

User Guide



Revision History

Date	Version	Description	Author
12.10.2023	1.0	First Draft	KDS

This guide contains some symbols to call your attention.

	The DANGER symbol calls your attention to a situation that, if ignored, may cause physical harm to the user.
	The CAUTION symbol calls your attention to a situation that, if ignored, may cause damage to Our product.
	The NOTE symbol calls your attention to important information.
[−] ¥ ⁺ TIP	The TIP symbol calls your attention to additional information that, if followed, can make procedures more efficient.
Red Arrow	The Red Arrow symbols point to import details mention the context above or below an image.
Blue Arrow	The Blue Arrow symbol indicates the motion path of an item in an operation step.
Thick Arrow	The thick Arrow symbol calls your attention to a series of operation steps mentioned in the context.

This guide also contains the following text conventions.

Bold ItalicThe bold Italic text indicates a button to click, an item in the drop-down menu to
select, or a certain item in the UI.

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1 Chassis Overview

1.1 Front Panel

UFO 101 is a new generation of compact media platform which focuses on cost-effective commercial TV market and traditional DTV market.

With powerful embedded Gigabit switch, optional commercial/broadcast level encoder modules and multi-mode receiver and modulator modules, it has been preconfigured to meet all the major video delivery requirements of signal receiving, descrambling, encoding, multiplexing, modulation and IP processing depending on a variety of models.

Due to its compact design, powerful functions, super practical price and low operational cost, it's a perfect choice for commercial video delivery applications for hotel, campus, hospital, MDU and more kinds of cable TV and IPTV systems, where massive programs are required to be processed, saving you more space and expense.



- 1. Cooling air intake
- 2. 4 RJ45 ports for remote network management
- 3. Status and Power Indicators and Reset button

1.2 Back Panel



1-6	hot-swappable modules
7	Ground

2 Installation

2.1 Rack Installation

The UFO 101 is designed to be mounted in a standard 19" rack. It takes 1RU of rack space. To install it into a rack, please use the following steps:

- 1. Determine the desired position in the rack for the UFO 101. Make sure that the air intake on the top of the unit and the exhausts on the back of the unit will not be blocked.
- 2. Install the brackets at desired position if there's no supporting plate in the rack.



- 3. Insert the rack mount clips into place over the mounting holes in the rack.
- 4. Slide the UFO 101 into the position in the rack.
- 5. Secure the chassis to the rack by installing the four supplied screws through the front mounting holes and tightening.



2.2 AC Power Connection

Please only use the supplied 3-prong power connector or one with equal specifications. NEVER tamper with or remove the grounding pin. This could cause damage to UFO 101, personnel, or property. Make sure the power outlet is switched off before plug or unplug the power cable from the panel of UFO 101.

When you take the equipment from a cold condition into a much warmer and humid con dition, the equipment should be acclimated to the warm and humidity condition for at least 30 minutes. Powering up a non-acclimated unit may lead to shortcut or other damage to electronic components.

A professional UPS system is recommended for better performance of your content distribution system.

3 Module Overview

3.1 UFO 101 Base unit

UFO 101	Basic Function
Baseboard	120 inputs & 120 outputs IP channel

3.2 Receiver Modules

Module	Description
UFO 111/4	• 4-channel DVB-S2 receiving descrambling board (two DVB-S2 signal input interfaces, two CAM slots)
UFO 110/4 UFO 101/8	• 4/8-channel DVB-S2/FTA receiving board (four DVB-S2 signal input interfaces, 4 LNB independent power supply, no CAM slot, with shield), support 64APSK (DVB-S2X)
UFO 131/4	• 4-channel DVB-T/T2 receiver board (one signal input interface, support signal internal loop, two CAM slots)

3.3 Encoder Modules

Module	Description		
UFX 150/4	 4-channel HDMI HD encoding board (commercial grade), support H.264 HD/SD, MPEG (supported), AC3 (optional), AAC (optional), support superimposed OSD subtitles, station logos, two- dimensional codes, do not support interlaced video signal input 		

3.4 Modulator Modules

Module	De	Description	
UFO 220/16	•	16-channel non-adjacent QAM-A/C modulation board.	

3.5 Function Modules

Module	Description		
UFO 151	• Gigabit IP multiplexing processing module, with 2 RJ45 Gigabit ports, supports UDP/RTP protocol, and supports a maximum of 120 inputs and 120 outputs per port.		

4 Web GUI

4.1 Web GUI Overview

4.1.1 Connect the Management Port

Factory network settings of the Management Port:

- IP address 192.168.1.10
- Subnet Mask 255.255.255.0
- Gateway 192.168.1.254

Take the following steps to access the Web GUI in a browser.

- Connect laptop/computer to UFO 101 management port directly.
- Set the IP address of the laptop/computer in the same network segment with the UFO 101Baseboard. UFO 101 will occupy up to 7 IP addresses if it's fully loaded as each module has its own IP address including the baseboard. *Please avoid possible IP address conflict between management PC and UFO 101 unit.*
- Check the physical connection by ping command.

Administrator: C:\Windows\system32\cmd.exe	- • •
Microsoft Windows [Version 6.1.7601] Copyright (c) 2009 Microsoft Corporation. All rights reserved.	▲ ■
C:\Users\diana.xu>ping 192.168.1.10	
Pinging 192.168.1.10 with 32 bytes of data: Reply from 192.168.1.10: bytes=32 time=2ms TTL=64 Reply from 192.168.1.10: bytes=32 time=1ms TTL=64 Reply from 192.168.1.10: bytes=32 time=1ms TTL=64 Reply from 192.168.1.10: bytes=32 time<1ms TTL=64	
Ping statistics for 192.168.1.10: Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate round trip times in milli-seconds: Minimum = 0ms, Maximum = 2ms, Average = 1ms	
C: Wsers \diana.xu>	
	-

UFO 101 has an embedded gigabit switch inside the chassis. You can use it as a switch with other devices together. The four network ports are respectively used for managing and streaming.

From left to right, port 1 and port 2 are used for management, port 3 and port 4 are used for data transmission. A good method of checking IP output is to play the IP streams using VLC player directly.

If you want to connect a switch between UFO 101 and PC or other devices, this switch should support IGMP V2 and IGMP snooping function. If the switch you used is not configured properly, it could cause some network issue.

4.1.2 Logging into the Web GUI

Enter the UFO 101 Baseboard IP address into the URL field of any recommended Web browsers (IE8 or above, Firefox, and Google Chrome) to access the login page. The default user name and password are both admin. Click *Login* to log into the GUI.

← → C ▲ Nicht sicher 192.168.188.200/login.html?s=XJMWJG96	₫ _₿
» KATHREIN	
UFO 101 All in One Headend	
Password Password	
English Deutsch	

4.2 Status

Status>Device status

After a successful login, you will always enter the status overview page, where you can check the device status of:

- a) Module List: it shows the module(s) inserted
- b) Device host operating status, running status of fans and other status display options
- c) Menu Bar and time display

KATHREIN

KATHREIN				I Status (5) System Sett	ting	Aug. 18th, 2023 05:08:03 → Output 📔 (இ admin →
Module List a) UFO 110/8	Status			C) De	evice Status Device A	larm Device Information
2 🜓 UFO 111/4	Temperature: 57°C (134	6°F) b)			Run Tim	e: 0 day, 17 hours, 8 minutes
Empty	_			Reset Status	s Power Module Status	Module Power
Empty 6 JUFX 150/4		BUFOpeo			• • • • • • •	
	_				MGMT1	Data2 Data1
		Module 4: Not inserted	Module 5: Not inserted	Module 6: Normal		
	-	Module 1: Normal	Module 2: Normal	Module 3: Normal		
					Power	

We use only IE, Firefox and Chrome for testing procedures. If you use other browsers, like Microsoft Edge, you may encounter incomplete UI layouts, and configure setting in these browsers may lead to errors.

Status>Device Alarm

Device Alarm page shows the alarm settings and alarm record.

14 ³	, Stat	tus │ ⓒ System Setting │ ↔ Inpu	ut
Status		Device Status	Device Alarm Device Information
			Alarm Setting Alarm History
Name	Location	Alarm Type	Last Changed
	No Data		

Status>Device alarm>Alarm Settings

Alarm setting lets the user set the alarms, logs, SNMP Trap, and different alarm parameters the user wants to see.

KATHREIN

			II Status	 (i) System Setting ↔ Inp 	but ↔ Output ② admin →
Status	;			Device Status	Device Alarm Device Information
		Alarm Setting	I		Alarm Setting Alarm History
	Name	dlarm	Logs	SNMP Trap	Last Changed
	Module Temperature High	_	~		Last ondrigod
	Power supply error	Z	~		
	Module loading failure	_	~		
	Output overflow	~	Image: A second seco		
	No bitrate	~	~		
	Input overflow	~	Image: A second seco		
	Link down	✓	~	_	
	Device Temperature High	~	~		
	Authorization expires less than 30 days	~	~		
	Abnormal communication	~	_		
		OK Close			

Status>Device alarm>Alarm Record

Alarm Record lets the user see the name of the alarm, the location, if it is still active, and the last time it was changed.

>			Status ⑥ Syst	em Setting │ ↔ Input	│ ↔ Output │ ② admin →
Status				Device Status De	vice Alarm Device Information
	Alarm	History		t the test of tes	Alarm History
Name	Location	Status	Alarm Type	Last Changed	Last Changed
	N	o Data			Last onlinged

Status>Device Information

Device Information page shows the firmware version, software version, Build Version and hardware version of baseboard and each inserted module.

Status		De	evice Status	Device Alarm	Device Information
Module	Firmware Version	Software Version		Hardware	e Version
Baseboard	V0.2.1103	V1.6.6		V0.0.	0.0.1
1.UFO 110/8	V6.0.256	V1.6.1		V0.0.	0.1.1
2.UFO 111/4	V6.0.256	V1.5.7	V0.0.0.1		0.0.1
3.UFO 220/16	V57.3.0	V1.6.0		V0.0.	0.1.0
6.UFX 150/4	V0.0.574	V1.5.5		V0.0.	1.1.1

4.3 System Setting

Click the **System Setting** on the top right corner to enter the system setting page where you can find **Network**, **Time Setting**, **System Manage**, **Password**, **NMS Register**, **Advanced Setting**, **and SNMP**

System Setting> Network

In *Network* page you can assign a static IP address to UFO 101's baseboard. Click the *Apply* button on the right side to make the change take effect.

