

User guide

IP output module - Art. No. 492072







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Introduction

Disposal



Within in the European Union this label indicates that the product cannot be disposed of with the general household waste. Neither the headend nor the input and output modules can be disposed of with the general household waste.

For proper treatment and recycling of old products, please take them to designated collection points in accordance with your national legislation.

Box content A new output module is wrapped in antistatic bubble wrap and packed in a cardboard box when you receive it. Included in the box is an IP output module, an auxiliary board, an SFP transceiver and a user guide instructing you in how to use the TDX Service Tool to

IP output module The IP output module is an output module for transmission of digital video, audio and miscellaneous data, encapsulated within one or more MPEG2/ DVB single program transport streams.

You install the IP output module in the output section of your TDX headend unit.

The TDX headend system offers you the following possibilities when you distribute IP services through the AUX sockets using IP output modules:

- IP multicast streaming
- UDP streaming

configure the module.

- RTP option
- IGMP version 2
- SPTS including SDT, PAT, PMT, CAT
- Packet ratio of 3-7 TS packet per IP packet ratio 3-7:1
- Max. BW 720 Mbits/s
- 96 services on each IP output module/AUX socket

Important To distribute IP services using IP output modules in the TDX headend system you have to buy licences for IP output from Triax and activate the licences using Licence handling in the Administration window. See the user guide of the TDX Headend Unit regarding how to get IP licences.



Below you can see an illustrated description of a IP module with CI slots and an auxiliary board.

LabelsA label is placed on the module where you can write the information regard-
ing the configuration of the module.

Besides the information that you write on the label, the module type and part number are also displayed on the label.

Note The coloured part of the label informs you of the module type. Each type of module is allocated a unique coloured label.



On the bottom of the module you will find a label with the bar code and a serial number printed on it.

An auxiliary board is labelled "AUX-TS loop".

Installation of IP modules

You can only install two IP output modules in each TDX headend unit, and you have to install them in slot no. 3 and 6 in the output section of each unit.

Note In the following illustrations the extractor fan has been removed from the output section to facilitate the explanation of the installation. It is not necessary to remove it when you install the modules.

You install an IP module by sliding the module into slot no. 3 or 6 in the lower section of the headend unit, and click it into place.



Note You can use hot swapping when you insert a module into or remove a module from the TDX system.

Installation of You can only use an IP output module in connection with an auxiliary board. **auxiliary boards** When you have installed your IP output module you install the auxiliary board in the auxiliary board area, by sliding the board into the required slot.



There are two slots in the auxiliary board area, slot no. 1 and slot no. 2.

The slot position of the auxiliary board depends on the slot position of the IP output module:

- IP output module in slot no. 3 Auxiliary board in slot no. 1
- IP output module in slot no. 6 Auxiliary board in slot no. 2



Basics

Installation of SFP receivers

You use the AUX sockets on the headend units to distribute IP services using the IP output module.

AUX socket 2

Before you can connect cables to the AUX sockets you have to insert SFP copper or SFP fibre-optic transceivers into the AUX sockets.



SFP transceiver - fibre-optic

Which AUX socket you have to use depends on the slot position of the IP output module:



Basics

Module removal

You release an output module from a slot by using the lock mechanism that is placed to the right of the modules in the output section. Move the lock mechanism slightly to release the module.



To take a module out of a slot in the output section, tip the lock mechanism and then pull the module out

CAM/Smart card

You can insert 2 Conditional Access modules (CA) into each IP module. Each CA module is able to descramble at least one or more services. Which services depend on the service provider of the CA module and smart card.



CA modules and smart cards inserted in the output modules

Basics

Status LED

There is a status LED on the front of each module. The LED indicates whether the module functions according to its purpose or fails.

- **Green flashing** The IP module receives data.
- Green constant on The IP module receives valid services.

Red When starting the TDX system the IP module and the system controller negotiate connection speed. If the LED continues to be red either the IP module or the system controller has not been inserted correctly.

No colour The IP module has not been configured yet or the module has not been inserted correctly.



When you update the software of a module the status LED provides you with information about the updating process.

Orange	Boot loader state.
Temporary off	Initiation of the software update.
Temporary green	Every time the modules receives a valid data package. Repeated until the update is completed without errors.
Red	Software update failed.

Network switch When you want to use the TDX headend system to deliver IP services using IP output modules you must connect the main unit and subunits to a Gigabit network switch.

For each unit that has an IP output module installed, you will need to connect AUX 1 and/or AUX 2 to your network switch. Use Cat 5e shielded or better cables for these connections.



Log in

When you have loaded the TDX Service Tool from the TDX headend system to your laptop/computer the Login window of TDX Service Tool is displayed.



When you have pressed the Log in button the System window is displayed.



Administration window

To output services using an IP output module you may have to open the Administration window and the IP settings area so you can enter an IP address and subnet mask for each AUX socket you use on the headend system.



Click the Admin. button to open the Administration window.

Settings for TDX Service	Tool
✓ Language settings	
Change language for TD>	K Service Tool
Current language	English 🔻
Country settings	
 Time zone settings 	
Password settings	
> License handling	
> IP settings	
> System maintenance	
	OK Cancel

To enter the IP settings area, click the arrow bracket to the left of IP settings.

Settings for TDX Service Tool		23
Language settings		
Country settings		
Time zone settings		
Password settings		
License handling		
 IP settings 		
Configuration port		
Change IP, subnet and default gates	way address	
IP address	192.168.0.100	
Subnet mask	255.255.255.0	
Default gateway	192.168.0.1	Click the Enter actus button
Edit link IP settings for system	Enter setup	to open the IP settings
The TDX uses 512 IP addresses for	internal use, specify first address	window
Start 239.192.0.0 Er	nd 239.192.1.255	
System maintenance		
	OK Cancel	

To open the IP settings window, click the Enter setup button.

					Connection type 💿 Switch 🕓 Direct	
Main unit)	
Link 1	IP address	192.168.1.3	Subnet mask	255.255.255.0		
Link 2	IP address	192.168.2.3	Subnet mask	255.255.255.0		
AUX 1	IP address		Subnet mask	255.255.255.0		
AUX 2	IP address		Subnet mask	255.255.255.0		
Sub unit 1						
Link 1	IP address	192.168.2.1	Subnet mask	255.255.255.0		
Link 2	IP address	192.168.3.1	Subnet mask	255.255.255.0	SWITCH	
AUX 1	1P address		Subnet mask	255.255.255.0		
AUX 2	IP address		Subnet mask	255.255.255.0		
Sub unit 2						
Link 1	IP address	192.168.3.2	Subnet mask	255.255.255.0		
Link 2	IP address	192.168.1.2	Subnet mask	255.255.255.0		
AUX 1	IP address		Subnet mask	255.255.255.0		
AUX 2	IP address		Subnet mask	255.255.255.0]	
					OK Cancel	

When you use the AUX sockets for distributing IP services your headend system must be connected to a network using an internet switch. Select the Switch radio button if it is not selected when you display the IP settings window.

to enable all the Link and AUX fields your TDX headend system uses.

