

technicolor



FEEL THE WONDER

ACCESS CABLE MODEM

TC4400

Ultra-Broadband Cable Modem

for above Gigabit speeds



The TC4400 is the first DOCSIS® 3.1 cable modem introduced by Technicolor offering data services beyond Gigabit speeds.

Highest Performance with DOCSIS 3.1

The TC4400 matches perfectly with the requirements of cable operators willing to propose ultimate Broadband access to their customers.

The TC4400 cable modem is fully compliant with the latest DOCSIS 3.1 specification as published by CableLabs® and is capable of delivering downstream cable speeds of up to 3.6 Gbps by using 2 Orthogonal Frequency-Division Multiplexing (OFDM) downstream channels (and up to 5 Gbps in case of 2 OFDM plus 32 Single Carrier QAM) and up to 1.5 Gbps upstream by using 2 Orthogonal Frequency-Division Multiple Access (OFDMA) upstream channels.

This enhanced and superior performance allows cable operators to propose multi-Gigabit data services to their customers through various applications, from IP connectivity to ultra-high speed internet access and gaming.

Future Proof High-Bandwidth Technology

The TC4400 can be deployed by cable operators on their current network, seamlessly integrating as a DOCSIS 3.0 cable modem offering 32 bonded downstream and 8 bonded upstream channels.

Once cable operators upgrade their network to the new DOCSIS 3.1 standard, the TC4400 supports this migration without any need of intervention at the customer premises due to some of its unique features such as:

- DOCSIS/EuroDOCSIS 3.0 backwards compatibility
- a fully integrated up to 1.2 GHz full band capture wideband tuner
- a switchable diplexer that allows to support existing band split as well as future DOCSIS 3.1 band split on the same hardware.

Advanced Security

To secure data exchange between the cable modem and the cable operators' servers, BPI+ communications privacy is used.

Easy to Use

Like all Technicolor modems and gateways, the TC4400 is an easy to use, easy to install device.

For convenience of the end user, the easy-to-access LEDs provide a clear indication of start-up sequence, operational status, and connectivity status.

Multiple integrated web pages also allow direct access to the status and settings, including privacy and security information.

Features at a Glance

- DOCSIS® 3.1 compliant
- Backward compatible with (Euro)DOCSIS® 3.0
- 2 x 2 OFDM(A) bonded channels in DOCSIS 3.1 mode
- 32 x 8 bonded channels in DOCSIS 3.0 mode
- Switchable diplexer for upstream and downstream frequency up to 204 MHz split
- Up to 1.2 GHz full band capture tuner
- Built in RF spectrum analyzer
- 2 GE LAN ports
- Dual stack IPv4 & IPv6 enabled
- Designed to meet the latest ECO standards

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Technical Specifications

Hardware

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|-------------------------|---|
| ■ Interfaces WAN | 1 F-type RF connector, external threaded |
| ■ Interfaces LAN | 2 10/100/1000 Base-T Ethernet ports |
| ■ Buttons | Reset button Power button (depending on model) |
| ■ Power input | DC jack |
| ■ Power supply | 12 VDC, 24 W external PSU |
| ■ AC Voltage | 120 - 240 VAC, 50 - 60 Hz (switched mode PSU) |
| ■ Dimensions | 163 x 53 x 145 mm (8.42 x 2.09 x 5.71 in.) |
| ■ Operating temperature | 0 - 40 °C (32 - 104 °F) |
| ■ Operating humidity | 5 - 95 % RH non-condensing |
| ■ Storage temperature | -20 - 70 °C (-4 - 158 °F) |

Cable certifications

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| ■ Data | DOCSIS® 3.1 compliant |
| ■ CMTS interoperability | Any qualified DOCSIS 3.1 CMTS Any qualified (Euro)DOCSIS® 3.0 CMTS |

RF downstream

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|---|---|
| ■ Downstream modulation | 64 - 4096 QAM |
| ■ Downstream frequency range, software selectable | DOCSIS 3.0 54 - 1002 MHz 108 - 1002 MHz EuroDOCSIS 3.0 108 - 1218 MHz 258 - 1218 MHz |
| ■ Number of downstream channels | DOCSIS 3.1 2 OFDM (Euro)DOCSIS 3.0 Up to 32 bonded |
| ■ Maximum downstream rates | DOCSIS 3.1 Up to 3.6 Gbps Up to 5 Gbps with 32 SC-QAM (Effective local network download throughput is 2 x 1 Gbps since limited to the maximum throughput of the available Ethernet ports) DOCSIS 3.0 1372 Mbps (theoretical, 32 x 42.88 Mbps) EuroDOCSIS 3.0 1780 Mbps (theoretical, 32 x 55.62 Mbps) |
| ■ Capture windows | 1.2 GHz full band capture |
| ■ Channel bandwidth | DOCSIS 3.1 max. 192 MHz bands DOCSIS 3.0 6 MHz EuroDOCSIS 8 MHz |
| ■ Input signal level range | -15 dBmV / + 15 dBmV |
| ■ Input impedance | 75 Ohm |

RF upstream

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| ■ Upstream modulation | QPSK 8 - 4096 QAM |
| ■ Upstream frequency range, software selectable | DOCSIS 3.0 5 - 42 MHz 5 - 85 MHz EuroDOCSIS 3.0 5 - 85 MHz 5 - 204 MHz |
| ■ Number of upstream channels | DOCSIS 3.1 2 OFDMA (Euro)DOCSIS 3.0 Up to 8 bonded |
| ■ Maximum upstream rates | DOCSIS 3.1 Up to 1.5 Gbps (Euro)DOCSIS 3.0 262 Mbps (theoretical, 8 x 32.78 Mbps) |
| ■ Channel bandwidth | DOCSIS 3.1 96 MHz (Euro)DOCSIS 3.0 200, 400, 800 kHz 1.6, 3.2 and 6.4 MHz |
| ■ Output impedance | 75 Ohm |
| ■ Upstream spectral analyzer | |

Management

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| ■ User-friendly GUI via HTTP | |
| ■ Command Line Interface (CLI) | Telnet SSH v2 |
| ■ SNMP | SNMP v1, SNMP v2, SNMP v3 |
| ■ Operation, Administration & Maintenance (OAM) | ITU-T Y.1731 |
| ■ Software upgrade | via WAN RF connection only |
| ■ Logging and alert | |

Networking

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|---------------------------|---|
| ■ Routing modes | Transparent bridging |
| ■ Multiple client support | 32 |
| ■ Class of services | 16 downstream IDs 16 upstream service flows |
| ■ Network protocol | Dual stack IP (IPv4, IPv6) TCP, UDP, ARP ICMP, DHCP TFTP, SNMP, HTTP, Telnet |
| ■ Protocol filtering | Ethernet and IP |

Quality of Service

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| ■ Traffic type prioritization | DOCSIS 1.0, 1.1 compliant |
| ■ IEEE 802.1Q classification | |
| ■ Queuing, policing, shaping | |

Security

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| ■ Baseline Privacy Interface Plus (BPI+) | |
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ECO design

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|--------------------------|----------------------------------|
| ■ Power control features | Power reduction schemes built-in |
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Package contents

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| ■ TC4400 | |
| ■ Ethernet cable (RJ-45) | |
| ■ Power supply unit | |
| ■ Quick Setup leaflet(s) (optional) | |
| ■ Safety Instructions & Regulatory Information booklet | |



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