			II Status	System Setting	g	it 📔 🔘 admin
System Setting	I				Network System Time	User SNM
Advanced Setting						
IPV4 IPV6 ost Name:	Dom	ain:	OK FDQN: No	one		Арр
Module Name	IP Address	Subnet Mask	Default Gateway	DNS Server IP	MAC Address	
NMS	192.168.188.10	255.255.255.0	192.168.188.1	0.0.0.0	A0:69:86:07:25:64	
DATA	10.37.99.10	255.255.255.0	10.37.99.254	0.0.00	A0:69:86:07:25:63	
Tins						
1. When the subner	t of the internal Basebo	ard IP address is chan	ged, the IP addresses of all th	e modules will follow the	a subnet change automatically.	
2. The IP addresse	s of all the modules wi	I be automatically set to	o follow-on immediately after t	he Baseboard address.	· · · · · · · · · · · · · · · · · · ·	
3. IMPORTANT: To elsewhere in the ne	o avoid IP address con otwork.	flicts, ensure that all the	P IP addresses assigned within	n the chassis (Baseboard	d and Modules) are not used	

Note to avoid IP conflict when you set the baseboard IP address. The occupied IP section will be displayed in this page on the top red area.

System Setting> Time

In *Time* page you can see the current system time, change *Time Zone*, choose system time *Mode* (Manual or Automatic), enable/disable *Auto Sync* and modify *NTP Server Address* in Automatic mode or change the current system *Time* in Manual mode. Click the *Apply* button on the right side to make the change take effect.

• Automatic mode

System Setting			Network	System	Time	User	SNMP
	System Time Time Zone	Aug. 18th, 2023 05:20:04	•				Apply
	Mode	Automatic	•				
	NTP Server Address	192.168.1.113					
	Auto Sync	Disable	•				

• Manual mode

System Setting			Network	System	Time	User	SNMP
	System Time	Aug. 18th, 2023 05:20:27					Apply
	Time Zone	UTC +0: 00	•				
	Mode	Automatic	~				
	NTP Server Address	Automatic	2				
	Auto Sync	Disable	•				

System Setting>System

In **System** page you can do an upgrade, import or export configuration, import or export license (only for baseboard), reboot the whole unit, restore it to factory setting (only for baseboard), set SNMP MIB, export log and clear log (only for baseboard).

KATHREIN

		II Status	System Setting	g ↔ Inj	put	Output	@ a	dmin -
System Setting				Network	System	Time	User	SNMP
Upgrade								
Select Module	Automatic Detection	•						
Upgrade				Browse	Upload			
Configuration								
Import Configuration				Browse	Upload			
Export Configuration	Export							
License								
Product ID	EB06143220029							
Import License				Browse	Upload			
Export License	Export							
Standard								
Select Standard	DVB	• 9	ОК					
Select LCN Standard	International	•	ОК					
SNMP MIB								
Export MIB	Export							
Logs								
Open								
Reboot Subboard								
Reboot Subboard	1: UFO 110/8	•	ОК					
Clear Power Alarm								
Clear								
Others								
	Reboot Res	et to Defaults						

System Setting> User

In *User* page you can reset login password.

System Setting					Network	System	Time	User	SNMP
Add User	A	Add User							
Account F	Account:		[3-18]	ıs		Ope	rator		
admin Adm	Password:		[2-20]	le		Pass	word		
	Confirm Password:		[2-20]						
	Phone:								
	Status:	enable							
	O	Cancel							

System Setting> SNMP

In SNMP Setting page you can SNMP traps addresses.

System Setting			Network	System	Time	User	SNMP
SNMP:	Enable	•					Apply
Trap IP Address1 (IPv	0.0.0.0		Enable:				
Trap IP Address1 (IPv	i): 2001::c0a8:1af		Enable:				
Trap IP Address2 (IPv	0.0.0.0		Enable:				
Trap IP Address2 (IPv	3): 2001::c0a8:1ae		Enable:				
Read-Only Community	public						
Read-Write Communit	private						

System Setting> Advanced Setting

In Advanced Setting page you can do some changes about standard,

priority ,Language ,Authorized Use Time, Destination Module Number, Reverse Proxy,CA Descriptor ,PAT Sync Update, PAT Version,, reboot the Switch Module.

System Setting	Network	Syste	em Time	User	SNMP	Advanced Setting
Standard	DVB	•	0			Apply
Priority Encoding	Auto	•	9			
Language	English	•				
Authorized Use Time	Stay With First Level Authorized Time	•	Never expires	9		
Destination Module Number	4	•	0			
Reverse Proxy Enable	Enable	•	0			
CA Descriptor Filter	Disable	•	0			
PAT Sync Update	Disable	•	θ			
PAT Version	Disable		0			
VLAN Enable	Enable	•	0			
ARP VLAN Tag	2	•	θ			
SSH/Telnet	Enable	•	0			
Reboot Switch Module	Reboot Switch Module					

4.4 Input

Click the *IP Input* on the top line to go into IP input page where you can see *Status, Basic Setting, IGMP Setting* and *Service Configuration*.

Input >Status

In this page, you can check Total bitrate, each channel Total Bit Rate, IP Address and Port, Effective Bit Rate, TS Analysis and Service List.

Input				
Total Bitrate: 42.585 Mbps	3			
Status	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	TS Analysis	Service List
•	31.826	42.585	۲	
•	0.000	0.000	•	
•	0.000	0.000	•	II.

Click the icon (⁽⁽⁾) in the **TS Analysis** list to see the TS analyzing result of this channel. Click the

icon (^I■) in the *Service List* to see the Services of each channel.

• TS Analysis

Click **Reset Counter** button to clear continuity count errors and restart counting. Fill in the search bar with the key words of PID / Bit rate / bandwidth / table type / service name in the search bar to get the info you want.

3 Analysis					Reset Counter
				Search	٩
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
OxO(0)	0.015	0.035	0	PAT	
0x1(1)	0.015	0.035	0	Other	
0x10(16)	0.003	0.007	0	Other	
Ox11(17)	0.025	0.059	0	SDT	
0x12(18)	0.773	1.816	0	Other	
0x14(20)	0.003	0.007	0	Other	
0x17d4(6100)	0.015	0.035	0	PMT	ZDF HD
0x17de(6110)	14.029	32.951	0	PCR, Video	ZDF HD
					and at 1.00



• Service List

Click a service name to check the detailed info of this service.

Туре	PID	Bitrate(Mbps)			
PCR	6110(0x17de)	14.023	P Setting	IGMP Setti	ing Service Configuration
PMT	6100(0x17d4)	0.015			
Video(H264)	6110(0x17de)	14.023			
Audio	6120(0x17e8)	0.263			
Audio	6121(0x17e9)	0.200			
Private Data/AC3	6122(0x17ea)	0.460			Channel: 1.1
Audio	6123(0x17eb)	0.202			
Private Data/AC3	6130(0x17f2)	0.308		+	Service
Private Data/AC3	6131(0x17f3)	0.018			[11110] ZDE HD
Private Data/AC3	6132(0x17f4)	0.005			
AIT	6170(0x181a)	0.011		2	[11130] zdf_neo HD

Input >IP Settings

Here you can configure IP input parameters: *Destination IP Address*, *Destination Port*, *Protocol* (UDP/RTP), and *TS Packets Per IP Packet*. Click *Apply* to make the setting take effect.

					~			
Input						Status IP Setting IC	MP Setting	Service Configurati
atch Setti	ng 🗸							
< 1	2 3	4 5 6 7 8 3						An
Channel	Enable	Destination IP Address	Destination Port	Protoc	ol	Input Processing Mode	Pkt Length	
1.1		227.20.30.1	1234	UDP	•	CBR -	Auto	•
1.2		227.20.30.2	1234	UDP	•	CBR	Auto	-
1.3		227.20.30.3	1234	UDP	•	CBR •	Auto	•
1.4		227.20.30.4	1234	UDP	•	CBR	Auto	•
1.5		227.20.30.5	1234	UDP	•	CBR	Auto	•
1.6		227.20.30.6	1234	UDP	•	CBR	Auto	•
1.7		227.20.30.7	1234	UDP	•	CBR	Auto	•
1.8		227.20.30.8	1234	UDP	•	CBR	Auto	•
1.9		227.20.30.9	1234	UDP	•	CBR	Auto	•
1.10		227.20.30.10	1234	UDP	•	CBR	Auto	-
1.11		227.20.30.11	1234	UDP	•	CBR	Auto	•
1.12		227.20.30.12	1234	UDP	•	CBR	Auto	-
1.13		227.20.30.13	1234	UDP	•	CBR	Auto	•
1.14		227.20.30.14	1234	UDP	•	CBR	Auto	•
1.15		227.20.30.15	1234	UDP	•	CBR	Auto	•
1.16		227.20.30.16	1234	UDP	-	CBR -	Auto	-

If you want to configure a batch of channels, please click "Batch Setting".

To set the IP input parameters in batch, you can check the boxes before parameters you need then choose/modify the values. Click *Apply* to make the setting take effect.

Input					Status	IP Setting	IGMP	Setting	Servi	ce Configuration
Batch Settin	<u>ng_</u> ^									
Select A	MI		Start Channel-End Channel	1		- 120				Apply
🗌 Enab	le	Disable 🔻	Destination IP Address	227.10.20.8	30	Same	•			
	col	UDP 💌	Destination Port	1234		Same	•			
🗆 Input	Processin	g CBR 👻 (Pkt Length	Auto	-					
Mode										
			Batch Setting							
< 1	2 3	4 5 6 7 8	>							
Channel	Enable	Destination IP Address	Destination Port	Protocol	Input P	rocessing Mo	de	Pkt Leng	th	
1.1		227.20.30.1	1234		CBR		▼ Au	ito	•	
1.2		227.20.30.2	1234	UDP 🔻	CBR		▼ Au	ito	•	

Input >IGMP Settings

User can set IGMP version, IGMP Automatic report, and IGMP Report Cycles in this page.

Input			Status	IP Setting	IGMP Setting	Service Configuration
	IGMP Version:	V2	•	·		Apply
	IGMP Automatic Report:	Enable	•	·		
	IGMP Report Cycle(s):	15				

Input >Service Configuration

To stream an input source, you can configure the destination in this page.