Enter new IP addresses and subnet masks in the AUX fields you want to use but be careful not use addresses that have been used elsewhere.

	IP settings	
	Flain unit	Connection type 💿 Switch 🔘 Direct
	Link 1 IP address 192-168-1.3 Subret mask 255-255-0	
	Link 2 1P address 192.168.2.3 Subnet mask 255.255.0	I
	AUX 1 IP address 192.168.10.4 Subnet mask 255.255.255.0	
	AUX 2 1P address 192.168.19.8 Subret mask 255.255.255.0	
	(and the second	5 11
	Link 1 1P address 192.168.1.1 Subnet mask 255.255.255.0	
a subnet	Link 2 1P address 192.168.3.1 Subnet mask 255.255.255.0	SWITCH
	AUX 1 1P address 192.168.20.3 Subnet mask 255.255.0	
se in your	AUX 2 IP address 192.168.21.6 Subnet mask 255.255.255.0	
eauenu system	Sub unit 2	5
	Unk 1 IP address (192,348.3.2.1.) Subret mask (203,255,235.0	
	Unik 2 IP address 112.115.3.3 Subret mask 115.213.253.4	
	AUX 1 IP address Subnet mask	1
	AUX 2 3P address Subnet mask	

When you have made the changes you want to make in the IP settings window, click the OK button at the bottom of the window to return to the Administration window.

Now click the OK button at the bottom of the Administration window to save the changes and return to the System window.

CA Modules window

Click the CA Modules tab in the TDX Service Tool to display the CA Modules window.

The first time you display the CA Modules window in a new configuration the module list only displays the number and type of the CA modules that you have inserted in the main and subunits.

	TRIAX			TDX Service too
Syste	im Enput	CA Modules Output Netwo	rk Channel list	Apply Log out Admin.
Slot	Card installed		Services	Status
.a Main (unit (2items)			
1-A	Conex			Setup Delete
1-8	Conax			Setup Delete
2-A	Conax			Setup Delete
2-B	Viasat			Setup Delete
a Unit:	1 (2 items)			
1-A	Conax			Setup Delete
1-8	Viasat			Setup Delete
2-A	Conax			Setup Delete

You have to configure the CA modules individually.

To display the Configuration window, click the Setup button of the CA module you want to configure.

		TDX Service tool	
Salara I agadi <mark>da Madagas</mark> (sagai I karawa I	0)		
State Conf. (Accessed) & Removed (2 forms) 3.4 Context	berrata		Click the Setup
18 Crea 34 Crea 38 Vast			button
+ Unit 3 (2 tents) 1-4 Cone 1-8 Veset			
3-4 Center			

CA Modules configuration window The first time the TDX Service Tool displays the Configuration window for a CA module in a new configuration the fields and radio buttons display default values and nothing is selected in the service list area.



Card speed

If your smart card is able to use a higher card speed than the default card speed, open the drop-down list with the card speeds you can choose from.

Select the card speed you want to use.

	~~				ID.	. 36	1111	Ce tool	
-110	Lucia CA Robates Durau	Lands Later	-1-1	8	Citra Citra	20			
	March I contain	Services in system 1	54			_		-	
Here the	wit-Sit1A	Sersion		-	Territe adverses	100111	1911	Constanting	1
		CANAL + FILM HD		3356	(Main Linit, input 3)	D	- 6	1000	1
antigeratio	8	DEHD		2030	(Main Linit, input 2)	(13)	영국	1000	Click the arrow to
and succession		DR HO		4812	(Hain Unit, Veput 4)	<u>, 1</u>			
	12 12 12	DR.K		2018	Dian Unit, most 21	-		the second se	open the drop-down
Card speed	. 🗲	DR RAMPING	1.5	2005	(Marry Lines and A)	14	10	1000	liet
	80 Mbitris (stafault)	Dit Synatolisand	-	111	(Hain Unit, vessel 1)		i (CH	1000	list
Card function	72 Mb6's	DR. UPDATE		3000	(Nan Unit, Hout 2)	-G		1000	1
(a) Scramble (Parkcess)	(c) Screwble (Pervlacess)	DRJ		101	Draw Unit, Wast El	121	100	(2007B)	1
		DR3		300	(Man Link, input I)	0	0	1000	1
		POLKETINGET		2028	(Main Lint, result 2)	(D)	9,24	- Carat	1
		GAD HUXS		81	(Main Unit, input 1)	1.	194	0000	1
		OAD HUK2		. 82	(Mein Unit, wash 2)	0	0.	1000	1
		SYT\$ HD		3811	(Man Unit, input 3)	12	10	1000	1
		SVT1 HD	1	1406	(Hain Unit, input 3)	1.1	i Gi	(C)	1
		5+4		424	(Nan Unit, input 1)	-01	10	1000	1
		TV 2 (5+0		214	(Hen Unit, Input 1)			(CONTRA)	1
		TV2 Film HD	110	2929	(Main Linit, input 4)	0	0	0000	1
Tuntret.	CONTRACTOR OF STREET, STRE								
and the second		* ER - Emor Recove	N. CA	motule	may be repet to recov	er sen	108	345	1
status intornu	(Callel								

Card function You can use the Card function radio buttons to determine whether you want the CA module to descramble services that are scrambled or you want the module to scramble services that are not scrambled .

Click the Descramble (default) button if you want to descramble services .

Click the Scramble (PanAccess) button if you want to scramble services using the PanAccess Scrambler.



In the Service list area you can select the service or services that you want to descramble and you can set up individual filter options for each service. The services that are scrambled are marked with a dollar sign - \$.

