

PRODUCT INFORMATION

ESX-200

The ESX-200 is a part of the A2B EXM system.

The EXM system receives, processes and modulates any digital TV source to most digital or analogue output formats.

The ESX-200 is a digital satellite receiver and processor that handles input signals in DVB-S and DVB-S2, both MPEG-2 and MPEG-4.

Features:

- DVB-S/S2 satellite receiver
- ASI input and output ¹⁾
- Multi Decryption ¹⁾
- Embedded remultiplexer ¹⁾
- PID and Table management ¹⁾ **NEW**
- Extended web UI **NEW**
- IPTV input and output ¹⁾
- Simulcrypt SW option for encryption
- DVB-C, DVB-T or VSB AM modulator. ¹⁾
- Supports DiSEqC 1.1
- Embedded web server for control and settings
- SNMP Interface for management
- Compact design and low power consumption
- Extremely high flexibility
- SW options for new functionality
- Environmentally friendly

¹⁾ Depending on selected software options

This product information relates to software version 1.31



ESX-200 Satellite Processor

TECHNICAL SPECIFICATION

(This specification may be subject to change without notice).

Connectors and Interfaces

Control and IP out connector	RJ-45 (10/100 BaseT)
RF input connector	F female, 75 Ω
RF output connector	F female, 75 Ω
ASI input connector	BNC female, 75 Ω
ASI output connector	BNC female, 75 Ω
CAM connector	PCMCIA (5 VDC)
LED Indicator lights	Power on, QPSK/8PSK/Rx error TX/Access error
SNMP Interface	RJ-45, 10/100 BaseT
Audio/Video out connector,	3,5 mm, 4-pole

MPEG Decoder - Video

Supported formats	MPEG2 MP@ML, MPEG4 H.264 AVC
Output standards	PAL, SECAM or NTSC
Impedance	75 Ω
Output level	1 Vpp @ 75 Ω
Aspect Ratio	Letterbox, Pan/Scan, or conversion Combined (14:9) programmable, WSS
Teletext	Insertion in VBI
Subtitling	Teletext or DVB subtitling
Decryption	Common Interface (PCMCIA 5 VDC)

QPSK/8PSK Satellite Receiver

Input Frequency	950 – 2150 MHz
Input Level	-65 to -25 dBm
Input impedance	75 Ω
Spectral inversion	Yes, Auto for C-band LNB
LNB voltage	Auto, Off or 13/18V programmable. Max. 400 mA. (short circuit protected)
22kHz to LNB	Auto, On or Off programmable
DiSEqC 1.1	Yes, 4 port switch
Max input TS bit rate	> 60Mbit/s DVB-S, DVB-S2
DVB compliance	DVB-S (EN 300 421) DVB-S2 (EN 302 307)

RF Modulation (analogue)

System Standards	B/G, B/H, I, D/K, L, M/N PAL 625, PAL 525, SECAM, NTSC
Sound	Mono, NICAM stereo, A2/A2* stereo, Dual mono
Modulation video	VSB AM, neg. or pos.
Modulation mono	Audio FM or AM
Output frequency	47 – 862 MHz
Output level	\geq 110 dBuV (47-470 MHz) \geq 105 dBuV (470-862 MHz)
S/N, weighted	\geq 57 dB
C/N, broadband	\geq 70 dB
NICAM standards	NICAM 728 (EN 300 163)
Power ratio	B/G -20dB, (Vision/NICAM carrier) I -24dB, D/K -24dB, L -27dB
Adjustable subcarriers	Yes, Mono -10 to -20 dBc Stereo -15 to -30 dBc
Subcarrier switch off	Yes
Tolerance	+/- 1dB
Impedance	75 Ω

MPEG Decoder - Audio

Supported formats	MPEG 1 layer II, AAC HE, selection of Dual mono in Stereo or Mono
Output	
Impedance	< 100 Ω
Output level	0 dBu
Level adjustment RF out	+3 to -9dB
Level adjustment A/V out	0 to -12dB

To view our full line of professional EXM- & E-series products, visit our web site at www.a2b.se.