Input		Status	IP Setting	IGMP Setting	Service Configuration
Channel Select: Channel 1.1 So Program Scan Program Clear	canning Time(ms): 1000	PSI Search Time	(ms): 5000		_
Service Name	Destin	ation		Destination Set	ting
✓ Channel 1.1	3.UFO 220/16[1.3]	17.Baseboard[1.3]		¢	Clear Config
[11110] ZDF HD				1	
[11130] zdf_neo HD				1	
PID 1 (CAT)				1	
PID 16 (NIT)				1	

- Multiplex or Bypass stream: Click the setting icon (¹/₂), check the output module, and then you can set the output channel of this stream. After you select bypass mode, this output channel will be occupied only by this stream and when you set other stream output channels, this channel will not be available in this time.
- Multiplex services: You should click the service line setting icon () to make the certain service output from certain channel combining with other services. The operation you can refer to multiplex stream output.

G			Channel 1.1	
ï	Dypeco	Multiplex	Channel1	3.UFO 220/16
	Dypase	Multiplex	Channel2	17.Baseboard
1	🛃 Dypace	D Multiplex	Channel3	
	🗆 Вураєє	Multiplex	Channel4	
1	D Bypass	Multiplex	Ohannelő	
	D Bypass	Multiplex	Channeld	
1	Dypass	Multiplex	Channel7	
	D Bypass	Multiplex	Channel8	
1	D Bypass	thutplex	Channell	
	D Bypass	Multiplex	Channel10	
1	D Bypasis	htutiplex	Channel11	
	D Bypaes	Infutiplex	Channel12	
٦.	D Bypass	thutplex	Channel13	

After setting output destination, click *Apply* to make it take effect. The destination channel will be displayed in the channel/service line. And you can also click *Clear Config* to clear all of the configuration.

There is a channel scan button (Channel Scan) on top. Normally the input service list of each channel will load itself on this page, but when you change the input source, the list could not refresh immediately. You can refresh the changed channels manually by selecting the channel and clicking the channel scan button.

4.5 Output

Output >Status

The IP Output status information you can check on this page is similar as that of IP input. The TS analysis and service list function are also available.

Outpu	ut				S	tatus	IP Setting	Service Configuration	PSIP
Total B	itrate: 85.176 Mbps								
Cha	IP Address: Port	Effective Bitrate	Total Bitrate(Mbps)	Bitrate	TS Analysis	Servi	ce List		
1.1	227.10.20.1 : 1234	41.471	42.591	Normal	۲				
1.2	227.10.20.2 : 1234	41.298	42.585	Normal	۲	12			
1.3	0.0.0.0:0	0.000	0.000	Normal	۲	12			
1.4	0.0.0.0:0	0.000	0.000	Normal	۲	12			
1.5	0.0.0.0:0	0.000	0.000	Normal	۲				
1.6	0.0.0.0:0	0.000	0.000	Normal	۲	i			
1.7	0.0.0.0:0	0.000	0.000	Normal	۲	1			
1.8	0.0.0.0:0	0.000	0.000	Normal	۲				
1.9	0.0.0.0:0	0.000	0.000	Normal	۲	:=			
1.10	0.0.0.0:0	0.000	0.000	Normal	۲	i			

Output >IP Settings

Setting IP output channels is also similar to Setting IP input with addition of PSIP.

Output							:	Status IF	P Setting	Service Configuration	Ρ
Batch Settir	ng 🗸										
X Interval:	100 2 3	(r 4 5 6	ns) Null Packet Fi	ilter: Disable	•						Ар
Channel	Enable	Source Port	Destination IP	Destination	Proto	col	Pkt Length	Bitrate(Enable	e Destination MA	
1.1		1000	227.10.20.1	1234	UDP	•	7	100	Disable	1	
1.2		1000	227.10.20.2	1234	UDP	•	7	60	Disable	•	
1.3		1000	227.10.20.3	1234	UDP	•	7	15	Disable	1	

Multicast output setting: You should fill the fit multicast IP addresses as output in the Destination IP Address box. Please avoid IP conflict among baseboard, encoder modules (see encoder modules page) and other devices when you set the multicast output.

- Unicast output setting: You should fill the unicast receiving end's IP addresses in the Destination IP Address box.
- Destination MAC: Normally you do not need to enable the Destination MAC switch. Only in some specific case where the unicast stream cannot be received due to unknown reasons, you can enable Destination MAC and fill in the correct receiver MAC in instead of using unicast IP addresses.

Constant Rate of any output channel/TS/port ought to be set manually about 2 Mbps higher than the **Effective Bitrates** in the corresponding output channel/TS/port, since the **Effective Bitrates** might fluctuate a little bit. If you set the **Constant Rate** much higher that the **Effective Bitrates**, there will be lots of null packets in the output transport stream.

If you want to configure a batch of channels, please click "Batch Setting".

Output					Sta	atus IF	P Setting	Service Configu	ration PSIP
Batch Setting ^									
Select All		Start 0	Channel-End Chan	nel	1	-	120		Apply
Enable	Disable		stination IP Addres	S	227.10.20.8	0	Same	•	
Source Port	1000		stination Port		1234		Same	•	
	UDP -	Pkt	Length		7	-			
Bitrate	25	(Mbps) 🗆 Ena	able Destination M	AC	Disable	-	AA:BB:CC	:DD:EE:FF	
		Batc	n Setting						
TX Interval: 100	(ms) N	lull Packet Filter: Di	sable 💌						
	(110) 1	full Facket Filter.							
< 1 2 3	4 5 6 7 8	>							
Channel Enable	Source Port Destin	nation IP Desti	nation Protoc	ol F	Pkt Length	Bitrate(. Enable	Destination MA	
1.1 🗹	1000 227.1	0.20.1 1234	UDP	• 7	· •	100	Disable		
1.2 🗹	1000 227.1	0.20.2 1234	UDP	• 7	•	60	Disable		

Batch Setting of IP output channels is also similar to that of setting IP input.

UFOpro User Guide

Output >Service Configuration

Output					Status	IP Setting	Service Config	guration	PSIP
[1.1] TS[Bypass]					[1.1] TS				
1. Das Erste HD	1.1.1	Origin	Notwork ID		4			A	pply
2. arte HD	1.1.1	Origina	al Network ID					Class	Config
3. SWR BW HD	1.1.1	TS ID			1019			Clea	rConfig
4. SWR RP HD	1.1.1	NO.	Service ID	Se	ervice Name	ne Service Provider			
[1.2] TS[Bypass]	<u>^</u>	1	10301	Das Er	rste HD	ARD			
1. ORF1 HD	2.1.1	2	10302	arte HD		ARD			
2. ORF2W HD	2.1.1	0	10000						
3. ServusTV HD Oesterreich	2.1.1	3	10303	SWRE		ARD			
4. ServusTV HD Deutschland	2.1.1	4	10304	SWR F	RP HD	ARD			
5. ORF2N HD	2.1.1								
6. OE3.	2.1.1				Other PIDs				
		1	1	16	18	20			
[1.3] TS[Bypass]	<u>^</u>		i	_		· · · · ·			
1. ZDF HD	17.1.1			C	Cance				

You can make configuration for output services and TS.

- TS setting: Click TS line (the red area) to configure Original Network ID, TS ID and each Service ID, Service Name, and Service Provider.
- > NIT setting: Please refer to UFO 120/16 module.
- > TOT setting: Configuration parameters about TOT.

2. artise HD [1.4] TOT Configuration 3. SWR BW HD [1.3] 3. SWR BW HD [1.3] 4. SWR RP HD [1.3] 1. ORF1 HD [2.3] 2. ORF2W HD [2.3] 3. ServusTV HD Cesterreich [2.3] 3. ServusTV HD Cesterreich [2.3] 6. OR52. [1.3] TS[Bypass] Ø ^ 1. 2DF HD [1.3] 1. 2DF HD [1.5] 1. 2DF HD [1.5] 2. 2df _nee HD [1.5]	1. Das Erste HD	(TD)			
3. SWR BW HD 113 4. SWR RP HD 113 (1.2] TS[Bypass] Country Code CHN Country Region Id B Country Neglon Id B Country Neglon Id Country Region Id B Country Neglon Id B Country Neglon Id B Country Neglon Id B Country Neglon Id Next Time Offset Country Neglon Id Next Time Offset Country Neglon Id Country Neglon Id Next Time Offset Country Neglon Id Country Neglon I	2. arte HD	(11)	[1.4] T	OT Configuration	
4. SWR RP HD [11] (12] TS[Bypass] (County Region Id (County Regin Id (County Region I	3. SWR BW HD	111	Country Code	CHN	
1.2) TS[Bypass] O 1. ORF1 HD 2(1) 2. ORF2W HD 2(1) 3. Servus TV HD Desterreich 2(1) 4. Servus TV HD Deutschland 2(1) 5. ORF2N HD 2(1) 6. OE3. 2(1) 1. 2DF HD (7,1) 1. 2DF HD (7,1) 2. 2df_neo HD (7,1)	4. SWR RP HD	1.1.1	Country Code	CHIN	
1.2] TS[Bypass] (A) RF1 HD (21.5) (A) RF1 HD (21.5) (A) RF2W HD (21.5) (A) Servus TV HD Desterreich (21.5) (A) Servus TV HD Deutschiand (21.6) (A) Servus TV HD Deutschiand (21.6) (A) Servus TV HD (A) Servus TV HD (A) Servus TV HD (21.6) (A) Servus TV HD (21.6) (C) Servus TV HD (C) Servus TV HD			Country Region Id	8	•
1. ORF1 HD (21) 2. ORF2W HD (21) 3. ServusTV HD Oesterreich (21) 4. ServusTV HD Deutschland (21) 6. OE3. (21) 1. 2DF HD (75) 1. 2DF HD (75) 2. xdf_nee HD (75)	[1.2] TS[Bypass]		Local Time Offset Polarity	UTC +	•
2. ORF2W HD (21) 3. ServusTV HD Oesterreich (21) 4. ServusTV HD Deutschland (21) 5. ORF2N HD (21) 6. OG3. (21) 1. 2DF HD (71) 2. zdf_neo HD (71)	1. ORF1 HD	2.1.1	Time Of Change	2022/01/01 00:00:00	
3. ServusTV HD Oesterreich 211 4. ServusTV HD Deutschland 213 5. ORF2N HD 213 6. OE3. 213 1. JDF HD 1743 2. zdf_neo HD 1743	2. ORF2W HD	2.1.1	Local Time Offset	00:00	
4. Servus TV HD Deutschland 21.1 5. ORF2N HD 21.1 8. OE3. 21.1 11.3] TS[Bypass] ^ 1. ZDF HD (73.1) 2. zdf_neo HD (73.1)	3. ServusTV HD Oesterreich	2.1.1		00.00	
5. ORF2N HD (21.1) 6. OE3. (21.1) [1.3] TS[Bypass] (2 ^ 1. ZDF HD (77.1) 2. zdf_neo HD (77.1)	4. ServusTV HD Deutschland	2.1.1	Next Time Offset	00:00	
6. OE3. (21.1) [1.3] TS[Bypass] (2 ^ 1. ZDF HD (77.1.1) 2. zdf_neo HD (77.1.1)	5. ORF2N HD	2.1.1		OK	
[1.3] TS[Bypass] O 1. ZDF HD (77.1.1) 2. zdf_neo HD (73.1.1)	6. OE3.	2.1.1		UK	
[1.3] TS[Bypass] O 1. ZDF HD 17.1.1 2. zdf_neo HD 17.1.1					
1. ZDF HD (17.1.1) 2. zdf_neo HD (17.1.1)	[1.3] TS[Bypass] 🛛 🗵				
2. zdf_neo HD (17.1.1)	1. ZDF HD	17.1.1			
	2. zdf_neo HD	17.1.1			
		A A			





