



# The new standard for customer entertainment

| TDH 800 basic headend system



your ultimate connection



TDH  
800



# New standard

## | for basic headend systems

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The TDH 800 is a basic headend system designed to provide basic reception and distribution of TV services for places such as residential complexes, small hotels and bed and breakfast accommodation, etc. The TDH 800 unit supports the new TRIAX pool technology, and was developed on the same platform as the TDX units.



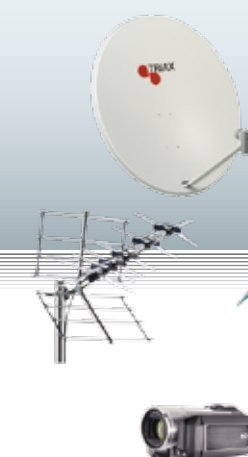
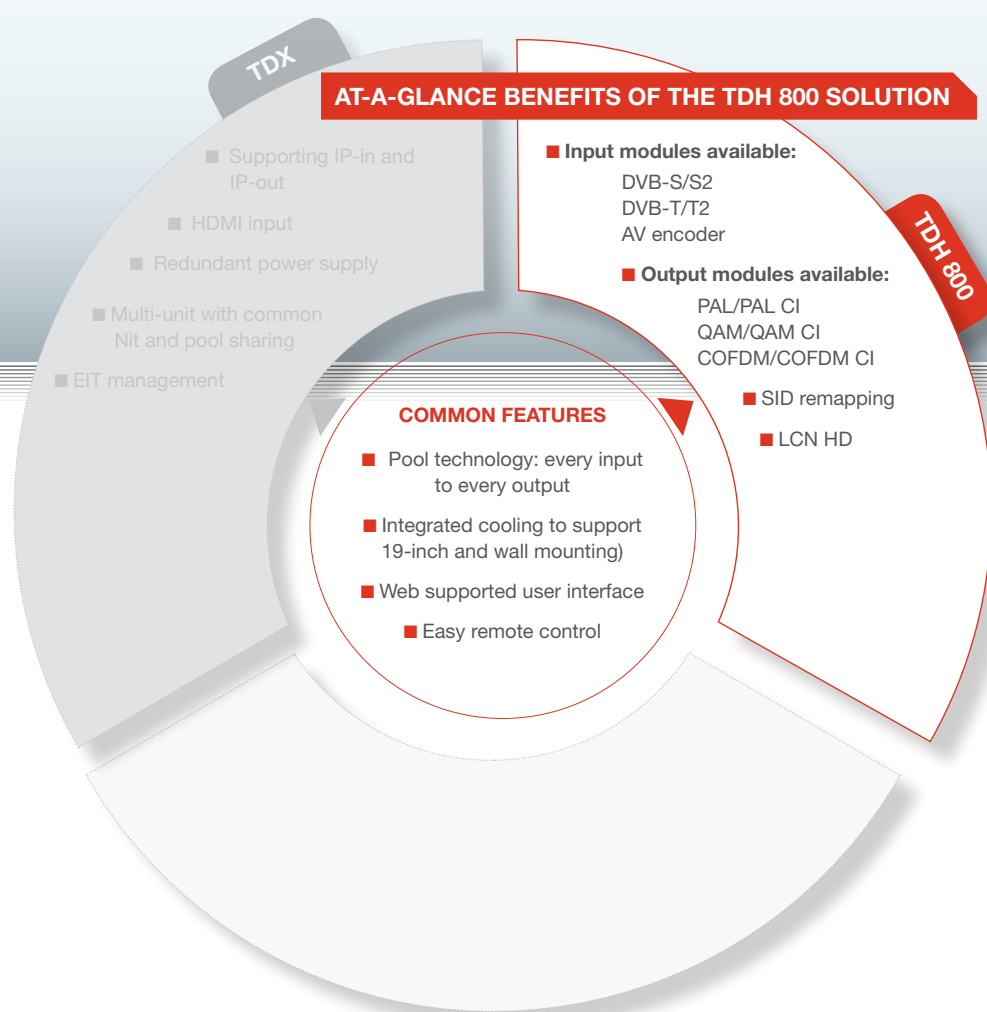
This breakthrough technology greatly simplifies the setting up and handling of headends, making sure the input and output modules are kept separate. All input signals – regardless of whether they are received via satellite, terrestrial or audio/video – can be flexibly and independently distributed from a “pool” to each and every output module.

