

The Cable Modem, TC8305C / PKE1331BP-D49 (US-Dory-RoHS) is a cable gateway device including following functionalities:

- DOCSIS 3.0 Cable Modem
- PacketCable2.0 eDVA
- 4 port Gigabit Ethernet switch with advanced routing capability
- 802.11n single band WiFi (2.4 GHz)
- USB 2.0 port with host controller
- 2 FXS ports, compliant with Comcast ringing requirements
- Internal PSU
- Rackable 2-cell battery 2600maH
- eMTA supporting PacketCable 2.0 or EuroPacketCable
- IPv4/IPv6 router
- Remote management capabilities (SNMP, TR069, HNAP)



## Wideband Full Solution with Battery Backup

This new generation of high-speed data service solutions introduces up to eight bonded downstream channels and four bonded upstream channels, allowing operators to provide their customers with four channels for data and four channels for dedicated Internet Protocol TeleVision (IPTV).

## High-Speed Wireless Interface

The TC8305C / PKE1331BP-D49 (US-Dory-RoHS) has an IEEE 802.11n wireless interface, bring home networking to a completely new level and enabling real-time multimedia content streaming over a Wi-Fi network everywhere in the home. The TC8305C / PKE1331BP-D49 (US-Dory-RoHS) also supports multiple SSIDs.

## Voice Performance

The TC8305C / PKE1331BP-D49 (US-Dory-RoHS) is PacketCable 2.0 compliant and is equipped with basic and extended CLASS features such as caller ID and call waiting.

## Advanced Security

The integrated firewall provides Stateful Packet Inspection (SPI), and an integrated Intrusion Detection and Prevention System (IDS) engine monitors a wide range of attack patterns, and logs potential security breaches to a local cache or remote server.

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

## WPS

With Wi-Fi Protected Setup (WPS) users can easily connect with the TC8305C / PKE1331BP-D49 (US-Dory-RoHS) wireless network by simply pushing a button or entering a PIN code.

It allows home users to easily connect to a secure network without any complex configuration and eliminates the need to remember or store their security information in an unsafe way.

## Easy to Use

The TC8305C / PKE1331BP-D49 (US-Dory-RoHS) with four GE LAN ports is an easy to use, easy to install gateway. For convenience of the end user, the easy-to-access multi-colored LEDs provide a clear indication of start-up sequence, connectivity status and channel bonding status (number of used downstream and upstream channels). Multiple integrated web pages allow direct access to the status and settings, including privacy and security information.

## Video Streaming

The TC8305C / PKE1331BP-D49 (US-Dory-RoHS) contains an MPEG2 over IP encapsulation solution allowing the support of IPTV with existing QAM (digital video) broadcast infrastructure. It supports voice using the PacketCable 2.0 standard and call control with the PacketCable standard NCS protocol.

## ECO

The TC8305C / PKE1331BP-D49 (US-Dory-RoHS) benefits from an unique combination of hardware and software features that reduce power consumption substantially. For instance, the The TC8305C / PKE1331BP-D49 (US-Dory-RoHS) supports a lower power mode thanks to a split uer solution, an integrated upstream power amp and the auto power down feature on the external GE interfaces.

Additional power control features are supported with the ability to turn off any or all modules to slow down or turn off processors and to turn off all external interfaces, reducing the power consumption even more.

# Technical Specifications

## Cable Certifications

- Data DOCSIS® 3.0 certified
- Voice PacketCable™ 2.0 compliant
- CMTS interoperability Any qualified DOCSIS® CMTS

## Hardware Specifications

- Interfaces WAN 1 RF connector F-Type
- Interfaces LAN 4-port auto-MDI/MDI-X 10/100/1000 Base-T port Ethernet LAN switch (RJ-45)  
2 FXS POTS ports (RJ-11)  
1 USB 2.0 master port  
Wi-Fi IEEE 802.11b/g/n on-board
- Interfaces other WPS button  
Reset button
- Power supply 120-240 VAC, 50-60 Hz  
Lifeline battery backup
- Operating temperature 0° to 40° C (32° - 104° F)
- Operating humidity 20 % to 90 % non-condensing
- Storage temperature -20° to 70° C (-4° - 158° F)