Type: Light CA Holder Chips	a hereofs there	223		COLUMN TWO IS NOT		100	and the second second	
	Services in system 3	54					-	
Han unt - Sitt 1-4	Section				Care of the		Print and in the local division of the local	Click the square to
	CANAL+ FILM HO	1.	3376	(Nam Lost, Jeput 3)	1	6	Contractor of Contractor	select the service
Configuration	DR HD		2050	(Main Unit, Input 2)	900	10	5211(b)	select the service
for any second second land	DR HD	\$	4802	(Hain Lint, input 4)	0	0	C	
Name of Concession, Name o	DR.H.		2018	(Hain Unit, input 2)			8000 M	
Card ageed 72 MB/k/s +	DR Remedjeng		2009	(Hain Unit, input 2)	12	Ū.		
	DR Synetolicing		111	(Nen Unit, input 1)			(******	
Card function ③ Descramble (default)	DR UFDATE		2000	(Hain Linit, input 2)	10		Concerne and	
C) straught (sarwitters)	6#1		101	(Hain Unit, Input 1)			CLUBS	
	042		. 102	(Nain Unit, input 1)	0	0	60000B	
	POLIFERION		2028	(Main Unit, input 2)		101	(CH10)	
	OAD MUKE		81	(Hain Linit, input 3)	0	0	C1150	
	GAD MUKZ		82	(Hain Unit, input 1)			0000	
	SVT1 HD		2021	(Hern Limit, input 2)			G1038	
	SYTLHD.	8	3408	(Herricht, input 3)			62728	
	Byd		414	(Hain Limit, input 1)			COLUMN TWO	
	TV 2 (Sec)		214	(Hair Unit, Input 1)			Carpe	
	TV2 Film HD	1.	2929	(Nain Unit, input 4)	0	0	and the second s	
a second state of								
and a second of	* ER = Entor Recove	ty; CA	module	may be reset to record	er sen	NCR .		

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To select a service, click the check box (square) to the right of the service in question.

If you want to change the filter options for a service, click the Setup button of the service in question to open the Filter options window.

Fullers Signal CA Holdon Target	THE OWNER OF LOT	107	1	COLUMN STATE	10	-	100	1712-120-1-1-120-1-1-120-1-100
	Services in system 1	54	11			0.00		Click the Setu
CAModul setup	Derivies						Piller saling	hutton to open
	CRIME+ FILM HD	18.	3318	(Hentson, input 3)			And in case of the local division of the loc	button to open
Configurations	CR HO		2030	(Main Unit, input 2)				the Filter optio
Contract of the second	CR HO		4822	(Main Link, Hput 4)	0	0	Carried I.	window
Name of Concession of Concession, Name	DR K		2010	(Hein Linit, Input 2).			Surger and Surgers	WITGOW
Card sceed 72 Mb//s +	CR Kemesjang		2005	(Main Linit, Hast I)	D.		1000	
1997 (1997) (199	Cit Synatoleoing		111	(Marr Unit, input 1)			10000	
Card function ③ Descramble (Infeut)	DR UPCATE		2000	(Ham Unit, input 2)	13	01	0000	
 Sorantile (ParAccess) 	CR1		101	(Main Unit, Input 1)			Corres 1	
	042		102	(Hein Unit, input 1)	11		00000	
	FOLKETINGET		2025	(Mein Unit, input 2)			COLUMN 1	
	CAD MUKS		.85	(Main Link, Input 1)	G.		C	
	OAD MUKZ		82	(Han Link, input 2).			CELEVAN I	
	EVT1 HD		3801	(Main Unit, input 3)	0		C11720	
	BUTS HD	1	1406	(Marrison, input 3)			(22375B)	
	0yd		414	(Herri Unit, input 1)	0		CORE IN	
	Tv 2.15yd)		214	(Main Unit, input 1)			Gurran	
	TV2 Film HQ		2929	(Hein Unit, Input 4)	10		(C255)	
(and (and)							0	
	* ER = Error Recove	17.52	mobile	may be reset to record	er serv	108		

The first time you open the Filter options window the default value Descramble all audio PIDs has been selected.

Filter options for DR Update	12	
Descramble non audio/video PIDs		
Descamble all audio PIDs	< <	—Default value
Cance	ЫОК	

If you want to descramble PIDs (Packet Identifier) that are not audio or video PIDs, click the Descramble non audio/video PIDs check box.

Filter options for DR Update	23	
Descramble non audio/video PIDs		 Click to select
Descamble all audio PIDs	1	
Cance	в	

In case you do not want to descramble all audio PIDs you can select which audio PIDs you want to descramble.

To descramble only selected audio PIDs you have to deselect the Descramble all audio PIDs check box.

iter options for DR Update 🛛	
Descramble non audio/video PIDs	
Descamble all audio PIDs Choose what audio PIDs to descramble, select from list or enter manually. Leave field empty to remove selection	Field with drop-down list that is displayed when you deselect the check box

When you have deselected the Descramble all audio PIDs check box a field with a drop-down list is displayed below the check box.

To select which audio PID you want to descramble, open the drop-down list with the languages you can choose from.

Select the language of the audio PID you want to descramble.



When you have selected the required language, a second field is displayed below the first field so you can descramble another audio PID. You can descramble as many audio PIDs as you need.

Filter options for DR Update	21	
Descramble non audio/video PIDs		
Descamble all audio PIDs		
Choose what audio P1Ds to descram list or enter manually. Leave field er selection	ble, select from mpty to remove	Having selected which audio PID language you want to descramble, a second field appears
Cancel	ОК	

If the language of the audio PID you want to descramble is not displayed in the list you can enter a three letter string signifying the language you need. To remove your selection leave the field empty.

Click OK to return to the Configuration window.

When you have selected the services you want to descramble and changed the filter options you want to change, you have to click the Submit button to save this information in the headend system and return to the CA Modules window.

You use the Common interface button to open the common interface menu.

Clicking the Common interface button gives you access to information from the smart card inserted in the CA module. The type of information provided by the smart card depends on the card itself and its make.

Ingel C. History David Hermit Channel Lat
imons interface ent - Net 1-A
ional Accesa
modul Solid (m)
And a second
- energia
Ourge D 19
No. on Adva
Sana (

Below is an example of the interface of a Conax card.

Please refer to the user guides of the CA modules and smart cards you have inserted in the output modules for further information.

If you need to reboot the CA module you can use the Reset CAM button. Click the Reset CAM button to reboot the TDX headend system.

