



# TRIAX

connecting the future



## TRIAX® Headends

a strong range of flexible solutions for  
hospitality and multi-dwelling units



TDX



TDH 800



TDcH

[triax.com](https://www.com)



Exceptional headends  
for any installation

# Proud heritage

Now including the all-new  
TDcH compact headend



Trust the headend experts:  
proudly innovating since 1949

## TRIAX headends

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## Trust TRIAX Experts in headend technology

### Proud heritage

With trailblazing technology at our core for over 70 years, we're proud of where we come from. And we're proud to keep innovating each day, connecting our customers to the future.

Our expanded headend range is the truest expression of our values of reliability and innovation.

And now, we have a headend to suit the requirements of every installation size and budget.

### TV delivered your way

You know what your customers need, and our flexible headends make your choice easy. Whatever your preferred configuration, you can rest assured that each and every TRIAX headend guarantees the same quality TRIAX experience, saving you time and costs, and increasing your own customer loyalty.

Our headends are developed from the ground up at our headquarters in Denmark, with over 24,000 sold in the last decade alone.



### TIME SAVED

- No retuning of in-room TV sets
- Quick installation with pre-configured solutions
- Remote access to all your headend installations



### LOYALTY INCREASED

- Outstanding reliability, reduced down time
- Remote access for quick configuration changes
- Smoothly integrated solutions



### COSTS SAVED

- End-to-end TRIAX hardware:
- One point of contact, one stop shop
- A headend for every budget



### FUTURE READY

- Free software updates
- Modular (TDH 800 & TDX)
- Scalable (TDX)
- IPTV ready (TDX)



### TDcH Compact Headend

- Central decryption with CI slots; FTA version available
- Pre-configured for quick installation and reduced costs
- Remote management for quick and easy support
- Easy and central updates of TV services with LCN

IN	OUT
DVB-S/S2	QAM



### TDH 800 Modular Headend

- Decryption of satellite, cable and terrestrial signals
- Optimised channel setup with advanced Multiplexing
- Modular for high flexibility and individual requirements
- No need for retuning TV sets in rooms

DVB-S/S2	QAM
DVB-T/T2	COFDM
DVB-C	PAL HD
HDMI	
AV	



### TDX Scalable Headend

- Top of the range: maximum flexibility and power
- Ready for IPTV solutions
- Scalable: combine up to 3 headends
- DRM integration for distributing premium content

DVB-S/S2	QAM
DVB-T/T2	COFDM
DVB-C	PAL HD
HDMI	IP
AV	
IP	

For more features and specifications, visit [triax.com/headends](http://triax.com/headends).

### Trust our customers

Our vision is to be the preferred connectivity partner to professionals. We take pride in our reliable products and outstanding service, but don't just take our word for it: here's what some of our customers have to say. Read more at [triax.com/references](http://triax.com/references).

"We have been using TRIAX's reliable headend systems for several years. This has convinced us to also rely on TRIAX for subsequent projects."

Thomas Banhardt  
Owner, Feldberger Hof, Germany

"TRIAX has renewed our CATV infrastructure with a highly reliable and effective solution."

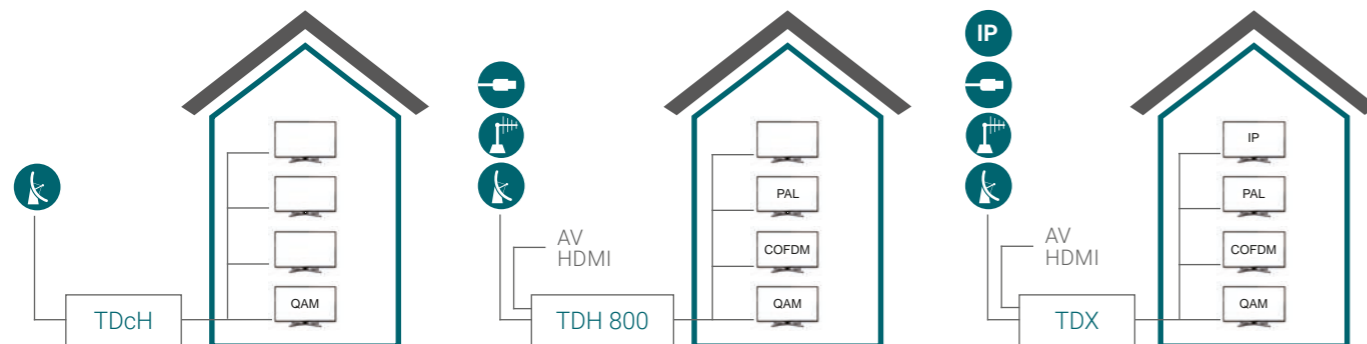
IT & Multimedia Director  
Hungarian National Assembly

"TRIAX understands what is important. Their headends are recommended for their expandability combined with low maintenance effort."

