



# User guide IP output module

Model			ltem no.		
IP output m	odule		492072	_	
Version	891080B	01 - 2014	EN	_	triax.com

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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 contents Item No. 492072 - IP output module Item No. 492074 - Auxiliary board Item No. 492086 - SFP transceiver RJ45 - copper -

Licenses IP output licenses need to be purchased from Triax to be able to distribute IP services through the TDX headend system. Required licence numbers:

> Item No. - 418040 TDX IPTV out 12 service start Item No. - 418041 TDX IPTV OUT 12 service Item No. - 418042 TDX IPTV OUT 4 service Start Item No. - 418043 TDX IPTV OUT 4 service Item No. - 418045 TDX IPTV IN 12 Services Start Item No. - 418046 TDX IPTV IN 12 Services Item No. - 418047 TDX IPTV IN 4 Services Start Item No. - 418048 TDX IPTV IN 4 Services

Licences are activated using Licence handling in the Administration window. See the user guide of the TDX Headend Unit for more **information**.

## 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.

The TDX headend system provides the following functionality when the IP output modules have been installed:

- IP multicast streaming (UDP streaming)
- 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 700 Mbits/s output per IP output module
- 96 services on each IP output module/AUX socket
- Possible to change service ID (SID)
- Possible to select from IP via Link

# Installation overview

## Module positioning

A maximum of two IP output modules, and associated auxiliary boards and SFP transceivers can be installed in a TDX headend. Dedicated positions in the TDX headend are used.

IP output module placed in slot 3



IP module in slot 3, auxiliary board in slot 2, SFP in AUX socket 2.

## IP output module placed in slot 6



IP module in slot 6, auxiliary board in slot 1, SFP in AUX socket 1.

## Installation overview

IP output modules placed in slots 3 and 6



IP module in slot 3, auxiliary board in slot 2, SFP in AUX socket 2. IP module in slot 6, auxiliary board in slot 1, SFP in AUX socket 1.

Labels are located on the IP output module and the Auxiliary board. Information relating to configuration of the module can be written on these labels if desired.

# Installation overview

### Network hardware configuration

The TDX headend system must be connected to a Gigabit network switch to receive and deliver IP services.

The network switch must support IGMP version 2, and contain an adequate number of ports to connect to all the Link sockets on the main and, if relevant, subunits.

- Multiple TDX headends can also be used to deliver a greater number of
- IP services .
- Each IP output module on each TDX output headend must be connected to the Gigabyte network switch, via the associated AUX 1 and/or AUX 2 RJ45/fibre optic transceivers.
- Cat 5e shielded or better network cables must be used.



Optional hardware	A fibre-optic transceiver can be used instead of an RJ45 SFP transceiver. This is especially relevant for pre-existing optical installations, or for installations with high levels of interference and/or total cable lengths exceeding 100m.
	The fibre-optic transceiver must be ordered seperatly. Item No. 492087 - SFP Fiber 850nm EOLS-8512-MXX (500m) Item No. 492088 - SFP Fiber 1310nm EOLS-1324-02XX (2km)
Software version	TDX software version 1.16.1.x or later is required.

## **Hardware installation**

# Hardware installation

A maximum of two IP output modules can be installed in a TDX headend. **Note:** 

Hot swapping can be used when inserting modules into or removing modules from the TDX system, i.e. there is no need to power off the unit.



IP output module	1.	Insert the IP output module into either slot no. 3 or slot no. 6 in the lower section of the headend unit.
Auxiliary board	2.	Insert the Auxiliary board as per the following: Use Auxiliary board in slot no. 2 if the IP output module is in slot no. 3 Use Auxiliary board in slot no. 1 if the IP output module is in slot no.
SFP transceiver	3.	Insert the SFP transceiver in the correct AUX socket relating to slot position where the IP output module is located: IP output module in slot no. 6 - SFP transceiver in AUX ocket 1

IP output module in slot no. 3 - SFP transceiver in AUX socket 2

## Hardware installation

### Installing CAM/ Smart card

Two Conditional Access modules (CA) can be inserted into each IP output module.

Each CA module can descramble one or more services. The services that can be provided is dependant on the provider of the CA module and smart card.



- 1. Insert the smart card into the CA module.
- 2. Insert the CA module into the IP output module.
- Note Either (or both) CA position(s) in the IP output module can be used.

**Logging in** The **TDX Service Tool Login** window is displayed when the TDX Service Tool from the TDX headend system is loaded onto a PC.



