

Head-End Station

16 x DVB-S2/S2X + 6 x CI → 128 SPTS redundant and multiplex to 16 x QAM/COFDM

HYBRID



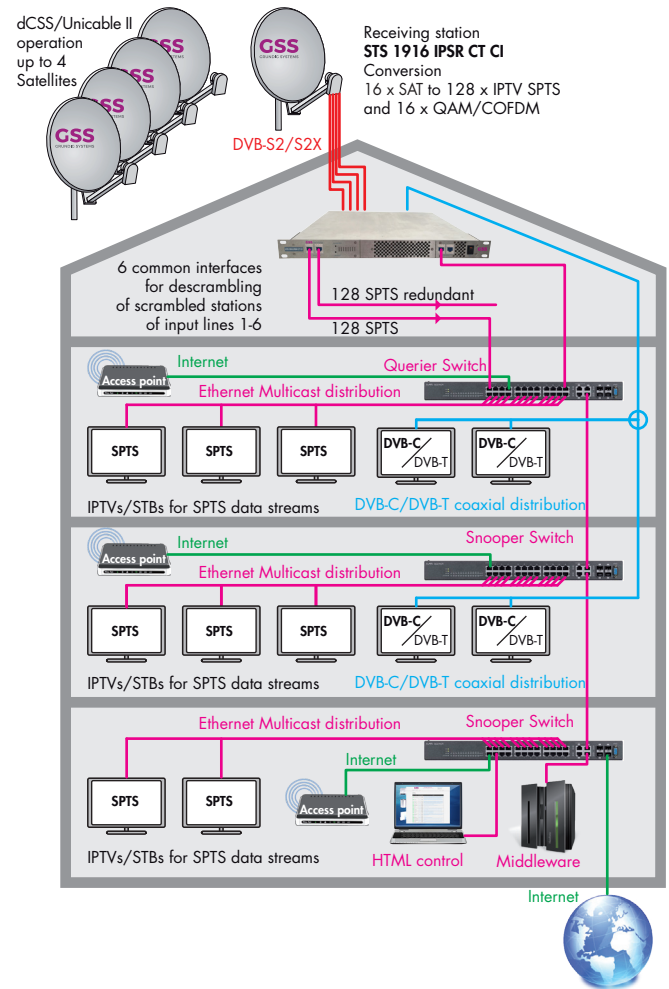
Features

SAT -> IP part:

- 4 SAT IF inputs with integrated multiswitch
- Up to 4 satellites with each 4 levels...
... in conjunction with specially programmed multi-switches
- 16 DVB-S2X tuners with 16/32APSK support
 - SAT input selectable
- 128 SPTS (Single Programme Transport Stream)
 - Up to 128 services can be converted into IP SPTS transport streams.
 - Overall data rate max. 820 Mbit/s.
 - Redundant output
 - Free adjustable IP addresses.
 - EPG; can be switched off in order to reduce data rate.
 - Session Announcement Protocol (SAP) is supported.
 - Service list for DRIP1000; Panasonic, Loewe, Philips, VESTEL and BEWATEC TVs
- 6 CI slots for CA modules...
... for Tuner 1 – 6.
- Integrated MediaPlayer ...
... for one transport stream format file (max. 10MBit/s).

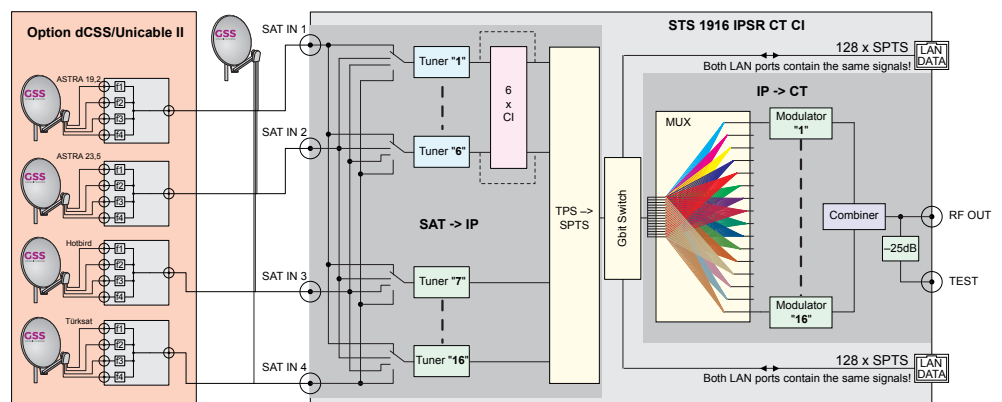
IP -> CT part:

