

WISI STREAMLINE

OSxxx DVB-IP-Gateway



- Modular platform for DVB-MPEG Video streaming
- Up to 6 DVB frontend modules
- Support for DVB-S, DVB-S2, DVB-C, DVB-T, DVB-ASI and DVB-Encoder
- MPTS/SPTS Remultiplexing and GigE aggregation
- 6 CI slots (supports professional CAMs) for scrambled signal sources
- Multiple service CAM support
- MPEG-TS over UDP protocol
- Separate Ethernet port (10/100 Mb/s) for management interface
- Configuration via Web browser
- Contribution- and IPTV applications



Caution

The mains voltage must match the rated input voltage of the unit (180-265 VAC; 50/60 Hz).

Connecting cable — Lay the cable so that no-one can trip over it.

— Lay the cable with a downward loop so that any water condensing on it can drip on the floor instead of running into the unit.

Selecting the installation location

Excessive temperatures will reduce the operating lifetime of the unit. DO not install the unit directly above or in the vicinity of radiators or heating systems where it would be subjected to thermal radiation or oil vapours.

Ventilation slots

Do not cover the ventilation slots.

Moisture

Water dripping or splashing onto the unit will damage it. If there is condensation on the unit, wait until this has evaporated before switching the unit on.

Caution – danger!

In accordance with EN 50 083-1, the antenna system must comply with the safety requirements with respect to grounding, potential equalisation, etc.

Service work

Service work may be carried out only by qualified personnel. Always disconnect the supply voltage before starting any such work.

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- **1-3** CI Common Interface slots
- 4 OVERFLOW red data volume too high (Total bitrate of at least one streaming module >90 Mbit/s)
- 5 Input modules 1-6. LED1= Modul slot 1
 - green: input signal o.k.
 - off: no module plugged in.
 - yellow: no TV signal (AV module)
 - one signal missing (Dual module)
 - red: no signal, signal incorrect
- 6 LED Power ON
- 7 Mains plug
- 8 Fuseholder (T2A/250 V)
- 9 Mains switch
- **10** Gb Ethernet connector*
- 11 CONTROL 10/100 additional Ethernet connector as e.g. management input for PC

Remove Fuseholder



Cable connections

- Connect HF-or appropriate (ASI. Ethernet, AV signal) to the corresponding input module (front end).
- Connect "GbE 1000" to distribution system as e.g. switch.
- For local settings connect PC to CONTROL 10/100.

Set IP address

- Open Internet browser.
- Set IP address (1) printed on the carton label.

(1)						
C Welcome to the WISI STREA	MLINE DVB-IP GAT	EWAY embedded v	veb server - Microsoft	Internet Explorer bereitges	tellt von WISI GmbH &	
💽 🗸 🖉 http://172.29.14.	221/					
Datei Bearbeiten Ansicht Favo	riten Extras ?					
€ -						
😤 🏶 🏀 Welcome to the WISI	STREAMLINE DVB-IP GA	ATEWAY				
	WISI S	TREAI	MLINE	DVB-IP G	BATEWA	Y0.07
Device Status			Devid	e: Status		
Configuration	Status	Otroomer Ditrote	Streemer Overflew	GbE 1000	1000M/Dit/-	
FE 1 DVB-S	1	7 MBit/s	Streamer Overnow		TOUDIVIDIUS	
Streamer 1	2	0 MBit/s				
FE 2 DVB-S	3	18 MBit/s				
CT2 Streamer 2	4	0 MBit/s				
FE 3 DVB-S	5	7 MBit/s				
CI 3 Streamer 3	6	13 MBit/s				
Path 4 FE 4 DVB-S Streamer 4						
Path 5 FE 5 DVB-S Streamer 5						
Path 6 FE 6 DVB-S Streamer 6						
	Help			Reload	Save	

