SPETS-TV

IP & CATV EQUIPMENT

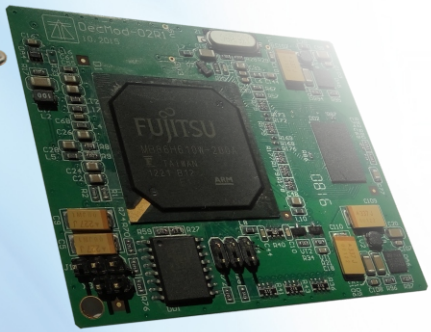
www.stv.odessa.ua

Document contents:

- Digital equipment classification;
- Multichannel QAM modulator QTX-2;
- DVB-S/S2/T/T2/C receiver-streamer DST-2U;
- Descrambling tuner DTN-1KE1;
- Descrambling tuner DTN-1KE2;
- Multichannel descrambler DMX-1;
- Multichannel MPEG decoder DMX-2;
- IP streamer IPS-01;
- IP receiver IPR-01;
- IP gate IPG-01;
- Electronic Program Guide System «STV EPG Server»;
- Condition Access System «STV-Crypt»;
- Scrambler controller SCR-1;
- Example of use «Spec-TV» equipment.

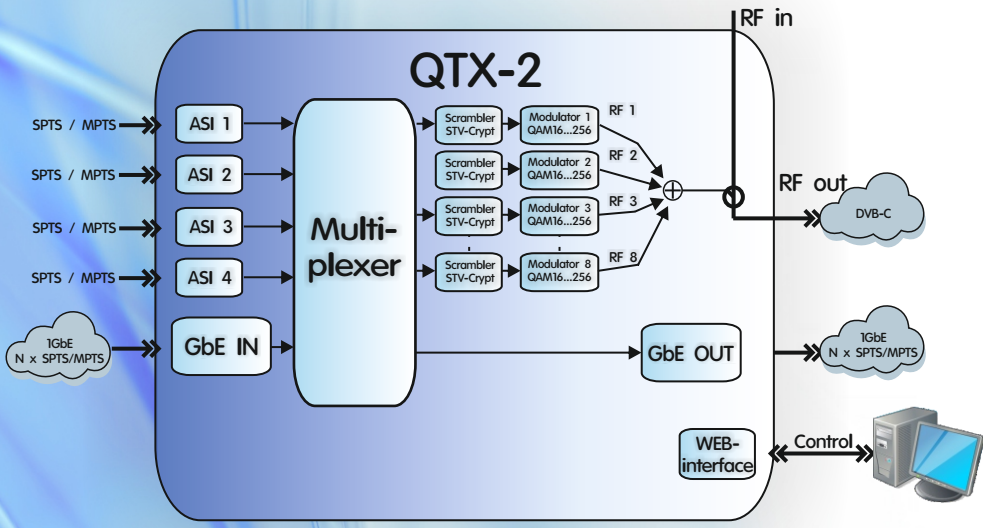
About of «Spets-TV»:

- More than 20 years experience of engineering of the DVB equipment;
- Digital head-end for:
  - DVB-S/S2/T/T2 Receive;
  - Transport Stream Multiplexing;
  - Transport Stream Scramling («STV-Crypt» system);
  - DVB-C, DVB-IP Transmitt;
  - DVB-IP, ASI to CVBS convert;
  - EPG service;
- CATV equipment:
  - professional TV modulators;
  - TV modulators for home applications;
  - Backup UPS up to 100w;
- Wide range of CATV amplifiers and optical to RF converters for network applications;
- Up to 1500 «Spets-TV» units works now as a part of the headend CATV / Internet operators;
- Remotely update software for «Spets-TV» equipment;



Multichannel QAM modulator QTX-2

Device is used for multiplexing and transmitting RF signals in DVB-C format up to 8 QAM16-QAM256 Multi Program Transport Stream. The build-in scrambler of the "STV-Crypt" system and PC software can organize the Conditional Access System. The high quality of RF output signal is ensure that subscribers are will receive the stable reception. It supports SNMP monitoring. The built-in multiplexer allows transferring programs from any of the transport stream inputs (4xASI, GbE) to any output (8xQAM16/256, GbE).

