The new standard for customer entertainment

| TDH 800 basic headend system

TDH 800

New standard
| for basic headend systems

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.
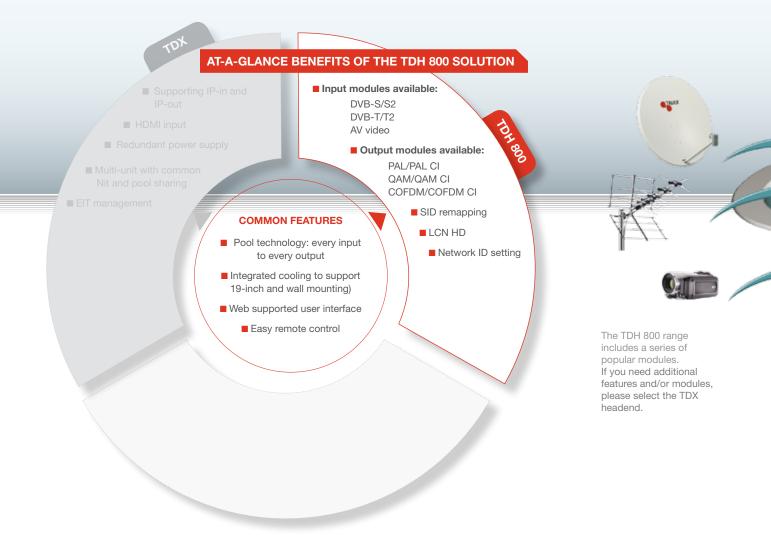
This breakthrough technology greatly simplifies the setting up and handling of headends, making sure the input and output modules are kept separate.
All input signals – regardless of whether they are received via satellite, terrestrial or audio/video – can be flexibly and independently distributed from a "pool" to each and every output module.
This makes it easy for the customer to make individual, customised mux packages.
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 then makes it quick and easy to maintain and configure the system.

How you benefit
| from choosing the right headend solution

TDX

Supporting IP-in and IP-out

HDMI input

Redundant power supply

Multi-unit with common Nit and pool sharing

EIT management

AT-A-GLANCE BENEFITS OF THE TDH 800 SOLUTION

■ **Input modules available:**
DVB-S/S2
DVB-T/T2
AV video

■ **Output modules available:**
PAL/PAL CI
QAM/QAM CI
COFDM/COFDM CI

TDH 800

■ SID remapping

■ LCN HD

■ Network ID setting

COMMON FEATURES

■ Pool technology: every input to every output

■ Integrated cooling to support 19-inch and wall mounting)

■ Web supported user interface

■ Easy remote control

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 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 1.1 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
- The 22 modules are numbered so their allocations are always clear and obvious

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.

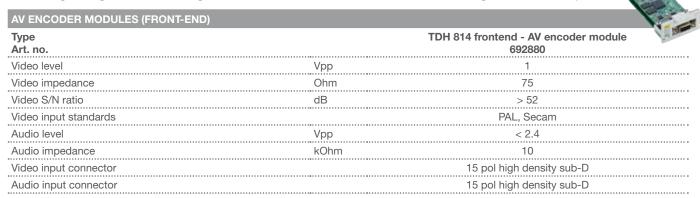| CABINET		
Type		**TDH 800 main unit**
Art. no..		**692890**
Frequency range (tv out)	MHz	47-862
Impedance (RF out):	Ohm	75
Return loss (RF out):	dB	> 14 at 47 MHz (-1.5 dB/octave; min. 10 dB)
Testpoint	dB	-20
Output level max @ 60 dB IMD 24 combined PAL channels:	dBµV	93.0
Power Supply		
Operating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

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 Art. no.		TDH 811 frontend - DVB-S/S2 module 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 Art. no.		TDH 813 frontend - DVB-T/T2 module 692023
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-male 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 Art. no.		TDH 814 frontend - AV encoder module 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		1/2, 2/3, 3/4, 5/6, 7/8
Reed Solomon		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
Spourious 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 - PAL with HD downscale function. 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		VSB 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

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	-	✔
	CAT remove	-	✔
	Transport stream ID setting	-	✔
Services			
	Preconfiguration	✔	✔
	Support	✔	✔

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