Wolfgang Kerz  
Antennentechnik Redmann GmbH

## Technical and configuration Overview

Specification		TDcH	TDH 800	TDX
Frequency range (RF out)	MHz	306-862	47-862	47-862
Impedance (RF out)	Ohm	75	75	75
Test point	dB	-20	-20	-20
Output level max	dBμV	95	93	103
<b>POWER SUPPLY</b>				
Operating voltage	VAC	100-264 50/60 Hz	190-260 50/60 Hz	190-260 50/60 Hz
Power consumption, max	W	90	280	280
Max. LNB control	mA	4 x 300	4 x 305	4 x 305
<b>CONNECTORS</b>				
AC Power in (1.8 m)		IEC 320 (cable)	IEC320 (cable)	IEC320 (cable)
RF out		F-connector	F-connector	F-connector
Test point		F-connector	F-connector	F-connector
PC interface		2 x RJ 45	RJ 45	RJ 45
SFP cage for Cat or Opto		1 x SFP Module	N/A	4 x SFP Module
<b>ENVIRONMENT</b>				
Temperature, operating	°C	-10...+50	-10...+50	-10...+50
Temperature, storage	°C	-20...+70	-20...+70	-20...+70
Humidity, operating	%	20...80	20...80	20...80
Humidity, storage	%	10...90	10...90	10...90
<b>MECHANICAL DATA</b>				
Dimensions product (H x D x W)	mm/HE	90/2 x 220 x 430	265/6.5 x 240 x 440	290/6.5 x 240 x 440
Weight - net	kg	3.9	9.8	12.0



Configuration options		TDcH	TDH 800	TDX
Supported input signals	DVB-S/S2	✓	✓	✓
	DVB-T/T2/C, HDMI, AV		✓	✓
	IP-in			✓
Supported output signals	QAM	✓	✓	✓
	COFDM, PAL HD		✓	✓
	IP-out			✓
CI interface	CI	✓ <sup>1)</sup>	✓	✓
	Service and Transport Stream mode support		✓	✓
	BISS-CAM support			✓
Remote maintenance	Remote access	✓	✓	✓
	Software updates	✓	✓	✓
	Self-signed HTTPS	✓		
Signal processing	LCN (HD)	✓	✓	✓
	Network ID setting	✓	✓	✓
	Service filtering	✓	✓	✓
	Transport stream ID setting		✓	✓
	NIT DVB, NorDig, FranceSAT		✓	✓
	SID Remapping		✓	✓
	PID Management (NO re-tuning)		✓	✓
	Multiplexing		✓	✓
	PLP (DVB-T2)		✓	✓
	IP-out service list			✓
	EPG Output-Management			✓
Alternative EIT Source			✓	
NTP Time synchronisation			✓	
Configuration	Pre-configured	✓	✓	
	Freely configurable in- and outputs		✓	✓
	Hot swap			✓
DRM	Multiunit, Common NIT and GUI			✓
	CAT remove (Customer access table)		✓	✓
	Pro:Idiom®, Samsung LYNC, SimulCrypt			✓
Additional Hardware	Redundant Power supply (PSU)			✓
	IPTV EPG Server			✓

Notes: 1) The TDcH is available in CI and Free-To-Air versions

Introducing the all-new TDcH  
compact headend from TRIAX

# Compact excellence

Exquisite engineering,  
finely tuned for perfect performance.

Your natural choice for swift,  
efficient TV distribution.





## Introducing the all-new TDcH Compact Headend

- Exquisite engineering, finely tuned for perfect performance
- Your natural choice for swift, efficient TV distribution
- Save time and costs, with fast, easy installation and remote management
- Fits elegantly into 19" racks
- Reliable, innovative headend expertise from TRIAX

## A sleek combination of intuitive software, central decryption and remote access

- Central decryption with CI slots; FTA version available
- Pre-configured for quick installation and reduced costs: DVB-S/S2 in, QAM out
- Remote management for quick and easy support
- Easy and central updates of TV services with LCN
- Straightforward setup and configuration via intuitive GUI



