

PRODUCT INFORMATION

ECX-200

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

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

The ECX-200 is a digital cable receiver and processor that handles input signals in DVB-C formats.

Features:

- DVB-C 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⁾
- 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

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, QAM/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) |

QAM Cable Receiver

| | |
|--------------------------|-----------------------------|
| Input frequency | 50 - 858 MHz (centre freq.) |
| Input freq step size | 250 kHz |
| Input level range 64QAM | -50 to -25 dBm *) |
| Input level range 256QAM | -45 to -25 dBm |
| Input impedance | 75 Ω |
| Input return loss | 12 dB |
| QAM mode | 16, 32, 64, 128 or 256 QAM |
| C/N limit | 26 dB *) |
| Bandwidth | 8 MHz |
| DVB compliance | DVB-C |

*) QEF reception with test signal: 64QAM, 26 dB C/N

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 | ≥ 110 dBuV (47-470 MHz) ≥ 105 dBuV (470-862 MHz) |
| S/N, weighted | ≥ 57 dB |
| C/N, broadband | ≥ 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 (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 | 1/4, 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"/> | CORE SI | | Tuner | | | | |
| | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" 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 ECX-200 contains an embedded web server. Standard web browsers (Internet Explorer 8, Mozilla Firefox etc.) are supported

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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 running in the unit.

Remultiplexing

Each ECX-200 contains a remultiplexer for 2 incoming transport streams. The transports streams can be received from cable or IP, and from the ASI input. PID remapping is made automatically or manually by PID management.

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. QAM error
4. Access or TX error
5. Ethernet connection
6. DVB-C 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 |

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