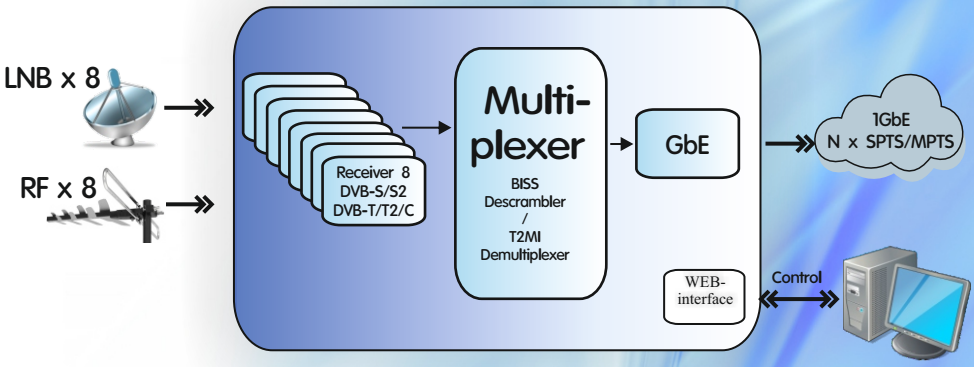


Key features:

Transport Stream interfaces	4xASI, IP(1GbE)
GbE Interface Transport Protocol	DVB over UDP/RTP
Processed services SPTS,MPTS	<128
RF QAM Carriers	8
Output frequenc range	47-1000 MHz
Modulation	QAM16-QAM256
Symbol Rate	5-7MSymb/s
Output RF level	<100dB
Managment and control	WEB-interface SNMP

Eight-channel tuner DST-2U

The device is use for receive 8 x DVB-S2/S/T2/T/C streams, processing of them with the embedded multi-channel BISS descramler (optional T2MI demultiplex) and send SPTS/MPTS into Gigabit IP Network (GbE). The device can create up to 127 single-program transport streams (SPTS), the total bitrate can be up to 615Mbit/s. Management and configuration, selection of programs intended for transfer to the IP network, as well as setting parameters is performed via WEB-browser. All settings are saved in the device's non-volatile memory.

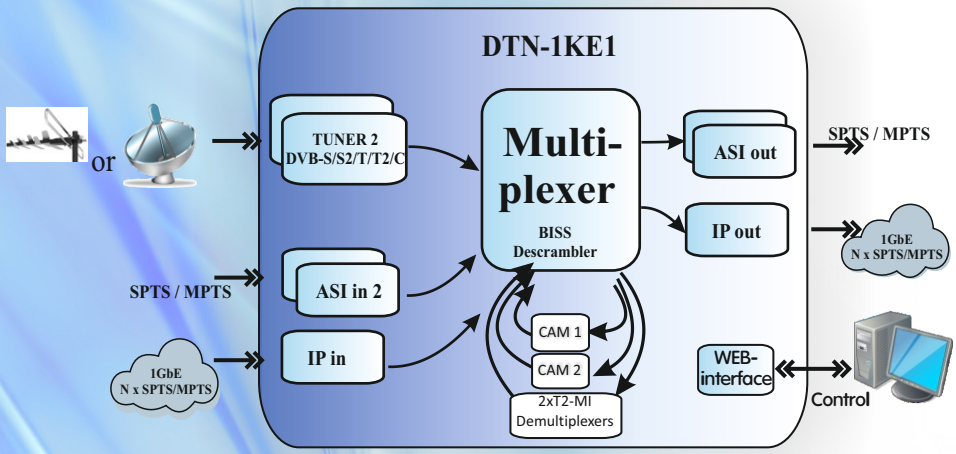


Key features:

