

**HD encoding - AV encoding - Multi AV/HD encoding - Transmodulation - Headend (D-VBS/S2 - DVBT/T2/C - IP) - LTE amplifier - LTE filter - Power supply - Indoor distribution amplifier - Multiband and CATV amplifier - DiSEqC switch - Satellite line amplifier - TV/SAT combiner - Wideband splitter - Multiswitch - SAT IF amplifier**

### TM250



TM250 is an A/V to DVBT modulator. It accepts a video source (CVBS), encodes it in an MPEG2 and modulates it in DVBT format.

Programming of the modulator is easy using 3 tact switches on the front of the modulator together with the LCD display. Another option, is to program it by PC using the interface TMiface.

TMiface



### Technical specifications

<b>Input</b>	Video	CVBS
	Video input level	0.7 .... 1.4 Vpp
	Impedance	75 ohm
	Standards	PAL / NTSC
	Audio input	0.5 - 2.5 Vpp
<b>Compression</b>	Video	MPEG2
	Bitrate video	5....12 MBit/s
	Audio	MPEG1, Layer II
	Bitrate audio	128, 192, 256, 320, 384 Kbit/s
<b>DVB Processing</b>	Insertion of tables	PAT, PMT, SDT, NIT
	Configuration	Channel Name, SID, LCN, NID, Network Name, TSID, ONID, LCN
<b>Output</b>		DVBT
	Carriers - Bandwidth - MER	2K/8K - 6/7/8 MHz - 31dB
	Frequency - Output level	47-862 MHz > 85 dBμV (adjustable 0 / -19 dB)
	Bypass loss	< 2 dB
<b>Adaptor</b>	Input // Output	100 - 240V / 0.5A / 50-60Hz // 5V - 2A
	Consumption of TM250	6 W
<b>Dimensions</b>	LxWxH	160x110x35mm
	Weight	0.5 kg
<b>EAN code</b>	TM250	5420037692507

### TM180HD



The TM180HD is a HD encoder. The video and audio are taken from HDMI.

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

Standalone configuration is made easy through 4 tact switches and ergonomic menu's. To make the configuration of the TM180HD ultra simple, a special software TMHDIface is available.

- video : H264
- audio : AAC - MPEG1-L2
- DVBT

<b>Video input</b>	Input	HDMI
	Resolution modes	480p -576p -720p - 1080i -1080p
	Compression	H.264 – bitrate 5-15 Mb/s
<b>Audio input</b>	Input	HDMI
	Sample Rate	HDMI (32kHz / 44.1 kHz / 48 kHz)
	Compression	AAC-LC or MPEG1-L2 – bitrate 128-384 Kb/s
<b>DVB Processing</b>	Table insertion	PAT, PMT, SDT, NIT
	Configuration	Channel/network name, SID, LCN, TSID, ONID, NID, audio, video PIDs...
<b>DVB-T output</b>	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
<b>Power</b>	DC 2.1 mm connector	+5V
	Consumption	6 Watts
<b>Dimensions</b>	LxWxH	150x130x35mm
	Weight	0.6 kg
<b>EAN code</b>	TM180HD	5420037691807

# A/V ENCODER/MODULATOR - HD ENCODER/MODULATOR

## TM220HD



- video : H264, MPEG2
- audio : AAC - MPEG1-L2
- DVBT, DVBC

The TM220HD is a HD encoder, the video input can be taken from HDMI. The audio can be taken from HDMI or analog audio.

After compressing the video into H264 or MPEG2 and audio in AAC, or MPEG1-L2 the output can be configured as DVB-T or DVB-C modulator.

Standalone configuration is made easy through 4 tact switches and ergonomic menu's. To make the configuration of the TM220HD ultra simple, a special software TMHDiface is available.



## TM250HD



- video : H264, MPEG2
- audio : AAC - MPEG1-L2
- DVBT, DVBC, IP

The TM250HD 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 or MPEG2 and audio in AAC, or MPEG1-L2 the output can be configured as DVB-T, DVB-C modulator or as IP streamer.

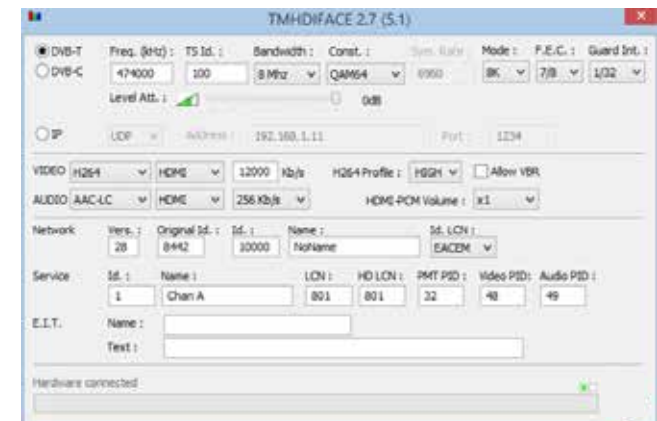
Standalone configuration is made easy through 4 tact switches and ergonomic menu's. To make the configuration of the TM250HD ultra simple, a special software TMHDiface is available.



### Technical specifications

		TM250HD	TM220HD
<b>Video inputs</b>	<b>Input</b>	HDMI - YUV - Computer analog input	HDMI
	<b>Resolution modes</b>	480p - 576p - 720p - 1080i - VGA - SVGA - XGA - SXGA	480p - 576p - 720p - 1080i
	<b>Compression</b>	H.264 or MPEG2 - bitrate 5-15 Mb/s	
<b>Audio inputs</b>	<b>Input</b>	HDMI - L/R analog audio input	
	<b>Sample Rate</b>	HDMI (32kHz / 44.1 kHz / 48 kHz) - Analog (48 kHz)	
	<b>Compression</b>	AAC-LC or MPEG1-L2 - bitrate 128-384 Kb/s	
<b>DVB Processing</b>	<b>Table insertion</b>	PAT, PMT, SDT, NIT	
	<b>Configuration</b>	Channel/network name, SID, LCN, TSID, ONID, NID, versions, audio, video PIDs...	
<b>DVB-T output</b>	<b>Output frequency / level</b>	170-230 MHz + 470-862 MHz / > 80 dBµV	
	<b>Constellation - FEC</b>	QPSK/16QAM/64QAM - 1/2, 2/3, 3/4, 5/6, 7/8	
	<b>Guard interval</b>	1/4, 1/8, 1/16, 1/32	
	<b>Mode - MER</b>	2K/8K - 35 dB	
<b>DVB-C output</b>	<b>Output frequency / level</b>	50-862 MHz / > 80 dBµV	
	<b>Constellation - Symbolrate</b>	16, 32, 64, 128, 256 QAM (EN 300 429) - 4,00 - 6,96 Msps	
	<b>IP streaming</b>	<b>Interface</b>	10/100 Base-T
<b>Power</b>	<b>Streaming</b>	UDP/RTP...	
	<b>DC 2.1 mm connector</b>	+5V	
<b>Dimensions</b>	<b>Consumption</b>	10 Watts	
	<b>L x W x H</b>	170x130x35mm	
<b>EAN code</b>	<b>Weight</b>	0.6 kg	
		54200376992552	54200376992200

### TMHDiface



### TM300



The TM300 and TM400 are audio - video encoders with multiple inputs.

