Actiontec®

WiFi 6 Gateway Router with Bonded VDSL

Model # T3280V

User Manual

0535-0137-000

Table of Contents

Introduction

1

Congratulations on purchasing the T3280V Wireless 11axBonded VDSL2 Modem Gateway. The Gateway is a single platform device that supports universal WAN access, FTTN, FTTdp, FTTB, or FTTP. With support for advanced 802.11ax 4x4 WiFi, the Gateway enables blazing fast HD video streaming, with multi-channel HD video throughput. The Gateway also offers an unprecedented level of security, helping protect your network resources. It has also been designed to deliver unparalleled WiFi performance, using dual-band WiFi supporting speeds up to 3.55 Gbps.

Package Contents

- Black Power adapter
- Yellow cable (Ethernet, 6 ft.)
- White cable (Ethernet, 10 ft.)
- Quick Start Guide
- Installation Guide
- Wall-mount template
- Vertical stand

Minimum System Requirements

- Active ADSL2+ service
- Computer with an 10 Mbps or 10/100/1000 Mbps Ethernet connection
- Microsoft Windows 10, 8, 7; Mac OS OS X+
- TCP/IP network protocol installed on each computer

Features

- ADSL2+, VDSL2, WAN Ethernet and Fiber in a single CPE
- Dual Band WiFi delivering up to 3.55 Gbps with 802.11ax 4x4 5GHz and 802.11ax 3x3 2.4GHz
- Optimized for IPTV and Video over WiFi

Getting to Know the Gateway

This section contains a quick description of the Gateway's lights, ports, and other features. The Gateway has several indicator lights (LEDs) and a button on its front panel, and a series of ports and switches on its rear panel.

Front Panel

The front panel of the Gateway features 12 LEDs, and a WPS (Wireless Protected Setup) button.

Power
The Power LED brights green when the unit is powered up.

DSL 1
The DSL 1 LED brights green when the DSL 1 is synchronized.

DSL 2
The DSL 2 LED brights green when the DSL 2 is synchronized.

Internet
The Internet LED illuminates green when the Gateway is properly connected to a WAN Internet connection.WAN/LANThis LED brights green when there is an active Ethernet cable connected to the WAN port, and it blinks with traffic activity.

Ethernet 1
This LED brights green when there is an active Ethernet cable connected to the LAN port #1, and it blinks with traffic activity.

Ethernet 2
This LED brights green when there is an active Ethernet cable connected to the LAN port #2, and it blinks with traffic activity.

Ethernet 3
This LED brights green when there is an active Ethernet cable connected to the LAN port #3, and it blinks with traffic activity.

Ethernet 4
This LED brights green when there is an active Ethernet cable connected to the LAN port #4, and it blinks with traffic activity.

USB
This LED brights green when there is an active device connected to the USB port.

Wi-Fi 2.4G
This LED brights green when the Gateway's radio is operating in the 2.4GHz band.

Wi-Fi 5G
This LED brights green when the Gateway's radio is operating in the 5GHz band.

WPS Button
The WPS button is used when connecting a wireless device to the Gateway's wireless network using WPS.

Rear Panel

The rear panel of the Gateway features 8 ports, and a Reset button.

Power Port

The Power port is used to connect the Power cord (Model No. CDS036-W120U , made by Actiontec) to the Gateway.

Reset Button

Depressing the Reset button for 10 seconds will restore the Gateway's factory default settings. The reset process will start after releasing the button.

WARNING! Do not unplug the Power cord from the Gateway during the reset process. Doing so may result in permanent damage to the Gateway.

WAN Ethernet Port

The WAN Ethernet port is used to connect the Gateway to a WAN connection via an Ethernet cable.

LAN Ethernet Ports (4)

The LAN Ethernet ports are used to connect computers to the Gateway via Ethernet cable. The Ethernet ports are 10/100/1000 Mbps auto-sensing ports, and either a straight-through or crossover Ethernet cable can be used when connecting to the ports.

USB Port

The USB port is used to connect the Gateway to a USB device.

DSL Port

The DSL port is used to connect the Gateway to a DSL wall outlet via DSL cable.

Connecting the Gateway

There are many variables involved when connecting the Gateway, depending on the type of Internet service available. The figure below shows the possible connections available for the Gateway.

Connecting a Computer to the Gateway

To connect a computer to the Gateway to access the Gateway's graphical user interface (GUI):

1. Get the Gateway and black Power cord from the box.
2. Plug the black Power cord in the black port on the back of the Gateway and then into a power outlet.
3. Plug the yellow Ethernet cable from the box into one of the four yellow Ethernet ports on the back of the Gateway.
4. Make sure the computer is powered on, then plug the other end of the yellow Ethernet cable into an Ethernet port on the computer.
5. Make sure that the LED on the LAN port into which the Ethernet cable is plugged glows steadily green. This may take a few moments.
6. The computer should either be configured with a statically defined IP address and DNS address, or instructed to automatically obtain an IP address using the Network DHCP server. The Gateway is set up, by default, with an active

DHCP server, and it is recommended to leave this setting as is.

