



E series

# E8 1.2 GHz COMPACT OPTICAL NODE

Teleste E8 is the latest addition in our extensive range of DOCSIS® 3.1 capable optical nodes. The E8 is compact but true excellence lies beneath the cover. Inside and out, it's innovative and simple design offers outstanding performance and practical functionalities. Simplicity, reliability and versatility. That's what the E series is all about.

The E8 is a compact node with one active output, designed for deep fibre networks. The 1x1 node is based on fixed platform but responds to diverse requirements. Also intelligent manual alignments, remote ingress switching and integrated electrical controls in both up- and downstream are available. The amplifier stages of E8 are based on a high-performance GaN solution that makes the usable gain range especially wide and a high output level possible. The E8 supports the DOCSIS 3.1 frequencies and fully stands up to future bandwidth needs.

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# E8 1.2 GHZ COMPACT OPTICAL NODE

The E8 is a compact optical node with one active output which can be split easily in the field within a matter of minutes. Based on the latest GaN amplifier technology, the E8 offers high output level ( $U_{max}$  113.5 dB $\mu$ V, 112 channels) and wide gain range, both helpful when networks take the next step and become DOCSIS 3.1 compliant.

## 1. New design and operational functionality

There is much more than neat appearance behind the simplified white finish. A new aluminium shielding cover has been used for better shielding characteristics between functional units and for advanced heat dissipation.

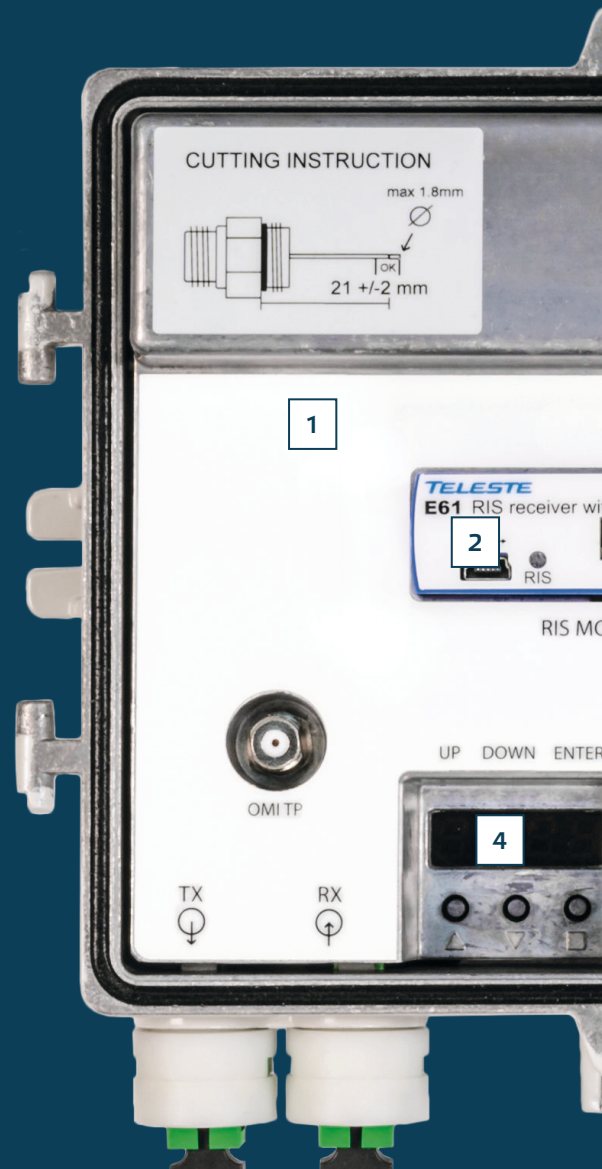
Also a useful feature is the re-designed lid of the node that may be opened from either the left or right hand side or removed altogether. This flexibility improves accessibility and permits greater freedom to install the node in confined spaces.

## 2. Removing barriers with RIS and monitoring

Optional E61 RIS (Remote Ingress Switching) module offers remote ingress switch control over downstream. RIS offers a cost effective way to tackle return path ingress. It also enables the use of Argus Smart RIS toolset if Argus NMS is used to manage the network. Smart RIS is the most advanced unidirectional remote ingress switching management system available on markets.