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QAM modulation (SW Option)

QAM modes	16, 32, 64, 128 or 256 QAM
Symbol rate	4 – 7.2 Mbaud/s
MER (at RF out)	> 38 dB for 256-QAM
DVB compliance	DVB-C (EN 300 429)
QAM output frequency	47 - 862 MHz (1 kHz step)
Output level	Min 105 dBuV (47-470 MHz) Min 100 dBuV (470-862 MHz)
PSI/SI management	Yes
Remultiplexing	Yes

COFDM modulation (SW Option)

COFDM mode	2K
Guard interval	1/4, 1/8, 1/16 or 1/32
FEC	5/6 or 7/8
MER	typical 33dB, min 32dB
DVB compliance	DVB-T (EN 300 744)
Max output bit rate	26,92 Mbit/s (8 MHz bandwidth) 23,55 Mbit/s (7 MHz bandwidth) 20,19 Mbit/s (6 MHz bandwidth)
Output frequency	47 – 862 MHz (1 kHz step)
Output level	Min 100 dBuV (47-470 MHz) Min 95 dBuV (470-862 MHz)
PSI/SI management	Yes
Remultiplexing	Yes

IPTV out (SW Option)

Max output bit rate	55 Mbit/s ²⁾
Connector	RJ 45 (same as control)
Output protocol	UDP, Multicast or Unicast ³⁾
PSI/SI management	Yes
Remultiplexing	Yes

²⁾ Single SPTS/MPTS and only IPTV as output

³⁾ Depending on chosen IP address

Multicast = 239.0.0.1 to 239.255.255.254

Unicast = Other IP addresses

Broadcast = All IP addresses x.x.x.255

Graphical User Interface (GUI)

EXM Web Control Interface



Overview Input Output Service Management System Options

Service Selection Network settings PID Management CI

Service Selection

Network provider Name: Viasat
Payload bitrate: 0.02
Configured bitrate: 35
Table error counter: 0
CI source: Tuner

Reset ALL Services

Status	Dig	Ana	CI	Name	Provider	Source	SID	LCN	PMT	More
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	XSI_Data		Tuner				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CDRE SI		Tuner				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TV3 Stockholm		Tuner				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TV3 Norge	Viasat	Tuner				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TV3 Denmark	Viasat	Tuner				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Playhouse Disney		Tuner				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TV1000		Tuner				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TV1K		Tuner				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	TV1000 Action		Tuner				

Graphical User Interface for easy set up of complex systems. Simple handling of remultiplexing and creation of new multiplexes from any input.

Disable PID's and create PID loop through makes it more easy to get the PSI/SI content that you want.

Default settings of PSI/SI tables to avoid clashes in the output multiplexes.

Simple menu structure for setting input, output and processing parameters.

Each ESX-200 contains an embedded web server. Standard web browsers (Internet Explorer 8, Mozilla Firefox etc.) are supported

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ASI input(SW option) - output

ASI bit rate	270 Mbit/s
Max payload bit rates:	
Input bit rate	55 Mbit/s ³⁾
Output bit rate	55 Mbit/s ³⁾
PCR restamping	Yes
PSI/SI management	Yes
Remultiplexing	Yes

³⁾ The input, output and throughput bit rate is highly dependent on the type of application that is running in the unit.

Remultiplexing

Each ESX-200 contains a remultiplexer for 2 incoming transport streams. The transports streams can be received from satellite or IP, and from the ASI input. PID remapping is made automatically or manually by PID management. LCN (Logical Channel Number) can be chosen.

The following components can be remultiplexed:
Audio, Video, Subtitling, PAT, PMT, NIT actual, EIT, CAT, SDT, TDT TOT

IP connection between EXM units in a system is required for NIT, EIT other and SDT other.

SW options

EXM Basic	Analogue out and ASI out (no remux)
EXM-RT	ASI in, Remux and COFDM out
EXM-RC	ASI in, Remux and QAM out
EXM-RIPout	ASI in, Remux and IPTV out
EXM-AV	A/V output via 4 pole connector
EXM-ALL	Include EXM-RT, EXM-RC, EXM-RIPout and EXM-AV
EXM-ALL2	Same content as EXM-ALL + IP in.
EXM Demo	30 days demo of EXM-ALL
EXM Demo2	30 days demo of EXM-ALL2
EXM-SC	Simulcrypt
EXM-CL	CryptoLITE
EXM-RIPin	IPTV in and one channel Analogue out

Connections and indications



1. Common Interface slot
2. "On" indicator
3. QPSK/8PSK Rx error
4. Access or TX error
5. Ethernet connection
6. DVB-S/S2 input
7. Supply voltage
8. A/V output
9. ASI input
10. ASI output
11. RF output

Miscellaneous

Power supply	7,5 VDC nom. (6-10 VDC)
Power consumption	Typ. 15 W (excl. LNB load)
Dimensions	165x105x37 mm (ex. connectors)
Weight	Approx. 390 g
Controller	Embedded web server
Operating temperature	-20 to +50 °C, non-condensing

641200.01 rev G FW1.31

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