DAH

DOCSIS Access Hub

Teleste's DOCSIS Access Hub brings high-speed broadband connections and broadcast TV to your customers. The DAH works in existing two-way coax networks, and is an ideal broadband solution for e.g. the hospitality sector.

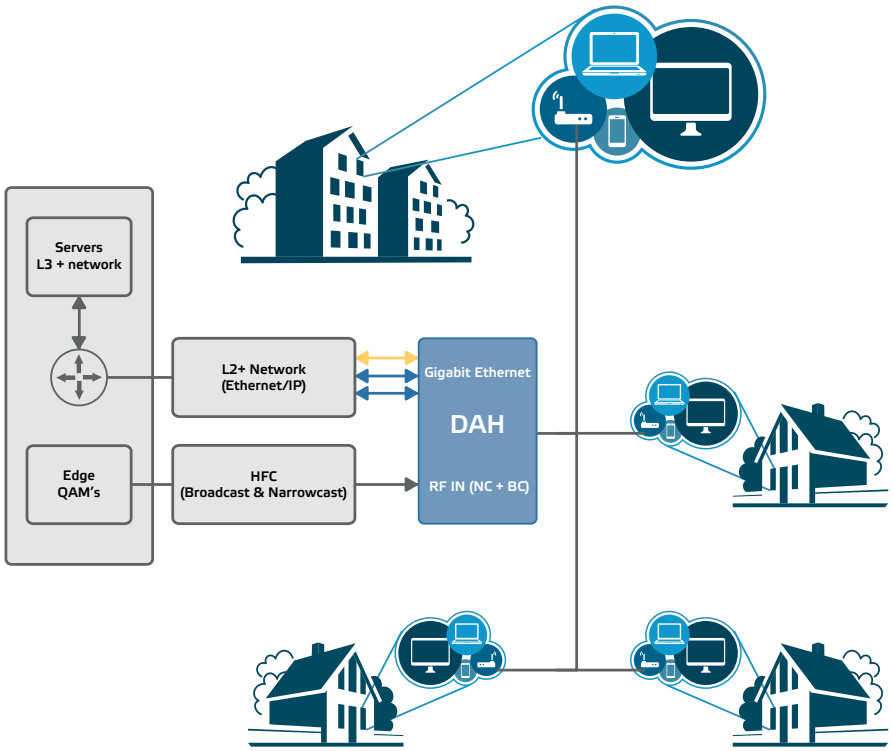
Providing FTTH experience over coax

The DAH will extend your IP network over the existing coaxial cabling inside apartment buildings. It allows you to bring high-speed broadband connections to your customers with considerably lower costs compared to FTTH.

Features

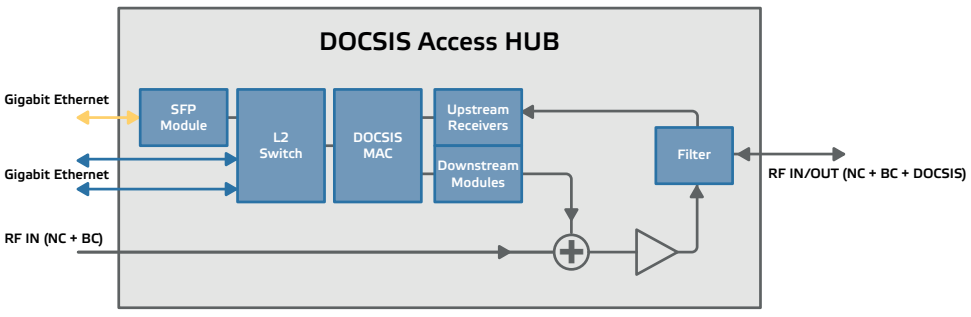
- FTTH experience over coax
- Mature standard, developed for access networks
- Wide availability of subscriber modems
- Enables a smooth evolution from central-office CMTS to distributed CMTS architecture
- "Plug and leave"

Teleste's DOCSIS Access Hub is designed to bring high-speed broadband to individual apartments, to hotel rooms and cabins, or to areas with small subscriber base. Ideally the DAH is placed to a network location that serves around 500 CATV households. The DAH works together with standard cable modems and due to its integrated CATV amplifier, it can also be used to deliver traditional broadcast TV.



