

User guide

891077C

| GB |

COFDM module - 492060/492061



TRIAX - your ultimate connection

Contents

Contents

Disposal	3
Box content	3
COFDM module	3
Labels	4
Module installation	4
Module removal	4
CAM/Smart card	5
Status LED	6
Log in	7
CA Modules window	8
CA Modules configuration window	9
Status information	15
Output window	16
Configuration of output modules	17
Bandwidth monitor	23
Status information	23
Delete output module	25
Network window	26
Channel list	28
Save configuration	29
Manufacturer	30
Your notes	31

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.

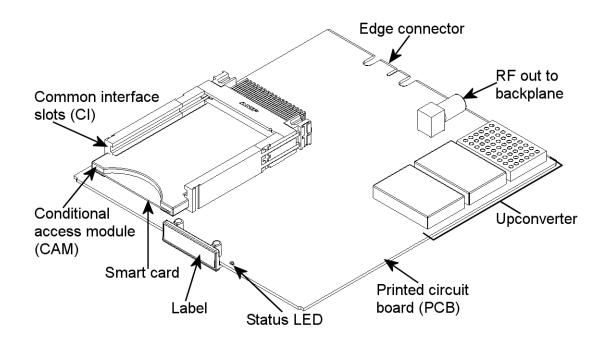
For proper treatment and recycling of old products, please take them to designated collection points in accordance with your national legislation.

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 a user guide instructing you in how to use the TDX Service Tool to configure the module.

COFDM module The COFDM output module is one of the output modules that you can install in the output section of your TDX headend unit.

The COFDM output module is available in two versions, one version with Common Interface (CI) and one without.

Below you can see an illustrated description of a COFDM module with CI slots.

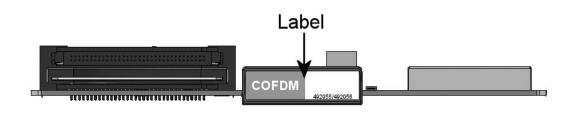


Labels

A label is placed on the output module where you can write the information regarding the configuration of the module.

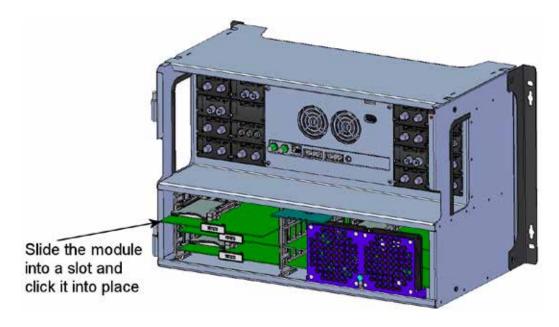
Besides the information that you write on the label, the module type and part number are also displayed on the label.

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.

Module instal-Iation You install an output module by sliding the module into a module slot in the lower section of the headend unit and click it into place.

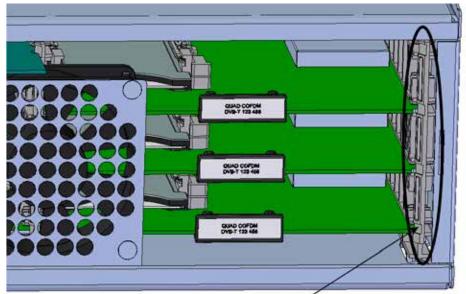


Note You can use hot swapping when you insert a module into or remove a module from the TDX system.

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.

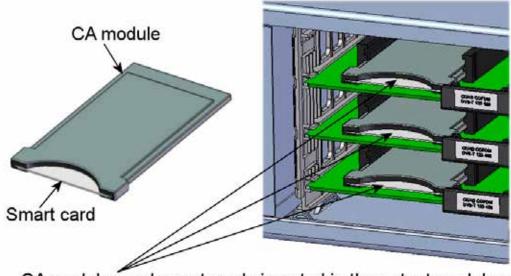
Basics



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

CAM/Smart
cardYou can insert 2 Conditional Access modules (CA) into each of those output
modules that have Common Interface (CI) slots.
Each CA module is able to unscramble at least one service. Which services

Each CA module is able to unscramble at least one service. Which services depend on the service provider of the CA module and smart card.



CA modules and smart cards inserted in the output modules

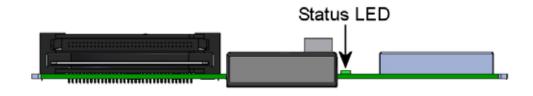
Basics

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 output module receives data.
- Green constant on The output module receives valid services.

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

No colour The output 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.

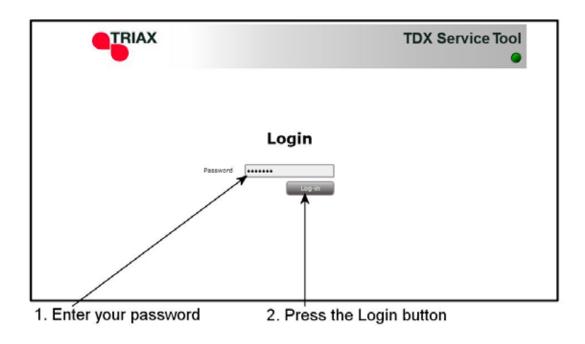
- Orange Boot loader state.
- **Temporary off** Initiation of the software update.

Temporary green Every time the modules receives a valid data package. Repeated until the update is completed without errors.