**TDcH Compact Headend - FTA**  
Art. No.: 492790  
EAN Number: 5702664927901



**TDcH Compact Headend - CI**  
Art. No.: 492780  
EAN Number: 5702664927802

	TDcH Free-To-Air	TDcH CI version
<b>ORDER INFORMATION</b>		
Art. Number	492790	492780
EAN Number	5702664927901	5702664927802
<b>CHARACTERISTICS</b>		
Supported input signals	16 x DVB-S/S2	16 x DVB-S/S2
Supported output signals	16 x QAM	16 x QAM
CI interface	0	8 CI slots
Frequency range (RF out)	MHz 306-862	306-862
Impedance (RF out)	Ohm 75	75
Test point	dB -20	-20
Output level max	dBμV 95	95
MER	dB ≥ 42 (typ. 43)	≥ 42 (typ. 43)
<b>POWER SUPPLY</b>		
Operating voltage	VAC 100-264 50/60 Hz	100-264 50/60 Hz
Power consumption, max	W 90	90
Max. LNB control	mA 4 x 300	4 x 300
<b>CONNECTORS</b>		
AC Power in (1.8 m)	IEC 320 (cable)	IEC 320 (cable)
RF out	F-connector	F-connector
Test point	F-connector	F-connector
PC interface	2 x RJ 45	2 x RJ 45
SFP cage for Cat or Opto	1 x SFP Module	1 x SFP Module
<b>ENVIRONMENT</b>		
Temperature, operating	°C -10...+50	-10...+50
Temperature, storage	°C -20...+70	-20...+70
Humidity, operating	% 20...80	20...80
Humidity, storage	% 10...90	10...90
<b>REMOTE MAINTENANCE</b>		
Remote access	Yes	Yes
Software updates	Yes	Yes
Self-signed HTTPS	Yes	Yes
<b>SIGNAL PROCESSING</b>		
LCN (HD)	Yes	Yes
Network ID setting	Yes	Yes
Service filtering	Yes	Yes
<b>CONFIGURATION</b>		
Pre-configured	Yes	Yes
<b>MECHANICAL</b>		
Product Height	mm/HE 90/2	90/2
Product Depth	mm 220	220
Product Width	mm 430	430
Weight - net	kg 3.9	3.9



## TDH 800 Modular Headend - the all-rounder with innovative pool technology

The TDH 800 headend is ideal for those looking for a flexible, compact and reliable solution, with a range of input and output modules for all popular TV distribution formats. If you need additional features such as multi unit or IP-in/out, then please select the TDX headend.

### Easy installation

- Housing designed to accommodate up to 16 input and 6 quad output modules, making it possible to support 12 CAM modules
- Can easily be installed on a wall or a 19" cabinet
- All input and output modules as well as all cables can be accessed and operated easily from the front
- Input and output modules identified via TRIAX supplied labels
- DiSEqC 1.0 functionality
- Saves time on installation

### Intuitive configuration

- Browser-based user interface configuration without additional software
- Easy, intuitive step-by-step configuration
- The four adjacent output channels per output module can be freely selected across the full frequency range
- MUX bandwidth monitor to ensure that the MUX is not overloaded
- PID Management – No need for retuning TV sets in rooms when services are changed
- LED to indicate operation and errors on each module

### Effortless service handling

- Input modules are independent of output modules, resulting in a smaller number of modules overall. Fewer modules – allows easy spare part handling
- Log file on all TDH 800
- On-location access to the TDH system for installer and/or TRIAX support

### IP Pool and Multiplex technology

- Up to 16 input modules in a combination of DVS-S/S2, DVB-T/T2, DVB-C, AV and HDMI in
- Up to 6 Quad-output modules for up to 24 channels in any combination of PAL, QAM, COFDM
- More relevant TV services because of service filtering and multiplexing
- Output modules support up to 2 CAM modules. With full configuration per base up to 12 CAM modules possible
- IP Pool-Technology - Input and Output modules are independent of each other

### Energy-saving – long-term reliability

- 16 tuners and 6 backends fully loaded - only 280 W power consumption
- Intelligent cooling system with integrated fans – increases the service life of the equipment.
- The cooling system supports 19" rack/cabinet mounting.



