

User Manual

DSL5008EN(X)

ADSL2+ 4-Ports 300Mbps Wireless-N

Modem Router

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About the Router

The Aztech DSL5008EN(X) ADSL2+ 4-ports 300Mbps Wireless-N Modem Router with USB Host uses complete Ralink chipset solution that fully complies with ADSL2/ADSL2+ standard. The DSL5008EN supports 2T2R with PHY rate up to 300Mbps.

Targeted at the residential and SOHO users that desires high quality triple play services, it is the ideal solution to provide a 6 in 1 device for both Wired and Wireless connectivity via a ADSL2+ built in modem, Routing functionality for multi-user sharing, double-layer NAT/SPI firewall, 4 port 10/100 AutoMDI/MDIX Managed Switch for video application QoS, high speed IEEE802.11b/g/n Wireless LAN Access point and USB host (optional) for network printing and NAS.

Aztech DSL5008EN is TR-069 compliant. TR-069 is a DSL forum technical specification report that defines the remote control/configuration of CPE from ACS (Auto Configuration Server), TR-069 is also well-known as "CPE WAN Management Protocol". The benefits of TR-069 include, remote management, auto-configuration, dynamic service activation, as well as saving cost on customer support and logistics.

Security is provided via a double Stateful Packet Inspection and NAT based firewall. Hardware accelerated AES/WEP/WPA/WPA2 based encryption/MAC Address Filtering for Wireless links. Multiple session VPN Pass-through and DMZ support provide additional security support for telecommuters as well as allow flexibility while maintaining security against malicious hackers. Dynamic DNS give users the flexibility of hosting a web or an FTP server with various domain names.

With Universal Plug and Play support, home networking becomes a breeze for everyone in the family. Multi Port Range/Popular Application Forwarding makes it even easier to select which application you want your network to allow while ensuring your security at the same time.

Firmware Features

ADSL/ATM

- ANSI T1.413 issue 2, ITU-T G.992.1 (G.dmt) and G.992.2 (G.lite) compliant
- G.992.3 (ADSL2), G.992.5 (ADSL2+), RE-ADSL2(Annex L)
- Annex A, B, I, J and M
- Support Erasure Decoding and Impulse Noise Monitoring
- Embedded hardware ATM AAL-5 SAR supports UBR, UBR+, CBR and VBR and GFR traffics
- Configurable USB2.0 EHCI host or device controller
- PCIe gen1 interface for 802.11a/b/g/n WLAN solution
- Multiple PVC up to 8 support
- Spectral compatibility with POTS
- F4 & F5 OAM Loopback/Send and Receive
- TR100 compliant

Encapsulation

- RFC2684 Bridge and Routed LLC and VC Mux support
- RFC2364 PPPoA Client support
- RFC2516 PPPoE Client support
- RFC2225/RFC1577 Classical IP Support
- Transparent Bridge Support
- PAP/CHAP/MS-CHAP for Password Authentication Support

Network

- Static IP, Dynamic RIP v1/v2 routing support
- IP/TCP/UDP/ICMP/ARP Application Support
- Network Address Translation (NAT)
- PVC to VLAN Mapping (Future release)
- Port Forwarding/Triggering
- Easy setup of Port Forwarding rules for popular Games/Application
- NAT Application Level Gateway for popular applications
- DHCP Server/Relay/client

- DNS Relay Agent
- DMZ support
- SIP ALG (Application Layer Gateway) support
- Multiple Sessions IP Sec and PPTP/L2TP VPN pass through support
- PPP Always on
- PPP Dial on Demand with configurable timeout
- Universal Plug and Play Support
- DDNS (Dynamic DNS) Support
- IGMP Proxy Support (IGMP v1 and v2)
- SNTP Support
- QoS Support (DSCP, TOS), including Diffserv, IEEE802.1p - Priority bit, IEEE802.1q - VLAN triggering
- PPP/DHCP Auto Detection (Future release)
- TR-069 Compliant

Wireless LAN

- 2x2 Wireless on Board
- IEEE 802.11b/g and IEEE 802.11n compliant
- 2T2R Mode with 300Mbps PHY rate for Both Transmit and Receiving
- Transmit output power up to 20dBm (standard)
- Legacy and High Throughput Modes
- 20MHz/40MHz Bandwidth
- Reverse Direction Grant Data Flow and Frame Aggregation
- Frequency Band:
 - 2412 MHz - 2462 MHz (North America/FCC)
 - 2412 MHz - 2472 MHz (ETSI/Europe)
 - 2412 MHz - 2484 MHz (Japan)
 - 2457 MHz - 2472 MHz (France)
 - 2457 MHz - 2462 MHz (Spain)
- Support Direct Sequence Spread Spectrum (DSSS) technology
- Modulation: OFDM with BPSK, QPSK, 16QAM, 64QAM, DBPSK, DQPSK, CCK
- Wireless Media Access Protocol- CSMA/CA with ACK
- WEP 64/128, WPA, WPA2, TKIP, AES
- QoS-WMM, WMM-PS

- WPS support
- Cisco CCX Support (optional)
- Operating Range of >300 Meters (Open Air)
- WDS Support (optional)
- MAC Address Filtering
- Multiple BSSID Support (optional)
- Low Power and Advanced Power Management

Management

- Web Based HTTP management GUI
- TFTP/FTP Support for Firmware Upgrade
- Web Based Firmware Upgrade (Local)
- Soft Factory Reset Button via Web GUI
- Diagnostic Test (DSL, OAM (ADSL), Network (ADSL), Ping Test)
- TR068 - WAN Access
- Telnet with CLI (Read and Write) configuration
- Syslog Support
- Firmware upgrade-able for future feature enhancement
- Quick firmware upgrade button (population option)
- TR-069 (include TR-098, TR-111)
- SNMP v1 and v2
- TR-143
- SSH Support (optional)

Security

- NAT for basic Firewall support
- Packet Filtering Firewall Support
- Stateful Packet Inspection Support
- Protection against Denial of Service attacks
- Password Authentication to Modem
- URL filtering/ Parental Control (optional)
- Real-Time Attack and Alert Logs (optional)

Requirements

Your computer must meet the following minimum requirements.

- Any operating system can be used
- Web Browser
- CDROM drive
- 233MHz processor
- Ethernet network adapter
- An active DSL Internet account

Package Contents









Package contents are listed below. For any missing items, please contact your dealer immediately. Product contents vary for different models.

