



ESX-200 Satellite Processor

Art. no: 111200.01

PRODUCT INFORMATION

ESX-200

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

The EXM-system receives, handles, decodes, remuxes and remodulates any digital TV source to most other digital or analogue output format.

The ESX-200 is a digital satellite receiver and processor that handles input signals in DVB-S/S2 formats.

Features:

- Complete DVB-S/S2 satellite receiver
- ASI input and output ¹⁾
- Decryption of services via CI connection
- Embedded remultiplexer for creating your own output multiplexes ¹⁾
- IPTV output ¹⁾
- QAM (DVB-C), COFDM (DVB-T) or Analogue VSB-AM modulator output. ¹⁾
- Embedded web server for all controls and settings via the Ethernet connection
- Extremely compact design and low power consumption
- Extremely high flexibility and reliability for use in all sizes and types of networks
- Software upgrades and options for adding new functionality now and in the future
- Designed for environmentally friendly manufacturing and operation

1) Depending on selected software options



This product information relates to software version 1.1

design for TV

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
Remote management	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
Max input TS bit rate	90 Mbit/s, S2 and 8PSK 72 Mbit/s, S and QPSK
DVB compliance	DVB-S (EN 300 421) DVB-S2 (EN 302 307)

RF Modulation (analogue)

Standards	B/G, I, D/K, L, M/N
Sound	Mono, NICAM stereo, A2/A2* stereo
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
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	< 100 Ω
Impedance	0 dBu
Output level	

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TECHNICAL SPECIFICATION

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QAM modulation (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 (Option)

COFDM mode	2K
Guard interval	1/32
FEC	7/8
MER	>34 dB
DVB compliance	DVB-T (EN 300 744)
Max output bit rate	32 Mbit/s (8 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 in/out (Option)

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

²⁾ With single TS to IP

Graphical User Interface (GUI)



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

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, Mozilla Firefox etc.) are supported

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TECHNICAL SPECIFICATION

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ASI input(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 run in the unit.

Remultiplexing

Each ESX-200 contains a remultiplexer for 2 incoming transport streams. The transports streams can be received from satellite and from the ASI input. All PSI/SI regeneration in a Head end system handled over IP.

The following components can be remultiplexed:

Audio, Video, Subtitling, PAT, PMT, NIT, EIT, TDT, CAT, SDT

Connections and indications



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

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