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

AC nodes

AC8810
INTELLIGENT 1.2 GHZ NODE

Supporting DOCSIS® 3.1 frequencies, the AC8810 is an intelligent optical node platform with high tech features delivering real customer benefits. Besides cutting edge technology, the node is also easy – and economical – to operate.

The AC8810 is an intelligent dual active output node for solid networks. It has two fixed optical receivers with redundancy for forward path. The return path can also be fully redundant with double optical transmitter modules. When more segmentation is needed, the optical transmitters can be fed with separate individual return signals. Output amplifier stages use high performance GaN hybrids, which makes the usable output level range especially wide. The performance and power consumption of the RF stages can be adjusted according to the RF load and output level. The platform and accessories of AC8810 are fully functional up to 1.2 GHz.

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AC8810
INTELLIGENT 1.2 GHZ NODE

AC8810 is an intelligent, dual active output node with optical upstream segmentation. It offers high output level (Umax 112 QAM/113.0 dBµV) and supports 1.2 GHz downstream and up to 204 MHz upstream frequencies. 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 AC8810 this challenge is solved by built-in active power factor correction and clever design that guarantee low power consumption.

2. Always in control
Conventional mechanical adjustments and management of the parameters can be laborious and time-consuming processes but with the AC8810 the days of frequent maintenance tasks are over.

In addition to being automatically aligned, the AC8810 can be monitored and controlled remotely via the optional plug-in transponder units. The transponder units offer three different management options: CATVisor, HMS and DOCSIS.

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.
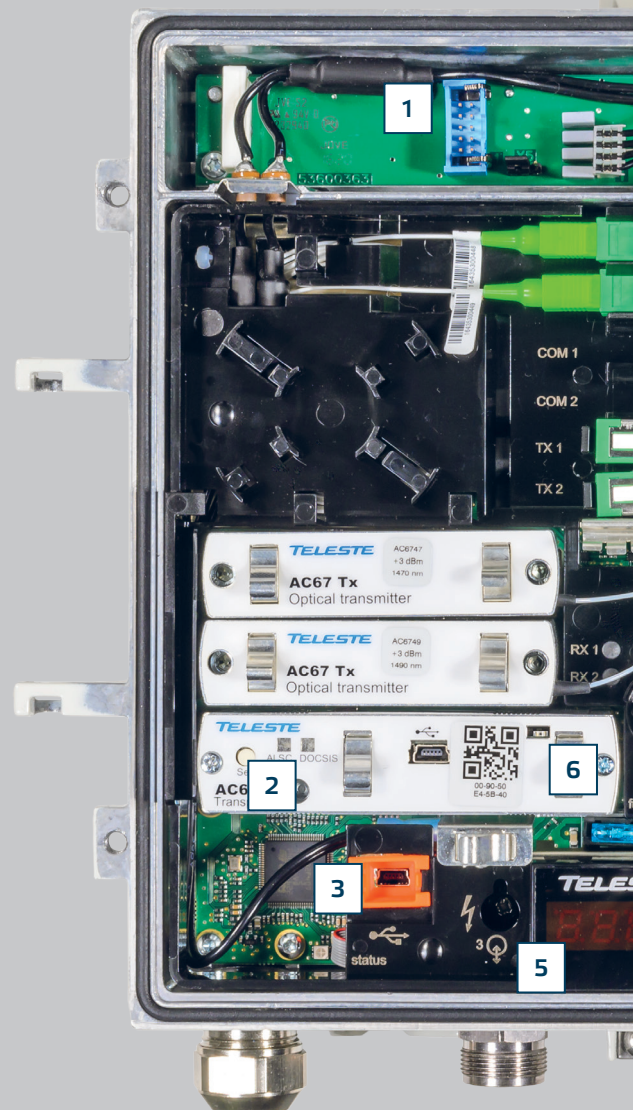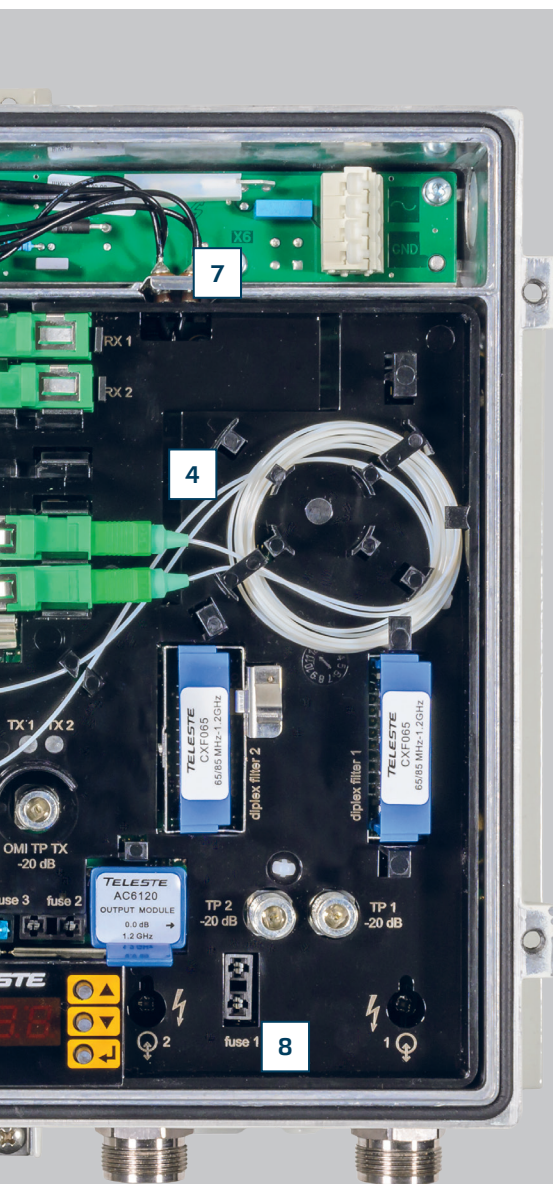
AC8810 features

