

 **Antiference®**



CONEXER

DIGITAL TRANSMODULATORS DTM6x4 • 3x2
QUAD& TWIN DVB-S/S2 - DVB-T TRANSMODULATOR

USER MANUAL

Congratulations on your purchase of your Digital Transmodulator (DTM)

This 'state of the art' product, is a digital transmodulator and performs the following functions within the system:

- a) It receives the satellite programmes from 2 (DTM3x2) or 4 (DTM6x4) satellite frequencies.
- b) The programmes of the satellite inputs are re-multiplexed together with programmes from off air Freeview, additional DTM units and/or Conexer digital encoder modulators.
- c) An extra USB input allows connection of a USB stick containing '.ts files'. These '.ts files' can be used for broadcast purposes by creating its own programme or replacing an existing programme based on a time schedule.
- d) An ethernet connection allows connection to the web for re-configuration/ monitoring.

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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.

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.

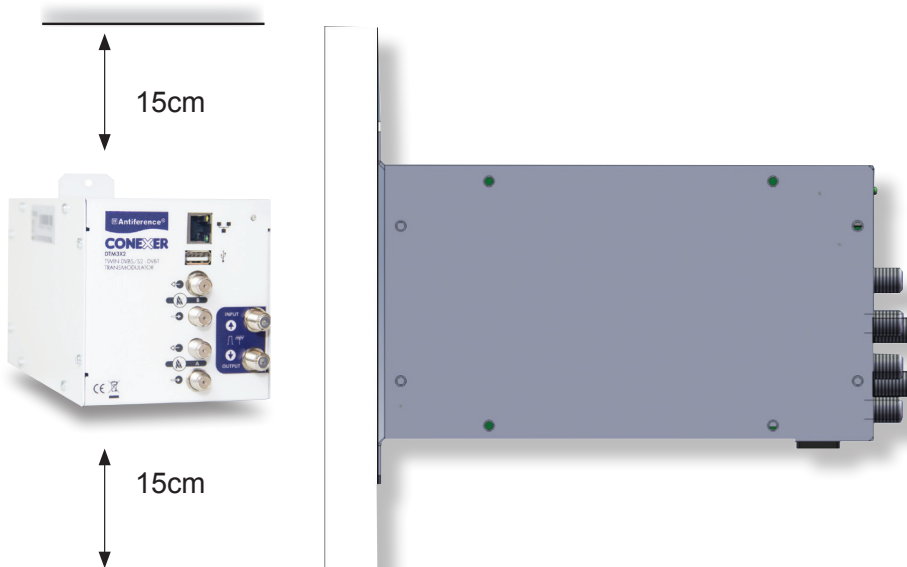
1.7 Installation of the module

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.

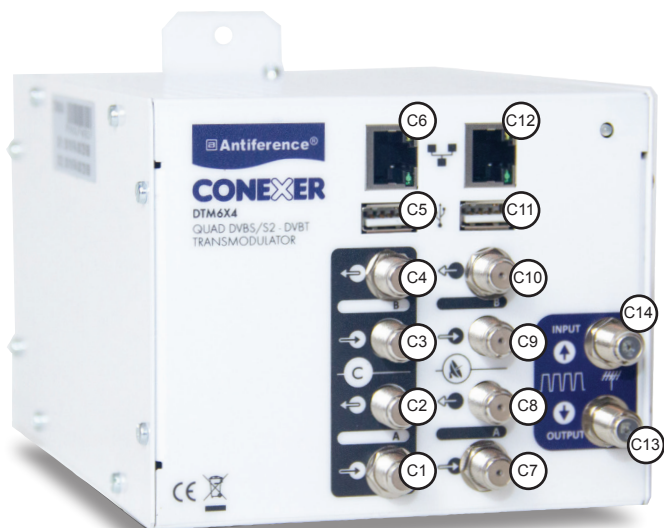


1.8 Location of the module

Leave a minimum space of at least 15cm above and below the product to guarantee an optimal ventilation. The module should be mounted to assure a maximum natural ventilation. The module should be fixed to a wall using the wall fixings on the module.



