| Analysis | Pilotgen | ActivPFC | RIS | ALSC | Optima+ | Wireless | 204 MHz | 1218 MHz | GaN |

ACE nodes

ACE8
INTELLIGENT 1.2 GHZ NODE

The ACE8 optical node platform is a small and cost efficient node with intelligent features. Besides cutting edge technology, the node offers flexibility and usability for acing deep fibre networks.

More capacity and intelligence is required from today's fibre networks than ever before, and solutions need to be user friendly and reliable, robust yet compact. The ACE8 intelligent deep fibre node fulfills these requirements. With outstanding performance it is well suited for conventional applications as well as DOCSIS® 3.1. Supporting the latest network requirements the new ACE8 will carry fibre not only deep into the network but networks also deep into the future.

TELESTE

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ACE8 is an intelligent node with one active output, which may be split internally in two. It offers high output level (Umax 112 QAM/114 dBµV) and supports 1.2 GHz downstream and up to 204 MHz upstream frequencies. The node is based on fixed receiver and modular upstream transmitter. Remote monitoring and control is available with transponder (HMS/CATVisor or DOCSIS).

1. PSU with active power factor correction
The combination of high output level, 1.2 GHz downstream frequency, and smart features can be potentially power consuming. In the ACE8 this challenge is solved by built-in active power factor correction and clever design that guarantee low power consumption.

2. True plug-and play
An intelligent automatic alignment system with a wide gain control range ensures optimum operation of the ACE8 node. It replaces conventional mechanical plug-in module adjustments and laborious control of parameters.

All the adjustments are electrical and controlled with a management interface. Plug-in attenuators or equalisers are not needed.

3. Easy management even on the site
The node can be accessed locally via a USB port. The USB port also enables wireless local management via Bluetooth® and Teleste Commander application for Android smartphones and tablets.

4. Integrated fibre organiser
The integrated fibre management space provides secure storing location for fibre optic cables and fibre splices.
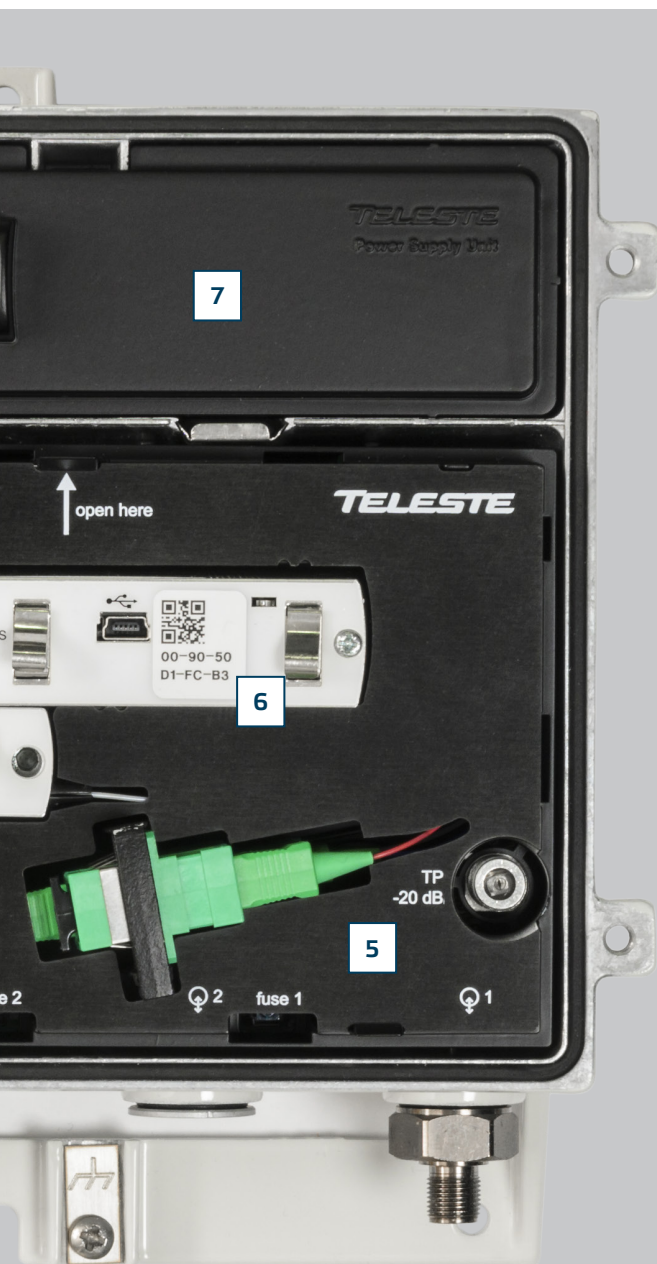
ACE8 features