	Distant	Travel CA Hod	utes - Chiple	NOUN Date	1222		10000		12.0	and the second
I		Model setup		Services in system (54	·				-
	Marine Marine	n unit - Stat 114		Dereime		1.1.1	Device Survey	-	0.0350	the retro
	1.200.000			CANAL+ PELH HD	1	3704	(Harr Unit, Input 3)	30		0.00
	Configuratio	in.		D4.H0		2020	(Han Unit, input 2)	11	101	1000
	10000	1 T 100		DR HD		4855	(Han Link, input 4)		0	200
		9		DR K		2010	(Marr covit, imput 2)	10		00000
	Cerd speed	32 96/6/4	(+)	DR Ramasjang		2008	(Harri Unit, input 2)	12	101	0.736
		Carriero	and the	DR Synatolikming		111	(Harrison, Input 1)			200
	Card function	(8) Descramble	e (Sefeuit) Retérones)	DR UPDATE		2000	(Harr Link, input 2)	11	101	(200)
		C Propried (Conservation (Conservation)	DH1		101	(Han Link, input 1)			1000
				042		105	(Han Link, input 1)		0	0000
				POLICETRADET		2028	(Marn Unit, imput 2)			(225)
				OWD MUNT		=	(Harrist, input 1)		0	02788
				OAD HUND		- 62	(Hair Link, input 2)			0.000
				BVT3 HD		3851	(Harrishi, must 3)	11		(2253)
				BVT1 HD	1	3404	(Han Unit, input 3)			1000
				Sec.		414	(Han Lint, input 1)			00000
lick the Reset				TV 2 Cliviti.		234	(Marr Lovi, input 1)			(1776)
AM button to				TV2 Film HD		2929	(Harri Unit, input 4)		0	0228
AN DULLOIT LO	A PERSONAL PROPERTY.		1 1 1 1 1 A A							
boot the CA									_	
and star	Status Inform	infilmers'		* ER. + Error Récove	ry, Ch	inodule	may be reset to recov	er serv	-	

When you have selected the services you want to descramble or scramble you have to click the Submit button to enter this information into the headend system and return to the CA Modules window.

Derivans in ander Calabity Filler HO DR HO DR HO DR K Calabity Calabity Calabity	84 8.] 8.]	3004 (Main Unit, vgud 2) 2020 (Main Unit, vgud 2)	sec.		Contraction (Contraction)
CANLA FEN HO DK HO DK HO DK K	1	3204 (Main Lint, vigut 2 2030 (Main Unit, vigut 2	inere R	0	Contraction of the
CANAL & FILM HO DR HO DR HO DR K	1	3006 (Main Lint, reput 2) 2030 (Main Unit, reput 2)	×	0	079762
DR HDI DR HDI DR K		2030 (Main Unit, equil 2)			
DR HG DR X		owned beaution of the state			1000
DR.K.		starth Deater that' address	110	10	1000
Of Examplese		2010 (Hain Unit, egut 2)			6.00
mark was seen as a		2008 (Nen Unit, reput 2)	1.12	0	100
DR Byndskorog		111 (Hart Unit, epul 1)			200
DR LIPDATE		2000 (Main Unit, input 2)	100	141	1000
CAL		IIII (Main Unit, volut I)			1000
DRJ		102 (Hain Unit, input 1)	0.00	101	11000
POLICETINGET		2005 (Main Linit, input 2)			000
DAD MUKS		R1 (Main Unit, input 1)	1.12		000
OAD MUKE		R2 (Nair Unit, eput 2)	10	0	0.000
BYTS HD	8	3921 (Harr Unit, reput 2)	0.121		200
SVT1 HD		1406 (Main Lint, reput 2)	811.8		22788
Set .		414 (Marc Link, input 2)	0.00		1000
TV 3 (3yd)		214 (Main Livel, reput 1)	0.00		0.000
TV2 Pim HD	1	2929 (Men Unit, Aput 4)		12	
	041 051 664 4051 040 4051 040 4051 040 4051 8911 40 8911 40 8911 40 8911 40 194 177 3 (546) 177 Am HD	DRI DRI DRI POLACTIVET OND MUNCI OND MUNCI OND MUNCI BITTI HO BITTI HO B BITTI HO B DITI HO B	DR1 TEL DMAN Unit, would II DR2 LG2 DMAN Unit, would II POLART/SMIRT 2005 DMAN Unit, would II DAD MUCL EL DMAN Unit, would II DAD MUCL EL DMAN Unit, would II DAD MUCL EL DMAN Unit, would II DMD MUCL EL DMAN UNIT, would II DMTL HD 8 DMAN UNIT, would II DMTL HD 8 DMAN UNIT, would II DMTL HD 8 DMAN UNIT, would II DMM 4140 Oman Unit, would II TV2 Zhani HD 8 2505 TV2 ZHM HD 8 2505	DRI TITE DMAN Unit, would E1 DRI LO2 (Mann Unit, would E1) DRA LO2 (Mann Unit, would E1) DAD MURIT 2005 Dimen Unit, would E1 DAD MURIT E10 Dimen Unit, would E1 DAD MURIT E10 Dimen Unit, would E1 DAD MURIT E10 Dimen Unit, would E1 DATE MD E100 Dimen Unit, would E1 DIFTE MD E1000 Dimen Unit, would E1 DIFTE MD E1400 Dimen Unit, would E1 DIFTE MD E1400 Dimen Unit, would E1 TV2 Dimen PD E12000 Dimen Unit, would E1	DBI TBI: Owen Unit, work EI Image: Comparison of Compa

When you return to the CA Modules window the descrambled services will be displayed next to the CA module you have configured.

		TRIAX					TDX	Servi	ce too
	Syste	m Input	CA Hodules Output	Æ Network	Channel list		Apply	Log out	Admin.
	Slot	Card installed				Services	Status		
4	Main u	init (2items)							
	1-A	Conax				CANAL+ FILM HD,	OK.	Setup	Delete
	1-8	Conax						Setup	Delete
	2-A	Conax						Setup	Delete
	2-8	Viasat						Setup	Belete
4	Unit: 1	(2items)							
	1-A	Conax						Setup	Delete
	1-B	Viasat						Setup	Deete
	2-A	Conax						Setup	Delete
1									

Remember to click the Apply button in the upper right-hand corner to save new settings in the configuration.

Status information

To be implemented later.

Output window Click the Output tab in the TDX Service Tool to display the Output window. You can only install two IP output modules in each TDX headend unit, and you have to install them in slot no. 3 and 6 in the output section of each unit.