Accessing the Home Screen

2

This chapter gives a short overview of the Home screen of the Gateway's graphical user interface (GUI).

Accessing the Home Screen

To access the Home screen:

1. Open a Web browser on computer connected, via Ethernet cable, to one of the Gateway's LAN ports. In the *Address* text box, type:
   http://192.168.254.254
   then press **Enter** on the keyboard.

2. The Gateway's Home screen appears.

The Gateway's GUI is now accessible.

Icon Bar

At the top of the Home screen is the Icon Bar. Here, you can quickly access the other four main sections of the Gateway's GUI by clicking on the appropriate icon: Status (see chapter 3 for more details); Wireless Setup (see chapter 4 for more details); Firewall (see chapter 5 for more details); Advanced Setup (see chapter 6 for more details). Clicking **Home** in any other screen generates the Home screen.

Connection Status

The bottom of the Home screen consists of connection and device information relating to the Gateway. There are no configurable options here.

Checking the Gateway's Status

3

This chapter explains the options available on the Status screens, which display information about the Gateway's network connections.

Accessing the Status Screens

To access the Gateway's Status screens:

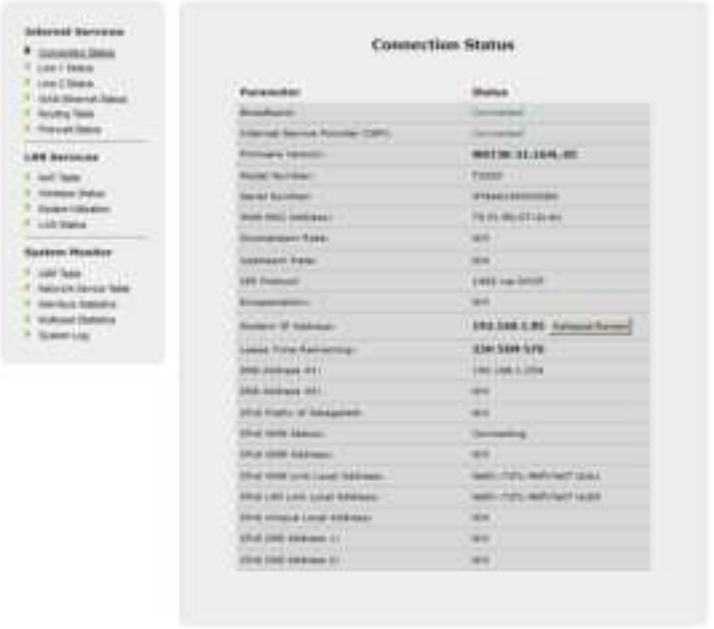
1. Open a Web browser. In the *Address* text box, type:

   http://192.168.254.254

   then press **Enter** on the keyboard.

2. The Gateway's Main screen appears. Click the *Status* icon.

3. The *Connection Status* screen appears. "Connection Status" is under the "Internet Service" group.



From here, all the Status screens can be accessed from the menu on the left.

Connection Status

Clicking **Connection Status** from any Status screen generates the *Connection Status* (see figure, above). Information concerning the devices connected to the Gateway's network, whether wired or wireless, is displayed here, along with the connected device's IP address, MAC address, and (if applicable) IPv6 address.

Line 1/Line 2 Status

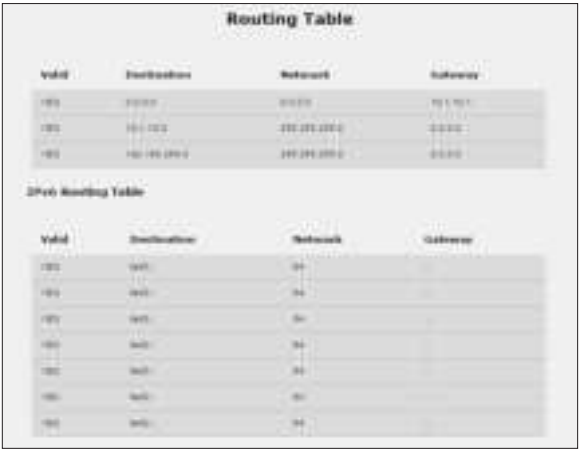
Click **Line 1 Status** from any Status screen to generate the *Line 1 Status* screen. This screen displays the Gateway's DSL connection parameters for *DSL Line 1* port. Clicking **Line 2 Status** genreates the *Line 2 Status* screen, which displays the connection parameters for the Gateway's *DSL Line 2* port.

WAN Ethernet

Click **WAN Ethernet Status** from any Status screen to generate the *WAN Ethernet Status* screen. This screen displays the Gateway's WAN (wide area network) parameters.

Routing Table

Click **Routing Table** from any Status screen to generate the *Routing Table* screen. This screen displays the Gateway's routes.

