

# SMP316

## Multi-channel non-adjacent EdgeQAM

Datasheet (Preliminary)

### Production Introduction

Feb 2015

En. Rev. A

SMP316 is a distribution EdgeQAM which helps pay-TV operators receive up to 320 SPTS/MPTS streams over IP, re-multiplex and scramble them with DVB-simulcrypt CAS and output in 8/16/32 non-adjacent QAM frequencies.

SMP316 supports non-adjacent modulation, helping customers easily insert their content without reconfiguring the existing QAM frequencies. SMP316 can further upgrade to support 32 QAM frequencies and 256 SPTS/MPTS as well as scrambling to meet future demands.



### Features

- Up to 320 STPS/MPTS over IP input and 268 output(optional)
- Supports FEC and IGMP V2/3
- Supports DVB and ATSC standards( ITU-T J.83 A/C/B, DOCSIS, DRFI)
- Up to 16 non-adjacent QAM output (expandable to 32 non-adjacent QAM without scrambling)
- Excellent modulation feature with  $MER \geq 43dB$
- Supports DVB-simulcrypt CAS de-scrambling
- Re-multiplexing(EPG/EIT re-multiplexing is optional) and grooming
- Supports audio and auxiliary data pass-through(AC3, CC, Teletext, etc)
- Easy management via Web-UI or SNMP
- Low power consumption and high reliability with MTBF(Mean Time Between Failure) $\geq 100,000$  Hours

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|                       |   |   |
|-----------------------|---|---|
| <b>Chassis</b>        | Processing capacity<br>Data processing<br>Slot number<br>Interface  | 800TS (1000 programs)<br>4 Gbps<br>3 slots<br>2xASI Inputs (BNC, Female, 75 Ω ports)<br>2xASI outputs (BNC, Female, 75 Ω ports)<br>1xGbE TS/IP, TS/IP (RJ45)<br>1xmanagement (RJ45)   |
| <b>Multiplexing</b>   | Routing<br>Table supported<br>PID processing<br>EIT processing<br>External data<br>Interface                          | Any input to any output<br>SI/PSI/PSIP<br>Remapping, filtering<br>Pass-through<br>EPG and SI insertion  |
| <b>IP</b>             | Protocol<br>MPEG TS<br>Channels<br><br>Capability<br>Bit-rate per port<br>De-jittering<br>Management<br>FEC           | On-chassis: 1 x RJ45 (100/1000)<br>On-module: 2 x RJ45 (100/1000, 1+1 backup capable)<br>2 x SFP (1000, 1+1 backup capable)<br>TS over UDP/RTP, unicast/multicast<br>MPTS and SPTS<br>On-chassis: 64 streams input and 12 streams output<br>On-module: 256 streams input<br>Max. 72Mbps per IP stream (module)<br>Maximum 780Mbps<br>PCR<br>IGMP V2, IGMP V3<br>ProMPEG |
| <b>Scrambling</b>     | Interface<br>Scrambling capability<br>EMM bit-rate<br>Simulcrypt scrambling<br>Encryption                             | 1xRJ45<br>Max.800Mbps of all output programs<br>Up to 3Mbps<br>Up to 4 CA system simultaneously<br>DVB EMM and ECM insertion  |
| <b>QAM Modulation</b> | RF output<br>QAM density<br>Output range<br>Bandwidth<br>QAM constellations<br><br>Symbol rate<br>MER<br>Output level | 1 x F-type female, for RF output<br>Max. 16 non-adjacent QAM channels (per module)<br>48~999 MHz(Annex A/C, or Annex B )<br>6/7/8MHz<br>ITU-T J.83 Annex A/C, B<br>Annex A/C: 16, 32, 64, 128, 256QAM<br>Annex B: 64, 256QAM<br>3.0~6.952 Ms/s<br>≥43dB<br>30~55dBmV(depending on the enabled channels)   |

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|                 |  |
|-----------------|--|
| HW interface:   | 100 x RJ45 (100Mbps)   |
| User interface: | LED indicators<br>LCD screen<br>Front panel control<br>Web UI<br>SNMP(Monitoring only) |

### Physical & Environment

|                        |                                   |
|------------------------|-----------------------------------|
| Input Voltage:         | 90~260V AC                        |
| Power consumption:     | Max. 60W                          |
| Chassis dimension:     | 480mm x 44mm x 440mm (WxHxD), 1RU |
| Operating Temperature: | 0°C~50°C                          |
| Storage Temperature:   | -10°C~70°C                        |
| Operating Humidity:    | <95%                              |
| MTBF:                  | ≥100,000 hours                    |

### Ordering Guide

#### ADDING A CHASSIS

SMP Chassis with embedded 2 ASI IN & 2 ASI OUT and 64 IP IN & 12 IP OUT.

#### ADDING OPTIONS TO SLOT ONE (fixed)

TSIP TSIP module, up to 256 MPTS/SPTS inputs

#### ADDING OPTIONS TO SLOT TWO (fixed)

IQAM QAM module, 8 non-adjacent QAM modulation (license control)

QAM module, 16 non-adjacent QAM modulation (license control)

#### ADDING OPTIONS TO SLOT THREE (optional)

Scrambler+ CAS scrambling module

IQAM QAM module, 8 non-adjacent QAM modulation (license control)

QAM module, 16 non-adjacent QAM modulation (license control)