Fig. 1

WIS	WISI ST	REAI	MLINE	DVB-IP	GATEWA	V0.07
Device Status			Devic	e: Status		
Configuration	Status			GbE 1000		
Path 1 E 1 DVB-S Cl 1 Streamer 1	Path Input TS S	treamer Bitrate	Streamer Overflow	Link up	1000MBit/s	
Path 2 E 2 DVB-S I 2	2 3	0 MBit/s 18 MBit/s				
treamer 2	4	0 MBit/s				
eath 3 5 3 DVB-S 3 rreamer 3	5	7 MBit/s 13 MBit/s				
ath 4 4 DVB-S reamer 4						
ath 5 5 DVB-S reamer 5						
ath 6 6 DVB-S reamer 6						

Status

Shows the status of output streamer bitrate.

Input TS: Input TS: Streamer Bitrate:	green signal: transport stream signal OK. red signal: transport stream signal error. Output Streamer Bitrate (only displaed)
Streamer overflow:	red signal: streamer overflow: > 90 Mbit/s
GbE 1000 Link up:	green signal: network connection OK red signal: network connection malfunction

WISI	WISI S	STREAN	<i>ILINE</i> [OVB-IP G/	
evice atus			Device: Co	nfiguration	
onfiguration		IP-Address	Netmask	Gateway	MAC-Address
ath 1 1 DVB-S	Control:	172.29.14.221	255.255.1.0	172.29.203.233	00:E0:0C:BC:E5:60
1 reamer 1	Streamer 1:	192.168.1.96	255.255.255.0	192.168.1.250	00:03:98:00:01:60
ath 2	Streamer 2:	192.168.1.95	255.255.255.0	192.168.1.250	00:03:98:00:01:5f
2 DVB-S 2	Streamer 3:	192.168.1.94	255.255.255.0	192.168.1.250	00:03:98:00:01:5E
eamer 2 ath 3	Streamer 4:	192.168.1.93	255.255.255.0	192.168.1.250	00:03:98:00:01:5D
3 DVB-S	Streamer 5:	192.168.1.92	255.255.255.0	192.168.1.250	00:03:98:00:01:5C
reamer 3	Streamer 6:	192.168.1.91	255.255.255.0	192.168.1.250	00:03:98:00:01:5B
th 4 4 DVB-S		tion			
4	Path 1:	uon	1		
reamer 4	Dath 2:	CI			
5 DVB-S	Path 2:	01			
o reamer 5	Patri 5.		3		
ath 6	Path 4:	CI	4 🗸		
6 DVB-S	Path 5:	CI	5 🗸		
reamer 6	Path 6:	CI	6 🗸		

IP-Address Configuration

CONTROL: Streamer 16.:	Set IP address "CONTROL 10/100" for PC connection. Set IP address (refer to Fig 1). Set Netmask (subnet address) and Gateway (access to another network, Broadcast* etc). * refer to wikipedia. org and Search "Multicast" or refer to Iana.org for usable Multicast address range.
MAC-Address:	Displays the MAC-Address of control and streamer 16. (not adjustable)
CI-Configuration	Deselect CI setting to none, if you don't want to stream decryp- ted pay TV. Save new settings.
Save: Reload:	Save settings. Save button inactive when no settings are done. Reloads the previous saved settings.

1

WISI	WISI STREAMLINE	DVB-IP GATEWAY
Device Status Configuration Path 1	Input LNB LO Frequency	FE 1 DVB-S Status Bit Error Rate: 2.0e-06
CI 1 Streamer 1 Path 2 FE 2 DVB-S	IF 9750MHz 0 10600MHz Inputfrequency [MHz]: 1354	Puncture Rate: 3/4 Bit Rate [MBit/s]: 41.250 Input! and [dbub/l]: 52
CI 2 Streamer 2 Path 3 FE 3 DVB-S CI 2	Symbolitate [KS/s]: 27500	Signal to Noise [dB]: 12 Frontend locked:
Streamer 3 Path 4 FE 4 DVB-S CI 4	Module-Version SW-Version: 1.0007 HW-Version: 1.0000	O8510059
Streamer 4 Path 5 FE 5 DVB-S CI 5		
Path 6 FE 6 DVB-S CI 6 Streamer 6		
	Help	Reload

