intelligent Multiservice Gateways

PRODUCT INFORMATION

Allied Telesis

AT-iMG1525RF

GIGABIT FTTH MULTISERVICE GATEWAY

The AT-iMG1525RF intelligent Multiservice Gateway, a member of the Allied Telesis iMG family, provides a fiber-to-RF CATV transceiver with analog VoIP and enhanced broadband services.

2002/95/EC RoHS COMPLIANT

The Allied Telesis AT-iMG1525RF intelligent Multiservice Gateway is a flexible customer premise offering that delivers CATV using a fiber-to-RF transceiver. The CATV fiber receives a video signal and makes it available on a standard F-type connector. In addition, the iMG provides IP-based services using a separate fiber. The IP services include carrier-class telephony, high-speed Internet, IP television, and interactive two-way video-based services over a Gigabit active optical distribution network. The combined delivery of CATV and IP Triple Play services — voice, video and data — benefits both service providers and their customers. Service providers can quickly deliver advanced services such as extremely fast Internet, VoIP, IPTV and Video on Demand in a scalable way with complete remote management. End-users benefit by having a single device interconnecting all peripherals, computers, analog and VoIP telephones to a single broadband uplink.

Key Features

- 1 x 100/1000BX WAN port
- 5 x 10/100/1000T LAN ports
- 1 x Coax TV-out
- Two FXS ports
- USB host and USB slave for console
- Bi-directional fiber WAN interface
- 100M / Gigabit auto sense WAN
- Plug-and-play fiber outlet
- SIP and MGCP VoIP protocol support
- Major softswitch manufacturer compatibility
- Class 5 services
- Support for analog and VoIP phones
- IP Triple Play ready
- Stateful Inspection Firewall / NAT
- DMZ support
- Access Control List
- AlliedView NMS support
- TR-069

Voice over IP

The AT-iMG1525RF offers two FXS ports, supporting analog POTS services, FAX and dial up modem services. It leverages the Allied Telesis existing SIP and/or MGCP protocols and its established interoperability with major soft switch vendors to support analog-based voice, FAX and modem services for residential and SOHO environments. VoIP QoS is assured through Type of Service (ToS) bits and IEEE 802.1p priority tagging. The addition of silence suppression and local generation of comfort noise results in excellent voice quality.

CATV and IPTV

The AT-iMG1525RF has the capability of supporting both CATV RF video delivery and IP TV video simultaneously over two separate fibers.

The fiber to RF video receiver can be activated and deactivated through remotely CLI commands or via AlliedView™ NMS allowing for the graceful migration from CATV RF video to IP Video without a truck roll.

The iMG supports IP TV multicasting along with IGMP snooping, proxy, fast leaves, and join, enabling multiple high-quality, high bit-rate video streams without impacting data traffic or IP telephony while delivering the fast channel change that users expect from video services.

Data Delivery and Security

The AT-iMG1525RF supports industry leading Quality of Service (QoS) through ISO Layer 2 and 3 prioritization techniques including priority tagging with IEEE 802.1p, ToS and DSCP fields. Extensive support for per-port rate-limiting in the AT-iMG1525RF enables service providers to deliver tiered data services for the wide spectrum of end customer profiles, and provides maximum flexibility in service differentiation. The hardware fully supports Q-in-Q. Security is assured by an integral Stateful Inspection Firewall with NAT to protect end-user networks.

Management and Deployment

The AT-iMG1525RF is designed to be easy to deploy and manage. With the AlliedView NMS software platform, the iMG can be remotely provisioned and managed. The AT-iMG1525RF supports TR-069 and can be managed via an Auto Configuration Server (ACS).

Optical WAN Interfaces

The AT-iMG1525RF offers two single-strand (bi-directional) optical fiber links for FTTH applications. One is used for CATV RF video and the other to provide IP-based connectivity for voice, IP Video and data. The independent passive unit (AT-iMG001), where the optical cable is terminated, allows easy installation, maintenance and replacement thanks to a plug-and-play optical connection. It also provides a locking mechanism to secure the active unit.