- Supports up to 1.2 GHz downstream and 204 MHz upstream
- GaN performance
- Automatic alignment of both forward and return path
- Electrical level and slope controls
- Wide range of upstream transmitters
- Efficient ESD and Surge protection
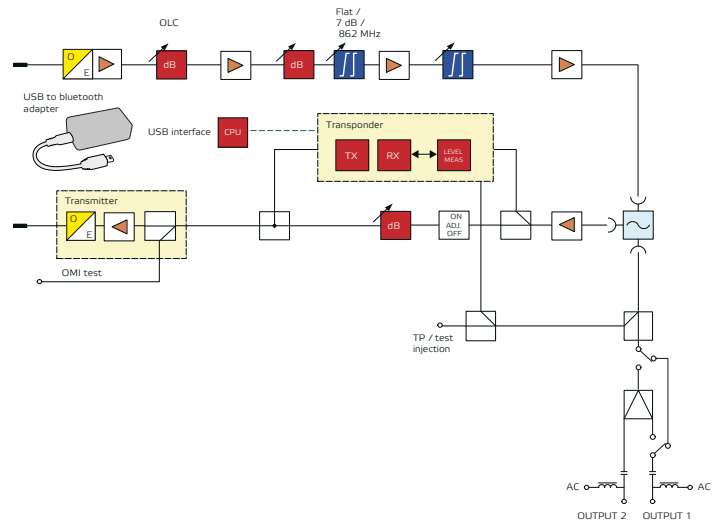
ACE8 block diagram

5. High performance

The amplifier stages of ACE8 are based on the latest GaN solution that makes the usable gain range especially wide and results in enhanced noise resilience.

The high performance means fewer units in the field and this – of course – leads to less frequent maintenance visits. Efficient and fully passive cooling design lowers internal temperature which increases component durability. All this leads to higher service availability and lower operational costs.

6. Automatic alignment

The ACE8 automatic alignment feature can perform several tasks during the installation or at a later stage of the ACE8 life cycle by just pressing a single button. The automatic alignment allows true plug-and-play installation and hardware can be configured to the finest detail already at the factory.

The automatic features greatly reduce the possibility of human errors, as well as time-consuming and inefficient network operations. More importantly, it means cutting down operating costs and increasing customer satisfaction.

7. Sleek, yet robust

The ACE8 is a compact, user-friendly node with intelligent features. With the compact size and sleek housing, the node can easily and effortlessly fit in limited spaces.

ACE8 / INTELLIGENT 1.2 GHZ NODE

DOWNSTREAM SIGNAL PATH		UPSTREAM SIGNAL PATH	
Light wavelength	1290…1610 nm	Frequency range	5…204 MHz
Optical input power range	-7…0 dBm	Return loss	18 dB
Frequency range	54…1218 MHz	Ingress switching	0 / -6 / < -45 dB
Flatness	± 0.5 dB	Input level	57 dBµV (-3 dBmV)
Gain limited output	118 dBµV (58 dBmV)	OMI adjustment	0…-20 dB
CTB 41 channels	116.0 dBµV (56 dBmV)	OMI test point	-5 dB
Umax (112 QAM channels, @ 1.0 GHz)	114 dBµV	CINR	See curves
Umax (138 QAM channels, @ 1.2 GHz)	111.5 dbµV		

AC6992 TRANSPONDER MODULE (CATVisor/HMS)		AC6983 TRANSPONDER MODULE (DOCSIS)	
Power consumption	1.8 W	Power consumption	3.4 W
DS frequency range	80…88 MHz, 108…132 MHz, 160…176 MHz, 216…264 MHz	DS frequency range	108…1002 MHz
US frequency range	5…65 MHz	US frequency range	5...65 MHz
DS measurement range	50…1218 MHz, 0.25 MHz steps	DS measurement range	50…1218 MHz, 0.25 MHz steps
US measurement range	5…204 MHz, 0.25 MHz steps	US measurement range	5…204 MHz, 0.25 MHz steps
Measurement bandwidth	0.35 MHz	Measurement bandwidth	0.35 MHz

CINR (Upstream)

Curve is defined with CWDM transmitter (nominal performance in room temperature).
Load 5 x 64 QAM and 23 x 64 QAM, Symbol rate 6.9 MSym/s, Input level -2 dBm.

GENERAL CHARACTERISTICS	
Power consumption	22 W
Supply voltage	27…65 V AC/45…90 V AC/ 100…130 V AC/205…255 V AC
Max current feed trough	7 A / port
Hum modulation	70 dB
Optical connectors	SC/APC, FC/APC, E-2000
Test point connectors	F female
Dimensions (h x w x d)	170 (200) mm x 230 mm x 90 mm (6.7 (7.9) in x 9.1 in x 3.5 in)
Weight	2.3 kg (5.1 lbs)
Operating temperature	-40…+55 ºC (-40…+131 ºF)
Class of enclosure	IP67 (IP54 if ventilation hole not closed)
EMC compatibility	EN 50083-2
ESD, Surge	4 kV, 6 kV (EN 60728-3)

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