2 Description of the different elements



- C1 Input LNB A
- C2 Output LNB A
- C3 Input LNB B
- C4 Output LNB B
- C5 USB input (for reading .ts files (first RR5)
- C6 Ethernet connection (RJ45) (first RR5)
- C7 Input LNB A
- C8 Output LNB A
- C9 Input LNB B
- C10 Output LNB B
- C11 USB input (for reading .ts files (first RR5)
- C12 Ethernet connection (RJ45) (first RR5)
- C13 DVB-T input (bypass)
- C14 DVB-T output
- C15 Power input 230v
- C16 USB input (PC connection)



3 Installation of the operating software

3.1 Downloading and installing the programming software

Programming is achieved via the DVTiFace which can be downloaded for free from www.antiference.co.uk/conexer-dvb-s2-dvb-t-transmodulators and clicking the downloads tab on the transmodulator product page.

The DVTiFace is the control software for the Antiference DTM range and can also be used for the configuration of the DMSD and DMHD AV and HDMI modulator range.

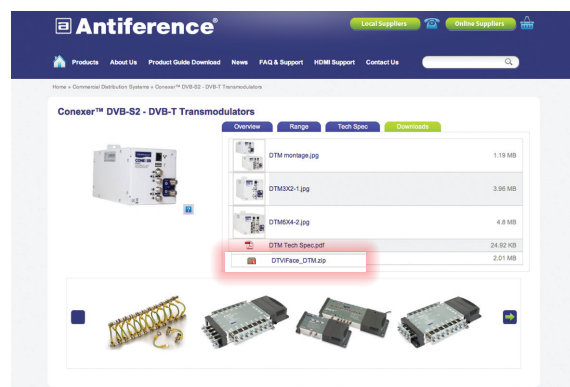
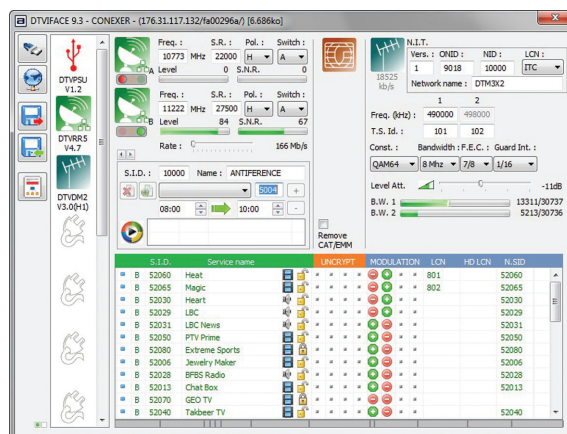
This section will explain how to install the software on your PC making a connection via USB or over the web, saving and re-opening '.dct' files

The DVTiFace is compatible with Windows XP, 7 & 8 and can be downloaded at www.antiference.co.uk/conexer-dvb-s2-dvb-t-transmodulators and by clicking on the 'downloads' tab. Locate the zip file and download. The software can be installed to your machine using wizard and following instructions. Once the installation is complete you can connect your PC to the Conexer product.

We are constantly improving our software so we advise you to regularly check our website to ensure you have the latest release installed.

3.2 Launching the DVTiFace

Double click the DVTiFace icon installed on your desktop or find DVTiFace in the list of programs and launch the programme. The following screen will open :



4. Making connection to your DTM using USB cable

Make sure that there is an USB connection between your PC and the DTM (the DTM or compact headend comes with the USB cable supplied).



Press the USB button in the left upper corner

If all OK, the DTVRack should appear with all modules installed. Please note, in the upper left corner of the window : DTViFace 7.4 - Antiference (c) - (USB), indicating that a connection is made to your DTM using a USB cable.

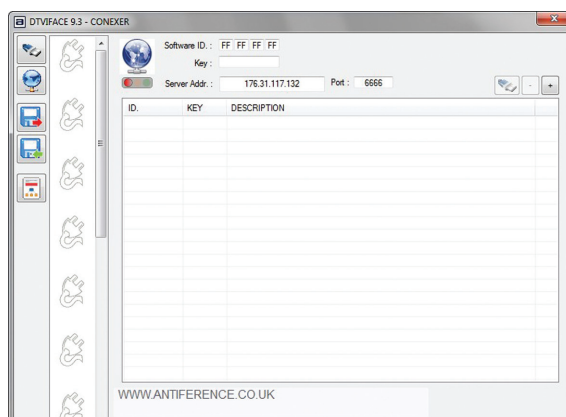


5. Making connection to your DTM using the internet

Besides local connections to your rack using USB cable, it is also possible to make a connection to a remote DTM which is properly connected to the internet.



In order to access your rack or racks over the web, please press the web button.