> Output >PSIP

PSIP page lets you out different tables such as PAT, PMT, SDT and the likes.

itput								Status IP Setting	Service Configuration
Setting \sim									
1									
Channel	Select All	PAT Insert	PMT Insert	SDT Insert	NIT Insert	CAT Insert	TDT Insert	TOT Ins	ert
			-	-			-		

4.6 Admin

Click *Agent* and you can choose to set the password or to log out.

котнеріп	Aug. 18th, 2023 08:14:14
	, Status (☉) System Setting + ↔ Input + Output (②) admin +

5 Module Configuration

5.1 Receiver Modules

5.1.3 UFO 111/4

UFO 111/4 is a 4-channel DVB-S/S2 receiving descrambling board (two DVB-S2 signal input interfaces, two CAM slots).



UFO 111/4 >Status

UFO 111/4								Status Cl	Biss Basic Setting	Service Configuration	IP Output System
Channel	Locked Status	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	PER	RF Level	CNR(dB)	Link Margin(dB)	FEC Code Rate	Modulation	TS Analysis	Service List
1.1	Locked	42.584	41.524	0.000000000	-43dBm (65dBµV)	16.000	9	2/3	8PSK	•	
1.2	Unlocked	0.000	0.000	0.000000000		0.000	0	1/2		•	

Click *TS Analysis* of each channel, you can see TS Bitrate Analysis. Click *Reset Counter* to reset the Continuity Count Error counter. In Search bar, you can input key words or numbers, such as PIDs, Type or Service, for a quickly search.

Channel 1.1 TS Analysis					Reset Counter
				Search	Q
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
0x0(0)	0.004	0.009	0	PAT	*
0x1(1)	0.003	0.007	0	Other	
0x10(16)	0.001	0.002	0	Other	

Click the icon is to check service information of all the inputs.

Channel: 1.1	Channel: 1.2	Channel: 2.1	Channel: 2.
# Service	# Service	# Service	# Service
1 [4911] ORF1 HD	1 [13] Sky Crime HD	No Data	No Data
2 [4912] ORF2W HD	2 [118] Sky Nature HD		
3 [4913] ServusTV HD Oesterr	3 [129] Sky Sport Top Event HD		
4 [4914] ServusTV HD Deutsc	4 [130] Discovery HD		
5 [4916] ORF2N HD	5 [131] Sky Cinema Premieren		
6 (4920) OE3.	6 [516] Sky Cinema Classics HD		

You can check program details by clicking the program item.

[4911]	ORF1 HD	
Туре	PID	Bitrate(Mbps)
PCR	1920(0x780)	8.123
PMT	107(0x6b)	0.003
StreamType:27-Video(H264)	1920(0x780)	8.123
StreamType:6-Private Data/AC3	1921(0x781)	0.469
StreamType:6-Private Data/AC3	1922(0x782)	0.469
StreamType:6-Private Data/AC3	1925(0x785)	0.301
AIT	7310(0x1c8e)	0.002
PrivateData	7311(0x1c8f)	0.501
ECM	120(0x78)	0.005
ECM	122(0x7a)	0.005
ECM	270(0x10e)	0.009
ECM	272(0x110)	0.005
ECM	320(0x140)	0.009
ECM	461(0x1cd)	0.008
ECM	470(0x1d6)	0.006
ECM	480(0v1e0)	0.006

UFO 111/4 >CI

For the encrypted services received on UFO 121/4 module receiver, CI slot is needed to decrypt and re-broadcast the services. The UFO 121/4 has 2 CAM slots and can decrypt services depending on the capability of the CAM module and Smart Card. You can select the CAM Max Bit Rate from 48Mbps to 108Mbps in pull-down list depending on the total effective bitrate of services you want to decrypt at.

111/4				Status	CI	Biss	Basic Setting	Service Configuration	IP Outpu
M Max Bitrate: 72 Mbps 🔹	CAM1 Auto Reset:	Disable - CAM	2 Auto Reset: Disable 🔻					MMI Se	tting
	CAM1 (Initialize	e Success)	Re	CAN	//2 (No	t inserte	d)		
CAM Card Name		Irdeto Acces	s-SMIT						
CA System ID		1762							
Service Informa	tion	PID	Descrambling Status						
1.1 [4911] ORF1	HD	1920(Video)	Descrambling Success						

Click the *Apply* button on the right side to make the change takes effect.

UFO 111/4 >Basic Setting

UFO 111/4								Status	CI Bi	ss Basic Setting S	Service Configuration IP O	ıtput System
Channel	Satellite Frequency(MHz)	SymbolRate(KBaud)	LNB Frequency(MHz)	LNB Power	LNB	22KHz	DiSEqC Level	DiSEc	C Port	DiSEqC Bytes(Hex)	Reboot Tuner	
1.1	11303	22000	9750	18v •	off	•	Disable -	1	-	FFFFFFFFFF	Reboot	Apply
1.2	3840	27500	5150								Reboot	орру
2.1	3840	27500	5150	off	off	•	Disable	1	-	FFFFFFFFFFF	Reboot	
2.2	3840	27500	5150								Reboot	

Name	Range
Frequency (MHz)	950~14500
Symbol Rate(KSym/s)	1000~45000

UFO 111/4 >Service Configuration

UFO 111/4						Status	CI Biss	Basic Setting	Service Configuration	IP Output	System
Channel Select: Channel 1.1 V	canning Time(ms):	2000	OSI Search Time(ms): 5000	Program Scan	Program Clear						
Service Name	Descrambling			Destination					Destination Settin	ng	Apply
✓ Channel 1.1 +				17.Baseboard[1.2] 3.UFO 2	20/16[1.2]				٥	-	_
> [4911] ORF1 HD	CAM1	•							1		clear Config
> [4912] ORF2W HD	CAM1	•							1		
> [4913] ServusTV HD Oesterreich	CAM1	-							1		
N 140141 Committy UD Deutenhand	CAME .								1		

Service Configuration page is where you can manage the received services and output them to their designated interface. The configuration of all modules in UFO 101 is mostly the same.

First, you need to scan the port on each LOCKED TS. Each port might be scanned automatically or needed to be scanned manually when its source is changed.

After scanning each channel, you can start to configure the services. You need to click *Apply* button after you configure service to CAM for descrambling, otherwise the descrambling configuration will not be saved. Then you can choose the services to be routed, you can output each service by clicking the icon[‡] and ¹ below "Destination Settings". You can route a whole stream or a service(s) from the input channel toward the available output channels (IP or RF). Two types of routing are possible.

- Bypass mode. In this mode, you can route a whole input transport stream towards an IP or RF output which will be occupied only by this stream. Any attempt of routing other stream/service towards this channel will be an error. This mode can only be set by clicking the icon on the TS.
- 2. **Multiplex mode** is the counter part of the bypass mode. This mode allows the administrator to perform the following operations:
- a. Route a single service towards an output channel to create SPTS.
- b. Route services towards a single output channel to create MPTS.
- c. Route service/s AND stream/s from multiple channels towards a single output channel to create MPTS.

In *Descrambling Settings* there are CAM1, CAM2, No Descrambling to choose. Click *Apply* or *Clear Configuration* button on the right side to make the change take effect or clear all configurations.



UFO 111/4 >System

UFO 11	1/4			Status	CI	Biss	Basic Setting	Service Configuration	IP Output	System
Program A	uto Scan									
		Enable	Set							
EIT MUX										
		Enable	Set							
License										
	Product ID		DL28146370492							
	Import License					Browse	Upload			
	Export License		Export							
SNMP MIB										
	Export MIB		Export							
Logs										
	Open									
Others										
			Reboot Reset to Defaults							

On **System** page you can enable the Program Auto Scan, EIT MUX. Besides you can also perform *Import/Export License*, **Reboot** the module, **Restore the unit to factory defaults** and **Log Export** & **Clear**.

5.1.4 UFO 110/4 | UFO 110/8

UFO 110/4 is a 4-channel, UFO 110/8 is is a 8-channel DVB-S/S2/S2XFTA receiving module with 4/8 RF connectors, and 4 LNBs that are independently powered. S2 supports up to 32APSK, S2X supports up to 64APSK.







UFO 110/4 | 110/8 > Status

UFO 11	0/8						Status	Biss Basic Setti	ing Service Co	onfiguration IF	Output System
Channel	Locked Status	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	PER	RF Level	CNR(dB)	Link Margin(dB)	FEC Code Rate	Modulation	TS Analysis	Service List
1.1	Locked	42.586	41.458	0.00000000	-39dBm (69dBµV)	16.800	9	2/3	8PSK	۲	i=
2.1	Locked	38.015	36.233	0.000000000	-43dBm (65dBµV)	17.400	12	3/4	QPSK	۲	
3.1	Unlocked	0.000	0.000	0.000000000	-	0.000	0	1/2		۲	
4.1	Unlocked	0.000	0.000	0.00000000	-	0.000	0	1/2		۲	

Click **TS Analysis** of each channel, you can see TS bit rate analysis. Click **Reset Counter** to reset the Continuity Count Error counter. In Search bar, you can input key words or numbers, such as PIDs, Type or service, for a quickly search.