Set IF frequency or transponder frequency

For transponder frequency set 9750 or 10600 MHz button. Set IF frequency 1354 or transponder frequency as e.g.11954*

Input

LNB LO Frequency (MHz):

Input frequency (MHz): Symbol rate (kS/s):

Display

Bit Error Rate:2.0e-06 input signal OK (e-04...e-06)Puncture (Code) rate:3/4Bit rate (MBit/s):41250 input bit rateInput level (dBµV):52S/N (dB):12Front end locked:green signal: SAT input signal OKFront end unlocked:red signal: low level SAT input signal

27500

Front end unlocked:	red signal: low level SAT input signal
Module-Version (factory settings) SW: HW:	Software Version Hardware Version
Serial Number (factory settings)	8 digits
Save: Reload:	Save settings. Save button inactive when no settings are done. Reloads the previous saved settings.

WISI	WISI STREAMLINE	
Device tatus	Path 1: Co	mmon Interface 1
nfiguration	Conditional Access Module	Input
ath 1	CAM Name: CryptoWorks	Transportstream:
1	⊂ Decode	Status
eamer 1	🔽 👼 0x6D66 (28006) ZDF	PID Decoding OK Watchdog Events
th 2 2 DVB-S	Dx6D6B (28011) ZDFinfokanal	0x6D66 🖌 0
amar 2	🔲 ø 0x6D6E (28014) ZDFdokukanal	CA Syslds
amerz h 3	Dx6D70 (28016) ZDFtheaterka	
DVB-S	🔲 🥶 0x6D67 (28007) 3sat	
amer 3	🔲 🥶 0x6D68 (28008) KiKa	
4	0x6D71 (28017) Dok&Deb	
DVB-S	0x6D6C (28012) DKULTUR	
amer 4	(xe060 (28013) DI F	
DVB-S	0x0000 (0)	
amer 5	Module-Version	Serial Number
th 6 6 DVB-S 5	SW-Version: 0.0005 HW-Version: 0.0001	08420017

Conditional Access Module CAM name:	shows the CAM name
Input Transportstream: Transportstream:	green signal: transport stream signal OK. red signal: transport stream signal error.
Decode	The Decode field displays the services contained in the transport stream. Confirm the selected programs.
CA Sysids	shows the provider CA-System ID's as (e.g 0x0B01) that the smartcard / CAM supports
Module-Version SW: HW:	Software Version Hardware Version
Serial Number (factory settings)	8 digits
Save: Reload:	Save settings. Save button inactive when no settings are done. Reloads the previous saved settings.

(UIII)	WISI STREAMLINE DVB-IP GATEWAY
evice atus	Path 1: Streamer 1
onfiguration ath 1 1 DVB-S	Input Stream Analyzer Streamer Mode Transportstream: 100%, ready Image: Sprs Oransmodulator
1 reamer 1	Output Stream 1 V IP-Address Port Disable Output
2 DVB-S 2 reamer 2	239.255.1.2 56789
ath 3	Streaming
3	
ath 4	✓ 0x0082 (130) ISO 13818-1 PES Private Data
4 DVB-S	✓ 0x0078 (120) deu ISO 11172 Audio (MPEG 1)
ath 5	☑ 0x0079 (121) 2ch ISO 11172 Audio (MPEG 1)
5 DVB-S	✓ 0x007D (125) deu ISO 13818-1 PES Private Data
ath 6	☑ 0x0083 (131) ISO 13818-1 PES Private Data
6 DVB-S	☑ 0x03C6 (966) ISO/IEC 13818-6 DSM-CC U-N Messages
	☑ 0x03C7 (967) ISO/IEC 13818-6 DSM-CC U-N Messages
	☑ 0x03C8 (968) ISO/IEC 13818-6 DSM-CC U-N Messages
	Help Reload Save

