saWe | RIS | Coaxsim | Optima | Wireless | 204 MHz | 1218 MHz | GaN

E amplifiers

# E3
# DISTRIBUTION AMPLIFIER

Teleste E3 is the latest addition in our extensive range of DOCSIS® 3.1 capable distribution amplifiers. The E3 is compact but true excellence lies beneath the cover. Its performance and versatility make it a great all-around amplifier. It's innovative yet simple design offers outstanding performance and practical functionalities.

The E3 features two gain modes for more flexible operation. Higher gain is designed for distribution purposes and lower gain is suitable for line extender use. Upstream gain can also be set to low or high mode. Also intelligent manual alignments, remote ingress switching and integrated electrical controls in both up- and downstream are available. The amplifier stages of E3 are based on a high-performance GaN solution that makes the usable gain range especially wide and a high output level possible. The E3 supports the DOCSIS 3.1 frequencies and fully stands up to future bandwidth needs.

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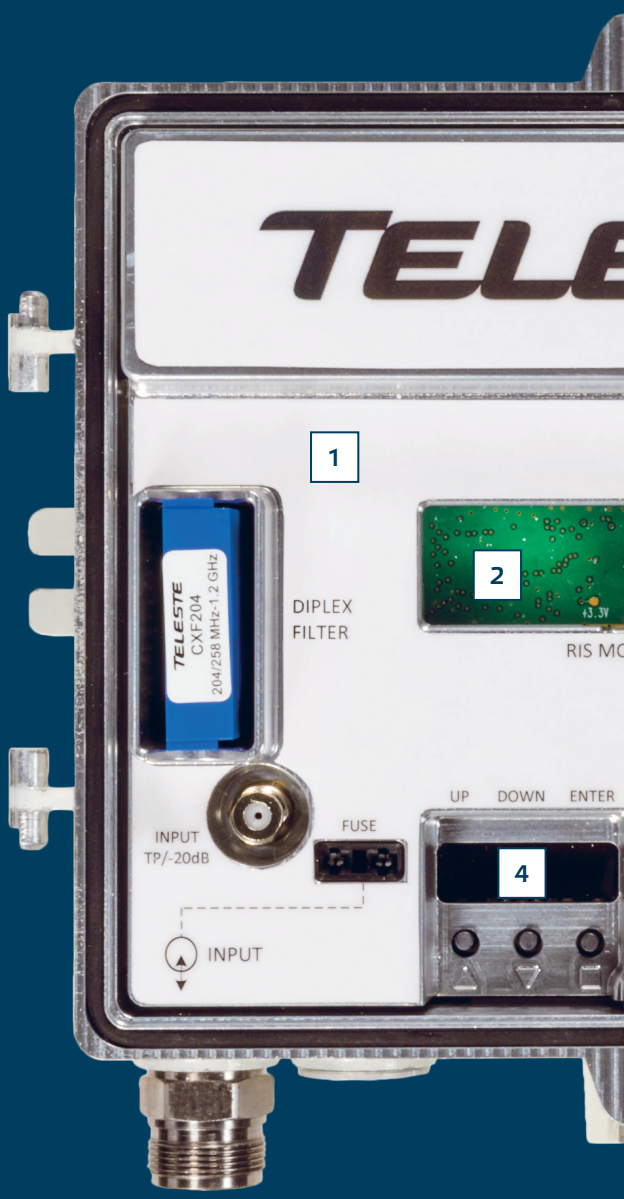
The E3 is a compact distribution amplifier with one active output and a forward gain up to 42 dB. Based on the latest GaN amplifier technology, the E3 offers high output level (Umax 113.5 dBµV, 112 channels) and wide gain range, both helpful when networks take the next step and become DOCSIS 3.1 compliant.

**1.New design and operational functionality**
There is much more than neat appearence behind the simplified white finish. A new aluminium shielding cover has been used for better shielding characteristics between functional units and advanced heat dissipation.

Also a useful feature is the re-designed lid of the amplifier 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 amplifier in confined spaces.

