Product Specifications

TA04G-F68

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PRODUCT OVERVIEW

1.1 Introduction

TA04G-F68 connects to computer by four Ethernet Ports, either by Wireless.

It is an ideal device for broadband wireless access.

TA04G-F68 supports IEEE 802.11b/g/n, Users could enjoy 270Mbps speed steadily. In security, it supports all-ser of the Wireless Transfers Encrypt Protocol.

It has high performance, standard-based and existence together with general line. It is the best choice of telecommuting、mini-type office and family. It can carry out VOD, ftp, downloading files more quickly than traditional MODEM. Moreover, low cost which it brings also is that we are glad to see.

It supports upload transmission speed up to 1Mbps and download speed up to 8 Mbps (24Mbps for ADSL2+). The setting of the ADSL2/2+ is flexible and convenient.

In function, TA04G-F68 supported 8 PVCs; powerful router function; Diagnosis Function; Multicast Function; PPPoE Function; Real-time listening the status of the network connection; Monitor software.

In manipulation, TA04G-F68 provides one convenient, friendly configuration UI;

In software maintenance, TA04G-F68 may remote upgrade and remote management;

In compatibility, TA04G-F68 is compatible to popular DSLAM absolutely.

1.2 Product Key Feature

1. Support IEEE 802.11b/g/n, Wireless Rate achieve 270Mbps.
2. Support ANSI T1.413 Issue 2; ITU G.992.1 (G.dmt) Annex A,B,C; ITU G.992.2 (G.lite); ITU G.992.3 ADSL2 (G.dmt.bis); ITU G.992.4 ADSL (G.lite.bis); ITU G.992.5 ADSL2+; Extended Reach(READSL2),
3. TA04G-F68 is not only a powerful ADSL modem, but a strong local network router with features of DHCP, DNS and NAPT.
4. Downstream up to 8M for ADSL,24 Mbps for ADSL2+; Upstream up to 1Mbps
5. Routing from WAN to LAN
6. Basic Gateway features such as NAT, DHCP, and DNS. Etc, to provide the capability to construct private network.
7. Firewall
8. IP filter, IP forwarding, IPQos
9. Web-based GUI
10. Support 8 PVCs
11. ATM management features
12. Parent Control

2 HARDWARE ARCHITECTURE

2.1 Hardware Interfaces

- Four RJ-45 ports for 10/100 Base-T Ethernet LAN connection to PC
- One RJ-11 port for connection to WAN (for ADSL Line)
- One reset button to default setting
- One power jack
- One WPS/WIFI button
- One USB2.0

2.2 Main Chipset Information

Item	Vendor	Model # & Edition
CPU	Broadcom	BCM63281T

2.3 LED Definitions

Label / Status	POWER	LAN1-4	WLAN/WPS	USB2.0	LINK	INTERNET
Steady Light	Power on	Ethernet line is connected	1. Client connected, LED will turn off after ca. 2 Minutes 2. wirelsss is connected	USB device is connected	The modem is in good connection	Connected with PC
Flashing	/	/	WPS is searching for new client after pushing WPS/WIFI bottom	/	In handshaking status	/
Fast Flashing	/	Transforming data	Transforming data	Transforming data	/	Transmitting or receiving data
Off	Power off	Ethernet line not connected properly	1.Wireless not connected 2.WPS off	NoUSB device connected	Connection not set up	Not connected with PC property

3 SOFTWARE FEATURES

TA04G-F68 provides the following features:

ADSL		
	T1.413i2, G.992.1 (G.dmt), G.992.2 (G.lite)	
	Annex A (Annex B and C are optional)	
	G.992.3 (G.bis/ADSL2)	ADSL and ADSL2 dual mode PHY
	G.992.5 (ADSL2+)	ADSL2+
	Annex L (Reach Extended ADSL2)	
	Annex M	
ATM		
	PVCs	supports 8 PVCs
	ATM QoS: CBR, rt-VBR, nrt-VBR, UBR-with-PCR, UBR service categories and associated traffic parameters (PCR, SCR, MBS)	
Wireless		
	MAC filter	
	Wireless bridge	
	802.1x/Radius server/Dynamic WEP allocation	Available through special release
	Secure Easy Setup (SES)	
	Multiple SSIDs, QoS/WMM	
Device Configuration, Management and Update		
	Web based GUI	
	Embedded web server	
	Download image via HTTP or tftp client	
	Download image via FTP server	
	Download image via TFTP server	
	Command Line Interface via serial port, telnet, or ssh	added dumpcfg, sntp commands. Added option to tftp, adsl, wan, ppp commands. Upgrade sshd to version 0.46.