Channel 1.1 TS Analysis					Reset Counter
				Search	Q
PID	Bitrate(Mbps)	Bandwidth(%)	Continuity Count Error	Туре	Service
0x0(0)	0.006	0.014	0	PAT	
0x1(1)	0.003	0.007	0	Other	
0x10(16)	0.003	0.007	0	Other	
0x11(17)	0.010	0.023	0	SDT	
0x12(18)	0.748	1.757	0	Other	

Click the icon^I to check service information of all the inputs.

	Channel: 1.1		Channel: 2.1		Channel: 3.1			Channel: 4.1	
#	Service	#	Service	#	Service		#	Service	
1	[10301] Das Erste HD	1	[11110] ZDF HD	1	[17500] SAT.1	-	1	[12003] RTL Television	-
2	[10302] arte HD	2	[11130] zdf_neo HD	2	[17501] ProSieben		2	[12004] RTL Regional NRW	
3	[10303] SWR BW HD			3	[17502] kabel eins		3	[12005] RTL HB NDS	_
4	[10304] SWR RP HD			4	[17503] WELT		4	[12006] RTL Bayern	
				5	[17504] SAT.1 Gold		5	[12009] RTL HH SH	
				6	[17505] Pro7 MAXX		6	[12020] RTLZWEI	
				7	[17506] sixx		7	[12030] TOGGO plus	
				8	[17507] SAT.1 Bayern	-	8	[12040] SUPER RTL	

You can check program details by clicking the program item.

UFO 110/4 | 110/8 > Basic Setting

UFO 110)/8						Status Bis	Basic Setting	Service Configuration IP O	utput System
Channel	Satellite Frequency(MHz)	SymbolRate(KBaud)	LNB Frequency(MHz)	LNB Power	LNB 22KHz	DiSEqC Level	DiSEqC Port	DiSEqC Bytes(Hex)	Reboot Tuner	
1.1	11494	22000	9750	18v 🔻	off 👻	Disable -	1 •	FFFFFFFFFF	Reboot	Apply
2.1	11362	22000	9750	18v •	off 💌	Disable -	1 •	FFFFFFFFFF	Reboot	, oppy
3.1	12545	22000	10600	18v •	22KHz 🔻	Disable •	1 •	FFFFFFFFFF	Reboot	
4.1	12188	27500	10600	18v •	22KHz 🔻	Disable -	[1 •	FFFFFFFFFF	Reboot	
5.1	3840	27500	5150	off •	off 💌	Disable •	1 •	FFFFFFFFFFF	Reboot	
6.1	3840	27500	5150	off 👻	off 👻	Disable 👻	1 •	FFFFFFFFFF	Reboot	
7.1	3840	27500	5150	off 🔫	off 🝷	Disable 👻	1 •	FFFFFFFFFF	Reboot	
8.1	3840	27500	5150	off 👻	off 👻	Disable -	1 *	FFFFFFFFFFF	Reboot	

Channel 1.1, 1.2, 1.3, ... and 1.8, 4 LNBs are powered independently.

 _	_		_	 _
		_	_	_

Name	Range
Satellite Frequency (MHz)	950~14500
Symbol Rate(KBaud)	1000~45000
LNB Frequency(MHz)	0~13550
LNB Power	Off/13v/18v
LNB 22KHz	Off/22KHz
DISEqC Level	1.0, 1.1, 1.1+1.0,
	Manually Defined,
	Disable
DISEqC Port	1,2,3,4
DISEqC Bytes	In HEX

The absolute value of the difference between the Satellite Frequency and the LNB Frequency must be in the range [950, 2150].

Click the **Apply** button on the right side to make the changes made take effect.

UFO 110/4 | 110/8 > Biss

Here you can create **Biss ID**, including **Mode**, **Key** and **Injected ID**. And you can check the Service Information in the **Service List**, then select **Biss ID/Biss-Off** for the services.

UFO 110/8					Status Biss Basic Setting Service Configuration	IP Output	System
Biss-I	E 🔹 Key	•			Service List	1	_
Biss ID Mode	Key	Injected ID	8	Service Information	Biss ID		Apply
	No Data			[1.1][10301] Das Erste HD	Biss-Off	•	
				[1.1][10302] arte HD	Biss-Off	•	
				[1.1][10303] SWR BW HD	Biss-Off	-	

Click the *Apply* button on the right side to make the changes made take effect.



UFO 110/4 | 110/8 > Service Configuration

There are unapplied setting	ngs, please click the appl	y button to apply your setting	ngsl								
nnel Select: Channel 1.1	 Scanning Time(ms)): 2000 () S	il Search Time(ms):	5000	Program Scan	Program Clear				_	A
Service Name					Destination				Destination Settin	ng	lea
Channel 1.1	+			3.UFO 220/10	6[1.1] 17.Baseboard[1.1]				¢		
[10301] Das Erste HD									1		
[10302] arte HD									1		
[10303] SWR BW HD									1		
[10304] SWR RP HD									/		
PID 1 (CAT)									1		
PID 16 (NIT)									1		
PID 18 (EIT)									1		
PID 20 (TOT, TDT)									1		
Channel 2.1	+			3.UFO 220/10	6[1.4] 17.Baseboard[1.4]				¢		
Channel 3.1	+			3.U	IFO 220/16[1.5]				٥		
				-		-					
				[10301]E	Das Erste HD			W			
		1.IP Direct Output	>>		Channel1		Multiplex	A			
		🗹 3.UFO 220/16	<		Channel2		Multiplex				
		17.Baseboard	>>		Channel3		Multiplex				
					Channel4		Multiplex				
					Channel5		Multiplex				
					Channel6		Multiplex				
					Channel7		Multiplex				
					Channel8		Multiplex				
					Channel9		Multiplex	-			
		PID			Туре		Enable				
		5101(0x13	3ed)		PCR		~				
		E101/0v1/	3ed)	StreamT	ype:27-Video(H264)		~				
		5101(0x1	500a)				_				
		5102(0x13	3ee)	Strea	amType:3-Audio		<u>~</u>				
		5102(0x1) 5103(0x1)	3ee) 3ef)	Strea	amType:3-Audio amType:3-Audio						

Click **Apply** or **Clear Configuration** button on the right side to make the changes made take effect or clear all configuration.

• Scanning Time (ms)1000~12000. Please try to increase this value if service name is not present, while it will slow down scanning process.

Channel Select:	Channel 2.1	•	Scanning Time(ms):	2000	SI Search Time(ms):	5000	Program Scan
					1		

• SI Search Time (ms)5000~12000. Please try to increase this value if SI is not present, while it will slow down scanning process.

Channel Select:	Channel 2.1	Scanning Time(ms):	2000	SI Search Time(ms):	5000	Program Scan

UFO 110/4 | 110/8 > IP Output

This feature enables you to output S2 services directly without involving baseboard processing. No baseboard resources will be consumed in this way.

IP Output > Status> This page shows detailed status of each channel. The TS Analysis and Service List here have the same function to those on the Status page. See the image below for reference.

UFO 110/8						Status Biss I	Basic Set	ing Service Configuration	IP Output System	m
								Status Setting	Service Configuration	m
Total Bitrate: 33.7	93 Mbps									
Channel	IP Address: Port	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service List		Channel:	1.1	
1.1	227.10.30.1 : 1234	30.818	33.793	Normal	•			Onning		
1.2	0.0.0.0 : 0	0.000	0.000	Normal			#	Service		
1.3	0.0.0.0 : 0	0.000	0.000	Normal			1	[17500] SAT.1		-
1.4	0.0.0.0 : 0	0.000	0.000	Normal			2	1175011 ProSieben		
1.5	0.0.0.0 : 0	0.000	0.000	Normal				1		1
1.6	0.0.0.0 : 0	0.000	0.000	Normal			3	[17502] kabel eins		
1.7	0.0.0.0 : 0	0.000	0.000	Normal			4	[17503] WELT		
1.8	0.0.0.0 : 0	0.000	0.000	Normal			5	[17504] SAT 1 Gold		1
1.9	0.0.0.0 : 0	0.000	0.000	Normal				(moon) and a data		
1.10	0.0.0.0 : 0	0.000	0.000	Normal			6	[17505] Pro7 MAXX		
1.11	0.0.0.0 : 0	0.000	0.000	Normal			7	[17506] sixx		
1.12	0.0.0.0 : 0	0.000	0.000	Normal		=		117507I SAT 1 Bayern		
1.13	0.0.0.0 : 0	0.000	0.000	Normal			0	[17007] SATLI Bayein		- 11
1.14	0.0.0.0 : 0	0.000	0.000	Normal			9	[17508] SAT.1 NRW		
							- L.			*
Channel 1.1 TS Analys	is								Reset Counter	Ø
						Search			٩	J
PIC)	Bitrate(Mbps)	Bandwidth(%)	Cor	ntinuity Count Error	Ту	/pe		Service	
0x0(0)	0.015	0.060		0	P	AT			-
0x1(1)	0.000	0.000		0	Ot	her			
0x12(18)	1.227	4.908		0	Ot	her			

*IP Output > Settings >*On this page, there are three tabs where you can modify the multicast IP, ports and parameters of IP Output. There is also Batch Setting. The destination IP address can be multicast IP address or unicast IP address.

There are 64 IP output channels. Mark the Enable checkbox in front of each channel. Input the correct Multicast/Unicast IP address, port and appropriate output bitrate, and select a correct output protocol. Click *Apply* to make the changes take effect.

Batch Setting is where you can input the IP output parameters in batch. See the image below for reference.

JFO 110/	8							s	tatus Bi	ss Basic Setting	Servic	e Configuration	IP Output	
											Sta	atus Setting	Service C	onfiç
h Setting./	•													1
elect All			St	art Channel-End Channel			1	- 64						
Enable		Disable	-	Destination IP Address			227.10.20.80	Same	-					
Source P	ort	1000		Destination Port			1234	Same	Ŧ					
Protocol		UDP	-	Pkt Length			7	¥						
Bitrate		25		Enable Destination MAC			Disable	V AA:BB:CC:DD:	E.FF					
< 1 2	3 4 >													
Channel	Enable	Source Port	Destination IP Address	Destination Port	Protoo	ol	Pkt Length	Bitrate(Mbps)	E	able Destination MAI	0	Destination M	AC	
1.1		1000	227.10.30.1	1234	UDP	•	7 *	25	Disable		٣	01:00:5E:0A:1E:01		
1.2		1000	227.10.30.2	1234	UDP	¥	7 *	25	Disable		Ŧ	00:00:00:00:00:00		
1.3		1000	227.10.30.3	1234	UDP	•	7 *	25	Dioable		Ŧ	00:00:00:00:00:00		
1.4		1000	227.10.30.4	1234	UDP	•	7 *	25	Disable		Ŧ	00:00:00:00:00:00		
1.5	0	1000	227.10.30.5	1234	UDP	٠	7 *	25	Disable		Ŧ	00:00:00:00:00:00		
1.6		1000	227.10.30.6	1234	UDP		7 -	25	Disable		-	00:00:00:00:00:00		
17		4070	007 40 00 7	4074	1000	-		(ar	Direkte		-			

If you want to use IP output channels in the receiver module and baseboard IP output channel at the same time, you should avoid multicast IP addresses conflicts. If there are two identical IP addresses enabled concurrently, both the multicast transport streams will be affected.

