

# TCM420

## Digital Cable Modem



On January 27<sup>th</sup> 2010, Thomson changed its company name to Technicolor. All product data sheets, including those for products which still carry the Thomson name, now reflect our new Technicolor brand.

### CABLE

#### DATA

Technicolor's DOCSIS/Euro-DOCSIS2.0 cable modem, the TCM420 provides a competitive offer to cable operators with a compact and an easy-setup solution for consumers. This product benefits from an improved receiving performance by the use of a world class tuner.

Technicolor's robust case design is consistent throughout its product line of cable modems and gateways.

## Easy to Use, Easy to Install

As all Technicolor gateways, the TCM420 with Ethernet and USB port is an easy to use, easy to install gateway.

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

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

## Bridging

Allows simultaneous connections of two PCs, enables Ethernet and USB port data traffic bridging.

## Advanced Diagnostics

- Web pages to facilitate installation and troubleshooting
- Easy configuration and set-up
- Remote access via SNMP, Web Page
- Post-installation easily managed with SNMP

## Features at a Glance

- EuroDOCSIS 2.0 certified
- Dual mode modem: DOCSIS/EuroDOCSIS 2.0
- Propane™ technology, enabling the connection of more Internet users without additional network bandwidth
- Ethernet and USB 1.1 ports for wired connectivity and easy installation
- Reliable high-performance platform
- IPv6 ready
- BPI+ communications privacy to support secure data exchange between modems & cable operator's servers

EXCENTIS



Cable  
Europe  
Labs

# TCM420

## Digital Cable Modem

### Technical Specifications

#### Standards / Certifications

■ Data	EuroDOCSIS 2.0 certified
■ CMTS Interoperability	Any qualified Euro-DOCSIS and DOCSIS CMTS
■ WHQL-certified USB driver	yes

#### Receiver

■ Downstream Modulation	QAM 64/256
■ Downstream Frequency Range	108-862 MHz
■ Maximum Downstream Data Rate	41.71/55.61 Mbps
■ Input Signal Level Range	+43 to +73 dB $\mu$ V (QAM 64) +47 to +77 dB $\mu$ V (QAM 256)
■ BER	<1x10 <sup>-8</sup> @ C/N>25,5dB, QAM 64 with FEC <1x10 <sup>-8</sup> @ C/N>34,5dB, QAM 256 with FEC, received power = +47 to +54 dB $\mu$ V <1x10 <sup>-8</sup> @ C/N>31,5dB, QAM 256 with FEC, received power = +54 to +77 dB $\mu$ V
■ Input Impedance	75 Ohm

#### Transmitter

■ Upstream Modulation	QPSK and 16 QAM
■ Additional Upstream Modulation Types	QAM 8/32/64 for A-TDMA and QAM 128 for S-CDMA channels
■ Upstream Frequency Range	5-65 MHz
■ Maximum Upstream Data Rate	Max 5.12/10.24 Mbps {QPSK/QAM 16}, Max 30.720 Mb/s (QAM 64)
■ Output Signal Level Range	A-TDMA: +68 to +118 dB $\mu$ V @ QPSK +68 to +115 dB $\mu$ V @ QAM 8/16 +68 to +114 dB $\mu$ V @ QAM 32/64  S-CDMA: +68 to +113 dB $\mu$ V /All
■ Output Impedance	75 Ohm
■ Channel Bandwidth	Programmable (200*N KHz) N=1, 2, 4, 8, 16, 32
■ Automatic Level Adjust	yes
■ Gain Control Range	50dB
■ Frequency Stability	$\pm$ 5 kHz

#### PC Compatible

■ Ethernet Port	10/100 Base-T
■ USB port	With Windows 98SE/ME/2000/XP/Vista
■ Drive	CD-ROM

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## Digital Cable Modem



## Technical Specifications

### Software Features

■ Software Downloadable	yes
■ Bridging	Between USB and Ethernet
■ Multiple Client Support	32
■ Class of Services (CoS)	16 SIDs
■ Protocol Filtering	Ethernet & IP
■ SNMP Management	V2, V3
■ Security	BPI+
■ Privacy	Through encryption between gateway and PC
■ HTTP Server (CM status)	yes

