

technicolor



FEEL THE WONDER



8 x 4

CGA0101

Wireless Cable Gateway
with Voice

CABLE

DATA

VOICE

The CGA0101 is a wireless DOCSIS 3.0 cable gateway offering up to 4 bonded upstream channels and 8 bonded downstream channels for wired download speeds of up to 440 Mbps. This way, operators can offer their customers even faster broadband access as well as demanding IPTV services, while providing VoIP functions for residential and business markets.

■ High-bandwidth cable technology

As cable standards keep evolving, Technicolor presents the CGA0101, a wireless DOCSIS 3.0 cable wireless 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.

■ Reliable In-Home Connectivity

With a simultaneous operation of IEEE 802.11b/g and IEEE 802.11n (2.4 GHz, 2x2), the CGA0101 provides guaranteed wireless speed and stability.

Featuring an integrated two-port Gigabit Ethernet switch, the CGA0101 also offers seamless connection of wired devices from anywhere in the home.

■ Full Band Capture Solution

Thanks to its fully integrated 1 GHz wideband capture, the CGA0101 exceeds SCTE-40+ performance and eliminates all frequency limitations of traditional wideband tuners. The CGA0101 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 all downstream channels without having to re-align all its broadband channels to accommodate this new service.

Remote diagnostics provides real time, unobtrusive diagnostic and spectrum analysis capabilities, without effecting user service on any of the downstream channels.

Features at a Glance

- DOCSIS® 3.0 certified
- Backward compatible with DOCSIS® 2.0 (and older)
- 8 bonded downstream and 4 bonded upstream channels
- Full band capture tuner
- Built in RF spectrum analyzer
- 2 GE LAN ports
- Wi-Fi networking on-board
 - IEEE 802.11n 2.4 GHz (2x2)
- 1 FXS port for phone or fax
- Voice PacketCable™ 1.5 compliant
- Voice CLASS features
- MPEG2 over IP encapsulation solution
- Advanced security features
- Dual stack IPv4 and IPv6 DS-Lite enabled
- Reliable high-performance platform



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■ Voice Performance

The CGA0101 is PacketCable 1.5 compliant and can operate in SIP mode by default, as well as MGCP mode after software upgrade.

The CGA0101 supports all standard codecs (optionally also 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.

■ Easy to Use

Like all Technicolor modems and gateways, the CGA0101 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.

■ Video Streaming

The CGA0101 contains an MPEG2 to IP encapsulation solution allowing the capture of the DVB-C free-to-air video signal on the RF network and the distribution of this video signal over IP on the local network of the customer.

This feature is available upon software upgrade of the CGA0101 and is a first step for cable operator towards distributing IPTV without any change to their existing QAM (digital video) broadcast infrastructure.

■ Easy to Manage

Apart from being manageable via SNMP, the CGA0101 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.

■ 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.

The CGA0101 also supports powerful wireless security mechanisms, such as Wi-Fi Protected Access (WPA, WPA2), together with a secure and user friendly connection and configuration mechanism for connecting wireless clients (WPS).

The CGA0101 supports up to eight wireless networks (mSSID) per Wi-Fi radio, enabling to set up independent virtual wireless access points. These additional wireless networks allow other wireless users to enjoy high-performance access without compromise on the integrity of the basic network, thus keeping the original network access limited and secure.

■ 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 CGA0101 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.

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Technical Specifications

Hardware

■ Interfaces WAN	1 F-Type RF connector, external threaded
■ Interfaces LAN	2-port autosensing 10/100/1000 Base-T Ethernet LAN switch IEEE 802.11n 2.4 GHz Wi-Fi 1 FXS POTS port
■ Buttons & indicators	9 LED indicators Wi-Fi on/off & WPS button Reset button
■ Power input	DC jack
■ Power supply	12 VDC external PSU
■ AC Voltage	100 - 240 VAC, 50 - 60 Hz (switched mode PSU)
■ Operating temperature	0 - 45 °C (32 - 113 °F)
■ Operating humidity	20 - 90 % HR non-condensing
■ Storage temperature	-20 - 70 °C (-4 - 158 °F)

Cable certifications

■ Data	DOCSIS® 3.0 Certified
■ Voice	PacketCable™ 1.5 compliant
■ CMTS interoperability	Any qualified DOCSIS® 3.0 CMTS