Trouble-free performance with "plug and leave"

Our extensive testing produces robust products that work without complications. Every detail of the DAH has been thought through. For example, its fan-free design doesn't need maintenance, and EMC problems are eliminated by proper isolation of Gigabit Ethernet ports. In addition, the DAH offers "plug and leave" functionality: just plug in the device and you are ready to leave. The DAH does the configuration work for you.

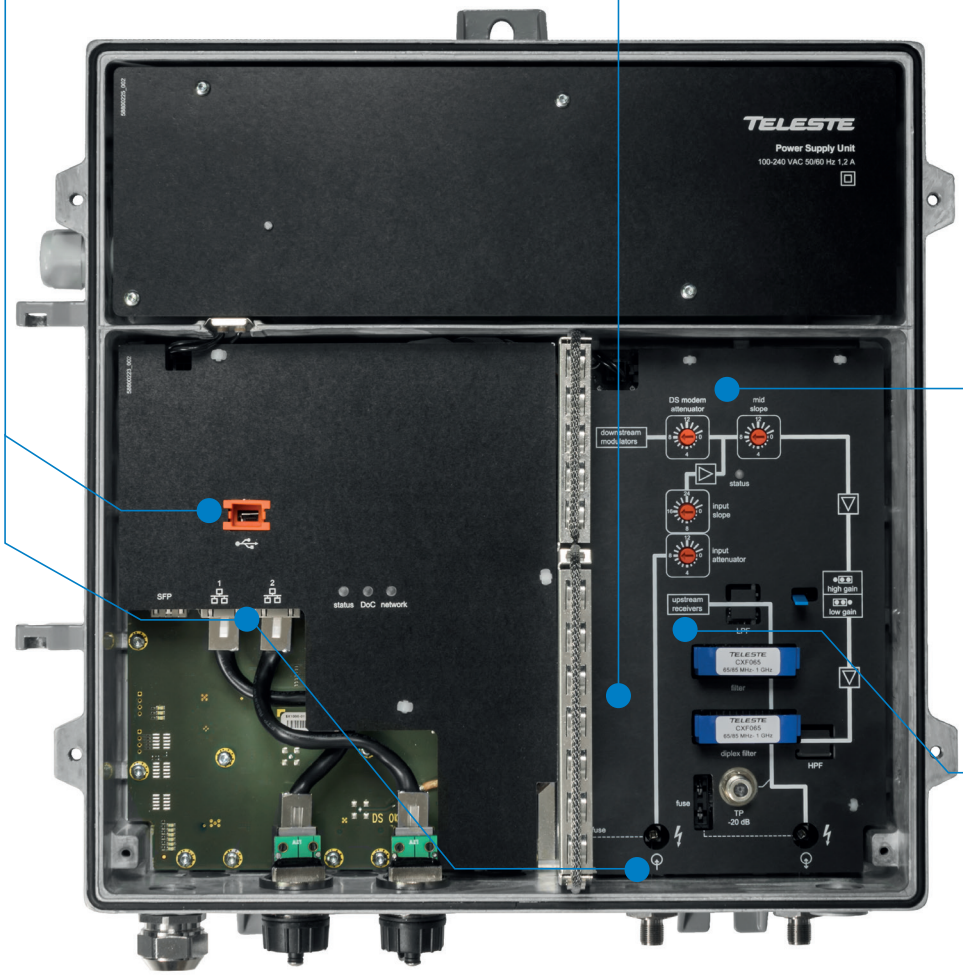


Interfaces

- Optical interface SFP slot
- USB port for local configuration
- Ethernet 2xGbE copper
- Coax PG11/F female

Integrated RF amplifier

- High gain / low gain selection
- Flat / sloped output selection
- Level adjustments with local switches and software control