- Supports up to 1.2 GHz downstream and 204 MHz upstream
- Redundant power supplies
- Automatic alignment of both forward and return path
- Electrical control of return path signal combining
- Electrical level and slope controls
- Wide range of upstream transmitters
- Efficient ESD and Surge protection
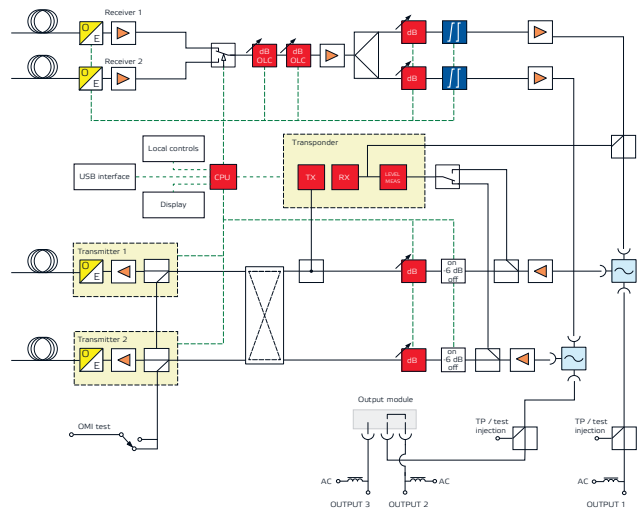
AC8810 block diagram.

5. Local user interface

AC8810 has also a local user interface consisting of a four digit 7-segment display and three push buttons. This local UI can be used for basic configuration in cases where use of a PC, tablet or smartphone equipped with CATVisor Commander is not desired.

6. Automatic alignment

The AC8810 automatic alignment feature can perform several tasks during the installation or at later stage of AC8810 lifecycle by just pressing a single button. The automatic alignment allows true plug-and-play installation and can be user configured to the finest detail already at factory.

7. Power save technology

The combination of high output level, 1.2 GHz DS frequency, and smart features can be potentially power-consuming. In the AC8810, power save technology help operators to reduce power consumption in response for example to channel load changes. In low power mode, this technology can save up to 3 W per active output port. On a bigger scale this means lower operating cost for the network and a smaller CO_2 footprint.
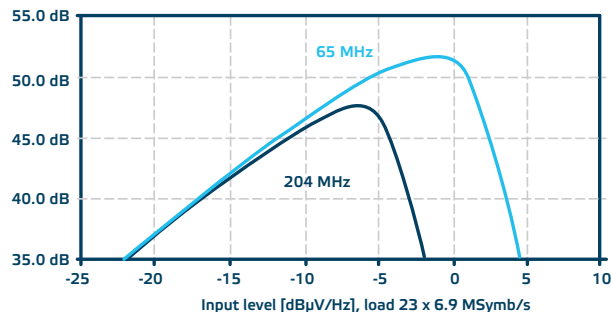
8. Full control

Active output ports with individual level and slope settings are fully controlled with automatic alignment.

AC8810 / 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	-8…0 dBm	Return loss	18 dB
Frequency range	85…1218 MHz	Ingress switching	0 / -6 / < -45 dB
Flatness	± 0.5 dB	Input level	57.0 dBµV
Gain limited output	2 x 118 dBµV	OMI adjustment	0…-20 dB
CTB 41 channels	116.0 dBµV	OMI test point	-5 dB
Umax (112 QAM channels, @ 1.0 GHz)	113.0 dBµV	CINR	See curves
Umax (138 QAM channels, @ 1.2 GHz)	111.5 dbµV		

AC67xx RETURN PATH TRANSMITTERS		AC6981 DOCSIS TRANSPONDER module	
Light source	CWDM (10 wavelengths)	Power consumption	3.8 W
Optical output power	+1 dBm / +3 dBm / +6 dBm	DS frequency range	93…858 MHz
Frequency range	5… up to 204 MHz	US frequency range	5…65 MHz
Pilot frequency	5.5 MHz / 6.5 MHz / no pilot	DS input level range	68…98 dBµV
		US output level range	67…117 dBµV

AC6992 TRANSPONDER MODULE (CATVisor / HMS)		AC6992 / AC6981	
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	Dimensions (h x w x d)	245 mm x 255 mm x 155 mm
Supply voltage	27…90 V AC, 230V AC	Weight	5 kg
Max current feed trough	8 A / port	Operating temperature	-40…+55 ºC
Hum modulation	70 dB	Class of enclosure	IP54
Optical connectors	SC/APC, FC/APC, E-2000	EMC compatibility	EN50083-2
Output connectors	PG11 (several adaptors available)	ESD, Surge	4 kV, 6 kV (60728-3)

CINR (Upstream)

CINR (Upstream) graph with curves labeled "65 MHz" and "204 MHz". X-axis: Input level [dBµV/Hz], load 23 x 6.9 MSymb/s. Y-axis: 35.0 dB to 55.0 dB.

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