			TRIAX			т	DX Service Tool	
Tabs ——	>		2010.77	TATISTICS Dept. Among 1		602		- Buttons
		-	- Annal	ent Suzahrt	Owned	(Marcine)		
	1.1	- Mare	unit (18 dens)	-	CARL	1.00	Lances Brook	L
	1 4	1.1		14	001	04	1000	11
	L 1	1		144	0.03	CH .	ALC: NO	
	L	10		P.M.	004	OK	and a second sec	
	L 1	10	1	PHL.	005	ÓK.	Second Second	
	1 1	2	1	Pet	008	CH.	6000 B	11
	L	2	1	14	0427	OK		
	L	1	4	P.0.	0.08	OK		
	1 1	2	\$1	phistoscold suppressing on both	Pro 1	Non publication	March Mines	
	1 1	3.1	41	proof economic surple configured as hotel	Fre 2	but configured		
Module_	L	3	a	prost-record adjust configured as some	Pro. 2	Not configured		Setup
list	1 4	3	4	provin-Hotolut subsit configured as NOHE	Pro. A	Not configured		buttons
not	1.1		1	QKH	878	OK	Sector Sector	
		4	1	(Devi	833	CK.		11
	L		3	QeM	-533	OK.	Sec. 1	
		4	4	Q4H	534	CH.		
	1 1	4 5.00E	1 (4 0916)	Table 1	CANNESS .	11000		
	1.1		A.	Qen .	Cont	OK.	Second Second	
	1 1		3	Cere .	Cont	OR .		11
	L	1.5	2 I I	000	Casha	~		
	L			(See	Clines .	. CR		
L							_	P .

According to the illustration above, an IP output module has been installed in slot no. 3 in the main unit.

Note You can divide the output of your services into four priorities.

To configure the IP output module, click the Setup button to display the Configuration window

_	and the second	Contractory of the local division of the	-	-	Contraction of the local division of the loc	
		on the second control is preserved and		No.	Ministerili Ministerili Ministerili	
	Depa	The Sourceillered	Dane	Trave		
+ Marc	unit (18 item	4): 	1000	~		
1.	1.	-	0401	~	COURSE AND	
	5	Paul .	001	a.	400000 A	
	6	-	0404	2	4070000	
	1	14	005		ACTIVA ACTIVA	
-	10	in the	008	a	Second County	
Ş.,	G	24	0427	~	CTTTP:	
121	Q	10	CH28	~	ALC: UNK	
		THE OTHER DESIGNATION OF THE PARTY	the 1	That success	Sector Se	Click the Setu
	1	throw all the second configuration to be the	Acres 1	and souther, and	677770	button
	1	TRUE MODELE subset conferred as http:	Prop. 2	but configured	Sector Se	batton
	1	INTER MODALE subject configured as folial	Proc. 4	Part spelligsread	6070700	
4	1	044	571	OK.	Second Second	
4	2	GAM	532	OK	Contraction of the local division of the loc	
4	14	GAM	933	ox	No. of Concession, Name	
4	14	QAM	534	ox	ACCURATE OF A DECISION OF A DECISIONO OF A D	
a Unit	1 (4 tems)	Part of the second seco				
1	3 <u>i</u>	Que	0141	CIK	Second Second	
1	2	Que	C1H2	CK .	Sec. 20	
1	3	QAM .	0943	OK	Sec. 1	
4	4	Que:	0144	OK .	60000 B	

Configuration of IP module

The first time the TDX Service Tool displays the Configuration window in a new configuration the fields in the window will either display a default value or be empty.



IP packet ratio To select the desired IP packet size, click the arrow to the right of the IP packet ratio field to open the drop-down list with the packet ratios you can choose from. Select the ratio you want to use.

In the combination area you create configuration lines. In each line you enter an IP addresses and select a service.

IP address Enter a multicast IP address between 224.0.0.0 and 239.255.255.255 in the IP address field.

Note Be careful that your multicast addresses do not collide with the multicast addresses that the TDX headend system utilises for internal use.

	TRIAX	TDX Service Tool
	Taylon T Tayl CAMahaa Olgod Streets Overal Int	The State
Select IP packet ratio ——	Configuration Printly Setup	
Enter IP address and port number	2191.192.191.20 50176	
	Status Information Status SW-Revuon TX Birste(HorMax) TX BiRace(Curlive Net samfgured 1.16.1.27255 0.10 0/0	e.

Port	Enter the desired IP port number in the Port field.
RTP	If you want to enable Real-Time Transport Protocol (RTP), click the RTP check box.
Setup	To select services, click the Setup button to open the

Select services window.

	х			TDX Service To	ol	
And a	per Di Roben (NUM NUMBER OF		And Street Man		
IP C	hutput Priority Se	stup				
Configuration	(P packet ratio 1					
	17 addition 239-192-101-20	Part Gerande 90376	817 22			-Click the Setup buttor
				0		
				C.		

The Select Services window displays all the services that are available from the TDX pool. $\ensuremath{\mathsf{f}}$

Select services							23
Select service(s) from list							
Services	Types		<u>SID</u>	Service sources	Select service(s)	Output SID	
CANAL+ FILM	TV	\$	4833	(Main Unit, input 15		7	
CANAL+ FILM_descrambled	TV		4833	(Main Unit, cam 3-B		125	
CANAL+	TV	\$	4835	(Main Unit, input 15		81	
CANAL+ FILM	TV	\$	4836	(Main Unit, input 15		91	
CANAL+ SPORT	TV	\$	4837	(Main Unit, input 15		92	
CANAL+ SPORT_descrambled	TV		4837	(Main Unit, cam 3-B		128	
CANAL+_descrambled	TV		4835	(Main Unit, cam 3-B		126	
1079	RADIO		6507	(Unit 1, input 9)		147	
3sat	TV		28007	(Main Unit, input 2)		161	
4823	TV	\$	4823	(Main Unit, input 15		93	
6'eren HD	HDTV	\$	15015	(Unit 1, input 3)		212	
ALE KINO+	TV	\$	4805	(Main Unit, input 15		94	
ALE KINO+	TV	\$	4855	(Main Unit, input 15		95	
ALE KINO+	TV	\$	4877	(Main Unit, input 15		96	•
•		_				>	
Mux name					Cance	ок	

In the Select Services window you can select the service that you want to output.

Note You can only select one service per IP address.

To select a service, click the check box (square) to the right of the service you require.