- Router
- Ethernet cable
- Telephone cable
- POTS Splitter (optional)
- 12V 1.0A DC Power Adapter
- Easy Start Guide
- Resource CD

Device Design



Front Panel

	Label	Icon	Action	Description
1	WIRELESS ON/OFF button/LED		Off Steady green	Wireless interface disabled Wireless interface enabled
2	POWER		Off Steady green Steady red	No power is supplied to the device Connected to an AC power supply Error on the device
3	ETHERNET LAN 1-4		Off Steady green Blinking green	No Ethernet connection Connected to an Ethernet port Transmitting/Receiving data
4	USB Host		Off Steady green	No USB device connected USB device connected
5	WIRELESS		Off Steady green Blinking green	Wireless interface disabled Wireless Interface enabled Transmitting/Receiving data
6	BROADBAND		Blinking green Steady green	Establishing or No DSL signal DSL signal is established
7	INTERNET		Off Steady green Blinking green Steady red	No connection to the Internet Internet connection established Transmitting/Receiving data PPP authentication failed
8	WPS button		Off Blinking green	WPS off or idle WPS association on going

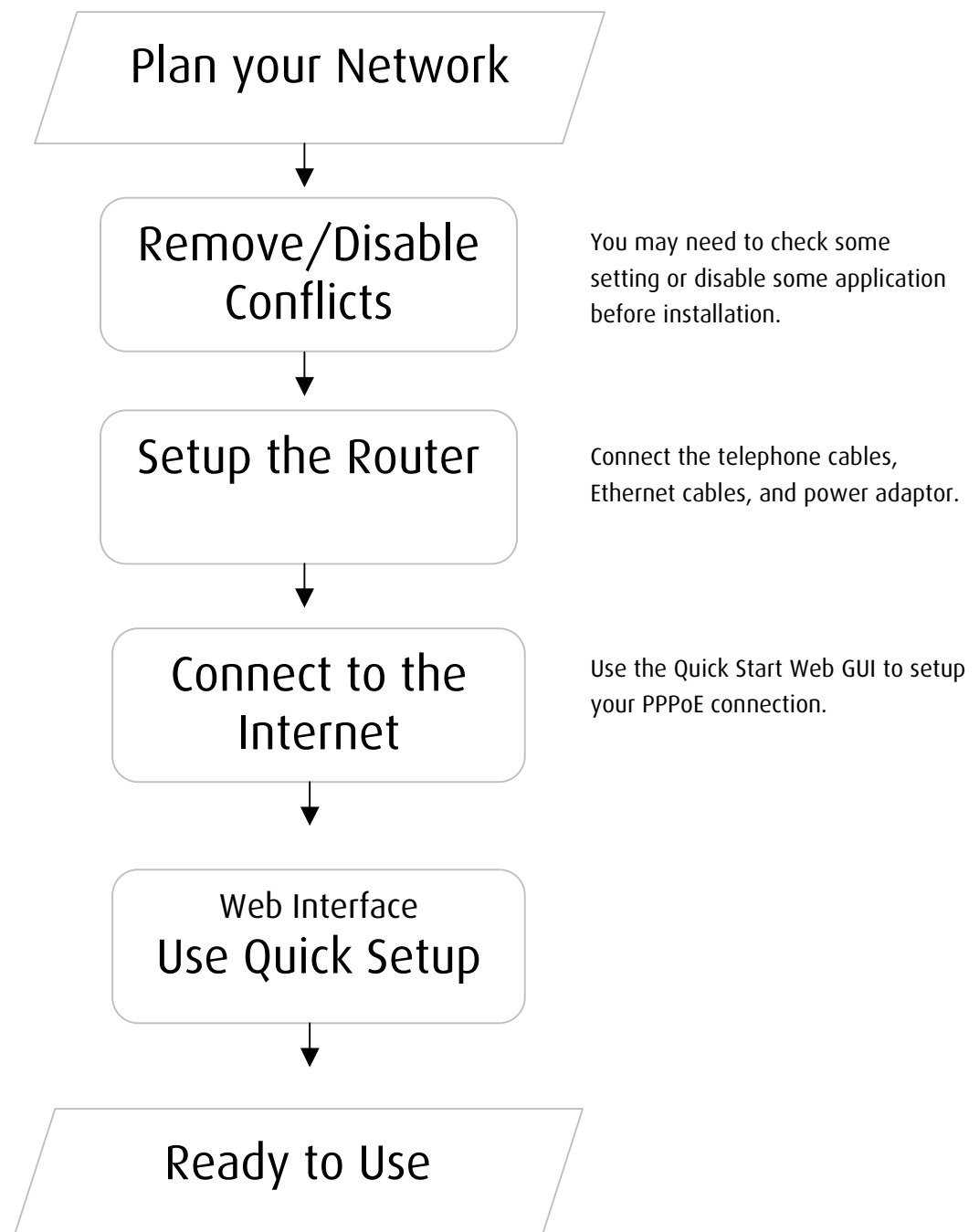
Back Panel



	Label	Description
9	POWER	Power ON/OFF button
10	DC In	12V 1.0A DC Input port
11	RESET	To reset the modem to the factory default configuration
12	USB	For USB devices such as printers and USB external hard drives
13	ETHERNET 1 - 4	Connecting computers and other Ethernet devices
14	BROADBAND	Connecting the modem to an ADSL line

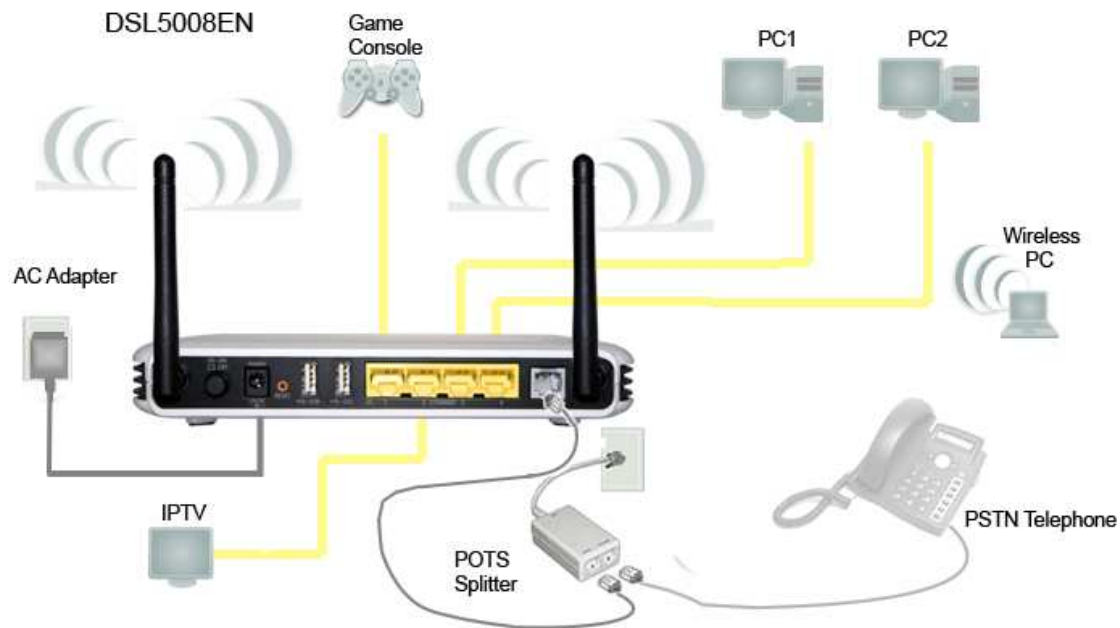
Getting Started

Setting up the device is easy. The flowchart below provides an outline of the steps needed to complete the installation. Brief descriptions appear beside each step. Detailed instructions are provided in the subsequent pages.