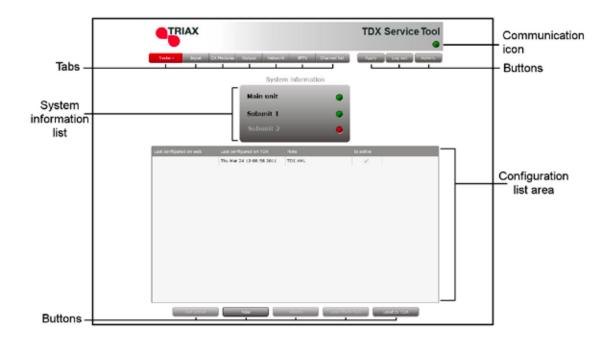
Red Software update failed.

Log in

When you have loaded the TDX Service Tool from the 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.



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.

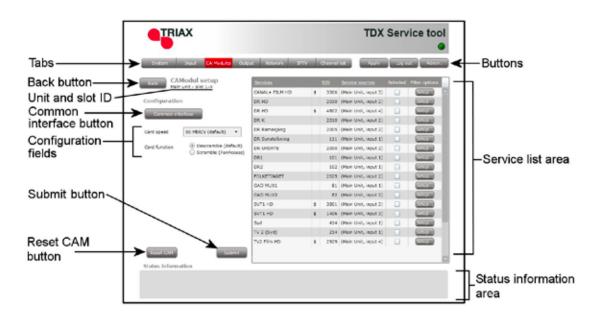
			TDX Service too
Syste	m Impot <mark>CA Modules</mark> Output Network	BITV Channel list	Apply Log out Admin.
Skr	Cart estated	Services	Status
	nt (2 items)		
1:4	Conax		and a second
1-8	Conax		(Second (Second
2-A	Conax		(company) (concern)
1000 C 1000 C 1000	Viesat		Contraction (Section)
	(2itema)		and the second se
I-A	Conax		Contraction of Contraction
1000	Vieset		seaper Derre
2-A	Cohax		Senar Delite

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 too	
Syste	m Input CA Nocu	Hes Output Network	IPTV Channel list	Apply Log out Admin.	
Set	Card installed		Services	Status	
# Main u	nit (2items)				Click the Se
1-A	Conex			Color and Color	
1.0	Conax			Schap	button
2-A	Conax			Setup Celeter	
2-8	Viasat			Setup Delete	
a Unit: 1	(2 kems)				
1-A	Conax			Setup Delete	
1·8	Viasat			Setup Delete	
2-A	Conax			Setup Delete	

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.

CAModul setup Man unit - Sot 1 A	Services.		900 ·	Service and real	(sinder	1.8tal agilians	
Pan unit · Sot 1 A	CANAL+ FILM HD	14	3306	(Main Unit, input 25	0		
Configuration	DR HD		2030	(Hain Linit, input 2)	01	(C22)	
Connuis Literate	DR. HD	5	4802	(Hain Unit, input 4)	0		Click the arrow to
Contraction of the local division of the loc	CR.K		2010	(Hain Unit, input 2)	-		Topen the drop-dow
Card speed	CR. Remaslerg		2005	(Hain Line - mpit 2)	ū.,	CUTUR	
Card speed	CR. Synstolening	-	111	(Plain Unit, input 1)	01	6230	list
Card function 72 Moti/s	DR UFDATE		2000	(Rain Unit, input 2)	13	(2011)	
(*) Scramble (PanAccess)	DRI		101	(Plain Unit, input 1)		6000	
	CR2		102	(Main Unit, input 1)	Ũ.	0000	
	FOLKETINGET		2025	(Main Unit, input 2)	0	6000	
	CAD MUXI		81	(Main Unit, input 1)	0	00000	
	CAD MUX3		82	(Hain Unit: input 2)	0	Car and	
	Sv71 HD	5	3801	(Main Unit, input 3)	0	0000	
	SVT1 HD		1406	(Hain Unit, input 3)	Uu	600 B	
	Syd		414	(Main Unit, input 1)	11	6000	1
	TV 2 (Syd)		214	(Nem Unit, input 1)		10000	
	tyz Fim HD	5	2929	(main unit, input 4)	0	Canal Street	
	Syd TV 2 (Syd)	8	414 214	(Nam Unit, input 1) (Nam Unit, input 1)			

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.

CAModul setup					_		
Hair unit - Slut 1-A	Second.		CD 34	CYSE JIW THE	South	filter options	
Harris and a set the	CANAL + FLM HD		3106 (N	tein Unit, oput 1)	1.1	2000 0	
Dendiguerablana	DRHD		2530 (9	lair shit, rest z)		Carole	To scramble services
Construct Industry	DR.HD	1.0	4802 (7	tain Unit, input 4)		(Carlied	Click the Scramble (Par
No. of Concession, Name	OR K		3630 (M	laie Unit, nput 7]	-		
Cant speed 72 Mbit/s -	DR. Ramellano		2005 (19	ANY LINE TOTAL	1.9	Carole	Access) radio button
	OR Dynatoliuring	-	111 (16	lain Unit, input 1)		62239	Construction of the second second second
Card function O Descramble (Default)	CR UPDATE		3000 (N	tein Unit, nput I)		01115	
Scramble (PenAccess)	ou		303 (M	air shit, rout 1)		Carole	
	002		362 (9	tain Unit, input 13		(Contraction of the local division of the l	
	FOLKETINGET		3025 (9	laie Unit, nput 73	0	COLOR	
	OAD MUKL		-81 (P	lain shrif, input 1)		Cartie	
	OND HUKE		42 (H	tain shift, input 23		Contract of the local division of the local	
	5V73 HD		3853 (8	ten Unit, oput 3)		00000	
	5471 HD		1406 (M	tax shit, reput 3)		Carge	
	Syd		424 (9	tain Unit, input 13	0	(100 mg	
	TV 2 (Syn)		714 (9	laie Unit, input 1)		CITCH	
	TV2 film HD		2529 (%	wir sind, reput 4)		Caron	
Anne Martin							
Constants and a second se						0	

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 - \$.

