# technicolor





#### **CABLE**

DATA

VOICE

# Latest High-Bandwidth Technology

As cable standards keep evolving, Technicolor presents the TC7200, a EuroDOCSIS 3.0 wireless Embedded Multimedia Terminal Adapter (EMTA) gateway. With this new offer Technicolor provides cable operators with high-bandwidth data transmission and enables them to stay ahead of content delivery with gaming and video over IP.

This generation of high-speed data service solutions offers up to eight bonded downstream channels and four bonded upstream channels, allowing operators to provide their customers with four data channels and four channels for dedicated IPTV services.

The TC7200 also provides a powerful platform to port new applications such as DLNA media server and hard disk sharing.

# Full Band Capture Solution

Thanks to its fully integrated 1 GHz wideband capture, the TC7200 exceeds SCTE-40+ performance and eliminates all frequency limitations of traditional wideband tuners. The TC7200 enables use of the full radio frequency (RF) spectrum without the need for grouped channels. This helps the operator migrate its entire DOCSIS 3.0 install base from one to eight DOCSIS downstream channels without having to re-align all its broadband channels to accommodate this new service

# High-Speed Wireless Interface

The TC7200 has an IEEE 802.11n wireless interface, offering speeds up to 250 Mbps. It supports dual concurrent Wi-Fi, an advanced wireless configuration enabling simultaneous and seamless transmission of real-time HD video (using 5 GHz band) and data (using 2.4 GHz band) all over the home. The TC7200 also supports up to 16 virtual wireless networks (mSSID).

#### Features at a Glance

- EuroDOCSIS® 3.0 certified
- Dual mode DOCSIS/EuroDOCSIS®
- Backward compatible with DOCSIS/EuroDOCSIS® 2.0 (and older)
- Voice EuroPacketCable™ 1.5 certified
- Full band capture
- 4 GE LAN ports
- Wireless networking on-board: IEEE 802.11b/g/n (2.4 GHz and 5 GHz simultaneously)
- 2 FXS ports (RJ-11)
- 1 USB master port
- Reliable high-performance platform
- Voice CLASS features
- Advanced security features
- MPEG2 over IP encapsulation solution
- IPv4 and IPv6 support





Wireless Voice Cable Gateway

### Voice Performance

The TC7200 is EuroPacketCable 1.5 certified and, after a software upgrade, it can operate in PacketCable 2.0 or SIP mode. The TC7200 supports all standard codecs including iLBC and BV16 and is equipped with basic and extended CLASS features such as caller ID and call waiting. Gateway and voice operations support data throughput and complex voice calls simultaneously.

# **Advanced Security**

The integrated firewall provides Stateful Packet Inspection (SPI), and an integrated Intrusion Detection and Prevention System (IDS) engine which 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 gateway and the cable operators' servers, BPI+ communications privacy is used.

### **WPS**

With Wi-Fi Protected Setup (WPS) users can easily connect with the TC7200 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 and Install

Like all Technicolor modems and gateways, the TC7200 is an easy-to-use, easy-to-install gateway. For instance, the easy-to-access 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 also allow direct access to the status and settings, including privacy and security information. Additionally the TC7200 boasts an extensively customizable user-friendly GUI.

# **Video Streaming**

The TC7200 contains an MPEG2 over IP encapsulation solution allowing the support of IPTV with existing QAM (digital video) broadcast infrastructure.

### Media Sharing

Thanks to a dedicated application processor, the TC7200 offers some convenient media sharing applications.

The TC7200 acts as a fully compliant DLNA 1.5 Digital Media Server (DMS) and enables distribution of all content from any device to any device in the home. You can stream music, data, pictures and video from your gateway to devices connected to your wired or wireless home network. In addition, the TC7200 supports hot plugging of USB hard disk drives, allowing you to simply plug and play devices without the need to switch the gateway off first.

### **ECO**

Technicolor offers its customers environmentally friendly products. In addition to carefully selected plastics and packaging to minimize the ecological footprint, the TC7200 benefits from a unique combination of hardware and software features that reduce power consumption substantially. For instance, an integrated tuner provides advanced power management.

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.

