

## AT-iMGI525RF

### GIGABIT FTTH MULTISERVICE GATEWAY

The AT-iMGI525RF 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.



The Allied Telesis AT-iMGI525RF 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.

#### Voice over IP

The AT-iMGI525RF 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

### 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

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-iMGI525RF 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-iMGI525RF 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-iMGI525RF 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-iMGI525RF 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-iMGI525RF 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  $\mu$ -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