- 1. Enter the password
- 2. Press the Log in button

The **System** window is displayed.



**Note** Software version 1.16.1.x or later is required for the IP output module.

The software version of each module is displayed in the **Status information** area on the **Configuration** window.

Further information can be viewed using the System Information list area.

### Applying changes ofconfiguration changes

All changes made within the TDX Service Tool need to be saved to the SD memory card located inside the headend unit.

This is done by:

- 1. Making the required changes in the individual TDX Service Tool windows.
- Pressing the Submit button on the TDX Service Tool where the configuration changes have been made.
- 3. Pressing the **Apply** button upper right-hand corner of the TDX Service Tool window. The **Apply** button is coloured 'Red' if there are configuration changes waiting to be saved to the SD memory card. 'Uncoloured' indicates that all submitted changes have been applied.

It is not neccessary to press the **Apply** button after each configuration action or use of the **Submit** button. The Apply button must, however, be pressed to save the configuration action(s) to the SD card.



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



## window

Administration The IP address and subnet mask for each AUX socket used on the headend system need to be configured.



1. Click the Admin. button to open the Administration window.

Settings for TDX Service 1	ool		23	
✓ Language settings				
Change language for TDX	Service Tool			
Current language	English		-	
Current language	English			
Country settings				
> Time zone settings				
Password settings				
<ul> <li>License handling</li> <li>TO US</li> </ul>				
> IP settings				
· System Maintenance				
		ОК	Cancel	

2. Expand the IP settings area.

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 ga	iteway address
IP address	192.168.0.100
Subnet mask	255.255.255.0
Default gateway	192.168.0.1
Edit link IP settings for system	Enter setup
The TDX uses 512 IP addresses for	or internal use, specify first address
Start 239.192.0.0	End 239.192.1.255
> System maintenance	OK Cancel

3. Press the Enter setup button.

	IP settings					Consultant loss of Database
	Main unit					Annual that (2) builds (2) build
	Link 1	1P 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	192-168-10-4	Subnet mask	255.255.255.0	
	AUX 2	IP address	192.168.19.8	Subret mask	255.255.253.0	
Enter addresses						
in the AUX fields /	Sub unit 1					
and subnet	Link 1	IP address	192.168.1.1	Subnet mask	255.255.255.0	
macke that are	Link 2	1P address	192.168.3.1	Subnet mask	255.255.255.0	
indono in the	AUX 1	1P address	192.168.20.3	Subret mask	255.255.255.0	
headend system	AUX 2	1P address	192.168.21.6	Subnet mask	255.255.255.0	
fieldend system	Sub unit 2					
	Link 1	IP address	192.168.3.2	Subnet mask	215.255.255.0	
	Link 2	IP address	(10330033))	Subnet mask	255,255,255,4	
	AUX 1	IP address		Subnet mask		
	AUX 2	3P address		Sobret mask		
						and the second division of

- 4. Enter the required addresses in the AUX and Subnet mask fields
- 5. Press the **OK** button to return to the **Administration** window.
- 6. Press the **OK** button at the bottom of the **Administration** window to return to the **System**



- 7. Press the **Reboot** button in the **System maintenance** area or switch off the power to make the changes effective.
- Important The TDX headend system must be rebooted if changes have been made to one or more IP addresses.

### Configuring CA Modules

1. Select the CA Modules window in the TDX Service Tool.



The **CA Modules** window in a new configuration initially only displays the number and type of the CA modules that have been inserted in the headend(s).

2. Press the **Setup** button relating to the CA module to be configured. Default values are initially displayed for the CA module and the service list area is empty.

### Viewing smart card information



#### Common interface button

 Press the Common interface button on the CA Modules window. to view information on the smart card inserted in the CA module.

	TDX Service tool
Debite Depth The Provide The Provided Depth Address (Channel Set)	(1997) (1999) - Alexandri
Commun interface Manual - Sol 14	
Gunax Conditional Access	
NAME OF COMPANY	
Conceptor Differ	
terre mana	
Charles CA 193	
macres lating	
Line .	

The type of information provided by the smart card depends on the card type and manufacturer. Refer to the user documentation provided with the CA module/smart card for more information.

