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Product Information

OTxxx

WISI STREAMLINE Transport Stream Multiplexer OTxxx

- Integrated 6 in 1 (8 in 1) statical multiplexer
- Variable Front ends featuring :
  - Integrated receiver modules for DVB -S, DVB - S2, DVB - T
  - Integrated AV to DVB encoders
  - Simulcrypt compliant ASI loop/input for external scrambler
  - IP Interface for configuration, monitoring, and analysis
- 4 CI slots (supports professional CAMs) for scrambled signal sources
- Integrated QAM modulator

OT xxx

Description

Concept:

OTxxx is a modular platform for statical transport stream re-multiplexing. Around a core processor with a stream switching back-plane you can configure a vast variety of input modules, CI slots and output options such as QAM or ASI. Incoming streams can be routed to the corresponding core inputs directly or after passing the CAM modules. The core then selects the preconfigured parts of the streams and combines them to the desired output stream while correcting all essential SI tables and timing issues. This means you can combine selected parts of very complex streams as well as building your own stream from basic Audio Video sources without additional external equipment. Avoiding external receivers or encoders makes OTxxx a very cost effective, space saving, easy to handle, and reliable multiplexer.

TS Analyzer:

OTxxx features an IP interface through which all settings can be accomplished on a graphical user interface running on your PC. In order to determine the settings you need to analyze the incoming streams and their content and then make your configuration. All data streams inside the OTxxx can be monitored and analyzed locally . For Factory support the IP interface can be utilized to record a certain length of data stream and send it to the service department for advice. Likewise your configuration files can be extracted and sent for support. This feature greatly helps to get a quick start in understanding and building your own digital multiplexes.

Common interface:

4 CI slots are at your disposal. They are accessible from the front side of the unit. The CAM modules can be simple as well as professional CAMs. Professional CAMs , if supported by the content provider, have the advantage to open (descramble) more than one program per data stream. OTxxx supports this feature up to as many programs per CAM stream as you are licensed to use by the provider.

Mux Core:

The actual multiplexer core performs the miracle of selecting and combining the programs you have defined in the configuration file over the interactive graphical user interface. It filters unwanted programs or parts of a programs such as unwanted language streams or wrong Teletext. Then it corrects or rebuilds the PIDs to avoid redundancy and finally corrects the clock references to form a complete digital package to feed to your subscribers.

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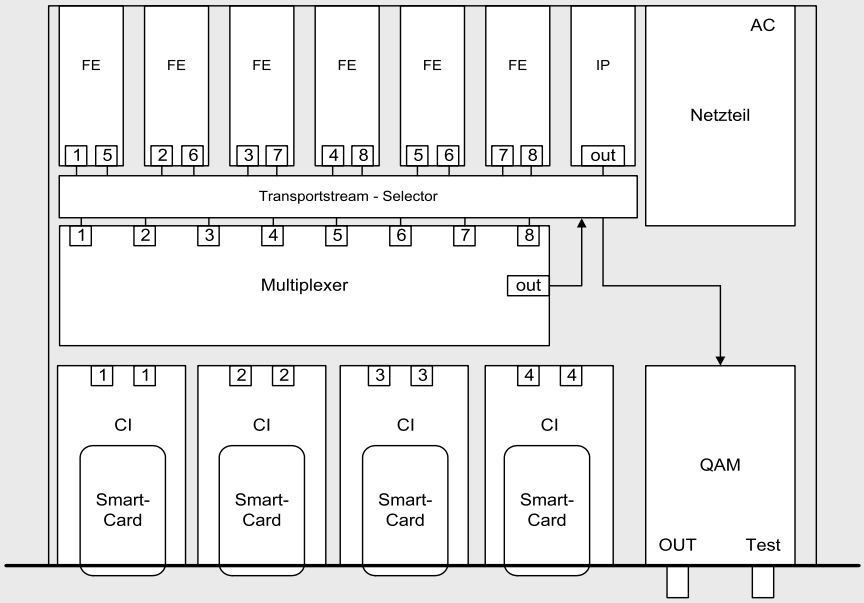
Block diagram



Specifications Input modules

ASI in/out, ASI dual in

ASI - receiver input	
Data format	DVB A010 ASI-C, EN50083-9
Bitrate	270 Mb/s
ASI mode	Burst or continuous
Packet framing	188 / 204 byte per packet
Sensitivity	200mV (p-p)
Max. signal level	880mV(p-p)
Input impedance	75 Ohm
Input return loss	> 17 dB (27-270 MHz)
Lock indicator	front panel LED
LVTTL - output	
Data format	DVB-SPI (LVTTL), EN50083-9
Packet framing	188 / 204 byte per packet
ASI - transmitter	
LVTTL - input	
Data format	DVB-SPI (LVTTL), EN50083-9
Packet framing	188 / 204 byte per packet
ASI - output	
Data format	DVB A010 ASI-C, EN50083-9
Packet framing	188 / 204 byte per packet
Bitrate	270 Mb/s
ASI mode	Burst
Signal level	800mV (p-p)
Input impedance	75 Ohm
Deterministic jitter	10%

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Specifications
Input modules