In the first step you have to fill in your USER Software ID and KEY. This software ID and KEY are personal. So in order to get this information, please contact your dealer, distributor to get your personalised Software ID and KEY. If you have received your ID and KEY, please input these parameters in the indicated fields.

Make sure that for the server address, Port, the IP address 176.31.117.132 and 6666 are filled in. If all parameters are OK (and your PC is connected to the internet), then you will be connected to our server 176.31.117.132 which handles all communications between USERS and DTM units. In the list below, you will see all modules connected to the server.

ID.	KEY	DESCRIPTION
7fa001169		



The DTM is identified by a unique ID number (eg fa001169). This ID number corresponds with the hardware ID which is also unique to each DTM unit. The ID of your module can be found on the side of the case. To gain access to your DTM a key is required for this specific module and this key can be provided on request should remote access be required. The key can be entered in the column beside the ID. If the ID and key match then they will both turn green and you will now have access to the DTM.

Server Addr. : 176.31.117.132 Port : 6666		
ID.	KEY	DESCRIPTION
fa00296a	61436	Highgate House Unit 1

This is possible by highlighting the row and clicking the USB button on the right hand side of the window. You will then see the following view. The information now shown at the top of the window will indicate you are accessing the DTM remotely and will include the description as programmed in the previous window and you will have control of the DTM as if you are local.



6. Saving and recalling configurations

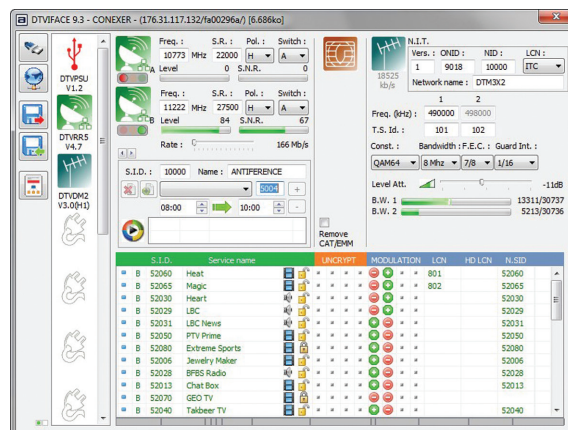
The buttons allow you to save and recall the configuration of your rack. When you have programmed the rack to your requirements, you can save it by clicking the button with the GREEN arrow. The configuration will be saved under a '.dct' file.

You can reload this file in your system (or in another system) just by clicking the button with the RED arrow.

After pressing this button, select the '.dct' file of your choice. DTViFace will check if the loaded configuration is compatible with your system (if the number of inputs is different from the loaded configuration it will not be loaded into your system). Before loading, an overview of the configuration is shown in the window, press OK to finally load the configuration into your system.

7. Standard programming of the DTM

When the software is running by clicking on the DTVRR5 symbol the main programming window will open. The DTM6x4 will have 2 DTVRR5 options to accommodate the additional inputs.



12. Relative bandwidth of a programme in the transport stream

In the bottom of the window you will find a bar divided into a number of panels. The number of panels is equal to the number of programmes added to the modulator. The width of the panels is in direct relation

with the bandwidth of the programme. For example, in the window below, when on programme 'Extreme Sports', a panel in the bottom turns blue. This blue panel gives you a relative



idea of the occupied bandwidth of this programme in the transport stream. This information can be helpful in assigning the different programmes to the different channels on the modulator.

13. Technical Specifications

DVBT output (adjacent) (DTM6x4 = 2 channels) (DTM3x2 = 4 channels)	Attenuation	> 95 dBμV
	Attenuation	0 - 20 dB
	Insertion loss	< 2 dB
	Output frequency	47-862 MHz
	Constellation	QPSK/16QAM/64QAM
	FEC	1/2, 2/3, 3/4, 5/6, 7/8
	Guard interval	1/4, 1/8, 1/16, 1/32
	Mode	2K