They allow to encode 2 (TM300) or 4 (TM400) audio video sources in MPEG2 and to remodulate them into DVBT.

One DVBT channel is available at the output in order to remodulate the 2 or 4 MPEG2 streams coming from the encoders.

A high DVBT output level makes it possible to feed large distribution networks without additional amplification.

#### TM300 - TM400 :

the ideal compact solution for distributing audio video sources over a DVBT network.

- > event programs in hotels and guest houses.
- > digital TV programs via DVB receiver
- > information channels in large CATV systems

#### Technical specifications

<b>Input (x2) for TM300 (x4) for TM400</b>	Video - level	CVBS - 0.7...1.4Vpp
	Impedance	75 Ohms
	Audio	0.5...2.5 Vpp
<b>Compression</b>	Video - bitrate	MPEG2 - 4...12 Mb/s
	Audio - bitrate	MPEG1, Layer II - 128, 192, 256, 320, 384 kb/s
<b>DVBT output (TM300/TM400)</b>	Maximum output	> 95 dBμV
	Attenuation	1 - 20dB (using DTViFace)
	Insertion loss	< 2 dB
	DVBT	
	Output frequency	170-230 MHz + 470-862 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 - MER	2K/8K - 31 dB
	DVB Processing	Program Name, Service ID, TSID, NIT version, ONID, NID, Network Name, LCN
<b>Adaptor</b>	Input - output	100-240 VAC / 50-60Hz - +5V - 4A
<b>Dimensions</b>	Length x Height	181mm x 103 mm
	Width	TM300 = 68mm - TM400 = 95mm
	Weight	TM300 = 1.5 kg - TM400= 1.6 kg
<b>EAN code</b>	TM300	5420037692514
	TM400	5420037692521

### TM400



#### DTViFace - TM400



All encoder/modulators - transmodulators are programmed using the software program **DTViFace**.

This software excels by ease of installation, and simple and intuitive GUI. It allows direct programming of the encoder/modulator with possibility to save configurations and load them again on other encoder/modulators.

# MULTI A/V ENCODER/MODULATOR

## CM300



The CM300 and CM400 are audio - video encoders with multiple inputs.

They allow to encode 2 (CM300) or 4 (CM400) audio video sources in MPEG2 and to remodulate them into DVBC or DVBT.

Two adjacent DVBC/T channels are available at the output in order to remodulate the 2 or 4 MPEG2 streams coming from the encoders.

The modulator can be reconfigured in the field to be DVBC or DVBT.

A high DVBC/T output level makes it possible to feed large distribution networks without additional amplification.

CM300 - CM400 :  
the ideal compact solution for distributing audio video sources over a DVBT/C network.

- > event programs in hotels and guest houses.
- > digital TV programs via DVB receiver
- > information channels in large CATV systems

<b>Input (x2) for CM300 (x4) for CM400</b>	Video - level	CVBS - 0.7...1.4Vpp	
	Impedance	75 Ohms	
	Audio	0.5...2.5 Vpp	
<b>Compression</b>	Video - bitrate	MPEG2 - 4...12 Mb/s	
	Audio - bitrate	MPEG1, Layer II - 128, 192, 256, 320, 384 kb/s	
<b>DVBT output</b>	Maximum output	> 95 dBμV	
<b>DVBC output</b>	Attenuation	1 - 20dB (using DTViface)	
(2 adjacent channels)	Insertion loss	< 2 dB	
		DVBT	DVBC
	Output frequency	170-230 MHz + 470-862 MHz	50-862 MHz
	Constellation	QPSK/16QAM/64QAM	16,32,64,128,256 QAM
	FEC	1/2, 2/3, 3/4, 5/6, 7/8	-
	Guard interval	1/4, 1/8, 1/16, 1/32	-
	Mode - MER	2K - 35 dB	- > 39 dB
	DVB Processing	Program Name, Service ID, TslD, NIT version, ONID, NID, Network Name, LCN	
<b>Adaptor</b>	Input - output	100-240 VAC / 50-60Hz - +5V - 4A	
<b>Dimensions</b>	Length x Height	181mm x 103 mm	
	Width	CM300 = 68mm - CM400 = 95mm	
	Weight	CM300 = 1.5 kg - CM400 = 1.6 kg	
<b>EAN code</b>	CM300	5420037692538	
	CM400	5420037692545	

## CM400



### DTViface - CM400



By pressing the T<->C button in DTViface, the DVBC modulator can be converted in DVBT or vice versa.



### TM4HDV



The **TM4HDV** encoder/ modulator allows to encode up to 4 HDMI sources and this with a resolution of up 1080P for each input.

The 4 sources are then available in DVBT or DVBC at the output on 2 adjacent channels.

The **TM4HDV** is wall mountable.



The **TM4HDV, TM4HD** can be easily programmed using our general programming software = **DTViface**



### Technical specifications

<b>Video inputs</b>	<b>Inputs x 4</b>	HDMI
	<b>Resolutions</b>	720p - 1080P (1080i)
	<b>Compression</b>	H.264 - bitrate 5-15 Mb/s
<b>Audio inputs</b>	<b>Inputs</b>	HDMI
	<b>Sampling rate</b>	HDMI (32kHz / 44.1 kHz / 48 kHz)
	<b>Compression</b>	AAC-LC / MPEG1-L2 –symbol rate 128-384 Kb/s
<b>DVB processing</b>	<b>Table Insertion</b>	PAT, PMT, SDT, NIT, EIT
	<b>Configuration</b>	Program/network name , SID, LCN, TSID, ONID, NID, EIT, versions, audio, video PIDs...
<b>DVB-T output 2 adjacent channels</b>	<b>Frequency/level</b>	170-230 MHz + 470-862 MHz / > 95dBµV
	<b>Constellation - FEC</b>	QPSK/16QAM/64QAM - 1/2, 2/3, 3/4, 5/6, 7/8
	<b>Guard Interval</b>	1/4, 1/8, 1/16, 1/32
	<b>Mode - MER</b>	2K/8K - 35 dB
<b>DVB-C output* 2 adjacent channels</b>	<b>Frequency level</b>	50-862 MHz / > 95 dBµV
	<b>Constellation - Symbol rate</b>	16, 32, 64, 128, 256 QAM (EN 300 429) - 4,00 - 6,96 Msps
<b>Power</b>	<b>DC - 2.1 mm - connector</b>	+5V
	<b>Consumption</b>	17 Watts
<b>Dimensions</b>	<b>LxWxH</b>	200x135x67mm
	<b>Weight</b>	0.6 kg
<b>EAN code</b>	TM4HDV	5420037692576



By pressing the T<->C button in DTViface, the DVBC modulator can be converted in DVBT or vice versa.