Frequecy range, MHz	950-2150, 44-1002
RF input type	DVB-C/T/T2/S/S2
Input symbol rate range	1-45 MS/s, 0.2-7.2 MS/s
RF inputs	8
Multichannel BISS descrambler	yes
GbE Interface Transport Protocol	DVB over UDP/RTP,Multicast
1GbE transport interface bitrate	<615 MBit/s
Managment and control	WEB-interface, SNMP
Power consumption	< 50W

Descrambling tuner DTN-1KE1

High-end descrambling tuner DTN-1KE1 is designed to receive up to 2 transponders in DVB-S/S2/T/T2/C format, their descrambling with standard plug-in modules decoders (CAM), multiplexing and transmission of the selected services to the output interfaces. Presence of input TS interfaces allow multiplexing of streams from external sources. Optionally, it's possible to demultiplex T2-MI streams. The DTN-1KE1 can be controlled remotely via 100 Mbit Ethernet (WEB interface). Support Simple Network Management Protocol (SNMP) allows to monitor the current status of the device.

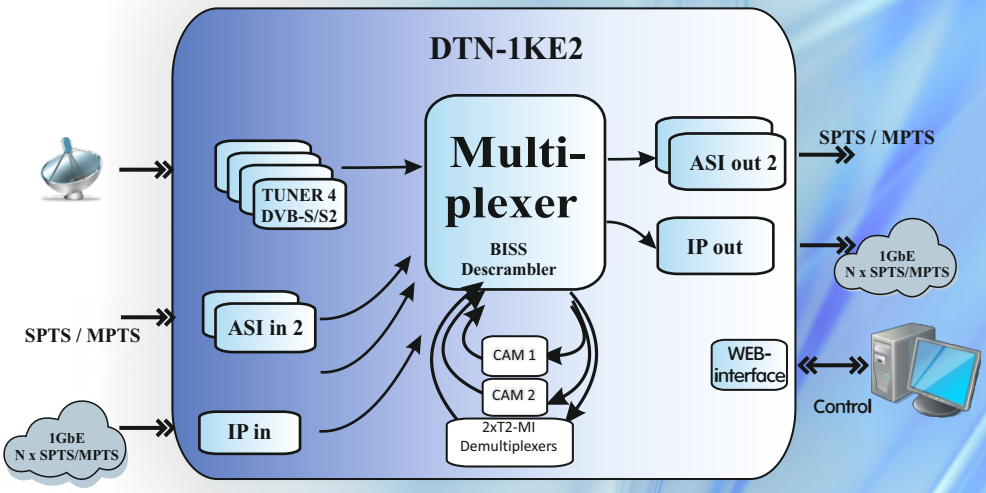


Key features:

Input interface	1xGbE/2xASI
Output interface	1xGbE/2xASI
RF input type	DVB-S/S2/T/T2/C
RF inputs	2
Input symbol rate range	1-45MS/s
Number of TV services	up to 48
Number of CI slots	2
GbE protocol	DVB over UDP, Multicast
Management and control	WEB-interface, SNMP

Descrambling tuner DTN-1KE2

High-end descrambling tuner DTN-1KE2 is designed to receive up to 4 transponders in DVB-S/S2 format (including Multistream), their descrambling using a standard plug-in modules decoders (CAM), and their multiplexing and transmission of selected services to the output transport interfaces. The presence of input TS interfaces allows multiplexing of streams from external sources. Optionally, it's possible to demultiplex T2-MI streams. The DTN-1KE2 can be controlled remotely via 100 Mbit Ethernet (WEB interface). Protocol Support SNMP (Simple Network Management Protocol) allows you to monitor the current status of the device.