Stream Analyzer

green 100 % ready, red = busy

Input Transportstream: Transportstream:	green signal: transport stream signal OK. red signal: transport stream signal error.
Output	
Stream:	summary of selected streams 132 max. or ALL refer to chapter Streamer 1 - ALL
IP Address: Port:	Target IP address (Multicast/Unicast). Output at GbE connector. Set port number > 1024<49151. (For more informations refer to Wikipedia, Search: port numbers).
Streaming	This field displays all elementary streams in the transport stream. Select streams by clicking the relevant selection boxes. E.g. ZDF 28006 - All componets of the stream are then set active.
Disable Output:	Disables the selected stream output incl. all components e.g. Stream 1
Streamer Mode: Transmodulator:	SPTS = Single Program TransportStream. Selection of severall TS. Offers the compact total streaming. refer to chapter "Streamer 1 Transmodulator mode"
Save:	Save settings. Save button inactive when no settings are done.

	WISI ST	REAMLI	NE D'	VB-IP (GATEWAY	V0.07
Device		P	ath 1: Str	eamer 1		
Configuration	- Input		ream Analyzer	s	Streamer Mode	^
Path 1 E 1 DVB-S	Transportstream:		100%	o, ready	SPTS OTransmodulator	
11	Output					
ath 2	Stream ALL 💌	IP-Address	Port	Disable Outp	ut	
2 DVB-S	Stream 1	239.255.1.2	0			
amer 2	Stream 2	239.255.1.134	56789			
th 3 3 DVB-S	Stream 3	127.0.0.1	0			
amor 3	Stream 4	127.0.0.1	0			
14	Stream 5	127.0.0.1	0			
DVB-S amer 4	Stream 6	127.0.0.1	0			
h 5	Stream 7	127.0.0.1	0			
DVB-S amer 5	Stream 8	127.0.0.1	0			
th 6	Stream 9	127.0.0.1				
amer 6	Charam 10	127.0.0.1	· ·			
	Stream 10	127.0.0.1	U			
	Stream 11	127.0.0.1	0			
	o. 10	(07.0.0.4	· ·	_		
	Help			Reload	Save	

Output Stream ALL

Displaying Stream 1...32 incl. IP-Address, Port and Disable Output status. (Not available in Transmodulator mode).

Scroll down with the bar tool at the right side.

WIS	WISI STREAMLINE DVB-IP GATEWAY
- Device Status	Path 1: Streamer 1
Configuration Path 1 FE 1 DVB-S	Input Stream Analyzer Streamer Mode Transportstream: 100%, ready O SPTS O Transmodulator
CI 1 Streamer 1 - Path 2 FE 2 DVB-S CI 2 Streamer 2	Output Stream IP-Address Port Disable Output 239.255.1.2 56789
Path 3 FE 3 DVB-S Cl 3 Streamer 3	Streaming Digital Television Service Image: Construct the structure of the structur
Path 4 FE 4 DVB-S Streamer 4	Windows Internet Explorer If you change to Transmodulator Mode all previous selected programs or components of this streamer will be erased! Are you really sure?
Path 5 FE 5 DVB-S Streamer 5	OK Abbrechen
Path 6 FE 6 DVB-S Streamer 6	✓ 0x03C6 (966) ISO/IEC 13818-6 DSM-CC U-N Messages ✓ 0x03C7 (967)
	✓ 0x03C7 (967) ISO/IEC 13818-6 DSM-CC U-N Messages ✓ 0x03C8 (968) ISO/IEC 13818-6 DSM-CC U-N Messages ✓ 0x03C8 (968) ISO/IEC 13818-6 DSM-CC U-N Messages
	Help Reload Save

NOTE transmodulator mode

If you change to transmodulator mode all previous selected programs or components of this streamer will be erased. Are you really sure?