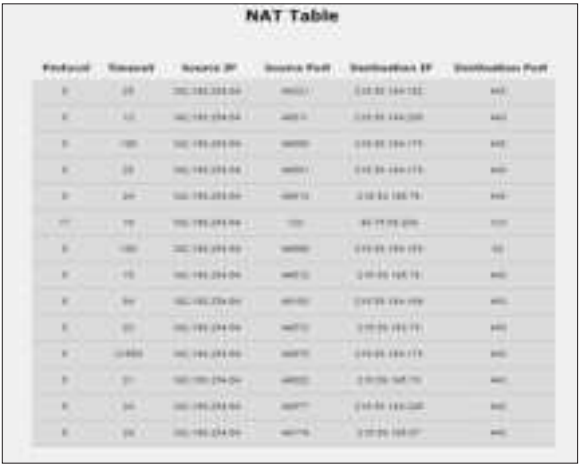


Firewall Status

Click **Firewall Status** from any Status screen to generate the *Firewall Status* screen. This screen displays parameters concerning the Gateway's firewall.

NAT Table

Click **NAT Table** from any Status screen to generate the *NAT Table* screen. This screen displays the Gateway's WAN (wide area network) parameters.

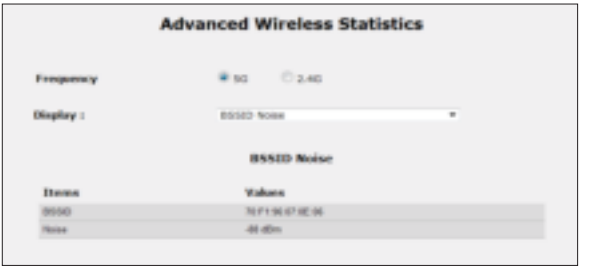


Wireless Status

Click **Wireless Status** from any Status screen to generate the *Wireless Status* screen. This screen displays the Gateway's wireless network parameters.

Advanced Wireless Status

Click **Advanced Wireless Statistics** from the bottom of the Wireless Status screen to generate the *Advanced Wireless Statistics* screen. This screen displays the Gateway's additional wireless network parameters.



Wireless Monitor

Click **Modemstatus Wireless Monitor** from the bottom of the Wireless Status screen to generate the *Wireless Monitor* screen. This screen displays parameters for the clients connected to the Gateway's wireless network.

Modem Utilization

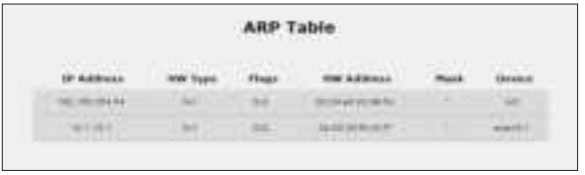
Click **Modem Utilization** from any Status screen to generate the *Modem Utilization* screen. This screen displays statistics related to the Gateway's modem operation.

LAN Status

Click **LAN Status** from any Status screen to generate the *LAN Status* screen. This screen displays the Gateway's LAN (local area network) parameters.

ARP Table

Click **ARP Table** from any Status screen to generate the *ARP Table* screen. This screen displays the Gateway's ARP (address resolution protocol) table.



Network Devices

Click **Network Device Table** (underneath System Monitor) from any Status screen to generate the *Network - Devices* screen. This screen allows the user to scan the Gateway's networks for new devices at a selected time interval.

Interface Statistics

Click **Interface Statistics** from any Status screen to generate the *Estimated Interface Statistics* screen. This screen displays various statistics and parameters relating to the Gateway's connection interfaces.

Multicast Statistics

Click **Multicast Statistics** from any Status screen to generate the *Multicast Statistics* screen. This screen displays the Gateway's multicast statistics.

System Log

Click **System Log** from any Status screen to generate the *System Log* screen. This screen displays the Gateway's system log, which keeps track of all events that occur on the Gateway.

Configuring Wireless Settings

4

This chapter explains the options provided in the *Wireless Settings* section of the Gateway's firmware, including basic and advanced settings, and WPS.

Accessing Wireless Settings

To access the Wireless Settings screens:

1. Open a Web browser. In the *Address* text box, type:
   http://192.168.254.254
   then press **Enter** on the keyboard.

2. The Gateway's Main screen appears. Enter the user name and password, then click **Wireless Settings** from the row of icons at the top of the screen.

3. The *Basic Settings* screen appears, with a menu of other wireless options listed on the left side of the screen.

Basic Settings

Click **Basic Settings** from any Wireless Settings screen to generate the *Basic Settings* screen, as shown in the figure above. This screen displays a series of settings relating to the basic functionality of the Gateway's wireless network, including SSID (network name), frequency, and security.

Changing the Wireless Network Name (SSID)

To change the name of the Gateway's wireless network, enter the new name in the *SSID Name* text box in the *Basic Settings* screen, then click **Apply**.

Changing the Wireless Key/Passphrase

To change the passphrase for the Gateway's wireless SSID, at the Security Key Type, press the button for Use Custom Key/Passphrase, enter the desired Wireless Key/Passphrase in the text box, then click Apply.

