

Datasheet

CRT1041M-C-IP
4-channel Edge QAM Modulator

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1 General information

1.1 Description

CRT1041M-C-IP is a compact size Edge QAM Modulator with embedded CAS Crypton scrambler. Up to four IP encapsulated MPTS streams can be received on the device MPE input. Selective DVB-CAS scrambling of DTV programs along with address subscriber message system(CAS Crypton) let you provide efficient Pay TV business model. Each of the streames is DVB-C modulated and up-converted to the RF Band(48-850MHz).All device control is done with Web interface. SNMP let your NMS to perform real time monitoring and logging the device basic parameters.

1.2 Technical Specifications

TS Input

Number of 1Gbit Ethernet IP ports	1
Max. Number of Transport Streams	4
Specification	ETSI TS 102034, ETSI TS 13818-1
Streaming protocols	UDP
Streaming type	Multicast, Unicast

Scramblers

Specification	TSI ETR 289(DVB-C)
Max. Number of DVB-CAS Scramblers	4
Max. Number of SCG per scrambler	16
Max. Number of PIDs per scrambler	256

Conditional Access

CAS Crypton

DVB-C Modulator

Number of RF outputs	2
Number of QAM modulated channels	4 (Each RF output provides up to 2 adjacent QAM modulated channels)
Adjacent channel carrier shift	8 MHz
Specification	EN 300 429
SR, Msps	6.750, 6.875, 7.000
QAM modulation type	16, 32, 64, 128, 256
MER, 256QAM	40 dB

Up-converter

Frequency range	48 – 850MHz
Min. output power	110 dBuV
Output impedance	75 Ohm
Connector type	IEC F-type
Spurious and harmonics	-50 dBc
Output attenuator	0 – 31 dB, step 1dB

Device control

Number of 100Mbit Ethernet IP ports	1
Specification	Http(Web interface)

Dimensions

Width, mm	490
Height, mm	44
Depth, mm	300

2 Physical description

2.1 Front View

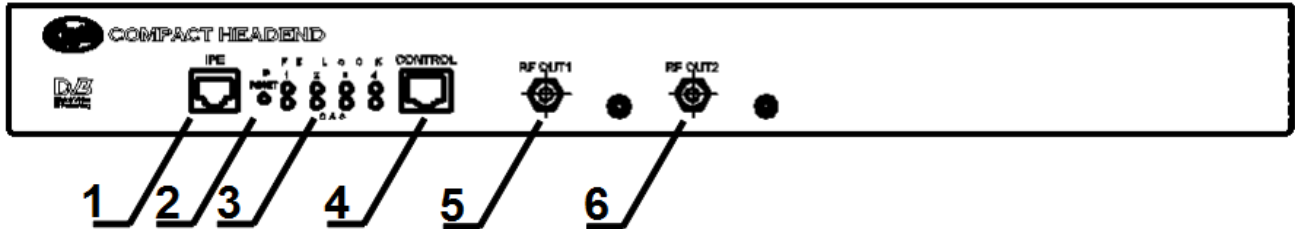


Fig. 1 Front view

1. 1Gbit Ethernet MPE TS transport port;
2. Device network settings reset;
3. LEDs for input TS lock and CA status indication;
4. 100Mbit Ethernet port for CAS operation and device control;
5. Double carrier RF output 1;
6. Double carrier RF output 2.