	V0.07
Device Status	Path 1: Streamer 1
Configuration Path 1 FE 1 DVB-S	Input Stream Analyzer Streamer Mode Transportstream: 100%, ready O SPTS O Transmodulator
Cl 1 Streamer 1 Path 2 FE 2 DVB-S Cl 2 Streamer 2	Output IP-Address Port Disable Output 239.255.1.2 56789
Path 3 FE 3 DVB-S Cl 3 Streamer 3	
Path 4 FE 4 DVB-S Streamer 4	
Path 5 FE 5 DVB-S Streamer 5	
Path 6 FE 6 DVB-S Streamer 6	

Specifications

DVB-S

Input impedance	75 Ω
Input frequency range	950 - 2150 MHz
Input frequency steps	1 MHz
Input return loss	> 8 dB
IF-frequency/-bandwidth	none (Zero-IF)
Input level range	47 - 70 dBµV
AFC	± 5 MHz
Type of modulation	QPSK
Symbol rate	2 - 45 MS/s
Filtering	Nyquist √cos
Roll-Off	35 %
FEC inner code	Conv.,K=7,R=1/2,2/3,3/4,4/5,6/7,7/8,8/9
FEC outer code	RS (204,188,8)
Spectral inversion	C-/KU-band
Interleaving	Conv.,I=12
Lock indicator	Front panel LED

Streaming module

SPTS mode

- up to 32 different SPTS per signal path;

Total bitrate of up to 90 Mbit/s per streamer,

refer to description of OVERFLOW LED (Connectors)

- each SPTS is synthesized from single components of the incoming TS

e.g. Video, Audio, Teletext, Data

- dynamic creation of PAT, PMT, SDT

- dynamic creation of SAP/SDP (multicast only)

Output GbE

Protocol	Ethernet
Transfer rate	1000 Mb/s
Duplex mode	full
IP version	4
Streaming protocol	MPEG-TS over UDP
TS packet number	7

Standard comp	bliance
ISO 639	Code for the Representation of Names of Lan- guages
ISO/IEC 13818-1	Information technology – Generic coding of mov ing pictures and associated audio informations - Systems
IETF RFC 791	IP v4
IETF RFC 768	User Datagram Protocol (UDP)
IETF RFC 793	Transmission Control Protocol (TCP)
IETF RFC 1065	Structure and identification of management infor- mation for TCP/IP-based internets. SNMP v1
IETF RFC 1066	Management information base for network man- agement of TCP/IP-based internets. SNMP v1
IETF RFC 1067	A simple network protocol. SNMP v1
IETF RFC 1901	Introduction to community-based SNMP v2
IETF RFC 1908	Coexistence between Version 1 and Version 2 of the internet standard network management framework.
IETF RFC 2616	Hypertext Transfer Protocol (HPPT / 1.1)
ETSI EN 300421	Digital Video Broadcasting (DVB); Framing struc ture, channel coding and modulation for 11/12 GHz satellite services.
ETSI EN 300429	Digital Video Broadcasting (DVB); Framing struc- ture, channel coding and modulation for cable systems.
ETSI EN 300468	Digital Video Broadcasting (DVB); Specification for Service Information (SI) in DVB systems. Service Information (SI) in DVB systems.
ETSI EN 300744	Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for digital terrestrial television

General OS xx Basic unit

Power supply	180-265 VAC; 50/60 Hz
Operating temperature	0°C+55°C
Storage temperature	-25°C+75°C
Max. humidity non condensing	95%
Dimensions	1 HE / 19"
Weight	3,5 kg
Power consumption	< 55 W

Block diagram





Legend OSDS= OS-DualStreamer OSCI= OS-CI modules

0 – empty
1 – DVB-S (single)
2 – DVB-S (dual)
3 – DVB-S2 (single)
4 – DVB-T (single)
5 – DVB-C (single)
6 – AV - MPEG2 – Encoder (single)
7 – ASI – Input/Output (single)
8 – ASI – Input (dual)
9 – Ethernet – Input (single)
A – SDI-MPEG2-Encoder (single)
6 = 3 x OSDS + 0 x OSCI
$7 = 3 \times OSDS + 2 \times OSCI$
x = x v (N) x + y v (N)



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