TELESTE

AC8710

Intelligent 1.2 GHz optical node

Deploying the AC8710 brings intelligence to your networks and increases service reliability. Its automatic adjustments ease installation and a dual power supply makes installations robust. The AC8710 is DOCSIS 3.1 -compliant and can release your full network capacity today.

The intelligent 1.2 GHz optical node for deep fibre networks

Features

- Supports 1218 MHz downstream and up to 204 MHz upstream
- Intelligent alignment
- Two redundant power supplies
- High performance GaN outputs
- Plug and leave

The AC8710 offers advanced features for future-proof networks. Thanks to the improved GaN hybrids and automatic adjustments this intelligent DOCSIS 3.1. -compliant node offers even better performance and reliability with extremely high output levels.

Outstanding performance and service reliability

With the downstream frequency of 1.2 GHz and the upstream frequency band up to 204 MHz the AC8710 allows you to offer your customers access to high transmission capacity. As more and more broadband capacity is needed for the current and future bandwidth consuming services and applications the node also offers flexibility to increase capacity on demand.

The AC8710 handles many typical installation and maintenance issues automatically and its two, monitored redundant power supplies enhance the reliability and help in preventing signal interruptions.

Plug and leave - the intelligence does it for you

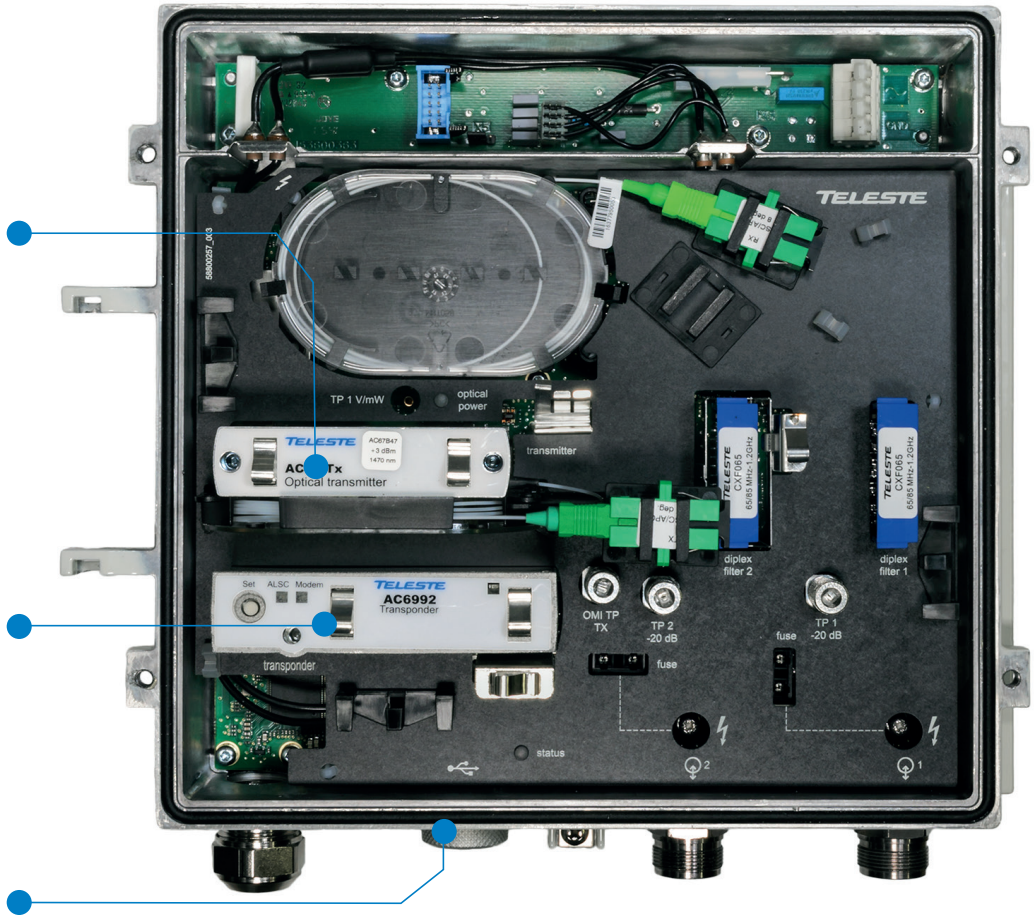
Conventional mechanical adjustments and checking the parameters are time-consuming processes. Labour intensive network maintenance also increases operating expenses and is sensitive to human errors.

Teleste's intelligent nodes offer "plug and leave" functionality; just plug in the device and with a push of one single button you are ready and can leave; all the adjustments are done automatically.

A full range of return path transmitters using various laser technologies are available.

The transponder unit measures the forward and return path signal levels and enables the automatic forward and return path alignment functionality.

Local control through a USB connection.



Intelligence all the way

The AC8710's intelligent features include automatic alignment, ingress blockers and remote alarms to name a few. Intelligence covers practically all important functions of the AC8710 and in many cases manual maintenance can be completely avoided, allowing you to concentrate on developing new services for your current and future customers.

With preventive diagnostics more satisfied customers

Service reliability is fundamental when it comes to quality experienced by the end customers. Reducing service outages and providing better service to end-users will eventually result in a reduced churn rate and increased profitability. The AC8710 helps you in securing the service availability with preventive diagnostics such as the monitoring of power supplies. Its ingress suppression algorithm takes care of upstream problems quickly and precisely, before they influence your customers and reduce unexpected, costly downtime to an absolute minimum.