Cartholic Cartholics	uc Autoria PT	10 10	Secretize Apple	light	Arms	
CAModul setup Her unit - Sat 1-4	Sincesi	-	CIQ Detrics Assesse	Solertud	The option	Click the square t
2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CARLES + FILM MD		1305 (Marchest senis 2)		The state of the s	select the service
Configuration	DICHD		2032 (Main Lint, Inset 2)	0	0.000	Select the service
Contraction of the state	0110	- 3	4002 (Main Unit, Input 4)	D.	60000	1
	ORK		3013 (Main Unit, input 3)	14	Contract of the local division of the local	1
Card steed 72 MiA/a +	CH. Ramattang		2005 (Main Unit, Inset 2)	12	(1113)	1
and the second sec	Of Synatolining		111 (Main Unit, input 1)		Section 1	
Card function	OR UPDATE		3003 (Main Unit, input 2)	Ð	Contract of the local division of the local	1
	041		301 (Main Linit, Input 1)	0	(const	1
	092		102 (Main Unit, input 1)	0	6000	1
	FOLKETINGET		3025 (Main Unit, Would 2)	-0		1
	OAD MUKL		81 (Marn Linit, Input 1)	10	61120	
	OAD MUKE		82 (Main Unit, input 2)		Contract of the local division of the local	1
	SVT1 HD		3801 (Man Unit, nout 3)	D	1000	1
	SVT1 HD		1405 (Main Linit, Input 3)	0	6000	1
	Erel		414 (Main Unit, input 1)	0	Contraction of the local division of the loc	1
	TV 2 (Set)		214 (Main Unit, Wout 1)	-0		1
	TV2 Film HD		2929 (Main Linit, Input 4)	10	000	
Construction .					-	1
					5.0	

10

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.

- Sector	Hoot A Noduc	1000	A lease of	y 14	and the second	ALC: NOT	(Less	and the second s	Click the Setup
	Modul setup		Services	- 19	153	Servia Journe	Selected	Tilter sptone	button to open
			CANAL+ FELH HD		and the second second	(Main Unit, stplit 1)	M	- Contraction	
Configuratio	0		DR HO			(Hain Unit, input 2)	0	C. C. MARK	the Filter option
Section 1	Settal II		RR.HD	8.		(Main Unit, input 4)	D.	(C200)	window
-	_		DH K			(Main Unit, input 2)	10	Care and	l mildon
Cerd speed	72 Mbit/s	(e)	DR. Ramastang			(Main Unit, input 2)	0	1000 B	1
	Carl Constants	Sec.	DR Syvatolkrang			(Main Unit, input 1)	0	(TOTOTOT)	1
Card Runction	 Descramble (a Soramble (Par 		DR UPDATE			(Main Unit, input 2)	E)	1000	1
			093			(Main Unit, input 1)	July	-	1
			DR2			(Main Unit, input 1)			1
			FORKETINGET			(Main Unit, input 2)	0		1
			OAD MUX1			(Main Unit, input 1)	Q.,		1
			OAD MUK2			(Main Unit, input 2)			1
			SVT1 HD	1		(Main Unit, input 3)	0		1
			SVT1 HD			(Main Link, input 5)	D.	Cite and Cit	1
			Syd			(Main Unit, input 1)	0		1
			TV 2 CSvd)			(Main Unit, input 1)	0	622708	1
			TV2 Film HD		2929	(Nain Unit, Input 4)	12		1
Re- Colle	100	(Artic							
								R	1

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

Filter options for DR Update	22	
Descramble non audio/video PIDs	0	
Descamble all audio PIDs	∢ ◄	—Default value
Cance	в	

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	13	
Descramble non audio/video PIDs		- Click to select
Descamble all audio PIDs	V	
Cance	el OK	

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

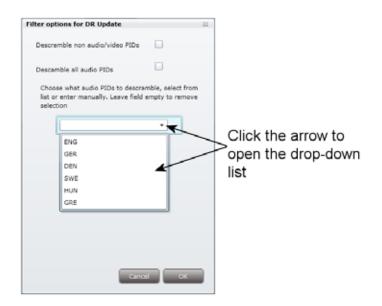
To descramble only selected audio PIDs you have to deselect the Descramble all audio PIDs check box.

Filter 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
Cancel	

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	
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	Having selected which audio PID language you want to descramble a second field appears
Cancel	

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.

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

TRIAX	TDX Service tool
System Input <mark>UN Hodzes Output Reymark 9777 Channel list Dominion Interface Sala UN Hodzes A</mark>	Apply top out Admir:
Cenax Conditional Access	
Product Ordering	
Subscription Status	
Event Status	
Change CA PCN	
Hazarity Rating	
Canad	

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.