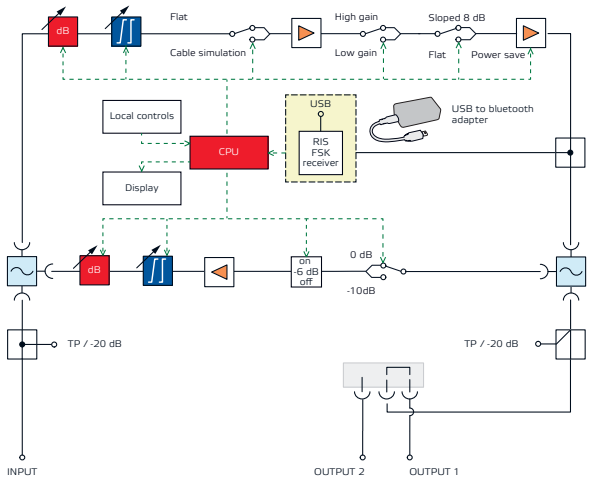
**2. Removing barriers with RIS**
Optional RIS (Remote Ingress Switching) module offers remote ingress switching functions over downstream. RIS offers a cost effective way to tackle return path ingress. It also enables the use of Argus Smart RIS toolset if Argus NMS is used to manage the network. Smart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

The RIS module offers local access to E3 via USB port that also enables wireless local management via Bluetooth® and Teleste Commander application for Android smartphones and tablets.

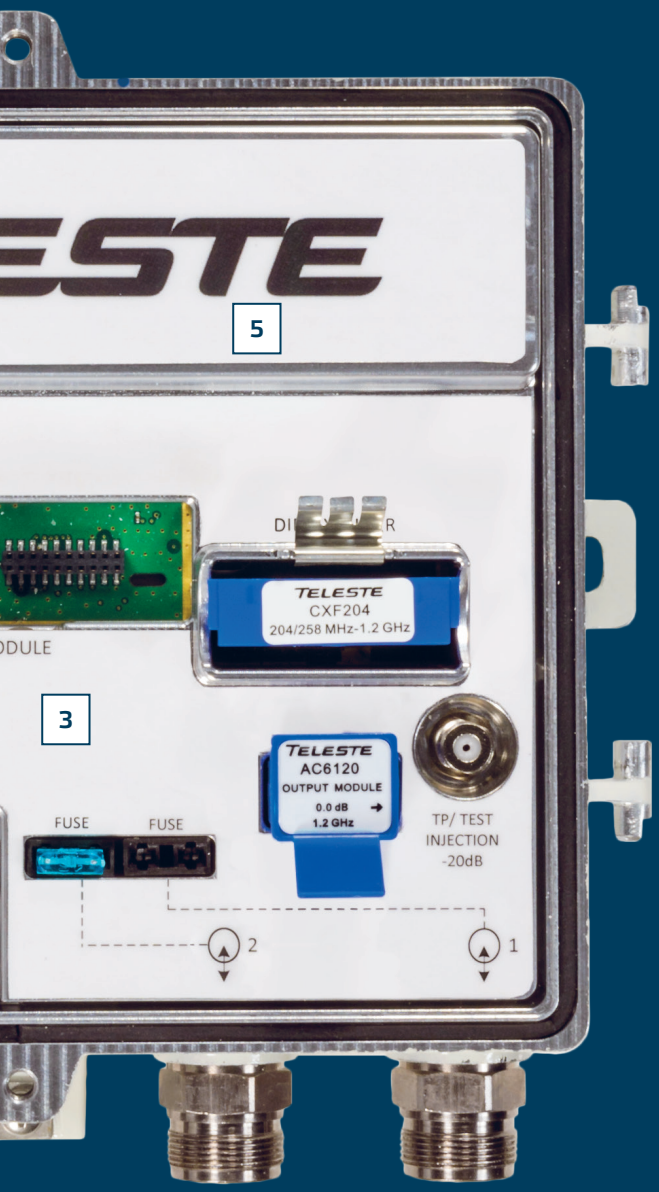


## E3 features

- 1218 MHz downstream
- 204 MHz upstream
- Electrical adjustments with local user interface
- Electrical gain and slope mode selections
- Intelligent cable simulator at input
- Intelligent return path re-alignment
- GaN performance
- Optional PC, tablet or smartphone control via Bluetooth or USB
- Optional RIS receiver for remote ingress switch control
- Excellent ESD and surge protection




*E3 block diagram*




### 3. Smart features

The E3 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 increases service reliability and cuts down on operational costs over time.

