

MediaAccess TG650

Smart Ultra Broadband
Business Gateway



TELECOM

DATA

VIDEO

Flexible Solution

The Technicolor TG650 is a cost-effective ultra-broadband business gateway, designed for corporate SMEs and SOHOs and offers a large array of possibilities through a complete set of business features.

The TG650 is an entry-level one-box office solution for communicating to the outside world, remotely managed by the operator. This gateway with dual bank memory not only enables you to safeguard your office network, but also allows to share your connected devices (such as printers and hard disks).

Features at a Glance

- Integrated ADSL2+/VDSL2 modem
- 1 GE WAN port
- 3G mobile WAN connection (via mobile USB adapter)
- AutoWAN sensing™
- 4 FE LAN ports
- 2 USB 2.0 master ports for hard disk, printer, 3G adapter, ...
- Seamless media sharing (UPnP A/V™ and DLNA®) and content sharing
- Extensive remote management: TR-069, TR-104, TR-089, TR-111, ...
- Extensive operator management capabilities: SNMP, TACACS+, Syslog, ...
- Integrated IPSec/VPN client and server, corporate-class firewall and content filtering
- Future-proof full service platform supporting: OSGi execution environment
- Non-service-affecting platform software upgrades (dual bank memory)
- IPv4 & IPv6 enabled
- Designed according to the latest ECO standards



TG650 horizontal setup



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Best-In-Class Ultra Broadband

The accelerating growth of WAN and LAN traffic is pushing operators to look to ultra-high-speed network technologies to solve the bandwidth crunch. VDSL2 combined with Gigabit Ethernet enables extremely high bandwidth and guarantees superior quality in voice, data and video.

Some of the latest performance-enhancing technologies have been added on top, to get the utmost out of existing infrastructures:

- G.vector: effectively cancels the crosstalk noise inherently present in VDSL2 bands. With vectoring, every line in a binder can operate at peak performance, as if there were no other VDSL2 lines in that binder.
- G.inp ("Impulse Noise Protection"): makes sure that no errors occur on the DSL connection, even under extreme conditions, so that high-quality video transmission is guaranteed at all times. It is based on the principle of retransmission.

Business Internet Access

Our TG650 business gateway is the only physical equipment your customer needs in his office.

The embedded Stateful Packet Inspection Firewall (SPIF) and intrusion detection system stop attacks in the router and keep the customer safe from any security violations. Site and content filtering based on a large online database prevent employees from accessing unproductive categories of web sites. With the 3G mobile WAN solution of the TG650 your customers will always be online: whenever the primary WAN connection is down, the router automatically redirects all traffic over the 3G connection. Advanced routing protocols like BGP support customers with multiple links to the Internet.

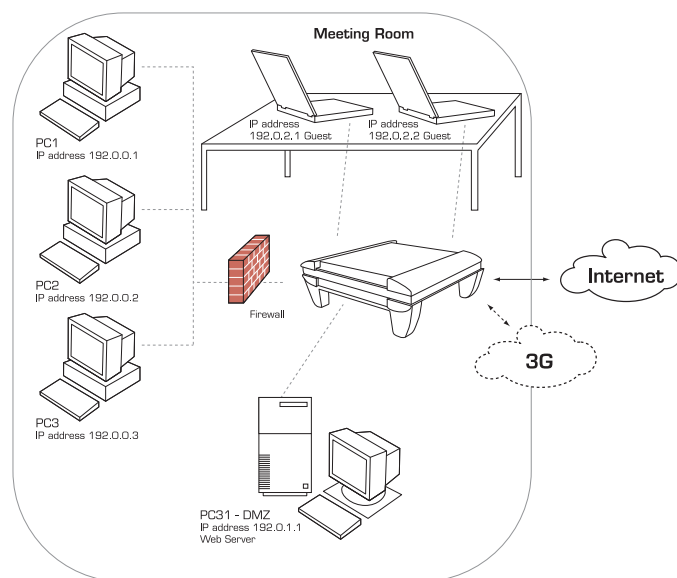
Sales people or other employees might have a home office or are regularly on the road, visiting customers and partners. Since the TG650 integrates both an IPSec/VPN client and server, you can guarantee access to all services and applications for your customer's mobile workforce.

Managed Office Networking

The TG650 has a four-port managed Ethernet switch allowing you to connect up to four PCs or servers directly, or to extend your local network via an uplink Ethernet switch.

Any port on the managed switch can be configured as DeMilitarized Zone (DMZ). This enables your customer to share central services with his sales people or other employees at a minimum cost. LAN ports can also be configured to provision a guest access network. This allows visitors in a meeting room to share the Internet access without compromising data confidentiality of the enterprise network.

The dual memory bank allows completely fail-safe remote upgrade to keep the router up-to-date at all times.



