TDX overview

System technology			
Advantage	Benefit		
 TDX Pool technology Separation between input and output modules Any given input to any given output One input can be used for multiple output modulations 	Unique allocation flexibility, hand in hand with a reduction in the number of different hardware components		
Advanced software technology for high system intelligence	Extremely forward-looking technology to meet future system demands and customer requirements		
WEB-Co	nfigurator		
Advantage	Benefit		
Easy preparation of material lists and/or complete system configuration	Fast preparation of offer and/or ready-to-fit compilation of headend system in compliance with the respective requirements		
Delivers XML file for system programming	Very easy and fast system programming by simply transferring the XML file from a laptop on-site		
Integrated bandwidth calculator	Prevents signal overload for QAM or COFDM channel		
TDX Ha	ardware		
Advantage	Benefit		
Compact housing optimised for easy installation, removable cover and spacer wall-mount bracket.	Optimum cable guide from the top, service-friendly and clear cable management		
Easy module replacement (HOT SWAP)	Very fast and safe installation		
Module with LED displays	Faster and more reliable status overview for the entire system		
SD card memory integrated within the system	Logfile of all system processes is saved for examination in the event of faults. Contains all system configuration files . When a module is replaced, an automatic system configuration is made (fail-safe) without the need to shut down the overall system.		
Digital transceiver interface for optical fibre or CAT-5 cables	No data loss when digital data is transmitted across long distances (optical) and easy cable connections during system installation at one location.		
High-performance fan unit	Ensures low system temperatures and long component life.		
TDX in general			

All system sizes: High-quality signals. From 10 to more than 10,000 connections.

Easy service: Individual diagnostics and maintenance based on facility-specific logfiles

Low power consumption: A fully equipped system with 16 tuners and 6x4 QAM outputs (approx. TV 100 programs) consumes no more than 0,2 kW

Triax A/S

Bjørnkærvej 3 8783 Hornsyld Denmark

mail: triax@triax.dk web: www.triax-tdx.com



TDX Headend Quite simply a revolution





TDX. Receive the technology that turns everything on its head.

Forget everything you know about headends. With TRIAX TDX you move into a completely new world. TRIAX's revolutionary TDX Pool technology simplifies the setting up and handling of headends. This technology makes the input and output modules mutually independent. All input signals, regardless of whether they are received via satellite, terrestrial, cable, audio/ video or via the Internet, can be flexibly and independently distributed from a "pool" to each and every output module. Each of these input signals can be converted to any output signal: PAL, QAM, COFDM or IP, and because the input signals are not fixed to any particular outputs, an input signal can be assigned to several output modules. It's that simple.

TDX-Pool. Take the plunge into the future



Invest in technology that already meets the requirements of tomorrow, such as HD, MPEG 4, CI/CAM, transport stream processing (muxing, NIT, PID, stuffing). Put your money on a system that merges the highest level of efficiency with reliability, and benefit from the advantages provided by one of Europe's largest manufacturers of headends. With TRIAX you can always rely on fast customised assistance and consultancy for tendering, planning, installation, configuration and maintenance.

TRIAX TDX-Pool technology:

Immerse yourself in tomorrow's technology

In close collaboration with planners, installers and operators, TRIAX has developed a new technology that is orientated towards the needs of users. The new TRIAX TDX-Pool technology frees the system of compulsory allocations for input and output modules, resulting in freedom from restrictions imposed by signal conversion. All incoming signals initially land in a so-called TDX-Pool. From this pool they can be converted into any required output signals and then simultaneously fed to several output modules. All assignments between input to output signals can be readily changed at any time. This makes TDX uniquely flexible, efficient and economical.

Reliable reception without any noise

System planning is performed quickly and reliably via the Internet using the TDX-Configurator. Simply use the program to specify the desired inputs and outputs and the Configurator does everything else. Not only does it optimally select the components for the system, it also programs the desired system configuration as an XML file. At the same time it calculates the maximum permissible bandwidth for each channel, preventing overloading of the output signal that ensures a noise-free and clear reception result. The signal quality, e.g. PAL with a Video S/N of typically 58 dB or for QAM with a MER of typically 45 dB is excellent..

Easy to install. Easy to use.

.....

The completed XML file from the Configurator can be transferred to any laptop. Thus the complete preplanning data used for designing the system, can be quickly transferred to the TDX system to perform the installation. In close collaboration with installers, TRIAX has optimised system handling: Installation and commissioning is very easy, and operating the system is very friendly for both users as well as service staff.