## Receiver Specifications

- Downstream modulation QAM 64/256
- Downstream frequency range 54 - 1002 MHz
- Maximum downstream data range 340 Mbps (theoretical)  
(42.88 Mbps x 8 channels)
- Capture windows 64 MHz capture window split into two windows of 32 MHz
- Up to 8 downstream channels
- Input signal level range -15 dBmV / + 15 dBmV
- Input impedance 75 Ohm

## Transmitter Specifications

- Upstream modulation QPSK and 8, 16, 32, 64 and 128 QAM
- Upstream frequency range 5 - 42 MHz
- Maximum upstream data range 131 Mbps (theoretical)  
(32.78 Mbps x 4 channels)
- 4 upstream channels
- Channel bandwidth 200, 400 and 800 kHz, 1.6, 3.2 and 6.4 MHz
- Output impedance 75 Ohm

## Management

- User-friendly GUI via HTTP
- Web-based user interface management and administration
- Logging and alert

## Wireless Specifications

- Wi-Fi IEEE 802.11b/g/n access point Wi-Fi CERTIFIED®
- WPA(2)™-personal support of Temporal Key integrity Protocol (TKIP), WEP™, IEEE802.1x port-based authentication with RADIUS client
- Wi-Fi Protected Setup (WPS™)
- Up to 8 virtual SSID APs support
- Security and service segregation per SSID

## Security

- Stateful Packet Inspection Firewall (SPIF)
- Customizable firewall security levels
- Intrusion detection and prevention (DoS, SYN Flood, Ping of Death)
- Website URL and content-based filtering

## Networking

- Network protocol IP, TCP, UDP, ARP, ICMP, DHCP, TFTP, SNMP, HTTP
- Protocol filtering Ethernet and IP
- SNMP management V2, V3


## Software Specifications

- Software downloadable
- Multiple client support 254
- Class of Services (CoS) 16 SIDs
- Security BPI+
- HTTP server (CM status)



## SAFETY INSTRUCTIONS AND REGULATORY NOTICES

**BEFORE YOU START INSTALLATION OR USE OF THIS PRODUCT, CAREFULLY READ THESE INSTRUCTIONS**

 **When using this product, always follow the basic safety precautions to reduce the risk of fire, electric shock and injury to persons, including the following:**

- Always install the product as described in the documentation that is included with your product.
- Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use this product to report a gas leak in the vicinity of the leak.

### Wireless

In case this product is equipped with a wireless transceiver, it uses Direct Sequence Spread Spectrum (DSSS) / Orthogonal Frequency Division Modulation (OFDM) radio technology. As such it is designed to be inter-operable with any other wireless DSSS/OFDM type product that:

- Complies with the IEEE802.11b/IEEE802.11g/IEEE802.11n Standard on Wireless LANs, as defined and approved by the Institute of Electrical and Electronics Engineers.
- Is Wi-Fi® CERTIFIED™ as defined by the Wi-Fi® Alliance.

### Directive

Unless express and prior approval by Technicolor in writing, you may not:

- Disassemble, de-compile, reverse engineer, trace or otherwise analyse the equipment, its content, operation, or functionality, or otherwise attempt to derive source code (or the underlying ideas, algorithms, structure or organization) from the equipment, or from any other information provided by Technicolor, except to the extent that this restriction is expressly prohibited by local law;
- Copy, rent, loan, re-sell, sub-license, or otherwise transfer or distribute the equipment to others;
- Modify, adapt or create a derivative work of the equipment;
- Remove from any copies of the equipment any product identification, copyright or other notices;
- Disseminate performance information or analysis (including, without limitation, benchmarks) from any source relating to the equipment.

Such acts not expressly approved by Technicolor will result in the loss of product warranty and may invalidate the user's authority to operate this equipment in accordance with FCC Rules.

Technicolor disclaims all responsibility in the event of use that does not comply with the present instructions.

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### Water and moisture

Do not use this product near water, for example near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool. Transition of the product from a cold environment to a hot one may cause condensation on some of its internal parts. Allow it to dry by itself before re-starting the product.

### Interface classifications

The external interfaces on the rear panel of the product are classified as follows:

- DSL, ADSL, SHDSL, VDSL, Line: TNV circuit, subjected to over voltages (TNV-3)
- ISDN: SELV circuit
- PSTN, FXO: TNV circuit, subjected to over voltages (TNV-3)
- Phone, VoIP, FXS: TNV circuit, not subjected to over voltages (TNV-2)
- All other interface ports (e.g. Ethernet, 10/100Base-T/MDI(-X), USB, Console, Craft, etc.), including the low voltage power input from the AC mains power supply: SELV circuits.