### 4. Local user interface

E3 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.

### 5. PSU with power save technology

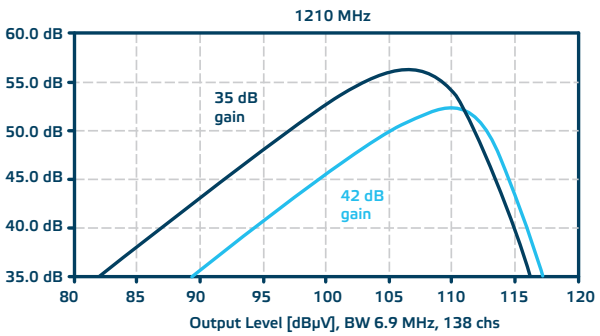
The combination of high output level, 1.2 GHz DS frequency, and smart features can be potentially power-consuming. In the E3, power save technology help operators to reduce power consumption in response for example to channel load changes. In low power mode, this technology can save up to 3 W per active output port. On a bigger scale this means lower operating cost for the network and a smaller $CO_2$ footprint.

## E3 / DISTRIBUTION AMPLIFIER

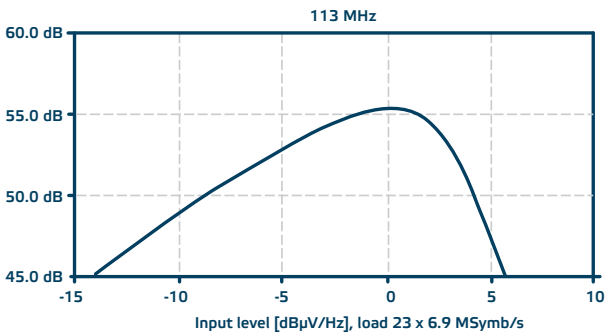
| DOWNSTREAM SIGNAL PATH | | UPSTREAM SIGNAL PATH | |
|---|---|---|---|
| **Frequency range** | 85…1218 MHz | **Frequency range** | 5…204 MHz |
| **Return loss** | 20 dB | **Return loss** | 18 dB |
| **Maximum gain** | 42 dB | **Gain** | 28 dB |
| **Input attenuator control range** | 0…-20 dB | **Gain control (output)** | -20…0 dB |
| **Input equaliser control range** | 0…20 dB | **Gain control (input)** | 0 dB / -10 dB |
| **Cable simulator** | 0 dB / -13 dB | **Ingress switching** | 0 / -6 / < -40 dB |
| **Mid-stage slope** | 13 dB / 0 dB | **Slope control range** | 0…15 dB |
| **Mid-stage gain selection** | 42 dB / 35 dB | **Flatness** | ± 0.5 dB |
| **Flatness** | ± 0.5 dB | **Noise figure** | < 6 dB |
| **Test point** | -20 dB | **CINR** | See curves |
| **Group delay** | 2 ns | | |
| **Noise figure** | 8.5 dB | | |
| **CTB 41 channels** | 117 dBµV | | |
| **CSO 41 channels** | 118.0 dBµV | | |
| **Umax (112 QAM channels, @ 1.0 GHz)** | 113.5 dBµV | | |
| **Umax (138 QAM channels, @ 1.2 GHz)** | 110.5 dbµV | | |
| **CINR** | See curves | | |

| GENERAL | | | |
|---|---|---|---|
| **Supply voltage** | 27…65 / 205…255 V AC | **Weight** | 1.5 kg |
| **Power consumption** | 17 W | **Operating temperature** | -40…+55 ºC |
| **Max current feedtrough** | 7 A / port | **Class of enclosure** | IP67 |
| **Hum modulation** | 70 dB | **EMC compatibility** | EN 60728-2 |
| **Input / Output connectors** | F–female (other types available) | **Safety** | EN60728-11 |
| **Test point connector** | F–female | **ESD** | 4 kV |
| **Dimensions (h x w x d)** | (185 (215) x 160 (190) x 75) mm | **Surge** | 6 kV (EN 60728-3) |

CINR (Downstream)




CINR (Upstream)

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