Another big advantage of the input and output modules being independent is that it only requires a small number of modules to support every receiving and distribution combination.

This makes it easy for the customer to make individual, customised MUX packages.

# How you benefit

| from choosing the right headend solution



The TDH 800 range includes a series of popular modules. If you need additional features and/or modules, please select the TDX headend.

## The TRIAX advantage

With TRIAX, you can always rely on rapid assistance and expert consultancy services to help you with tendering, planning, installation, configuration and maintenance.

TRIAX technology makes it possible for you to take any type of input signal

received from satellite, terrestrial or A/V, and convert it to any type of output signal. This merges the highest level of efficiency with exceptional reliability, as well as the benefits of sourcing equipment from one of Europe's largest manufacturers of headends.



# TDH 800 pool technology

| revolutionary technology for basic headend systems



## The benefits of tomorrow's technology today

In close collaboration with planners, installers and operators, TRIAX has developed a new headend technology designed to provide the best possible way of dealing with users' needs. This pool technology enables you to assign input and output signals freely. This means traditional module arrangements featuring input demodulator and output modulator are no longer necessary – and can be done away with.

All incoming signals initially enter the “pool”, providing unlimited opportunities to multiplex the services for each output modulation and to use one service for different modulation types simultaneously.

Furthermore, it is easy to change all assignments between input to output signals at any time. This makes this solution uniquely flexible, efficient and economical.

# TDH 800

## | reasons to buy

### Energy-efficient – long-term reliability

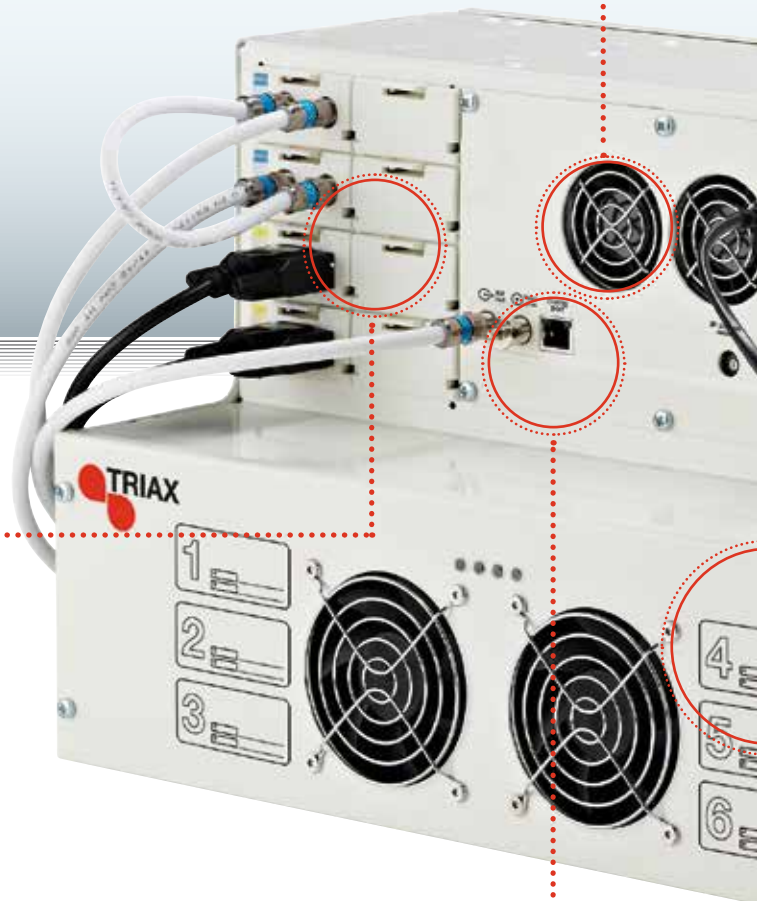
- 16 tuners and 6 backends fully loaded  
280 W power consumption
- Intelligent cooling system with integrated fans -  
increases the service life of the equipment and  
allows installation in 19-inch cabinets

### Easier service handling

- Fewer modules – allows easy spare part handling
- Log file on all TDH 800s
- On-location access to the TDH  
for installer and/or TRIAX support

### Easy setup and configuration

- Web-based user interface means there is no  
need for special software to manage the system
- Mux bandwidth monitor to ensure that the mux  
is not overloaded
- The four adjacent output channels can be freely  
selected across the full frequency range
- LED to indicate operation and errors on each  
module
- Easy, intuitive step-by-step configuration



# TDH 800 is a digital headend

| solution designed for distributing basic TV services.