Planning Your Network

Before moving ahead to setup your network, it is a good idea to draw out a network diagram to help identify your network devices and plan out how to connect these devices. The illustration below is an example of a network diagram.



Each port in the router can be used for different connections. For example:

- Ethernet 1 – Game Console
- Ethernet 2 – Dad’s Computer (PC1)
- Ethernet 3 – Mom’s Computer (PC2)
- Ethernet 4 – IPTV Set Top Box

To create a network diagram:

- For wireless devices, identify the wireless devices you want to include in the network
- For wired devices, identify which router port you want to use for each device.

Remove or Disable Conflicts

To make sure the router installation moves on smoothly, you need to remove or disable conflicts that may interfere the installation. Probable conflicts may include:

- Internet sharing applications
- Proxy software
- Security software
- TCP/IP settings
- Internet properties
- Temporary Internet files

Internet Sharing, Proxy, and Security Applications

Internet sharing, proxy software, and firewall applications may interfere with the router installation. These should be removed or disabled before start the installation.

If you have any of the following or similar applications installed on your computer, remove or disable them according to the manufacturer's instructions.

Internet Sharing Applications	Proxy Software	Security Software
Microsoft Internet Sharing	WinGate	Symantec
	WinProxy	Zone Alarm

Configuring TCP/IP Settings

Check if your computer uses the default TCP/IP settings.

To check the TCP/IP properties:

1. Select Start > Run. This opens the Run dialog box.
2. Enter control ncpa.cpl and then click OK. This opens the Network Connections in your computer.
3. Right-click LAN and then select Properties. This opens the Local Area Connection Properties dialog box.
4. Select Internet Protocol (TCP/IP) and then click Properties. This opens the Internet Protocol (TCP/IP) dialog box.
5. Select Obtain an IP address automatically.
6. Click OK to close the Internet Protocol (TCP/IP) dialog box.
7. Click OK to close the Local Area Connection Properties dialog box.

Configuring Internet Properties

To set the Internet Properties:

1. Select Start > Run. This opens the Run dialog box.
2. Enter control inetctl.cpl and then click OK. This opens Internet Properties.
3. Click Connections tab.
4. In the Dial-up and Virtual Private Network settings pane, select Never dial a connection.
5. Click OK to close Internet Properties.

Removing Temporary Internet Files

Temporary Internet files are files from Web sites that are stored in your computer. Delete these files to clean the cache and remove footprints left by the Web pages you visited.

To remove temporary Internet files:

1. Select Start > Run. This opens the Run dialog box.
2. Enter control and then click OK. This opens Control Panel.
3. Double-click Internet Options. This opens Internet Options.
4. In the Temporary Internet Files pane, click Delete Cookies.
5. Click Delete Files.
6. Click OK to close Internet Properties.

Setup the Device

When installing the router, find an area where there are enough electrical outlets for the router, the main computer, and your other computer devices.

To setup the router:

1. Plug one end of the Ethernet cable from the router's **ETHERNET** port and then plug the other end into the Ethernet port in your computer.
2. If you have another device you need to connect through wire into the router, use another piece of Ethernet cable. Plug one end of the Ethernet cable from the computer's Ethernet port and then plug the other end into an available Ethernet port in the router.
3. Plug one end of the telephone cable from the POTS Splitter's **ADSL** port and then plug the other end into the router's **DSL** port.

POTS Splitter

Your phone line carries with it both phone calls and Internet signals. When you are using the Internet, the connection produces high-pitched tones that can affect your voice calls when using the phone. Installing a Plain Old Telephone Service (POTS) splitter separates the two signals and eliminates the noise.

To setup a telephone on the POTS Splitter:

- a. Locate the phone jack in your house.
- b. Insert the POTS Splitter into the phone jack.
- c. Plug one end of the telephone cable from the POTS Splitter's **TEL** port and then plug the other end into the telephone.

4. Connect the power adapter from the router's 12V 1.0A DC port into the electrical outlet.
5. Press ON.

Connecting to the Internet

You can use the Web Interface to setup your Internet connection.

Connecting Via Quick Setup

To connect to the Internet via the User mode GUI:

1. Launch the web browser and input 192.168.1.1 on the address bar.
2. Input admin for username and input admin for password. Click the Login button.
3. Click Quick Setup.

Aztech

Advanced Mode Reboot

Home Wizard Quick Setup

Quicksetup [Help]

Region

Language English

Time Zone ((GMT+08:00) Beijing, Hong Kong, Perth, Singapore, Taipei)

NTP Server Custom NTP Server

Custom NTP Server time-b.timefreq.bldrdoc.gov

WAN Connection

Connection Type PPPoE - LLC

User Name aztech

Password *****

VPI 0

VCI 100

Wireless

WLAN Enabled

Broadcast SSID

SSID Aztech_2345

WPA/WPA2 Enabled

Passphrase (8 to 63 characters) 1234567890abcde123456789

Apply Cancel

4. Enter the Region settings.
 - a. Select your Time Zone
 - b. Select an NTP server
5. Enter the WAN connection settings.
 - c. Select a Connection Type
 - d. Enter the PPP Username and Password
 - e. Enter the VPI and VCI configuration (This information will come from your Internet Service Provider)

6. Enter the Wireless Settings.
 - f. Ensure that WLAN Enabled and Broadcast SSID are checked
 - g. Enter your desired Wireless Network Name or SSID
 - h. Put a check on WPA/WPA2 Enabled to setup a secured wireless network
 - i. Enter your desired wireless password or Passphrase
7. Click the Apply button to commit the settings.

To connect to the Internet via the Web Interface Setup Wizard:

1. Launch the web browser and input 192.168.1.1 on the address bar.
2. Input admin for username and input admin for password. Click the Login button.
3. Click Wizard and read the onscreen instructions, then click Next
4. Enter the Region settings.
 - a. Select your Time Zone
 - b. Select an NTP server
5. Enter the WAN connection settings.
 - c. Select a Connection Type
 - d. Enter the PPP Username and Password
 - e. Enter the VPI and VCI configuration (This information will come from your Internet Service Provider)
6. Enter the Wireless Settings.
 - f. Ensure that WLAN Enabled and Broadcast SSID are checked
 - g. Enter your desired Wireless Network Name or SSID
 - h. Put a check on WPA/WPA2 Enabled to setup a secured wireless network
 - i. Enter your desired wireless password or Passphrase
7. Review all the settings on the Summary page.
8. Click the Apply button to commit the settings.