RF downstream

■ Downstream modulation	64, 256 QAM
■ Downstream frequency range	54 - 1002 MHz
■ Number of downstream channels	Up to 8 bonded
■ Maximum downstream rates	444.96 Mbps (theoretical, 8 x 55.62 Mbps)
■ Capture windows	1 GHz full band capture
■ Channel bandwidth	8 / 6 MHz
■ Input signal level range	+ 47 - +77 dBμV (max.)
■ Input impedance	75 Ohm

RF upstream

■ Upstream modulation	QPSK 8, 16, 32, 64, 128 QAM
■ Upstream frequency range	5 - 42 MHz
■ Number of upstream channels	Up to 4 bonded
■ Maximum upstream rates	131.1 Mbps (theoretical, 4 x 32.78 Mbps)
■ Channel bandwidth	200, 400, 800 kHz 1.6, 3.2 and 6.4 MHz
■ Input signal level range	+ 68 - +118 dBμV (max.)
■ Output impedance	75 Ohm
■ Integrated upstream spectrum analyzer	

Wi-Fi

■ Wi-Fi access point, Wi-Fi certified®	2.4 GHz (2x2) IEEE 802.11n AP
■ 2x2 MIMO 2.4 GHz Wi-Fi features	SGi STBC 20/40 MHz coexistence
■ Dynamic rates switching for optimal wireless rates	
■ Manual/ auto radiochannel selection	
■ Wi-Fi Protected Setup (WPS™)	
■ Wi-Fi security levels	WPA2™-Personal / WPA™-Personal IEEE802.1x port-based authentication with RADIUS client
■ Wi-Fi Multimedia (WMM®) and WMM-Power Save	
■ Up to 8 BSSIDs (virtual AP)	

Voice and telephony

■ Voice technologies	Voice over IP (VoIP)
■ Voice signalling	PacketCable™ NCS Network-based Call Signalling protocol (PKT-SP-EC-MGCP) RFC 3261 SIP RFC 2805 MGCP (by software upgrade)
■ Audio codecs	ITU-T G.711 PCM A-law, PCM μ-law ITU-T G.723.1 G.726-16, G.726-24, G.726-32, G.726-40 G.728 G.729, G.729a, G.729b, G.729e iLBC, BV16, T.38, TELEVENT
■ Fax relay	T.38
■ Modems	Up to V.90 (38.5 kbps)
■ CLASS features	Basic and extended CLASS features
■ Supplementary and advanced services	Caller ID (Type I and Type II) Call waiting (on call basis) Call forwarding (no answer/busy/unconditional) Call hold, call return Calling Line Identification Presentation (CLIP) Fax transparency / V.92 transparency 3-way conference Distinctive ringing
■ 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
■ DTMF tone relay	RFC 2833 (enabled / disabled via SNMP)
■ RTP DTMF layer	RFC 1889, RFC 1890
■ DTMF/Pulse dialing	DTMF/pulse tones Pulse to DTMF tones conversion DTMF to pulse tones conversion
■ Telephony interface capabilities	Loopback and on-demand diagnostics

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Management

- User-friendly GUI via HTTP
- Command Line Interface (CLI)
 - Telnet
 - SSH v2
- TR-069 CPE WAN Management Protocol (CWMP)
 - TR-181i2 Device:2 data model
- SNMP
 - SNMP v1, SNMP v2, SNMP v3
- Logging
 - Syslog
- Software upgrade
 - via WAN RF connection only

Services

- Parental control
 - URL- and (optional) content-based website filtering
- Virtual Private Network
 - VPN Tunneling (Pass-through)
 - VPN termination, for remote access to home network
 - VPN (IPSec) pass-through
 - Service differentiation using port-based VLAN mapping

Networking

- Routing modes
 - Transparent bridging
 - Router
- Multiple client support
 - 32 (bridged mode)
 - 254 (routed modes)
- Network protocols
 - Dual stack IP (IPv4, IPv6)
 - TCP, UDP, ARP
 - ICMP, DHCP
 - TFTP, SNMP, HTTP, Telnet
- Protocol filtering
 - Ethernet and IP

IPv6 networking

- IPv4 / IPv6 dual IP stack
- Transitioning
 - DS-Lite

Quality of Service

- Class of services
 - 32 service IDs
- Traffic prioritization
 - DOCSIS 1.1 (management of service flows)

Security

- Baseline Privacy Interface Plus (BPI+)
- Stateful Packet Inspection Firewall (SPIF)
- Customizable firewall security levels
- Intrusion detection and prevention
- DeMilitarized Zone (DMZ)

Package contents

- CGA0101
- Power supply unit
- Ethernet cable
- Quick Setup leaflet(s) (optional)
- Safety Instructions & Regulatory Information booklet



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