

## ARRIS APEX 1500

### All-Purpose Edge QAM

APEX 1500 von Arris ist ein universeller Edge QAM und bietet Flexibilität, hohe Verfügbarkeit, hohe QAM-Dichte, Möglichkeit für Scrambling sowie geringen Energieverbrauch in einer kostengünstigen 2-HE-Plattform. Bis zu 6 austauschbare und Hot-Swap-fähige QAM-Module können im Chassis installiert werden. Jedes Modul bietet zwei RF-Anschlüsse, die jeweils bis zu 6 QAM-Kanäle unterstützen. Jeder der verfügbaren 72 QAM-Kanäle kann für Broadcast, Video-on-Demand (VOD), Switched Digital Video (SDV) oder Docsis 3.0 (durch Unterstützung für die M-CMTS-Architektur) verwendet werden.

*The APEX1000, Arris' next-generation all-purpose edge QAM, provide flexibility, high availability, high QAM density, encryption capability and low power in an extremely cost-effective 2 RU platform. Up to 6 removable and hot-swappable QAM modules can be installed in the chassis. Each module provides two RF ports, which support up to 6 QAM channels each. Any of the 72 QAM channels available can be used for video on demand (VOD), switched digital video (SDV), broadcast services, or DOCSIS® high-speed data (through support for the M-CMTS architecture).*



#### Features

- 2 HE-Chassis für bis zu 72 QAM-Kanäle mit 8 MHz, bis zu 6 austauschbare und Hot-Swap-fähige QAM-Module pro Gehäuse
- QAM-Module – verfügbar in SD- oder HD-Konfiguration; Umkonvertierung über SW-Upgrade möglich
- 8 GbE-Schnittstellen (SFP) mit Unterstützung für IGMPv3 und Transportstrom-Redundanz
- bis zu zwei Hot-Swap-fähige, redundante Netzteile mit Lastteilung; unterstützt zwei AC- bzw. DC-NT
- SDV- und VOD-Standards - Unterstützt die NGOD- und ISA-Spezifikationen
- M-CMTS-Standards – Unterstützung von M-CMTS-Schnittstellen, einschließlich DTI, DEPI und ERMI
- Unterstützung für Verschlüsselung durch DVB Simulcrypt
- Volle Video EQAM-Funktionalität
  - De-Jittering von CBR- und VBR-Input- Datenströmen
  - Empfang von MPTS oder SPTS
  - Übertragen von MPTS
  - Unterstützung für MPEG-Remultiplexen, PID-Remapping und PSI-Generierung/Überwachung
  - Externer SI-Generator möglich
  - Unterstützt SNMP für Konfiguration und Steuerung

#### Features

- Physical Chassis – 2 RU chassis with support up to 72 8-MHz QAM channels or up to 6 removable and hot-swappable QAM modules
- QAM-Modules – available in standard-density (SD) configuration, high-density (HD) configuration and a QAM module software upgrade to field-convert a SD module to a HD module
- GbE Interface – 8 GbE Interfaces with support for IGMPv3 and transport stream redundancy
- Power Supplies – Supports up to two hot-swappable redundant load-sharing power supplies; supports two AC, two DC or either 1 AC or 1 DC
- SDV and VOD Standards – Standards based solutions
- M-CMTS Standards – Software upgradeable to support the M-CMTS interfaces, including DTI, DEPI and ERMI
- capable of supporting encryption through DVB Simulcrypt
- Full Video EQAM Feature Set
  - De-jittering of CBR and VBR input streams
  - Receive either MPTS or SPTS
  - Transmit MPTS
  - Support for MPEG remultiplexing, PID remapping, PSI generation and PSI monitoring
  - Support for external DVB SI generator
  - Supports SNMP for configuration and control

**Spezifikationen / Specifications**

Modular Chassis		Gigabit Ethernet Input/Output	
Chassis Height	2 RU	GbE MPEG Data	Receive only
Dimensions	8,9 cm x 48,3 cm x 64,8 cm	Physical Ports	8 SFP slots
Weight	15,65 kg (fully loaded)	IGMPv3	Supported
QAM Modules	Up to 6 per chassis: SD purchase standard-density (SD) or high density (HD) modules; software upgrade to HD	Optical SFP Support	850, 1310, 15xx nm
		Electrical SFP Support	1000Base-T
		Fast Ethernet Input/Output	
		Physical Ports	Two RJ-45 Ethernet
Hot-Swappable	Yes	RF Output	
		ITU J.83 Annex A, B, C; DRFI	
RF Ports	Two per QAM module	QAM Constellations	256 QAM and 64 QAM
QAM Channel per RF Port	SD-Module Up to 3 (8 MHz) or 4 (6 MHz) HD-Module Up to 6 (8 MHz) or 8 (6 MHz)	Center Frequency Range	57 to 999 MHz
		Carrier Frequency	250 KHz
Power		Step Size	
Power Supplies	Up to two per chassis	RF Level Step Size	0,2 dB
Load Sharing	Yes	Maximum RF Output Level	
Redundant	Yes	One active channel	60 dBmV
Hot Swappable	Yes	Two active channels	56 dBmV
Configurations	One or two AC One or two DC	Four active channels	52 dBmV
		Six active channels	50 dBmV
AC Power Supply	100 to 240 VAC, 50/60 Hz	Eight active channels	49 dBmV
DC Power Supply	-40 to -75 VDC	Input Impedance	75 Ω
Power Consumption	< 3,5 W/QAM channel (317 W total when fully loaded)		
Environmental			
Operating Temperature	0 °C to 40 °C		
Storage Temperature	-40 °C to 70 °C		
Cooling	8 fans, front to back airflow		
Operating Humidity	5% to 95%		

Individual Components		
Component	Description	Part Number
APEX 1500 Chassis	QAM modules and power supply modules sold separately	573209-005-
QAM Module SD (2x3)	Two RF ports per module enable up to 4 QAMs per port	540273-001
QAM Module HD (2x6)	Two RF ports per module enable up to 6 QAMs per port	540273-002
QAM Module (4x3)	Four RF ports per module enable up to 3 QAMs per port	540273-005
Power Supply Module (AC)	AC power supply	540272-001
Power Supply Module (DC)	DC power supply	540272-002
Set Configurations		
APEX 1500 V72 AC HD	Includes one APEX chassis, one AC power supply module, 6 2x6 QAM modules	573209-003
APEX 1500 V72 DC HD	Includes one APEX chassis, one DC power supply module, 6 2x6 QAM modules	573209-004
APEX 1500 V96 (4x4) AC	Includes one APEX chassis, one AC power supply module, 6 4x3 QAM modules	573209-006
APEX 1500 V96 (4x4) DC	Includes one APEX chassis, one DC power supply module, 6 4x3 QAM modules	573209-007
QAM Upgrade		
QAM Module Upgrade	Field-convert a 2x3 SD to a 2x6 HD module	540400-001

Note: QAM module configuration considers PAL (8 MHz) channels