## Better performance

- 1 unit
- 6 quad output modules
- Up to 24 PAL, QAM or COFDM channels

## Easy installation

- Input modules independent of output modules, resulting in a smaller number of modules overall
- Saves time on installation
- DiSEqC 1.0 functionality
- 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 in a 19-inch cabinet
- All inputs and outputs as well as all modules and cables can be accessed and operated easily from the front
- Input and output modules identified via TRIAX supplied labels

## Digital headend

- Muxing technology

# TDH 800 basic unit

## | technical specifications



### TECHNICAL SPECIFICATIONS

#### TDH 800 basic unit

- for supporting 16 input modules and 6 quad output modules.

#### CABINET

Type	TDH 800 main unit	
Art. no.	692890	
Frequency range (tv out)	MHz	47-862
Impedance (RF out):	Ohm	75
Return loss (RF out):	dB	> 14 at 47 MHz (-1.5 dB/octave; min. 10 dB)
Testpoint	dB	-20
Output level max @ 60 dB IMD 24 combined PAL channels:	dBμV	93.0
<b>Power Supply</b>		
Operating voltage	VAC	190-260 50/60 Hz
Power consumption, max	W	280
Max. LNB control	mA	4 x 305
<b>Connectors:</b>		
AC Power in (1.8 m)		IEC320 (cable)
Ext. TV-OUT		F-connector
Ext. Testpoint		F-connector
PC		RJ 45
<b>Environment</b>		
Temperature, operating	°C	-10...+50
Temperature, storage	°C	-20...+70
Humidity, operating	%	20...80
Humidity, storage	%	10...90
<b>Mechanical data</b>		
Dimensions product (L x W x H)	mm	440 x 240 x 265
Dimensions cardboard packaging (L x W x H)	mm	546 x 316 x 374
Weight - net	kg	9.8
Weight - gross	kg	11.4



# Input modules

## | technical specifications

### TECHNICAL SPECIFICATIONS INPUT MODULES

#### TDH 811 frontend - DVB-S/S2 [QPSK/8PSK] module

SD and HD satellite receiver module. Multiplex transmission and routing of all programmes into the TDH 800 pool.



##### DVB-S/S2 INPUT DEMODULATOR MODULE (FRONT-END)

Type	TDH 811 frontend - DVB-S/S2 module	
Art. no.	692820	
Frequency range	MHz	950-2150
Input level	dBμV	42-82
Input impedance	Ohm	75
Input return loss	dB	> 10
Loop through gain	dB	0 - 6
LNB control DiSEqC		1.1
LNB control V/H	V/mA	0-13-18 / 300
Input connector		F-connector
Output connector (loop through)		F-connector

#### TDH 813 frontend - DVB-T/T2 [COFDM] module

SD and HD terrestrial receiver module. Multiplex transmission and routing of all programmes into the TDH 800 pool.



##### DVB-T/T2 (1 TUNER) INPUT DEMODULATOR MODULE (FRONT-END)

Type	TDH 813 frontend - DVB-T/T2 module	
Art. no.	692823	
Frequency range	MHz	177.5 - 226.5 / 474 - 858
Input level	dBμV	35...75
Input impedance	Ohm	75
Input return loss	dB	> 6
Loop through gain	dB	-
Demodulator mode		QPSK, 16QAM, 64QAM 256QAM / 1k 2k 8k 16k 32k
Bandwidth	MHz	7 / 8
Input connector		F-connector
Output connector (loop through)		-

#### TDH 814 frontend - AV encoder module

Converting analogue audio/video signal into an MPEG2 or MPEG4 stream and forwarding to the TDH 800 pool.



