Allied Telesis™

AT-iMG616RF

Multiservice Gateway with Analog VoIP and Fiber to RF CATV Transceiver

AT-iMG616RF
1 x 100BX, 1 x optical CATV-in,
1 x Coax TV-out, 6 x 10/100TX, 2 x FXS,
1 x Console port

The Multiservice Gateway
The AT-iMG616RF Multiservice Gateways provide multiple IP-based broadband services to the home over a high-speed, always-on broadband connection. The combined delivery of IP Triple Play services - voice, data and video - benefits both service providers and their customers. The AT-iMG616RF integrates a CATV fiber to RF transceiver that receives the video signal and makes it available on a standard F-Type connector (RF). The existing coaxial infrastructure may be fully exploited for video distribution in the house, avoiding the use of an STB.

Voice over IP
The AT-iMG616RF offers 2 FXS ports, leveraging H.323, SIP and MGCP Voice over IP (VoIP) protocols, with interoperability established with major softswitch vendors. The iMG600 family supports the connection of modems and faxes to voice interfaces for business applications in SoHo environments. VoIP QOS is assured through Type of Service bits (ToS), and IEEE 802.1p priority tagging. The addition of silence suppression and local generation of comfort noise results in excellent voice quality.

CATV and IP TV
The onboard CATV fiber to RF transceiver and the advanced Multicast and QoS features make this device the ideal product where a smooth transition between CATV and IP TV is required. The AT-iMG616RF may manage both services at the same time, providing scalability and easy deployment. IGMP snooping enables 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. MPEG video service management and diagnosis is possible through dedicated commands and video quality can be monitored using Allied Telesis' unique MPEG stream monitoring tool.

Data Delivery and Security
The iMG600 family supports industry leading Quality of Service (QoS) through ISO Layer 2 and 3 prioritization techniques including priority tagging with IEEE 802.1p, Type of Service and DSCP fields. The extensive support for per port rate-limiting in the iMG600 series enables service providers to deliver tiered data services for the wide spectrum of end customer profiles, providing maximum flexibility in service differentiation. Security is assured by an integral Stateful Inspection Firewall with NAT and an Intrusion Detection System (IDS) to protect end-users' networks from Denial of Service (DoS), port scanning and Web spoofing.

Management and Deployment
The iMG600 series is designed to be easy to deploy and manage. With the Zero Touch Configurator (ZTC) software platform, the iMG600 series can be remotely provisioned and managed. ZTC is a distributed configuration system providing secure authentication and registration plus intelligent, automatic configuration of remote iMG units. Its XML-based structure enables seamless integration with service providers' existing OSS platforms. In addition, the industry standard TR-069 is fully integrated and provides efficient, scalable and secure provisioning and support for a wide variety of Triple Play services. The Console port allows for local management of the device.

Optical WAN Interfaces
The AT-iMG616RF offers a 100BX single-strand single-mode fiber optic link, allowing the best exploitation of the cabling infrastructure. 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.

Key Features

- Smooth CATV to IPTV migration

- Bi-directional fiber WAN interface

- Fiber to RF CATV transceiver

- Plug-and-play fiber outlet

- H.323, SIP or MGCP VoIP protocol support

- Major softswitch manufacturer compatibility

- Class 5 services

- Support for analog and VoIP phones

- Triple Play ready

- Stateful Inspection Firewall / NAT

- DMZ support

- Access Control List

- Intrusion Detection System: DoS, port scanning and Web spoofing protection

- Zero Touch Configurator and TR-069 support

- RoHS compliant

2002/95/EC
RoHS COMPLIANT

Specifications

Hardware

6 x 10/100TX (RJ45)
2 x VoIP FXS ports (RJ-11)
1 x RF out (female 75-ohm F-type)
1 x Console port
1 x 100BX single-strand single-mode (simplex SC/UPC)
1 x optical CATV receiver (simplex SC/APC)

WAN Optical Interfaces

IEEE 802.3ah : 100BX-U single-strand single-mode:
TX 1310 nm; RX 1550 nm

Max sensitivity	-32 dBm
Max input power	-3 dBm
Max output power	-8 dBm

CATV Fiber to RF Subsystem

Center wavelength	1550 nm
Max input power	3 dBm
Frequency range	47-870 MHz
Frequency response flatness	-2 to +2 dBm
CNR	46 dB with -8 dB input power
CSO	65 dB
CTB	65 dBc
Output level	74 dB_V @ -8 dB input *
	78 dB_V @ -6 dB input *
	86 dB_V @ -2 dB input *
	* Measured with OMI 4%.
RF output impedance	75 Ohm typical

Ethernet

Layer 2 wirespeed packet switching
Tag based IEEE 802.1Q VLANs (Max 512)
IEEE 802.1Q tag insertion and stripping
Port mirroring of ingress/egress traffic
DHCP client, server and relay
4K MAC address FDB
Ingress and egress rate limiting

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
IGMPv2
IGMP snooping
IGMP proxy

Security

NAT
Stateful Inspection Firewall
Dynamic port opening
Intrusion detection and blocking system
Access Control List
IPSec/VPN passthrough
PAP/CHAP authentication

QoS

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

VoIP Protocols

H.323 3.0
SIP 2.0
MGCP/NCS 1.0

VoIP Features

G.711 a-law and µ-law 64kbps
G.729 8kbps
G.726 16/24/32/40kbps
G.168 LEC 8-32 msec
T.38 Fax Relay[1]
RTP voice packet encapsulation
Automatic fax/modem detection
Voice Activity Detection (VAD)
Comfort Noise Generation (CNG)
Error mitigation/bad frame interpolation
Adaptive jitter buffer
5 REN
Caller ID
Call transfer[1]
Call forwarding[1] (unconditional, on busy, on no answer)
Call waiting[1]
Call hold[1]
Message waiting[1]
3-way call (local RTP MUX)[1]
DTMF relay
RFC 2833

[1] protocol dependant

Management

AlliedView NMS
Zero Touch Configurator
TR-069
Telnet
Remote software upgrade
Web GUI
CLI
SNMPv1, v2 and v3

Status LEDs

Power	
System	
WAN	Link/Activity
VoIP	Use/Activity
LAN	Link/Activity
Memory	
RAM:	16 MB
Flash:	4 MB

Power Characteristics

External power supply

Input:	100-240V AC, 50-60 Hz
Output:	12vDC, 1.5A
Typ. power consumption:	10W

Environmental Specifications

Operating temperature	0°C to 40°C
Max operating humidity	80% RH (non-condensing)
Storage temperature	-20°C to 70°C
Max storage humidity	95% RH (non-condensing)

Physical Characteristics

Dimensions (H x D x W)	4.5cm x 15cm x 24cm
Weight	400 gr

Approvals and Certifications

CE and UL marking

Safety	EN 60950
CSA 950/US	
UL 1950	
FCC Part 68	
Emission	FCC Part 15 Class B
	EN55022 Class B
Immunity	EN55024

Ordering Information

AT-iMG616RF-10 (990-000692-10)
1 x 100BX, 1 x optical CATV-in, 1 x Coax TV-out,
6 x 10/100TX, 2 x FXS, 1 x Console port,
U.S. power cord

Options

AT-iMG001 (10 pieces) (990-001044-00)
Fiber outlet with locking mechanism

AT-iMG006G-10 (990-002154-10)
Battery backup

AT-RG007 (990-000324-00)
Battery backup cable

AT-RGCONSOLECABLE (990-011748-00)
Console cable

Connecting The (IP) World

Allied Telesis