# MULTI HD ENCODER/MODULATOR

## TM4HD



The **TM4HD** encoder/ modulator allows to encode up to 4 HDMI sources and this with a resolution of up 1080P for each input.

The 4 sources are then available in DVBT or DVBC at the output on 2 adjacent channels.

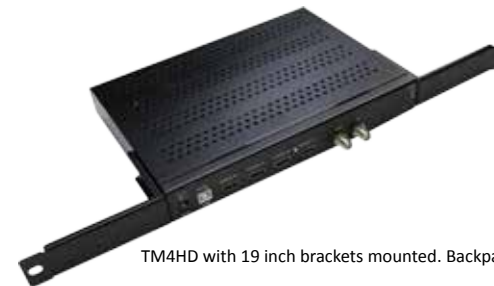
The **TM4HD** is a desktop model or can be mounted in an 19 inch rack by fixing the included brackets.



TM4HD with 19 inch brackets mounted. Frontpanel in front.

## Technical specifications

<b>Video inputs</b>	<b>Inputs x 4</b>	HDMI
	<b>Resolutions</b>	720p - 1080P (1080i)
	<b>Compression</b>	H.264 - bitrate 5-15 Mb/s
<b>Audio inputs</b>	<b>Inputs</b>	HDMI
	<b>Sampling rate</b>	HDMI (32kHz / 44.1 kHz / 48 kHz)
	<b>Compression</b>	AAC-LC / MPEG1-L2 –symbol rate 128-384 Kb/s
<b>DVB processing</b>	<b>Table Insertion</b>	PAT, PMT, SDT, NIT, EIT
	<b>Configuration</b>	Program/network name , SID, LCN, TSID, ONID, NID, EIT, versions, audio, video PIDs...
<b>DVB-T output</b> <b>2 adjacent channels</b>	<b>Frequency/level</b>	170-230 MHz + 470-862 MHz / > 95dBμV
	<b>Constellation - FEC</b>	QPSK/16QAM/64QAM - 1/2, 2/3, 3/4, 5/6, 7/8
	<b>Guard Interval</b>	1/4, 1/8, 1/16, 1/32
	<b>Mode - MER</b>	2K/8K - 35 dB
<b>DVB-C output*</b> <b>2 adjacent channels</b>	<b>Frequency level</b>	50-862 MHz / > 95 dBμV
	<b>Constellation - Symbol rate</b>	16, 32, 64, 128, 256 QAM (EN 300 429) - 4,00 - 6,96 Msps
<b>Power</b>	<b>DC - 2.1 mm - connector</b>	+5V
	<b>Consumption</b>	17 Watts
<b>Dimensions</b>	<b>LxWxH</b>	250x200x38mm
	<b>Weight</b>	0.6 kg
<b>EAN code</b>	TM4HD	5420037692569



TM4HD with 19 inch brackets mounted. Backpanel in front.

### TRM3X2



The TRM3X2 and TRM3x2(4)CI have two satellite inputs DVBS/S2. They allow to transmodulate (Free to Air) satellite programs in DVBT or DVBC and this on one, two or four (TRM3x4CI) output channels. They contain a remultiplexer. In this way programs of satellite A or satellite B can be freely assigned to the output channels.

The TRM3x2(4)CI differs from the TRM3x2, by the presence of a CI slot, making it possible to decrypt channels from the A and B satellite inputs using an appropriate CAM and CARD.

The TRM6X4 is equivalent to the TRM3X2, except that here there are 4 DVBS/S2 inputs. The output consists of a quad DVBT or DVBC modulator. The four output DVBT/DVBC channels are adjacent. Again, remultiplexers are inside, so that program to channel assignment can be freely chosen.

Additionally the TRM range has the unique feature that it allows to create your own program(s). TS files (containing a video or information) present on a USB stick can be used to create an 'own' program. The name of the program can be freely chosen.

Finally this program can be added to one of the output DVBT/DVBC channels. A programmable timetable, allows to distribute different .ts files during the day.

In addition RJ45 connectivity allows the transmodulator to be connected to the internet. In such way, remote control over the web is possible. Also, contents available on the USB stick(s) to create your own channel can be changed remotely.

**TRM3X2, TRM3x2(4)CI and TRM6x4** : the ideal compact solution for distributing satellite programs over a DVBT/DVBC network. (hotels, hospitals and so on) and to distribute additional informations (videos / text messages etc.)

### TRM6X4



### TRM3X2CI



### TRM3X4CI



### Technical specifications

<b>SAT inputs</b> (x2 - TRM3X2(CI)) (x4 - TRM6X4)	Frequency	950-2150 MHz
	Input level	-65 dBm à -25 dBm
	Insertion loss	< 2.5 dB
	LNB supply	13/18V - Tone - DiSEqC (300mA each input)
<b>Demodulator/decoder</b>		
DVB-S	Modulation - symbol rate	QPSK - 1...45 MSps
	Code rate (Viterbi)	1/2, 2/3, 3/4, 5/6, 7/8
DVB-S2	Modulation - symbol rate	QPSK/8PSK - 1...45 MSps
DVB-S2	Code Rate (LDPC)	QPSK = 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
		8PSK = 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
<b>DVBT output</b> (2 adjacent channels TRM3x2(CI)) (4 adjac. channels TRM6x4/TRM3x4CI)	Maximum output	> 95 dBµV
	Attenuation	1 - 20dB (using DTViFace)
	Insertion loss	< 2 dB
	Output frequency	170-230 MHz + 470-862 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 - MER	2K - 35 dB
<b>DVBT output</b> (2 adjacent channels TRM3x2(CI)) (4 adjac. channels TRM6x4/TRM3x4CI)	Maximum output	> 95 dBµV
	Attenuation	1 - 20dB (using DTViFace)
	Insertion loss	< 2 dB
	Output frequency	50-862 MHz
	Constellation	16,32,64,128,256 QAM (EN 300 429)
	Symbol Rate	4 - 6.96 Mb/s
	MER	> 39 dB
	DVB Processing	TsId, NIT version, ONID, NID, Network Name, SID, LCN, HDLCN
<b>Power</b>	Input	100-240 VAC / 50-60Hz / 1A
<b>Dimensions</b>	Length x Height	181mm x 103 mm



### NEW FEATURE : DVB-C/DVB-T selectable in the field

By pressing the T<->C button in DTViFace, the DVBC modulator can be converted in DVBT or vice versa.



# DTVRACK OVERVIEW



## DTVRack : the most flexible headend

DTVRack is a unique concept when we talk about headends. Based on a 19 inch rack with a backplane where transport streams can be connected with each other, it forms the basis for a flexible headend.