IP Output > Service Configuration>Users can make configuration for output services.

TS setting: Click TS line (the red area) to make the modification of Original Network ID, TS ID and each Service ID, Service Name, and Service Provider, etc.

		St	atus Biss	Basic Setting	Service Cor	nfiguration	IP Output	System
					Status	Setting	Service Co	nfiguration
⊗ ✿ ∧	NIT TOT						[1.1]	Apply
(13.1)							C	lear Config
(13.1)		[1.1] NIT						
(13.1)	NIT Network				Imp	ort Exp	ort	
(1.3.1							-	
1.3.1	Tag: 0x 40	Network Name: 0		Add				
1.3.1								
1.3.1	Тад	Data	Leng	th	Operatio	n		
13.1		No Data						
13.1								
(13.1	NIT Stream							
	Original Network ID: 0	TS ID: 0		Add				
	ONID TS ID	Descriptor			Operatio	n		
		No Data].	
	NIT Actual							
	Network ID 0	ОК						
	Image: Control of the second secon	② ◆ ▲ ③ ③ ④ ③ ④ ③ ④ ③ ⑤ ③ ⑤ ③ ⑤ ③ ⑤ ③ ⑤ ③ ⑥ ③ ⑥ ③ ⑤ ③ ⑥ ③ ⑥ ③ ⑧ ○ NIT Network □ □ □ □ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○	Image: State of the s	Image: Status Bits Image: Status Image: Status Image:	Image: Status Bits Basic Setting Image: Status Image: Status <t< td=""><td>Status Bits Basic Setting Service Cor Status Status Status Image: Service Cor Status<!--</td--><td>Status Bias Basic Setting Service Configuration Status Setting Status Seting Status Setting Status Setting</td><td>Status Biss Basic Setting Service Configuration IP Output Status Setting Service Configuration Interview Configuratin Interview Configuratin</td></td></t<>	Status Bits Basic Setting Service Cor Status Status Status Image: Service Cor Status </td <td>Status Bias Basic Setting Service Configuration Status Setting Status Seting Status Setting Status Setting</td> <td>Status Biss Basic Setting Service Configuration IP Output Status Setting Service Configuration Interview Configuratin Interview Configuratin</td>	Status Bias Basic Setting Service Configuration Status Setting Status Seting Status Setting Status Setting	Status Biss Basic Setting Service Configuration IP Output Status Setting Service Configuration Interview Configuratin Interview Configuratin

- TS setting: Click TS line (the red area) to configure Original Network ID, TS ID and each Service ID, Service Name, and Service Provider, etc.
- > NIT setting: Click the icon 🔯 to modify NIT Network and NIT Stream.

					Status	Setting	Se
[1.1] TS	8 🌣 ^	NIT TOT					[1.
1. SAT.1	1.3.1	_					
2. ProSieben	1.3.1		[1.1]] NIT			
3. kabel eins	1.3.1	NIT Network			Import	Expo	ort
. WELT	1.3.1						
. SAT.1 Gold	1.3.1	Tag: 0x 40	Network Name: 0	Add			
. Pro7 MAXX	1.3.1						
. sixx	1.3.1	Tag	Data	Length	Operation		
. SAT.1 Bayern	1.3.1		No	Data			
. SAT.1 NRW	1.3.1						
10. kabel eins Doku	1.3.1	NUT Observe					

UFO 110/4 | 110/8 > System

On System page you can Enable/Disable Program Auto Scan, import/export License, export SNMP MIB files, *Reboot* module, restore *factory default settings* and manage *logs*.

Program Auto Scan Enable License Product ID Inport License Export MIB Export MIB	UFO 11	0/8					Status	Biss	Basic Setting	Service Configuration	IP Output	System
Enable effective I ciones E82816850148 inport Liones etrove Upload kport Liones Export etrove Upload kport Liones Export etrove Upload	Program A	uto Scan										
License Product ID EB28146860148 Import License Erows Upload Export License Erows Upload SNMP MIB Export MIB Logs Export Oper Erows Upload Oper Erows Upload		Enable	0	Set								
Product ID E828146850148 Import License Erowe Export License Export Export License Export Export MIB Export Coper Export	License											
Import License Browse Export License Export		Product ID	EB281	46850148								
Export License Export SNMP MIB Export MIB Export MIB Export Logs Image: Copen Open Image: Copen Others Image: Copen Teboot Reset to Defaults		Import License						Browse	Upload			
SNMP MIB Export Export MIB Export Logs Copen Others Fleboot Reset to Defaults		Export License	Expo	ort								
Export MIB Export Logs Copen Others Fleboot Reset to Defaults	SNMP MIB											
Logs Open Others Rebot: Reset to Defaults		Export MIB	Ехро	ort								
Open Others Rebool Reset to Defaults	Logs											
Others Reboot Reset to Defaults		Open										
Reboot Reset to Defaults	Others											
			Rebo	Reset to Defa	aults							

Log Manage>This page shows the logs of the module. If there are issues encountered on this

module, exporting the logs will help R&D team to analyze and fix them.

Turn on *Enable Real-time Log* switch, see the real time log messages and the security level of each message below.

		UEO 110/8		~	the Deale Dealer	One in Onternation - 10 Onterna		
		Back		Ca	mus bies basic owing	Service Consguration IP Output	System	
		🗎 😘 🛓 Enabl	le Real-time Log: 👝 🚺			File	e 🝸	
		Level		Message				
		0	[LED_CtrtParamaRefresh:478] send trap NolockFlag[0]					
		0	[LED_CtrlParamsPatresh:467] send trap lookPlag[0] II ED_CtrlParamsPatresh:479] send trap NoteckPlag[1]					
		0	[LED_CtrParameRefresh:487] send trap lock/lag[1]					
		0	[LED_CtrParamsPatresh:478] send trap NolockFlag[2]					
		0	[LED_CtriParamsPatresh:500] Channel 2 input totalElitrate(0) or effectiveElitrate(0)	[loss				
		0	[LED_CtrParamsRefresh:549] send trap Output NoiockFlag[0] II ED_CtrParamsRefresh:575] send trap Bate Normal(0)					
					Tex	Debug Ørdomation ≜Wening	0 Env	
	Click	to clear	r all log messages	on the screen.			Log	Filter
	film in the second sec						Le	avel
							Level	Operatio
\geq	Click	to delet	te all log informatio	n			Error	
·	Onen		to all log informatio				Mamina	
							vvaming	
	-						Information	
							Debug	0
\succ	Click	to expo	ort log information.				Modu	ule List
		1	5			M	odule Name	Operatio
							SYS	2
							INIT	
\triangleright		to filtor	desired log messa	anes			FPGA	2
-			ucon cu iog messe	iyus.			GPIO	
			-	-			GHO	
							lic	~

Clicking the filter icon, you can simply select what logs to be included.



5.1.6 UFO 131/4

UFO 131/4 is a 4-channel DVB-T/T2 receiving and descrambling module with1 RF connectors and 2 CI slots.



Module configuration is similar to UFO 111/4.

UFO 131/4 >Basic Setting

UFO 131/4				Status	CI Basic Setting	Service Configuration System
Channel	Locked Status	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	RF Level	TS Analysis	Service List
1.1	Unlocked	0.000	0.000		۲	
1.2	Unlocked	0.000	0.000		۲	
1.3	Unlocked	0.000	0.000		۲	
1.4	Unlocked	0.000	0.000	-	۲	

Name	Range
Frequency (KHz)	47000~862000
Bandwidth (Mbps)	6 / 7 / 8 M

Click the *Apply* button on the right side to make the change take effect.

Status, CI, Service Configuration and System please refer to UFO 111/4.

5.2 Encoder Modules

5.2.1 UFX 150/4

UFX 150/4 is a 4-channel HDMI input encoder which supports H.264 HD/SD or MPEG-2 SD encoding. The module supports MPEG1-L2, AAC and AC3 audio encoding.



UFX 150/4 >Status

UFX 150/4	1					Status Ba	asic Setting Insertion	Output System
HDCP turned	I on.							
Program	Signal	HDCP Encryption	Input Video Resolution	Output Video Resolution	Total Bitrate(Mbps)	Effective Bitrate(Mbps)	TS Analysis	Program Name
1	~	Unencrypted	1280x720_50p	1280x720_50p	12.486	12.486	۲	Program-01 🚯
2	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-02 🚯
3	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-03 🚯
4	×	Unencrypted	No_Video	No_Video	0.000	0.000	۲	Program-04 🚯

UFX 150/4 >Basic Setting

150/4			Statu	Basic Setting	Insertion	Output	System
anced Setting >							
Program	Video E	ncoding Format	Video Bitrate(Kbps)			
1	H.264	·	12000		0		Apply
2	H.264	· •	8000		0		
3	H.264		8000		0		
4	H.264	•	8000		0		

Click *Advanced Setting* to see all parameters you can modify and check what specific param eters you want to set and see. Click the *Apply* button on the right side to make the change t ake effect.