**TDH 800 Cabinet - Main Unit**  
Art. No.: 692890  
EAN Number: 5702666928906



	TDH 811 Frontend DVB-S/S2 [QPSK/8PSK]	TDH 813 Frontend DVB-T/T2 [COFDM]	TDH 816 Frontend DVB-C	TDH 814 Frontend AV encoder module	TDH 815 Frontend HDMI
<b>ORDER INFORMATION</b>					
Art. Number	692820	692823	692824	692880	692830
EAN Number	5702666928203	5702666928234	5702666928241	5702666928807	5702666928302
<b>CHARACTERISTICS</b>					
Code rates DVB-T		1/2, 2/3, 3/4, 5/6, 7/8			
Code rates DVB-T2		1/2, 2/3, 3/4, 5/6			
Constallations DVB-T		QPSK, 16QAM, 64QAM			
Constallations DVB-T2		QPSK, 16QAM, 64QAM, 256QAM			
Demodulator Symbolrate	Msym/s		1.8 to 7.2		
Demodulator Type		COFDM	QAM		
DiSEqC level	1.1				
Input Aspect Ratio				4:3, 16:9	
Input level	dBμV	50...85	40...85	45 ... 85	
Input QAM modes			16QAM, 64QAM, 128QAM, 256QAM		
Input Video S/N Ratio	dB			> 52	
Input video standards				PAL, Secam	720x480i30, 720x480p60, 720x576i25, 720x576p50, 1080x720p50, 1280x720p60, 1920x1080i25, 1920x1080i30, 1920x1080p25, 1920x1080p30
LNB LO/HI programmable	kHz	0/22			
LNB V/H programmable	V/mA	0-13-18/300			
Output Video Codec				MPEG-2, MPEG-4	MPEG-2, MPEG-4
<b>FREQUENCY</b>					
Bandwidth	MHz		7/8	8	
Input frequency range	MHz	950...2150	VHF III 177.5 - 226.5 MHz /UHF 474 - 858	114 - 858	
<b>RETURN LOSS</b>					
Input return loss	dB	> 10	> 6	> 10	> 26
<b>ELECTRICAL</b>					
Impedance	Ω	75	75	75	75
Input Audio Impedance	kΩ			10 ± 1	
Physical Interface				CVBS	
<b>CONNECTORS</b>					
Input connector		F-female	F-female	F - female	15pol Sub-D
Input Type					HDMI female HDMI (HDCP compliant)

# TRIAX® TDH

## Output Modules



**TDH 800 Cabinet - Main Unit**  
 Art. No.: 692890  
 EAN Number: 5702666928906



	TDH 843 Backend COFDM	TDH 844 Backend COFDM 2CI	TDH 845 Backend QAM	TDH 846 Backend QAM 2CI
<b>ORDER INFORMATION</b>				
Art. Number	692860	692861	692855	692856
EAN Number	5702666928609	5702666928616	5702666928555	5702666928562
<b>CHARACTERISTICS</b>				
Carrier supported	2K	2K		
MER	dB ≥ 35.0	dB ≥ 35.0	dB ≥ 38.0	dB ≥ 38.0
Output Audio S/N Ratio	dB	dB	dB	dB
Output level adjustment	dB +3...-17	dB +3...-17	dB +3...-17	dB +3...-17
Output Level System	dBμV 90.0 ± 1.5	dBμV 90.0 ± 1.5	dBμV 90.0 ± 1.5	dBμV 90.0 ± 1.5
Output QAM Modes	16QAM, 64QAM, QPSK	16QAM, 64QAM, QPSK	16QAM, 32QAM, 64QAM, 128QAM, 256QAM	16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Output symbol rate	Mbit/s		3.15...7.2	3.15...7.2
Output Video S/N Ratio	dB			
Sound sub carrier	MHz			
Spurious Signals	dB > 60	dB > 60	dB > 60	dB > 60
<b>FREQUENCY</b>				
Channel Raster	MHz 7, 8, 8.5	MHz 7, 8, 8.5	MHz 7, 8, 8.5	MHz 7, 8, 8.5
Output frequency range	MHz 50.5 - 858	MHz 50.5 - 858	MHz 50.5 - 858	MHz 50.5 - 858
<b>RETURN LOSS</b>				
Output Return Loss	dB > 10	dB > 10	dB > 10	dB > 10
<b>ELECTRICAL</b>				
Impedance	Ω 75	Ω 75	Ω 75	Ω 75
<b>OPERATIONAL</b>				
CI slots	0	2	0	2
<b>CONNECTORS</b>				
Connector Type	F-female	F-female	F-female	F-female