 **WARNING**

- The Phone, VoIP, FXS port will be classified as a *TNV-3* circuit when connected internally to the PSTN, FXO port, for example, when the device is powered off.
- If the product is equipped with a USB interface (slave and/or master) or any type of connector with metallic shielding, then it is not allowed to connect the Phone, VoIP, FXS port with the PSTN, FXO or the DSL, ADSL, SHDSL, VDSL, Line port by any means, for example with an external telephone cable.

### Electrical powering

The powering of the product must adhere to the power specifications indicated on the marking labels.

The power supply must be Class II and a Limited Power Source in accordance with the requirements of IEC60950-1/EN60950-1, Clause 2.5 and rated as indicated on the label on your product. It must be tested and approved to national or local standards.

**For US and Canada:** This product is intended to be supplied by a Listed Direct Plug-in, or Desktop Power Unit marked "Class 2" and rated as indicated on the label on your product.

The use of other types of supplies is prohibited. If you are not sure of the type of power supply needed, consult the product's user documentation or contact your local product dealer.

### ISDN

 **WARNING**

- **For US and Canada:** Do not use the ISDN port; do not attempt to connect this port to the network at anytime.

### USB

The device is to be connected to an identified USB port complying with the requirements of a Limited Power Source.

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## Environmental information

### WEEE directive



This symbol means that your inoperative electronic appliance must be collected separately and not mixed with the household waste. The European Union has implemented a specific collection and recycling system for which producers are responsible.

This appliance has been designed and manufactured with high quality materials and components that can be recycled and reused.

Electrical and electronic appliances are liable to contain parts that are necessary in order for the system to work properly but which can become a health and environmental hazard if they are not handled or disposed of in the proper way. Consequently, please do not throw out your inoperative appliance with the household waste.

If you are the owner of the appliance, you must deposit it at the appropriate local collection point or leave it with the vendor when buying a new appliance.

- If you are a professional user, please follow your supplier's instructions.
- If the appliance is rented to you or left in your care, please contact your service provider.

### Energy consumption

Energy savings - You have a role to play...

Learn how you can use and explore ways for using your electronic equipment.



The notice detailed useful information on all the features of your product but also on energy consumption.

We strongly encourage you to carefully read the notice before putting your equipment in service to get the best service it can offer you.

*By working together, we can reduce the impact we have on the earth!*

## Safety Instructions

### Climatic conditions

This product:

- Is intended for in-house stationary desktop use; the maximum ambient temperature may not exceed 40°C (104°F).
- Must not be mounted in a location exposed to direct or excessive solar and/or heat radiation.
- Must not be exposed to heat trap conditions and must not be subjected to water or condensation.
- Must be installed in a Pollution Degree 2 environment (Environment where there is no pollution or only dry, nonconductive pollution).

### Cleaning

Unplug this product from the wall socket and computer before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

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### Telephone cable



#### CAUTION

To reduce the risk of fire, use only No 26 AWG wire size or larger telecommunication line cord.

Connect the telecommunication line cord only in the PSTN, FXO, DSL, ADSL, SHDSL, VDSL or Line port of the product. Never plug the telecommunication line cord in another receptacle of the product.

Follow the installation instructions in the sequence as outlined in the installation guide.

#### Central splitter / distributed filter(s) (if applicable)

If telephone service is required on the same line, a central splitter or distributed filter(s) must be installed for optimal DSL performance.

Depending on your DSL configuration and type of splitter / filters, installation must be carried out by qualified service personnel. Consult your telephone service company or DSL service provider for instructions.

#### Accessibility

The Direct Plug-in power supply, or the plug on the power supply cord serves as disconnect device. Be sure that the power socket outlet you plug the power supply into is easily accessible and located as close to the equipment as possible.

#### Overloading

Do not overload mains supply socket outlets and extension cords as this increases the risk of fire or electric shock.

#### Servicing

To reduce the risk of electric shock, do not disassemble this product. None of its internal parts are user-replaceable; therefore, there is no reason to access the interior. Opening or removing covers may expose you to dangerous voltages. Incorrect reassembly could cause electric shock if the appliance is subsequently used.

If service or repair work is required, take it to a qualified service dealer.