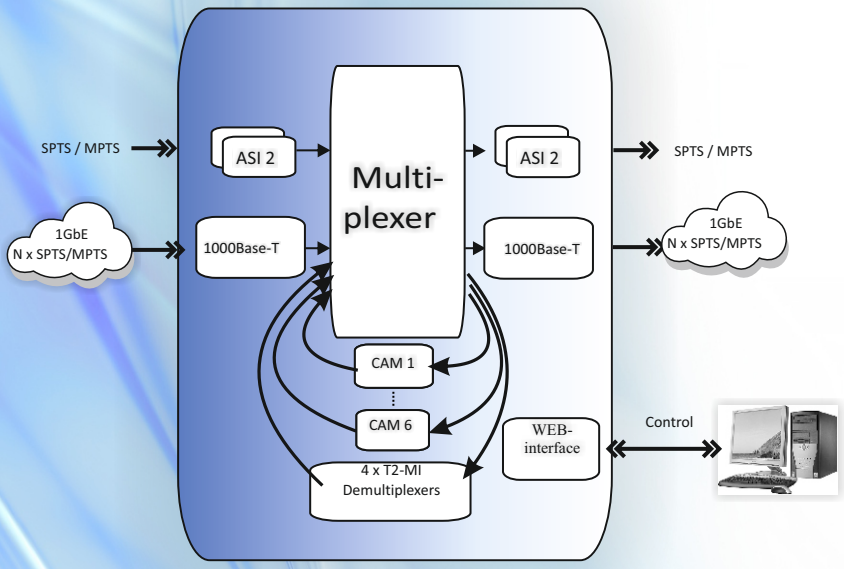


Key features:

Input interface	1xGbE/2xASI
Output interface	1xGbE/2xASI
RF input type	DVB-S/S2
RF inputs	4
Input symbol rate range	1-45MS/s
Number of TV services	up to 48
Number of CI slots	2
GbE protocol	DVB over UDP, Multicast
Management and control	WEB-interface, SNMP

Multichannel descrambler DMX-1

The multichannel descrambler DMX-1 is designed to descramble digital TV programs using standard interchangeable decoder modules (CAM). DMX-1 is equipped with 1GB Ethernet interface and two inputs and two DVB ASI outputs. DMX-1 is equipped with seats for 6 decoder modules (CAM). Any of the input DMX-1 transport streams can be directed through one or more CAM's to descramble selected programs. The DMX-1 is controlled and monitored remotely via 100 Mbit Ethernet (Internet-based management). Support for Simple Network Management Protocol (SNMP), as well as LED indicators on the front panel, allows to monitor the current status of the device.

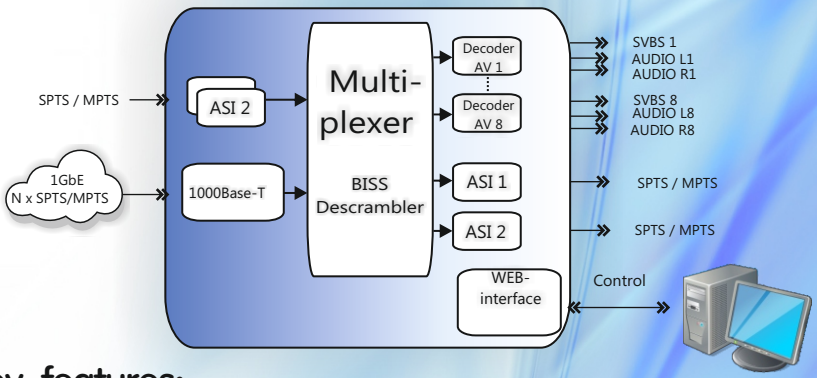


Key features:

Number of seats CAM	6
Number of decoding programs	up to 48
Input/output IP1000Base-T(IEEE-802.3)	1 RJ-45
DVB ASI inputs	2
DVB ASI outputs	2
Power supply	100-240V AC, 50/60HZ
Management and control	WEB-interface, SNMP