Enabling SSID Guest Option

Enabling this option in the *Basic Settings* screen allows guest users to access the Gateway's wireless Internet connection, while preventing these users from accessing other wireless devices, including network printers or other unsecured network devices. To enable, click in the *Enable* button next to *SSID Guest*, then click **Apply**.

Advanced Settings

Click **Advanced Settings** from any Wireless Settings screen to generate the *Advanced Settings* screen. This screen displays a series of settings relating to the advanced capabilities of the Gateway's wireless network, including compatibility mode, channel width, and WMM power save.

WPS

Click **WPS** from any Wireless Settings screen to generate the *WPS (Wi-Fi Protected Setup)* screen, which allows the user to configure WPS by following the onscreen instructions.

MAC Address Control

Click **MAC Address Control** from any Wireless Settings screen to generate the *Wireless MAC Authentication* screen, which allows the user to configure allow or deny access to the Gateway's wireless network using the MAC address of the wireless device. *(Note: this feature only works if Band Steering is DISABLED.)* Follow the onscreen instructions to configure.

WDS

Click **WDS** from any Wireless Settings screen to generate the *WDS Wireless Distribution System* screen, which allows the user to configure the Gateway to allow wireless interconnection of access points via a wireless connection. Follow the onscreen instructions to configure.

Band Steering

Click **Band Steering** from any Wireless Settings screen to generate the *Band Steering Configuration* screen, which allows the user to configure the Gateway to automatically connect 2.4GHz and 5GHz wireless devices to the appropriate wireless network bandwidth. Also, this screen can be used to assign a certain wireless network and/or bandwidth to a particular wireless device. Follow the onscreen instructions to configure.

Configuring Firewall Settings

5

This chapter explains the options provided in the *Firewall* section of the Gateway's firmware, including setting up port forwarding and static NAT.

Accessing Firewall Settings

To access the Firewall screens:

1. Open a Web browser. In the *Address* text box, type:
   http://192.168.254.254
   then press **Enter** on the keyboard.

The Gateway's Home screen appears. Click the *Firewall* icon.

2. The *Firewall* screen appears, with a menu of other wireless options listed on the left side of the screen.

Firewall

Click **General** from any Firewall Settings screen to generate the *Firewall* screen, as shown in the figure above. To configure basic settings of the Gateway's firewall, follow the onscreen instructions.

IPv6 Firewall

Click **IPv6 Firewall** from any Firewall Settings screen to generate the *IPv6 Firewall* screen. To set up, follow the onscreen instructions.

Port Forwarding

Click **Port Forwarding** from any Firewall screen to generate the *Port Forwarding* screen. Activating port forwarding allows the network to be exposed to the Internet in certain limited and controlled ways, enabling some applications to work from the local network (game, voice, and chat applications, for example), as well as allowing Internet access to servers in the local network. This screen allows you to configure the port forwarding settings of the Gateway. If changes are made in this screen, click **Apply** at the bottom of the screen to save them.

Port forwarding settings should only be adjusted by experienced technical users who are extremely familiar with networking concepts.

Applications

Click **Applications** from any Firewall screen to generate the *Applications* screen. This screen allows the user to designate certain applications to be forwarded, circumventing the usual firewall security settings. If changes are made in this screen, click **Apply** at the bottom of the screen to save them.

DMZ Hosting

Click **DMZ Hosting** from any Firewall screen to generate the *DMZ Hosting* screen. The DMZ host feature allows one device on the network to operate outside the firewall to use an Internet service that otherwise would be blocked, or to expose a networked device to all services without restriction or security. To activate, click in the *Enable* radio button, then enter the device's IP address in the appropriate text boxes.

Caution! A DMZ host is not protected by the firewall and may be vulnerable to attack. Designating a DMZ host may also put other computers in the local network at risk. When designating a DMZ host, consider the security implications and protect it if necessary.

IPv6 DMZ Hosting

Click **IPv6 DMZ Hosting** from any Firewall screen to generate the *IPv6 DMZ Hosting* screen. The DMZ host feature allows one device on the network to operate outside the firewall to use an Internet service that otherwise would be blocked, or to expose a networked device to all services without restriction or security. To activate, follow the onscreen instructions.

Caution! A DMZ host is not protected by the firewall and may be vulnerable to attack. Designating a DMZ host may also put other computers in the local network at risk. When designating a DMZ host, consider the security implications and protect it if necessary.

UPnP

Click **UPnP** from any Firewall screen to generate the *UPnP* screen, which activates UPnP (Universal Plug and Play). To activate, set the preferred UPnP options, then click **Apply**.

Advanced Settings

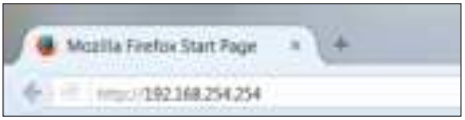
6

This chapter explains the options available with the Advanced Setup screens, which configure some of the more complex settings on the Gateway.