#### Damage requiring service

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply or its plug are damaged.
- When the attached cords are damaged or frayed.
- If liquid has been spilled into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally.
- If the product has been dropped or damaged in any way.
- There are noticeable signs of overheating.
- If the product exhibits a distinct change in performance.

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Immediately disconnect the product if you notice it giving off a smell of burning or smoke. Under no circumstances must you open the equipment yourself; you run the risk of electrocution.

## Regulatory Information

You must install and use this device in strict accordance with the manufacturer's instructions as described in the user documentation that is included with your product.

Before you start installation or use of this product, carefully read the contents of this document for device specific constraints or rules that may apply in the country where you want to use this product.

In some situations or environments, the use of wireless devices may be restricted by the proprietor of the building or responsible representatives of the organization.


If you are uncertain of the policy that applies on the use of wireless equipment in a specific organization or environment (e.g. airports), you are encouraged to ask for authorization to use this device prior to turning on the equipment.

Technicolor is not responsible for any radio or television interference caused by unauthorized modification of the device, or the substitution or attachment of connecting cables and equipment other than specified by Technicolor. The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

Technicolor and its authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from failing to comply with these guidelines.

## Europe - European Union

### European Community Declaration of Conformity

 Hereby, Technicolor, declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC of the European Parliament and of the Council.

This equipment can be used in all countries that are member of the European Union and that are member of the European Free Trade Association.

The Declaration of Conformity can be found on [www.technicolor.com](http://www.technicolor.com).

In case this product is equipped with a wireless transceiver:

- it is restricted to indoor use only.
- it complies with the basic restrictions and limits as defined in the European Council Recommendation (1999/519/EC) on the limitation of exposure of the general public to Electromagnetic fields.

This product complies with:

- Commission Regulation (EC) No 1275/2008 implementing Directive 2005/32/EC: Ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment.
- Commission Regulation (EC) 278/2009: Ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies.

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## North-America - Canada

### Notification of Canadian Radio Frequency Interference Statement

This Class B digital apparatus complies with Canadian ICES-003.

**NOTICE:** This product meets the applicable Industry Canada technical specifications.

**NOTICE:** The Ringer Equivalence Number (REN) for this terminal equipment is 0.1. The REN is an indication of the maximum number of devices allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices does not exceed five.

### Canada - Industry Canada (IC)

In case this product is equipped with an IEEE802.11b/IEEE802.11g/IEEE802.11n wireless transceiver, complying with RSS 210 and/or RSS 213 of Industry Canada, operation is subject to the following two conditions:

- 1 This device may not cause harmful interference.
- 2 This device must accept any interference received, including interference that may cause undesired operation of the device.



### IMPORTANT NOTE: Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm (8 inches) between the radiator and your body.

### Restricted Frequency Band

In case this product is equipped with an IEEE802.11b/IEEE802.11g/IEEE802.11n wireless transceiver, it only uses channels 1 to 11 (2412 to 2462 MHz) on Canada territory.

## North-America - United States of America

### Federal Communications Commission (FCC) Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

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- Consult the dealer or an experienced radio/TV technician for help.

 This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1 This device may not cause harmful interference, and
- 2 This device must accept any interference received, including interference that may cause undesired operation.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Responsible Party: Technicolor, 101W, 103rd St., Indianapolis, IN 46290 USA, 888-898-4377.

This equipment complies with Part 68 of the FCC Rules.

The customer information required for Telephone Terminal Equipment ("TTE") approved for connection to the Public Switched Telephone Network ("PSTN"), pursuant to 47 CFR 568.218(b)(1) can be found at [www.technicolor.com](http://www.technicolor.com).

### RF-Exposure Statement

When the product is equipped with a wireless interface, then it becomes a mobile or fixed mounted modular transmitter and must have a separation distance of at least 20 cm (8 inches) between the antenna and the body of the user or nearby persons. In practice, this means that the user or nearby persons must have a distance of at least 20 cm (8 inches) from the modem and must not lean on the modem in case it is wall-mounted.

With a separation distance of 20 cm (8 inches) or more, the Maximum Permissible Exposure limits are well above the potential this module is capable to produce.

The transmitter shall not be collocated with other transmitters or antennas.

### Restricted Frequency Band

In case this product is equipped with an IEEE802.11b/IEEE802.11g/IEEE802.11n wireless transceiver, it may only use channels 1 to 11 (2412 to 2462 MHz) on U.S.A. territory.

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