TDX. Technology, that can do more.

Better and stronger performance:

Up to three TDX-Headends can be combined as one system of input and output signals, thus up to 72 PAL programs or 72 QAM channels are possible. The digital data streams are transferred via the transceiver interface by Cat-5 cable or optical fibre, as such the input and output modules can be located far apart from each other; no data is lost in digital optical transmission. Within the system the coax output signals can be composited in the usual manner via a distributor. The HF output level of the integrated TDX output amplifier can be software-adjusted within the range 85dBµV through 103dBµV.

Energy-friendly and long-term reliability

Compared with similar systems, the TDX-Headend uses considerably less power. A fully loaded headend with 16 tuners and 6x4 QAM outputs (that equates to approx. 100 programs) consumes no more than 0.2 kW. This low power consumption coupled with intelligent cooling with four integrated fans increases the life of the equipment and ensures long-term reliability.

Cable management

The metal covering which is integrated into the housing can be removed after opening the door. It serves as a cable guide and ensures the connector lines are protected orderly and easy to access at the headend.

Easy set-up with fewer modules

Pool technology and free programming have revolutionised the structure of the headend. With TDX the input modules are independent of the quattro output modules. This is supplemented by clever system programming, so that essential functions can be incorporated into just a few different modules, resulting in greater flexibility and higher performance. The respective 4 adjacent output channels can be freely selected across the full frequency range from 47 through 862 MHz.

Compact housing, quick installation

The housing is designed to accommodate up to 16 input and 6 guattro output modules; it is extremely compact and can be easily installed on a wall or within a 19" cabinet. Irrespective of whether for installation, maintenance or repair purposes, all inputs and outputs as well as all modules and lines can be accessed and operated easily from the front side. The 22 modules are numbered so their respective allocations are always immediately clear. Each module also has an LED to indicate operation and errors. The well conceived system plus easy programming reduces the normal installation time by approx. 50%

HOT SWOP Service

The system doesn't need to be shut down for servicing work, or for replacing an input or output module. All configurated data are stored on the integrated SD card, thus newly installed modules are immediately recognised and configured properly. This saves time and the affected system sections continue to work normally. TRIAX also offers a fast trouble shooting service that works using the individual log files, which can be read from every system. Of course, TDX is network capable and can be remotely controlled and monitored.

TDX. **Configuration has** never been easier.

TRIA

TRIAX

TRIAX TDX can be very easily configured via the Internet. Using the TDX Configurator you can quickly and safely plan the desired headend, and output the configuration for your daily work. For example, if you require a material list in advance so you can quickly submit an offer:

1.
Go to the TRIAX TDX website
[www.triax-tdx.com]
and use the input form to
assign a project number.

Bardanaet, C	**************************************
my TDX countigue acce	TRIAX
	International Sector 2015
	ed f anna High Nord an analas Nord an an an an an an analas Nord an analas Nord an anala



TDX confliquedator	2.
	Choose which inp
	and output signa
	system is to have.
	Alterations can be r
	at any time.

_

.

пŧ

s the

ade

3.

You obtain an overview of the system with its hardware components. When you place the order you either select a completely assembled system, or a system that needs to be assembled, which means you would install the individual modules yourself.

TRIAX	40% J
Address Parking Long	100000000000000000000000000000000000000
Aug	A minim
(i)) (i)	(1887-947
(35 ingene	
()) strains	12/20/01/01
[18] property	100.000
-	10.1710



5.

The system is then delivered with the requested configuration, either ready to assemble or pre-assembled. Now you just need to install the TDX at the customer's site, connect the cable and upload the XML file from your laptop.





4.

Define the channel plan, the TDX-Configurator does the rest. It calculates the optimum module allocation and creates a corresponding XML file

TDX. A full program for your success

The TRIAX TDX program offers an optimized tuned and scaled range of modules. The innovative TDX Pool technology and free programming, considerably reduces the number of different modules necessary to cover the full range of input and output signals. This also makes your system extremely forward-looking and flexible.