Accessing the Advanced Setup Screens

To access the Gateway's Advanced Setup screens:

1. Open a Web browser. In the Address text box, type:
   http://192.168.254.254
   then press Enter on the keyboard.



2. The Gateway's Main screen appears. Click the Advanced Setup icon.

3. A WARNING screen appears. Technicians can click PROCEED to configure the Advanced Settings of the gateway.

4. The Services Blocking screen appears.

From here, all the Advanced Setup screens can be accessed from the menu on the left.

Services Blocking

Click Services Blocking from any Advanced Setup screen to generate the Services Blocking screen (see the figure, above). This feature allows the user to block certain services from accessing the Gateway's network(s). Follow the onscreen instructions to configure.

Website Blocking

Click Website Blocking from any Advanced Setup screen to generate the Website Blocking screen. This feature allows the user to block certain websites from accessing the Gateway's network(s). Follow the onscreen instructions to configure.

Scheduling Access

Click Scheduling Access from any Advanced Setup screen to generate the Scheduling Access screen. This feature allows the user to schedule access to the Gateway's network(s) for certain devices. Follow the onscreen instructions to configure.

Parental Controls

Click Parental Controls from any Advanced Setup screen to generate the Parental Controls Configuration screen. This feature allows the user to allow or prevent access to certain websites for devices on the Gateway's network. Follow the onscreen instructions to configure.

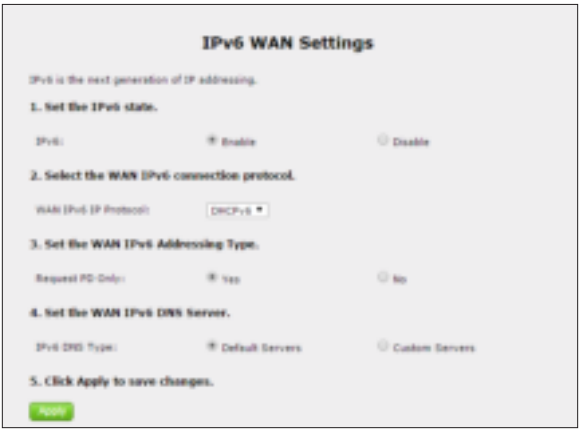
WAN IP Addressing

Click WAN IP Addressing from any Advanced Setup screen to generate the WAN IP Address screen. This feature allows the user to set the protocol used by the ISP for Internet access. Follow the onscreen instructions to configure.

IPv6 WAN Settings

Click IPv6 WAN Settings from any Advanced Setup screen to generate the IPv6 WAN Settings screen. This feature allows the user to set the IPv6 protocol used by the ISP for Internet access. Follow the onscreen instructions to configure.

> WARNING: This setting should be configured by experienced network technicians only, since any changes could affect the Gateway's IPv6 service.



How to Set the T3280V to RFC1483 Transparent Bridge

From the WAN IP Address screen, select RFC 1483 Transparent Bridging and click Apply. The gateway will allow the WAN IP address to pass-through to the device connected to LAN Port 1 Only.

LAN IP Settings

Click LAN IP Settings from any Advanced Setup screen to generate the LAN IP and DHCP Settings screen. This feature allows the user to set LAN IP and DHCP server settings on the Gateway. Follow the onscreen instructions to configure.

How to Set the T3280V for Static IP

From the WAN IP Address screen, select RFC 1483 via Static IP. Enter the IP address to be assigned to the Gateway, the subnet mask and the IP Address of the Default Gateway. Click Apply.

IPv6 LAN Settings

Click IPv6 LAN Settings from any Advanced Setup screen to generate the IPv6 LAN Settings screen. This feature allows the user to set the IPv6 LAN IP settings on the Gateway. Follow the onscreen instructions to configure.

DHCP Reservation

Click DHCP Reservation from any Advanced Setup screen to generate the DHCP Reservation screen. This feature allows the user to lease a permanent DHCP-allocated address to a client on the Gateway's network. Follow the onscreen instructions to configure.

Dynamic DNS

Click Dynamic DNS from any Advanced Setup screen to generate the Dynamic DNS screen. This feature allows the user to associate the WAN IP address of the Gateway with a host name. Follow the onscreen instructions to configure.

DNS Host Mapping

Click DNS Host Mapping from any Advanced Setup screen to generate the DNS Host Mapping screen. This feature allows the user to create a static host name for a specified IP address. Follow the onscreen instructions to configure.

IP QoS Upstream Settings

Log in as root to generate the IP QoS Upstream Settings screen. This feature allows the user to prioritize certain types of upstream data traffic over standard upstream data traffic. Follow the onscreen instructions to configure.

IP QoS Downstream Settings

Log in as root to generate the IP QoS Downstream Settings screen. This feature allows the user to prioritize certain types of downstream data traffic over standard downstream data traffic. Follow the onscreen instructions to configure.

IPv6 QoS

Log in as root to generate the IPv6 QoS Settings screen. This feature allows the user to prioritize certain types of IPv6 data traffic over standard IPv6 data traffic. Follow the onscreen instructions to configure.