# TRIAX® TDH

## Output Modules



**TDH 800 Cabinet - Main Unit**  
 Art. No.: 692890  
 EAN Number: 5702666928906



	TDH 848 Backend PAL-HD Downscale FTA	TDH 849 Backend PAL-HD Downscale CI	TDH 847 Backend 2CI
<b>ORDER INFORMATION</b>			
Art. Number	692852	692853	692870
EAN Number	5702666928524	5702666928531	5702666928708
<b>CHARACTERISTICS</b>			
Carrier supported			
MER	dB	dB	dB
Output Audio S/N Ratio	dB 50	dB 50	dB
Output level adjustment	dB +3...-17	dB +3...-17	dB
Output Level System	dBμV 93	dBμV 93	dBμV
Output QAM Modes			
Output symbol rate	Mbit/s	Mbit/s	Mbit/s
Output Video S/N Ratio	dB ≥ 57	dB ≥ 57	dB
Sound sub carrier	MHz 5.5 / 5.74 / 6.0 / 6.5	MHz 5.5 / 5.74 / 6.0 / 6.5	MHz
Spurious Signals	dB > 60	dB > 60	dB
<b>FREQUENCY</b>			
Channel Raster	MHz 7, 8	MHz 7, 8	MHz
Output frequency range	MHz 47 - 862	MHz 47 - 862	MHz
<b>RETURN LOSS</b>			
Output Return Loss	dB > 10	dB > 10	dB
<b>ELECTRICAL</b>			
Impedance	Ω 75	Ω 75	Ω
<b>OPERATIONAL</b>			
CI slots	0	2	2
<b>CONNECTORS</b>			
Connector Type	F-female	F-female	F-female





## TDX Scalable Headend - quite simply a revolution

The professional TDX headend is cutting edge technology for those who place the highest demands on flexibility and performance. It is a true IP headend with revolutionary technology – ideal for the supply of all TV signals.

### Smooth installation and configuration

- Easy installation on a wall or a 19" cabinet
- All input/output modules and cables are easily accessible from the front
- Browser-based user interface configuration without additional software
- Simple and intuitive step-by-step configuration
- DiSEqC-compatible when using a multi-switch as for input distribution
- MUX bandwidth monitoring to avoid overfilling MUX
- Halved installation times due to easy programming

### Maintenance and service made easy

- New modules are automatically recognised and configured
- Log file on all TDX activity
- Easy on-site or remote access to the TDX for the installer and/or the TRIAX support
- Fewer modules – allows easy spare part handling
- SID/PID remapping: no re-programming of the TV sets following channel changes
- LCN (logic channel numbering): create individual programme list and save it as SD and HD programme
- Manage and customize EPG data

### IP Pool and Multiplex technology

- Up to 16 input modules in a combination of DVB-S/S2, DVB-T/T2, DVB-C, AV, HDMI and IP-in
- Up to 6 Quad-output modules for up to 24 channels in any combination of PAL, QAM, COFDM and IP out
- More relevant TV services because of service filtering and multiplexing
- Output modules support up to 2 CAM modules. With full configuration per base up to 12 CAM modules possible.
- IP Pool-Technology - Input- and Output modules are independent of each other

### Multi-Unit for more power

- Combine up to three TDX-Headends as one system
- Up to 72 PAL, QAM or COFDM channels (around 280 HD-programs or 570 SD-programs)
- High output level at 103 dBμV for interference free reception

### Future-proof and energy-saving

- IPTV to support different end-user devices.
- Scalable to adapt to new requirements (additional TV services or new technologies)
- A fully loaded headend with 16 inputs and 6 outputs consumes only 280 watts
- Intelligent cooling system with integrated fans increases the life of the equipment



**TDX Black Edition Main Unit**  
Art. No.: 492091  
EAN Number: 5702664920919



	TDX Frontend DVB-S/S2 [QPSK/8PSK]	TDX Frontend DVB-T/T2 [COFDM]	TDX Frontend DVB-C [QAM]	TDX Frontend AV [Encoder module]	TDX Frontend HDMI [Encoder modul]
<b>ORDER INFORMATION</b>					
Art. Number	492020	492023	492024	492080	492030
EAN Number	5702664920209	5702664920230	5702664920247	5702664920803	5702664920308
<b>CHARACTERISTICS</b>					
Code rates DVB-T		1/2, 2/3, 3/4, 5/6, 7/8			
Code rates DVB-T2		1/2, 2/3, 3/4, 5/6			
Constallations DVB-T		QPSK, 16QAM, 64QAM			
Constallations DVB-T2		QPSK, 16QAM, 64QAM, 256QAM			
Demodulator		QPSK, 16QAM, 64QAM, 256QAM / 128 QAM, 256 QAM	16 QAM, 64 QAM,		
Demodulator Symbolrate	Msym/s		1.8 ...7.2		
Demodulator Type		QPSK/8PSK	COFDM	QAM	
DiSEqC level		1.1			
Input Aspect Ratio					4:3 or 16:9
Input level	dBμV	50 ... 85	40...85	45 ... 85	
Input video standards				PAL, Secam	720x480i30, 720x480p60, 720x576i25, 720x576p50, 1080x720p50, 1280x720p60, 1920x1080i25, 1920x1080i30, 1920x1080p25, 1920x1080p30
LNB LO/HI programmable	kHz	0/22			
LNB V/H programmable	V/mA	0...13...18/300			
Output Video Codec				MPEG-2/MPEG-4	MPEG-2/MPEG-4
<b>FREQUENCY</b>					
Bandwidth	MHz		7/8	8	
Input frequency range	MHz	950-2150	177.5 - 226.5 / 474 - 858	114 - 858	
<b>RETURN LOSS</b>					
Input return loss	dB	>10	> 6.0	> 7.0	> 26
<b>ELECTRICAL</b>					
Impedance	Ω	75	75	75	
Input Audio Impedance	kΩ				10 ± 1
Input video impedance	Ω				75
Physical Interface				CVBS	HDMI
<b>CONNECTORS</b>					
Connector IN		F-female	F-female	F-female	15pol Sub-D
Input Type				A/V	HDMI female HDMI (HDCP compliant)

