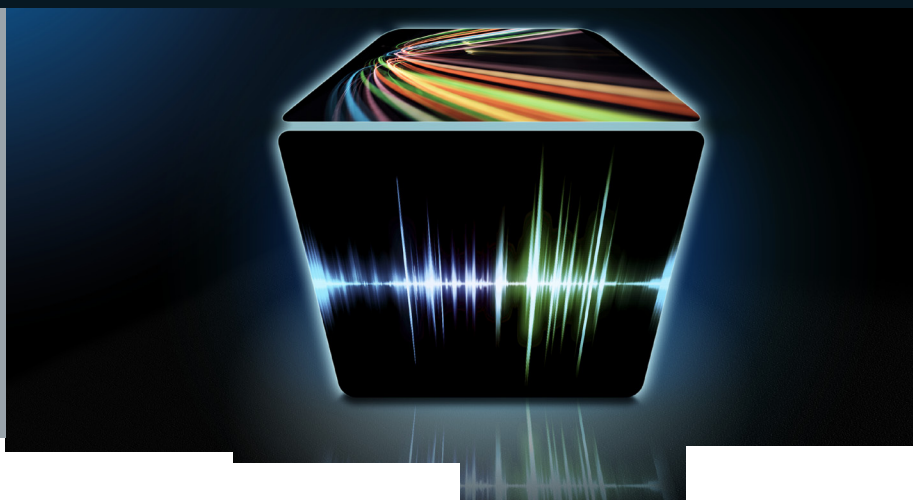
technicolor

TWG850-4

Wireless and VoIP Cable Gateway



On January 27th 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

VOICE

The E-MTA Voice-Over-IP cable modems based on the DOCSIS/Euro-DOCSIS™ 2.0 Specification integrate a wireless functionality. They support voice using the EuroPacketCable 1.5 standard and call control with the EuroPacketCable standard NCS protocol or SIP protocol. High-speed wireless with 802.11b/g makes them true home gateways.

The TWG850-4 is the 4-Ethernet-port model variation of the DOCSIS/EuroDOCSIS 2.0 certified TWG850.

High Speed Wireless Interface

The TWG850-4 supports the 802.11b/g standard for up to 254 PCs at speeds up to 54Mb/s and integrates an internal 32-bit data bus that guarantees superior handling of data traffic.

Enhanced Voice Performance

300 MHz Dual Instruction MIPS32 CPU and DSP Instruction Extensions for VoIP in order to guarantee superior performance. Gateway and Voice operations support data throughput and complex voice codec calls simultaneously. All standard codecs are supported, including the new iLBC and BV16. Different software images are available to support EuroPacketCable™ 1.5 and SIP.

FON Ready

Network operators can offer their subscribers access to the world's largest grouping of free Wi-Fi hotspots thanks to our gateway.

Features at a Glance

- Euro-DOCSIS 2.0 compliant
- Dual-mode cable modem: DOCSIS and Euro-DOCSIS
- FON ready
- E-router
- EuroPacketCable 1.0, 1.1, 1.5 certified (optional configuration: SIP)
- Propane™ technology, enabling the connection of more Internet users without additional network bandwidth
- 802.11b/g wireless connection
- 4 Ethernet and 1 USB 1.1 ports for wired connectivity
- Privacy through WEP, WPA, WPA2 protocols
- Easy-to-read LEDs
- Reliable high-performance platform
- IPv6 ready
- VPNs with IPSec

TWG850-4

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Cable Gateway

Advanced in Security

To ensure end users and operators with the fullest possible secure solution, Technicolor built in several security mechanisms.

The integrated firewall guarantees users ultimate network security. It minimizes undesired service impact and provides stateful inspection of packets. An integrated Denial of Service (DoS) engine monitors a wide range of attack patterns, and logs potential security breaches to a local cache or remote server.

The TWG850-4 also supports powerful wireless security mechanisms, such as Wi-Fi Protected Access (WPA, WPA2), Wired Equivalent Privacy (WEP) encryption. This allows users to communicate and access data with efficient link quality and the highest level of network security.

On top of that a wireless access control mechanism is built in to prevent unauthorized wireless users from accessing.

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

Easy to Use, Easy to Install

As all Technicolor gateways, the 4-port Ethernet TWG850-4 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.

