



technicolor
FEEL THE WONDER

TG788v v3

Wireless Ultra-Broadband Gateway
with Voice

TELECOM

DATA

VOICE

VIDEO

A state-of-the-art triple-play service gateway with VDSL2 connectivity, Technicolor's TG788v v3 provides residential VoIP functions. To get the most from existing infrastructure, the TG788v v3 combines VDSL2 with the latest G.vector and G.inp ("Impulse Noise Protection") technologies. The TG788v v3 features four Fast Ethernet LAN ports and its IEEE 802.11n (2x2) Wi-Fi interface ensures compatibility with existing 2.4 GHz wireless equipment.

■ 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. The TG788v v3 combines VDSL2 with some of the latest performance-enhancing technologies 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.

Furthermore, the latest wireless technologies ensure robust in-home wireless distribution which reduces wiring complexity and provides true mobility without sacrificing Quality of Service (QoS) and Quality of Experience (QoE) or transfer speeds.

■ Flexible & Future-Proof Software Stack

The TG788v v3 is enriched with Technicolor Homeware, a reliable and managed middleware that offers an open architecture with multiple application environments fit to open up the connected home and deliver an unlimited spectrum of value-added services and applications.

Featuring a platform agnostic architecture, Technicolor Homeware is a fully portable solution that ensures the fastest time to market. Moreover, its modularity and enhanced life cycle management make it easy to add or remove components to or from a software release, while enabling second & third party development.

Leveraging open source, Technicolor Homeware embraces different execution environments and supports current and emerging trends, transforming the gateway into a full-blown app platform.

Features at a Glance

- Integrated VDSL2 modem
- 4 FE LAN ports
- Wi-Fi interface
 - IEEE 802.11n 2.4 GHz (2x2)
- Wi-Fi Protected Setup (WPS™)
- 2 FXS ports for phone or fax
- 1 highspeed USB 2.0 master port
- Future-proof full service platform
- Enabled to support Wi-Fi Doctor® (sold separately) and Wi-Fi Conductor (sold separately)
- Non-service-affecting platform software upgrades (dual bank memory)
- IPv4 & IPv6 enabled
- Designed according to the latest ECO standards



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■ Easy to Use

Like all Technicolor modems and gateways, the TG788v v3 is an easy to use, easy to install device.

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

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

■ Voice over IP

The TG788v v3 offers VoIP functions for residential and business users. POTS phone connectors are provided to accommodate regular phones and faxes. Once the gateway is registered with a VoIP service, regular phone calls can be conducted over the Internet with all the benefits of IP telephony.

On top of a wide range of advanced voice services like caller ID, CLIR, call waiting, call forwarding, three-way conference and message waiting notification, the TG788v v3 is completely interoperable with the main IMS cores in the market.

■ Easy to Manage

The TG788v v3 is completely designed according to the TR-069's TR-098 IGD data model through which the device can be configured remotely by the operator without interrupting the end user's experience.

In addition, the TR-181i2 Device:2 data model is made available to further increase the remote management capabilities towards life cycle management, diagnostics and application management.

■ IPv6 Enabled

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 TG788v v3 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.

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.

■ Highest Security

The TG788v v3 Stateful Packet Inspection (SPI) firewall guarantees users the ultimate network security level. Through integration with Network Address & Port Translation (NAPT), the firewall leverages all the Application Level Gateways (ALGs) provided in the NAT context to minimize undesired service impacts.

The TG788v v3 also supports powerful wireless security mechanisms, such as Wi-Fi Protected Access (WPA, WPA2) together with the secure and user friendly Wi-Fi Protected Setup (WPS) connection and configuration mechanism for connecting wireless clients.

In addition, the TG788v v3 supports multiple wireless networks (mSSID) enabling to set up independent virtual wireless access points, including controlled wireless hotspots. These additional wireless networks allow other wireless users to enjoy high-performance access without any compromise on the integrity of the basic network, thus keeping the original network access limited and secure.

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Technical Specifications

Hardware

| | | |
|-------------------------|--|--------------|
| ■ Interfaces WAN | 1 RJ-11 DSL port | |
| ■ Interfaces LAN | 4-port autosensing 10/100 Base-T Ethernet LAN switch | |
| | IEEE 802.11n 2.4 GHz radio | |
| | 2 FXS POTS ports | |
| | 1 USB 2.0 master port | Wi-Fi on/off |
| | Buttons & LEDs | |
| | button (with integrated LED) | |
| | WPS button (with integrated LED) | |
| | Reset button | |
| | Power button | |
| | 7 status LEDs | |
| | DC jack | |
| ■ Power input | 12 VDC external PSU | |
| ■ Power supply | 100 - 240 VAC, 50 - 60 Hz (switched mode power supply) | |
| ■ AC Voltage | | |
| ■ Dimensions | 137 x 35 x 125 mm (5.39 x 1.38 x 4.92 in.) | |
| ■ Operating temperature | 0 - 40 °C (32 - 104 °F) | |
| ■ Operating humidity | 20 - 95 % HR non-condensing | |
| ■ Storage temperature | -20 - 70 °C (-4 - 158 °F) | |

xDSL modem

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|---------------------------------|--|
| ■ Supports multi mode standards | |
| ■ ADSL compliancy | ITU-T G.992.1 Annex A (G.dmt) ITU-T G.992.2 Annex A (G.lite) ITU-T G.994.1 (G.hs) Rates up to 8 Mbps downstream and 1 Mbps upstream |
| ■ ADSL2 compliancy | ITU-T G.992.3 Annex A, L (G.dmt.bis) ITU-T G.992.4 Annex A, L (G.lite.bis) ITU-T G.998.4 (G.inp) Rates up to 12 Mbps downstream and 1 Mbps upstream |
| ■ ADSL2+ compliancy | ITU-T G.992.5 Annex A, M ITU-T G.998.4 (G.inp) Rates up to 24 Mbps downstream and 3 Mbps upstream |
| ■ VDSL2 compliancy | ITU G.993.2 SOS SRA INM Up to VDSL2 profile 17a ITU-T G.993.5 (G.vector) ITU-T G.998.4 (G.inp) |
| ■ Supports Dying Gasp | |

