



ACCERON

Modular Access Platform

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ACCERON is a state-of-the-art segmentable modular fiber node, designed for today's modern HFC Networks and supporting their migration to next generation Distributed Access Architecture (DAA). The future proof design of the platform will allow for future network upgrades, and to increase network capacity according to data traffic growth.



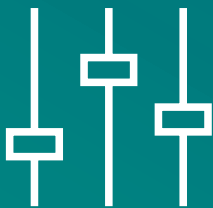
FUTURE PROOF DESIGN

DOCSIS 3.1 compliant, up to 1.2 GHz downstream / 204 MHz upstream

Open for integration with ANY Remote PHY Device or Remote MACPHY Device vendor

Up to two 2nd Generation RPD 1x2, supporting DPD or FDX DOCSIS functionalities

Life-time upgradable, supporting future implementations (e.g. 5G, WiFi Access Point)



FLEXIBLE CONFIGURATION

Possibility to implement the platform as a Remote PHY Node, Classical HFC Optical Node or Mixed configuration

Modular design - all active components are field replaceable modules

Passive mainboard, prepared for future extension of Downstream and Upstream

Robust die-cast housing, supporting heating dissipation up to 140 W



USER FRIENDLY

Compact dimensions

Environmental robustness

Multiple installation options: street/pedestal cabinets, wall, pole or strand mounted

Easy to upgrade



SERVICE WITHOUT INTERRUPTION

Modular power supply, easy to exchange

PSU redundancy mode

PSU status monitoring

FEATURES



DAA (Distributed Access Architecture)
Prepared for digital optics and Remote PHY Device (RPD) Module / Remote-MAC PHY Device (RMD) Module.



1.2 GHz technology
An extended bandwidth in downstream up to 1.2 GHz; DOCSIS 3.1 standard compliant. Further extension possible with future modules.



200 MHz technology
A possibility of extending bandwidth in upstream up to 200 MHz. Further extension possible with future modules.



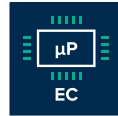
NMS transponder
Reduced operating costs thanks to the remote monitoring and configuration.



VIG (VECTOR Ingress Guard)
System compliant; Verification and elimination of the source of ingress in the network.



GaN Technology
The Output parameters for analog and digital carriers improved for lower power consumption.



Electronic control
A quick and uninterrupted device configuration.



VMC (VECTOR Mobile Commander)
Convenient and user-friendly configuration through mobile devices.

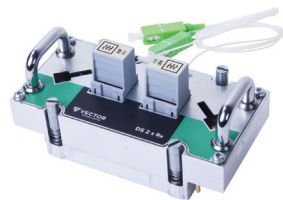


Integration of optical passives
A possibility of installing CWDM / DWDM / WDM filters inside the housing.



GREEN mode
A significant reduction of power use thanks to optimization of its consumption. Further reduction is possible with digital predistortion (DPD) option in 2nd Generation RPD.