Besides the powersupply in the rack which also acts as a communication hub to the outside world (PC) a collection of different modules makes the headend complete.

The unendless possible combinations of these modules give you for each situation the most ideal solution.

### The input modules :

On the source side, we distinct four different modules.



**DTVRR5.** This powerful module has two satellite inputs. The transport streams coming from these satellite inputs can be multiplexed together to form one unique transport stream.



**DTVAV2 :** This twin Audio Video encoder allows two CVBS inputs to be encoded into MPEG2 format and . They are combined into one transport stream.

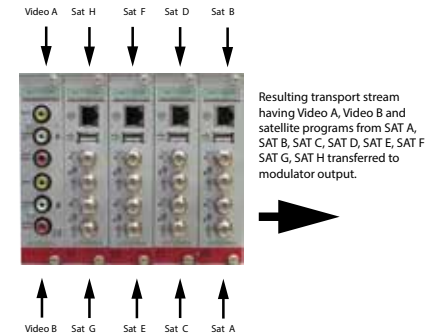


**DTVCT2 :** A dual input DVBT/T2/C module, making it possible to combine ,terrestrial and cable programs to prepare them for remodulation and/ or decryption.



**DTVH4 :** This module allows to encode 4 HD sources via HDMI in H264/AAC-MPEG1-L2 up to resolutions of 1080p.

## IRM : Intelligent remuxing



However, things can only get better. Both DTVAV2,DTVH4, DTVCT2 and DTVRR5 modules have a third input. This third input collects a transport stream from the backplane in the rack and multiplexes the transport stream with the transport stream coming from the module itself.

We call it 'IRM' - Intelligent ReMuxing.

As a result, you can collect programs from many different satellite , terrestrial and cable frequencies, together with audio video programs, to form your own transport stream.

**The example above shows for instance how a transport stream with two audio/video inputs together with satellite programs from 8 different frequencies can be combined to form one transport stream .....**



## Digital signage : creating your own content

Imagine, how interesting it can be to create your own content and distribute it over your DVBT of DVBC network !

With the DTVRR5 and DTVCT2 module, also this is possible. Each module has an extra USB input. A USB key can be connected where your content under the form of .ts files can be stored.

According to a time schedule you define, movies/ presentations and so on, can be broadcasted as a replacement of an existing program or as a standalone program.

All kinds of informations, can in this way be distributed in hotels, apartment building, senior homes or whatever application you have in mind.

Also the content available on the USB stick can be changed over the web. Just upload your new .ts file from your computer at home or office to your DTVRack. In a matter of minutes new information can be broadcasted over the DVB-T / DVB-C network of your customer.

### Web control

Satellite frequencies are changing continuously, or your customer wants some other programs in his network, or he wants the content of its internal channel to be changed. Do not worry ! Instead of going on site to perform the necessary modifications, just hook up one DTVRR5 module in DTVRack to the web.

From your office or home, take full control over your headend and adjust programming in a couple of minutes.



### Decryption

Decrypting programs is easily solved using the modules DTVCI1 or DTVCI2. These modules can be placed after the receiving side, allowing the decryption of services using the right CAM and CARD.

Do you know that DTVCI1 modules can be put in cascade ?

So, if your card or CAM has restrictions on the number of programs to be decrypted, just add another DTVCI1 (max.4) or DTVCI2 module (max. 2) and extent the number of programs to be decrypted !!



### Choice of modulation DVBT ,DVBC or IP streamer

Modules DTVDM2, DTVDM4, are respectively twin or quad DVBT, DVBC modulators. These modulators can be configured in the field to act as DVBT or DVBC modulator. You finally define how your transport stream you created will be modulated by just selecting the right modulator(s).

Also an IP streamer can be put in the rack in order to output your multiplex in RJ45.



### DTViface : your headend at a glance

Your completed headend is programmed using the software program **DTViface**.

This software excels by ease of installation, and simple and intuitive GUI. It allows direct programming of the complete headend with possibility to save configurations and load them again on other DTVRacks.

DTViface allows to produce easy to read .html reports of your configuration. Logfiles can be extracted from the headend in order to trace possible problems.





## DTVRR5

- Module for the reception of DVBS/S2 satellite signals
- Two inputs with integrated multiplexer
- The programs of the two satellite inputs can be 'remuxed' (mixed) with programs coming from a preceding DTVRR5, DTVCT2 or DTVAV2 (twin A/V encoder) (cascadable)
- Host USB input to create your own program. The program has to be available in .ts format.
- 13/18 V - 22 kHz - DiSEqC control for each input
- Ethernet connection allows remote control over web

<b>SAT inputs (x2)</b>	Frequency	950-2150 MHz
	Input level	-65 dBm à -25 dBm
	Insertion loss	< 2.5 dB
	LNB supply	13/18V - Tone - DiSEqC (300mA each input)
<b>DVB-S</b>	Modulation - symbol rate	QPSK - 1...45 MSps
	Code rate (Viterbi)	1/2, 2/3, 3/4, 5/6, 7/8
<b>DVB-S2</b>	Modulation - symbol rate	QPSK/8PSK - 1...45 MSps
	Code Rate (LDPC)	QPSK = 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
		8PSK = 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
	Current consumption @5V	600 mA
<b>EAN code</b>	DTVRR5	5420037699339



## DTVCT2

- Module for the reception of DVBT/T2/C signals
- Two inputs with integrated multiplexer
- The programs of the two inputs can be 'remuxed' (mixed) with programs coming from a preceding DTVRR5, DTVCT2 or DTVAV2 (twin A/V encoder) (cascadable)
- Host USB input to create your own program. The program has to be available in .ts format.
- Ethernet connection allows remote control over web

<b>Terrestrial/cable (x2)</b>	Frequency	110-862 MHz
	Input level	-75 dBm to -20 dBm DVBT/T2 - -62 dBm to -20 dBm DVBC
	Insertion loss	< 1 dB
<b>DVB-T2 : EN 302 755</b>	Modulation - FFT mode	QPSK, 16QAM, 64 QAM, 256 QAM - 1K,2K,4K,8K,16K,32K
	Channel bandwidth - Code Rate	6,7,8 MHz - 1/2, 3/8, 2/3, 3/4, 4/5, 5/6
	Guard Interval	1/4, 5/32, 1/8, 5/64, 1/16, 1/32, 1/64, 1/128
<b>DVB-T : EN 300 744</b>	Modulation - FFT mode	QPSK, 16QAM, 64QAM - 2K,8K
	Channel bandwidth - Code rate	6,7,8 MHz - 1/2, 2/3, 3/4, 5/6, 7/8
	Guard Interval	1/4, 1/8, 1/16, 1/32
<b>DVB-C : EN 300 429</b>	Modulation	16, 32, 64, 128, 256 QAM
	Channel bandwidth - Symbol Rate	6,7,8 MHz - 0.2 - 7.2 Msps
	Current consumption @5V	600 mA
<b>EAN code</b>	DTVCT2	5420037699421