Wireless

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|---|--|
| ■ Wi-Fi access point, Wi-Fi certified® | 2.4 GHz (2x2) IEEE 802.11n AP |
| ■ Wi-Fi Protected Setup (WPS™) | |
| ■ Wi-Fi security levels | WPA2™-Enterprise / WPA™-Enterprise WPA2™-Personal / WPA™-Personal |
| ■ Wi-Fi Multimedia (WMM®) and WMM-Power Save | |
| ■ Up to 4 BSSIDs (virtual AP) support | |
| ■ Wireless hotspot capabilities | |
| ■ Band Steering | |
| ■ 2x2 MIMO 2.4 GHz Wi-Fi features | SGI STBC 20/40 MHz coexistence |
| ■ RX/TX switched diversity | |
| ■ Dynamic rate switching for optimal wireless performance | |
| ■ Manual/auto radio channel selection | |

Voice and telephony

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|---|--|
| ■ Voice technologies | Voice over IP (VoIP) |
| ■ Voice signalling | SIP |
| ■ Voice codecs | G.711, G.726, G.729 Wideband T.38 G.722.2 (optional) |
| ■ Echo cancellation | G.168 compliant |
| ■ Comfort Noise Generator (CNG) | |
| ■ Voice Activity Detection (VAD) | |
| ■ Flexible telephone number per FXS handset, including common numbers | |
| ■ Supplementary and advanced services | Caller ID Call waiting (on call basis) Call forwarding (no answer/busy/unconditional) Call transferring Call hold, call return Calling Line Identification Presentation (CLIP) Calling Line Identification Restriction (CLIR) Calling Name Identification Presentation (CNIP) Calling Name Identification Restriction (CNIR) Fax transparency / V.92 transparency 3-way conference Message Waiting Indicator (MWI) Call completion to busy subscriber Abbreviated number Anonymous Call Rejection (ACR) Distinctive ringing DNS SRV Back-to-Back User Agent |
| ■ SIP server | |
| ■ Interoperable with main market softswitches | |

Management

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|---|---|
| ■ Customizable user-friendly GUI via HTTP and HTTPS | |
| ■ Command Line Interface (CLI) | SSH v2 |
| ■ Web services API for remote access (portal, management, diagnostics, applications, ...) | |
| ■ Web-browsing intercept (install/diagnostics/captive portal) | |
| ■ AutoWAN sensing™ (automatic selection and configuration of WAN interfaces) | |
| ■ TR-069 CPE WAN Management Protocol (CWMP) | TR-098 Internet Gateway Device (IGD) management TR-104 voice service provisioning and configuration TR-111 home network device management TR-143 network throughput performance tests and statistical monitoring TR-157a3 Life Cycle Management (LCM) TR-181i2 Device:2 data model |
| ■ Zero-touch autoprovisioning | |

Services

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|--|--|
| ■ Life Cycle Management (LCM) for developing advanced services support | |
| ■ Open architecture for 3rd party application and UI development | |
| ■ 3G/LTE/4G mobile fall-back WAN connection (through USB adapter) | |
| ■ VPN client/server scenarios | L2TP/IPSec PPTP OpenVPN |
| ■ Wireless hotspot (optional, on request) | Based on HotSpot 2.0 technologies Passpoint™ GRE tunneling EAP Fon |
| ■ Parental control | URL-based website filtering Time-based access control (Tim-of-Day) |

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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
- IEEE 802.1q VLAN bridging, multiple bridge instances
- MLD Proxy for IPv6
- Port Control Protocol (PCP)
- Multicast to unicast translation on Wi-Fi interfaces

IPv6 networking

- IPv4 / IPv6 dual IP stack
- Supported models
 - PPP(oE)(oA)
 - IPoE(oA)
- Transitioning
 - 6rd/6to4/6in4
 - DS-Lite
- Stateful connection tracking / stateful inspection firewall
- DHCPv6
 - Stateful/stateless DHCPv6 client
 - Stateless DHCPv6 server
 - Relay
 - Prefix Delegation
- ICMPv6
- 464xlat
- MAP-T

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
 - Dynamic link fragmentation
- Ethernet QoS
 - Priority or C-VLAN/S-VLAN tagging
 - Ethernet switch port queuing and scheduling
- Wireless QoS
 - WMM (BE, BK, VI, VO access categories) queuing and scheduling

Security

- Stateful Packet Inspection Firewall (SPIF)
- Customizable firewall security levels
- Intrusion detection and prevention
- DeMilitarized Zone (DMZ)
- GRE Tunnel encryption
- Multilevel access policy
- Secure boot
- Security and service segregation per SSID

ECO design

- ECO mode for more intelligent power saving
- Wi-Fi on/off button
- WMM-Power Save

Package contents

- TG788v v3
- DSL cable
- Ethernet cable
- Power supply unit
- Quick Setup leaflet(s) (optional)
- Safety Instructions & Regulatory Information booklet
- Filter(s) or splitter(s) (optional)



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