### Interfaces / Physical

■ Ethernet	1 x RJ45 10/100 Base-T auto detect
■ RF Connector	1 x F-Type
■ USB Port device	1x USB 1.1
■ Button	Reset
■ LEDs	Message, Cable Activity, Cable Link, PC Link, Internet
■ Power Supply	External, 230VAC 50Hz
■ Operating Temperature	0° to 40°C
■ Operating Humidity	20% to 90% non-condensing
■ Storage Temperature	-20° to 70°C
■ Safety	CE and CB

### Packaging Information

■ Cabinet Dimensions	mm: 126 (L) x 110 (D) x 42 (H)
■ Packaging Dimensions	mm: 255 (L) x 170 (D) x 85 (H)
■ Shipping Weight	Approx. 1,1 kg
■ Master-pack Dimensions	mm: 780 (L) x 350 (D) x 258 (H)
■ Master-pack Shipping Weight	Approx. 10 kg
■ Master-pack Quantity	18 units

### Content of the Box

- Cable Modem
- Power supply
- Ethernet Cable
- CD-ROM
- Quick Installation Guide

Technicolor Professional Services are available to address your demands for qualified technical support & warranty, product maintenance, access to training courses and tailor-made solutions to specific product evolution. For more information, please ask your usual contact person.

#### TECHNICOLOR WORLDWIDE HEADQUARTERS

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#### SALES CONTACT

For more information please get in touch with your usual sales representative or use the following email:

[cablesales@technicolor.com](mailto:cablesales@technicolor.com)



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# THOMSON

## TCM425

### Digital Cable Modem



Thomson's latest DOCSIS cable modem, the TCM425, DOCSIS 2.0 Cablelabs certified, provides a more competitive offer to cable operators while keeping a consistent set of functionality and look and feel with the previous generation, the TCM325, for a smooth transition and easier management.

This product benefits from an improved receiving performance by the use of a world class tuner. The TCM425 is using the same industrial design as the previous generation, the TCM325, ideal for vertical and horizontal standing and also consistent throughout Thomson's product line of WI-FI modems and VoIP modems.

#### Other Broadband Cable Products:

- TCM420: Euro-DOCSIS 2.0 certified
- TCW690: One port EuroDOCSIS/DOCSIS 2.0 802.11g wireless Cable Modem
- TCW710: One port EuroDOCSIS/DOCSIS 2.0 802.11g wireless Cable Modem
- THG520: EuroDOCSIS/DOCSIS 2.0 VoIP E-MTA

- ▶ DOCSIS 2.0 certified
- ▶ Bridging between the USB and Ethernet port
- ▶ Easy Access to Advanced Diagnostics Web Pages
- ▶ USB port for easy installation.
- ▶ Reliable high-performance platform.
- ▶ Surf the Internet Up to 100 Times Faster than a 56k analog Modem <sup>(1)</sup>
- ▶ Internet On-Off button for enhanced security

1 - Compared with a 56 kbps analog telephone modem. Internet access sold separately. Microsoft Windows and the Windows logo are registered trademarks of Microsoft Corporation in the United States and/or other countries. The CL CABLELABS CERTIFIED and design mark, and the terms "Cable Labs Certified" or "Certified by CableLabs" are certification marks of Cable Television Laboratories, Inc. and cannot be used without authorization of Cable Television Laboratories, Inc.

# TCM425

## Digital Cable Modem



### DOCSIS Certified Design

The cable modem is certified to work on any DOCSIS based HFC cable system and is certified by CableLabs. Resident 2.0 hardware enables future upgrades to advanced DOCSIS 2.0 features.

### Bridging

Allows simultaneous connection of two PC's and enables Ethernet and USB port data traffic bridging.

### E-Z Start-Up Indicators

Easy-to-use LED lights on the front of the unit provide the user an intuitive mechanism for verifying the modem's operation and connectivity.

### Simple-to-Use Illustrated Setup Guide

The guide steps users through the connections of the broadband cable, electrical power, and Ethernet or USB cables.

### Security

Supports BPI+ communications privacy to support secure data exchange between modems and cable operators' servers.

### LED Administrative Disable indicator

Helps prevent unnecessary truck rolls.

### Internal Web Pages

The TCM425 contains multiple integrated Web pages allowing direct access to information about the status of the modem and product settings (including privacy and security).

### Internet Security Button

Turning the modem off puts the modem into "standby" mode. The modem remains locked to the CMTS, responding to SNMP, enabling subscribers to resume activity quickly when toggled again. The button serves as a security feature, assuring the customer that the PC network connection is de-activated when the button is in the off position, alleviating security concerns of an "always on" connection.