2. Press Cancel to return to the CA Modul setup window.

Setting smart card	3. Set the require	red smart card parameters in the following fields:
parameters	Use constant bitrate	<ul> <li>Deselct the check box if a variable bitrate is to be used. The Use constant bitrate check box is selected by default.</li> </ul>
	Card function	<ul> <li>The Card function radio buttons determine whether CA module scrambling functionality is to be used.</li> <li>Select the Descramble (default) button to descramble services.</li> <li>Select the Scramble (PanAccess) button to scramble services using the PanAccess Scrambler.</li> </ul>
	Service list	<ul> <li>Select the check box relating to the service(s) to be descrambled. (Scrambled services are indicated with '\$'.)</li> <li>Press the Setup button associated with the service.</li> </ul>
		The Filter options window for the service is displayed.

		1
Filter options for DK Update	15	
Descramble non audio/video PIDs	∢◀	<ul> <li>Click to select</li> </ul>
Descamble all audio PIDs	V	
Cance	el OK	

• Select the **Descramble non audio/video PIDs (Packet Identifier)** check box to descramble elementary streams other than audio or video elementary streams.



The **Descramble all audio PIDs** checkbox is selected by default.

• Deselect the **Descramble all audio PIDs** check box to select which audio PIDs are to be descrambled.



- Open the displayed language drop-down list.
- Select the audio PID to be descrambled.



An additional language drop-down list is displayed.

- Select an additional audio PID to be descrambled if desired.
- Enter the three letter language string for an audio PID to be descrambled if it is not present in the drop-down list.
- Press **OK** when the required audio PIDs have been selected.
- Press **OK** to return to the **Configuration** window.
- **Note** There is no limit to the number of audio PIDs that can be specified.

	CA MODICE CASA	And the second second			- Andrew		-	a state
tine CA	Modul setup	Services in system 1	54					
Neir	unit - Slot 1-A	Series						
Configuratio	RC	CANAL+ FILM HD	8	3006	(Main Line, mput 3)	10		Garrie
-	IN ACCOUNTS	DRHO		2030	(Main Unit, input 2)			(COL)
Sufficient Street of the	and instant of the	DR.HO	8	4802	(Main Unit, input 4)	D.		Carte
Cardenard	72 MbB/s	DRK		3010	(Main Unit, imput 2)			(COLOR
10.0 85444	14 1999	DR Ramasjang		2005	(Main Unit, input 2)	13		Girth
Use constant bib	rate 🖌	DR Synstallaring		-111	(Main Unit, input 1)			Grint
		DR UPDATE		2000	(Main Unit, input 2)			(CLUP)
Cerd function	Descramble (default)     Scramble (PanAccess)	DRI		101	(Main Unit, input 1)			Billio
		DR3		\$02	(Nain Unit, input 1)	11		Plin
		FOLKETINGET		2025	(Nain Unit, input 2)			En
		OAD HUX1		01	(Main Unit, input 1)	- <u>L</u>	Q.	6110
		DAD HUKI		82	(Main Unit, input 2)			(and
		SVT1 HD	\$	3601	(Main Linit, input 3)	<u>_</u>		CIT
		SVTLHO		3406	(Main Unit, input 3)			Crum
-	- 1 A	Syd		414	(Main Linit, input 1)	<u>.</u>		Car
	<b>`</b>	TV 2 (Syd)		214	(Main Unit, input 1)			Guo
Reserver?	Budaren (	TV2 Film HD	1	2829	(Main Unit, input 4)	CI.	D.	(CERE)
Status islams	athen	* ER - Error Recove	hy, CA	module	may be reset to reco	ver servi	ce.	

4. Press the Submit button.

_	TF						TDX	Servi	ce too
	Syste	m Input	CA Modules Output	at Network	Channel list	1	Apply	Log out	Admin
	Slot	Card installed			Se	rvices	Status		
	Main u	init (2items)							
	1-A	Conex			CA	NAL+ FILM HD,	ок	Setup	Belete
	1-8	Conax						Setup	Delete
	2-A	Conex						Setup	Delete
	2-8	Viasat						Setup	Differ
4	Unit: :	1 (2items)							
	1-A	Conax						Setup	Delete
	1-B	Vieset						Setup	Délete
	2-A	Conex						Setup	Delete

5 Press the **Apply** button if all configuration actions are completed.

**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. You have to install them in slot no. 3 and/or 6 in the output section of each unit.



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

When you output IP services, IP packets may be lost as a result of output overload. To minimize the effect of the IP packet loss, you can divide your IP services into four groups and prioritize the output so that services in priority group 1 will be the last group to be affected from packet loss. Services in priority group 4 will be the first group to be affected from packet loss.