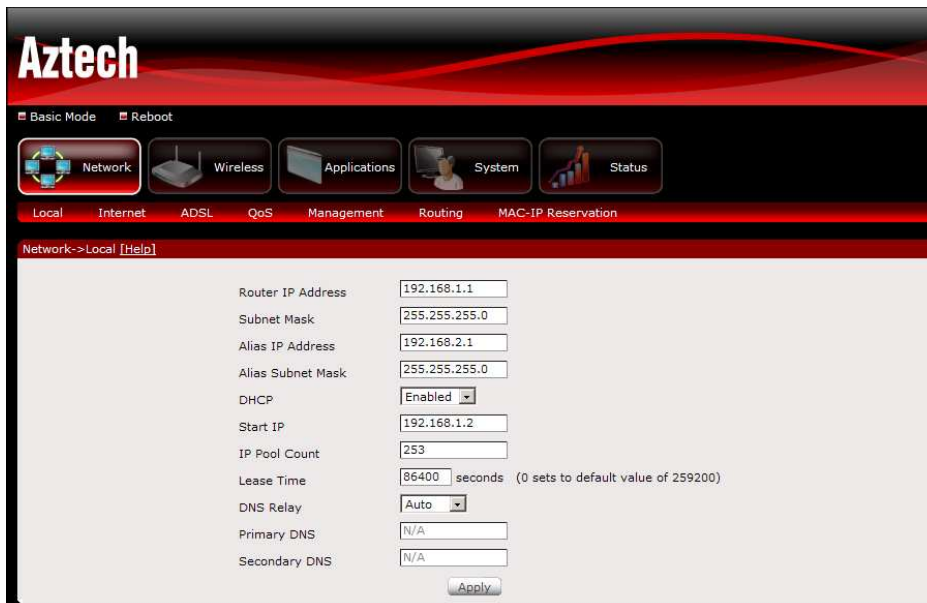
Advanced Setup

Advanced Setup provides configuration options for other router functions.

Accessing the Advanced Web Interface

To access the Advanced Web Interface:

1. Launch your web browser.
2. Input 192.168.1.1 on the address bar and press Enter.
3. There will be an authentication request where you need to key in a username and password. Default Username: admin | Password: admin
4. Click Login
5. Click Advanced Mode



The screenshot displays the Aztech router's web interface. At the top, the 'Aztech' logo is visible. Below it, there are navigation tabs for 'Basic Mode' and 'Reboot'. A main menu contains icons for 'Network', 'Wireless', 'Applications', 'System', and 'Status'. Underneath, a secondary menu lists 'Local', 'Internet', 'ADSL', 'QoS', 'Management', 'Routing', and 'MAC-IP Reservation'. The 'Network->Local' page is active, showing a configuration form with the following fields:

Router IP Address	<input type="text" value="192.168.1.1"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Alias IP Address	<input type="text" value="192.168.2.1"/>
Alias Subnet Mask	<input type="text" value="255.255.255.0"/>
DHCP	<input type="text" value="Enabled"/>
Start IP	<input type="text" value="192.168.1.2"/>
IP Pool Count	<input type="text" value="253"/>
Lease Time	<input type="text" value="86400"/> seconds (0 sets to default value of 259200)
DNS Relay	<input type="text" value="Auto"/>
Primary DNS	<input type="text" value="N/A"/>
Secondary DNS	<input type="text" value="N/A"/>

An 'Apply' button is located at the bottom right of the configuration area.

Menus

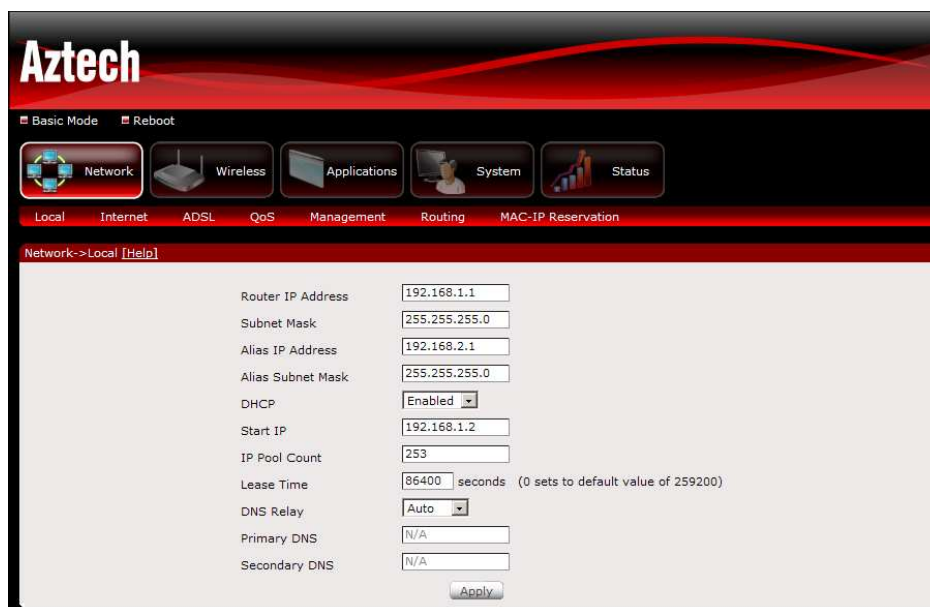
The Web User Interface includes the following menus:

- Network
- Wireless
- Applications
- System
- Status

Network

Local

Configure the DSL Router IP Address and Subnet Mask for LAN interface. You may also configure the DHCP server settings of your router.



Internet

The initial page will show all the settings of your existing WAN connection configured on your router. You have an option to Add and Edit WAN interface configurations.

The screenshot displays the 'Internet' configuration page in a web-based interface. The page is titled 'Network->Internet [Help]' and features a navigation bar with tabs for Local, Internet, ADSL, QoS, Management, Routing, and MAC-IP Reservation. The main content area is divided into two sections: 'ATM Settings' and 'IP common Options'.

ATM Settings:

- Virtual Circuit: PVC 0 (dropdown menu)
- Status: Activated Deactivated
- VPI: 0 (range: 0~255)
- VCI: 100 (range: 1~65535)
- Connection Type: PPPoA/PPPoE (dropdown menu)
- Username: aztprod3@singnetbusin
- Password: [masked]
- Encapsulation: PPPoE LLC (dropdown menu)
- Bridge Interface: Activated Deactivated
- Connection: Always On (Recommended) (dropdown menu)
- Idle Time: [empty] (minutes)
- TCP MSS Option: 0 (bytes(0: default))

IP common Options:

- Default Route: Yes No
- IPv4 Options: Static Dynamic
- Get IP Address: 0.0.0.0
- Static IP Address: 0.0.0.0
- IP Subnet Mask: 0.0.0.0
- Gateway: 0.0.0.0
- NAT: Enable (dropdown menu)
- Dynamic Route: RIP1 (dropdown menu)
- Dynamic Route Direction: None (dropdown menu)
- IGMP Proxy: Enable Disable
- ATM QoS: ubr (dropdown menu)
- PCR: 0 cells/second
- SCR: 0 cells/second
- MBS: 0 cells

An 'Apply' button is located at the bottom of the configuration area.