						1	Click a check box to
	Types		Service sources	Select service(s)	Output SID		
CANAL+ FILM	τv	\$ 4833	(Main Unit, input 15		7 2		select a service
CANAL+ FILM_descrambled	τv	4833	(Main Unit, cam 3-B		125		
CANAL+	TV	\$ 4835	(Main Unit, input 15		81		
CANAL+ FILM	TV	\$ 4836	(Main Unit, input 15		91		
CANAL+ SPORT	TV	\$ 4837	(Main Unit, input 15		92		
CANAL+ SPORT_descrambled	TV	4837	(Main Unit, cam 3-B	✓	128		
CANAL+_descrambled	τv	4835	(Main Unit, cam 3-B		126		
1079	RADIO	6507	(Unit 1, input 9)		147		
3sat	τv	28007	(Main Unit, input 2)		161		
4823	TV	\$ 4823	(Main Unit, input 15		93		
6'eren HD	HDTV	\$ 15015	(Unit 1, input 3)		212		
ALE KINO+	τv	\$ 4805	(Main Unit, input 15		94		
ALE KINO+	TV	\$ 4855	(Main Unit, input 15		95		
ALE KINO+	τv	\$ 4877	(Main Unit, input 15		96	2	 Click OK to save and
4					· /	1	leave the window

Click OK to return to the Configuration window when you have selected the services you want to output.

TRIAX		TDX Service Tool	
finite part [24]	ority Setup		
Configuration P pocket rat	10. 11 ×		
229.392.10	Fort Services	feoretiet	A new configuration
		13	in the combination area
Status Information Status SW-Am OK 1,18.1.2	sian TX Bitrate(Hon/Hax) 7324 \$1/91	TX &Rate(Curl&vg) 31/51	

In the Configuration window a new empty configuration line has been added in the combination area. Now you can continue to enter more IP addresses and select more services to output using the AUX sockets.

Note The service you have selected to output on one IP address will no longer be available in the TDX-pool for the configuration of other IP addresses in the TDX headend system. .

Sec.	Har Di Hotes	Ovtput	NAMES OF BRIDE	
Sec. 1	P Output Priority	Setup		
Configurati	1019			
	IP packet ratio			
	17 ablem	000	Services.	. 617
	239.192.111.1	\$0176	CAMAL+ SPORT_Assurantied	Of Street Street of
	239.192.111.2	50176	AXN Orme_descrandted	
	239.192.111.3	\$0176	ALE KINO+_descrambled	
	239.192.511.4	\$0176	ESP Int'L descrambled	
	239.192.111.5	\$0176	04# III_destrevibled	×
	239.192.111.6	1 50178	DRJ	 A second s
Status infor	methan			

You can output 96 services on each IP output module. You can output all your IP services as priority 1 services or you can output some of them as priority 2, 3 or 4.

If you want to delete one of the configuration lines (IP address, port number and service) in the combination area, click the Delete button of the configuration you want to remove..

TR	IAX				TDX Service Tool	
-	P Output Priority	Overal Setup	Sideo's Devid M			
Configurati	inn IP packet ratio 🗐					
	IT address	THE	- Server	1111		
	239.192.111.1	\$0176	CADAL + SPORT_descreenbind	-	manager (manager ()	
	239.192.111.2	\$0176	ANN Crime_destrambled	190	6000 6000 C	Click the Delete
	239,292,111.3	50176	ALE KONO+_descrambled	196		button to romovo
	239.192.111-4	\$0176	RSP Intdescrambled	10	1000 1000 1000 1000 1000 1000 1000 100	
	239.192.111.5	\$0176	ORF III_deuranbled	18		configuration line
	228.192.111.6	E SOLTE	083	1	SECTION SECTION C	
Station latter	matlen					
Contraction of the local distance of the loc			Betrate Blockman Th Bellate Cur	(Barb)		

If you have selected more services than your licence(s) entitles you to select, you will get a warning and the services that exceed the number of services you can select will be deselected



Status information

Status information is placed at the bottom of the Configuration window. The information displayed in the configuration window includes RTP protocol and services.

				TDA Service I
Summer of	base of minute	Output	Interes During Lat.	(manada) (hispana) (his
	IP Output Priority	Setup		
Condigura	tion			
- C	IP packet ratio			
	17 ablines	(1941)	(Brokes)	429
	229 192 111 1	\$0176	CANAL+ SPORT_Searcembian	Real Property in which the
	239.192.111.2	90176	AXN Drine_destrambled	· · · · · · · · · · · · · · · · · · ·
	238.192.111.5	30176	ALE KINO+_descrambled	2 GINE (CON
	229.192.111.4	80176	ESP 0/11_descrembled	· · · · · · · · · · · · · · · · · · ·
	229.192.111.5	\$0176	047 III_destrambled	N MILLION MILLION
	239,192,111.6	1 50375	DR3	V GEORGE GEORGE CL

Status	Tells you whether any errors have been detected.
SW-Revision	Displays the software version of the output module.
TX BitRate (Min/Max)	Tells you the minimum/maximum load of megabyte (MB) on the AUX socket.
TX BitRate (Cur/Avg)	Tells you the current/average load of megabyte (MB) on the AUX socket.

When you have selected the services you want, click the Submit button to enter the information into the TDX system and return to the Output window.

	AX			TDX Service T	001	
	Codunt Priority	Cuput Section	(Annual (Constant)			
configuratio	ini 19 packet ratio 👔		*			
	IF address	and .	1			
	239.282.311.3	\$0176	Ath Drive_descentiod	Contraction in the local division of the loc		
	229.192.111.3	80176	ALE KINO+_descrimitied	×	Click the S	luhn
	229 192 511.4	80178	ESP 3rt'_descretion	× 1000 1000	button to s	ave
	239.192.111.8	1 30176	DK3		vour selec	tions
Status infer	matilium Sav Persialat	71	Bitume(MevPeas) TX Bellate(Car			

Note When you display the configuration window for an IP output that has been configured, all fields are filled in and service(s) have been selected.

If you want to change the existing IP address, port number and services, just follow the same procedure as when you configure an IP output for the very first time. When you have made the changes, click the Submit button to enter the information into the TDX system and return to the IP Outputs window.

When you return to the Output window, the configuration of the IP output module is displayed in the list.