	Menu-driven CLI via serial port or telnet	Added dump configuration.
	Universal Plug and Play (UPnP) Internet Gateway Device (IGDv1.0)	V2.14L.02: Upgraded UPnP with latest version. Added support for ADSL IGD. Enable/disable UPnP without reboot.
	SNMP v1/v2c agent	
	SNMP MIBs: rfc2662 ADSL line MIB, rfc2515 ATM MIB, MIB-II	Support GET only except GET/SET for system MIB and ifAdminStatus in ifTable.
	Date/time update from SNTP Internet Time Server	Automatic synchronize date and time with Internet Time Servers and local time zone setup. Display Date/time in device info and syslog. Added SNTP command.
	Daylight saving zone	
	TR-69	Support 273 parameters,digest/certificate/SSL security. Support proprietary parameters implementation without tr69c framework sources
Security		
	Three level login including local admin, local user and remote technical support access	
	Service access control based on incoming interface: WAN or LAN	Access control from LAN or WAN is individually configurable for http, telnet, snmp, ftp, tftp, ssh, icmp
	Service access control based on source IP addresses	Access control based on source IP address for http, telnet, snmp, ftp, tftp, ssh, icmp. Maximum capacity is 16 IP addresses.
	Denial of Service (DOS)	Protect following DOS attacks from WAN/LAN: SYN flooding, IP smurfing, ping of Death, fraggle,- UDP ECHO (port 7) , teardrop, land.
Diagnostics		
	Responds and initiates ATM OAM F4/F5 end-to-end, segment-to-segment loopback tests	
	ADSL BER Test	

	based on idle cell bit error detection	
	PPPoE server discovery	
	Ping DNS server and Default Gateway	
	Statistics display for ADSL PHY, ATM, LAN (USB, Ethernet, 802.11b) and WAN interfaces	Added Ethernet switch port 1 ~ 3 statistics display. V2.14L.02 added WAN interface statistics.
	Diagnostics for multiple PVCs and PPPoE sessions	Removed separate pop-up diagnostics report WEB page for each PVC. Added button to diagnose next PVC or session.
Logging		
	User selectable levels	
	Local display and/or send to remote syslog server or save to file	
	ADSL up/down	
	PPP up/down	
	Intrusion alert	
	Primary DNS server status monitor	
	XML config file failures	Log XML config file parsing failures
Debugging Tools		
	Port Mirroring	Monitor and send mirrored Ethernet frames from/to a WAN interface to a LAN port.
Networking Protocols		
	RFC2684 VC-MUX, LLC/SNAP encapsulations for bridged or routed packet	VC-MUX for any connection type
	RFC2364 PPP over AAL5	RFC2364 LLC/NLPID encapsulation for PPPoA
	802.1q/1p VLAN over RFC2684 Bridge encapsulation	802.1q header insertion toward WAN and de-insertion toward LAN over RFC2684 bridge mode over AAL5. Supports multiple VLANs on multiple PVCs and mapping VLANs, PVCs and physical LAN ports to multiple

		bridges.
	PPPoA	Support AUTO, PAP, CHAP, MS-CHAP authentication Added static IP address assignment.
	PPPoE	Support AUTO, PAP, CHAP, MS-CHAP authentication Added static IP address assignment.
	Multiple PPPoE sessions on single PVC	Allows multiple PPPoE sessions on one PVC.
	PPPoE pass-through	Supports concurrent PPPoE clients inside the modem and PPPoE clients on the LAN devices
	PPPoE - filtering of non-PPPoE packets between WAN and LAN	Previously only filtered non-PPPoE packet from LAN to WAN, now works in both directions.
	Auto-clean-up remote staled PPP sessions at BRAS	Clean up staled PPP sessions (PPPoE and PPPoA) at ISP BRAS after ADSL link goes down then up or after modem reboots, if scratch pad is enabled on top boot flash.
	IPoA	
	MER (a.k.a IP over Ethernet over AAL5)	
	Transparent bridging between all LAN and WAN interfaces	Enabled STP in bridge for LAN interfaces to avoid looping among multiple wireless gateways.
	Second IP address on LAN interface	Only public IP address and no DHCP on second IP address.
	ARP	
	DNS relay	
	DNS server fallback in DNS Relay	Launch dnsprobe process when both primary and secondary DNS's are assigned. Probe primary DNS status and fallback to secondary DNS. When primary DNS is up again, switch back to primary DNS.
	DHCP server	
	DHCP client	
	DHCP Relay	DHCP relay agent for IPoA and MER type of WAN connections.
	NAPT	
	IGMP Proxy	IGMP v1/v2