Remote GUI

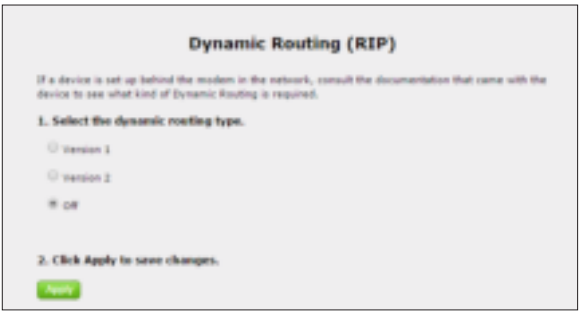
Log in as root to generate the Remote GUI screen. This feature allows the user to access the Gateway's graphical user interface from a remote location. Follow the onscreen instructions to configure.

Remote Telnet

Log in as root to generate the Remote Telnet screen. This feature allows the user to access the Gateway from a remote location via telnet. Follow the onscreen instructions to configure.

Dynamic Routing

Click Dynamic Routing from any Advanced Setup screen to generate the Dynamic Routing (RIP) screen. This feature allows the user to set up the Gateway on the network behind a modem using dynamic routing. Follow the onscreen instructions to configure.

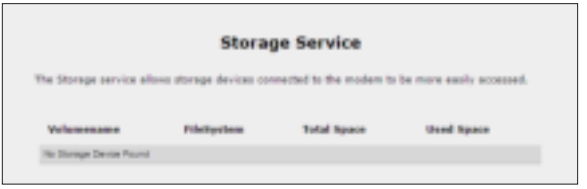


Admin Password

Click Admin Password from any Advanced Setup screen to generate the Admin Password screen. This feature allows the user to change the password for accessing the Gateway's graphical user interface. Follow the onscreen instructions to configure.

Storage Device Info

Click Storage Device Info from any Advanced Setup screen to generate the Storage Service screen. This feature allows storage devices connected to the Gateway to be easily accessed. Any storage devices connected to the Gateway will be listed in the table at the bottom of the screen.



Samba Configuration

Click Samba Configuration from any Advanced Setup screen to generate the Samba Configuration screen. This feature allows the user to set up a Samba environment. Follow the onscreen instructions to configure.

Reboot

Click Reboot from any Advanced Setup screen to generate the Reboot screen. Reboot the Gateway by clicking Reboot.

Restore Defaults

Click Restore Defaults from any Advanced Setup screen to generate the Restore Defaults screen. To restore certain settings on the Gateway, click the appropriate Restore button.

Upgrade Firmware

Click Upgrade Firmware from any Advanced Setup screen to generate the Upgrade Firmware screen. To upgrade the Gateway's firmware, follow the onscreen instructions.

Check for New Firmware Link

Click Check for new firmware link from any Advanced Setup screen to generate the Upgrade firmware from Internet screen. To upgrade the Gateway's firmware from the Internet automatically, click Upgrade.

Speed Test

Click Speed Test from any Advanced Setup screen to generate the Speed Test screen. This screen allows the user to perform a speed test on the Gateway's Internet (or WAN) connection. Enter the URL for a server at a speed test site, then click Test.

Ping Test

Click Ping Test from any Advanced Setup screen to generate the Ping Test screen. To perform a ping test on the Gateway, follow the onscreen instructions.

Tcpdump Debug

Click Tcpdump Debug from any Advanced Setup screen to generate the Tcpdump Debug screen. This screen allows the user to copy the packet capture file to a USB flash drive connected to the Gateway, along with the CFE and wireless configuration files, for debugging purposes. Follow the onscreen instructions to complete.

Iperf Test

Click Iperf Test from any Advanced Setup screen to generate the Iperf Test screen. To perform an iperf test on the Gateway, follow the onscreen instructions.

IPv6 Ping Test

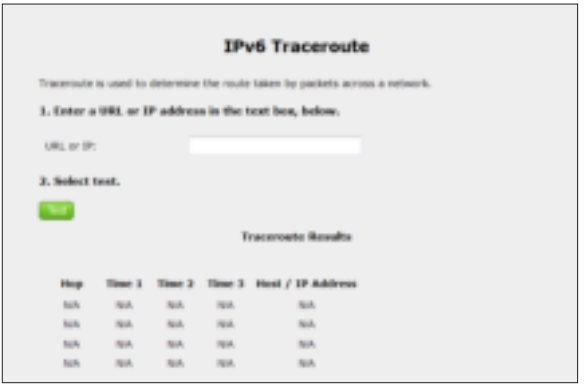
Click IPv6 Ping Test from any Advanced Setup screen to generate the IPv6 PingTest screen. To perform an IPv6 ping test on the Gateway, follow the onscreen instructions.

Traceroute

Click Traceroute from any Advanced Setup screen to generate the Traceroute screen. To perform an route trace on the Gateway, follow the onscreen instructions.

IPv6 Traceroute

Click IPv6 Traceroute from any Advanced Setup screen to generate the IPv6 Traceroute screen. To perform an IPv6 route trace on the Gateway, follow the onscreen instructions.