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

10.0	- States	CONTRACTOR DATA	Special Section	100	AND DESCRIPTION OF A PARTY OF	
Now 1	volule)		a second			
a New	and \$15 Annual				and the second second	
1	4	( **	CORT :		Street Street	
1	3	FK.,	D121	OF	Married Woman and Street Stree	
8	2	24	0121	OK	Married Woman	
6	4	File .	CH24	4.00	No. of Concession, Name	
4	4	14.	045	OK.	Sector Sector	
1	3	P.M	0.04	OK.	Second Second	
1	a	ts.	0.01	OK	(and the second s	
1	+	24.	0.04	04	Sec. 1	Click the Set
3	1	1004 HODULE subscience are noted.	2+4 T	Apr parkgared	Minut Minut	hutton
18	1	latitude and when successing an article	Pre-2	an ordgood	the second s	Dullon
18	9	17037 HODILE subst series at 50%	199.2	Not contigured	and the second s	
13	4	3404 in Integrate Support 2,0000172,001	799.4	has configured.	Sector Se	
1.1	3	Qare	\$25	OR	Berning British	
4	4	Gev	553	oc		
18	3	<b>Dise</b>	315	OH .	Record and a second sec	
4	4	GAN	534	01	Second Second	
4.080	1.64.76010					
	4	Sev	0611	- 08	Street Street	
1	7	Qaw	DHC	OH	No. of Concession, Name	
13	3	044	0943	06	the second se	
	14	QAN .	CH40	OK.	ALC: NO.	

## Configuring IP modules

Default or empty values are displayed when the a new configuration is opened in the TDX Service Tool's Configuration window.



IP packet ratio Specifiy how many transport stream (TS) packets are to be contained in each IP packet.

The size of a TS packet is 188 bytes.

The maximum number of TS packets per IP packet is '7'. The maximum IP packet size is 1500 bytes.



188 bytes

Packet ratio of 3-7 packets per IP packet

**Note** The tranport stream transmits only one service.

Combinatio area	Specifies IP address/Port/Service to service configura- tions.
	Enter a multicast IP address between 224.0.0.0 and 239.255.255.255 in the <b>IP address</b> field.
	Enter the desired IP port number in the Port field within the range '1025 to '65535'.
	Select the RTP check box to enable Real-Time Transport Protocol.
Note	The IP addresses specified must not conflict with any other IP addresses used in the entire network.

### Creating IP/Service combinations

A maximum of 96 IP services can be output per IP output module.

TRIAX		т	DX Service Tool	
System Trepst CA Hud	ks OAM Network o	Zarrel list	ugiy Log eut Admin.	
Configuration IP pecket relio	6 ·			
17 addess 2356 442 445 1	Part Services 6 \$6124	ETP Solition		Click the Setup button
			Submit	
Status Information Status SW-Revisio Net configured 1.16.1.273	n TX Bitrate(Min/Max) 4 0/0	TX (bisRate(Cun/Avg) G/0		

1. Press the Setup button.

						Output 510	
CANAL+ FILM	TV	\$	4833	(Main Unit, input 15		12. /	/
CANAL+ FILM_descrambled	TV		4833	(Main Unit, cam 3-8		125	
CANAL+	TV	\$	4835	(Main Unit, input 15		/	
CANAL+ FILM	TV	\$	4836	(Main Unit, input 15		193.	
CANAL+ SPORT	TV	\$	4837	(Main Unit, input 15		92	
CANAL+ SPORT_descrambled	TV		4837	(Main Unit, cam 3-8	1 AN	128	
CANAL+_descrambled	τv		4835	(Main Unit, cam 3-8	El.	126	
1079	RADIO		6507	(Unit 1, input 9)		147	
3sat	TV		28007	(Main Unit, input 2)		161	
4823	TV	\$	4823	(Main Unit, input 15		0.3	
6'eren HD	HDTV	\$	15015	(Unit 1, input 3)		212	
ALE KINO+	TV	\$	4877	(Main Unit, input 15		90	12
4		21*				1011	

- 2. Select the service that is to be associated with the IP address..
- 3. Press the **OK** button.

**Note** Only one service can be assigned per IP address.

	~			TDX Ser	vice Tool	
System Ing	tput Priority Se	tup	annel fat	Apply tog	admin,	
Configuration	P pošet ratio 6 19 addres 239-192-301-22	V Senices 59175 CARAL+ SPORT	Recrambled	P Tecup Tector 1		A new configura- tion line has been added in the combi- nation area
Status informati Status OK	211 570 Bavision 1.16.1.27324	TX Bitste(Hov/Max) 51/91	TX Billate(Cec(Avg) 91/91		Same	

A new empty configuration line is added in the combination area in the **Con-figuration** window.

