD02 474000 kHz	Set the output frequency
	DMHD02 BANDWIDTH	DMHD02 (8 MHz)	Select the bandwidth 6, 7 or 8MHz
	DMHD02 CONSTELLATION	DMHD02 (QAM64)	Select the constellation QPSK, QAM16 or QAM64
	DMHD02 F.E.C.	DMHD02 (7/8)	Select the F.E.C. 1/2, 3/4, 5/6, or 7/8
	DMHD02 GUARD INTERVAL	DMHD02 (1/32)	Select the Guard Interval 1/2, 1/4, 1/8, 1/16 or 1/32
	DMHD02 MODE	DMHD02 (2K)	Select the mode 2K or 8K
	DMHD02 EXIT	DMHD02 (YES)	Leave the menu
	DMHD02 NIT RELEASE	DMHD02 30	Set the NIT version
	DMHD02 NET ID	DMHD02 12293	Set the Network ID
	DMHD02 ORIG. NET ID.	DMHD02 9018	Set the original network ID for your country
	DMHD02 LCN ID.	DMHD02 (ITC)	Set the LCN system, EACEM ITC, Nordig or Austral
	DMHD02 NETWORK NAME	DMHD02 Conexer	Set the network name
	DMHD02 EXIT	DMHD02 (YES)	Leave the menu

<div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 INPUT A</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 INPUT B</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <p>(Identical menus for A & B)</p>	<div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 PROGRAM ID.</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 SERVICE NAME</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 L. C. N.</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 VIDEO RATE</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 AUDIO RATE</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 AUD. COMPRESSION</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 PMT PID</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 VIDEO PID</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 AUDIO PID</div> <div style="text-align: center; margin-top: 5px;">▶ ▼ ▲ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 EXIT</div>	<div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 1</div> <div style="text-align: center; margin-top: 5px;">▶ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 Channel A</div> <div style="text-align: center; margin-top: 5px;">▶ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 801</div> <div style="text-align: center; margin-top: 5px;">▶ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 9000</div> <div style="text-align: center; margin-top: 5px;">▶ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 (192 Kb/s)</div> <div style="text-align: center; margin-top: 5px;">▶ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 (MPEG1-L2)</div> <div style="text-align: center; margin-top: 5px;">▶ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 100</div> <div style="text-align: center; margin-top: 5px;">▶ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 101</div> <div style="text-align: center; margin-top: 5px;">▶ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 102</div> <div style="text-align: center; margin-top: 5px;">▶ ◀</div> <div style="background-color: #4a7c9c; color: white; padding: 5px; text-align: center;">DMHD02 (YES)</div>	<p>Set the Program ID for input A or B</p> <p>Set the program name for input A or B</p> <p>Set the LCN number for input A or B</p> <p>Set the video rate for input A or B</p> <p>Set the audio rate for input A or B</p> <p>Set the audio compression for input A or B</p> <p>Set the PMT PID for input A or B</p> <p>Set the video PID for input A or B</p> <p>Set the audio PID for input A or B</p> <p>Leave the menu</p>
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4.2 - Using a USB stick

To operate the USB menu, please first insert a USB 3.0 memory stick and then power up the DMHD02. With the USB memory stick connected, you can play files. Only files with the extension '.ts' can be played through this device. When you play a file, the source connected to Input A will be interrupted and your '.ts' file will be played.