Specifications

Hardware
5 x 10/100/1000T (RJ-45)
1 x CATV (female 75-ohm F-type)
2 x VoIP FXS ports (RJ-11)
1 x 100/1000BX (SC)
1 x USB slave for console
1 x USB host

Optical Interfaces
IEEE 802.3ah 100/1000BX single-strand single-mode (SC) (20 km): TX 1310 nm; RX 1550 nm

Max sensitivity	-23 dBm
Max input power	-3 dBm
Max output power	-2 dBm

Ethernet
Layer 2 wirespeed packet switching
Tag-based IEEE 802.1Q VLANs (max 32)
IEEE 802.1Q tag insertion and stripping
Port mirroring of ingress/egress traffic
DHCP client, server and relay
4K MAC address FDB

CATV Fiber to RF Subsystem

Center wavelength	1550 nm
Max input power	0 dBm
Frequency range	47-870 MHz
Gain flatness	-1.5 to +1.5 dBm
CNR	46 dB with -7 dB input power
CTB/CSO	60 dBc
Output level	91 dBuV at 0 dBm optical input and OMI=5%/channel
RF output impedance	75 Ohm typical

WAN Protocols
PPPoE
Global IP address pool
DNS proxy
Static and dynamic IP address assignment

Routing and Multicast
PPP and IP routing
RIPv1 and v2 (future)
IGMPv2, v3
IGMP snooping
IGMP proxy

Security
NAT
Stateful Inspection Firewall
Dynamic port opening
Access Control List
IPSec/VPN pass through
PAP/CHAP authentication

QoS
IEEE 802.1p prioritization
Programmable ingress/egress rate limiting
Four QoS queues per port
DSCP/ToS

VoIP Protocols
SIP 2.0
MGCP/NCS 1.0

VoIP Features
G.711 a-law and μ-law 64kbps
G.729 8kbps
G.726 32kbps
G.168 ECAN 16 msec
T.38 fax relay
RTP voice packet encapsulation
Automatic fax/modem detection
Voice Activity Detection (VAD)
Comfort Noise Generation (CNG)
Packet loss concealment
Adaptive jitter buffer
5 REN
Caller ID
Call transfer
Call forwarding (unconditional, on busy, on no answer)
Call waiting
Call hold
Message waiting
3-way call
DTMF relay
RFC 2833

Management
AlliedView NMS
Telnet
Remote software upgrade
Web GUI
CLI
SNMP v1, v2
TR-069

Status LEDs

Power	
Link	Link/Activity
VoIP	Use/Activity
LAN	Link/Activity

Power Characteristics

Typ power consumption	12 Watts
Max power consumption	18 Watts
External power supply	
Input	100-240V AC, 50-60 Hz
Output	12vDC, 1.5A

Environmental Specifications

Operating temperature	0°C to 40°C (32°F to 104°F)
Max operating humidity	80% relative humidity (non-condensing)
Storage temperature	-20°C to 70°C (-4°F to 158°F)
Max storage humidity	95% relative humidity (non-condensing)

Physical Characteristics

Dimensions (W x D x H)	24 cm x 15 cm x 4.5 cm (9.5 in x 5.9 in x 1.8 in)
Weight	400 g / 14 oz

Approvals
CE and UL marking

Safety	IEC/EN60950-1
	UL 60950-1
	EN60825-1
	CAN/CSA-C22.2
	GR1089 Intrabuilding
Emission	FCC Part 15 Class B
	EMC Directive 2004/108/EC
	EN 55022 Class B
Immunity	EN 55024

Ordering Information

AT-iMG1525RF-xx
FTTH multiservice gateway with POTS
1 x 100/1000BX, 5 x 10/100/1000T, 2 x FXS, 1 x CATV, 1 x USB host, 1 x USB slave (includes a single AT-iMG001 mounting plate and fiber outlet with locking mechanism)

Related Products

AT-iMG001
Fiber outlet with locking mechanism (10 pieces)

AT-iMG008-xx
Battery backup

AT-iMG016
Battery backup cable

Where xx = 10 for U.S. power supply
20 for U.K. power supply
40 for Australian power supply
50 for European power supply

Allied Telesis
the solution : the network

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