## DTVAV2

- Module for MPEG2 encoding of audio/video sources
- Two inputs with integrated remuxer
- The digitised audio/video sources can be remuxed with programs coming from a preceding DTVAV2 module. In this way a multisource (2-4-6-8 etc.) can be realised

<b>Input (x2)</b>	Video - Input level - impedance	CVBS - 0.7...1.4Vpp - 75 Ohms
	Audio	0.5...2.5 Vpp
<b>Compression</b>	Video / bitrate	MPEG2 / 4...12 Mb/s
	Audio / bitrate	MPEG1, Layer II / 128, 192, 256, 320, 384 kb/s
	Current consumption @5V	800 mA
<b>EAN code</b>	DTVAV2	5420037699407

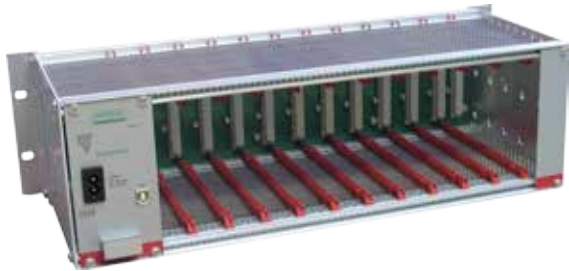


## DTVVD4

- Module for MPEG4 (H.264) encoding of HDMI sources
- Four inputs with integrated remuxer
- Resolutions up to 1080p (x4)

<b>Input (x4)</b>	HDMI	
<b>Compression</b>	Video / bitrate	H264 - bitrate 5-15 Mb/s
	Audio / bitrate	AAC-LC or MPEG1-L2 - bitrate 128-384 Kb/s
	Current consumption @5V	2000 mA
<b>EAN code</b>	DTVVD4	5420037699445

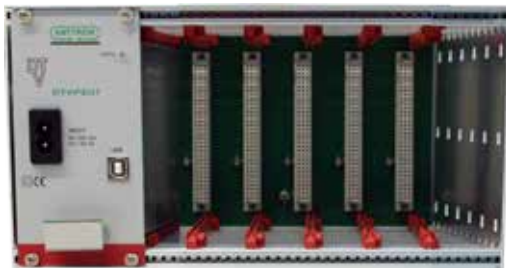
### DTVRack



- Basic rack to incorporate other modules from the DTVRack system
- Maximum 11 modules can be put into one Rack
- USB for connection between PC and Rack for control
- Wall mount or mounting possible in a 19 inch rack (height 3U)
- Powersupply : 125 Watt

EAN code | 5420037699308

### CMIRack



- Semi rack to incorporate other modules from the DTVRack system
- Maximum 5 modules can be put into one CMIRack
- USB for connection between PC and Rack for control
- Wall mount
- Powersupply : 45 Watt

EAN code | 5420037699308

### DTVCI1



- CI module
- Allows de the decryption of multiple channels (quantity depending on CARD and CAM used)
- 4 modules can be put in cascade to augment the number of programs to be decrypted

EAN code | 5420037699322

### DTVCI2



- Dual CI module (accepts two CAM modules)
- Allows the decryption of multiple channels (quantity depending on CARD and CAM used)
- 2 modules can be put in cascade to augment the number of programs to be decrypted

EAN code | 5420037699476

### DTVCP

- Coverplate to close unused slots in a rack.

EAN code | 5420037699384

### DTVCC

- CAM cover (for use with DTVCI1, DTVCI2)

EAN code | 5420037699384

# DTVRACK : the modules



## DTVDM1 : single DVBT modulator

- Single DVBT modulator module for DTVRack

Output level	> 95 dBµV (adjustable in DTViface)
Bypass insertion loss	< 2 dB
Output frequency	170-230 MHz + 470-862 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 - MER	2K/8K - > 31 dB
DVB Processing	TsID, NIT version, ONID, NID, Network Name, LCN, HDLCN
Current consumption @5V	400 mA
EAN code	DTVDM1: 5420037699469



## DTVDM2 : twin DVBT/DVBC modulator

- Twin DVBT/DVBC modulator module for DTVRack
- Two adjacent channels
- Channels are only active if services (programs) added to the channel (single channel possible)
- Can be reconfigured in the field to DVBC or DVBT modulator

	Output level	> 95 dBµV (adjustable in DTViface)
	Bypass insertion loss	< 2 dB
DVBT mode	Output frequency	170-230 MHz + 470-862 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 - MER	2K - > 35 dB
DVBC mode	Output frequency	50-862 MHz
	Constellation	16,32,64,128,256 QAM (EN 300 429)
	Symbol Rate	4 - 6.96 Mb/s
	MER	> 39 dB
	DVB Processing	TsID, NIT version, ONID, NID, Network Name, LCN, HDLCN
	Current consumption @5V	DTVDM2 = 1000 mA
		DTVDM4 = 1400 mA
	EAN code	DTVDM2 : 5420037699346
		DTVDM4 : 5420037699353



## DTVDM4 : quad DVBT/DVBC modulator

- quad DVBT/DVBC modulator module for DTVRack
- Four adjacent channels
- Channels are only active if services (programs) added to the channel (single channel, dual or triple operation possible)
- Can be reconfigured in the field to DVBC or DVBT modulator

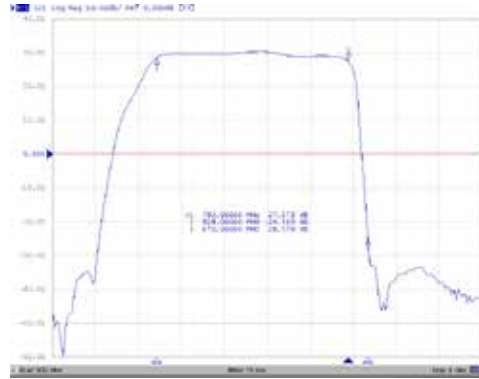
## DTVIP : IP to DVB streamer

- Standard : RJ45 ethernet 10/100 base T
- Rate : up to 100 Mbps
- Number of programmes at output : up to 16 SPTS (single program transport stream) or 16 MPTS (multiple programs transport stream)
- Transmission protocol : UDP/RTP (TTL & QoS configurable) - SDP/SAP to ease automatic selection of programmes on the settop box
- IP configuration : fixed or DHCP
- IP addressing : multicast - unicast
- DVB : PID filtering , SI/PSI analysis – PAT/PMT table regeneration

Current consumption @5V	400 mA
EAN code	5420037699452



- High UHF gain
- Interstage attenuators result in low noise figure in all conditions
- All UHF inputs are equipped with a very steep low pass filter in order to highly reject the ingress from LTE signals
- All amplifiers shielded and with F connectors
- Weatherproof outdoor housing in HIPS.
- Protected against atmospheric discharges.