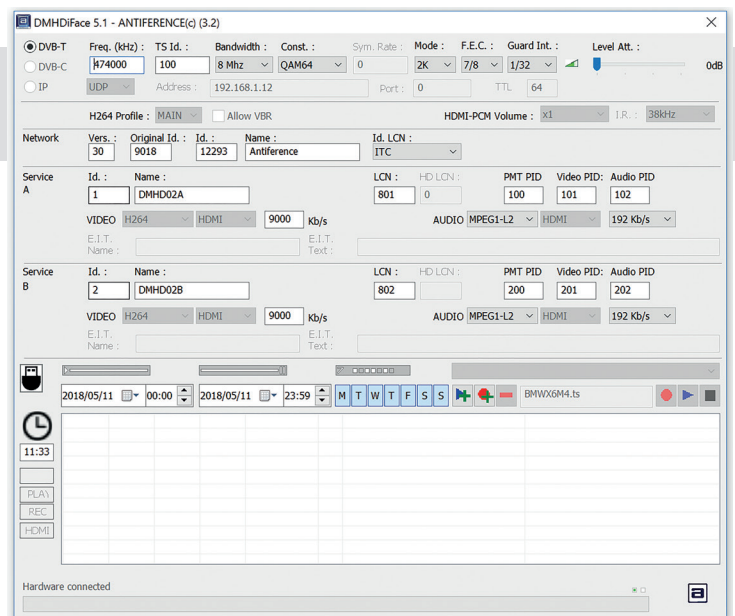


When you select a USB '.ts' file, this will be played on a continuous loop. If you want to play a selection of files, name your files sequentially eg: file001.ts, file002.ts, file003.ts etc. If you select a file from this list to play, that file will start to play and at the end, the DMHD02 will play the next file with a higher number. When no file with a higher number is found, it will return to the start and play again from the first file. Please refer to section 6.5 for more information on how to create '.ts' files or check out the www.antiference.co.uk website for software to produce appropriate '.ts' files for your DMHD02. To operate the USB menu, please first insert a USB 3.0 memory stick and then power up the DMNSD02. With the USB memory stick connected, you can play files. Only files with the extension '.ts' can be played through this device. When you play a file, the source connected to Input A will be interrupted and your '.ts' file will be played.

5 - Programming using a PC

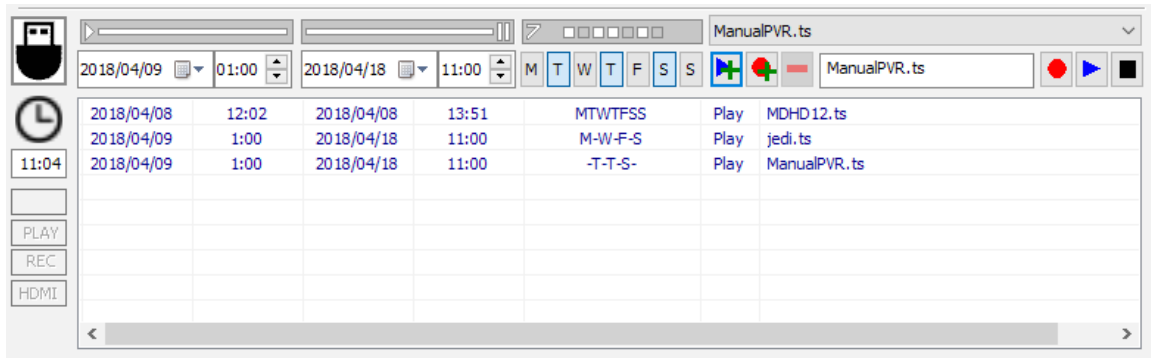
The settings of the DMHD02 can also be changed using a PC.

First, please install the software DMHDiFace on your PC. You can download this software from our internet site <http://antiference.co.uk/product/conexer-twin-hdmi-modulator/> After installing the software, connect the DMHD02 using a USB cable (not included) to your computer. Then launch the program DMHDiFace. On the display of the DMHD02 the message <USB> appears, indicating that programming is now performed through your PC. The following window appears on your screen. All the functions can now be edited and modified using DMHDiFace.






6 - Making Play and Record list using DMHDiFace


The DMHD02 is an ideal product for Digital Signage applications thanks to the ability to record, playback and integral clock using a USB 3. memory stick. Different '.ts' files can be played over a DVB-T network to a predefined programmed timetable using start and finish times on a weekly basis. The DMHDiFace program allows easy set up of these timetables.



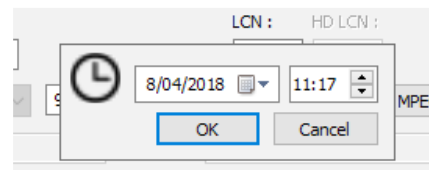
6.1 - Direct Play and Record

Select a file in the dropdown list of files on the USB memory stick and press play 
To record from a HDMI source and create a 'file.ts' in DMHDiFace, press 
To stop play or recording press 

6.2 - Adjusting time and date


Before starting to use play and record functions, please ensure that the time and date on the DMHD02 is correctly set. To set or adjust the time, select the clock icon  in DMHDiFace.

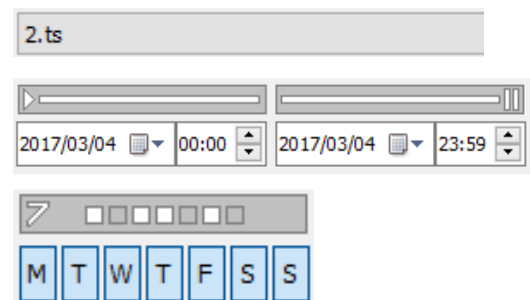
A new window will open where you can then easily adjust the time and date.