Time Zone

Click Time Zone from any Advanced Setup screen to generate the Time Zone screen. Use this screen to set the time zone on the Gateway.

Language Settings

Click Language Settings from any Advanced Setup screen to generate the Language Settings screen. Use this screen to set the language on the Gateway's graphical user interface.

DNS Cache

Click DNS Cache from any Advanced Setup screen to generate the DNS Cache screen. Use this screen to set up a DNS cache on the Gateway.

IGMP Setting

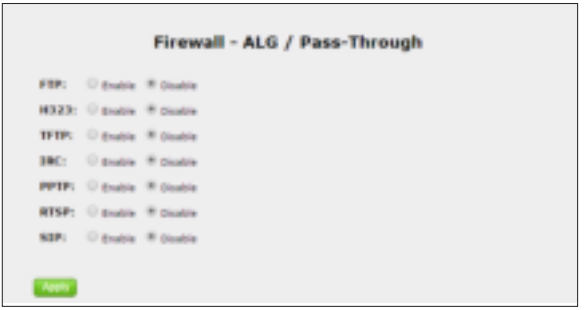
Click IGMP Setting from any Advanced Setup screen to generate the IGMP Configuration screen. Use this screen to set up IGMP processes on the Gateway.

Upgrade History

Click Upgrade History from any Advanced Setup screen to generate the Upgrade History screen. This screen displays a list of firmware upgrades applied to the Gateway.

ALG

Click ALG from any Advanced Setup screen to generate the Firwall - ALG / Pass-Through screen. This screen allows the user to configure ALG settings on the Gateway.



Tool Box

Click Tool Box from any Advanced Setup screen to generate the Tool Box screen. This screen allows the user to configure traffic and port mirroring on the Gateway.

DLNA

Click DLNA from any Advanced Setup screen to generate the DLNA screen. This screen allows the user to configure DLNA settings on the Gateway.

xDSL Diagnostics

Click xDSL diagnostics from any Advanced Setup screen to generate the xDSL Diagnostics screen. This screen allows the user to select a type of diagnostics on the Gateway.

Print Server

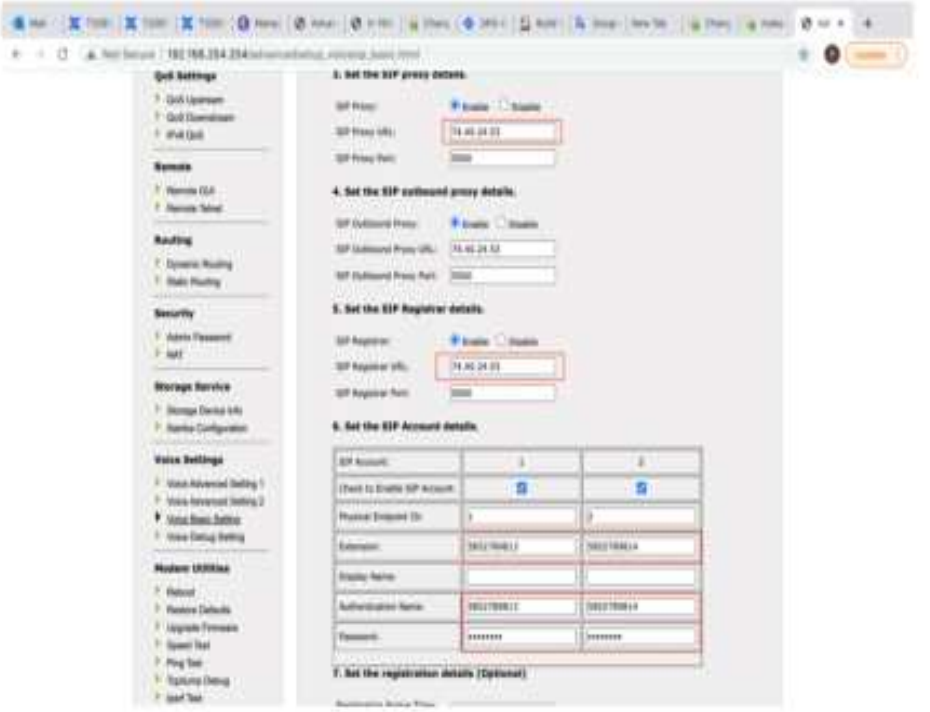
Click Print Server from any Advanced Setup screen to generate the Print Server screen. This screen allows the user to select and configure a print server for the Gateway's network.

GUI Settings to Activate VoIP

Go to page http://192.168.254.254/advancedsetup_voicesip_basic.html

Settings as below (red rectangle)

all of the red rectangles are the must be set parameters.



Note: When you want to set the Extension field with the phone number, have to make sure the SIP Registrar is enable on the GUI and SIP Registrar URL is not 0.0.0.0 (or empty), Otherwise, the voice process will revert it back to the 4-digit default extension value.