- Multiplex
- Direct Conversion
- 16 full band modulators - QAM or COFDM
 - Electronically adjustable output level
 - suitable for adjacent channels
 - Symbol rates and modulation individually adjustable
- Transport Stream Processing:
 - SID remapping
 - TS-/ON ID remapping
 - Network Information Table (NIT) for complete head-end station
 - LCN (Logical Channel Numbering)
 - Adjustable data rate



General:

- HTML user interface
- World wide access via OpenVPN...
... by PC, tablet or smart phone with Internet access.
- Redundant power supply
 - Two fully satisfying mains units in half operation;
 - for UPS and mains or two-phase operation.
 - Audible warning when one power supply fails;
 - individually replaceable during operation
- Notification in case of data overflow or transponder, fan or power supply failure
 - Response time for input signal or data overflow error adjustable.
 - Warning e-mail for error entries in the logbook.
 - Error message to Syslog server.
- Fan cooling
 - Fans can be replaced separately during operation



Technical data:

The devices meet the EU directives 2011/65/EU, 2014/30/EU and 2014/35/EU.
The product fulfils the guidelines and standards for CE labelling.

Unless otherwise noted all values are specified as "typical".

SAT -> IP part:

RF input DVB-S2/S2X

Frequency range:	910 ... 2150 MHz
DVB-S modes:	QPSK 1/2, 2/3, 3/4, 5/6, 7/8
DVB-S2 modes:	QPSK 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK 3/4, 4/5, 5/6, 8/9, 9/10
DVB-S2X modes:	QPSK, 8PSK, 8APSK-L, 16APSK(-L), 32APSK(-L)
Symbol rate DVB-S:	QPSK: 1 ... 45 MSymb/s
Symbol rate DVB-S2:	QPSK: 4.5 ... 45 MSymb/s 8PSK: 4.5 ... 45 MSymb/s 16APSK: 4.5 ... 39 MSymb/s 32APSK: 4.5 ... 32 MSymb/s
Maximum data rate/tuner:	83MBit/s
Level range:	60 dB μ V ... 80 dB μ V
Input impedance:	75 Ω
LNC supply:	14 V/18 V; maximum total output of 500 mA

Over all output data

Data rate:	\leq 820 MBit/s
Remapping:	SIDs, TS-/ON-IDs
Services:	max. 256
PCR Corrections:	max. 256
EIT:	max. 256

IPTV Output

SPTS:	128
IGMP:	V2
Protocols:	UDP (User Data Protocol), RTP (Real-Time Transport Protocol)

IP -> CT part:

Data input

Streams:	128 SPTS
IGMP:	V2
Protocols:	UDP (User Data Protocol), RTP (Real-Time Transport Protocol)

Input data

Maximum over all input data rate (Σ lines 1-128):	900 MBit/s
Buffer memory:	1 GBit (corresponds e.g. at 128 x 6 MBit/s to approx. 128 x 6 ms buffer)

RF output QAM

Frequency range:	42.0 MHz ... 868.0 MHz
Types of modulation:	QAM 4, 16, 32, 64, 128, 256
Output level:	80...96 dB μ V
Dynamic phase error:	$<$ 0.2 $^{\circ}$
MER:	$>$ 45 dB
Output impedance:	75 Ω
Symbol rate:	1000...7500 kBd

RF output COFDM

Frequency range:	42.0 MHz ... 868.0 MHz
Types of modulation:	QPSK, 16 QAM, 64 QAM
Transmission modes:	2k
Code rates:	1/2, 2/3, 3/4, 5/6, 7/8
Guard intervals:	1/4, 1/8, 1/16, 1/32
Output level:	80...96 dB μ V
Output impedance:	75 Ω

General:

Mains units:	2 (can be replaced separately during operation)
Supply voltage:	100...240 V, 50/60 Hz
Maximum Power consumption:	100 W
Ambient temperature:	0...+50 $^{\circ}$ C
Dimensions (W x H x D):	483 mm x 44.5 mm (1HU) x 490 mm

LAN interface (for data)

Standard:	1000-BASE-T
Data rate:	\leq 820 MBit/s
IGMP:	V2
Protocols:	UDP (User Data Protocol), RTP (Real-Time Transport Protocol)

Connections

LAN (for data) 1000-BASE-T:	1 RJ45 sockets
LAN redundant (for data) 1000-BASE-T:	1 RJ45 sockets
LAN (for control) 100-BASE-T:	2 RJ45 sockets
RF output:	1 F socket
RF test output (-25 dB):	1 F socket