CABINET		
Frequency range (TV-IN/TV OUT / MODULE RF IN) (MHz):	47-862	
Impedance (TV-IN/TV OUT / MODULE RF IN) (Ohm):	75	
Return loss (TV-IN/TV OUT / MODULE RF IN) (dB):	>10	
Testpoint (dB):	-20	
Output level max @ 60 dB IMD 6 combined channels (dBµV):	103	
Power Supply:		
Operating voltage (VAC)	190-260 50/60 Hz	
Power consumption, max (W)	250	
Max LNB control mA	4x350	
CONNECTORS:		
AC Power in (1,8m)	IEC320 (cable	
Ext. TV-OUT	F	
Ext. Testpoint	F	
Environment:		
Temperature, operating (deg.C)	-10+50	
Temperature, storage (deg.C)	-20+70	
Humidity, operating (%)	2080	
Humidity, storage (%)	1090	
Mechanical data:		
Dimensions product (L x W x H) (mm): 440 x 223 x 160	470x290x230	
Dimensions carton (L x W x H) (mm): 550 x 310 x 260	555x380x370	
Weight (Kg):	11,6	
Weight kg.	14,5	

DVB-T INPUT DEMODULATOR MODULE (FRONT-END)

Туре		
Demodulator / Mode		
Demultiplexer data rate	(Mbps)	
Video data rate	(Mbps)	
Input frequency (Channel centre)	(MHz)	
Input level	(dBµV)	
Input return loss	(dB)	
Symbol rate	(Mbps)	
Bandwidth	(MHZ)	
IEC input connector		
IEC output (loop through)		

DVB-S INPUT MODULE (FRONT-EN	D)	
Туре		
Frequency range	(MHz)	
Input level	(dBm)	
Input impedance	(Ohm)	
Return loss	(dB)	
Loop through frequency range	(MHz)	
Loop through output return loss	(dB)	
Loop through gain	(dB)	
Loop through / RF input isolation	(dB)	
LNB control DiSEqC		
LNB control V/H	(V/mA)	

TEDEO 4 INDUT N	EDON'T END
VIEREU 4 INPLLI N	FRUNIERNU

Туре		
Video level	(Vpp)	
Video impedance	(ohm)	
Audio level	(mV)	
Audio impedance	(Kohm)	
Video input connector	tbd	
Audio input connector	tbd	
Will be ready for launch November 1st. 2011		

COFDM Demodulator

	0.000
QPSK, 16QAM, 64QAM / 2k 8k	
<65	2
<15	
177.5-277.5 / 474-858	
>35	
>10	
2-40 (SCPC/MCPC)	
7 / 8	
Female	
Male	

QPSK and 8PSK Demodulator	
950-2150	
-6525	
75	
>10	
950-2150	
>8	
3 + 3	
>24	
1.1	
0-13-18 / 350	

....

Video / Audio stereo modulator	
1	
75	
500	
10	
Phono / 15 pol sub-d	
2 x Phono / 15 pol sub-d	

QAM OUTPUT MODULE – QUAD (BACK-END)

Туре		Modulator		
Output frequency range	(MHz)	50,5-858		
Spurious signals (dB)		> -60		
QAM mode		QAM 16,32,128,256		
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)	93		
Output level adjustment (dB)		+3 / -17 (0,5dB step)		
Cl slots		0/2		

COFDM OUTPUT MODULE – QUAD (BACK-END)

Туре		Modulator	
Output frequency range	(MHz)	50,5-858	
Spurious signals	(dB)	> -60	
QAM modes		64QAM, 16QAM, QPSK	
Bandwidth:	(MHz)	6, 7 or 8	
Carriers Supported:		2K, 8K	
Guard Interval:	All DVB Guard Intervals Supported	1/32, 1/16, 1/8, 1/4	
Error Correction:	Viterbi FEC, all DVB code rates	1/2, 2/3, 3/4, 5/6, 7/8	
	Reed Solomon	Reed Solomon (204 byte mode)	
Output level (system)	(dBµV)	93	
Output level adjustment	(dB)	+3 / -17 (0,5dB step)	
CI slots		0/2	

PAL OUTPUT MODULE - QUAD (BACK-END)

	Modulator
Pal/Secam B/G, I, L, D/K	Altered
VSB VHF/UHF mono A2 Nicam	
(MHz)	47-862
(kHz)	< +/-30
(dB)	> -60
(dBµV)	103
(dB)	+3 / -17 (0,5dB step)
(Ohm)	75
(dB)	>10
(%)	<8
(deg.)	<8
(ns)	<80
(%)	<8
(dB)	58
	0/2
	Pal/Secam B/G, I, L, D/K VSB VHF/UHF mono A2 Nicam (MHz) (kHz) (dB) (dB) (dB) (Chm) (dB) (%) (deg.) (ns) (%) (dB)

More information on www.triax-tdx.com