To add a WAN interface:

1. Select an available Virtual Circuit from the drop-down box
2. Enter VPI/VCI settings (provided by your ISP)
3. Select the WAN Connection Type
4. Enter PPP Username and Password (provided by your ISP)
5. Ensure Default Route is selected as Yes
6. Ensure Get IP Address is set to Dynamic
7. Click the Apply button to commit the settings

To edit an existing WAN interface:

1. Select the Virtual Circuit that you want to Edit from the drop down box
2. Make the necessary amendments
3. Click the Apply button to commit the settings

ADSL Settings

The DSL page allows you to select the modulation, the phone line pair and the capability.



Quality of Service

Quality of Service or QoS provides different priority to different applications, users, or data flows, to guarantee a certain level of performance. For example, QoS is important for real-time streaming multimedia applications such as voice over IP, online games and IPTV to provide fixed bit rate and prevent delay.

Aztech

Basic Mode Reboot

Network Wireless Applications System Status

Local Internet ADSL QoS Management Routing MAC-IP Reservation

Network->QoS [Help]

QoS

Discipline

WRR weight

Highest (valid 1-15)

High (valid 1-15)

Medium (valid 1-15)

Low (valid 1-15)

Rule Index

Active

Application

Physical Ports eth0 eth1 eth2 eth3 ra0

Destination MAC

Dest IP Physical Ports eth0 eth1 eth2 eth3 ra0

Destination MAC

Dest IP

Dest Mask

Dest Port Range ~

Source MAC

Source IP

Source Mask

Port Range ~

Protocol ID

Vlan ID Range ~

IPP/DS Field

IP Precedence Range ~

Type of Service

DSCP Range ~ (Value Range: 0 ~ 63)

802.1p ~

IPP/DS Field

IP Precedence Remarking

Type of Service Remarking

DSCP Remarking (Value Range: 0 ~ 63)

802.1p Remarking

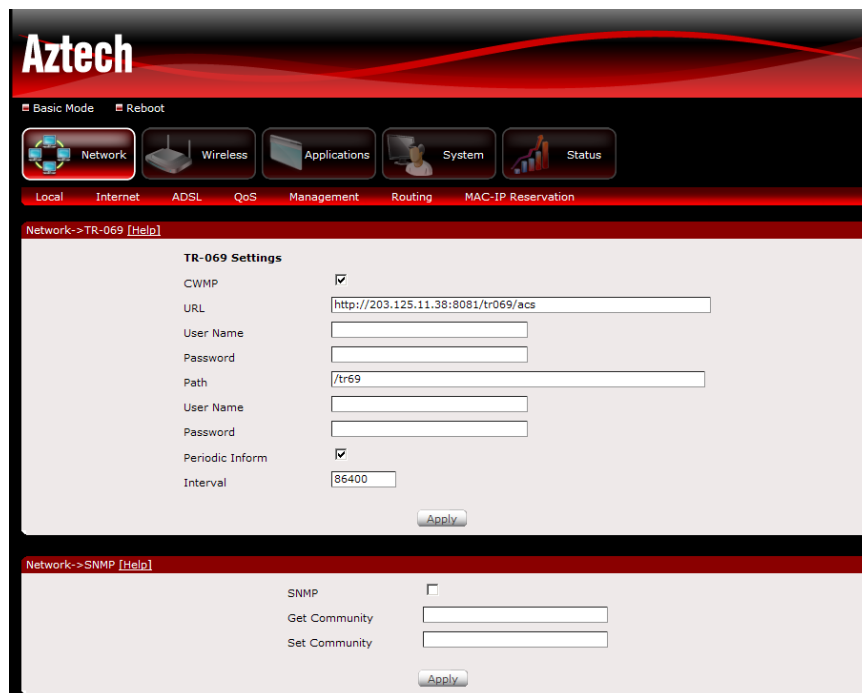
Queue #

Management

TR-069 client – Configuration (CWMP)

WAN Management Protocol (TR-069) allows an Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device.

Select the desired values and click "Apply" to configure the TR-069 client options.



Routing

If your LAN consists of multiple subnets and you want to manually define the data transmitting paths, Static Route is to be used.



The key settings for adding a new Static Route are explained:

Destination Network Address Enter the network address to which the data packets are to be sent.

Subnet Mask Enter the subnet mask for this destination.

Use Gateway IP Address If you wish to use a specific gateway to reach the destination network, select this checkbox and then enter the IP address of the gateway.

Use Interface If you wish to use a particular WAN interface, select the checkbox and select the interface.

Click Save/Apply to take effect the settings.

To delete the entry from the routing table list, click its corresponding Delete button.

MAC-IP Reservation

The initial page allows you to assign a specific IP address to a specific device by entering its MAC address.



To Manually reserve a LAN IP address:

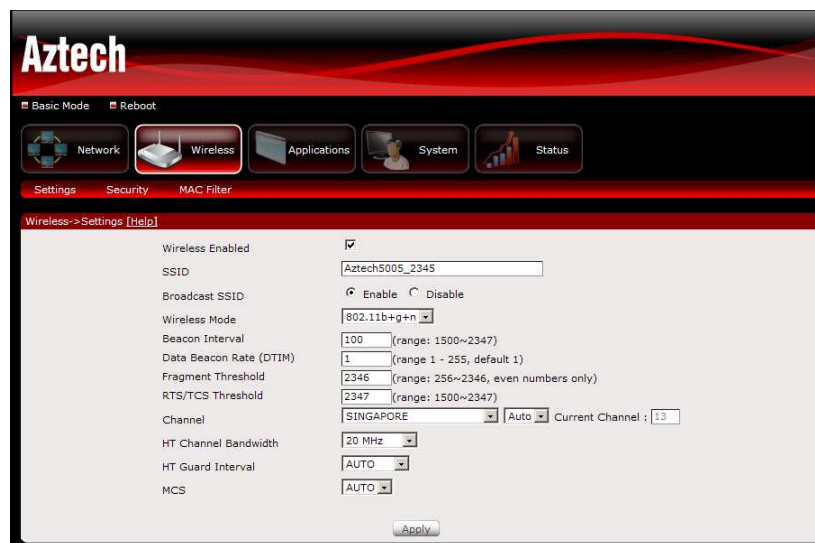
1. Key in the PC's MAC address
2. Key in the LAN IP Address you want to assign
3. Click the Add button

Wireless

Settings

This page allows you to configure basic features of the wireless LAN interface. You can enable or disable the wireless LAN interface, hide the network from active scans, set the wireless network name (also known as SSID), restrict the channel set based on country requirements, and all other configurations relating to the wireless LAN interface.