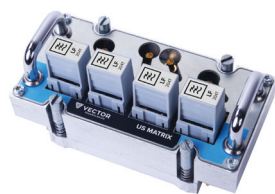
AVAILABLE MODULES



Downstream Dual Receiver and Matrix module



Downstream RF Module, single or dual



Upstream Matrix module



Control Unit

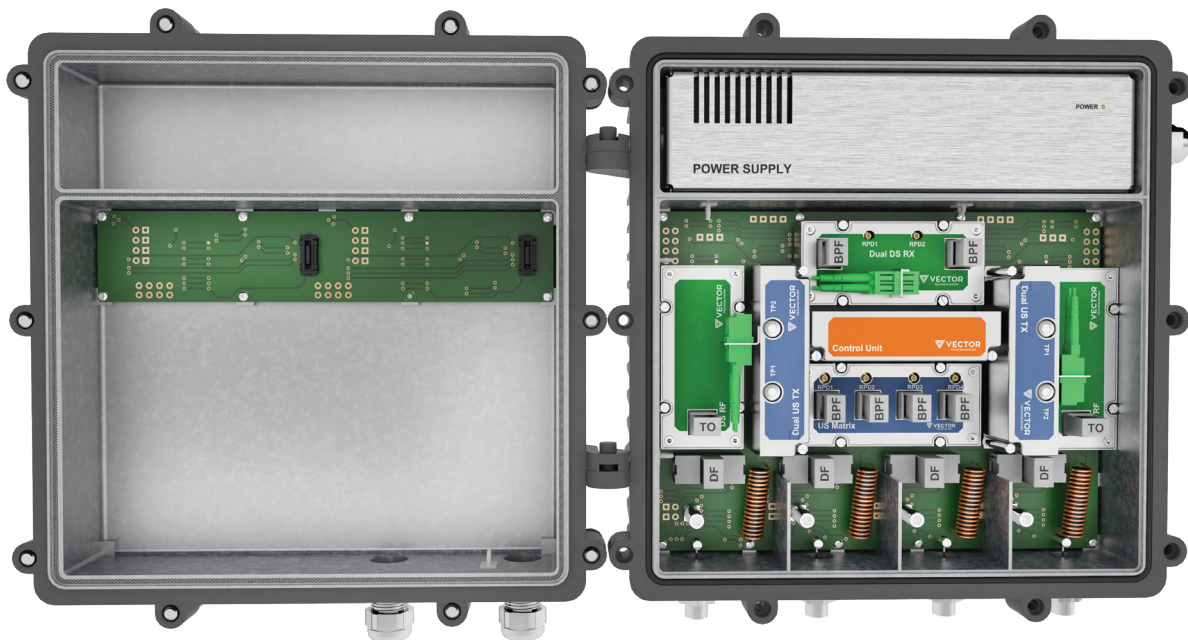


Upstream Transmitter, single or dual

CLASSICAL HFC SEGMENTABLE 2x4 OPTICAL FIBER NODE CONFIGURATION

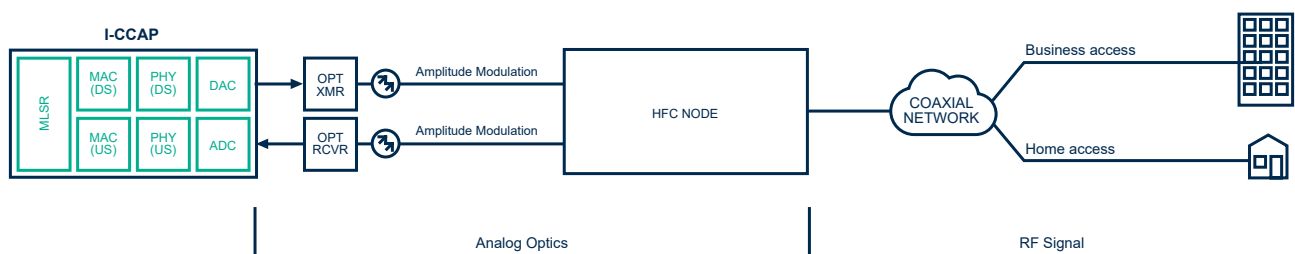
ACCERON Modular Access Platform is designed to meet the most demanding needs of today's and future HFC Networks.

- up to 4 active RF high level power amplifiers
- 2 DS Rx and up to 4 US Tx for advanced network segmentation
- power passing up to 15 A to each of the 4 RF ports
- excellent signal performance allowing full possibilities of DOCSIS 3.1 data transmission to be used



Centralized Access Architecture (CAA) - I-CCAP

The architecture that describes the classical HFC access network with integrated CCAP.



2x4 REMOTE PHY NODE CONFIGURATION or MIXED CONFIGURATION 1x2 REMOTE PHY NODE (WITH RF OVERLAY)

The new revision of the DOCSIS standard will unlock gigabit speeds. Introducing Distributed Access Architecture, replacing an analog optical link with digital transmission, is a solution that will allow the maximal usage of DOCSIS 3.1 capabilities. The ACCERON:

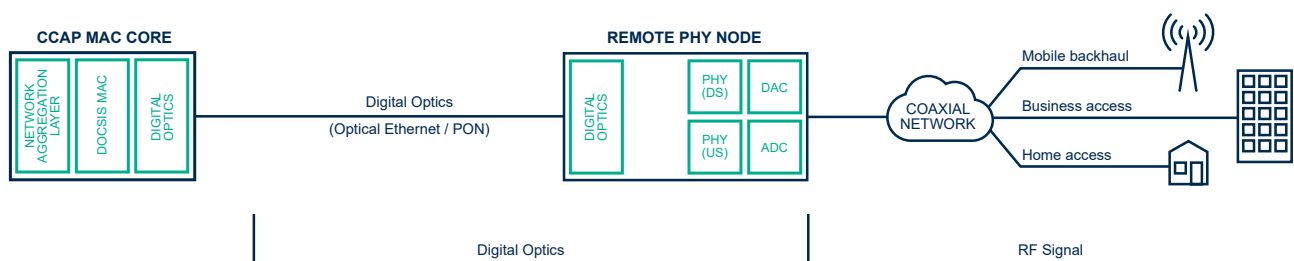
- was designed from the bottom up to adapt to the Distributed Access Architecture fully
- can be implemented in a Remote PHY Node 1x2 mixed configuration or as a 2x4 Remote PHY Node (based on two RPD modules with 2nd Generation silicone) with or without the RF overlay option



POSSIBLE CONFIGURATIONS

Distributed Access Architecture

DAA is an architecture that moves the whole CCAP functionality out of the headend to the fiber node. Moving just the physical layer (PHY) out to the fiber node, while leaving the MAC functionality in the headend site, is called Remote PHY.