14. Annex A: Constellation and maximum bit rate

Modulation	Code Rate	Guard 1/4	Guard 1/8	Guard 1/16	Guard 1/32
		Mb/s	Mb/s	Mb/s	Mb/s
QPSK	1/2	4.976471	5.529412	5.854671	6.032086
	2/3	6.635294	7.372549	7.806228	8.042781
	3/4	7.464706	8.294118	8.782007	9.048128
	5/6	8.294118	9.215686	9.757785	10.05348
	7/8	8.708824	9.676471	10.24567	10.55617
16 QAM	1/2	9.952941	11.05882	11.709341	12.06417
	2/3	13.27059	14.74510	15.61246	16.08556
	3/4	14.92941	16.58824	17.56401	18.09626
	5/6	16.58824	18.43137	19.51557	20.10695
64 QAM	7/8	17.41765	19.35294	20.49135	21.11230
	1/2	14.92941	16.58824	17.56401	18.0926
	2/3	19.90588	22.11765	23.41869	24.12834
	3/4	22.39412	24.88235	26.34602	27.14439
	5/6	24.88235	27.64706	29.27336	30.16043
	7/8	26.12647	29.02941	29.27336	31.66845

15. Annex B: ONID: Original Network ID

Original Network ID	Original Network ID	Original_Network_Name	Original_Network_Operator	
Range				
Start (HEX)	End (HEX)			
.....				
0x2024	0x2024	Australian Digital Terrestrial Television	Australian Broadcasting Authority	
0x2028	0x2028	Austrian Digital Terrestrial Television	ORS - Austrian Broadcasting Services	8232
0x2038	0x2038	Belgian Digital Terrestrial Television	BIPT	8248
0x209E	0x209E	Taiwanese Digital Terrestrial Television	Directorate General of Telecommunications	
0x20CB	0x20CB	Czech Republic Digital Terrestrial Television	Czech Digital Group	
0x20D0	0x20D0	Danish Digital Terrestrial Television	National Telecom Agency Denmark	
0x20E9	0x20E9	Estonian Digital Terrestrial Television	Estonian National Communications Board	
0x20F6	0x20F6	Finnish Digital Terrestrial Television	Telecommunications Administratoins Centre, Finland	8438
0x20FA	0x20FA	French Digital Terrestrial Television	Conseil Supérieur de l'AudioVisuel	8442
0x2114	0x2114	German Digital Terrestrial Television	IRT on behalf of the German DVB-T broadcasts	8468
0x2168	0x2168	Digital Terrestrial Network of Indonesia	Ministry of Communication and Information Technology of the Republic of Indonesia	
0x2174	0x2174	Irish Digital Terrestrial Television	Irish Telecommunications Regulator	
0x2178	0x2178	Israeli Digital Terrestrial Television	BEZEQ (The Israel Telecommunication Corp Ltd .)	
0x217C	0x217C	Italian Digital Terrestrial Television		8572
0x21AC	0x21AC	DTT - Latvian Digital Terrestrial Television	Electronic Communications Office	
0x2210	0x2210	Netherlands Digital Terrestrial Television	Nozema	8720
0x222A	0x222A	DTT - New Zealand Digital Terrestrial Television	TVNZ on behalf of Freeview New Zealand	
0x2242	0x2242	Norwegian Digital Terrestrial Television	Norwegian Regulator	
0x2260	0x2260	DTT - Philippines Digital Terrestrial Television	NTA (porivionally ABS-CBN)	
0x2268	0x2268	DTT Poland	Office of Electronic Communications	
0x22BE	0x22BE	Singapore Digital Terrestrial Television	Singapore Broadcasting Authority	
0x22BF	0x22BF	Telecommunications office of the Slovak republic	Telecommunications office of the Slovak republic	
0x22C1	0x22C1	DTT - Slovenian Digital Terrestrial Television	APEK	
0x22C6	0x22C6	DTT - South African Digital Terrestrial Television	South African Broadcasting Corporation Ltd. (SABC), pending formation of "DZONGA"	
0x22C7	0x22C7	DTT- Hungarian Digital Terrestrial Television	National Communications Authority, Hungary	
0x22C8	0x22C8	DTT- Portugal Digital Terrestrial Television	ANACOM- National Communications Authority	
0x22D4	0x22D4	Spanish Digital Terrestrial Television	"Spanish Broadcasting Regulator	8916
0x22F1	0x22F1	Swedish Digital Terrestrial Television	"Swedish Broadcasting Regulator "	8945
0x22F4	0x22F4	Swiss Digital Terrestrial Television	OFCOM	8948
0x233A	0x233A	UK Digital Terrestrial Television	Independent Television Commission	
.....				

16. Declaration of Conformity:



We, ANTIFERENCE LIMITED herewith declare that the modulator CONEXER DTM6x4 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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www.antiference.co.uk