Click Apply to commit the wireless settings.



Security

This page allows you to set the network authentication method, selecting data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength.

Click "Apply" to commit wireless security settings.

The screenshot shows the Aztech web interface with the 'Wireless' tab selected. The 'Security' sub-tab is active, displaying the 'Wireless->Security [Help]' page. The settings are as follows:

SSID index	1
SSID	Aztech_2345
Security Mode	WPAPSKWPA2PSK
Encryption	TKIPAES
Pre-Shared Key (8~63 characters)	12345678
WPS	<input checked="" type="radio"/> Yes <input type="radio"/> No
WPS state	Configured
WPS mode	<input type="radio"/> PIN code <input checked="" type="radio"/> PBC
WPS progress	Idle

Buttons: Start WPS, Reset to OOB, Apply

MAC Filter

This page allows you to set a filter to Allow or Deny specific wireless clients by entering the MAC address and selecting the Access Control List mode.

The screenshot shows the Aztech web interface with the 'Wireless' tab selected. The 'MAC Filter' sub-tab is active, displaying the 'Wireless->MAC Filter [Help]' page. The settings are as follows:

WLAN MAC Filter	<input type="checkbox"/>
Access Control List Mode (ACL Mode)	Allow
MAC Address 1	00:26:75:37:83:22
MAC Address 2	
MAC Address 3	
MAC Address 4	
MAC Address 5	
MAC Address 6	
MAC Address 7	
MAC Address 8	

Button: Apply

Applications

Port Forwarding

Port Forwarding allows you to direct incoming traffic from the Internet to a specific computer in your local network. A maximum 9 entries can be configured.



As an example, to setup a web server on a computer using 192.168.1.88 as its IP Address, select HTTP as Service and enter 192.168.1.88 as the Server IP Address. Otherwise if the service you want to setup is not available from the Select a Service drop-down list, you can define your own Port Forwarding rule.

IP Filtering

The router supports IP Filtering, which allows you to easily set up rules to control incoming and outgoing Internet traffic. The router provides two types of IP filtering: Outgoing IP Filtering and Incoming IP Filtering. Choose IP from the Rule Type drop down box to configure IP Filtering.

MAC Filtering

The router supports MAC Filtering, which allows you to easily set up rules to control incoming and outgoing Internet traffic. Choose MAC from the Rule Type drop down box to configure MAC Filtering.

#	Active	Interface	Direction	Src Address/ Mask	Dest Address/ Mask	MAC Address	Src Port	Dest Port	Protocol	Block Schedule	Delete
1	Yes	PVC0	Both	192.168.1.2/ 255.255.255.0	0.0.0.0/ 0.0.0.0	N/A	0 ~ 0	0 ~ 0	ALL	Wed 17:00~17:05	
2	Yes	PVC0	Both	N/A/ N/A	N/A/ N/A	00:11:11:B5:FC:95	N/A	N/A	N/A	Wed 17:15~17:20	

Key in the following parameters:

IP Filter Rule Index Select the index of the filter rule.

Interface Select the WAN interface for filter rule.

Direction Select the direction of the filter rule.

Source IP Address/Subnet Mask Enter the IP address of the PC on the LAN to block.

Source Port Enter the port number used by the application to block.

Destination IP Address/Subnet Mask Enter the IP address of the remote server to which connection should be blocked.

Destination Port Enter the destination port number used by the application to block.

Protocol Select the IP protocol to block.

Click Save/Apply to take effect the settings. The new rule will then be displayed in the Outgoing IP Filtering table list.

Click Delete button to delete a corresponding rule.

Blocking Control (Parental Control)

Parental Control allows you to apply router access restrictions among LAN devices within specific times in a day. A maximum of 16 restriction rules can be created.

Key in the following parameters:

Day Click to select the days on which to apply the restriction.

Time Start (Blocking Time) (hh:mm) Enter the time when the restriction will be enabled (00:00 to 23:59).

Time End (Blocking Time) (hh:mm) Enter the time when the restriction will be disabled (00:00 to 23:59).

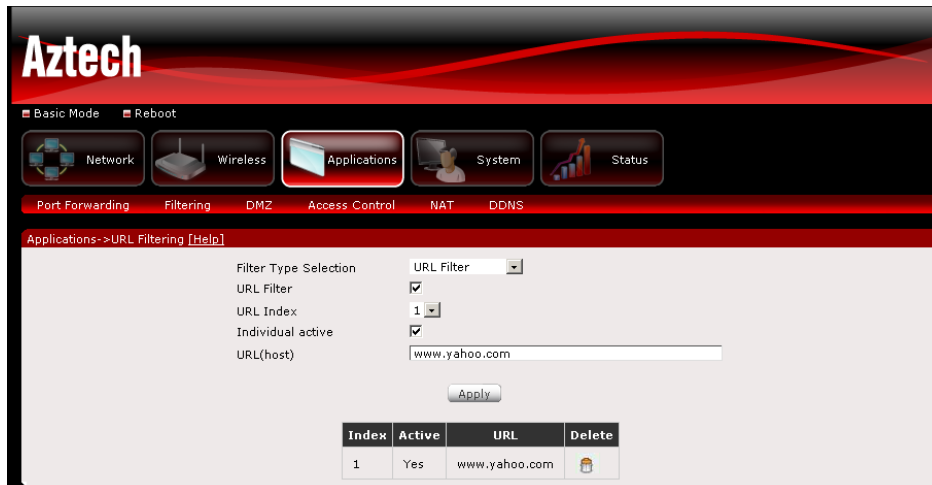
Application Filter

Application Filter provides control on popular applications to be allowed or denied access to local clients. Check the box of applications that you want to allow to be accessed by local clients and uncheck those that you want to deny.



URL Filter

URL Filter enables you to block certain websites. Select a URL Index, activate the service, and enter the URL of the website that you want to block. Click the Apply button to commit the settings. A maximum of 16 entries can be configured.



Click Delete button to delete a corresponding rule.

DMZ Host

If a computer is assigned as a DMZ Host, it will receive all the data from the Internet that do not belong to the list of applications configured in Port Forwarding. Enter the LAN IP address of the PC you wish to set as DMZ Host in the provided box. If you need to disable the DMZ Host, just click the remove button.

Note: DMZ exposes your computer to the Internet and will be vulnerable to malicious attacks.



Access Control

Select which Services to allow and whether to allow from the LAN or the WAN.



Click Delete button to delete a corresponding rule.

NAT (Network Address Translation)

This page allows you to enable/disable NAT on the modem-router.



DDNS

The router offers a Dynamic Domain Name System (DDNS) feature. DDNS lets you assign a fixed host and domain name to a dynamic Internet IP Address. It is useful when you are hosting your own website, FTP server, or other server behind the router.