	IGMP Snooping	IGMPv1/v2 snooping in bridge mode. Added blocking mode.
	RIP v1/v2	Enable RIP over multiple WAN Interfaces
	Dynamic DNS	Automatic update WAN IP address when it is changed to dyndns.org and/or TZO DDNS operator.
	LAN port to VC mapping	Supports traffic mapping between a group of LAN ports to a PVC.
	Ethernet as WAN interface.	Added Ethernet as WAN interface to support PPPoE or IP over Ethernet.
	Multiple Protocol VLAN Mux	Support multiple protocols on single PVC using VLAN ID
	Multiple Service PVC	Support PPPoE, Bridge, and MER services over a single PVC
Packet Level QoS		
	IP/Bridge/802.1p QoS	Supported both routed and bridged mode PVCs for packet level QoS: classification rules, priority queuing using ATM TX queues, IP TOS/Precedence, 802.1p marking. Added DiffServ DSCP marking and src/dest MAC addresses classification.
	CPU resource reservation for local VoIP traffic	manage utilization of the CPU resources to allow better quality of the VoIP calls under heavy data traffic conditions
VPN		
	IPsec VPN(optional)	Support VPN connection to remote VPN gateway.
Firewall/Filtering		
	Stateful Inspection	SPI Fire Wall
	Denial of Service attack	Passed DOS attacks: ARP Attack, Ping Attack, Ping of Death, Land, SYNC, Smurf, Unreachable,Tear Drop
	TCP/IP/Port/interface filtering rules	Support both incoming and outgoing filtering.
	MAC Layer Filtering	Added IGMP in protocol menu. Filter MAC frames based on protocol type, source/destination MAC address, direction
	Day-time Parental Control	
NAPT Configuration		

	Port Triggering	Redesigned WEB UI; added 9 applications in application menu.
	Port forwarding	Redesigned WEB UI with 134 applications in service menu.
	DMZ host	
ALGs		
	H.323	Support Microsoft H.323/NetMeeting.
	TFTP	
	FTP	
	RTSP	Allows Microsoft Windows media player, Real media player, RealOne Player, RealAudio/RealVideo, RealPlayer 8, and QuickTime media player to use UDP transport.
	ICMP	
	IPSec/VPN and IPSec/L2TP	Allow multiple IPsec sessions from LAN to connect to multiple gateways simultaneously. Supports all IPSec transactions using ISAKMP framework for key negotiation and ESP for payload transfer.
	PPTP	
	Microsoft DirectX games ALG (e.g., Age of Empire)	Manual configuration is no longer needed for any DirectX based game.
	Port Triggering	
Proxy (for NAT)		
	SIP Proxy	
Other Applications pass through NAT		
	MSN Messenger file transfer and phone	
	Microsoft Windows Messenger in Windows XP	
	Microsoft Windows Update	
	AOL Instant messenger	
	Yahoo Messenger	
	AT&T Instant Messenger Anywhere	
	ICQ greeting card, message,	

	send/request contact, voice message; chat and send file works if initiator	
	RC Chat Client (mIRC) for chat room between static IP and NAT PC supporting DCC chat and send	
	PCAnywhere Remote, Chat, File Transfer, Clipboard with Port Forwarding on TCP port 5631 and UDP port 6532	
	Age of Empires	
	Star Craft	
	Half Life Team Fortress	
	Diablo II	
	Return to Castle Wolfenstein	
	Quake II/Quake III games	
	Doom	
	Net-to-Phone	
	CuSeeMe 5.00	
	NNTP	
	Talk	
	EverQuest	
	Unreal Tournament	

4 SPECIFICATIONS AND STANDARDS

4.1 Electrical

4.1.1 Power Requirements:

TA04G-F68 uses an AC adapter that can supply DC voltages.

AC power adaptor: 100VAC-240VAC(50HZ/60HZ)

DC voltage: 12V, 700mA

4.1.2 Heat & Power Dissipation

Power: <8.4W

4.2 Environmental

TA04G-F68 complies with the following standards:

- Temperature:

- 0 to ＋55 degrees C (Operating)

- -20 to ＋55 degree C (store status)

- Humidity:

- 10% to 90% (Operating)

- 5% to 95% (store status)

- Vibration: IEC 68-2-36, IEC 68-2-6

- Shock: IEC 68-2-29

- Drop: IEC 68-2-32

FCC Information

This equipment complies with CFR 47, Part 15.19 of the FCC rules. Operation of the equipment is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

This device must not be co-located or operating in conjunction with any other antenna or transmitter

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Federal Communications Commission (FCC) Requirements, Part 15

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

---Reorient or relocate the receiving antenna.

---Increase the separation between the equipment and receiver.

---Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

---Consult the dealer or an experienced radio/TV technician for help.

Regulatory information / Disclaimers

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government

CAUTION: To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use on the supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

MPE Statement (Safety Information)

Your device contains a low power transmitter. When device is transmitted it sends out Radio Frequency (RF) signal.

Safety Information

In order to maintain compliance with the FCC RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use only with supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

FCC Part 68 Statement

This equipment complies with part 68 of the FCC rules. On the rear panel of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for the equipment. If requested, this information must be provided to the telephone company.The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.This equipment uses the following USOC jack: RJC. An FCC-compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant.

This equipment cannot be used on telephone company-provided coin services. Connection to Party Line Service is subject to state tariffs.If this equipment causes harm to the telephone network, the telephone company will notify you in advance that the temporary discontinuance of services may be required. If advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a compliant with the FCC if you believe it is necessary.The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order to maintain uninterrupted service.If the trouble is causing harm to the telephone system, the telephone company may request that you remove the equipment from the network until the problem is resolved.It is recommended that the customer install an AC surge arrestor in the AC outlet to which this device is connected. This is to avoid damaging the equipment by loca lightning strikes and other electrical surges.