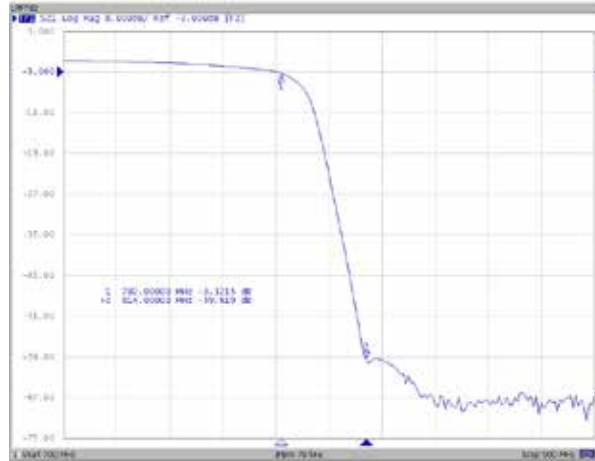
Each UHF input equipped with very steep low pass filter



	A272	A282	A292	A409	A376	A362
Ref.	0272	0282	0292	0409	0376	0362
HF inputs	1	1	1	2	2	2
Frequency bands (channels)	21-60	21-60	21-60	BIII(DAB)/21-60	BIII(DAB)/21-60	21-60/21-60
Nominal gain (dB)	20*	28*	38*	20* / 28*	28* / 38*	36* / 36*
Noise figure (dB)	< 5	< 5	< 5	< 3.5 / < 5	< 3.5 / < 5	< 5 / < 5
Output level (dBμV)	105	105	105	105	105	105
Supply voltage **(Vdc)	5-24	5-24	5-24	5-24	5-24	5-24
Current consumption (mA)	< 40	< 40	< 40	< 60	< 70	< 60
Dimensions (mm)	125 x 110 x 50	125 x 110 x 50	125 x 110 x 50	125 x 110 x 50	125 x 110 x 50	125 x 110 x 50
Weight (kg)	0.2	0.2	0.2	0.2	0.2	0.2
EAN code	5420037602728	5420037602827	5420037602926	5420037604098	5420037603763	5420037603626

\* besides the gain, indicates that gain is adjustable. This is typically 20 dB for the VHF inputs and 15 dB for the UHF inputs.  
 \*\* All amplifiers are fed by the coaxial cable connected to the output. The power supply A005 is advised to be used for these amplifiers.

# LTE block filter



## Technical specifications

Pass band	1 - 790 MHz (channel 60 / canal 60)	
Insertion loss	< 1 dB (5-700 MHz), 3.5 dB typ. (700-790 MHz)	
Stop band	814 - 1000 MHz	
Rejection	> 50 dB	
Cross band	790-814 MHz	
Order code / EAN code	<b>F782</b>	<b>5420037637829</b>

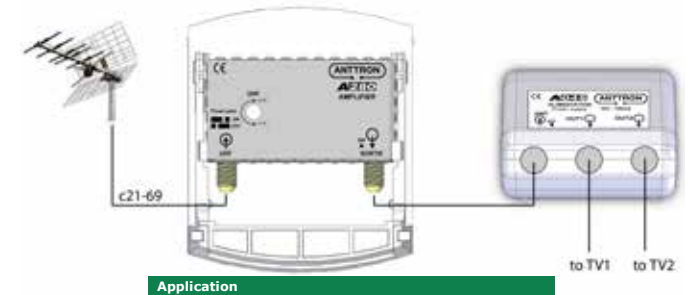
### LTE blockfilters / filtres LTE :

- Block filters for elimination of the impact of harmful interferences from LTE (4G) base stations at DVB-T devices.
- Weatherproof housing.
- Very low crossing bandwidth, very high rejection and low insertion loss
- high return loss / high screening.

## Power supplies for mastheadamplifier



- Range with F connectors
- 1 or 2 outputs
- 24V and 12 or 24V through jumper
- Zamac splitter housing
- LED indication
- Invisible wall mounting



Ref	Number of outputs	Insertion loss	Isolation	Max. current	Output voltage	Weight (kg)	EAN code
A005	2	< 4 dB	> 20 dB	100 mA	5V minimum	0.25	542003760052
A015	2	< 4 dB	> 20 dB	45 mA	24 V	0.29	5420037600151
A020	1	< 1 dB	-	100 mA	24 V	0.34	5420037600205
A021	1	< 1 dB	-	100 mA	12 ou/ or 24 V	0.34	5420037600212
A045	2	< 4 dB	> 20 dB	100 mA	24 V	0.34	5420037600458
A056	2	< 4 dB	> 20 dB	100 mA	12 ou/ or 24 V	0.34	5420037600564

**A230**



**A225**



**A217**



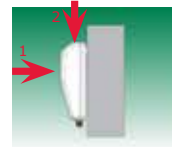
**A411**



**A227**



Wall mounting



Range

- A216 : VU - 2 outputs - 18 dB adjustable gain
- A217 : VU + return path - 2 outputs - 18 dB adjustable gain
- A225 : VU - 2 outputs - gain 25 dB (VHF and UHF adj. separately)
- A227 : VU - 2 outputs - gain 25 dB (VHF and UHF adj. separately) - with SAW LTE filter
- A411 : VU - 4 outputs - gain 12 dB (adjustable 2x2 outputs)
- A230 : VU + SAT - 2 outputs - gain terr. 28 dB / SAT 25 dB (gains separately adjustable)

**A216**



- Modern design
- Power LED
- Easy wall mounting

Technical specifications

Reference	A216	A217	A225	A227	A411	A230
Outputs	2	2	2	2	4	2
Frequency	45-862 MHz	85-862 MHz VR : 5-65 MHz	45-350 MHz/ 470-862 MHz	45-350 MHz/ 470-788 MHz (integrated SAW filter)	45-862 MHz	45-790 MHz/ 950-2150MHz
Gain	5 - 18 dB	5 - 18 dB	VHF : 5-25 dB UHF : 5-25 dB	VHF : 5-25 dB UHF : 5-24 dB	0 - 12 dB (1 ajustement per 2 outputs)	Terr: 13 - 28 dB SAT : 15 - 25 dB
Return path loss	-	6 dB	-	-	-	-
Noise figure	4,5 dB	4,5 dB	4,5 dB	4,5 dB	4,5 dB	4,5 dB
Max. output level	105 dBμV	105 dBμV	105 dBμV	105 dBμV	105 dBμV	105 dBμV
Input/Output return loss	> 10 dB	> 10 dB	> 10 dB	> 10 dB	> 10 dB	> 10 dB
Isolation betw.outputs	> 20 dB	> 20 dB	> 20 dB	> 20 dB	> 20 dB	> 20 dB
Power	230V / 4VA	230V / 4VA	230V / 4VA	230V / 4VA	230V / 4VA	230V / 4VA
Dimensions (mm)	95 x 115 x 35	95 x 115 x 35	95 x 115 x 35	95 x 115 x 35	95 x 115 x 35	95 x 115 x 35
Weight (kg)	0,30	0,30	0,31	0,31	0,34	0,33
EAN code	5420037602162	5420037602179	5420037602254	5420037602278	5420037604111	5420037602308



# Multiband and CATV amplifiers



**A116**



**A118**

The multiband amplifiers and CATV amplifiers have been especially designed for the use in SMATV systems for the reception of digital and analogue channels. Realised in zinc diecast housing, they utilise the latest development of transistors (GaAs-MMIC). This results in products of small dimensions, low power consumption but characterised with high linearity and high output level.



