

MULTICHANNEL HIGH QUALITY SYSTEM



AMB406M - Multichannel QAM modulator

up to 15 QAM channels in one 4RU subrack

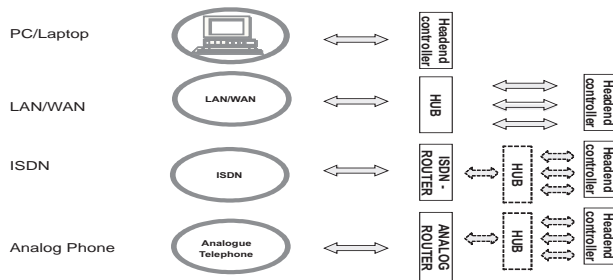
- Modular Headend system featuring Hot Swap technology
- 4RU subrack with central control unit with power supply for all modules
- AMB406 - QAM modulator modules - DVB-C, ITU J.83 Annex A,B,C
- Each AMB406 module modulates one ASI-TS into one QAM/RF
- Frequency agile outputs 45 - 862 MHz
- Outstanding signal values for best picture quality and stability
 - Output level of 116 dB μ V
 - Shoulder attenuation ≥ 58 dB
 - Modulation Error Rate (MER) ≥ 45 dB
- Extreme low phase noise
- PSI-/SI processing with NIT generation
- Allows PID filtering with table processing for ideal bandwidth utilization
- Flexible local and remote configuration & SNMP monitoring

Professional Headend Solutions

Unique headend management and flexible installation

Flexible management

The modules can be easily adjusted, managed and controlled via the central control unit (HCB 200 Headend Controller). All settings can be done locally or remotely without additional software.

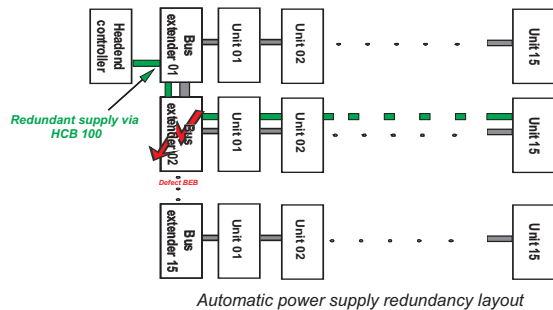


HCB 200 - Headend Controller

- Central control unit for entire headend system
- Contains a power supply unit, operating front panel keypads and display, WEB - Server & data interfaces
- Automatic power supply redundancy optional
- Management locally via front panel keypads or with PC/Laptop via the Ethernet Interface
- IP - based remote operation/management via integrated WEB - Server
- SNMP function optional available

POWER SUPPLY REDUNDANCY OPTION

Additional power supply unit will be added. All modules will be powered by the headend controller and via the power supply unit BEB 200. An automatic power supply redundancy layout is implemented.



BEB 200 - Power Supply / Bus Extender

- BUS extension & power supply module
- Addressing and current supply of one line
- Automatic power supply redundancy in connection with Headend Controller (HCB 200)
- 100% power supply redundancy by usage of two BEB 200 possible
- Operating status can be called via the Headend Controller (HCB 200)

Flexible and stable mounting

The system modular concept is convenient for various and space efficient installation & mounting like direct wall or into 19" cabinets mounting.

BSR 008 is a 19" subrack for max. 8 modules. Contains one Headend Controller HCB 200 and up to 7 modules AMB406

MSR 016 is a 19" subrack for max. 16 modules (front & rear plug-ins). Contains one Headend Controller HCB 200 and up to 15 modules AMB406

BSR 008 / 19" - Subrack

- BSR 008 subrack can contain max. 8 modules
- Sufficient for 19" cabinets or direct wall mounting



MSR 016 / 19" - Subrack

- Professional subrack for max. 16 modules (front & rear plug-ins)
- Fits into any 19" cabinet
- Professional, stable and robust design



AMB 406 QAM Modulator Module

ASI ⇔ QAM/RF

The **AMB 406** QAM Modulator is the perfect solution for modulation of any ASI transport stream into a high quality QAM/RF channel. This module allows cable operators to deliver high performance digital cable-TV channels throughout their networks.

The **AMB 406** offers various features like PSI and SI processing with NIT generation, PID filtering with table processing and continuous zero stuffing and provides outstanding signal and video quality.

The **AMB 406** can be accessed and configured locally and remotely via the unique central control unit HCB 200 and also features SNMP monitoring optionally.



- **Modulation of any ASI-TS into QAM/RF (45...862 MHz)**
- **Supports QAM standards DVB-C, ITU J. 83 Annex A,B,C**
- **Features PSI-/SI processing with NIT generation**
- **Allows PID filtering with table processing for ideal bandwidth utilization**
- **Excellent signal performance (MER ≥45 dB / Output level max. ≥116 dBμV)**
- **Easy & flexible local and remote control and configuration/SNMP**

HIGH QUALITY SYSTEM

| ASI Input | |
|-----------------------------|--|
| Level range | 200...880 mV _{pp} |
| System clock | 270 Mbps |
| Connector | BNC socket |
| Impedance | 75 Ω |
| ASI-Polarity | regular/inverted |
| ASI Output | |
| Level | 800 mV _{pp} (±10 %) |
| System clock | 270 Mbps |
| Connector | BNC socket |
| Impedance | 75 Ω |
| ASI-Polarity | regular |
| ASI Signal processing | |
| Data rate | 0.625...213 Mbps |
| ASI-Transmission mode | |
| Input | continuous, burst |
| Output | burst |
| TS-Transmission mode | |
| Input / Output | 188, 204 Byte |
| QAM Modulator | |
| Symbol rate | 1.0...7.2 MSps |
| QAM Modulation | ITU-T J.83 Annex A, B, C, DVB-C |
| Modulation Error rate (MER) | ≥ 45 dB |
| Test signals | according adjusted symbol rate and QAM constellation |
| Measurement signal | unmod. carrier (signal level) |
| Shoulder attenuation | ≥58 dB |

| RF Output | |
|------------------------|---|
| Output frequency range | 45...862 MHz |
| Tuning grid | 125 kHz |
| Max. output level | 116 dBμV |
| Phase noise | 1 kHz; Typ. -92 dBc/Hz 10 kHz; Typ. -101 dBc/Hz 100 kHz; Typ. -108 dBc/Hz |
| Level adjustment range | 0...31.5 dB (0.5 dB steps) |
| Channel allocation | adjacent channel ability |
| Connector | F socket |
| Impedance | 75 Ω |
| Return loss | ≥ 18 dB 45 MHz - 1.5 dB/Octave |
| Operating parameter | |
| Voltage/current | 12 V (±0.2 V)/650 mA |

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ORDERING INFO:

- AMB406M-8-X - QAM modulator; includes: X modules AMB406, subrack BSR 008 and Headend Controller module.
- AMB406M-16-X - QAM modulator; includes: X modules AMB406, subrack MSR 016 and Headend Controller module.

OPTIONS:

- BEB200 - redundant power supply