- 4. Continue specifying more IP address/service combinations.
- **Note** Each service in the TDX-pool can only be assigned to one IP address. Previously assigned service are not available for assignment when configuring other IP output modules.

	X			TDX Service Tool	
System	Teput CA Nodules	Омри	Network Channel list	Apply Log out Admin.	
IP	Output Priority	Setup			
Configuratio	n 1P packet ratio 6				
	IP address	Fort	Services	RTP	Submit button
	229.192.111.1	50176	CANAL& SPORT_descrambled	Z Column Colors	
	239-192-111-2	50176	AXIN Crime_descrambled	Catalog Balan	X
	239.192.111.3	\$0176	ALE KIND+_descrambled	Contract Contract	/
	239.192.111.4	\$0176	ESP Intil_descrambled		^
	239.192.111.5	\$0176	ORF III_descrambled	V Sens Balan	
	239.192.111.6	50176	DR3		
Status Inform	uation SW-Revision	TX	BirsteD4w/Nax) TX BiSkete(Cus	5:0m2 3rg)	
ox	1.16.1.27324	91/	91 91/91		

- 5. Press the **Submit** button when assignment of services to IP addresses is completed.
- 6. Press the **Apply** button if all configuration actions are completed.

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Editing IP/Service combinations	<ol> <li>Press the Setup button associated with the IP/Service combination to be edited.</li> <li>Make the required changes.</li> <li>Press OK</li> <li>Press Submit in the Configuration window.</li> <li>Press the Apply button when all configuration actions are completed.</li> </ol>
Specifying Ser- vice ID's	Each service listed in the Select services window has by default an automati- cally assigned Service ID (SID), which is displayed in the <b>Output SID</b> column. The Service ID can, however, be manually specified.

- 1. Press the **Setup** button associated with the IP/Service combination to be edited.
- 2. Change the SID to an unallocated number within the number range '1 to 65535'.
- 3. Press the Submit button.



An error message is displayed if the manually specified Service ID is incompatible.

- 1. Press **OK** on the error message.
- 2. Change the Service ID for the IP address/Service specified in the error message.
- 3. Press OK.
- 4. Press Submit in the Configuration window.
- 5. Press the Apply button if all configuration actions are completed.

	AX			TDX Service Tool
System	Input CA Hodules	Output	Network Channel list	Apply Log sult Admin.
_	P Output Priority	Setup		
		op		
Configurat	ion			
	IP packet ratio 6		•	
	IP address	Port	Services	RTP
	239.192.111.1	50176	CANAL+ SPORT_descrambled	🖬 Setup Deleter
	239.192.111.2	50176	AXIX Crime_descrambled	Step Delte
	239.192.111.3	50176	ALE K3V0+_descrambled	V Conce Colore
	239.192.111.4	\$0176	ESP Int'l_descrambled	Setter Setter
	239.192.111.5	\$0176	ORF III_descrambled	V Setup Setter
	239.192.111.6	50176	043	
	239.192.111.5	J 50176	ONF IIL_descrambled	Stand Series Series
Status info Status	rmation 5W-Revision	TX	Ditrets(Nin/Max) TX DtRets(Cur)	(Arg)
OK	1.16.1.27324	91	91 91/91	



The above warning is displayed if more services have been selected than the number of valid licenses. It is not possible to add additional configuration lines if the number of valid licenses have been exceeded.

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### Deleting IP/Service combinations

TRL	Δ×			TDX Service Tool
System	Input CA Nodules	Output	Network Channel list	Apply Log out Admin.
Back 1	P Output Priority	Setup		
Configurat	ion			
	IP packet ratio 6		*	
	1P address	Port	Services	RTP
	239.192.111.1	50176	CANAL+ SPORT_descramb	ed 😺 setup (Delite) 🛋
	239.192.111.2	50176	AXN Crime_descrambled	Setup Dente
	239.192.111.3	50176	ALE KIND+_descrambled	Setup Delete
	239.192.111.4	50176	ESP Int'Ldescrambled	Setup Delite
	239.192.111.5	50176	ORF III_descrambled	Setup Delite
	239.192.111.6	50176	083	V Seize Beite
Status Info	mation			Safet
Status	SW-Revision	TX	Bitrate(Min/Max) TX BitRat	e(Cun/Avg)
OK	1.16.1.27324	91/	91 91/91	

- 1. Press the **Delete** button associated with the IP address/Port/Service combination to remove it from the configuration area.
- 2. Press **OK** to confirm that the correct IP/Service combination has been selected.
- 3. Press the Submit button.
- 4. Press the Apply button if all configuration actions are completed.
- **Note** The service previously contained in the deleted combination will now be available in the TDX-pool for reassignment.