2.2 Rear View

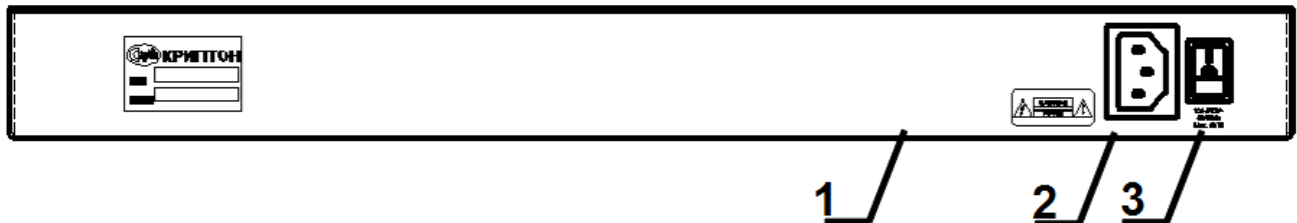


Fig. 2 Rear view

1. Rear panel;
2. Power socket;
3. Power switch.

3 Functional block diagram

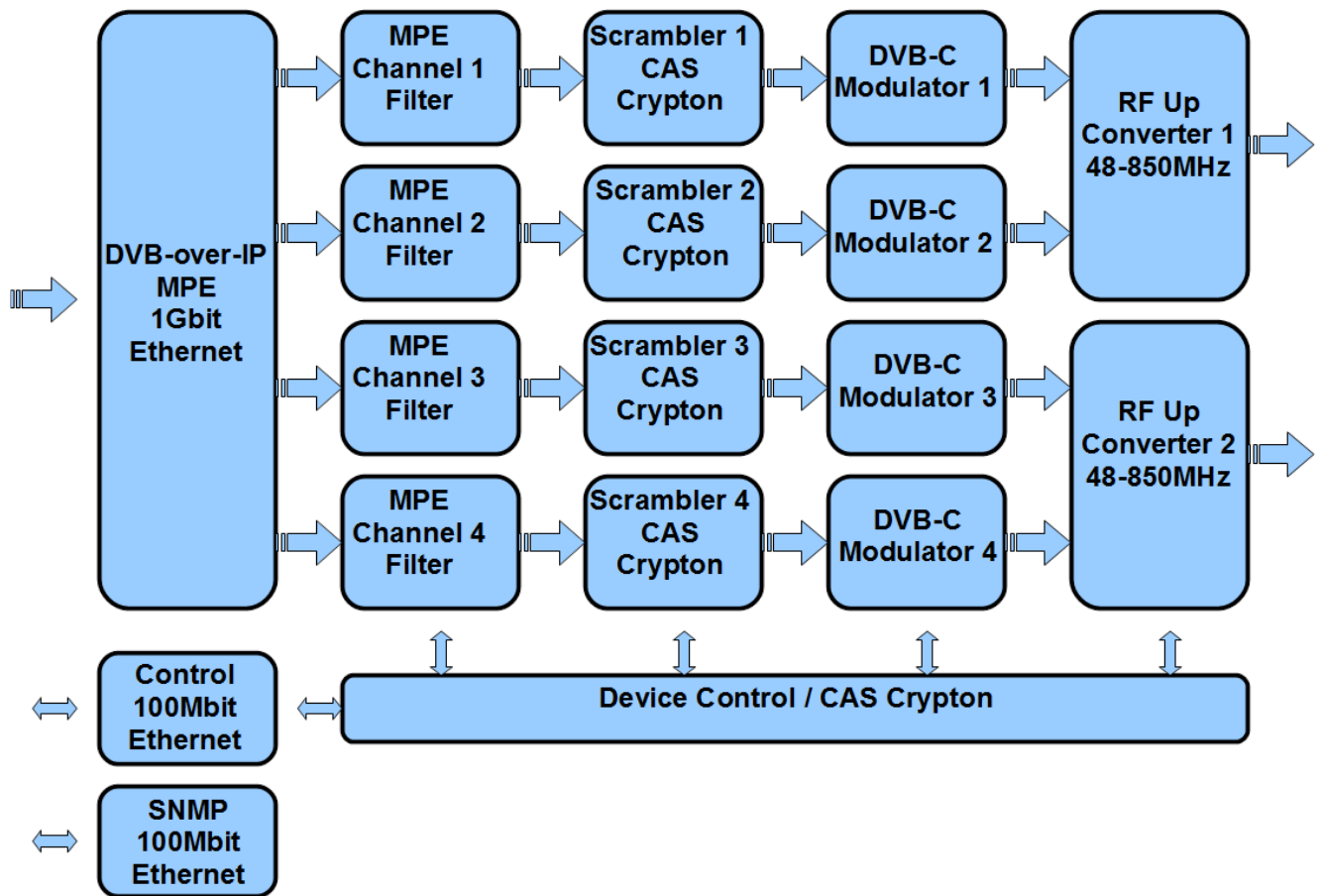


Fig.3 CRT1041M-C-IP functional block diagram

DVB-over-IP MPE receives up to four IP encapsulated MPTS streams.

MPE Channel Filter arranges reception channel for one MPTS stream from IP network. That MPTS is preliminary built with third party multiplexer.

Scrambler CAS Crypton selectively scrambles DTV programs within the stream and provides conditional access in accordance with CAS Crypton specification.

DVB-C Modulator convertes input MPTS stream to DVB-C modulated signal.

RF Up Converter shifts pair of adjacent (8MHz offset) DVB-C modulated carriers to RF Band (48-850MHz).

Control 100Mbit Ethernet provide physical connection for device control over Web and CAS Crypton interconnect for SMS provision.

SNMP 100Mbit Ethernet port is dedicated to SNMP agent providing NMS with real time information for monitoring and logging the device basic functionality.

4 Ordering information

Model	RF Band	Options
CRT1041M-C-IP	48-850	-