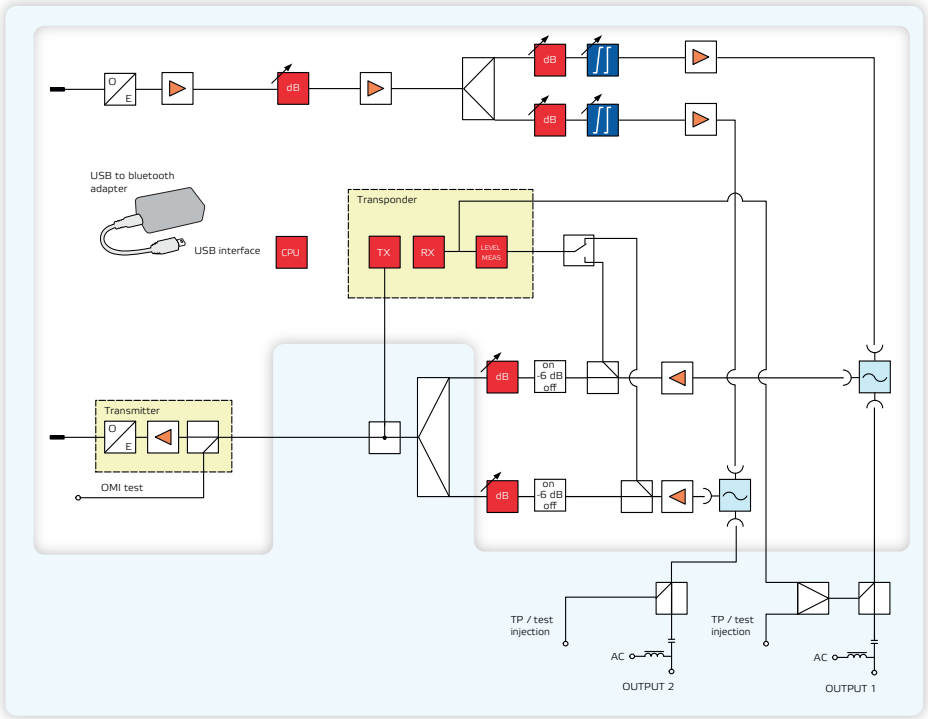
Easy management - remotely or locally

The AC8710 can be accessed remotely and locally. Remote access is done using either DOCSIS, HMS or CATVisor protocol. Local access is possible via a USB port. The USB port also enables wireless local managent via Bluetooth® and Teleste Commander application for Android smartphones and tablets.

The benefits of intelligence

- increased service reliability and customer satisfaction
- reduced churn
- ability to react quickly to network problems

Intelligent functionalities are illustrated on the white area.



The output amplifier stages use high performance GaN hybrids, which makes the usable output level range especially wide.

Integrated electrical controls in both up- and downstream.

Remote monitoring and control is possible via either DOCSIS,HMS or CATVisor protocol.

Technical specifications

RF CHARACTERISTICS

Downstream signal path		**Upstream signal path**	
Light wavelength	1290…1610 nm	Frequency range	5…65 / …85 / …204 MHz
Optical input power range	-8…0 dBm	Return loss	18 dB
Frequency range	85…1218 MHz	Flatness	± 0.5 dB
Return loss	18 dB	Ingress switching	0 / -6 / < -45 dB
Flatness	± 0.5 dB	Input level	57.0 dBµV
Gain limited output level	2 x 118 dBµV	OMI adjustment	0…-20 dB
Slope control range	0…20 dB	OMI test point	-5 dB
Noise current density	6 pA / √Hz	CINR	See curves
CTB 41 channels	118.5 dBµV		
CSO 41 channels	119.0 dBµV		
$U_{max\ (112\ x\ QAM\ channels)}$ @ 1 GHz	114.0 dBµV		
$U_{max\ (132\ x\ QAM\ channels)}$ @ 1.2 GHz	111.5 dBµV		

OPTICAL CHARACTERISTICS

AC67xx return path transmitters	
Light source	CWDM (10 wavelengths)
Optical output power	+3 dBm / +6 dBm
Frequency range	5…65 / …85 / …204 MHz
Pilot frequency	5.5 MHz / 6.5 MHz / no pilot

AC6992 TRANSPONDER MODULE (CATVisor and HMS)

RF modem		**RF level measurements**	
Power consumption	1.8 W	DS measurement range	50…1218 MHz, 0.25 MHz steps
DS frequency range	80…88 MHz, 108…132 MHz, 160…176 MHz, 216…264 MHz	US measurement range	5…204 MHz, 0.25 MHz steps
US frequency range	5…65 MHz	Measurement bandwidth	0.35 MHz
DS input level range @ transponder	60…90 dBµV	DS dynamic range	80…120 dBµV @ node out
US output level range @ transponder	75…104 dBµV	US dynamic range	20…75 dBµV @ node in

GENERAL CHARACTERISTICS

Power consumption	44 W	Test point connectors	F female
Supply voltage	27…65 V AC	Dimensions (h x w x d)	245 mm x 255 mm x 155 mm
	45…90 VAC	Weight	5 kg
	230 VAC	Operating temperature	-40…+55 ºC
Max current feedtrough	12 A / port	Class of enclosure	IP54
Hum modulation	70 dB	EMC compatibility	IEC 60728-2
Optical connectors	SC/APC, E-2000	ESD	4 kV
Output ports	PG11 (several adaptors available)	Surge	6 kV (60728-3)

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