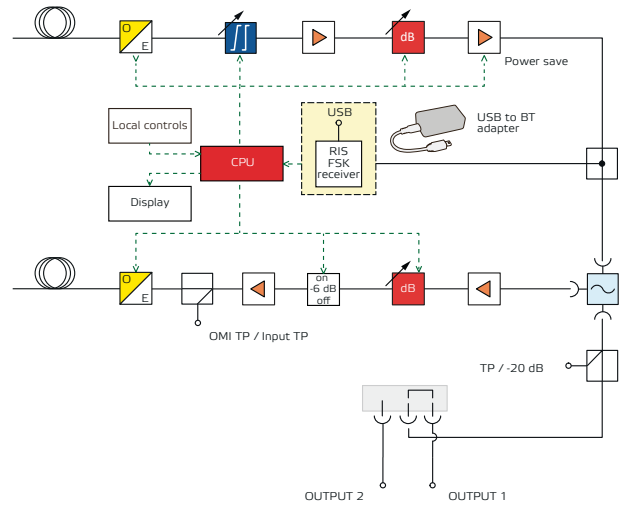
The node can alternatively host an optional monitoring module (E62). In addition of ingress switch remote control, the E62 offers status monitoring, giving full control at all times for optimised operation.

Both modules provide local access to E8 via USB port that also enables local management via wireless BT and Teleste Commander application for Android smartphones and tablets.

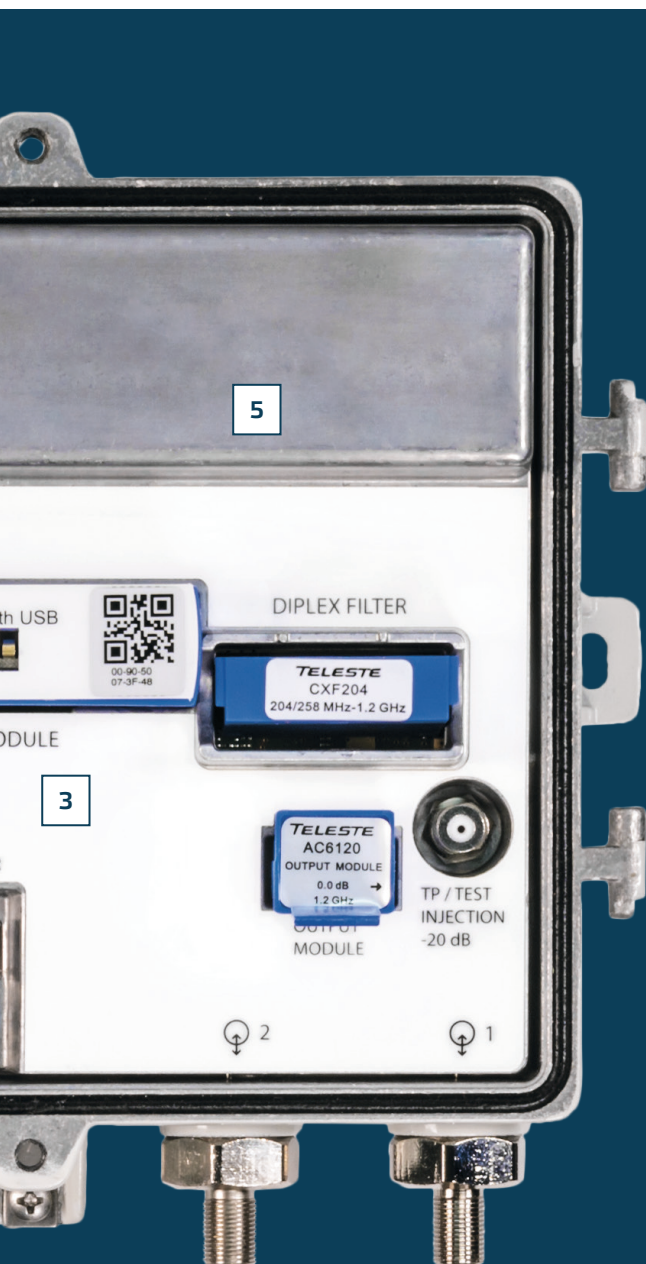


## E8 features

- 1218 MHz downstream
- 204 MHz upstream
- Optical AGC (OLC)
- Electrical adjustments with local user interface
- GaN performance
- Optional PC, tablet or smartphone control via wireless BT or USB
- Optional RIS receiver for remote ingress switch control
- Power saving mode
- Excellent ESD and surge protection
- Selectable burst mode (RFoG)
- Optional & internal WDM filter
- Optional monitoring module and RIS receiver (E62)



E8 block diagram



### 3. Smart features

The E8 supports intelligent manual alignments. Instead of aligning separate amplifier stages, the technology offers a universal control that automatically aligns gains and levels of amplifier stages in an optimal manner. Besides optimal performance it ensures correct alignment and cuts down on operational costs over time.