# TRIAX® TDX

## Output Modules



**TDX Black Edition Main Unit**  
Art. No.: 492091  
EAN Number: 5702664920919



		TDX Backend QAM	TDX Backend QAM 2CI	TDX Backend COFDM	TDX Backend COFDM 2CI
<b>ORDER INFORMATION</b>					
Art. Number		492055	492056	492060	492061
EAN Number		5702664920551	5702664920568	5702664920605	5702664920612
<b>CHARACTERISTICS</b>					
Carrier supported				2K	2K
MER	dB	≥ 41.0 (typ. 42)	≥ 41.0 (typ. 42)	≥ 36 (typ. 38)	≥ 36 (typ. 38)
Output Audio S/N Ratio	dB				
Output format					
Output level adjustment	dB	+3...-17	+3...-17	+3...-17	+3...-17
Output Level System	dBμV	100	100	100	100
Output peak bandwidth max.	Mbit/s				
Output QAM Modes		16QAM, 32QAM, 64QAM, 128QAM, 256QAM	16QAM, 32QAM, 64QAM, 128QAM, 256QAM	16QAM, 64QAM, QPSK	16QAM, 64QAM, QPSK
Output symbol rate	Mbit/s	3.15 - 7.2	3.15 - 7.2		
Output total bandwidth max.	Mbit/s				
Output Video S/N Ratio	dB				
Sound sub carrier	MHz				
Spurious Signals	dB	> 60	> 60	> 60	> 60
<b>FREQUENCY</b>					
Bandwidth	MHz	7, 8	7, 8	6, 7, 8	6, 7, 8
Channel Raster	MHz	7, 8, 8.5	7, 8, 8.5	7, 8, 8.5	7, 8, 8.5
Output frequency range	MHz	50.5 - 858	50.5 - 858	50.5 - 858	50.5 - 858
<b>RETURN LOSS</b>					
Output Return Loss	dB	> 10	> 10	> 10	> 10
<b>ELECTRICAL</b>					
Impedance	Ω	75	75	75	75
<b>OPERATIONAL</b>					
CI slots		0	2	0	2
Output protocol					
TV-norm					



# TRIAX® TDX

## Output Modules



**TDX Black Edition Main Unit**  
Art. No.: 492091  
EAN Number: 5702664920919



		TDX Backend PAL HD FTA downscale	TDX Backend PAL HD downscale 2CI	TDX Backend 2CI	TDX Backend 2CI IP	TDX Backend Pro:Idiom® IP
<b>ORDER INFORMATION</b>						
Art. Number		492052	492053	492070	492072	492073
EAN Number		5702664920520	5702664920537	5702664920704	5702664920728	5702664920735
<b>CHARACTERISTICS</b>						
Carrier supported						
MER	dB					
Output Audio S/N Ratio	dB	50	50			
Output format					MPEG/DVB com- pliant SPTS UDP/IP multicast via GbE	MPEG/DVB com- pliant SPTS UDP/IP multicast via GbE
Output level adjustment	dB	+3...-17	+3...-17			
Output Level System	dBμV	103	103			
Output peak bandwidth max.	Mbit/s			940	940	
Output QAM Modes						
Output symbol rate	Mbit/s					
Output total bandwidth max.	Mbit/s				720	720
Output Video S/N Ratio	dB	≥ 57	≥ 57			
Sound sub carrier	MHz	5.5 / 5.74 6.0 / 6.5	5.5 / 5.74 6.0 / 6.5			
Spurious Signals	dB	> 60	> 60			
<b>FREQUENCY</b>						
Bandwidth	MHz					
Channel Raster	MHz	7, 8	7, 8			
Output frequency range	MHz	47 - 862	47 - 862			
<b>RETURN LOSS</b>						
Output Return Loss	dB	> 10	> 10			
<b>ELECTRICAL</b>						
Impedance	Ω	75	75	75	75	75
<b>OPERATIONAL</b>						
CI slots		0	2	2	2	2
Output protocol					3-7:1 TS / IP packet ratio (configurable via GUI), RTP (op- tional via GUI)	3-7:1 TS / IP packet ratio (configurable via GUI), RTP (op- tional via GUI)
TV-norm		Pal(B/G, I, L, D/K), Secam	Pal(B/G, I, L, D/K), Secam			