Multiprogram MPEG decoder DMX-2

The eight-channel decoder-converter DMX-2 is designed to receive transport stream via one of the digital interfaces - ASI or 1G Ethernet, and to decode up to 8 selected programs into the analog AV signal for it's further transfer to the TV modulator. The device has 2 ASI receivers and one 1G Ethernet receiver, as well as 2 ASI outputs. The input multiplexer selects the required programs and sends them to the MPEG-2, MPEG-4, H.264 decoders. The zoom function implements the translation from HD or SD resolution to the standard TV signal format. The output signal formats are PAL, SECAM. Also, the device has a full multiplexer, which allows to redirect programs from any input to any output. Optionally, it's possible to demultiplex T2-MI streams.

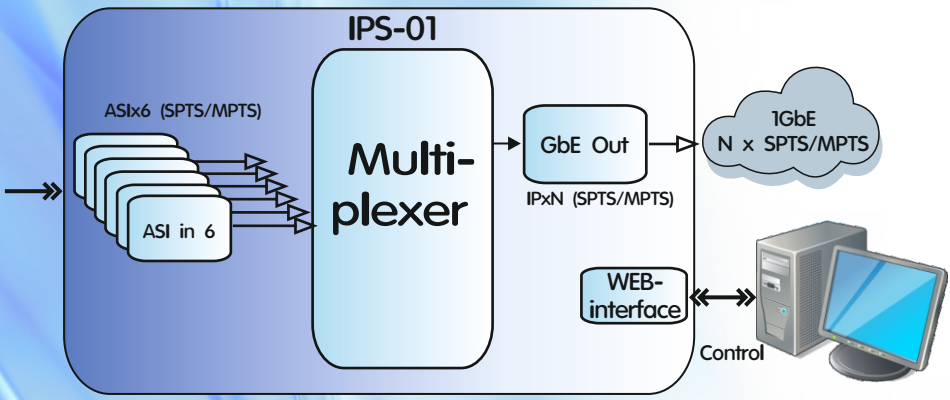


Key features:

DVB ASI inputs	2
DVB ASI inputs	2
Input/output IP1000Base-T(IEEE-802.3)	1 RJ-45
Number of SVBS outputs	8
Number audio outputs	8x2
MAX number of SPTS/MPTS	127/8
MAX rate of the input stream IP	615 Mbit/s
MAX rate of the input stream ASI	215 Mbit/s
GbE protocol	UDP, Multicast
Supported video decoding formats	MPEG-2, MPEG-4, H.264
Supported audio decoding formats	MPEG-1, MPEG-2
Videosignal formats	PAL, SECAM CCIR, NTSC 50/60Hz
Teletext	+ (PAL)

IP streamer IPS-01

The cost effective device for organize IPTV services in to IP networks. IPS-01 allows to create up to 128 x IP-streams (SD, HD, MPEG-4, SPTS/MPTS), the total bitrate can reach 615Mbit/s. It has function 6 x ASI - IP converter too. Possible use device in the mixed mode (multiplexer/converter). Management and configuration, selection of programs intended for transfer to the IP network, as well as setting parameters is performed via WEB-interface. Support SNMP v.2. LED indicators on the front panel reflect current state of the device and TS interfaces state (input / output).