CAMOo Reisonal Castiliguration	dul setup L- Swi i-A	Second Second		11.5	Decision and states	-	_
Configuration					an and a state of the		Contractory of
CastflingersVicui		CANAL P FELM HO	1	3304	(Har Link input 2)	1	Section 1
Contragonation		OK HD			(Hein Unit, leput 2)	9	0.020
Committee for	1000	DRHD	- 8	1812	(Mair Unit, input 4)	13	1000
		DR +		3018	(Heir Unit, Input 2)	0	1000
Card scene 7	2 1001/6	Dik #amaajang		2945	(Her Unit, Input 2)	0	1000
		DR Synatoliciting		111	(Mair Onk input 1)	10	CLICR.
	Descramble (default) Scramble (PenAccess)	DR UPDATE		2000	(Men Unit, Input 2)	0	00000
	Chinese hearing	D#1		181	(Main Unit, Input 1)	10	000
		043		110	(Main Unit, input 1)		CHI R
		POLKETINGET		2015	(Merr Unit, input 2)	1.5	Surger .
		OLD MUKI		81.	(Main Chill, Input 1)	0	1000
		OAD MUKE		82	(Hair Unit, input 3)	- Q	2130
		SVT1 HD		3801	(Mer Unit, legal 3)	0	0.000
		EVT1HD		1406	(Hair Unit, input 2)	-	61120
		Syd		414	(More Unit, Input 1)	0.011	1000
lick the Reset		TV 2 (59d)		- 214.	(Here unit, input 1)		(CECH)
		TVS Film HO		2929	(Mair Unit, input 4)	10	10020
AM button to	Salari	1000 Cond Cond					Contraction of the

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.

		Modul scrup	Sinter		-	Berris and the	been a	Re about
			CRIMER FERHO	1		(Harrists, multi)	2	Anna
	Configuratio	n	DR HO			(Main 2007, Word 25	2.10	0.00
	ACCOUNTS		DR.HO			(Non-Ust, rout-4)		60330
			ER K			(Heritivi, mix12)	ELC.	1000
	Carld surged	72.HERIS +	Ol Ranexieng			(Nen Ust, wait 2)	- Q- 1	القللقة
		A State of the second s	DK Synatolikining			(Hain Unit, Indut 4)	0.1	Cit M
	Card function	 Descrimme (Sefecto) Striamete Discharges) 	DR. UFDATE			(Hein Unit, epul 25	12	(222)
		C MAR DE CONTRACT	DAT.			(Ham Live, would 2)		1000
			DR2			(Heir Unit, hast 1)		Cardon I.
			FOURITINGET			(Hern Link, edut 2)	11.11	1000
ick the Submit			CAD MUSE			(Han Use, and E)	- LJ -	CONTRACTOR
			CAD MURZ			(New Unit, Have 2)		Card
atton to enter			9673 HD	٠		(Heir Unit, laund 2)		
your selections			SVT1 (D		1406	(Herr Linet, result 2)	D.1	1000
			Sel		424	(Hain Unit, Input 2)	1.1	000
			Tx 2-(1+6		234	(New Divil, minit 1)	121	
	(1)(1)(1)	A STATE	TV2 FP5 HD	1	1929	(Pain Unit, Hput 4)	00.1	

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

Lette	m Input <mark>CA Modules</mark> Durput	Network IPTV Channel bet	Appro	Log out Ad
Slat	Card installed	Services	Status	
and the second second	unit (2 items)			
1.4	Collax	CANAL+ FILM HD	OK:	BRITER BRITER
1-8	Conax			Sectore Sectores
2-A	Conex			Selection and address
2-8	Vasat			COLUMN STORE
a Unitr 1	1 (2 items)			
1-4	Conax			Addition and a
1+B	Viesat			Editoria Escata
2-A	Conax			Contemport Steeler

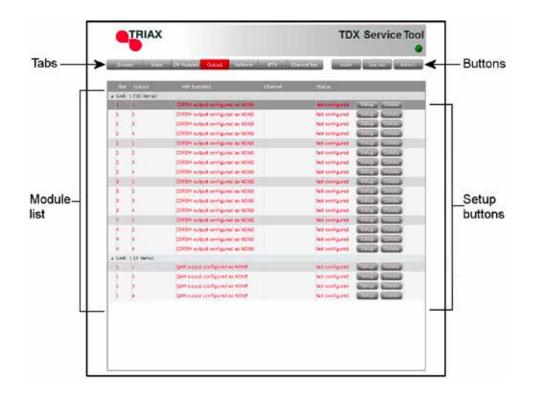
Remember to click the Apply button in the upper right-hand corner to save new settings in the configuration.

Status informa- To be in tion

To be implemented later.

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

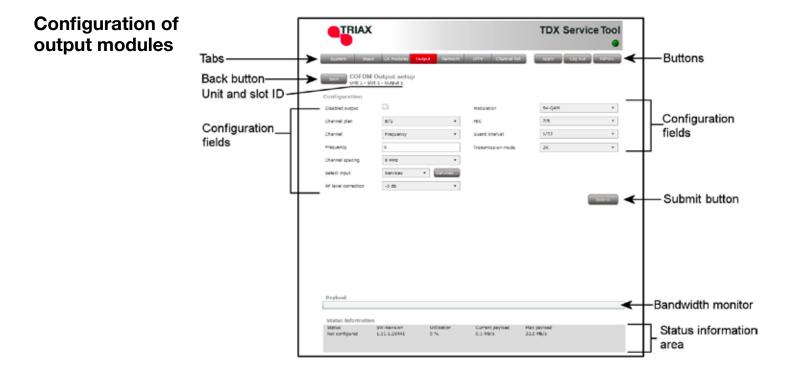
The first time you display the Output window in a new configuration the module list only displays the number and type of output modules that you have inserted in the main and subunits.



You have to configure the output modules individually.