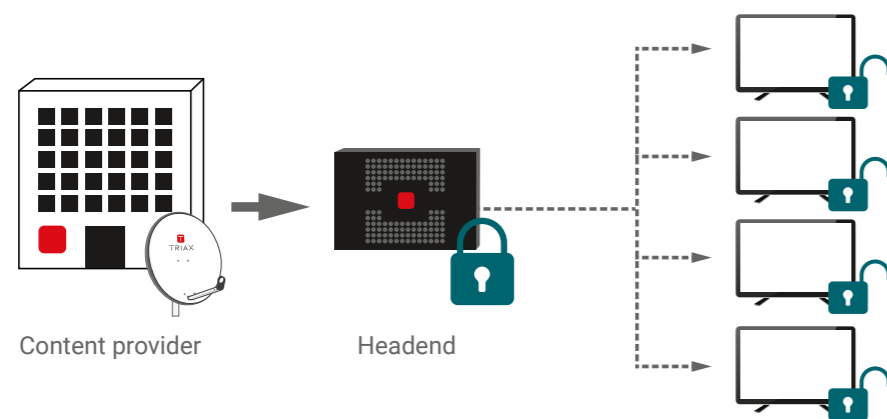
## Distribute premium IPTV services

Using the TRIAX TDX headend

Distributing premium content across multiple rooms in a secure way is an increasing challenge that hotels need to solve. Therefore headends and TV solutions with DRM technology are a good and safe choice.

TRIAX TDX headends have a solution for this challenge. They now offer DRM solutions for both LG and Samsung hospitality TVs.

Once again the modular concept of the TRIAX TDX headend proves to be a future proof choice. The DRM functionalities can be included in both new installations and TDX headends already running in the market.



## Software licences

	Art. No.	EAN Number
IPTV-in		
TDX IPTV-in 4 service - Start	418047	5702664180474
TDX IPTV-in 12 service - Start	418045	5702664180450
TDX IPTV-in 4 service - Expand	418048	5702664180481
TDX IPTV-in 12 service - Expand	418046	5702664180467
IPTV-out		
TDX IPTV-out 12 service - Start	418040	5702664180405
TDX IPTV-out 12 service - Expand	418041	5702664180412
Other		
TDX Samsung DRM backend license	418073	5702664180733
TDX Alternative EIT source	418050	5702664180504
TDX PAL AC3 activation license	418051	5702664180511
TDX SimulCrypt 24 service	418072	5702664180726
TDX SNMP License	418062	5702664180627
TDX PID Management	418063	5702664180634

## Accessories



	Art. No.	EAN Number	Data rate	Reaching area	Remarks
TDX SFP Modules					
Copper RJ45 EOLT - C12-02 plug	492086	5702664920865	1000	100 m	Copper SFP (RJ45)
Fibre LC 850nm EOLT - 8512 MXX plug	492087	5702664920872	1000	550 m	Fibre LC - 850 nm
Fibre LC 1310nm EOLT - 1324-02XX plug	492088	5702664920889	1000	2000 .	Fibre LC - 1310 nm
Other					
IPTV EPG Server	492095	5702664920957			
TDX redundant power supply	492006	5702664920063			

## Spare parts

	Art. No.	EAN Number
Spare parts		
TDX Controller	492000	5702664920001
TDX SD card	492084	5702664920841
TDX Double fan kit	775365	5702667753651
TDX power supply	492005	5702664920056

# TRIAX<sup>®</sup> modulators

MOD 101C, MOD 103T and TFM01

# TRIAX<sup>®</sup> modulators

MOD 101C, MOD 103T and TFM01



## TRIAX modulators

### MOD101C HDMI to QAM Modulator

The MOD101C modulator has a high definition HDMI input (1080p, MPEG4), and a QAM output which is combined with the RF input. The HDMI input content can be supplied by a number of sources: blu-ray player, satellite set-top box, CCTV etc. The input signal is modulated as a QAM output and can be distributed to a number of TVs over an existing private coaxial network. The modulator can combine existing RF with the modulated output channel on the RF output. The modulator has adjustable level control to balance the QAM channel with the incoming RF channels. The MOD101C Modulator can be set up via the front panel and LCD screen.