Advanced Setting 🗸					
Video Parameter 🗹					
Video Encoding Format	Video Resolution		Video Bitrate	GOP Size	
Profile	Video Aspect Ratio				
Audio Parameter 🗹					
Audio Encoding Format	Delay		Audio Bitrate	Volume	
Service Parameter					
Program Name	Video PID	Audio PID	PCR PID	PMT PID	
Provider Name					
Shelter Parameter 🗹					
✓ X	🗹 Y	Vidth	Height	Color	
Z Shelter					

Setting range:

Video Encode Settings	Range	Video Encode Settings	Range
Video Type	H264 , MPEG2	GOP Close	Disable, Enable
Video Bitrate (Kbps)	600~20000	PCR2 PID	32~8190
Video Mode	CBR, VBR	PMT PID	32~8190
Video Max Bitrate (K bps)	20000	Service Name	Length is 1~16
Video Min Bitrate (K bps)	0	Service Provider Na me	Length is 1~16
Video Resolution	Auto , 1920×1080_60i ,	VLC Mode	CABAC
	1920×1080_50i,		CAVLC
	1920×1080_30p ,		
	1920×1080_25p ,		
	1080×720_60p, 1080×720_50p, 720×480_60i , 720×576_50i		
Video Frame Bitrate	Auto	Profile	HIGH
	59.94/29.97		MAIN
Video PID	32~8190	Level	3.0,3.1,3.2
			4.0,4.1,4.2
GOP Structure	IPPB, IPPP, IBP	Video Aspect Ratio	Auto
			16x9_LetterBox

KATHREIN

16x9_CutOff

4x3_PillarBox

4x3_CutOff

GOP Size 6~63

Audio Encode Settings	Range	Audio Encode Settings	Range
Encoding Type	AC3	Audio Sampling Bitrate	48
	MPEG1_Layer2	(KHz)	
	MPEG2_AAC		
	MPEG4_AAC		
Audio Mode	Dual Channel	Audio PID	32~8190
	Mono		
	Stereo		
Encoding Bitrate(Kbps)	128~384 (AC3)	Volume	0~8
	64~384(MPEG1_Layer2) 32~384(MPEG2_AAC/ MPEG4_AAC)		

UFX 150/4 >Basic Setting

Video Parameter					
Video Encoding Format	Video Resolution		Video Bitrate	GOP Size	
Profile	Video Aspect Ratio				
Audio Parameter					
Audio Encoding Format	Delay		Audio Bitrate	□ Volume	
Service Parameter					
Program Name	Uideo PID	Audio PID	PCR PID	PMT PID	
Provider Name					
Shelter Parameter					
□ x	□ Y	Width	Height	Color	
Shelter					

KATHREIN

Video Encode Settings	Range	Video Encode Settings	Range
Video Type	H264	PCR2 PID	32~8190
GOP Size	1~99	PMT PID	32~8190
Video Resolution	Auto,1920×1080_60i,	Program Name	Length is 1~16
	1920×1080_50i,		
	1920×1080_30p ,		
	1920×1080_25p,		
	1080×720_60p 1080×720_50p, 720×480_60i,720×576_50i		
Profile	HIGH	Provider Name	Length is 1~16
	MAIN		
Video PID	32~8190		

Audio Encode Settings	Range	Audio Encode Settings	Range
Audio Type	MPEG1_Layer2	Audio PID	32~8190
	AC3		
	AAC		
Audio Bit rate(Kbps)	32~192	Volume(dB)	-20~20
Delays(ms)	-2000~2000		

Shelter Parameters	Range	Shelter Parameters	Range
Shelter	Enable/Disable	X	0~1920 (Dual)
Y	0~1080 (Dual)	Width	2~1920 (Dual)
Height	2~1080 (Dual)	Color	White/Black/Blue/Green/Red



UFX 150/4 >Output

UFX 150/4						Status Basic Setting Insertion	n Output	System
Direct IP Output	Multiplexing							
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC		Destination MAC		_
1	Z	227.10.20.90	1234	Disable	•	01:00:5E:0A:14:5A		Apply
2		227.10.20.90	1235	Disable	•	00:00:00:00:00		
3		227.10.20.90	1236	Disable	•	00:00:00:00:00		
4		227.10.20.90	1237	Disable	*	00:00:00:00:00:00		
Direct IP Output	Multiplexing						_	
Program	Enable	Destination IP Address	Destination Port	Enable Destination MAC		Destination MAC		
1	2	227.10.20.90	1234	Disable	•	01:00:5E:0A:14:5A		Арріу
2		227.10.20.90	1235	Disable	•	00:00:00:00:00:00		
3		227.10.20.90	1236	Disable	•	00:00:00:00:00		
4	~	227.10.20.90	1237	Disable	-	00:00:00:00:00:00		

For the Output, both models have direct IP output and multiplexing, but only UFX 150/4 has RTMP output settings.

This feature is specifically for single program encoding and IP output directly. Outputting in this way will not occupied baseboard multicast bandwidth.

If you want to use IP output channel in the encoder module and the baseboard IP module at the same time, you should avoid a multicast IP address conflict. If there are two same IP addresses enabled meantime, all the multicast videos will be affected.

- Destination IP Address and Destination Port: Using for multicast IP addresses or unicast IP addresses and ports.
- Enable Destination MAC: Generally, you do not need to enable this option. This is reserved for exceptional cases where the unicast stream cannot be received with unicast IP addresses. You can enable destination MAC and streaming out by setting Destination MAC.

UFX 150	0/4	Status Ba	sic Setting Insertion	Output System
Direct IP C	Dutput Multiplexing			
Program	Program Name	Destination	Destination Setting	
1	Program-01	3.UFO 220/16[1.5]	1	Apply
2	Program-02		1	Clear Config
3	Program-03		1	
4	Program-04		1	

To use Multiplexing mode on service level

- 1. Click on the pencil icon \checkmark . There will always be a Base Board selection for the IP output and other Output options depending on the modules inserted.
- 2. Select the correct Output and Channel you want to output the Service to.

3. Check Multiplex for the Channel you want to output through. You can output multiple services in the same channel or output the same service in multiple channels.

UFX 150/4 >Insertion

You should choose a program first before you set Insertion.

UFX 150/4	Status	Basic Setting	Insertion
Program1 2 3 4			

LOGO setting: you can upload several pictures at the same time, and pick one to show o n the screen. The feild of the selected picture will turn green.

Program1 2 3 4						
LOGO		QR Code			OSD	
Switch:	Enable					
Position:	X 0	[0,1520)] Y	0	[0,880]	
Size:	Width 400		Height	200		
Empty the uploaded pictures	3		Selecte	d: Pic1		
KATHREIN						
Digital Systems GmbH						
Pic1 Pic2	• Pic3	• Pic4	• Pict		6	

LOGO Parameter	Range	LOGO Parameter	Range
Position X	0~1920 (Dual)	Position Y	0~1080 (Dual)
Size width	0~1920 (Dual)	Size Height	0~1080 (Dual)

> OSD setting:



Program1 2 3 4		
LOGO	QR Code	OSD
Switch: Position: Position Offset: Horizontal Pixel:	Enable Bottom 1920	[0~200]
Font Size: Display Interval:	20 3	
OSD:	Welcome!	

Subtitle Parameter	Range	LOGO Parameter	Range
Position	Bottom/Top/Middle	Position Offset	-200~200
Horizontal Pixel	10~1920	Scrolling Speed	1~20
Front Color	White/Black/Blue/Green/ Red/Yellow	Front Size	0~100
Display Interval	0~100		

> **QR Code setting**: QR Code picture picking method is same as LOGO setting.

K	A	Т	R	EI	Π	
		_	 			

Program1 2 3 4					
LOGO		QR Code			OSD
Switch:	Enable				
Position:	X 10000	[0,1820]	Y	980	[0,980]
Size:	Width 100		Height	100	
Empty the uploaded pictures	5		Image no	ot selected	
Pic1 Pic2	• Pic3	• Pic4	• Pic5	•	Pic6
LOGO Parameter	Range	LO	GO Paran	neter	Range
Position X	0~1920 (Dual)	Pos	ition Y		0~1080 (Dual)
Size width	0~1920 (Dual)	Size	e Height		0~1080 (Dual)

UFX 150/4 >System

Please refer to CR2-DVBC module.

5.3 Modulation Output modules

5.3.1 UFO 220/16

> UFO 220/16

UFO 220/16 module supports modulating 16 non-adjacent or channels with 1 RF female port for modulating output and 1 RJ45 network port is reserved for future use. QAMA and B share the same Hardware but Different Software. If you need to change the Module from A to B, please contact your local support for assistance.

Module configuration is similar to IP Setting.



UFO 220/16 >Status

This page show the current Status of the Modulator

UFO 220/10	6					Status	Basic Setting	Output	PSIP	System
Temperature: 5	60°C (122°F)		Tip: The module will autom	atically power off when the	e temperature reac	thes or exceed	s 74 degrees Cel:	sius(165.2)	degrees F	ahrenheit)!
Channel	Effective Bitrate(Mbps)	Total Bitrate(Mbps)	Bitrate	TS Analysis	Service List					
1.1	41.364	50.869	Normal	۲	III 🔺					
1.2	41.417	50.869	Normal	۲	i =					
1.3	0.000	50.869	Normal	۲						
1.4	31.850	50.869	Normal	۲						
1.5	30.825	50.869	Normal	۲						
1.6	0.000	0.000	Normal	۲						
1.7	0.000	0.000	Normal	۲						
1.8	0.000	0.000	Normal	۲						
1.9	0.000	0.000	Normal	۲						
1.10	0.000	0.000	Normal	۲						
1.11	0.000	0.000	Normal	۲						
1.12	0.000	0.000	Normal	۲						
1.13	0.000	0.000	Normal	۲						
1.14	0.000	0.000	Normal	۲						
			a							

UFO 220/16 >Basic Setting

This page is where you can modify or set the frequency for the RF modulation. UFO 220/16 has 16 non-adjacent channels.

0-0 22	20/16				Status Basic Setting Output	PSIP Sy
F Level: 3	16	(dBmV dBuV) PSI/SI Interval(ms): 100			
Channel	Enable	Frequency(KHz)	Bandwidth(MHz)	Constellation	SymbolRate(KBaud)	
1.1	<u>~</u>	200000	8	QAM256	• 6900]
1.2		208000	8	QAM256	- 6900	
1.3		216000	8	QAM256	- 6900	
1.4		224000	8	QAM256	- 6900	
1.5		232000	8	QAM256	6900	
1.6		240000	8	QAM256	▼ 6900	
1.7		248000	8	QAM256	- 6900	
1.8		256000	8	QAM256	▼ 6900	
1.9		264000	8	QAM256	6875	
1.10		272000	8	QAM256	- 6875	
1.11		280000	8	QAM256	- 6875	
1.12		288000	8	QAM256	· 6875	
1.13		296000	8	QAM256	- 6875	
1.14		304000	8	QAM256	- 6875	
1.15		312000	8	QAM256	- 6875	
1.16		320000	8	QAM256	* 6875	

Click the *Apply* button on the right side to make the change take effect.