TECHNICAL SPECIFICATION

FORWARD

Wavelength	1260 – 1620 nm
Bandwidth	85...258 – 1218 MHz
Optical input range	-9.9 – 2 dBm
Optical AGC range	-7 – 0 dBm
Flatness	± 0.5 dB
Equivalent Input Noise Current	4.5 pA/sqrt (Hz)
Digital Output level@110x8MHz QAM	up to 4 x 112 dBμV
Number of outputs	up to 4

RETURN

Wavelength	16 CWDM
Bandwidth	5 – 65...204 MHz
Flatness	± 0.5 dB

GENERAL

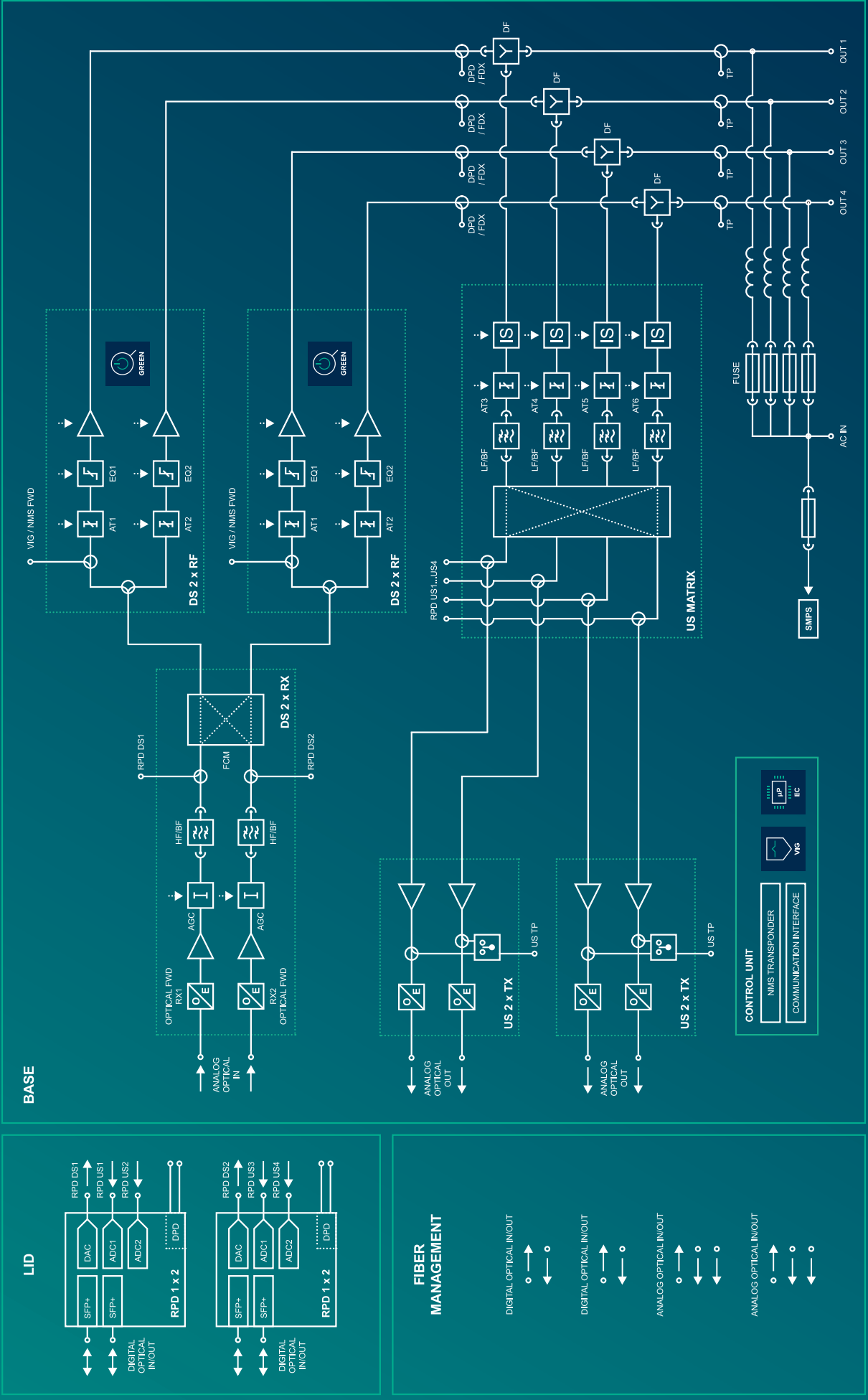
AC voltage range	30 – 65 / 90 V
Max current for RF port	15 A
RF connectors	4 x PG11
Protection class	IP 67
Dimensions	360 x 350 x 180 mm
Temperature range	-40...60 °C

1. In range 40 - 600 MHz; ± 0.75 dB in range 40 - 1006 MHz; ± 1.0 dB in range 40 - 1218 MHz
2. Typical value; the worst case 6 pA / √Hz
3. Full digital load 258 - 1218 MHz, 110 channels QAM 256, 12 dB slope
4. Up to 85 MHz; ± 0.75 dB up to 204 MHz

Unless otherwise specified, the whole specifications are tested with 65 / 85 diplex filters installed; at room temperature 25°C and present typical values.

BLOCK DIAGRAM

CONFIGURATION WITH ALL MODULES



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