### Propane® Technology

This advanced transport technology (Dynamic Payload Header Suppression) provides the subscriber with faster data transfers. It also allows operators to increase the number of subscribers on their network without affecting subscriber connection speeds. Under typical network conditions, both the subscribers and operators can benefit from more data bandwidth per customer, more voice channels for IP-telephony, and more users per fiber node.

Propane® is a trademark of Broadcom Corporation and or its subsidiaries in the United States and certain other countries.

### Technical Specifications

► Standards	
<ul style="list-style-type: none"><li>• DOCSIS 1.0</li><li>• DOCSIS 2.0</li><li>• CMTS Interoperability</li><li>• Operating Systems supported</li></ul>	CableLabs™ certified CableLabs™ certified Any qualified DOCSIS Any with Ethernet connection, Windows 98SE, 2000, Me and XP with USB
► Receiver	
<ul style="list-style-type: none"><li>• Downstream Modulation</li><li>• Center Frequency Range</li><li>• Downstream Modulation</li><li>• Center Frequency Range</li><li>• Channel Bandwidth</li><li>• Maximum Downstream Data Rate</li><li>• RF Input Sensitivity</li><li>• 64QAM:&gt;23.5dB, 256QAM:&gt;30dB</li><li>• Input Impedance</li></ul>	64/256 QAM 91-857 MHz 64/256 QAM 91-857 MHz 6 MHz 27/38 Mbps {64QAM/256QAM} +15 to +15 dBmV BER <1e-8 75 Ohm
► Transmitter	
<ul style="list-style-type: none"><li>• Frequency Range</li><li>• Upstream Modulator (DOCSIS 1.1 requirements)</li><li>• Additional Upstream Modulation types for DOCSIS 2.0</li><li>• Channel Bandwidth</li><li>• Maximum Upstream Data Rate</li></ul>	5-42 MHz QPSK/16QAM 8QAM, 32QAM, 64QAM for S-CDMA and TDMA channels 200KHz, 400KHz, 800KHz, 1.6MHz, 3.2MHz, 6.4MHz (**) Max 5.12/10.24 Mbps {QPSK/16QAM}, Max 30.720Mb/s(64QAM) (**)
<ul style="list-style-type: none"><li>• RF Output Level</li></ul>	+8 to +55 dBmV (8QAM & 16QAM) ; +8 to +58 dBmV (QPSK) ; +8 to +54 dBmV (32QAM & 64QAM) (**); +8 to +53 dBmV (S-CDMA all modulation types) (**)
<ul style="list-style-type: none"><li>• Automatic Level Adjust</li><li>• Gain Control Range</li><li>• Frequency Stability</li></ul>	Yes 50dB ± 5 kHz
► Software Features	
<ul style="list-style-type: none"><li>• Software Downloadable</li><li>• Bridging</li><li>• Multiple client support</li><li>• Safety Internet button</li><li>• Class-of-Service (COS)</li><li>• Protocol Filtering</li><li>• SNMP Management</li><li>• Security</li><li>• IP Security</li><li>• LED Diagnostics</li><li>• HTTP Server (CM status)</li></ul>	Yes Between USB and Ethernet 32 When turned Off, the modem can be accessed by the head-end but the connection to the PC is Off, so that nobody can access it Yes Ethernet & IP V2, V3 BPI+ Hardware support 5-step LED Yes
► Packaging & Content	
<ul style="list-style-type: none"><li>• Cabinet Dimensions (cm)</li><li>• Shipping Weight appr.</li><li>• Packaging dimensions (cm)</li><li>• Overpack dimensions (cm)</li><li>• Overpack shipping Weight appr.</li><li>• Overpack Quantity</li><li>• Operating Temp.</li><li>• Cables</li><li>• CD-ROM</li></ul>	126mm (L) x 110mm (D) x 42mm (H) 1,4 kg 255mm (L) x 170mm (D) x 85mm (H) 780mm (L) x 350mm (D) x 258mm (H) 10 kg 10 0°C to +40°C USB & Ethernet Yes
► I/O Interfaces	
<ul style="list-style-type: none"><li>• Ethernet 10Base-T or 100Base-T</li><li>• RF Connector</li><li>• Power {Wall Pack}</li><li>• USB Port</li><li>• User Switches</li></ul>	RJ45 – auto-detect F-Type 230Vac 50Hz Yes Internet On/Off & Reset

(\*\*) DOCSIS 2.0 specific

### For more information

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