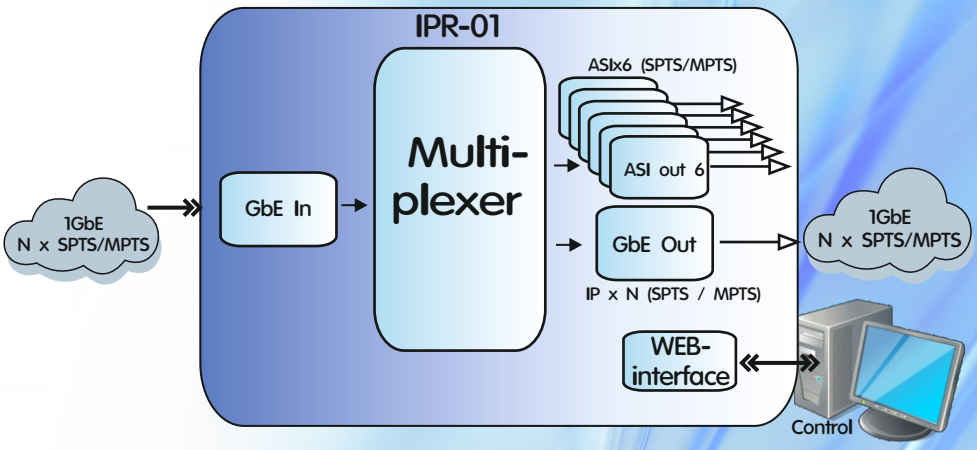


Key features:

Input Transport Stream interfaces	6 x ASI
Output Transport Stream interface	IP(1GbE)
Processed services SPTS,MPTS	< 128
GbE Interface Transport Protocol	DVB over UDP/RTP, Multicast
1GbE transport interface bitrate	<615 MBit/s
Managment and control	WEB-interface, SNMP
Power consumption	< 5W

IP receiver IPR-01

Multi-channel IP receiver IPR-01 is designed to receive MPTS/SPTS streams from GbE network, decapsulation DVB packets and transmission to ASI/IP output. Built-in multiplexer allows to flexible output up to 128 MPEG stream (SD, HD, UHD, MPEG-2, MPEG-4) and direct them to the specified output (6 x ASI, GbE). It has function IP - ASI converter. Possible use device in the mixed mode (multiplexer and converter). Management and indication of the current status is implemented using the WEB-interface. The protocol SNMP v.2 is supported. LED indicators on the front panel reflect current state of the device and TS interfaces state (input / output).

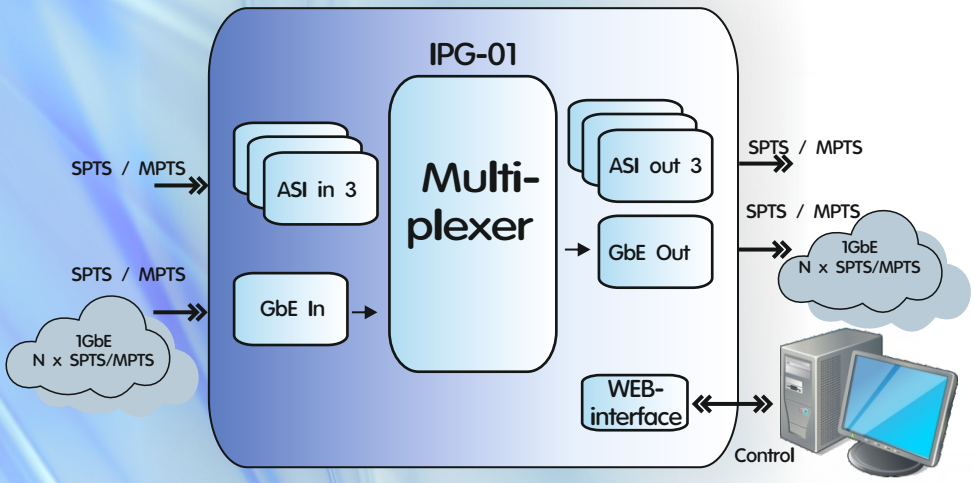


Key features:

Input Transport Stream interfaces	1 x GbE
Output Transport Stream interface	6xASI, 1xGbE
Processed services SPTS,MPTS	< 128
GbE Interface Transport Protocol	DVB over UDP/RTP,Multicast
1GbE transport interface bitrate	<615 MBit/s
Managment and control	WEB-interface, SNMP
Power consumption	< 5W

IP gate IPG-01

IPG-01 is a multiplexer/convertor of TS GbE/3xASI into output GbE / 3xASI interface. The built-in multiplexer allows flexible output up to 128 MPEG output streams (SD, HD, MPEG-2, MPEG-4) and direct them to the specified transport interface (3xASI, GbE). It has function IP - ASI (ASI - IP) converter. Possible use device in the mixed mode (multiplexer/converter). Management and indication of the current status is mplemented using the WEB-interface. The protocol SNMP v.2 is supported. LED indicators on the front panel reflect current state of the device and TS interfaces state (input / output).