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

	AND DESCRIPTION OF A DESCRIPTION	1 PY 00	Contraction - Judgest Tallacter	an lines	- 10
12280112-123		Ourse	Hit Installed	ives :	-
Click the Se				L (In Here)	+ UNP
button	Hard Street Street	al of the second se	DOFON calcul configured as NONC	10.5	84
bullon	Sand Bring Bring		COFOH eutput configured as NONE	1	1
	Harri Gazza Gazza		COFON output configured as VDNC		
	riganal George George		COFON subplit configured as NONE	<u>*</u>	4
	Aprel Million Million		E01011 cutput configured as 10145	E.,	
	Harris Berning		COFON subput configured as NONE	1	-
	Harris Manual Manual		COFOH output configured as HONE	1	1
	And Real Real Provide		COFON surput configured as NONE	1	-
	Harrent Balances Balances		DBOM cirple configured as WDMI		
	stared Ballion Ballion		COPON compart configured as solar	10	
	And Street Street Street		COPUM calput configured as \$25.0		
	And Street Street		COTON calpst configures as NOAT	1	i an
	Agent Street Street		COPCH calput configured as NOAT	1	
	fared Street Street		COTCH calpet configured as 10142	6. C	0
			COTOH subject configured as 4040	10.	
	States - Manual Monoral		The state of the state of the state	1.14 (50/10)	- Unt
	AND AND A REAL PROPERTY AND		light sizes configured as some	12	1
	States and a state		tion output to high rest of higher		
	stand Married Married		Law output configured as frime		
	Sound British British		CAM GRAD CONFIGURED as MONE	41	-



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

Disabled output If you want to disable this output, click the Disabled output check box.

Channel planTo select another TV system, open the drop-down list
with the systems you can choose from.
Select the system you want to use.

			TDX Serv	vice Tool	
	CA Mobiles Duton	Network 3/1V Chann	el lat Accèv Loc o	Admin	
Configuration Distlied output Channel plan	© Output 1	Rodulation PEC Guard Informa-	64-QAM 7/8 1/32	•	
Frequency Channel spacing Select input RF level correction	D/K 1 L B Services •	Transmission me			Click the arrow to open the drop-down list
				Subreit	
	Revision Utiliz 1.20441 0.%	Con Current payload	Max payload 33.0 Mala		

Channel, Frequer cy and Channel spacing	 You have two possibilities when you configure a COFDM module: You can use the specifications of the channel plan or You can enter a frequency manually.
	Using the channel plans: To select the required channel, open the drop-down list with the channels you can choose from. Select the channel you want to use. When you have selected a channel the Frequency and Channel spacing fields are automatically filled in.
	Enter a frequency manually : To be able to enter a frequency manually, open the
	drop-down list with the channels you can choose from. Select "Frequency" from the drop-down list.
	Enter the desired frequency in kHz in the Frequency field.
	To select the required channel spacing, open the drop- down list with the channel spacings you can choose from.
	Select the channel spacing you want to use.
	Note When you have selected a channel using the channel plan or entered a frequency manually then you have also set up the other three RF channels on the module in question. You only need to select services for each of the three other RF channels, or disable one or more of the three channels.
Select input	You have two possibilities when you select services:You can select services from the TDX-pool or
	 You can select services from a particular input mod- ule.
	Services from the TDX-pool
	To select services from the TDX-pool, open the drop- down list.
	Select "Services" from the drop-down list.

Select "Services" from the drop-down list.

To select services, click the Services... button next to Select input field to open the Select services window.

TRIAX				TDX Ser	vice Tool	
		Dutout Network	197V Channel 1	et Accèle Cry	cut Admin.	
COFDM Unit 1 - 5%	Output setup t 1 • Output 1					
Disabled output			Modulation	64-QAM	•	
Channel plan	B/G	•	PEC	7/8	*	
Channel	CH35 (586000)		Guard interval	1/32		
Frequency (KHz)	506000		Transmission mode	2K	-	
Channel spacing	8.1012	v				 Click the service button
Select input	Services	· Services				
RF level correction	-3 d8					
					Submit	
Payload						
Status information						
	04-Revision 1.11.1.20441	Utilization 0.%	Current poyload C.1 Mb/s	Max payload 32.0 Mb/s		

Types		<u>SID</u>	Service sources	Select service(s)
TV	\$	3306	(Main Unit, input 3)	
TV		3306*	(Main Unit, cam 1-B	
τv		2030	(Main Unit, input 2)	
TV	\$	4802	(Main Unit, input 4)	
τv		4802*	(Main Unit, cam 1-B	
TV		2010	(Main Unit, input 2)	
τv		2005	(Main Unit, input 2)	
TV		111	(Main Unit, input 1)	
τv		2000	(Main Unit, input 2)	
TV		101	(Main Unit, input 1)	
τv		102	(Main Unit, input 1)	
TV		2025	(Main Unit, input 2)	
TV	\$	1406	(Main Unit, input 3)	
τv		1406*	(Main Unit, cam 1-B	
	TV TV	TV \$ TV 4 TV 5 TV \$ TV \$	TV \$ 3306 TV 3306* TV 2030 TV 4802 TV 4802* TV 2010 TV 2030 TV 4802* TV 2010 TV 2010 TV 2010 TV 2010 TV 2010 TV 2010 TV 111 TV 101 TV 102 TV 2025 TV 2025 TV \$	TV \$ 3306 (Main Unit, input 3) TV 3306* (Main Unit, input 3) TV 3306* (Main Unit, cam 1-B TV 2030 (Main Unit, input 2) TV \$ 4802 (Main Unit, input 4) TV \$ 4802* (Main Unit, input 2) TV \$ 2010 (Main Unit, input 2) TV \$ 2005 (Main Unit, input 2) TV \$ 2000 (Main Unit, input 2) TV \$ 2000 (Main Unit, input 1) TV \$ 101 (Main Unit, input 1) TV \$ 102 (Main Unit, input 1) TV \$ 2025 (Main Unit, input 2) TV \$ 2025 (Main Unit, input 2) TV \$ 2025 (Main Unit, input 2)

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

Note By clicking one of those column headlines that are underlined in the Select services window you can sort the list into alphabetical or numerical order depending on which column headline you click.