##### AV ENCODER MODULES (FRONT-END)

Type	TDH 814 frontend - AV encoder module	
Art. no.	692880	
Video level	Vpp	1
Video impedance	Ohm	75
Video S/N ratio	dB	> 52
Video input standards		PAL, Secam
Audio level	Vpp	< 2.4
Audio impedance	kOhm	10
Video input connector		15 pol high density sub-D
Audio input connector		15 pol high density sub-D

# Output modules

## | technical specifications

**COFDM module** - Quad-COFDM modulator, adjacent channel operation, automatic multiplexing, available as FTA or CI variant.

### COFDM OUTPUT MODULE (BACK-END)

Type	TDH 843 FTA / TDH 844 CI	
Art. no.	692860 / 692861	
Output frequency range	MHz	50.5-858
Spurious signals	dB	> 60
QAM modes		16 QAM, 64 QAM, QPSK
Bandwidth	MHz	6, 7 or 8
Carriers supported		2k
Guard interval		1/32, 1/16, 1/8, 1/4
Error correction	Viterbi FEC Reed Solomon	1/2, 2/3, 3/4, 5/6, 7/8 204 byte mode
MER	dB	≥35
Output level (system)	dBμV	90.0
Output level adjustment	dB	+3 / -17 (0.5 dB step)
CI slots		0/2



**QAM module** - Quad-QAM modulator, adjacent channel operation, automatic multiplexing, available as FTA or CI variant.

### QAM OUTPUT MODULE (BACK-END)

Type	TDH 845 FTA / TDH 846 CI	
Art. no.	692855 / 692856	
Output frequency range	MHz	50.5-858
Spurious signals	dB	> 60
QAM modes	QAM	16, 32, 64, 128, 256
Symbol rate	Mbps	2-40 (SCPC/MCPC)
Viterbi decoder		1/2, 2/3, 3/4, 5/6, 7/8
Reed Solomon decoder		204, 188, t=8
Deinterleaver		I = 12
Output spectrum		Normal, Inverted Random
Symbol rate	Mbaud	3.5-7200
Roll-off factor	%	15
FEC block code		RS 204, 188
MER	dB	>35
Output level (system)	dBμV	90.0
Output level adjustment	dB	+3 / -17 (0.5 dB step)
CI slots		0/2



**Analogue / PAL modules** - Quad-PAL modulator, adjacent channels, available as FTA or CI variant.

For programmes received only in HD, or processed as digital HD and analogue SD signal.

### PAL OUTPUT MODULE (BACK-END)

Type	TDH 841 FTA / TDH 842 CI	
Art. no.	692850 / 692851	
TV standard		Pal/SEcam B/G, I, L, D/K
TV system		VSF VHF/UHF/mono/A2/Nicam
Output frequency range	MHz	47-862
Picture carrier stability	kHz	< ±30
Spurious signals ref picture carrier	dB	> 60
Output level system	dBμV	93.0
Output level adjusting	dB	+3.0...-17.0 (0.5 dB step)
Output impedance	Ohm	75
Return loss	dB	> 10
Differential gain	%	< 8
Differential phase	degrees	< 8
Crominance/luminance delay	ns/m	< 80
Luminance non-linearity	%	< 8
Video S/N ratio (typical)	dB	54
CI slots	pcs	0/2



# Compare the systems

## | and their capabilities



System technology		TDH 800	TDX
Frontends			
	DVB-S/S2	✓	✓
	DVB-T	-	✓
	DVB-T-T2	✓	✓
	DVB-C	-	✓
	AV	✓	✓
	HDMI	-	✓
Backends			
	PAL	✓	✓
	PAL CI	✓	✓
	PAL-HD	-	✓
	PAL-HD CI	-	✓
	QAM	✓	✓
	QAM CI	✓	✓
	COFDM	✓	✓
	COFDM CI	✓	✓
	IP Backend	-	✓
	CI only	-	✓
Additional hardware			
	Redundant PSU	-	✓
Functionality			
	IP-in IP-out	-	✓
	Multi Unit	-	✓
	SID remapping	✓	✓
	Common NIT	-	✓
	LCN HD	✓	✓
	PLP (DVB-T2)	-	✓
	Alternative EIT input	-	✓
	EIT management	-	✓
	Network ID setting	-	✓
	Network name	-	✓
	Original network ID	✓	✓
	Nit standard DVB, NorDig	✓	✓
	CAT remove	✓	✓
	FranceSAT NIT	✓	✓
	Transport stream ID setting	-	✓
Services			
	Preconfiguration	✓	✓
	Support	✓	✓



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