- Auto detection of HDMI format
- HDMI input supports multiple video format compatibility up to 1080p and multiple audio format compatibility including MPEG-1 Layer II.
- Editable video and audio parameters, PMT, PCR, PIDs, NIT, LCN, Service Name
- All inputs and outputs on one side for ease of installation
- Combine existing RF with the modulated output channel
- Fully agile QAM output frequency
- Adjustable level control to balance the QAM channel with the incoming RF channels
- Set up via the front panel and LCD screen

### MOD103T HDMI to COFDM Modulator

The MOD103T modulator has an HDMI input with local loop through, and a COFDM output which is combined with the RF input. The HDMI input content can be supplied by a number of sources, Blu-ray player, Satellite Set top box, CCTV etc. The input signal is modulated as a COFDM output and can be distributed to a number of TVs over an existing private coaxial network. It has an HDMI loop through to connect to the local TV, and can also combine existing RF with the modulated output channel on RF Out 1 and RF Out 2. The modulator has adjustable level control to balance the COFDM channel with the incoming RF channels. The source set top box can be controlled from another TV location via the IR remote control over the coaxial cable, using an IR transmitter and a digital link. The coaxial network must be connected to the RF Out, with the 9vdc able to pass through the network, to remotely power the digital link. The MOD103T Modulator can be set up via the front panel and LCD screen.

- New compact design
- All inputs and outputs on one side for ease of installation
- HDMI loop through for connection to the local TV
- Combine existing RF with the modulated output channel on RF Out 1 and RF Out 2
- Fully agile COFDM output frequency
- Adjustable level control to balance the COFDM channel with the incoming RF channels (1dB steps)
- Source set top box etc. can be controlled from another TV location using an IR emitter and a digital link (included)
- Set up via the front panel and LCD screen
- Firmware update via USB interface



	MOD 101C HDMI-QAM	MOD103T HDMI to COFDM
<b>ORDER INFORMATION</b>		
Art. Number	300126	300128
EAN Number	5702663001268	5702663001282
<b>CHARACTERISTICS</b>		
Audio Compression	MPEG-1 Audio Layer II (ISO/IEC 11172-3)	MPEG-2, AAC
Audio Input	Stereo, HDMI	Stereo, HDMI
Code rate		1/2, 2/3, 3/4, 5/6, 7/8
Constellation		QPSK/16QAM/64QAM
Guard Interval		1/4, 1/8, 1/16, 1/32
MER	dB	>36
Number of carriers		2K / 8K
Output level	dBμV	< 95
Video Compression	H.264/AV	H.264 4.0
Video Input	HDMI	HDMI
Video resolution	Pixel	Up to 1080p@30Hz
<b>FREQUENCY</b>		
Bandwidth	MHz	6/7/8
Frequency range	MHz	100 - 860
<b>RETURN LOSS</b>		
LCN		Up to 1023
PID settings		PMT/Video & Audio / PCR
PSI		HID/ONID/P.D.S/TS ID
Screen Resolution		800x600 / 1024x768 / 1280x600 / 1280x720 / 1280x768 / 1360x768 / 1366x768
<b>ELECTRICAL</b>		
Impedance	Ω	75
<b>OPERATIONAL</b>		
DC Operating voltage	VDC	12
Power Consumption (typ.)	W	8
PSU/adaptor INFO		Included Euro Plug (CEE 7/17)
<b>CONNECTORS</b>		
Connector IN		HDMI female (Type A)
Connector OUT		F-female
Input connector		HDMI, F-terrestrial loop through
<b>MECHANICAL</b>		
Display		LCD panel and buttons
Mounting		Wall mount
Net Weight	kg	0,480
Packing QTY		1
Product Depth	mm	150
Product Height	mm	36.5
Product Width	mm	150



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TRIAX is a global supplier of reliable, innovative products and solutions for the reception and distribution of video, audio and data signals.

Our Products are used in homes, businesses and operator networks by broadcasters, satellite, cable and telecom operators.

Our Solutions combine our hardware and software expertise to deliver value to hospitality and related markets, through a partner network of system integrators, large installers and operators.

TRIAX's headquarters, production and R&D base is in Denmark. With 9 international sales subsidiaries we operate in more than 60 distributor countries. The TRIAX team consists of 250 employees and is owned by Polaris Private Equity.

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