	TDX Service Tool			C	TRIAX	
			mana (Second State)	an oralis oral	ik. Dar	
		a state	(hand	THE DESIGNATION	Const	Like
	1	-	1 2/22	1	unt (15 items	a Main
	Manual Manual	04.1	CRIT	PAL.	A.	U,ASI
	Contraction of Contra	CR.	0411	PAL	5	
	Manual P	2	043	PPL.	5	
	Second Second		(9/15	24	-	-
	Samuel Grand	14	004		÷.	
		<u> </u>	out		2	13
	600000	~	00	Fig.	÷ .	1
The IP output module	Sector Sector Sector	-	Area 1	TROUT ADDRESS	10	100
L has been configured	Sector Se	-	Pro. 2	TROUT MODULE	5	
nas been coningured		06	Pro. 3	DROUT-HODILLE	Q	
	STORY .	OK .	Pro. 4	SPOUT-HODULE	÷	51
	Second Second	CH .	E21	OAM	1	1
	ALC: NO	CW.	552	GAM	2	4
	Sector Se	CK.	822	OAH	3	
	and the	OK.	534	QAN .	4	4
					I (4 terra)	a Unit:
1		CK.	CH43	QAIK	-1	1
1	Contraction of the second s	CK .	0442	QAM	2	1
1	Name of Street o	OK :	CH43	QAH	3	1.
1	Section 2	CHK.	0+44	QAM .	4	4

Remember to click the Apply button in the upper right-hand corner of the TDX Service Tool to save any changes in the configuration.

WARNING - All unsaved changes will be lost in case of a power cut

Delete output module If you want to remove an output module and the associated configuration, you can use the Delete button of the module in question in the Output window.

Click the Delete button of the IP output module you want to remove. A message window is displayed asking you to confirm that you want to remove the output module.



Until you have removed the output module physically from the headend unit, the module list will display four lines with the writing in red.

=7	1940 - 18	at children Output herewith a	and the second second	-	and the second distance of	1
-	(hep-	mit lossaline	Garrel	Time	1	
+ Mair	unit (15.ten	4)	(Charles	-	Constant and the second	1
1.1	1.		0011	~	Second Strength	
	- C		Civita .	2		
	- G		10000	2	6170702	
	1		CHITE	~	Sarran Sarran	
	1	Ten.	008	a		1
- Q.	Q	P.6.	0427	a l	677170	
1	2	100	CH28	ox.	ALC: NO	The configuration
14	11	IPOUT-MODALE subput surviganed as NONE	Pres 1	The settingent	(second (second))	
		SHOW AN ANY ANY ANY ANY ANY ANY ANY ANY ANY	Pres 2	. Not said good	A STATE OF	been deleted
3	1	POUT-HODOLE subple surfacement as NOAE	Pro. 5	had sort gared	Second Second	1
1	+	SPOUT-HODULE subput configured as WONE	Pro. 4	Not configurat	6000 B	1
4	74	QAN .	571	OK	Second Second	1
4	2	QAM	532	OK	(C)	1
4	3	QAM .	933	OK .	Marcal Marcal Street St	1
4	14	QAM	534	ox.	ALCON D	1
a Unit	1 (4 tems)					1
1	1	Quit	0141	CK	Second Second	1
1	2	Que,	CHH2	OK .	Second Second	1
1	3	QAM	CH43	OK	Second Second	1
4	4	QAM .	0144	ox.	Sector Se	

IP output - EIT

A barker channel carries all EIT information (Event Information Table) for a number of services.

It is possible to use an EIT barker channel to carry all EIT information for your IP output. The EIT barker channel can be output in two ways depending on how you distribute your IP output.

- If you distribute your IP output through the Link sockets, then the EIT barker channel is output using Link 2 on the main unit.
- If you distribute your IP output through an IP output module, then the EIT barker channel is output using the AUX socket of the first IP output module in the TDX headend system.

Before you can use a barker channel for distributing the EIT information, you have to configure the channel using the Network tab.

Click the Network tab in the TDX Service Tool to display the Network window.

TRIAX			TDX Service Tool
System Input	CA Modules Output Net	work Channel list	Apply Log out Admin.
DVB-T	DVB-C	LCN numbering	Enable HD LCN
Network ID 12289	Network ID 4096	1 Services	LCN number
Network name TDX-NE	T Network name TDX-	NET NRK P3	0
Set original ID	Set original ID	DR1	1
Orig. network ID 43962	Orig. network ID 70	TV 4 Malmp_descrambled	2
NIT Standard DVB	ordig NIT Standard OVB	Nordig DR2	3
EITI	EITI	DR Remesjeng	4
Barker channel	* Barker channel	* DR K	5
No barker	* No barker	* DR3	6
Shared settings	IP settings	TV2 NEWS_descrambled	8
Manual transportstream 10	Use EIT barker for IP ou	A Kanal 4 DK_descrambled	9
Use static NIT version	EIT barker IP address	TV2 Charlie_descrambled	11
NIT version -1	0.0.0.0	TV2 Film_descrambled	12
Enable CAT tables	EIT barker IP port	TV2 Zulu_descrambled	13
		6'eren_descrambled	14
		Animal Planet_descrambled	16
		TV3 Puls_descrambled	17
		CANAL9 (D)_descrambled	18
		DR Ultra	20
		FOLKETINGET	21
		TV SYD	22
		dk4_descrambled	23
	Sul	TV3 Denmark descrambled	24

Click the Network tab to display the Network window

It is in the "IP settings" area in the Network window that you configure the barker channel for your IP output.

	-			•	
append to be	a 1916	and the second second	(Daniel Gall)	(access) (access) (access)	
DVD-F		DVB-C	LCN numbering	Brable HD LD4	
Network ID 122	200	Network ID 40961	Second.	all country	
Network name 10	1-NET	fortwork name T2X-NET	NKK P3	* D	
Set original ID	61	Set anginel ID	D41	1	
Orig. retwork 30 43	44	Drig. network 20	TV # Halme_descrambled	2	
NIT Dandard () DVD	O Norda	NIT Standard () DVB () No	rda DK2	-1	
817)		EIT	DR Ramesjang		
Barker channel		Barker sharinal	* DR.K	5	
No barker	÷.	No barker	* DK3		
Shared settings		IP anttings	TV2 NEWS_descrambled		
Ranual transportatives	- D CE	Use 827 banker flyr 24 out.	Kanal 4 DK_descrambled		
Use static NET version	10	ETT barker 37 address	TVJ Charlie, descranitied	11	In this area you
All version		and blocks on the	TV2 Film_descrand/ed	17	in uns area you
Erisble CAT tables	ie.	ELT Derver LP port	TV2 Zulu_descrumbled	13	configure the
			6'eren_descendred	14	barker channel
			Animal Planet_Secondria	4 14	
			TV3 Puls_descrembled	19	your IP output
			CANALS (D)_descrambled	18	
			DR Ubs	20]	
			FOLKETINGET	21	1
			TV SVD	22	1
		-	dist_destrambled	23	1
		and the second se	TV3 Dennark, desiranible	4 24 0	

Use EIT barker for	Click this check box to enable the barker channel for
IP out	IP output.