19

Services			Service adurces	Select service(s)	Click the square
CANAL+ FILM HD	τv	\$ 3306	(Main Unit, input 3)	24	the second se
CANAL+ FILM HD_descrambled	TV	3306*	(Main Unit, cam 1-8		to select service
DR HD	TV	2030	(Main Unit, input 2)	G	
DR HD	TV	\$ 4802	(Main Unit, input 4)		
DR. HD_descrambled	TV	4802*	(Main Unit, cam 1-8		
DR K	TV	2010	(Main Unit, input 2)		
DR. Ramasjang	τv	2005	(Main Unit, input 2)	0	
DR Synstolkning	τv	111	(Main Unit, input 1)		
DR UPDATE	TV	2000	(Mein Unit, input 2)		
DR1	TV	101	(Main Unit, input 1)		
DRZ	TV	102	(Main Unit, input 1)	- G	
FOLKETINGET	TV	2025	(Hain Unit, input 2)		
SVT1 HD	τv	\$ 1406	(Main Unit, input 3)		
SV71 HD_descrambled	TV.	1406*	(Main Unit, cam 1-8	0 0	
			and the second second		

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

If you want to give your selection of services a name, enter the name in the Mux name field.

Sentors	Typers			Service sources	Select service(a)	
CANAL+ FILM HD	TV	\$	3306	(Main Unit, input 3)	10	
CANAL+ FILM HD_descrambled	TV		3306*	(Main Unit, cam 1-B		
DR HD	τv		2030	(Main Unit, input 2)		
DR HO	TV	\$	4802	(Main Unit, input 4)		
DR HD_descrambled	TV		4802*	(Main Unit, cam 1-8		
DR K	τv		2010	(Main Unit, input 2)		
DR Ramssjang	τv		2005	(Main Unit, input 2)	(J)	
DR Synstokning	TV		111	(Main Unit, input 1)		16837
DR UPDATE	TV		2000	(Main Unit, input 2)		Enter name
DRI	TV		101	(Main Unit, input 1)	/	8 . (75) 3 5 5 6 (20) 5 6 (20) 7 5 5
DR2	TV		102	(Main Unit, input 1)	0	
FOLKETINGET	TV		2025	(Main Unit Dut 2)		
SVT1 HD	TV	. 5	1406	(Main Unit, input 3)		
SVT1 HD_descrambled	TV	-	\$106*	(Main Unit, cam 1-5	L) 2	
A.	/	-				

Click OK to return to the Configuration window.

Now you continue to select or enter values in the other fields in the Configuration window.

Note When you have selected a service this service will no longer be available in the TDX-pool.

Services from input module

To select the services from a particular input module, open the drop-down list.

Select "Transparent" from the drop-down list.

To select services from an input module, click the Services... button next to Select input field to open the Select input modules window.

HW installed	Frequency	Selected	
(4 items)			
DVB-S	11293 MHz	No.	
OVB-S	11302 MHz		Select input module
DV8-T	546000 KHz		madula
DVB-T	658000 KHz		module
	(4 items) DVB-S DVB-S DVB-T	(4 items) DVB-S 11293 MHz DVB-S 11302 MHz DVB-T S46000 KHz	(4 items) Dv8-S 21293 MHz C Dv8-S 11302 MHz C Dv8-F 546009 KHz C

To select an input module, click the check box (square) to the right of the module you want to use.

If you want to give your selection a name, enter the name in the Mux name field.

Click OK to return to the Configuration window.

Note There is a limit to the number of services an output module is able to output. You can consult the TDX Web Configurator to avoid overloading the output module, i.e. select more services than the module in question is able to handle.

Next you select or enter values in the other fields in the Configuration window.

- **RF level correc-**
tionTo select another RF level correction, open the drop-
down list with the levels you can choose from.
Select the level you want to use.
- ModulationTo select which modulation to use, open the drop-
down list with the QAM mode you can choose from.
Select the QAM mode you want to use.
- FECTo select which FEC rate to use, open the drop-down
list with the FEC rates you can choose from.
Select the FEC rate you want to use.

Guard interval	To select which guard interval to use, open the drop- down list with the intervals you can choose from. Select the guard interval you want to use.
Transmission mode	To select which transmission mode to use, open the drop-down list with the modes you can choose from. Select the transmission mode you want to use.

TRIA	x			TDX Serv	vice Too
COFD	put CA Modules	Output Network	JPTV Channel I	iet Apply Log ou	E Admin.
Configuration			Modulation		
19.000000000000000000000000000000000000				64-QAM	•
Channel plan	B/G	•	rec	1/2	•
Channel	CH35 (586000) •	Guard interval	1/32	
Frequency (KHz)	586000		Transmission mode	2K	
Channel spacing	A MHz				
Select input	Services	• Service			
RF level correction	-3 dB				
Payload					SLEMA
Status Informatio Status	SW-Revision	Utilization	Current payload	Max payload	
Not configured	1.11.1.20441	0.%	0.1 Mb/s	32.0 Mb/s	

Note When you display the Configuration window for an output module that has been configured, all fields are filled in and services have been selected.

If you want to change the existing values or services just follow the same procedure as when you configure an output module for the very first time.

When you have selected or inserted the values you want you have to click the Submit button to enter this information into the headend system and return to the Output window.