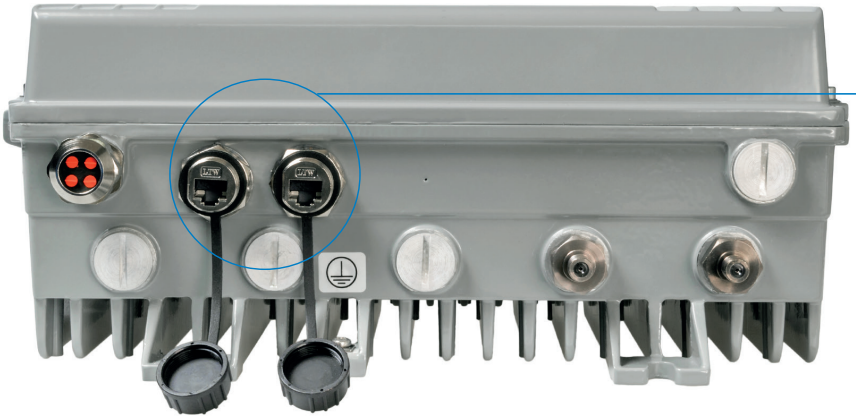


Downstream

- 108...1006 MHz
- 16 bonded DS channels
- Up to 1024 QAM
- Up to 1 Gbit/s

Upstream

- 5...65 MHz
- 4 bonded US channels
- Up to 256 QAM
- Up to 160 Mbps



EMC matters: Properly isolated Gigabit Ethernet ports eliminate EMC problems

Technical specifications

MANAGEMENT AND MONITORING	
CLI via SSH / Telnet	USB for local management.
WEBUI	HTTP
Dual Application SW	Safe remote SW upgrade.
Timed reboot	Safe remote upgrade recovery.
SNMP	SNMPv2c MIB's & traps.
Management VLAN	Isolates CM management from CPE traffic.
Radius Authentication	Centralised user password management.
Cable modem monitoring	Number of cable modems (MAC, IP addr, bonding, DOCSIS version). Status of each modem (ranging, registered, operational, offline).
CPE connected to Cable Modems	Number of CPE (MAC, IP). Status of CPE (active, non-active)
Syslog	Internal and external syslog servers, Event Severity filters, Logging: any events, CM arrival/departure, user login, internal DHCP events
Techsupport file	Easy way to gather technical status.
Teleste EMS integration	Teleste Commander can manage DAH.
Upstream RF characteristics	Level, SNR, FEC counters.
Upstream spectrum analyser	Display US spectrum to detect problems.
Downstream RF characteristic	Ask current RF parameters from CMs.
Service flow traffic	Service flow specific packet/byte counters.
Cable Mode statistics	Drop counters, state before last drop.
RF channel usage rate	Percentage to verify bitrate utilisation.

RF CHARACTERISTICS	
Downstream signal path (RF into RF out)	
Frequency range	54 / 85...1006 MHz
Return loss	18 dB
Gain	42 dB
Gain selection	42 / 34 dB
CTB 42 channels	117.0 dBµV
CSO 42 channels	117.0 dBµV
XMOD 42 channels	114.5 dBµV
$U_{max\ (112\ QAM\ channels)}$	113.0 dBµV
DOCSIS downstream	
Number of channels	16
Output frequency	108…1006 MHz
Output level	95…117 dBµV per channel
Modulation	QAM64, QAM256, QAM1024
Channel width	6 MHz / 8 MHz
Flatness	±1.5 dB
DOCSIS upstream	
Number of channels	4
Input frequrency	5...42 / 65 MHz
Nominal input level	57…87 dBµV @ 5.12 Mbaud
Type	ATDMA, SCDMA
Modulation	QPSK, QAM16, QAM64, QAM256
Symbol rate	1.28, 2.56, 5.12 Mbaud / Channel
Channel width	1.6, 3.2, 6.4 MHz

NETWORKING	
Supported DOCSIS modems	DOCSIS 2.0 / 3.0, Euro-DOCSIS 2.0 / 3.0
Provisioning of cable modems	Integrated DHCP server, unique configuration file per CM.
Shared secret protection	Against local CM configuration.
IPTV Support (Multicasting)	IGMP snooping, IGMPv3.
QoS	DOCSIS service flows (static).
VLAN tagging	802.1Q
Load balancing	Manages DS and US channel loading.
Automatic channel bonding	Manual for non-adjacent DS channels.
DS level adjustment	Balance DS with broadcast channel levels.
US level adjustment	Optimise US levels.
US dynamic modulation	Automatic adjustments based on SNR.
Option 82 tagging	(DHCP snooping, DHCP relay)
IP spoofing protection	With lease query.

GENERAL CHARACTERISTICS	
Power consumption	60 W
Supply voltage	110…240 VAC
Dimensions (h x w x d)	360 mm x 350 mm x 150 mm
Weight	10 kg
Class of enclosure	IP54
Operating temperature	-10…+55 °C
Number of gigabit ports	3
Connectors	2 x RJ-45 socket, 1 x SFP module slot, 2 x PG11/F-female
EMC compatibility	EN50083-2, EN61000-6-1, EN61000-6-3
ESD	4 kV
Surge	6 kV (EN 60728-3)

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