TWG850-4

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Technical Specifications

Standards / Certifications

Data	EuroDOCSIS 2.0 full compliant
Voice	EuroPacketCable 1.5 full compliant, upgradeable to EuroPacketCable 2.0
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 Range	41,71/55,61 Mbps (QAM 64 / QAM 256)
Input Signal Level Range	+43 to +73 dBµV (QAM 64) +47 to +77 dBµV (QAM 256)
BER	<1x10-8 @ C/N=23.5dB, QAM 64 with FEC <1x10-8 @ C/N=30dB, QAM 256 with FEC, received power = +47 to +54 dBµV <1x10-8 @ C/N=33dB, QAM 256 with FEC, received power = +54 to +77 dBµV
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 Range	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 dBµV @ QPSK +68 to +115 dBµV @ QAM 8/16 +68 to +114 dBµV @ QAM 32/64 S-CDMA: +68 to +113 dBµV /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	± 5 kHz

Telephony Features

Audio Codecs	PCM A-law, PCM µ-law, G.729, G.729a, G.729e, G.728, iLBC and BV16
Multi-line Phone Support	Yes, two phone lines, 3-party conference calls, can support two complex voice codecs simultaneously
Fax Relay	T.38
DTMF Tone Relay	RFC2833
Caller ID	Type I and Type II
CLASS features	BASIC and Extended CLASS features
Voice Activity Detection (VAD)	yes
Comfort Noise Generation (CNG)	yes
Echo Cancellation	G.65 / G.168 up to 32 ms
Packet Tone	DTMF generation / Call Progress Generation / Custom Tone Generation
Call Discrimination	Fax and modem detection
Telephony Interface Capabilities	Loop-back and on demand diagnostics
Modems	Up to V.90 (38.5 kbps)
RFC2833 DMTF Tone Relay	Enabled / disabled via SNMP and Telnet
REN	5 REN
Pulse Dialing	DTMF-tones to pulse tones conversion and pulse to DTMF tones conversion

VoIP Call Control

RTP Layer	RFC1889 / RFC1890
RTCP Statistics Collection	yes
PacketCable Protocols	PacketCable NCS Network-Based Call Signalling Protocol (PKT-SP-EC-MGCP)
SIP Based Protocols	yes

Wireless Features

Protocol	Fully 802.11b/g compatible QOS with 802,11e, WMM, multi SSID supported
Antenna	One external antenna
Throughput	Up to 54Mbps data rate
Wireless Security	64/128 bit WEP encryption, WPA, WPA2 support of Temporal Key integrity Protocol (TKIP), IEEE802.1x Port-Based Authentication with RADIUS client

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Network Protocol	IP, TCP, UDP, ARP, ICMP, DHCP, TFTP, SNMP, HTTP
Firewall	IP Filtering, Stateful Packet Inspection (SPI), Intrusion Detection for Denial of Service (DoS) attacks, Flexible Parental Control, URL Content Filtering
Firewall Control	Web-Based User Interface Management and Administration, Remote User Access, Logging & Alert
Multiple SSID	yes

PC Compatible

CPU	486DX 66MHz (Pentium Preferred)
Memory	RAM 16MB (32MB Preferred)
Operating Systems	Windows 2000, XP and Vista
Available Disk Space	76 MB
Sound Card	16-Bit
Video	VGA (SVGA Preferred)
Ethernet Port	10 or 100 Base-T
USB port	With Windows 98SE/ME/2000/ XP/Vista
Drive	CD-ROM

Software Features

Software Downloadable	yes
Bridging	Between USB and Ethernet
Multiple Client Support	254
Class of Services (CoS)	16 SIDs
Protocol Filtering	Ethernet & IP
SNMP Management	V2, V3
Security	BPI+
HTTP Server (CM status)	yes

Interfaces / Physical

Wireless	802.11b/g connection up to 54Mbps
Ethernet	4 x RJ45 - 10/100 Base-T auto detect
Telephone Line	2 x RJ11
RF Connector	1 x F-Type
USB Port Device	1 x USB 1.1
Button	Reset, WPS
LEDs	DS, US, Online, Tel1, Tel2, Wireless, Eth1-4, USB
Power Requirements	External, 230VAC 50Hz
Operating Temperature	0°C to 40°C
Operating Humidity	20% to 90% non condensing
Storage Temperature	-20°C to 70°C
Safety	CE

Packaging

Cabinet Dimensions	mm: 216 (L) x 154 (D) x 36 (H)
Packaging Dimensions	mm: 245 (L) x 225 (D) x 90 (H)
Shipping Weight	Approx. 1,5 kg
Master-pack Dimensions	mm: 745 (L) x 388 (D) x 242 (H)
Master-pack Shipping Weight	Approx. 20 kg
Master-pack Quantity	12 units

Content of the Box

- Cable Gateway
- Power supply
- Ethernet Cable
- CD-ROM
- Quick Installation Guide
- Wi-Fi dongle key and easy set up application (Optional)

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.

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