TRIAX	(TDX Serv	vice Tool	
Eystern 3rp	a CA Modular		PTV Channel Set	Apply Log or	A Admin.	
Unit 1 - S	lot 1 - Output 1					
Disabled output			Modulation	64-QAM		
Channel plan	B/G	•	rec.	1/2		
Channel	CH35 (586000	•	Guard interval	1/32	-	
Frequency (KHz)	586000		Transmission mode	2K		
Channel spacing	8 MHz	×				
Select input	Services	· Conceller				
R* level correction	ab c-					
					Submit	Click the Sub button to save your selection
Payload						
Status information Status	SIV-Revision	Utilization	Current payload M	ax payload		
Not configured	1.11.1.20441	0 %		2.0 Mb/s		

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

Bandwidth monitor

The bandwidth monitor which is placed above the status information area is a real time monitor, so it measures what is currently output. So when you change the configuration the changes have to be submitted before the bandwidth monitor can measure it.

The update frequency is approximately 5 seconds.

	Payload The output does not exc Payload	eed the maximum payload	
	The output exceeds the	maximum payload	
	The Status information width monitor.	on area also contains information related to the band-	
Status informa- tion		placed at the bottom of the Configuration window. Th d in the configuration window of a COFDM module in- ftware.	
	Status	Informs you about the state of the output module.	
	SW revision	Displays the software version of the output module.	

23

Utilization	Displays what is currently output as a percentage of
	the maximum output.

- **Current payload** Informs you about how much is currently output.
- **Max payload** Displays the maximum limit of how much you can output.

		c			TDX Serv	ice Too
	System Inp	ut CA Modules	Cutput Network	PTV Channell	ist Apply Log out	Admin.
	Back COFDM Unit 1 - 5	M Output setu; Slot 1 - Output 1	p			
	Configuration					
	Disabled output			Modulation	64-QAM	
	Channel plan	B/G	•	FEC	1/2	
	Channel	CH35 (586000)) *	Guard interval	1/32	
	Prequercy (KHz)	586000		Transmission mode	2К	•
	Channel spacing	8 MHz	*			
	Select input	Services	• Services			
	RF level correction	-3 dB				
						Submit
	Payload					
	Status information	D				
mation —	-> Status	SW-Revision	Utilization	Current payload	Max payload	
	- OK	1.11.1.20441	52 %	16.1 Mb/s	31.7 Mb/s	

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

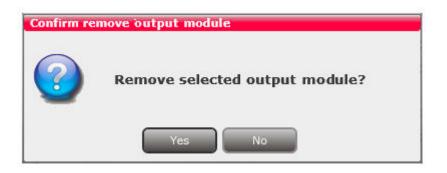
149	en Input	Children Output Rework	pril. or	arred hit	And the second second	
	Ceto-it	erw Justalied	Outrel	Ratio		Output modul
1 1/21	unit (18 items)	COPON	6945	OK.	Antes Arrest	
1	2	COFDH	0436	Disebled	Sectors sectors	
1	5	COFDM	CH37	Disabled	STORES SCHOOL	configured
1	14	COFDM	0138	Dipabled	STORE STORE	1073
2	1	COFDH output configured as VONE		That configured	Timer (Dillor)	
- 2	3	COFOR subjut senfoured as fucture		But configured	1000 1000 1000 1000 1000 1000 1000 100	
2	3	COFOM output configured as NONE		Not configured	CONTRACTOR OF CONTRACTOR	
2	14	OFDH output configured as NONE		Not configured	6000 6000	
3	1	COFDH output configured as WONE		Not configured	Sector Street	
	*	COFOR resput configured as NONE		Rel safigured		
3	3	COPOH subput configured as IVONE		Not configured	10000 (0000)	
1	*	COFOH output configured as NONE		Bot configured	Section Section	
+	3	COPOH subjut configured as folke		Not contigured	Sector Sector	
4 :	2	CORDIN output configured as NONE		not configured	Section Section	
	3	COPOR output configured as VONE		Not configured		
	*	COFDM output configured as NCNE		Rot configured	Sector Sector	
a Unit	1 (4 Kerris)					
4	1	QAM output configured as NONE		Not configured	Second Second	
3	18	QNM subjuit configurad as NOVE		not configured	STORES STORES	
1	- X	QAM output configured as NONE		Not configured	Contraction of the local division of the loc	
1	×	QAM output configured as NONE		Not configured	STORE STORE	

Now you can continue to configure the other output modules one by one, following the procedure described on the previous pages.

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 COFDM output module you want to remove. A message window is displayed asking you to confirm that you want to remove the output module.



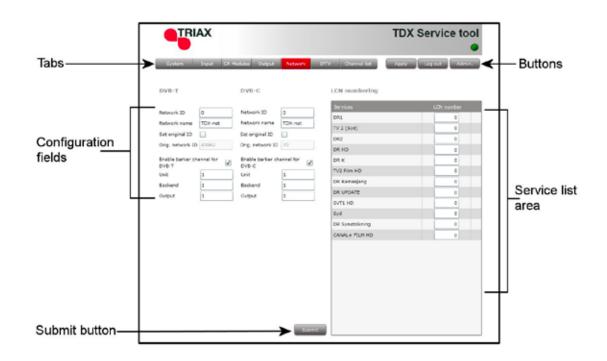
Until you have removed the output module physically from the headend unit the module list will display four lines with the writing in red.