Key features:

Input Transport Stream interfaces	1 x GbE
Output Transport Stream interface	6xASI, 1xGbE
Processed services SPTS,MPTS	< 128
GbE Interface Transport Protocol	DVB over UDP/RTP,Multicast
1GbE transport interface bitrate	<615 MBit/s
Managment and control	WEB-interface, SNMP
Power consumption	< 5W

STV EPG Server

It's used for organizing Electronic Program Guide service into the DVB-C/T networks. Formation of tables of the service information is supported (EIT, TOT, TDT, NIT). Logic Channel Number (LCN) is a method of remapping the program number. It used by operator for organize channel in the true sequence for any TV manufacture. Operator can make up of the LCN service for network through «STV EPG Server». The XML file is used as the source of EPG data.

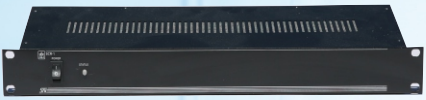
Main features of the system:

- Time and date (TDT/TOT) table shaping;
- Network search table generation – Network Information Table;
- Logical Channel Number (LCN) table generation;
- Input / Output streams up to 128;
- Input / Output – Ethernet port;
- Event Information Table (EIT) generation.
  Source information for table - The XMLTV file, which has current/next program information, schedule of the week is the sourse information for EIT.

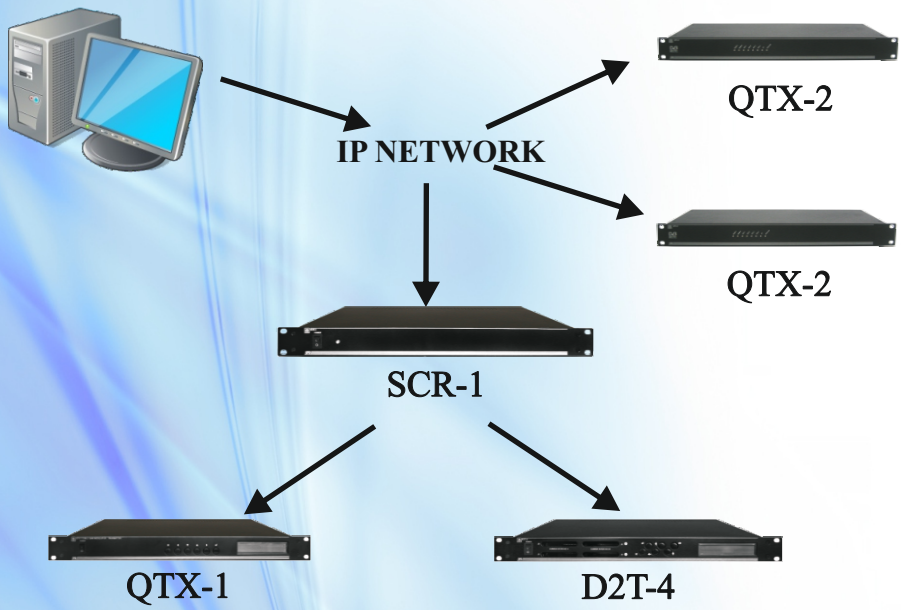
Conditional access system "STV-Crypt"

A Conditional Access System (CAS) gives to subscriber's the choice over the pay channels that are beamed into his TV. It gives operator the flexibility to control the subscriber's content services. CAS «STV-Crypt» is a Common Interface based system. Each Conditional Access Module has it's own unique serial number. Control and monitoring of authorised services are available via billing system. All scramblers are included in multichannel QAM modulator QTX-2. The SCR-01 device is main part of the "STV-Crypt" system. It generates service information stream. Any receiver with CAM slot may be used in CAS system.