Audio-, Video Transportstream encoder

Video - input		
Input format		Composite PAL
Input level		1 Vpp
Input impedance		75 Ω
Gain control		automatic gain clamped control
Input anti aliasing filter		Notch or Comb
Encoding standard		MPEG 2 ISO/IEC 13818-2 MP@ML (4:2:2)
Bit rate		up to 15 Mb/S
Supported resolutions		Full D1, 3/4 D1, 2/3 D1 1/2 D1, SIF, QSIF
Picture Size	horizontal vertical	up to 720 pixel / 32 pixel steps up to 576 pixel / 32 pixel steps
Picture encoding type		I,P,B
GOP structure		IIIIIIII , IPPPPPPPPP IBPBPBPBP , IBBPBBPBB
Audio - input		
Input format		Analog (left, right) 83-9
Input level		500 mVeff / 600 Ohm
Sampling frequency		32 / 44,1 / 48 kHz
Emphasis		50 / 75µs / CCITT J.17
Encoding standard		MPEG 1 L1/2 ISO/IEC 13818-3
Bit rate		up to 448 kbit/s
Lock indicator		front panel LED
Transportstream - output		
Transport stream		MPEG 2
System multiplexing		ISO/IEC 13818-1
Tables		PAT and PMT
System bit rate		27 MB/s
Operation mode		CBR, VBR

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Specifications
Input modules

DVB-S2	
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	± 10 MHz
Modulation scheme	QPSK, 8PSK
Symbolrate	10 - 30 MS/s
Filtering	Nyquist √cos
Roll-Off	20% / 25% / 35 %
FEC outer code	BCH,
FEC inner code	LDPC R=1/4,1/3,2/5,1/2,3/5,2/3,3/4,4/5,5/6,8/9,9/10
Data format	EN302307
Spectral inversion	C-/KU band
Bitrate	56 Mbit max.
Lock indicator	front panel LED

DVB-S, DVB-S dual	
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
Modulation scheme	QPSK
Symbolrate	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

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Specifications
Input modules

DVB-T		
Input impedance		75 Ω
Input frequency range		146 – 858 MHz
Input frequency steps		250 kHz
Input frequency offset	8 MHz	+/- 166,67 kHz
	7 MHz	+/- 125kHz
Input return loss		> 9 dB
Input level range		40 – 90 dBµV
IF-bandwidth		7 / 8 MHz
Modulation scheme		QPSK, 16 QAM, 64 QAM
COFDM		2k-FFT, 8k-FFT
Guard interval		1/4, 1/8, 1/16, 1/32
FEC		1/2, 2/3, 3/4, 5/6, 7/8
Lock indicator		front panel LED

DVB-C	
Input impedance	75 Ω
Input frequency range	47 - 862 MHz
Input frequency steps	250 kHz
Input return loss	> 8 dB
Input level range	45 - 75 dBµV
Spectral inversion	on, off
Modulation scheme	16, 32, 64, 128, 256 QAM,
Symbolrate	1,75 – 7,125MS/s
Lock indicator	front panel LED

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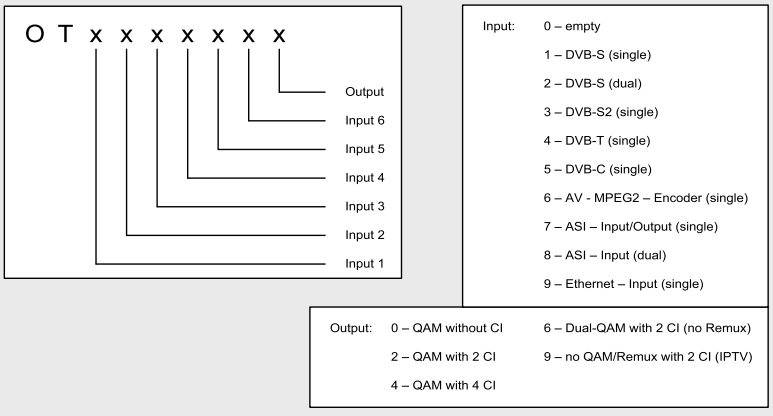
Specifications

Transportstream remultiplexer		
Number of inputs		8
Number of PID filters		254 / input
Number of PID re-mappers		128 / input
Date rate		0.008 ... 56 Mb/s
	Tuning steps	8 bit/s
	Accuracy	< 1 × 10-4
Tables handled		PAT, PMT, SDT, NIT
PAT repetition time		40 - 500 ms
Overflow indicator		front panel LED

QAM modulator, RF- transmitter		
Output impedance		75 Ω
Output frequency range		45 – 862 MHz
Output frequency steps		500 kHz
Output frequency stability		± 30 kHz
Output level		92-102 dBµV (1 dB steps)
Output level stability		±1 dB
Output return loss		≥14 dB
Modulation		16-, 32-, 64-, 128-, 256-QAM
Symbolrate		1,0 – 7,499 Ms/s
Filtering		Nyquist √cos
Roll-Off		15 %
FEC outer code		RS (204,188,8)
Spectral inversion		normal / inverted
Interleaving		Conv.,I=12
Spurious emissions	inside TV-channels	> 60 dB
	outside TV-channels	> 50 dB
Test point		- 20 dB
CI-modules		EN 50211



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