340	ens Tinget	CAMING Output History	PIV	Channel List	Active and a second	
	(Corput)	Her Installed	Channel	Satur		
+ Mein	unit (16 items)	COPDIA	CH21	0×	"Selar" "Seler"	1
1	2	COFDM	0422	OK	Contraction Contraction	
÷.	1	COFOM	0423	CK CK	Tonner (Teacer)	
÷.	£	согон	DH24	CK CK	STORE STORES	
2	1	COFEM	CH2S	CK	Section (section)	
2	2	COFDM	CH26	ox	ACCOUNT ACCOUNTS	
2	5	COFDM	0427	CK.	Sector Sector Sector	
2	4	CORDM	0.08	ox	GUILDIN GUILDIN	
3	1	COPDM	CH21	ax	Sector Sector Sector	
3	2	COFOM	0432	OK	COLUMN COLUMN	
3	1	COPDM	0433	OK	STATES STATES	The configuration
		COPON	0454	OK	COURSE COURSE	
4	1	COPOM output configured as NONE		Not configured	- Handard Backling	has been deleted
-	2	COFDM output configured as NONE		Not configured	CONTRACT OFFICE	
1		COFDM output configured as NONE		Not configured	SCOTTON SECTION	
1	4	COFOM output configured as NONE		Not configured	Sector Sectors	
a Uniti	1 (4 cems)					
1	1	QAM	041	OK	Stores Statistics	
1	2	QAM	0142	OK	Contras Contras	1
3	2	ÇAM	CH43	ox	Status Schills	1
	4	QAM	0144	CK	COLUMN COLUMN	1

Network window

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

The first time you display the Network window the fields in the window will display a default value. The service list area will display all the digital services you have configured to output using the Output tab.



End-users may need the network ID if they have to make a NIT (Network Information Table) search when searching for services on their televisions or set-top boxes. Some set-top boxes may also need the original network ID in connection with a NIT search.

For both DVB-T and DVB-C you have to state network ID's and names.

Network ID	Enter the required network ID in the Network ID field. If it is an open network, the network ID has to follow the "ETSI TR 101 211" guidelines. If it a closed network you can determine the ID yourself.
Network name	Enter a network name in the Network name field. The maximum number of characters you can enter in the field is 255.
Set original ID	If you want to change the default values of the original network ID, click Set original ID check box to enable the Orig. network ID field.
Orig. network ID	Enter the required original network ID in the Orig. net- work ID field.

A barker channel carries all EIT information for a number of services.

Using a barker channel all EIT information will be transferred from the individual outputs to the barker channel thereby making more room/ payload available to the output of services.

Note If you to use a barker channel to carry the EIT information you have to make sure that the set-top boxes used by end-users are NorDig compliant, i.e. they can read a Linkage Descriptor from a NIT.

Enable barker Click the this check box to enable a barker channel for **channel for DVB-T**/ DVB-T and/or DVB-C . **DVB-C**

Unit	Enter the ID number of the unit you where you want to place the barker channel. You can enter values 1-3. "1" = main unit "2" = unit 1 "3" = unit 2
Backend	Enter the number of the output module where you want to place the barker channel. You can enter values 1-6
Output	Enter the number of the output where you want to place the barker channel. You can enter values 1-4.

In the service list area you determine the numerical output order of the digital services on the television or set-top box of the end-user.

LCN number Enter the desired number in the LCN number field to the right of each service in the service list area.

Note You cannot give the same LCN number to more services.

When you have entered the values you require you have to click the Submit button to enter this information into the headend system.

Г		AX		TDX Service tool		
	System	Input CA H	odules Output	Network	PTV Channel list	Apply Log out Admin.
	DVB-T		DVB-C		LCN numbering	
					Services	LCN number
	Network ID	13313	Network ID	43264	CR1	1
	Network name	Triax Net	Network name	Triax Net	TV 2 (Syd)	2
	Set original ID	×	Set original 1D	£	CR2	3
	Orig. network 10	70	Orig. network ID	70	CR HD	4
	Enable barker ch	nannel for	Enable barker ch	annel for	DR K	5
	DV8-T		DVB-C		TV2 Film HD	7
	Unit	1	Unit	1	CR Ramatjang	8
	Backend	3	Backend	4	DR UPDATE	9
	Output	3	Output	4	SVT1 HD	11
					Syd	12
					DR. Synstolkning	13
					CANAL+ FILM HD	15
Click the Submit button to enter the information				Submit		

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

Channel list

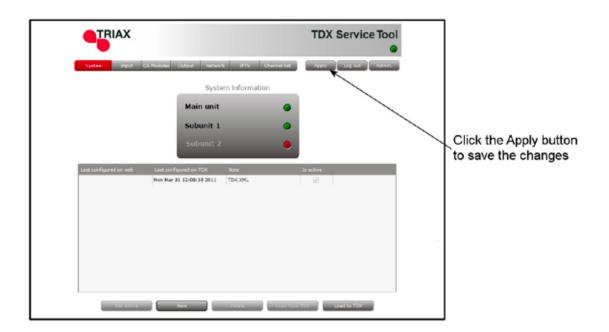
Click the Channel list tab in the TDX Service Tool to display the Channel list window.

When you have finished configuring all the output modules you have inserted into the headend units the Channel list tab displays a list with all the channels and services that you have selected.

	RIAX		TDX Service Too
System	Input CA Mod	ules Output Network 1PTV Channel li	st Apply Log out Admin.
Channel	Mux name	Services	Output
CH21	Dk MUX	DR 1, DR 2, TV2, TV25yd	COFDM(Main Unit, Slot 1-
CH22		DR Update	COFDM(Main Unit, Slot 1-
CH23		Sport 1, Sport 2	COFDM(Main Unit, Slot 1-
CH24		Disney, Cartoon	COFDM(Main Unit, Slot 1-

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.



Apply

Whenever 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

Manufacturer

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

Tel.: +45 76 82 22 00

triax@triax.dk www.triax.dk

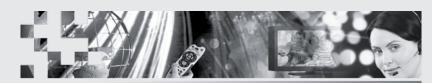
Your notes

Your notes



891077C

01 - 2012



TRIAX - your ultimate connection