### 4. Local user interface

E8 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 configuration in cases where use of a PC, tablet or smartphone equipped with CATVisor Commander is not desired.

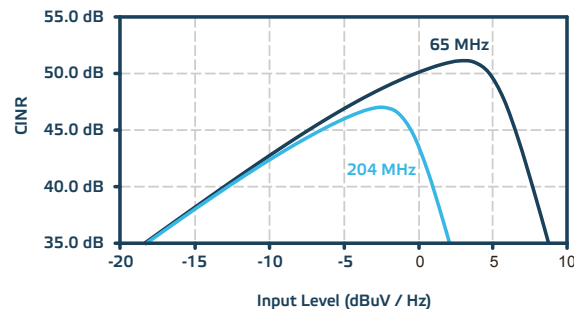
### 5. Power save technology

The combination of high output level, 1.2 GHz DS frequency, and smart features can be potentially power-consuming. In the E8, 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. On a bigger scale this means lower operating cost for the network and a smaller CO<sub>2</sub> footprint.

## E8 / 1.2 GHZ COMPACT OPTICAL NODE

| DOWNSTREAM SIGNAL PATH             |                                    | UPSTREAM SIGNAL PATH  |   |
|------------------------------------|------------------------------------|-----------------------|---|
| Light wavelength                   | 1270...1610 nm                     | Output power          | +3 dBm, (+1 dBm FP)                                 |
| Optical input power range          | -7...+1 dBm                        | Frequency range       | 5...65 / 85 / 204 MHz                               |
| Frequency range                    | 85...1218 MHz                      | Return loss           | 18 dB   |
| Return loss                        | 20 dB                              | Ingress switching     | 0 / -6 / < -45 dB                                   |
| Gain limited output level          | 118 dB $\mu$ V                     | Input level           | 61 dB $\mu$ V                                       |
| OLC gain control                   | 0...-20 dB                         | Level control         | -20...0 dB  |
| Interstage gain control            | 0...-20 dB                         | OMI test point        | -5 dB   |
| Slope selection                    | 0...15 dB                          | Light source          | CWDM 1270...1610 nm<br>18 wavelengths<br>FP 1310 nm |
| Flatness                           | $\pm$ 0.5 dB                       |                       |   |
| Group delay                        | 2 ns                               |                       |   |
| Test point                         | -20 dB                             | Burst mode            | Laser ON delay 1 $\mu$ s                            |
| Noise current density              | 4.5 pA / $\sqrt$ Hz                | CINR                  | See curves  |
| CTB 41 channels                    | 116.5 dB $\mu$ V                   |                       |   |
| CSO 41 channels                    | 116.5 dB $\mu$ V                   |                       |   |
| Umax (112 QAM channels, @ 1.0 GHz) | 113.5 dB $\mu$ V                   |                       |   |
| Umax (138 QAM channels, @ 1.2 GHz) | 110.5 dB $\mu$ V                   |                       |   |
| GENERAL                            |                                    |                       |   |
| Supply voltage                     | 205...255 V AC                     | Weight                | 1.5 kg  |
| Power consumption                  | 18 W (15 W in the power save mode) | Operating temperature | -40...+55 °C  |
| Max current feedthrough            | 7 A / port                         | Class of enclosure    | IP54  |
| Hum modulation                     | 70 dB                              | EMC compatibility     | EN 60728-2  |
| Optical connectors                 | SC/APC                             | Safety                | EN60728-11  |
| Input / Output connectors          | IEC / F-female                     | ESD                   | 4 kV  |
| Test point connector               | F-female                           | Surge                 | 6 kV (EN 60728-3)                                   |
| Dimensions (h x w x d)             | (185 (215) x 160 (190) x 75) mm    |                       |   |

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



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