### **Professional Services**

Technicolor offers a wide array of services:

- Hardware: optimize warranty and hardware operations such as logistics, recycling, refurbishing, ...
- Support & Maintenance contracts providing a technical support line, software support, updates, upgrades, on-site support and training. Dedicated response time can be tailored to fit your organization with BRONZE, SILVER and GOLD agreements.
- Technicolor proposes Integration Services on technologies and products to accelerate your project whilst optimizing your time to market. We can also provide resources for project management, engineering and planning, and assist your team with device interoperability tests, proof of concept (POC) and trials.
- Missions to optimize your Total Cost of Ownership (TCO) by analyzing your hotline calls and proposing relevant actions to reduce your OPEX budgets.
- Leveraging its many years of expertise in creating gateway and settop box products with over 200 million devices delivered to diverse markets all around the world Technicolor has built an experienced and dedicated design team guaranteeing state-of-the-art yet costeffective designs, easy to use and install.

# MediaAccessTC7200

Wireless Voice Cable Gateway

# **Technical Specifications**

#### Cable Certifications

■ Data EuroDOCSIS® 3.0 certified
■ Voice EuroPacketCable™ 1.5 certified

■ CMTS interoperability Any qualified EuroDOCSIS® / 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

■ Dimensions 220 x 165 x 42 mm (8.7 x 6.5 x 1.6 in.)

Power supply
Operating temperature
Operating humidity
Storage temperature
120-240 VAC, 50-60 Hz
0° to 40° C (32° - 104° F)
20 % to 90 % non-condensing
-20° to 70° C (-4° - 158° F)

### **Receiver Specifications**

■ Downstream modulation

QAM 64/256

lacksquare Downstream frequency range

108 - 1002 MHz

■ Maximum downstream data range

440 Mbps (theoretical) (55.61 Mbps x 8 channels)

■ Capture windows Full Band Capture: possibility to have any

of the 8 downstream channels over the full

EuroDOCSIS® spectrum

Number of downstream channels

Up to 8

■ 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 - 65 MHz

Maximum upstream data range

131 Mbps (theoretical) (32.78 Mbps x 4 channels)

■ Number of upstream channels

4

■ 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
- $\blacksquare$  Logging and alert

### Wireless Specifications\*

- Wi-Fi IEEE 802.11b/g/n access point Wi-Fi certified®
- Full dual concurrent Wi-Fi with 2.4 GHz (2x2) and 5.0 GHz (2x2) support\*
- WPA(2)<sup>™</sup>-personal support of Temporal Key integrity Protocol (TKIP), IEEE802.1x port-based authentication with RADIUS client
- Wi-Fi Protected Setup (WPS<sup>™</sup>)
- Up to 16 virtual SSID APs support
- Security and service segregation per SSID
- Up to 250 Mbps data rates
- 4 internal antennas (external antennas optional)

\*Wireless configuration can be tailored to customer requirements

### Security

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

### Networking

■ Network protocol IP, TCP, UDP, ARP, ICMP, DHCP, TFTP, SNMP,

HTTP

Protocol filteringSNMP managementEthernet and IPSNMP v2, SNMP v3

# **Software Specifications**

■ Downloadable software

■ Multiple client support 254

Quality of Service 32 DSIDs and 32 US Service Flows

■ Security BPI+

■ HTTP server

# MediaAccessTC7200

Wireless Voice Cable Gateway



# **Technical Specifications**

### **Telephony Specifications**

PCM A-law, PCM  $\mu$ -law, G.729, G.729a, G.729e, Audio codecs

G.728.

iLBC and BV16

■ Multi-line phone support 2 phone lines

3-party conference calls

Supports two complex voice codecs simultaneously

■ Fax relay T.38 ■ DTMF tone relay RFC2833 Type I and Type II ■ Caller ID

■ CLASS features Basic and extended CLASS features

■ Voice Activity Detection (VAD) ■ Comfort Noise Generation (CNG)

■ Echo cancellation G.65 / G.168 up to 16 ms ■ Packet tone DTMF generation /

Call progress generation / Custom tone generation

■ Call discrimination Fax and modem detection

■ Telephony interface capabilities

Loopback and on-demand diagnostics

■ Modems Up to V.90 (38.5 kbps)

■ RFC2833 DMTF tone relay

Enabled / disabled via SNMP

DTMF/pulse tones and pulse/DTMF tones ■ Pulse dialing

conversion

■ RTP layer RFC1889 / RFC1890

■ RTCP statistics collection

■ PacketCable protocols PacketCable™ NCS

> Network-based call signalling protocol (PKT-SP-EC-MGCP) SIP protocol by software upgrade

■ SIP based protocols

### Content of the Box

- EMTA gateway
- Power supply unit
- Ethernet cable (RJ-45)
- CD-ROM
- Quick Installation Guide



Technicolor TC7200 back panel

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