- EIT barker IPEnter the desired IP address for the EIT barker channeladdressin this field.
- **EIT barker IP port** Enter the desired IP port number for the EIT barker channel in this field.

-0							
The second	ing a	taxan Digit	Mark	200000	NAMES OF TAXABLE PARTY.	100	
DVD-F		DVB-C		LCN numbering	Brabie HD LL	n D	
Network 10	12289	Network 10	40961	NACCESS.	LDL number		
Network name	TDN-NET	fortwork name	TDX-MET	NRK #3		- 01	
Set original 3D	6	Set unpinel ID	0	D#1	1		
Orig. retwork 10	42012	Drig. network 20	10	TV # Halme_descrambled	2		
NIT Blandwid @ DVB O Nordg NIT Standard @ DVB O Nordg		D42	3				
(ETT)		ETT:		DR Ramasjang	4		
Barker channel		Barker channel		DRK			Click the check
No barker	+	No berker		DK3	6		Thoy to enable the
Shared settings IP settings		TV2 NEWS_destraction	1		box to chable t		
Nanual transport	streen ID 🖂	Use £17 barker f	worked into	Kanal 4 DK_descrambled			barker channel
Use static NIT we	niot 🗍	ELT berlier 2P ad	dress	TV2 Charlie_destrumbled	11		
NOT version	4	229	192-101.100	TV2 Film_descrandied	12		Enter IP address
Bruble CAT table	• ið	ELT barber IP po	74	TV2 Zula_descrambled	17		
	1444		6' eren_descrambled.	14			
				Animal Planet_Securambled	14		
				TV3 Puls_descrambled	11		
				CANALS (D)_descrambled	18		
				DR URS	20		
				FOLKETINGET	21		
				TV SVD	22		
				db4_destrambled	- 23		
			And Person Name	TVI Dennets descraphied	24	0	

Then click the Submit button to enter the configuration into the TDX headend system.

A message window is displayed confirming that the configuration has been submitted to the TDX system.



Remember to click the Apply button in the upper right-hand corner of the TDX Service Tool to save your configuration of the barker channel in the system configuration.

The next time you display the Network window a single line of information will be displayed below the EIT barker IP port field in the IP settings area, telling you which unit and socket the EIT barker channel uses.

TRIAX					TDX Service Too	l
	maret DAM	-	Refuerk .	Constanting of the	and a second second	
DV8-T		DVB-C		LCN numbering	Enable HD LON	a.
feetwork (D)	12289	Network 10	40964	Derretable .	LCh runtim	
tetwork name	TDX-NET	Network name	TDX-NET	NRX P3	0	0
Set original ID	0	Set original ID	10	DR1	1	
Org. network ID	Arms.	Orig. network 10	120	TV 4 Haimit_descrambled	2	
NT Standard ()	DVB	NIT Standard (i)	DVB Nordg	042	3	
8271	ett : arker shannel • Barker shannel •		DR Ramasjang	4		
Barker sharcel			ON R	1		
to barker	+	tis barker +		DR3	6	
Shared settle	Shared settings IP settings		TV2 NEWS_descrambind	1		
Hanual transport	atreart ID	Use EIT barker for IP out EIT barker IP of doess 236,192,101,100 EIT barker IP port 531,76		Kanal 4 DK_descrambled		
Use static AUT ve	- mer			TV2 Charlie_descrambled	11	
tall version	5			TV2 Fire_descrambled	32	
Enable CAT Lable	e 18			TV2 Zulu_stasoramitted	13	
ETT link: Hai	ETT link: Main G	T link: Main Unit - AUR 3	6' even_steacrambied	34		
		-	Annal Planet_descrambled	14	Information abo	
				TV3 Puis_descrembled	14	which unit and
				CANAL9 (D)_descrambled	10	
				DR Uttre	- 28	Socket the ETT
				FOLKETINGET	21	barker channel
				TV SYD	22	
			Common State	ith4_descrembled	11	4303
			Concession of the local division of the loca	TV3 Denmark descramibled	24	9

Important When you configure the barker channel be careful not to use one of the IP addresses that you have used for distributting services.

Manufacturer

Save configuration

An **important button** when you change your configuration of the headend system is the **Apply** button placed in the upper right-hand corner of the TDX Service Tool window.



ApplyWhenever you have made changes in your configuration, "Apply" on the Apply button turns red to tell you that you have unsaved changes that need to be saved.Click the Apply button to save the changes. When changes have been saved the "Apply" text looses the red colour.

WARNING - All unsaved changes will be lost in case of a power cut

Technical data

Technical data

Product		IP output module					
Art. No.		492072					
IP input							
Туре		TDX BE proprietary control and data					
Connector		PCIe x1 edge connector					
Maximum input bandwidth		720 Mbit/s					
Data format		Proprietary TDX MPEG2/DVB SPTSs					
		UDP/IP via GbE					
Output							
Туре		TDX BE proprietary control and data					
Connector		PCIe x1 edge connector					
RF connector type		F-connector					
Maximum total bandwidth		720 Mbit/s					
Maximum peak bandwidth		940 Mbit/s					
Output format		0-96 x MPEF2/DVB compliant VBR SPTS					
Output protocol		UDP/IP multicast via GbE					
		3-7:1 TS / IP packet ratio (configurable					
		via GUI)					
		RTP (optional via GUI)					
Output SPTS priority		1-4 (configurable via GUI for each SPTS					
EIT		No EIT - must be obtained via native IP OUT					
Power supply							
Voltage/current	V/mA	12 / <600					
Environment							
Temperature, operating	°C	-10+50					
Temperature, storage	°C	-20+70					
Humidity, operating	%	2080					
Humidity, storage	%	1090					
Mechanical data							
Dimensions, product	mm	162 x 180 x 12 (21 Cl)					
Dimensions, Triax carton	mm	183 x 266 x 55					
Weight, net/gross	g	215/305					
Connector		PCIe x1 edge connector					
RF connector type		F-connector					

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Your notes



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Manufacturer

Dear Customer,

Should you require technical assistance in the event that your expert dealer is unable to help you, please contact us at:

Triax A/S Bjørnkærvej 3 8783 Hornsyld Denmark

DECLARATION OF CONFORMITY

TRIAX confirms that the product conforms to relevant EEC harmonised standards and consequently can carry the CE-mark.

Relevant harmonised standards:

DE/EN 60728-2 2010, DS/EN 60728-11 2010 and DS/EN 50083-2 2006

This document is only valid with the signature of the person responsible for CE-marking by Triax

Date: October 2012

Signature: