



ARRIS TG 3442

Touchstone TG3442S Telephony Gateway

User Guide

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Other patents pending.

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Chapter 1

Overview

Introduction

Get ready to experience the Internet's express lane! Whether you're checking out streaming media, downloading new software, checking your email, or talking with friends on the phone, the Touchstone TG3442S Telephony Gateway brings it all to you faster and more reliably. All while providing toll quality Voice over IP telephone service and both wired and wireless connectivity.

The Touchstone TG3442S Telephony Gateway provides four Ethernet connections for use as the hub of your home/office Local Area Network (LAN). The TG3442S also provides 802.11a/b/g/n/ac wireless connectivity for enhanced mobility and versatility. In addition, the TG3442S provides for up to two separate lines of telephone service and provides a USB host for external devices.



Installation is simple and your service provider will provide assistance to you for any special requirements.

Get support

If you need assistance with your ARRIS product, please contact your service provider.

Safety Requirements

The ARRIS Telephony Gateway complies with the applicable requirements for performance, construction, labeling, and information when used as outlined below:



CAUTION

Potential equipment damage

Potential loss of service

Connecting the Telephony Gateway to existing telephone wiring should only be performed by a professional installer. Physical connections to the previous telephone provider must be removed and the wiring must be checked; there must not be any voltages. Cancellation of telephone service is not adequate. Failure to do so may result in loss of service and/or permanent damage to the Telephony Gateway.



CAUTION

Risk of shock

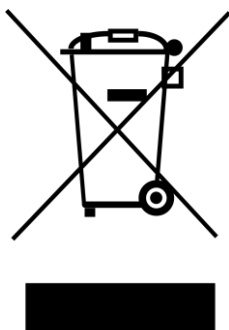
Mains voltages inside this unit. No user serviceable parts inside. Refer service to qualified personnel only!

- Only operate this device in the upright position. If the device is operated while it is lying down, or if the ventilation openings are blocked, the device could be permanently damaged, leading to diminished performance.
- The Telephony Gateway is designed to be connected directly to a telephone.
- Connecting the Telephony Gateway to the home's existing telephone wiring should only be performed by a professional installer.
- Do not use product near water (i.e. wet basement, bathtub, sink or near a swimming pool, etc.), to avoid risk of electrocution.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- The product shall be cleaned using only a damp, lint-free, cloth. No solvents or cleaning agents shall be used.
- Do not use spray cleaners or aerosols on the device.
- Avoid using and/or connecting the equipment during an electrical storm, to avoid risk of electrocution.
- Do not locate the equipment within 6 feet (1.9 m) of a flame or ignition source (i.e. heat registers, space heaters, fireplaces, etc.).
- Use only the AC power adapter (if provided) and power cord included with the equipment.
- Equipment should be installed near the power outlet and should be easily accessible.

- The shield of the coaxial cable must be connected to earth (grounded) at the entrance to the building in accordance with applicable national electrical installation codes. In the European Union and in certain other countries, CATV installation equipotential bonding requirements are specified in IEC 60728-11, *Cable networks for television signals, sound signals and interactive services*, Part 11: Safety. This equipment is intended to be installed in accordance with the requirements of IEC 60728-11 for safe operation.
- If the equipment is to be installed in an area serviced by an IT power line network, as is found in many areas of Norway, special attention should be given that the installation is in accordance with IEC 60728-11, in particular Annex B and Figure B.4.
- In areas of high surge events or poor grounding situations and areas prone to lightning strikes, additional surge protection may be required (i.e. PF11VNT3 from American Power Conversion) on the AC, RF, Ethernet and Phone lines.
- When the Telephony Gateway is connected to a local computer through Ethernet cables, the computer must be properly grounded to the building/residence AC ground network. All plug-in cards within the computer must be properly installed and grounded to the computer frame per the manufacturer's specifications.
- Ensure proper ventilation. Position the Telephony Gateway so that air flows freely around it and the ventilation holes on the unit are not blocked.
- Do not mount the Telephony Gateway on surfaces that are sensitive to heat and/or which may be damaged by the heat generated by the modem, its power supply, or other accessories.

European compliance

The full text of the EU declaration of conformity is available at the following internet address: <http://www.arris.com/consumers/eudoc>.



As indicated by this symbol, disposal of this product or battery is governed by Directive 2012/19/EU of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE). WEEE could potentially prove harmful to the environment; as such, upon disposal of the Telephony Gateway the Directive requires that this product must not be disposed as unsorted municipal waste, but rather collected separately and disposed of in accordance with local WEEE ordinances.

Energy Consumption

In accordance with Ecodesign Directive 2009/125/EC, this device is equipped with a power switch. The following energy consumption figures apply (measured with a wattmeter at the outlet):

Switch State	Power Consumption
OFF	0.075 W
ON	17.0 W (idle) 24.0 W (typical)



Note: In most instances, ARRIS recommends that the power switch remain in the ON position at all times. Turning the switch OFF disables the device, including both data service (wireless and wired) and telephone service. Turning the switch OFF is recommended only during vacations or similar extended absences.

Disabling Wi-Fi

Wi-Fi is automatically enabled on your Telephony Gateway, but you can disable the Wi-Fi operation of your device in your home. If you choose to do so, please complete one the following steps:

1. Via the WebUI of your device, disable the Wi-Fi options.
2. If your service provider operates a community Wi-Fi service that might include your unit, please contact them to disable this service.

Or if you choose, you can simply press the Wi-Fi button on the front of your Telephony Gateway so that the Wi-Fi LED is no longer illuminated.

Wi-Fi can be enabled again by un-doing the foregoing steps.

Chapter 3

Get started

About your new Telephony Gateway

The TG3442S Telephony Gateway is DOCSIS compliant with the following features:

- Speed: much faster than dialup or ISDN service; up to twenty-four times faster than DOCSIS 3.0 cable modems.
- Convenience: supports Ethernet and 802.11a/b/g/n/ac wireless connections; both can be used simultaneously
- Flexibility: provides two independent lines of telephone service as well as high speed data
- Compatibility:
 - Data services: DOCSIS 3.1 compliant and backward-compatible with DOCSIS 3.0, 2.0, or 1.1; supports tiered data services (if offered by your service provider)
 - Telephony services: PacketCable™ 2.0 compliant; SIP and NCS

The TG3442S provides:

- Wireless 802.11a/b/g/n/ac connectivity
- Four Ethernet ports for connections to non-wireless devices
- Up to two lines of telephone service
- Compliancy with DOCSIS 3.1 specifications
- One USB host port

What's in the box

Make sure you have the following items before proceeding. Call your service provider for assistance if anything is missing.

- Telephony Gateway
- Power Adapter and Power Cord
- Ethernet Cable
- EULA (End-User License Agreement)

System requirements

The TG3442S Telephony Gateway operates with most computers. The following describes requirements for each operating system; see the documentation for your system for details on enabling and configuring networking.

To use the Telephony Gateway, you need DOCSIS high-speed Internet service from your service provider. Telephone service requires that the service provider has PacketCable support.

Recommended hardware

The following hardware configuration is recommended. Computers not meeting this configuration can still work with the TG3442S, but may not be able to make maximum use of TG3442S throughput:

- CPU: P4, 3GHz or faster.
- RAM: 1GB or greater.
- Hard drive: 7200 RPM or faster.
- Ethernet: Gig-E (1000BaseT).

Windows

Windows Vista, Windows 7, Windows 8, Windows 10, or Android OS (for mobile devices). A supported Ethernet or wireless LAN connection must be available.

macOS

System 7.5 to Mac OS 9.2 (Open Transport recommended), macOS X, or iOS (for mobile devices). A supported Ethernet or wireless LAN connection must be available.

Linux/Unix

Hardware drivers, TCP/IP, and DHCP must be enabled in the kernel. A supported Ethernet or wireless LAN connection must be available.

About this manual

This manual covers the Touchstone TG3442S Telephony Gateway.

What about security?

Having a high-speed, always-on connection to the Internet requires a certain amount of responsibility to other Internet users—including the need to maintain a reasonably secure system. While no system is 100% secure, you can use the following tips to enhance your system's security:

- Keep the operating system of your computer updated with the latest security patches. Run the system update utility at least weekly.
- Keep your email program updated with the latest security patches. In addition, avoid opening email containing attachments, or opening files sent through chat rooms, whenever possible.
- Install a virus checker and keep it updated.
- Avoid providing web or file-sharing services over your Telephony Gateway. Besides certain vulnerability problems, most service providers prohibit running servers on consumer-level accounts and may suspend your account for violating your terms of service.
- Use the service provider's mail servers for sending email.
- Avoid using proxy software unless you are certain that it is not open for abuse by other Internet users (some are shipped open by default). Criminals can take advantage of open proxies to hide their identity when breaking into other computers or sending spam. If you have an open proxy, your service provider may suspend your account to protect the rest of the network.
- The TG3442S ships with wireless LAN security set by default (for the same reasons that you should run only secured proxies). See the security label on your product for the factory security settings. If you need to modify the default wireless security settings, see *Configuring Your Wireless Connection*.

Ethernet or wireless?

There are two ways to connect your computer (or other equipment) to the Telephony Gateway. The following will help you decide which is best for you:

Ethernet

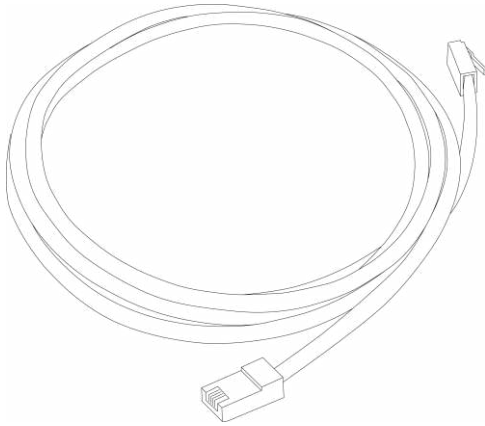
Ethernet is a standard method of connecting two or more computers into a Local Area Network (LAN). You can use the Ethernet connection if your computer has built-in Ethernet hardware.



Note: To connect more than four computers to the TG3442S through the Ethernet ports, you need an Ethernet hub (available at computer retailers).

The Telephony Gateway package comes with one 4-foot (1.2m) Ethernet cable (the connectors look like wide telephone connectors); you can purchase more cables if necessary at a computer retailer. If you are connecting the Telephony Gateway directly to a computer,

or to an Ethernet hub with a cross-over switch, ask for Category 5e (CAT5e) straight-through cable. CAT5e cable is required for gigabit Ethernet (Gig-E), not regular CAT5 cable.



Wireless

Wireless access lets you connect additional (wireless-capable) devices to Telephony Gateway. The 802.11 wireless LAN standard allows one or more computers to access the TG3442S using a wireless (radio) signal. These connections are in addition to the connections supported via Ethernet. Please note the device SSID and Wi-Fi security key can be found on the label which is located underneath the TG3442S device.



Note: You can use the wireless connection if your computer has a built-in or aftermarket plug-in wireless adapter. To learn more about which wireless hardware works best with your computer, see your computer dealer.

Both

If you have two or more computers, you can use Ethernet for up to four devices and wireless for the others. To connect five or more computers to the Ethernet ports, you will need an Ethernet hub (available at computer retailers.)

Connect Your WPS-Enabled Wireless Device

You can use the Wi-Fi Protected Setup (WPS) button on the Telephony Gateway to connect your WPS-enabled wireless devices to your wireless network. WPS automatically assigns a random wireless network name (SSID) and Wi-Fi Security Key (password) to the TG3442S and other WPS-enabled wireless devices to connect to your wireless network. See for more information on setting up WPS on your wireless network.



Note: To use the WPS Pairing button option, your computer hardware must support WPS and also have WPA security compatibility.

1. Power ON the Telephony Gateway and your other WPS-enabled wireless devices that you want to connect to your wireless network.
2. Press and hold the WPS button located on the top of the TG3442S for five to 10 seconds and then release (see Product Overview for the Telephony Gateway front view).

3. If applicable, press the WPS button on your WPS-enabled computer or other WPS-enabled wireless device.

Repeat step 3 for each additional WPS-enabled wireless device that you want to connect to your wireless network.

Install, connect and configure your Telephony Gateway



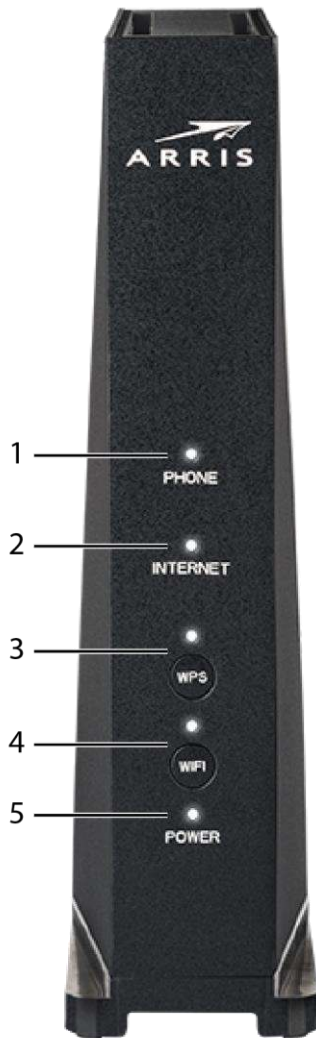
CAUTION

Risk of equipment damage

Only qualified installation technicians should connect the Telephony Gateway to house wiring. Incumbent telephone service must be physically disconnected at the outside interface box before making any connections.

Front panel

The front of the TG3442S has the following indicators.



1. **Phone:** indicates the status of the telephone line.
2. **Internet:** indicates internet data transmission status.
3. **WPS button/LED:** begins associating the Telephony Gateway with a wireless device. The LED indicates that Wireless Protected Setup (WPS) is active.
4. **WiFi button/LED:** switches the wireless LAN on or off. The LED indicates the status of the wireless LAN.
5. **Power:** indicates whether power is available to the Telephony Gateway.



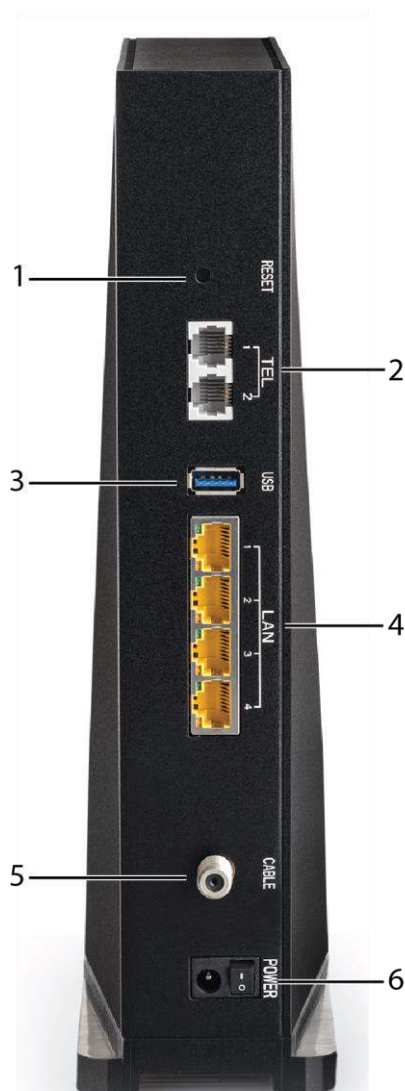
Important: When the LEDs sequence one by one to ON and OFF, the Telephony Gateway is performing a software update. Do not remove the mains power during this time.



Note: During normal operation, only the Phone, Internet, Power, and Wi-Fi lights will be lit.

Rear panel

The rear of the Telephony Gateway has the following connectors and controls.



1. **Reset button:** resets the Telephony Gateway as if you power cycled the unit. Use a pointed non-metallic object to press this button.
2. **Tel (1 - 2):** connectors for phone lines.
3. **USB:** USB host connector - future support for external USB devices
4. **Ethernet (1 - 4):** connectors for use with a computer LAN port.
5. **Cable:** connector for the coaxial cable.

6. **Power:** connector for the power cord.

Access the configuration interface

Before you begin, you should set up the TG3442S as described in Install and connect your Telephony Gateway.

1. If security has been properly set up on your computer to access the wireless LAN on the TG3442S, use the connection utility for your operating system to connect to the wireless LAN using its network name (SSID).
2. If you cannot access the wireless LAN, you must first establish a wired Ethernet connection between your computer and the TG3442S.
3. Open a web browser and navigate to <http://192.168.0.1/> to access the wireless router setup.

The Login screen appears.



Note: The configuration interface enters a username automatically. You will be able to choose a password the first time that you access the configuration interface.

4. Follow the instructions on the screen to enter a password

The System Basic Setup screen appears.



Note: Most configuration parameters that you may want to set can be accessed on the System Basic Setup screen, including the security mode and setting a system password.

Web UI Login

ARRIS TG3442S uses a wizard to help end-users configure the device UI password and Wi-Fi Network (such as SSID, Security, etc). The below steps and UI pictures can help guide end-users to how setup the Wi-Fi Network.

This wizard provides recommendations towards the end-user on how to configure the New Password.

Step 1 of 3

To configure your home network, we need some basic information

New Password:

Password must contain at least one number!

Re-enter New Password:

This is a required field.

Step 1 of 3

To configure your home network, we need some basic information

New Password:

Re-enter New Password:

Please enter the same value again.

To proceed, the end-user shall enter the code and press “Next Step”. Please note the code as shown below is illustrative. Please enter the code as shown on the wizard of your own TG3442S device.

Step 1 of 3

To configure your home network, we need some basic information

New Password:

Re-enter New Password:

Show Typed Password: ☐

Password requirements

- Minimum 8 characters
- At least one uppercase alpha character
- At least 1 number
- One of '~', '!', '@', '#', '\$', '%', '&', '*', '^', '(', ')', '_', '=', '+', '[', ']', '{', '}', '~', '!', '@', '#', '\$', '%', '&', '*', '^', '(', ')', '_', '=', '+', '[', ']', '{', '}', '~', '!', '@', '#', '\$', '%', '&', '*', '^', '(', ')', '_', '=', '+', '[', ']', '{', '}', '~', '!', '@', '#', '\$', '%', '&', '*', '^', '(', ')', '_', '=', '+', '[', ']', '{', '}', '~', '!', '@', '#', '\$', '%', '&', '*', '^', '(', ')', '_', '=', '+', '[', ']', '{', '}', ~

Please type this CAPTCHA code or click on it for a new code:

XHWZ

XHWZ

NEXT STEP

To configure the Wi-Fi network, complete the wizard below:

Step 2 of 3

We need to configure your wireless network. Note that your network can be accessed by both 2.4 GHz (Wi-Fi B, G, N) and 5 GHz (Wi-Fi A, N) compatible devices.

Wi-Fi Network Name (2.4 GHz)	ARRIS-D99A
Encryption Method (2.4 GHz)	WPA2-PSK (AES)
Network Password (2.4 GHz)	rTUXtxHfVXMy
Wi-Fi Network Name (5 GHz)	ARRIS-D99A-5G
Encryption Method (5 GHz)	WPA2-PSK (AES)
Network Password (5 GHz)	rTUXtxHfVXMy

NEXT STEP

Next, click the “Next Step” button. The user can configure the TG3442S manually to a specific time zone or automatic. When set to automatic, the TG3442S will synchronize time and date automatically through the network.

Step 3 of 3

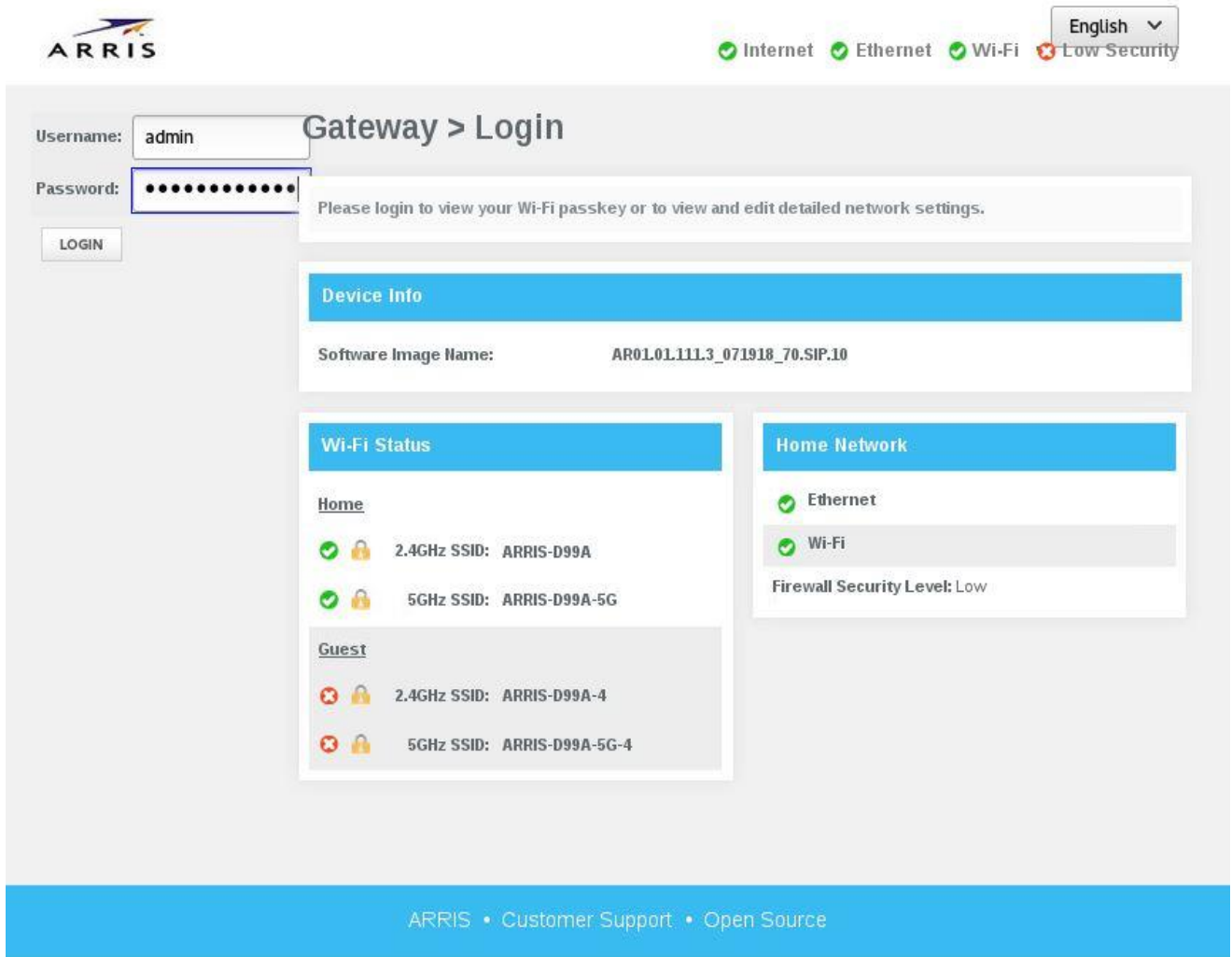
Choose the timezone from the list or let the network set it automatically

Time Zone Selection: ☒ Automatic ☐ Manual

Time Zone: Canada/Atlantic

FINISH

Next, click on “Finish” and the home page UI will open which enables the end-user to login through the WebUI.



The screenshot shows the ARRIS Gateway > Login page. At the top left is the ARRIS logo. At the top right, there are status indicators: Internet (green check), Ethernet (green check), Wi-Fi (green check), and Low Security (red X). A language dropdown menu is set to English. The main login area has a 'Username:' field with 'admin' and a 'Password:' field with masked characters. A 'LOGIN' button is below the password field. A message box says 'Please login to view your Wi-Fi passkey or to view and edit detailed network settings.' Below this are three panels: 'Device Info' showing 'Software Image Name: AR01.01.111.3_071918_70.SIP.10', 'Wi-Fi Status' with 'Home' and 'Guest' sections showing SSIDs and their status (locked/unlocked), and 'Home Network' showing 'Ethernet' and 'Wi-Fi' status and 'Firewall Security Level: Low'. The footer contains 'ARRIS • Customer Support • Open Source'.

ARRIS

Internet Ethernet Wi-Fi Low Security

English

Gateway > Login

Username: admin

Password:

LOGIN

Please login to view your Wi-Fi passkey or to view and edit detailed network settings.

Device Info

Software Image Name: AR01.01.111.3_071918_70.SIP.10

Wi-Fi Status

Home

2.4GHz SSID: ARRIS-D99A

5GHz SSID: ARRIS-D99A-5G

Guest

2.4GHz SSID: ARRIS-D99A-4

5GHz SSID: ARRIS-D99A-5G-4

Home Network

Ethernet

Wi-Fi

Firewall Security Level: Low

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Parental Control (URL/Content filtering)

The TG3442S provides parental control capability by enabling the user to block content-based URL and or prohibit searches for specific Keywords. URL and keywords searches can be set permanently or be time based.

Parental Control > Managed Sites

Manage access to specific websites by network devices.

[more](#)

Managed Sites:

Enable

Disable

Blocked Sites

+ADD

URL

When

Blocked Keywords

+ADD

Keyword

When

Auto-Learned Devices

	Device Name	IP	Trusted
1	ARRIS_VAP4402	192.168.0.81/NA	No Yes
2	SAL-CY9X262	192.168.0.245/NA	No Yes

Edit Site to be Blocked

URL:

Always Block?

No

Yes

Set Blocked Time

Start from:

12 00 AM

End on:

12 00 AM

Set Blocked Days

[Select All](#) | [Select None](#)

- ☐ Monday
- ☐ Tuesday
- ☐ Wednesday
- ☐ Thursday
- ☐ Friday
- ☐ Saturday
- ☐ Sunday

SAVE

CANCEL

Edit Site to be Blocked

URL:

Always Block?

No

Yes

Set Blocked Time

Start from:

12 00 AM

End on:

4 00 PM

Set Blocked Days

[Select All](#) | [Select None](#)

- ☐ Monday
- ☒ Tuesday
- ☐ Wednesday
- ☒ Thursday
- ☐ Friday
- ☐ Saturday
- ☐ Sunday

SAVE

CANCEL

The examples below show how to block searches based on a specific keyword:

Add Keyword to be Blocked

Keyword:

Always Block?

Set Blocked Time

Start from:

End on:

Set Blocked Days

[Select All](#) | [Select None](#)

☒ Monday

☒ Tuesday

☒ Wednesday

☒ Thursday

☒ Friday

☒ Saturday

☒ Sunday

Add Keyword to be Blocked

Keyword:

Always Block?

Set Blocked Time

Start from:

End on:

Set Blocked Days

[Select All](#) | [Select None](#)

☒ Monday

☐ Tuesday

☒ Wednesday

☐ Thursday

☒ Friday

☐ Saturday

☒ Sunday

Port Forwarding

Port forwarding is an application of network address translation (NAT) that redirects a communication request from one address and port number combination to another while the packets are traversing a network gateway, such as the TG3442S. The examples as below show how port forwarding can be setup on the TG3442S.

Port Forwarding:

Enable

Disable

Port Forwarding

+ADD SERVICE

Service Name	Service Type	Start Port	End Port	Server IPv4	Server IPv6	Active
--------------	--------------	------------	----------	-------------	-------------	--------

Add Port Forward

Common Service: AIM

Service Type: TCP/UDP

Server IPv4 Address:

Server IPv6 Address:

0000

Start Port:

5190

End Port:

5190

Select a device to add IPv4 and IPv6 address

CONNECTED DEVICE

SAVE

CANCEL

Once the pre-defined or customized service (by setting a specific protocol port range) has been configured, the end-user should next physically connect the LAN device to the TG3442S port and click on “ADD” button.

Select From Below Connected Devices

Device Name	IPv4 Address	IPv6 Address	ADD
SAL-CY9X262	192.168.0.245		<input type="radio"/>

ADD

CLOSE

NTP

TG3442S supports NTP (Network Time Protocol) which enables the TG3442S to synchronise time with a network based NTP source. Up to 3 timeservers can be configured.

Router Time

Router Time: 8/16/2018 7:27:13 PM

Time Server

Enable Time Server

Enable

Disable

Time Server:

Time Server:

Time Server:

SAVE TIME SERVERS

Time Zone

Time Zone Selection:

☒

Automatic

☐

Manual

Time Zone

Canada/Atlantic ▼

SAVE TIME ZONE

UPnP

UPnP is networking functionality, often used by gamers and online gaming applications, which automatically opens or closes specific ports.

Device Discovery

UPNP:

Advertisement Period: minutes

Time To Live: hops

Zero Config:

DMZ

DMZ is a physical or logical subnetwork that contains and exposes an organization's external-facing services to the Internet. The purpose of a DMZ is to add an additional layer of security to an organization's local area network (LAN). An external network can access those IPv4 or IPv6 hosts exposed in the DMZ, while the rest of the organization's network is firewalled.

DMZ

DMZ:

DMZ v4 Host: . . .

DMZ v6 Host: : : : : : : :

Service/Mac Filtering

ARRIS TG3442S enables end-users to manage services and devices connected to the LAN Network.

Managed Services

Enable

Disable

Blocked Services

+ADD

Services	TCP/UDP	Starting Port	Ending Port	When
----------	---------	---------------	-------------	------

Auto-Learned Devices

	Device Name	IP	Trusted
1	ARRIS_VAP4402	192.168.0.81/NA	<div>No</div> <div>Yes</div>
2	SAL-CY9X262	192.168.0.245/NA	<div>No</div> <div>Yes</div>

Add Service to be Blocked

User Defined Service:

Protocol:

TCP

Start Port:

End Port:

Always Block?

No

Yes

Set Blocked Time

Start from:

12

00

AM

End on:

11

59

PM

Set Blocked Days

Select All | Select None

☒ Monday

☒ Tuesday

☒ Wednesday

☒ Thursday

☒ Friday

☒ Saturday

☒ Sunday

SAVE

CANCEL

Within the “Managed Devices” section of the UI end-users can allow or block broadband service for all or selective devices permanently or for a configurable time window.

Managed Devices

Managed Devices:

Access Type:

Blocked Devices

Device Name	MAC Address	When Blocked
-------------	-------------	--------------

Add Device to be Blocked

Set Blocked Device

Auto-Learned Devices:

Device Name	MAC Address
<input type="radio"/> ARRIS_VAP4402	0c:ea:c9:e1:09:3e
<input type="radio"/> SAL-CY9X262	AC:FD:CE:E6:54:A6

Custom Device:

Device Name	MAC Address
<input checked="" type="radio"/> <input type="text"/>	<input type="text"/>

Always Block?:

Set Blocked Time

Start from:

End on:

Set Blocked Days

[Select All](#) | [Select None](#)

☒ Monday

☒ Tuesday

☒ Wednesday

☒ Thursday

☒ Friday

☒ Saturday

☒ Sunday

LAN Configuration

This section outlines how to configure the DHCP Server IPv4 and IPv6 configuration. It includes IP subnet range, default GW and DNS server IP address configurations.

IPv4

Gateway Address: 192 . 168 . 0 . 1

Subnet Mask: 255.255.255.0 ▼

DHCP Beginning Address: 192 . 168 . 0 . 2

DHCP Ending Address: 192 . 168 . 0 . 253


DHCP Lease Time: 1 Hours ▼

Enable DNS Relay: ☒ Enabled

LAN DNS: ☒ Obtained automatically ☐ Statically configured

Primary DNS Server: . . .

Secondary DNS Server: . . .

Please type this CAPTCHA code
or click on it for a new code:

Type CAPTCHA Here

SAVE SETTINGS

IPv6

Link-Local Gateway Address: fe80 : 0 : 0 : 0 : 361f : e4ff : fedc : dc0f

Global Gateway Address: : : : : : : :

LAN IPv6 Address Assignment

☒ Stateless (Auto-Config) ☒ Stateful (Use DHCP Server)

DHCPv6 Beginning Address: : 0 : 0 : 0 : 0 : 0 : 0 : 0002 /64

DHCPv6 Ending Address: : 0 : 0 : 0 : 0 : 0 : 0 : fffe /64

DHCP Lease Time: 1 Weeks ▾

Enable DNS Relay: ☒ Enabled

LAN DNS: ☒ Obtained automatically ☐ Statically configured

Primary DNS Server: : : : : : : :

Secondary DNS Server: : : : : : : :

SAVE SETTINGS

LAN Ethernet Port 1	LAN Ethernet Port 2
Port: <input type="button" value="Enable"/> <input type="button" value="Disable"/>	Port: <input type="button" value="Enable"/> <input type="button" value="Disable"/>
Link Status: Inactive	Link Status: Inactive
MAC Address: 34:1f:e4:dc:dc:0f	MAC Address: 34:1f:e4:dc:dc:0f
Connection Speed: <input type="button" value="Auto"/> Mbps	Connection Speed: <input type="button" value="Auto"/> Mbps
Energy Efficient Ethernet: <input type="button" value="Enable"/> <input type="button" value="Disable"/>	Energy Efficient Ethernet: <input type="button" value="Enable"/> <input type="button" value="Disable"/>
Duplex Mode: <input type="button" value="Full"/>	Duplex Mode: <input type="button" value="Full"/>
<input type="button" value="Save"/>	<input type="button" value="Save"/>

LAN Ethernet Port 3	LAN Ethernet Port 4
Port: <input type="button" value="Enable"/> <input type="button" value="Disable"/>	Port: <input type="button" value="Enable"/> <input type="button" value="Disable"/>
Link Status: Inactive	Link Status: Inactive
MAC Address: 34:1f:e4:dc:dc:0f	MAC Address: 34:1f:e4:dc:dc:0f
Connection Speed: <input type="button" value="Auto"/> Mbps	Connection Speed: <input type="button" value="Auto"/> Mbps
Energy Efficient Ethernet: <input type="button" value="Enable"/> <input type="button" value="Disable"/>	Energy Efficient Ethernet: <input type="button" value="Enable"/> <input type="button" value="Disable"/>
Duplex Mode: <input type="button" value="Full"/>	Duplex Mode: <input type="button" value="Full"/>
<input type="button" value="Save"/>	<input type="button" value="Save"/>

The TG3442S supports the option to limit the LAN port connection speed and duplex mode.

Dynamic DNS

One common feature is Dynamic DNS. ARRIS TG3442S supports both a pre-defined list of DynDNS servers and enables users to configure a customized DNS hostname.

Dynamic DNS:

Dynamic DNS				+ ADD DDNS
Service Provider	Username	Password	Host Name(s)	
Dynamic DNS				
Service Provider:	<div>DynDns.org ▼</div>			
Username:	<div></div>			
Password:	<div></div>			
Host Name:	<div></div>			
<div>ADD</div>				
<div>SAVE SETTINGS</div>		<div>CANCEL SETTINGS</div>		

Factors that affect wireless range

Several factors can affect the usable range for wireless connections.

Increases range	<ul style="list-style-type: none">■ Raising the unit above the devices (for example, installing the Telephony Gateway in the upper floor of a multi-story dwelling)■ Adding a wireless extender to the network
Decreases range	<ul style="list-style-type: none">■ Lowering the unit below the devices (for example, installing the Telephony Gateway in a basement)■ Metal or concrete walls between the Telephony Gateway and other devices■ Large metal appliances, aquariums, or metal cabinets between the Telephony Gateway and other devices■ Interference and RF noise (2.4 GHz wireless phones, microwave ovens, or other wireless networks)



Note: Note that decreasing the range of your wireless network may be beneficial, as long as the decreased range is sufficient for your needs. By limiting your network's range, you reduce interference with other networks and make it harder for unwanted users to find and connect to your network.



Note: Setting the transmit power level to High increases the range. Setting it to Medium or Low decreases the range proportionately.

Configuring your wireless connection

The TG3442S ships with wireless LAN security set by default. See the security label on your product for the factory security settings.



Note: You must set up your computer and other client devices to work with the security settings on the TG3442S. Refer to the documentation for your client device for instructions on setting security. On most computer systems you only need to select the network name (SSID) device and enter the encryption key.

If you need to modify the Telephony Gateway's default wireless security settings, or if you want to configure any other wireless LAN settings, refer to the following instructions.

Configure your Ethernet connection

If your computer has a LAN card that provides an Ethernet connection, you may have to configure your computer's TCP/IP settings. The following steps will guide you through setting your computer's TCP/IP settings to work with the Telephony Gateway.

Requirements

Make sure you have the following before attempting to configure your Ethernet connection:

- Computer with Ethernet interface.
- Ethernet cable (supplied).
- IP address, subnet, gateway, and DNS information for installations not using DHCP.

How to use this section

The following list shows the procedures for modifying the TCP/IP settings on the computer. The procedure is slightly different depending on the operating system that you are using. Please ensure you are using the correct steps for the operating system on your computer. Follow the links below for instructions to configure your Ethernet connection on your operating system.

- [Configure TCP/IP for Windows Vista](#) (page 36)
- [Configure TCP/IP for Windows 7, Windows 8, or Windows 10](#) (page 37)
- [Configure TCP/IP for macOS](#) (page 37)

Configure TCP/IP for Windows Vista

1. Open the Vista Control Panel.
2. Double-click **Network and Sharing Center** to display the Network and Sharing Center Window.
3. Click **Manage network connections**. If prompted for a connection, choose **Local Area Connection**.
The Network Connections window appears.
4. Double-click the **Local Area Connection** to open the Properties window:



Note: If Windows requests permission to continue, click **Continue**.

5. Double-click **Internet Protocol Version 4 (TCP/IPv4)** to configure TCP/IPv4.



Note: If your service provider requires TCP/IP version 6, double-click **Internet Protocol Version 6 (TCP/IPv6)** to configure TCP/IPv6.

The TCP/IP properties window for the version you selected appears.

6. For either TCP/IPv4 or TCP/IPv6, select **Obtain an IP address automatically** and **Obtain DNS server address automatically**, unless instructed otherwise by your service provider.
7. Click **OK** to accept the new settings and close the Properties window.

Configure TCP/IP for Windows 7, Windows 8, or Windows 10

1. Click the **Start** menu and type **network and sharing** into the Search box.
2. Select **Network and Sharing Center** when it appears.
3. Click **Change adapter settings** from the left-side menu.
4. Right-click on your local area connection icon and select **Properties** to open the Properties window.
5. Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties** to configure TCP/IPv4.



Note: If your service provider requires TCP/IP version 6, select **Internet Protocol Version 6 (TCP/IPv6)** and click **Properties** to configure TCP/IPv6.

The TCP/IP properties window for the version you selected appears.

6. For either TCP/IPv4 or TCP/IPv6, select **Obtain an IP address automatically** and **Obtain DNS server address automatically**, unless instructed otherwise by your service provider.
7. Click **OK** to accept the new settings and close the Properties window. Then click **Close** to back out of the remaining setup screens.

Configure TCP/IP for macOS

1. Open System Preferences, either by choosing **System Preferences** from the Apple menu or by clicking the System Preferences icon in the dock.
2. Click the **Network** icon.
3. Choose **Automatic** from the Location drop-down menu, and **Built-in Ethernet** from the Show menu.
4. Choose the TCP/IP tab, if necessary.

If you are using **TCP/IPv4**, go to **step 5**.

If your service provider requires **TCP/IPv6**, go to **step 8**.

5. Choose **Using DHCP** from the Configure IPv4 menu.
6. If necessary, click the **Renew DHCP Lease** button.
7. Close the System Properties application.
TCP/IPv4 configuration is completed.
8. If you are using TCP/IPv6, click **Configure IPv6** near the bottom of the previous window.
9. Choose **Automatically** from the Configure IPv6 drop-down menu and click **OK**.
10. Close the System Properties application.

Operate the Telephony Gateway

This chapter describes the controls and features available on the Telephony Gateway and covers basic troubleshooting procedures.

- [Set up your computer to use the Telephony Gateway](#) (page 39)
- [Indicator Lights for the TG3442S](#) (page 39)
- [Using the Reset Button](#) (page 40)
- [Resetting the Telephony Gateway to factory defaults](#) (page 40)

Set up your computer to use the Telephony Gateway

- Follow the instructions in the information packet supplied by your service provider. Contact your service provider if you need help setting up your computer.

Indicator Lights for the TG3442S

The Telephony Gateway has LED indicator lights to assist in troubleshooting.

Phone LED

The following table shows light patterns for the Phone LED during normal operation.

Event	LED Status
Telephony was registered	White (steady)
Telephony registration in process	Red (slow blink)
Telephone set is off-hook (phone call in progress)	White (slow blink)
Telephony failed to register	Red (steady)

Internet LED

The following table shows light patterns for the Internet LED during normal operation.

Event	LED Status
Downstream scanning in process	Red (slow blink)
Upstream ranging in process	Red (fast blink)
Ranging completed; registration in process	White (slow blink)
Cable modem was successfully registered	White (steady)
Cable modem failed to register	Red (steady)

WPS LED

The following table shows light patterns for the WPS LED during normal operation.

Event	LED Status
WiFi switched off	Off
Synchronizing WPS	White (fast blink)

WiFi LED

The following table shows light patterns for the WiFi LED during normal operation.

Event	LED Status
WiFi switched off	Off
WiFi switched on	White (Steady)
WiFi data is being transmitted	White (blinking)
WiFi disabled due to scheduling	Off

Power LED

The following table shows light patterns for the Power LED during normal operation.

Event	LED Status
Telephony Gateway is booting up	White (slow blink)
Telephony Gateway has booted up successfully	White (steady)
Telephony Gateway failed to boot up	Red and white (flashing)

Troubleshooting

The Telephony Gateway is plugged in, but the power light is off

Check all power connections. Is the power cord plugged in firmly at both ends?

If you plugged the power cord into a power strip, make sure the strip is switched on.

Try to plug the power cord into a different outlet. If the outlet is controlled by a wall switch, make sure the switch is on.

Finally, check the fuse or circuit breaker panel.

I'm not getting on the Internet (all connections)

It may take over 30 minutes to establish a connection the first time you power up your Telephony Gateway, especially when many people are online. Always leave your Telephony Gateway plugged into AC power and connected to the cable system.

Check the front panel lights:

- The **Power** and **Online** lights should be on.
- If the **Power** light blinks for more than 30 minutes, call your service provider for assistance.

Check your cable connections. Connectors should be tight. The coax cable should not be pinched, kinked, or bent sharply—any of these can cause a break or short in the cable (you may have to replace the cable). If you have one or more splitters between the Telephony Gateway and CATV outlet, remove the splitters and connect the Telephony Gateway directly to the outlet.

Proceed to the Ethernet or wireless solutions if necessary.

I'm not getting on the Internet (Ethernet)

If you are using a hub, is the hub turned on?

Are you using the right type of Ethernet cable? Use the supplied cable for direct connection to a computer; use a cross-over cable for connection to a hub.

Press the **Reset** button on the back of the Telephony Gateway.

A misconfiguration could lock out all access to the Telephony Gateway router. If you think this has happened, see [Resetting the Telephony Gateway to factory defaults](#) (page 40).

I'm not getting on the Internet (wireless)

Check the indicator lights, see [Operate the Telephony Gateway](#) (page 39) — the Wi-Fi light should be on.

Does your connection utility discover your wireless LAN? If you turned off “Broadcast SSID” you need to manually enter the name of your wireless LAN in the connection utility.

Change your security mode to “disabled”. Enable one of the other security modes as soon as you find the problem.

A misconfiguration could lock out all access to the Telephony Gateway router. If you think this has happened, see [Resetting the Telephony Gateway to factory defaults](#) (page 40).

My wireless Internet connection stops working occasionally

This is usually caused by interference. Two common sources are 2.4GHz “remote” telephones and microwave ovens. If you cannot remove the interfering product, try using a different channel or setting Protected Mode. In the UI page you can start a Wifi Scanning to see if there is many other Wifi NWs in the same channel. If this is the case ARRIS recommends changing it manually for a cleaner one.

Wi-Fi Spectrum Analyzer Data							
Band	Channel	MAC	SSID	Signal Level	Mode	Security	MaxR
2.4GHz	1	D8:38:FC:2B:6A:A8	HIE Johns Creek	-53 dBm	b,,,g,,,n	OPEN	
		D8:38:FC:2B:3E:68	HIE Johns Creek	-67 dBm	b,,,g,,,n	OPEN	
	6	00:71:C2:F8:B9:10	CBCI-2257-2.4	-69 dBm	b,,,g,,,n	WPAPSKWPA2PSK	9,18
		8C:0F:6F:BE:80:68	PMSMED	-90 dBm	b,,,g,,,n	WPAPSKWPA2PSK	9,18
		FA:DA:0C:43:DC:DE	DIRECT-de-HP M452 LaserJet	-88 dBm	g,,,n	WPA2PSK	9,18,3
		88:AD:43:CC:FE:A8	opsga-2.4	-82 dBm	b,,,g,,,n	WPAPSKWPA2PSK	9,18
		D8:38:FC:2B:5F:08	HIE Johns Creek	-48 dBm	b,,,g,,,n	OPEN	
		88:AD:43:CC:FE:A9	SSID2-2.4	-82 dBm	b,,,g,,,n	OPEN	9,18
	7	D8:38:FC:2B:4C:D8	HIE Johns Creek	-89 dBm	b,,,g,,,n	OPEN	
	8	D8:38:FC:2B:64:D8	HIE Johns Creek	-87 dBm	b,,,g,,,n	OPEN	
	9	D8:38:FC:2B:3D:C8	HIE Johns Creek	-54 dBm	b,,,g,,,n	OPEN	

I can get on the Internet, but everything is slow

If the website you are visiting is very popular, that site may be having trouble servicing all the requests. If other sites download quickly, wait for a few minutes and try again. Usage during peak hours may also affect the connection speed.

Other communications on the LAN, or interference with wireless connections, may slow down the connection.

Using the TG3442S UI for Debugging Issues

The TG3442S UI supports troubleshooting capability when experiencing Internet connectivity issues using network diagnostics tools such as Ping and Traceroute. These features enable the user to locate the cause of the issue (residing with the TG3442S Home Gateway or service provider network).

Some examples:

Test Connectivity

Connectivity to the Internet: Not Tested

Packets Sent: Not Tested

Packets Received: Not Tested

Destination Address: Count:

Test IPv4 Address

IPv4 Address: . . .

Connectivity: Not Tested

Test IPv6 Address

IPv6 Address: : : : : : : :

Connectivity: Not Tested

Traceroute

IPv4 Address: . . .

IPv6 Address: : : : : : : :

Different network service and interface functions of the TG3442S can be restarted by the user within the “Restart/Restore” UI:

Restart /Restore

System Uptime: 0d 0h 22m 43s

RESTART GATEWAY	Restarts the entire Gateway.
RESTART WI-FI MODULE	Restarts only the Wi-Fi module.
RESTART WI-FI & ROUTER	Restarts both the Wi-Fi and Router modules.
RESTORE WI-FI DEFAULTS	Restores Wi-Fi settings back to the factory defaults. Any changes you made will be lost.
RESTORE GATEWAY DEFAULTS	Restores all Gateway settings back to the factory defaults. Any changes you made will be lost.

No Dial Tone

In order for telephone service to be functional on the Telephony Gateway, telephone service must have been purchased from the service provider and configured on your Telephony Gateway. The following steps should help in identifying the source of the problem.

1. Is the Power LED lit?
 - If not, check to make sure the Telephony Gateway is plugged in and the outlet has power. Use only the external AC power adapter (if provided) and power cord included with the equipment.
 - If the LED is lit, go to the next step.
2. Is the Internet LED lit?
 - If not, check the coax connection at the Telephony Gateway and the wall. Ensure they are connected and tight. If they are and you do not have dial tone, contact your service provider.
 - If the Online LED is lit, go to the next step.
3. Is the Phone LED lit?
 - If not, phone service has not been set up on that line. Contact your service provider.
 - If it is blinking, there is a phone off hook somewhere in the house. Find that phone and hang it up.
 - If it is lit, go to the next step.

4. Is the phone plugged directly into the Telephony Gateway?
 - Make sure the phone is plugged into the port on the back of the Telephony Gateway labeled “Tel 1” for line 1, and “Tel 2” for line 2.
 - If so, try a different phone. Make sure the new phone is a working phone.
 - If a known good phone is used and you still don’t have dial tone, try a different phone cable. If a new phone and cable do not restore dial tone, call your service provider.
5. Is the Telephony Gateway plugged into a wall outlet?
 - If so, unplug the phone connector at the back of the Telephony Gateway and plug in a known working phone. If you now have dial tone, the problem is with the house wiring. Contact your service provider or a qualified wiring technician to correct the house wiring. If you still do not have dial tone, contact your service provider.

Glossary

A

Amp-Hour

A measure of battery capacity. For example, a 1.0Ah battery can nominally supply one Ampere of current for one hour.

C

Category 5e (Cat5e)

A high-quality type of cable, used for gigabit Ethernet (1000BaseT) connections. When purchasing Ethernet cables, always look for Category 5e cable or higher.

Coaxial cable (coax)

A thin wire, used to connect your television and Telephony Gateway to the cable TV system. You can buy coax from any electronics retailer and many discount stores.

CPE

Customer Premise Equipment. This is the equipment that is plugged in to the Telephony Gateway; typically a computer or hub.

Cross-over

An Ethernet cable used to connect two hubs (or a hub and a cable modem) together. Also, some Ethernet hubs may have built-in cross-over on one or more ports (which eliminates the need for a cross-over cable).

D

DHCP

Dynamic Host Configuration Protocol. An IP protocol used to provide an IP address and location of services (such as DNS and TFTP) needed by a device connecting to the network. DHCP allows the service provider to configure your computer's networking software for you.

DNS

Domain Name Service (Server). An IP service that associates a domain name (such as www.example.com) with an IP address.

DOCSIS

Data Over Cable System Interface Specification. The interoperability standards used for data communications equipment on an HFC network.

Downstream

In an HFC network, the direction from the head-end to the subscriber. Some older cable documentation may refer to this as the forward path.

E

EMTA

Embedded Multimedia Terminal Adapter. An MTA device that is integrated with a cable modem.

Ethernet

A standard method of connecting two or more computers into a Local Area Network (LAN).

EuroDOCSIS

The European version of DOCSIS.

Event

An informational message used for monitoring network status.

F

F-connector

The type of connector used on coax cable. There are two common types of F-connector, slip-on and screw-on. Use coax with screw-on connectors for connecting your Telephony Gateway.

Firewall

A hardware or software device that prevents unauthorized access to a private network from the Internet. The TG3442S provides a built-in firewall.

G

Gateway

The device, usually a router, that connects devices on a given IP subnet to other IP subnets.

H

Headend

The “central office” in an HFC network. The headend houses both video and data equipment. In larger cable networks, a “master” headend often feeds several “remote” headends to provide distributed services.

HTTP

HyperText Transfer Protocol.

Hub

A box with several Ethernet connectors. Ethernet hubs provide a common point of contact for all connected devices.

I

IP address

A number assigned to your computer by your service provider, used to identify your computer to other systems on the Internet.

ISDN

Integrated Services Digital Network. A digital telephony standard that provides communication speeds about twice as fast as standard dialup.

L

LAN

Local Area Network. A network that allows computers in a single location (such as a building) to communicate with one another.

LED

Light Emitting Diode. A semi-conductor diode that emits light when current is passed through it.

M

MAC address

A number that uniquely identifies any device connected to a network. Your service provider uses your Telephony Gateway’s MAC address to authorize access to the Internet. The MAC address is

printed on a label affixed to your Telephony Gateway.

P

Protocol

A set of rules and formats that determines the communication behavior of network entities at a given layer.

Proxy

A device or program that stands in between a server (for example, a web site) and a client (your browser), providing a way to relieve some of the burden from the server. For example, your service provider may have a web proxy that keeps copies of popular web pages; the proxy can send you those pages instead of fetching them directly from the web site, resulting in faster page loading and less network congestion.

R

RF

Abbreviation for Radio Frequency. Some literature refers to coax as “RF cable” and the connectors as “RF connectors.”

RJ-11

A standard 2-conductor modular connector, commonly used in North America for connecting telephones.

RJ-45

A standard 8-conductor modular connector, commonly used on Ethernet cable. An RJ-45 connector looks like a wide RJ-11 (telephone) connector.

S

Splitter

A small box with three cable connectors: one input and two outputs. You may need a splitter if you have a TV already connected to the cable outlet that you want to use for your Telephony Gateway. You can buy a splitter from any electronics retailer and most discount stores.

SSID

Service Set Identifier. A string of text (up to 32 characters long) that uniquely identifies a wireless LAN.

Switched outlet

A power outlet that may be turned on and off using a wall switch. Usually intended for lamps. Avoid plugging your computer or Telephony Gateway into a switched outlet to avoid disruptions.

T

TCP/IP

Transmission Control Protocol/Internet Protocol. The protocols used to facilitate communications across one or more connected networks.

TDMA

Time Division Multiple Access. A method used by DOCSIS-compliant cable modems for sending upstream data with minimal interference.

U

Upstream

The path from a subscriber device to the headend. Some older cable documentation may refer to this as the return path or reverse path.

W

WEP

Wired Equivalent Privacy. A common standard for encrypting data sent over a wireless LAN.

WPA

Wi-fi Protected Access. A standard for encrypting data sent over a wireless LAN. WPA offers improved security over WEP.

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