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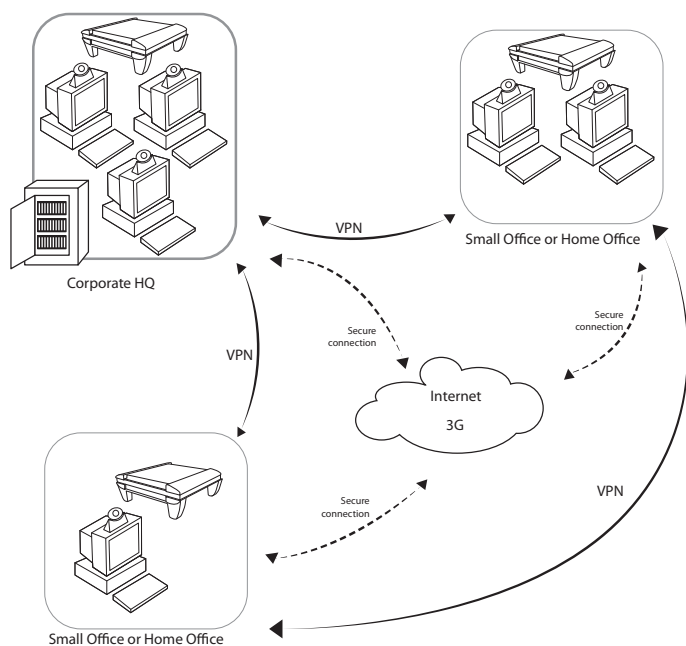
Network VPN

The TG650 optimally supports network based VPNs based on MPLS/IP and on VPLS/VLAN technology. In an MPLS based VPN, the BGP and RIP routing protocol allow to automatically distribute routes from the customer to the network. Existing LAN applications can continue to run over the MPLS VPN thanks to the built-in DHCP relay and IGMP proxy.

Whatever VPN type you roll out, the advanced forwarding engine embedded in the TG650 can provide simultaneous access to multiple network based VPNs and Internet access on the same WAN connection while keeping the traffic strictly separate between the different VPNs. Traffic over the VPN can be encrypted to provide the customer provable privacy and security. The embedded Service Level Agreement (SLA) monitoring tool continuously tracks key parameters like availability, delay, jitter, and packet loss and generates summary reports on a daily and monthly basis.

Customer Equipment VPN

Your customer is a growing small or medium enterprise, having increasing needs of sharing information or applications among different operational sites. With the IPSec LAN-to-LAN interconnect features, there is no need for expensive leased lines anymore: a standard DSL or Ethernet WAN connection and a TG650 provide a secure connection over the Internet between the different sites.



IPv6 Ready

With the approaching IPv4 address pool depletion, our products need to be ready for IPv6. Technicolor is a frontrunner in the introduction of IPv6 on its devices, with the TG650 being enabled for multiple IPv6 field scenarios. Internet Protocol version 6 is the next generation of Internet technologies aiming to effectively support the ever-expanding Internet usage and functionality, and also to address security concerns that exist in an IPv4 environment.

In this context, the TG650 has successfully passed the Phase 2 (Gold Logo) standard IPv6 Ready accreditation.

Technicolor aims to introduce IPv6 as smoothly as possible in customer networks. By providing in-depth knowledge of the networking stack, we guide our customers in their transition from IPv4 to IPv6.

ECO

Technicolor is committed to offer its customers sustainable products and implements a set of ECO features to reach the best possible environmental performance. In addition to carefully selected plastics and packaging to minimize the ecological footprint, the TG650 benefits from a unique combination of hardware and software features that reduce power consumption substantially.

Professional Services

To reinforce our extensive portfolio of digital home solutions, Technicolor has a dedicated Professional Services team to make sure that every deployment is a success, from initial provisioning and integration to operations, upgrades, ongoing support and beyond.

Our wide array of services spans the entire customer project lifecycle, encompassing:

- Expert consulting
- Seamless system integration
- Warranty on all our products
- Qualified technical support and maintenance
- Efficient repair, refurbishment and recycling

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Technical Specifications

Hardware Specifications

■ Interfaces WAN	1 RJ-11 DSL line port (ADSL2+/VDSL2) 1 Ethernet WAN 10/100/1000 Base-T port
■ Interfaces LAN	4-port autosensing 10/100 Base-T auto-MDI/MDI-X Ethernet LAN switch
■ Interfaces other	2 USB 2.0 master ports Power button Reset button RJ-45 serial console port
■ Dimensions	209 x 82 x 232 mm (8.2 x 3.2 x 9.1 in)
■ AC Voltage	100 - 240 VAC (switched mode power supply)
■ Temperature	0° - 40° C (32° - 104° F)
■ Humidity	20% to 80%