Scrambler Controller SCR-1



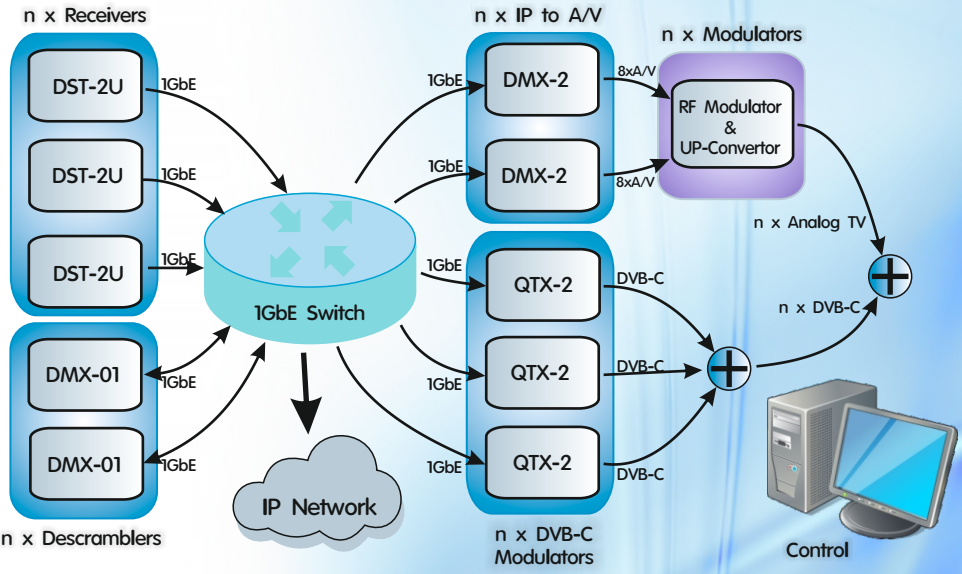
Scrambler controller is the key element of the CAS system "STV-Crypt". It transmit a service information for scramblers built-in at QAM-modulators QTX-2. It works fully independent and keeps subscribers information. "DVB-Base" software is used for changing any subscribers data. The controller can be interfaced with existing billing system.



Key features:

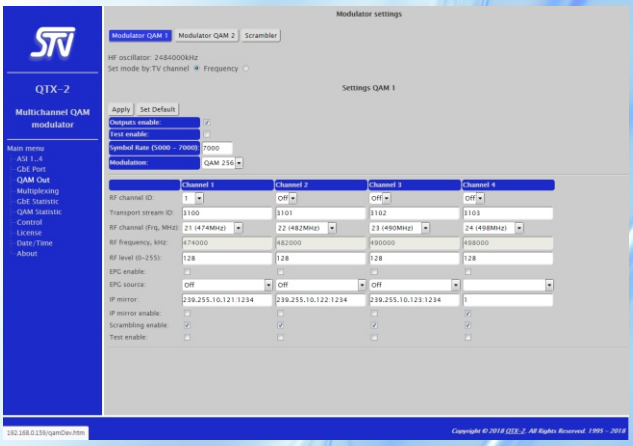
- Amount of subscribers < 500 000
- Amount of digital streams per system < 62
- Amount of programs in the digital stream < 15
- Display the current balance of the subscriber over CAM menu
- The flexible system of access rights management (from one program up to create individual package for each subscriber);
- Quick integration in the already using billing system.

Example of use «Spec-TV» equipment



Main benefits of the «Spets-TV» equipments:

- Easy configuration via management WEB-interface;
- SNMP monitoring support;
- Flexible and easily scalable configuration;
- 1GbE/ASI interface use for Rx/Tx Transport Streaming;
- Easy integration with head-end station;
- Easy installation and startup;
- Qualified technical support;
- Remotely software update.



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