Name	Range	Name	Range
Bandwidth	6M, 7M, 8M	RF level	0~63 (dB µ V)
			60~123 (dBmV)
Symbol Rate (KBaud)	4400~6956	Frequency (KHz)	48000~858000
		Constellation	QAM16/32/64/128/256

UFO 220/16 >Output

QAM Output will be different from the Receiver and Encoder module. Since the QAM module is an output module like IP output, all services configured in receiver, encoder and IP input will be seen here.

- > TS setting: Please refer to IP output service configuration.
- LCN setting: You need to add NIT streams of all frequencies in the base TS (frequency), which is used for your STB to automatically search and identify all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency).Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click +*Descriptor* then LCN Descriptor to check all the programs which are contained in this frequency. Then set programs LCN.

ΝΙΤ ΤΟΤ			[
IIT Network			Import Export
Tag: 0x 40	Network Name: 0	Add	
Tag	Data	Length	Operation
	No	Data	

NIT Stream

ginal Network ID: 0	TS ID: 0	dd
ONID TS ID	Descriptor	Operation
	No Data	

NIT Actual

		Logical Ch	nannel Number	Add		
TS	Service ID	Service Name	LCN [0, 1023]	Visible Service Flag		
1.1	10301	Das Erste HD	1	Visible •		-
1.1	10302	arte HD	2	Visible 💌		
1.1	10303	SWB BW HD	Q	Vieible	\cap	

Service List Add

TS	Service ID	Service Name	Service Type	
1.1	10301	Das Erste HD	Advanced Codec HD Digi x	-
1.1	10302	arte HD	Advanced Codec HD Digi x	
1.1	10303	SWR BW HD	Advanced Codec HD Digi x	

Satellite I	Delivery Sy	stem
Frequency (MHz)	3840	[0,15000]
SymbolRate (Ksymbol/s)	6875	[1,45000]
Polarization	Linear-horizont	al 🔻
		Advanced Parameters \checkmark
Terrestria	Delivery Sy	/stem
Centre Frequency	1	[1, 4294967295](10Hz)
Bandwidth	8MHz	•

Advanced Parameters \checkmark

- Click +Descriptor and add the Cable Descriptor in. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency). Then click OK. (this operation should be set on Modulator module only).
- Do same operations to add next TS (frequency) until NIT streams of all the frequencies have been included. At last click Apply button to let all configuration take effect. Then searching programs in your STB, you will get all programs in order of LCN which you set.

UFO 220/16> System

UFO 22	20/16								Status	Basic Setting	Output	PSIP	System
License													
	Product ID												
	Import License						Browse	Uple	bad				
	Export License	Export											
SNMP MI	3												
	Export MIB	Export											
Logs													
	Open												
Others													
		Reboot	Reset to Defaul	ults									

On the *System* page you can *Import/Export License*, *Reboot* module, *Reset to Defaults* and *Manage Logs*.

5.3.13 UFO 230/8

UFO 230/8 module supports up to 4/8 adjacent frequencies modulating with 1 RF female connector for output.



Module configuration is similar to IP Setting.



UFO 230/8>Basic Setting

UFO 230	/8						Status	Basi	c Setting	Output	System	PSIP
RF Level: 4	0	(dBmV 🖲 dBuV 🔿) 🛛 F	PSI/SI Interval(ms): 100									
Channel	Enable	Frequency(KHz)	Bandwidth(MHz)		FFT Mode	GI Mode	QAM Mode		Convolutio	nal Coding		Apply
1.1		474000	8	• 2	2К 🔹	1/32 💌	64QAM ·	•	7/8	•		
1.2		482000	8	- 2	2К 👻	1/32 *	64QAM	-	7/8	Ŧ		
1.3		490000	8	7 2	2К т	1/32 *	64QAM	-	7/8	Ŧ		
1.4		498000	8	* 2	2К т	1/32 *	64QAM	•	7/8	Ŧ		
1.5		578000	8	* 2	2К 🔹	1/32 💌	64QAM	•	7/8	•		
1.6		586000	8	- 2	2К 👻	1/32 👻	64QAM	-	7/8	Ŧ		
1.7		594000	8	- 2	2К 👻	1/32 🔻	64QAM	-	7/8	~		
1.8		602000	8	- 2	2К 👻	1/32 🔻	64QAM	-	7/8	Ť		

Click the *Apply* button on the right side to make the change take effect.

Name	Range	Name	Range
Bandwidth	6M, 7M, 8M	RF level	0-31.5dBmv/60-91.5dB μ
			V
Frequency (KHz)	48000~862000		

UFO 230/8>Output

- > TS setting: Please refer to IP output configuration.
- LCN setting: You need to add NIT stream of all frequencies in the base TS (frequency) which is used for your STB auto search and identifies all the TS (frequencies) LCN information.
 - Check or reset Original Network ID and TS ID of each TS (frequency). Each TS should have different IDs.
 - Fill the Original Network ID and TS ID of each TS (frequency) in the field of the base TS (frequency) and then click *Add* to create a NIT stream for this TS (frequency).
 - Click +Descriptor and Cable Descriptor. Then fill in the correct frequency and symbol rate and choose the correct constellation of the TS (frequency) and then click OK (this operation should be set on Modulator module only).
 - Click +*Descriptor* and add the *LCN Descriptor* to check all the programs which are contained in this frequency. Then set programs LCN.

	r				[1.6]					
T Network				Import Ex	port					
Tag: 0x 40		Network Name: 0	Add							
	Тад	Data	Length	Operation						
	0x40	0	1	×						
Γ Stream					4		Logical Cha	nnel Number	Add	Ĩ.
Original Net	work ID: 0	TS ID: 0	Add		Т	S Service ID	Service Name	LCN [0, 1023]	Visible Service Flag	
ONID	TS ID	Descriptor		Operation	1	.1 10301	Das Erste HD	1	Visible	
		[0x83] Logical Channel Number 🛛 🗙 🖸			1	.1 10302	arte HD	2	Visible	
0	0	[0x44] Cable Delivery System X G		× +Descriptor	>	.1 10303	SWR BW HD	3	Visible	
					1	.1 10304	SWR RP HD	4	Visible 👻	
					1	.2 4911	ORF1 HD	5	Visible 👻	
Antoni						0 4010	ORESW HD	6	Vieible	
Actual					1	-2 4912	OHIZWIND	Ů,	4191010	0
Actual letwork ID	0	Version Number	0	ок	1	.2 4912 .2 4913	ServusTV HD Oesterreich	7	Visible •	

		Service I	List Add								
TS	Service ID	Service Name	Service Type								
1.1	10301	Das Erste HD	Digital Television Service x	~	•						
1.1	10302	arte HD	Digital Television Service x	~				Logical Cl	nannel Number	Add	
1.1	10303	SWR BW HD	Advanced Codec HD Digi				Service ID	Service Name	LCN [0, 1023]	Visible Service Flag	
1.1	10304	SWR RP HD	Advanced Codec HD Digi x			1.1	10301	Das Erste HD	100	Visible •	-
10	1011	0054.00	Distant Television Occurs	_		1.1	10302	arte HD	2	Visible •	

• Repeat the operations to add next TS (frequency) until NIT streams of all the frequencies have been included. Finally click Apply button to let all configuration take effect. Then searching programs in your STB, you will get all programs in the order of LCN which you set.

6 Appendices

Appendix A – Power Consumption

UFO 101 Power supply	max. 120W
UFO 101 Chassis	max. 16W
UFO 121/4	max. 9W
UFO 110/4	max. 38W
UFO 110/8	max. 70W
UFO 111/4	max. 22W
UFO 131/4	max. 8W
UFO 230/8	max. 14W
UFO 220/16	max. 20W
UFO 230/8	max. 14W
UFX 150/4	max. 11W
UFO 151	max. 7W

Comments: The chassis includes both the baseboard's and fan's

Appendix B – Abbreviations

8VSB	Vestigial sideband modulation with 8 discrete amplitude levels
16VSB	Vestigial sideband modulation with 16 discrete amplitude levels
AAC	Advanced Audio Coding
AC-3	Also known as Dolby Digital
ASI	Asynchronous Serial Interface

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ATSC	Advanced Television Systems Committee
AV	Audio Video
BAT	Bouquet Association Table
BER	Bit Error Ratio
Bit Rate	The rate at which the compressed bit stream is delivered
BNC	British Naval Connector
CAM	Conditional Access Module
CAT	Conditional Access Table
CAT6	Category 6 – Cable standard for gigabit Ethernet
CBR	Constant Bitrate
CI	Common Interface
CVBS	CompositeVideoBroadcastSignal
СС	Closed Caption
dB	Decibel
DVB	Digital Video Broadcasting
EIT	Event Information Table
EPG	Electronic Program Guide
FEC	Forward Error Correction
GOP	Group of Pictures
HD	High Definition
HDCP	High-bandwidth Digital Content Protection
HDMI	High Definition Multimedia Interface
I/O	Input/output
Kbps	1000 bit per second
LCN	Logical Channel Number
LNB	Low-Noise Block
LO	Local Oscillator
Mbps	1,000,000 bits per second
MER	Modulation Error Ratio

MIB	Management Information Base
MPTS	Multi-program Transport Stream
NIT	Network Information Table
OFDM	Orthogonal Frequency-Division Multiplexing
ΡΑΤ	Program Association Table
PCR	Program Clock Reference
PID	Packet Identifier
РМТ	Program Map Table
PSI	Program Specific Information
PSU	Power Supply Unit
QAM	Quadrature Amplitude Modulation
QPSK	Quadrature Phase-Shift Keying
SD	Standard Definition
SDI	Serial Digital Interface
SDT	Service Description Table
SI	Service Information
SNMP	Simple Network Management Protocol
SNR	Signal Noise Ration
SPTS	Single Program Transport Stream
ТДТ	Time and Date Table
TS	Transport Stream
VBR	Variable Bitrate

Appendix C

Please contact our sales/regional representatives or support hotline for any help, product information, and troubleshooting.

 www.kathrein-ds.com | support@kathrein-ds.com
 936500182/a/STM/1023/GB | Subject to change.

 KATHREIN Digital Systems GmbH
 Anton-Kathrein-Str. 1–3
 83022 Rosenheim
 Germany
 Phone +49 731 270 909 70