DSL Modem Specifications

■ Supports multi mode standards	
■ ADSL compliance	ANSI T1.413 Issue 2 ITU-T G.992.1 Annex A, B (G.dmt) ITU-T G.992.2 Annex A, B (G.lite) ITU-T G.994.1 (G.hs) Maximum rate: 8 Mbps for downstream and 1 Mbps for upstream
■ ADSL2 compliance	ITU-T G.992.3 Annex A, B, L (G.dmt.bis) ITU-T G.992.4 Annex A, B, L (G.lite.bis) ITU-T G.998.4 (G.inp) Maximum rate: 12 Mbps for downstream and 1 Mbps for upstream
■ ADSL2+ compliance	ITU-T G.992.5 Annex A, B, M ITU-T G.998.4 (G.inp) Maximum rate: 24 Mbps for downstream and 3 Mbps for upstream
■ VDSL2 compliance	ITU G.993.2 SOS SRA INM Up to 17 MHz profiles (POTS/ISDN) ITU-T G.993.5 (G.vector) ITU-T G.998.4 (G.inp)

Management

■ Customizable user-friendly GUI via HTTP and HTTPS	
■ Web services API for remote access (portal, management, diagnostics, applications, ...)	
■ GUI-embedded Easy Setup wizard	
■ Technicolor Setup wizard supported	
■ On-demand remote GUI assistance (helpdesk)	
■ Web-browsing intercept (install/diagnostics/captive portal)	
■ AutoWAN sensing™: automatic selection and configuration of WAN interfaces	
■ Unified management interface (Mbus)	
■ TR-069 CPE WAN Management Protocol (CWMP)	
	TR-098 Internet Gateway Device Management
	TR-143 network throughput performance tests and statistical monitoring
	TR-181i2 Device:2 data model
	TR-157a3 Life Cycle Management (LCM)
	TR-111 home network device management
	TR-140 storage service provisioning
■ TR-064 LAN side configuration	
■ Zero-touch autoprovisioning	

Operator Management

■ SSL/SSH	
■ SNMPv1, SNMPv2, SNMPv3	
■ Trivial FTP (TFTP)	
■ TACACS+	
■ Syslog (local/remote)	
■ Serial access via console port	

Services

■ 3G mobile fall-back WAN connection (through 3G USB adapter)	
■ Open architecture for 3rd party application and UI development	
■ Access control	URL- and (optional) content-based website filtering Time-based access control
■ Printer sharing	
■ Content sharing	Samba file server UPnP A/V™ media server and control point Certified DLNA® DMS Metadata support Remote HDD file access
■ HDD file systems	FAT32 Optional: NTFS, EXT2, EXT3, HFS+
■ ICSA-grade security service	
■ Micro-modularity with FLEXIBundle	

Security

■ Stateful Packet Inspection Firewall (SPIF)	
■ Customizable firewall security levels	
■ Intrusion detection and prevention (DoS, SYN Flood, Ping of Death, Fraggle, LAND, Teardrop, etc.)	
■ DeMilitarized Zone (DMZ)	
■ IP and generic IP packet filtering	based on IP address, port number, protocol type
■ Real-time attack alert and logging	
■ Multilevel access policy	

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Technical Specifications

Networking

- Symmetrical NAT with application helpers (ALGs)
- Game and application sharing NAT port maps
- DHCP conditional serving & relay, DNS server & relay
- IGMPv3 proxy (Fastleave)
- IGMP snooping (full routed)
- DHCP spoofing
- Flexiport (automatic selection of Ethernet port bridged IPTV)
- IEEE 802.1q VLAN bridging, multiple bridge instances

IP Routing

- Border Gateway Protocol (BGP)
- Open Shortest Path First (OSPF)
- Routing Information Protocol (RIPv1, RIPv2)

IPv6 Networking

- IPv4 / IPv6 dual IP stack
- Supported models: PPP(oE)(oA) – IPoE(oA)
- Transitioning 6rd/6to4/6in4
DSLite
- Stateful connection tracking / stateful inspection firewall
- DHCPv6
Stateful/stateless DHCPv6 client
Stateless DHCPv6 server
Relay
Prefix Delegation
- DNS v4/v6 Proxy
- ULA
- ICMPv6
- IPv6 Quality of Service
- MLDv1/v2

Quality of Service

- ATM QoS
UBR, VBR-nrt, VBR-rt, CBR shaping,
queuing and scheduling
CLP tagging
- IP QoS
Flexible classification (ALG aided)
IP rate limiting (two-rate remarking/dropping)
DSCP (re) marking
TCP ACK optimization
Dynamic link fragmentation
Per service class connection/resource reservation
Priority or C-VLAN/S-VLAN tagging
- Ethernet QoS
Switch port queuing and scheduling

Content of the Box

- Smart Ultra Broadband Business Gateway
- DSL cable (RJ-11)
- Ethernet cable (RJ-45)
- RJ-45 Console to DB9 serial adaptor (optional)
- Power supply unit
- Setup CD (optional)
- Quick Setup leaflet(s) (optional)
- Safety Instructions & Regulatory Information booklet (optional)
- Filter(s) or splitter(s) (optional)



TG650 back panel

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