Before using this feature, you need to sign up for DDNS service providers.

Using DynDNS.org

Key in the following parameters:

Service provider Select www.DynDNS.org.

My Hostname Enter the hostname.

DynDNS Settings Enter your dyndns.org Username and password.



System

Information

Includes hardware and software information of your device, and the current system date and time.



UPnP

This page allows you to enable/disable UPnP feature on the modem-router.



Settings Restore

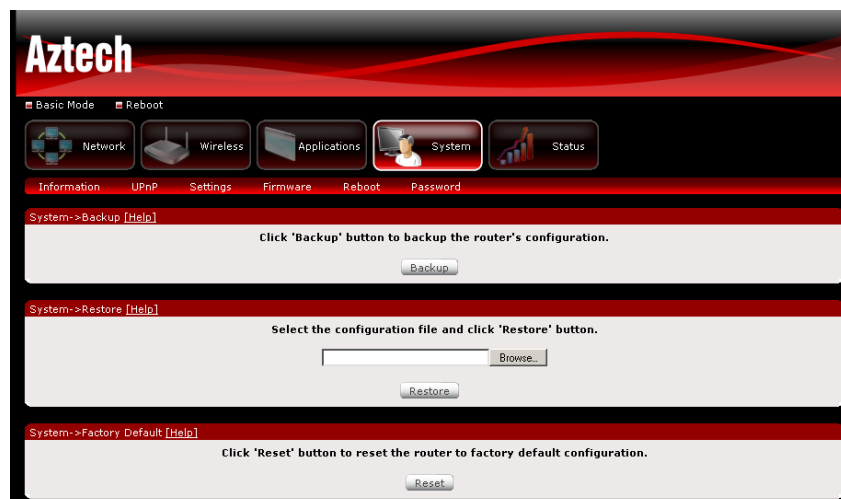
To import a previously saved configuration file from your PC and update the settings of your router, click Browse to locate the romfile.cfg upgrade file. Then click the Restore button.

Settings Backup

To backup the settings as a configuration file saved on your PC, click the Backup button. Select the folder where you want to save the file and key in the file name under which you want to save the settings. Default file name is romfile.cfg.

Restore Default

To restore your router to its factory default settings, click the Reset button. When prompted, click OK.



Firmware Upgrade

Allow you to update the firmware of your router.



To Update the router's firmware:

1. Click Browse
2. Choose the firmware file and click OK
3. Click the Upgrade button

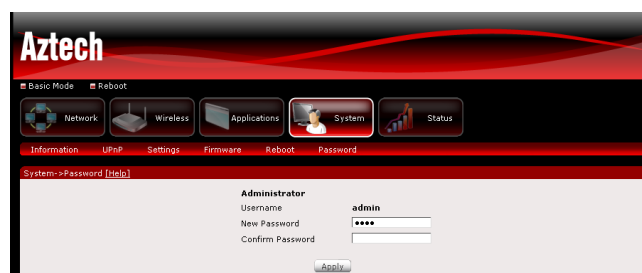
Reboot

This feature allows the router to enable new network configuration to take effect or to clear problems with the router's network connection.



Password Settings

Access to your DSL router is controlled through a login password. You may change the default password on this page.



Status

Device Statistics

The router will show you detailed statistical information regarding the different connections on your router. This will include statistics for ADSL, WLAN and your Local Area Network.



The screenshot shows the Aztech router's web interface. At the top, there are navigation tabs for Network, Wireless, Applications, System, and Status. Below these are sub-tabs for Statistics, ADSL Status, System Log, Diagnostics, and Network Tools. The main content area displays three tables of statistics:

LAN Statistics [Help]

Interface	Packets	Bytes	TX Multicast Frames	Collision	Error Frames	Packets	Bytes	RX Multicast Frames	CRC Errors	Under-size Frames
LAN	126753	49384295	1644	0	0	12787	1870067	627	0	0

ADSL Statistics [Help]

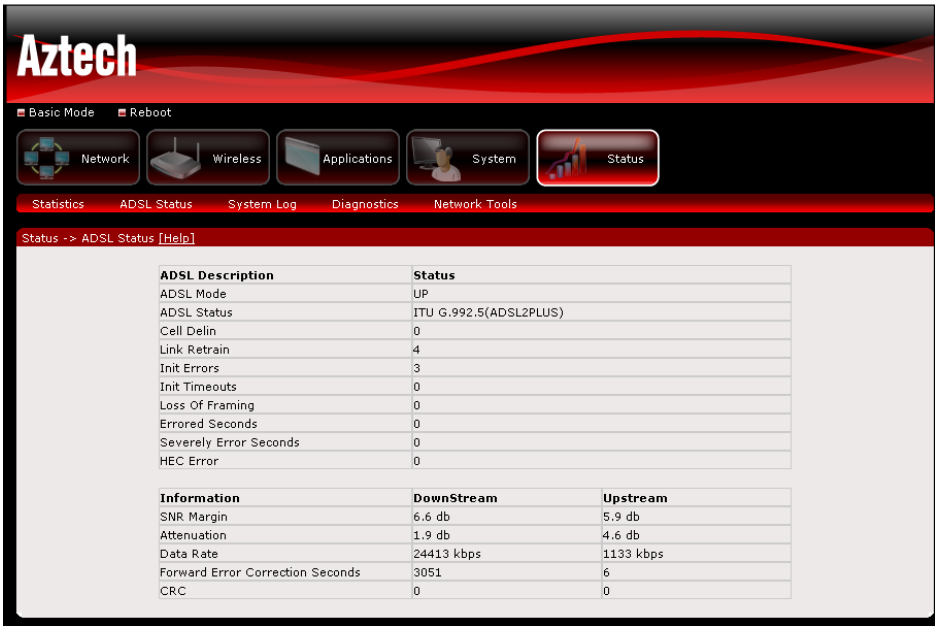
Interface	Packets	TX Bytes	Errors	Blocks	Packets	RX Bytes	Errors	Blocks
ADSL	17	1190	123	N/A	0	0	0	N/A

WLAN Statistics [Help]

Interface	Packets	TX Errors	Dropped	Packets	RX Errors	Dropped
Wireless	3	0	0	1519769	205999	0

ADSL Status

The router shows detailed status information of its DSL connection.



The screenshot shows the Aztech router's web interface with the ADSL Status page selected. The page displays detailed information about the DSL connection:

Status -> ADSL Status [Help]

ADSL Description	Status
ADSL Mode	UP
ADSL Status	ITU G.992.5(ADSL2PLUS)
Cell Delin	0
Link Retrain	4
Init Errors	3
Init Timeouts	0
Loss Of Framing	0
Errored Seconds	0
Severely Error Seconds	0
HEC Error	0

Information	DownStream	Upstream
SNR Margin	6.6 db	5.9 db
Attenuation	1.9 db	4.6 db
Data Rate	24413 kbps	1133 kbps
Forward Error Correction Seconds	3051	6
CRC	0	0

System Log

System log shows detailed information about the processes running in the router.