Specifications

A

General

Model Number(s)

T3280V (WiFi 6 Gateway Router with Bonded VDSL)

Standards

IEEE 802.3 (10BaseT)
IEEE 802.3u (100BaseTX) IEEE
802.11 b, g, n, ac, ax (Wireless)
G.dmt
G.lite
t1.413
RFC 1483, 2364, 2516

Protocol

LAN - CSMA/CD
WAN - PPP, DHCP, Static IP

WAN

VDSL2 interface

LAN

10/100/1000 RJ-45 switched ports

Speed

LAN Ethernet: 10/100/1000 Mbps auto-sensing
Wireless: 802.11a, b, g, n, ac, ax; 900 Mbps optimal (see Wireless Operating Range for details)

Cabling Type

Ethernet 10BaseT: UTP/STP Category 3 or 5
Ethernet100BaseTX: UTP/STP Category 5

Wireless Operating Range

Indoors

Up to 91M (300 ft.) @ 300 Mbps

Outdoors

Up to 457M (1500 ft.) @ 300 Mbps

Topology

Star (Ethernet)

LED Indicators

WAN, Wireless, and WPS Push Button

Power Adapter

Model No. - CDS024T-W120U
Input - 120VAC, 50/60Hz, 0.58A
Output - 12.0VDC, 2.0A
Manufacturer - Actiontec

Environmental

Power

External, 12V DC, 2A

Certifications

FCC Part 15 Class B, Class C and E, FCC Part 68, UL

Operating Temperature

0° C to 40° C (32°F to 104°F)

Storage Temperature

-20°C to 70°C (-4°F to 158°F)

Operating Humidity

10% to 85% non-condensing

Storage Humidity

5% to 90% non-condensing

Notices

Warranty

This product has a one-year Limited Hardware Warranty and 90-day free software updates from date of purchase.

Local Law

This Limited Warranty Statement gives the customer specific legal rights. The customer may also have other rights, which vary from state to state in the United States, and from country to country elsewhere in the world.

To the extent that this Limited Warranty Statement is inconsistent with local law, this Statement shall be deemed modified to be consistent with such local law. Under such local law, certain disclaimers and limitations of this Warranty Statement may not apply to the customer.

Go to **http://www.actiontec.com/products/warranty.php** for more information.

Important Safety Instructions

Basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and personal injury, including the following:

- Do not use this product near water – for example, near a bathtub, kitchen sink, laundry tub, or swimming pool, or in a wet basement; only clean with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus including amplifiers that produce heat.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- Use only the power cord indicated in this manual.

Coaxial Cable

If applicable, the coaxial cable screen shield needs to be connected to the Earth at the building entrance per ANSI/NFPA 70, the National Electrical Code (NEC), in particular Section 820.93, "Grounding of Outer Conductive Shield of a Coaxial Cable," or in accordance with local regulation.

FCC Class B Equipment

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 and correct the interference by implementing one or more of the following measures:

- Reorient or relocate the device;
- Increase the separation between the equipment and receiver;
- 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 Actiontec Electronics, Inc, may void the user's authority to operate the equipment.

Declaration of Conformity for Products Marked With the FCC Logo

This device complies with part 15 of the FCC. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

Important Note on Wi-Fi

If applicable, this equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

The radio has been found to be compliant to the requirements set forth in CFR 47 Sections 2.1091, 15.247 (b) (4),15.407 addressing RF Exposure from radio frequency devices as defined in Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields. The equipment should be installed more than 30 cm (~12 in.) from your body or nearby persons.

For product available in the USA market, only channel 1~11 can be operated. Selection of other channels is not possible.

The device could automatically discontinue transmission in case of absence of information to transmit, or operational failure. Note that this is not intended to prohibit transmission of control or signaling information or the use of repetitive codes where required by the technology.

The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

The maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comp with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate.

The transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Contact Info

For questions regarding your product or the FCC declaration, contact:

Actiontec Electronics, Inc
3301 Olcott St, Santa Clara, CA 95054, United States
Tel: (408) 752-7700

FCC Part 68 User Manual Information Agreement

This equipment complies with Part 68 of the FCC rules. Located on the equipment is a label that contains, among other information, the ACTA registration number and ringer equivalence number (REN.) 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 REN's 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 REN's 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 REN's contact the telephone company to determine the maximum REN for the calling area.

This equipment cannot be used on the telephone company-provided coin service. 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 temporary discontinuance of service 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 the file a complaint 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 for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact:

Company Name: Actiontec Electronics, Inc.
Address: 3301 Olcott St., Santa Clara, CA 95054, USA
TEL: 408-752-7700
FAX: 408-732-0087

If the trouble is causing harm to the telephone network, the telephone company may request you to remove the equipment from the network until the problem is resolved.

This equipment uses the following USOC jacks: RJ14

It is recommended that the customer install an AC surge arrester in the AC outlet to which this device is connected. This is to avoid damaging the equipment caused by local lightening strikes and other electrical surges.

Federal Communications Commission (FCC) Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, 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 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.

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.
FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

RF exposure warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 25 cm between the radiator & your body.