Status information is placed at the bottom of the Configuration window.

Status information

**TDX Service Tool** TRIAX IP Output Priority Schop andrest rate in . 10.112.111.1 239.192.118.4 EDP Dort. An 219 102 118 5 \$3176 tries or de 10.102.111.0 55176 TX Ditrate(Her/Hex) TX Ditt DL/DL 91/01 TW Revision 1.14.1.27224 Information

Status	Detected errors.
SW-Revision	The installed output module software version.
TX BitRate (Min/Max)	The minimum/maximum load of megabits per second (Mbits/s) on the AUX socket.
TX BitRate (Cur/Avg)	The current/average load of megabits per second (Mbits/s) on the AUX socket.

**Status LED** A status LED is located on the front of each IP output module. The LED functions as follows:

Green - flashing	The IP module receives data.
Green - constant	The IP module receives valid services.
Red	When starting the TDX system the IP module and the system controller negotiate connection speed.
Red - constant	Either the IP module or the system controller has not been inserted correctly.
No colour	The IP module has not been configured or the module has not been inserted correctly.

The LED functions as per below when the module's software is being updated:

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

**Deleting output** 1. Press the **Delete** button for the output module to be removed **module** 



2 Confirm that the correct output module is to be removed..

11	In Ins	ar de Holden Oepek Setende 1	Sparred Lines	10.40	tions were suited and the suite	1
Output.;	noduker		100000	1		
						1
4 Hait	unit (28 item	0		10	- Ci - Ci - Ci - Ni	1
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1	3	QAM .	0143	OK	Sector Se	1
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The output module is displayed in 'Red' font until it is physically removed from the headend.

3. Remove the output module from the headend.

#### Configuring IP output - EIT

A barker channel carries all EIT information (Event Information Table) for all IP services.

The EIT barker channel can output in two ways depending on how IP output is to be distributed:

- The EIT barker channel outputs through Link 2 on the main unit if IP output is distributed through the Link sockets.
- The EIT barker channel outputs through the AUX socket on the first IP output module in the TDX headend system if IP output is distributed through an IP output module

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			And and a second second	dk4_descrambled	23		
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1. Click the Network tab in the TDX Service Tool

Use EIT barker for Select to enable the barker channel for IP output. IP out

EIT barker IP	Specify the desired IP address for the EIT barker
address	channel.

**EIT barker IP port** Specify the desired IP port number for the EIT barker channel.

- 2. Press the Submit button.
- 3. Press the **Apply** button if no other configuration actions are required.
- **Important** The IP address specified for the barker channel may not be the same as any of the IP addresses used for service distribution.

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The **Network** window now contains a single line of information displaying the unit and socket used by the EIT barker channel.

## **Technical data**

### **Technical data**

#### Input Туре

Connector

Maximum input bandwidth Data format

#### Output

Type Connector

Maximum total bandwidth Maximum peak bandwidth Output format Output protocol

Output SPTS priority EIT

#### Power supply: Voltage/current

#### **Environment:**

Temperature, operating Temperature, storage Humidity, operating Humidity, storage

#### Mechanical Data:

Dimensions, product Dimensions, Triax carton Weight, gross Weight nett

Connectors

TDX BE proprietary control and data PCIe x1 edge connector RF Connector (F-Connector) 720 Mbit/s Proprietary TDX MPEG2/DVB SPTSs UDP/IP via GbE

TDX BE proprietary control and data PCIe x1 edge connector RF Connector type: F-Connector 720 Mbit/s 940 Mbit/s MPEG2/DVB compliant SPTS UDP/IP multicast via GbE 3-7:1 TS / IP packet ratio (configurable via GUI) RTP (optional via GUI) 1-4 (configurable via GUI for each SPTS) No EIT - must be obtained via native IP OUT

#### Units Data

(V, mA) 12 / <600

#### Units Data

-10+50
-20+70
2080
1090

#### Units Data

(mm):	162 x180 x12 (21 Cl)
(mm):	183 x 266 x 55
(g):	305
(g):	215

Integrated PCB edge connector (PCIe x1) RF Connector type: F-Connector



## 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:





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