**A113**



**A124**

**A181**



### Technical specifications

	<b>A113</b>	<b>A116</b>	<b>A118</b>	<b>A181</b>	<b>A124</b>
Number of inputs	3 (BI+FM/BIII/UHF)	4 (BI+FM/BIII/UHF/UHF)	4 (BI+FM/BIII/21-60/21-60) (integrated SAW filter)	1 (85-862 MHz) return path : 5-65 MHz	1 (85-862 MHz) return path : 5-65 MHz
Number of outputs	1	1			
Test output		yes : -30 dB		no	yes : -30 dB
Gain (dB)	18/28/35		28/40/40/40	21	38
Gain return path (dB)	-	-	-	10	10
Slope adjustment (forward path (dB))	-	-	-	15	15
Attenuation range (each input) (dB)			0 - 18 dB		
Noise figure (dB)			< 7 dB		
Input/output return loss (dB)			> 10 dB		
Max. output level (IM3 : -52 dB : 3 equal carriers) (dBμV)			118		
Remote power (activated by internal jumper)		5V / 200 mA		-	-
Voltage			230 Vac (-10%,+15%)		
Power consumption (W)	5	6		5	6
Dimensions (mm)/weight (kg)			170 x 95 x 50 / 0.8		
Code EAN	5420037601134	5420037601165		5420037601813	5420037601240



- High isolation
- Small outline



- Small outline
- Zamac housing



**C504**

- TV/SAT combiner for TWIN LNB



**C505**

- High isolation
- Weatherproof housing



- High isolation
- Zamac housing

Specifications	C501	C502	C503	C505	C504
Frequency range (SAT)	950 - 2150 MHz				2 x 950-2150 MHz
Frequency range (terr.)	5-862 MHz				2 x 5-790 MHz
DC pass (terr./SAT)	non - no / oui - yes				
Insertion loss (SAT)	< 3 dB	< 3 dB	< 3 dB	< 3 dB	< 3 dB
Insertion loss (terrestrial)	< 2 dB	< 2 dB	< 2 dB	< 2 dB	< 5.5 dB
Isolation (SAT/terr)	> 40 dB	> 40 dB	> 30 dB	> 40 dB	> 40 dB
Isolation (terr/SAT)	> 30 dB	> 30 dB	> 18 dB	> 30 dB	> 30 dB
Code	1501	1502	1503	1505	1504
EAN code	5420037615018	5420037615025	5420037615032	5420037615056	5420037615049
Weight	0.080	0.18	0.052	0.18	0.20

## Wideband splitter



Specifications	R822	R823	R824
Frequency range	5 - 2150 MHz		
Number of outputs	2	3	4
DC pass all outputs	diode protection		
Insertion loss (5-862)	< 4 dB	1 x < 4 dB / 2 x < 8 dB	< 8 dB
Insertion loss (950-2150)	< 6 dB	1 x < 5 dB / 2 x < 10 dB	< 10 dB
Code	7822	7823	7824
EAN code	5420037678228	5420037678235	5420037678242
Weight	0.14	0.15	0.15



# DiSEqC switches

## References

- **S152** : 2 inputs - 1 output
- **S154** : 4 inputs - 1 output
- **S153** : 2 SAT inputs + 1 input terr - 1 output
- **S156** : 3 SAT inputs + 1 input terr - 1 output



- DiSEqC 1.0
- High isolation
- Short circuit proof
- Weatherproof housing



	S152	S154	S153	S156
Frequency range (SAT)	950 - 2150 MHz			
Satellite inputs	2	4	2	3
Frequency range (terrestrial)	-	-	40-862 MHz	
Insertion loss (satellite)	< 3 dB	< 4 dB	< 4 dB	< 4 dB
Insertion loss (terrestrial)	-	-	< 2 dB	< 2 dB
Isolation (SAT/SAT)	> 30 dB	> 30 dB	> 25 dB	> 25 dB
Isolation (SAT/terr)	-	-	> 40 dB	> 40 dB
Switching control	Tone Burst SAT A/B	SAT A/B/C/D	Tone Burst SAT A/B	SAT A/B/C
Current	35 mA max.			
DC loss	< 0.4 V			
Current pass	500 mA max.			
EAN code	5420037681525	5420037681549	5420037681532	5420037681563

## Satellite line amplifier



	A921	A931	A945
Frequency range (SAT)	950 - 2150 MHz		
Frequency range (terr.)	-	-	5-790 MHz
Insertion gain (SAT)	14...18 dB	20 dB	20...26 dB
Insertion gain (terrestrial)	-	-	20 dB
Gain control	-	-	terr : 15 dB/SAT : 20 dB
Max. output level (terr) (1)	-	-	108 dBµV
Max. output level (SAT) (2)	110 dBµV	110 dBµV	116 dBµV
EAN code	5420037609215	5420037609314	5420037609451



Integrated terrestrial amplifier (switchable on/off by strap).



Supplied with its separate power supply (ref : AG2418 : 18V - 1.0A)

### Technical specifications

	M504	M506	M508	M512	M516
Number of satellite inputs	4				
Number of receiver outputs	4	6	8	12	16
Frequency range (SAT)	950-2150 MHz				
Frequency range (terr.)	5-862 MHz				
Insertion loss (SAT)	-2...-2 dB				
Terrestrial gain (terrestrial amplifier ON)	8 dB	6 dB	5 dB	-	-
Insertion loss (terrestrial - amplifier OFF)	12 dB	15 dB	16 dB	15 dB	19 dB
Isolation (SAT/SAT)	> 30 dB				
Isolation (SAT/terr)	> 40 dB				
Isolation (Rx/Rx)	> 22 dB				
Switching control	13V/18V/22kHz				
Max. output level (SAT)	86 dBμV				
Current (per rec.)	60mA max.				
Dimensions	45x145x210mm	45x145x210mm	45x145x255mm	45x145x210mm	45x145x255mm
EAN code	5420037665044	5420037665068	5420037665082	5420037665129	5420037665167



On every receiver output DiSEqC A/B can be toggled using DIP switch.



Supplied with its separate power supply (ref : AG2414 : 14V - 1.7A)

Integrated terrestrial amplifier (switchable on/off by strap).