Aztech

Basic Mode Reboot

Network Wireless Applications System Status

Statistics ADSL Status System Log Diagnostics Network Tools

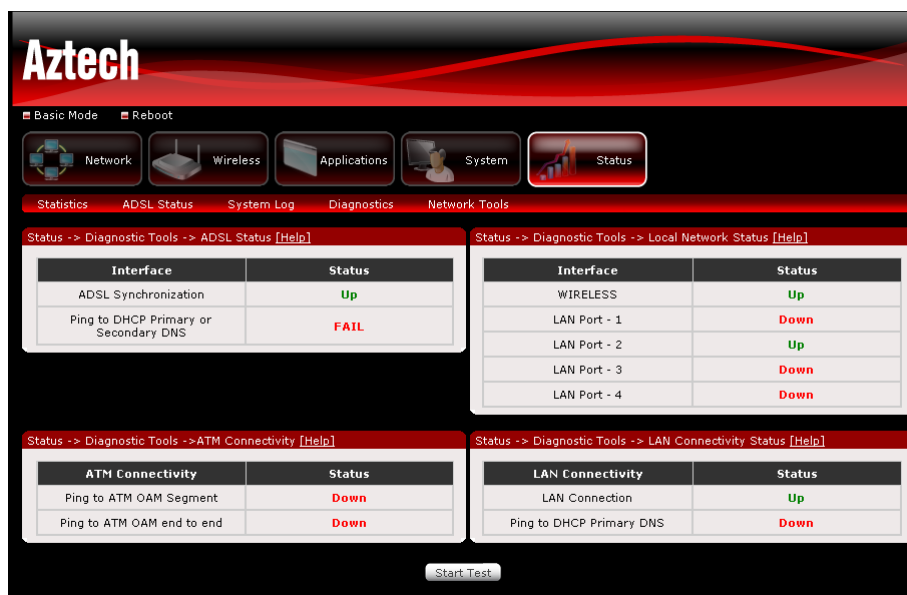
Status -> System Log [Help]

```
Linux version 2.6.22.15 (root@rfdwdev1.aztech.com) (gcc version 3.4.6) #648 Fri Feb 11 14:37:13 SGT
2011
TrendChip TC3162U SOC prom init
Enable IMEM addr=244000
Enable DMEM addr=2ad000
CPU revision is: 0000c001
Determined physical RAM map:
memory: 01000000 @ 00000000 (usable)
On node 0 totalpages: 4096
Normal zone: 32 pages used for memmap
Normal zone: 0 pages reserved
Normal zone: 4064 pages, LIFO batch:0
Built 1 zonelists. Total pages: 4064
Kernel command line: console=ttyS0 rootfstype=squashfs
Primary instruction cache 32kB, linesize 16 bytes.
Primary data cache 8kB, linesize 16 bytes.
Synthesized TLB refill handler (17 instructions).
Synthesized TLB load handler fastpath (31 instructions).
Synthesized TLB store handler fastpath (31 instructions).
Synthesized TLB modify handler fastpath (25 instructions).
PID hash table entries: 64 (order: 6, 256 bytes)
console handover: boot [early0] -> real [ttyS0]
Dentry cache hash table entries: 2048 (order: 1, 8192 bytes)
Inode-cache hash table entries: 1024 (order: 0, 4096 bytes)
Memory: 13212k/16384k available (2224k kernel code, 3172k reserved, 395k data, 136k init, 0k
highmem)
```

Refresh

Diagnostics

Your modem is capable of testing your DSL connection. The individual tests are listed below. If a test displays a fail status, click "Rerun Diagnostic Tests" at the bottom of this page to make sure the fail status is consistent. If the test continues to fail, click "Help" and follow the troubleshooting procedures.



Aztech

Basic Mode Reboot

Network Wireless Applications System Status

Statistics ADSL Status System Log Diagnostics Network Tools

Status -> Diagnostic Tools -> ADSL Status [Help]

Interface	Status
ADSL Synchronization	Up
Ping to DHCP Primary or Secondary DNS	FAIL

Status -> Diagnostic Tools -> Local Network Status [Help]

Interface	Status
WIRELESS	Up
LAN Port - 1	Down
LAN Port - 2	Up
LAN Port - 3	Down
LAN Port - 4	Down

Status -> Diagnostic Tools -> ATM Connectivity [Help]

ATM Connectivity	Status
Ping to ATM OAM Segment	Down
Ping to ATM OAM end to end	Down

Status -> Diagnostic Tools -> LAN Connectivity Status [Help]

LAN Connectivity	Status
LAN Connection	Up
Ping to DHCP Primary DNS	Down

Start Test

Network Tools

Network tools will help you troubleshoot Internet connection problems by verifying your connection.



Safety Precautions

- Do not open, service, or change any component.
- Only qualified technical specialists are allowed to service the equipment.
- Observe safety precautions to avoid electric shock
- Check voltage before connecting to the power supply. Connecting to the wrong voltage will damage the equipment.

FCC Notice

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 or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Aztech could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two 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.

Exposure Information to Radio Frequency Energy

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

15.19:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device does not cause harmful interference.(2)this device must accept any Interference received, including interference that may cause undesired operation.

15.21:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Customer Information

1. This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On bottom of this equipment is a label that contains, among other information, a product identifier of [US:4]2DL01BDSL5085EN]. If requested, this number must be provided to the telephone company.
2. If this equipment [ADSL2+ 4-Ports 300Mbps Wireless-N Modem Router] causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But 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 complaint with the FCC if you believe it is necessary.
3. The telephone company may make changes in this 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 for you to make necessary modification to maintain uninterrupted service.
4. If you experience trouble with this equipment, you disconnect it from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.
5. Please follow instructions for repairing if any (e.g. battery replacement section); otherwise do not alternate or repair any parts of device except specified.
6. Connection to party line service is subject to state tariffs. Contact the state public utility commission public service commission or corporation commission for information.
7. If the telephone company requests information on what equipment is connected to their lines, inform them of:
 - a. The telephone number that this unit is connected to,
 - b. The ringer equivalence number [0.1B]
 - c. The USOC jack required [RJ11C], and
 - d. The FCC Registration Number [US:4]2DL01BDSL5008EN]

Items (b) and (d) are indicated on the label. The ringer equivalence number (REN) is used to determine how many devices can be connected to your telephone line. In most areas, the sum of the RENs of all devices on any one line should not exceed five (5.0). If too many devices are attached, they may not ring properly.

Service Requirements

In the event of equipment malfunction, all repairs should be performed by our Company or an authorized agent. It is the responsibility of users requiring service to report the need for service to our Company or to one of our authorized agents. Service can be facilitated through our office at:

Aztech Labs Inc

4005, Clipper Court, Fremont, CA, 94538.