6.3 - Making a playlist

To make a playlist of various clips, use the following procedure:


1. Select a '.ts' file from the files present on the USB
2. Select the start date/time and the end date/time
3. Select the days of the week when '.ts' play is needed
4. Select the add to playlist button 

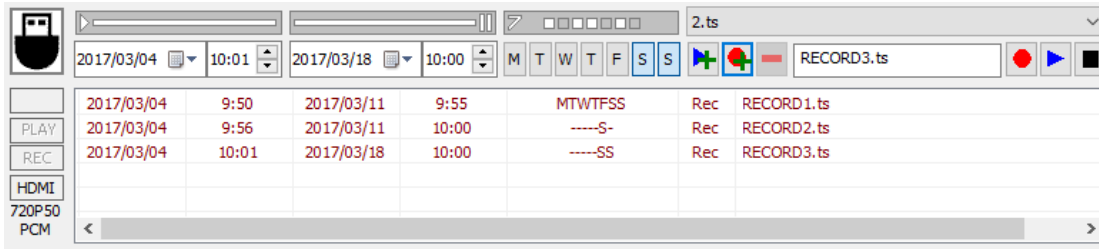


2017/03/04	9:35	2017/03/04	9:40	MTWTFSS	Play	BMW6M4.ts
2017/03/04	9:40	2017/03/04	9:42	MTWTFSS	Play	test170226.ts

5. To remove an item from a playlist, choose that line and select the delete button 

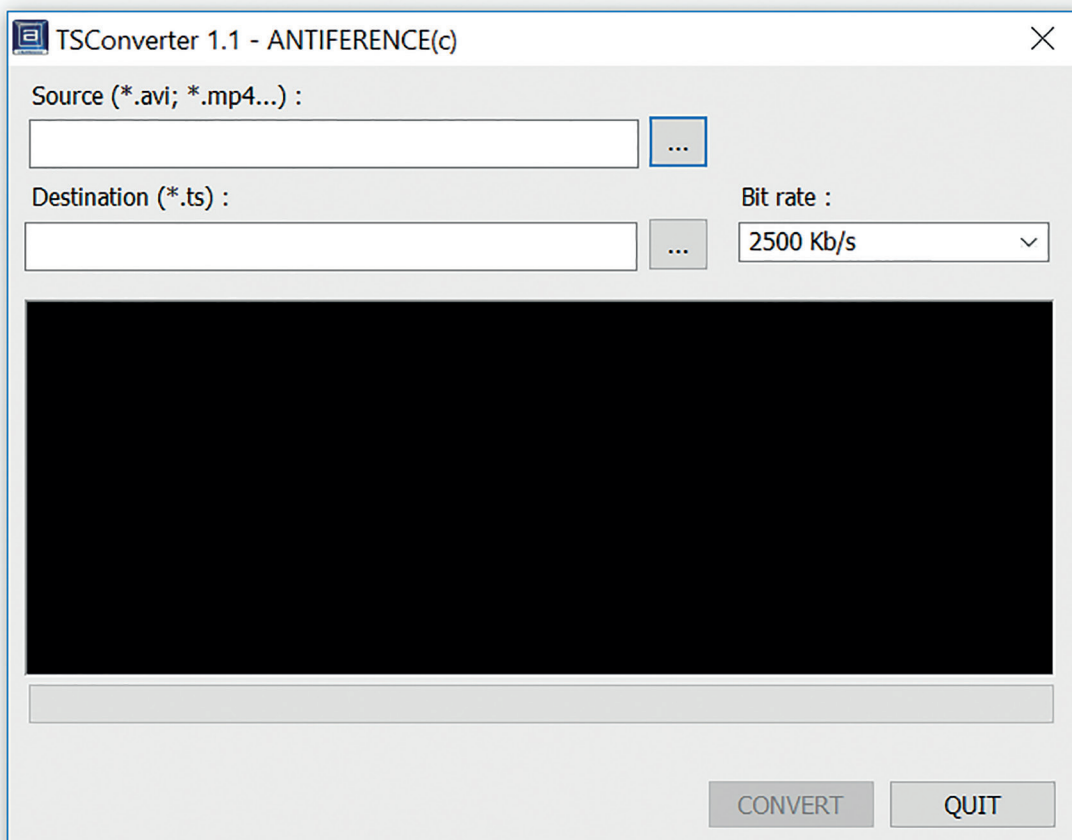
6.4 - Making a Record list

You can easily make a recordlist as previously described. Instead, you have to first name the '.ts' file and then press the add to record button 



6.5 - Creating your .ts files

In order for you to generate a .ts file, a .ts converter is available on the Antiference website. This allows you to easily convert your files from .avi or .mp4 into .ts.
<http://antiference.co.uk/product/conexer-twin-hdmi-modulator/>



7 - 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 dB μ V
	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 - 33 dB
Power	DC 2.1 mm connector	+5V
	Consumption	10 Watts
Dimensions	LxWxH	150x130x35mm
	Weight	0.9kg

8 - Declaration of Conformity:



We, ANTIFERENCE LIMITED herewith declare that the modulator CONEXER DMHD02 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.

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