	M904	M906	M908	M912
Number of satellite inputs	8			
Number of receiver outputs	4	6	8	12
Frequency (satellite)	950-2150 MHz			
Frequency (terrestrial)	5-862 MHz			
Insertion gain (SAT)	-3...-1 dB	-3...-1 dB	-4...-0 dB	-6...-2 dB
Terrestrial gain (terrestrial amplifier ON)	8 dB	5 dB	4 dB	0 dB
Insertion loss (terrestrial - amplifier OFF)	12 dB	15 dB	16 dB	16 dB
Isolation (Sat/terr)	> 40 dB			
Isolation (terr/sat)	> 20 dB			
Isolation (sat/sat)	> 26 dB			
Isolation (rx/rx)	> 24 dB			
Max. output level (SAT)	86 dBμV			
Switching control	13V/18V/22kHz + DiSEqC 2.0			
Dimensions	180x210x46mm	180x210x46mm	220x210x46mm	330x210x46mm
EAN code	5420037669042	5420037669066	5420037669080	5420037669127

# Quattro SAT IF amplifier



## Technical specifications

	M402	A404
Number of satellite inputs	4	
Frequency range	950-2150 MHz	
Satellite gain (sloped)	22...28 dB	10...15 dB
Gain control	20 dB	-
Isolation trunk/trunk	> 32	
Power supply	14 V/1.7 A (incl.)	-
Max. output level SAT (IM3 - 35 dB)	120 dBμV	
Power consumption	8 W	3W
Dimensions	130x90x45 mm	
EAN code	5420037664023	5420037604043

## Cascadable multiswitches - 5 inputs

- Cascadable multiswitch with different tap values
- Terrestrial passive 5-862 MHz
- 4 IF switching with terrestrial combiner at each outlet
- DC pass on satellite trunk line

Number of satellite inputs	4
Frequency range (sat)	950-2150 MHz
Frequency range (terrestrial)	5-862 MHz
Isolation (trunk/trunk)	> 32 dB
Isolation (sat/terr)	> 40 dB
Isolation (sat/sat)	> 26 dB
Isolation (rx/rx)	> 24 dB
Max. output level (SAT)	86 dBμV
Switching control	13V/18V/22kHz
Current per outlet	< 60 mA
Dimensions (mm)	130 x 210 x 45 mm (M54x, M56x) 130 x 255 x 45 mm (M58x)



4 outputs

Reference	M541	M542	M543	M544 terminal
Insertion loss - trunk lines (terrestrial)	5,5 dB	3,5 dB	2,5 dB	-
Insertion loss - trunk lines (satellite)	< 3 dB	< 3 dB	< 3 dB	-
Tap loss (terrestrial)	14 dB typ.	18 dB typ.	21 dB typ.	11 dB typ.
Tap loss (satellite)	7...3 dB	13...8 dB	17...13 dB	3...+2 dB
EAN code	5420037665419	5420037665426	5420037665433	5420037665433

6 outputs

Reference	M561	M562	M563	M564 terminal
Insertion loss - trunk lines (terrestrial)	5,5 dB	3,5 dB	2,5 dB	-
Insertion loss - trunk lines (satellite)	< 3 dB	< 3 dB	< 3 dB	-
Tap loss (terrestrial)	16 dB typ.	20 dB typ.	23 dB typ.	13 dB typ.
Tap loss (satellite)	7...3 dB	13...8 dB	17...13 dB	3...+2 dB
EAN code	5420037665617	5420037665624	5420037665631	5420037665648

8 outputs

Reference	M581	M582	M583	M584 terminal
Insertion loss - trunk lines (terrestrial)	5,5 dB	3,5 dB	2,5 dB	-
Insertion loss - trunk lines (satellite)	< 4 dB	< 4 dB	< 4 dB	-
Tap loss (terrestrial)	18 dB typ.	22 dB typ.	25 dB typ.	14 dB typ.
Tap loss (satellite)	7...3 dB	13...8 dB	17...13 dB	0...+5 dB
EAN code	5420037665815	5420037665822	5420037665839	5420037665846

- Multiswitch with 9 inputs, 9 outputs and 4,6 or 8 receiver outlets
- Cascadable multiswitch with different tap values
- Terrestrial passive 5-862 MHz
- 8 IF switching with terrestrial combiner at each outlet
- Group A or B with or without DISEqC
- DC pass on satellite trunk lines
- Integrated power inserter

Number of satellite inputs	8
Frequency range (sat)	950-2150 MHz
Frequency range (terrestrial)	5-862 MHz
Isolation (trunk/trunk)	> 32 dB
Isolation (sat/terr)	> 40 dB
Isolation (sat/sat)	> 26 dB
Isolation (rx/rx)	> 24 dB
Max. output level (SAT) (tap outputs)	86 dB $\mu$ V
Switching control	13V/18V/22kHz + DISEqC 2.0
Current per outlet	< 60 mA
Dimensions (mm)	206 x 184 x 46 mm (M94x, M96x) 206 x 223 x 46 mm (M98x)



4 outputs

Reference	M941	M942	M943	M944 terminal
Insertion loss - trunk lines (terr)	5,5 dB	3,5 dB	2,5 dB	-
Insertion loss - trunk lines (sat)	< 3 dB	< 3 dB	< 3 dB	-
Tap loss (terrestrial)	14 dB typ.	18 dB typ.	21 dB typ.	10 dB typ.
Tap loss (satellite)	10....7 dB	14....11 dB	19....16 dB	3....0 dB
EAN code	5420037669417	5420037669424	5420037669431	5420037669448

6 outputs

Reference	M961	M962	M963	M964 terminal
Insertion loss - trunk lines (terr)	5,5 dB	3,5 dB	2,5 dB	-
Insertion loss - trunk lines (sat)	< 3 dB	< 3 dB	< 3 dB	-
Tap loss (terrestrial)	15 dB typ.	19 dB typ.	22 dB typ.	12 dB typ.
Tap loss (satellite)	10....7 dB	14....11 dB	19....16 dB	3....0 dB
EAN code	5420037669615	5420037669622	5420037669639	5420037669646

8 outputs

Reference	M981	M982	M983	M984 terminal
Insertion loss - trunk lines (terr)	5,5 dB	3,5 dB	2,5 dB	-
Insertion loss - trunk lines (sat)	< 4 dB	< 4 dB	< 4 dB	-
Tap loss (terrestrial)	17 dB typ.	21 dB typ.	24 dB typ.	14 dB typ.
Tap loss (satellite)	10....7 dB	14....11 dB	19....16 dB	3....0 dB
EAN code	5420037669813	5420037669820	5420037669837	5420037669844



### Quattro SAT IF splitter



	R428	R418
Number of satellite inputs	4	4
Number of satellite outputs	8	8
Frequency range	950-2150 MHz	
Insertion loss	5 dB	1 dB
Tap loss	5 dB	11 dB
Power pass	500 mA (2 out)	500 mA (1 out)
Dimensions	130x90x45 mm	
EAN code	5420037664023	5420037604043





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