

DG4244

DOCSIS3.1 PacketCable1.5 WiFi6 Gateway

Basic User Guide



SAFETY NOTICE

Device Grounding: The cable distribution system under consideration is a TNV-1 circuit. The common sides or earthed side of the circuit are connected to the screen of the coaxial cable through an antenna connector of tuner and to all accessible parts and circuits (SELV, LCC and accessible metal parts). The screen of the coaxial cable is intended to be connected to earth in the building installation.

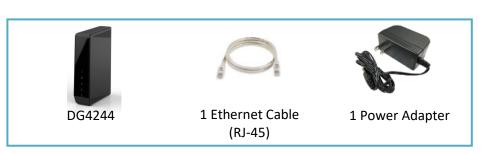
Install the cable modem to include grounding the coaxial cable to the earth as close as practical to the building entrance per ANSI/NFPA 70 and the National Electrical Code (NEC section 820.93, Grounding of the Outer Conductive Shield of a Coaxial Cable). The device is designed for IT power systems with phase-to-phase voltage at 120V.

This unit requires a 100-240V, 50-60Hz power adapter. The power adapter must be keyed for proper polarization and must be fully inserted to contact the back of the power connector port to ensure snug connection. Use only the supplied power adapter.

Disconnecting the Device: If the cable modem becomes damaged or encounters some other abnormality, disconnect the power adapter from the AC wall outlet immediately.

Temperature and Altitude: Install the device in a location not to exceed the maximum operating temperature of 104°F (40°C). Maximum operating altitude is 5000 m (16,404 ft.).

CONTENTS OF THE BOX



BASIC DG4244 INFORMATION

Example of Cable RF MAC	00·71·CC·8F·54·C7
Address	00.71.00.01.34.07
Firmware Version	Cable FW: 7.2.4GA
	GW FW: V1.14.04.003
	DOCSIS 3.1 / 3.0 / 2.0 / 1.1 /1.0
Compatibility	PacketCable 1.5 NCS
	IEEE 802.11ax 2.4G 4x4 / 5G 4x4
	Ethernet LAN1
	10/100/1000/2500 Mbps
	Ethernet LAN2-LAN4
	10/100/1000 Mbps
Web User Interface	http://192.168.0.1
Access	Login: admin
	Password: password
Advanced Web Interface	http://CableModem_IP
Login	Login: mso
	Password: sercommdocsis
	By default, it is disabled.
	Can be enabled by SNMP:
	httplpStackInterfaces
	. 1.3.6.1.4.1.915.1.1.1.1.5.1.0
	httpslpStackInterfaces
	.1.3.6.1.4.1.915.1.1.1.1.1.6.1.0
Private Management MIB	
	Provided separately

Federal Communication Commission Interference Statement

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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one 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.

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.

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

Operations in the 5.15-5.25GHz band are restricted to indoor usage only. Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 38cm between the radiator & your body.

Note: The country code selection is for non-US model only and is not available to all US model. Per FCC regulation, all WiFi product marketed in US must fixed to US operation channels only.

Industry Canada statement:

This device complies with ISED's licence-exempt RSSs. 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.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils

radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Caution:

- (i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
- (ii) where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

Avertissement:

Le guide d'utilisation des dispositifs pour réseaux locaux doit inclure des instructions précises sur les restrictions susmentionnées, notamment :

- (i) les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- (ii) lorsqu'il y a lieu, les types d'antennes (s'il y en a plusieurs), les numéros de modèle de l'antenne et les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, énoncée à la section 6.2.2.3, doivent être clairement indiqués

Radiation Exposure Statement:

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with greater than 38cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à plus de 38 cm entre le radiateur et votre corps.

DG4244 User Guide PREPARING FOR INSTALLATION

Verify package contents, coaxial cables, and power outlet.

- Unpack the box and confirm the contents of the box.
- Verify the power outlet is working and is wired correctly.
- Place your cable modem within the proper distance from the outlet.

INSTALLING THE DG4244

- 1. Connect the coaxial cable (not supplied) to the Cable connector on the rear panel of the modem and connect the other end to the cable wall outlet. Do not bend or over tighten the cables, as this may strain the connector and cause damage. To connect a modem and a television to the same wall outlet, you must use a cable line splitter (not included).
- 2. Connect the Ethernet cable (supplied) to an Ethernet port on the back panel of the modem and connect the other end to the Ethernet port of a PC. Use a Category 5e or Category 6 Ethernet cable with RJ-45 connectors to ensure Gigabit Ethernet speeds (if the computer supports it).
- 3. Connect the power adapter (supplied) to the Power port on the modem. Connect the other end to a power outlet.

UNDERSTANDING DEVICE CONNECTIONS

REAR PANEL:

LAN: Connect to an Ethernet-enabled device such as a computer, gaming console or a wireless access point using an RJ45 Ethernet cable.

Cable: Used to connect to the coaxial cable from your Internet service provider.

Power: Used to connect to the power adapter. Plug the other end into the outlet.

Reset: Used to factory reset the device settings. Press and hold the button for greater than 5 seconds to initiate a factory reset.

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

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- (2) this device must accept any interference received, including interference that may cause undesired operation.

LED BEHAVIOR

LED	COLOR	DESCRIPTION
Phone Green	Establishing Voice connectivity: Flashing between On Green and Off	
riione dieen		Voice operation: On Green
		Establishing IP connectivity: Flashing between On Green and Off
Internet	Green	Normal Operation: On Green
	Device enter standby mode: LED Off	
		Pairing: Flashing between On Green and Off
WPS	Green	Pairing complete: LED Off
		Pairing unsuccessful / Device enter standby mode: LED Off
		• A WiFi Device is Connected at 2.4G/5G: On Green
WIFI Green	Graan	Data is Being Passed Between the modem and the Connected Device: Flashing
WIFI	Green	Green
		No CPE connected: On Green
		Powering Up: Flashing between On Green and Off
Power	Green	Normal Operation: On Green
		Battery

LED	COLOR	DESCRIPTION
LAN 1G	Green / Yellow	 An Ethernet Device is Connected at 1000 Mbps Speeds: On Yellow An Ethernet Device is Connected at 10/100 Mbps Speeds: On Green Data is Being Passed Between the modem and the Connected Device: Flashing Green (or Yellow) No CPE connected: LED Off
LAN 2.5G	Green / Yellow	 An Ethernet Device is Connected at 2500 Mbps Speeds: On Yellow An Ethernet Device is Connected at 10/100/1000 Mbps Speeds: On Green Data is Being Passed Between the modem and the Connected Device: Flashing Green (or Yellow) No CPE connected: LED Off

DG4244 User Guide Rear Panel I/O



Option (Sold separately) Battery Back Up

When using battery back up unit with Device, battery only be activated by losing PSU power source. Under battery mode the device will limit to support only partial DOCSIS channel & VoIP, and disable Ethernet & WiFi & USB access.

WEB GUI ACCESS AND DETAILS

Local Web GUI Access

Local IP: 192.168.0.1

Login: admin

Password: password

Remote Web GUI Access

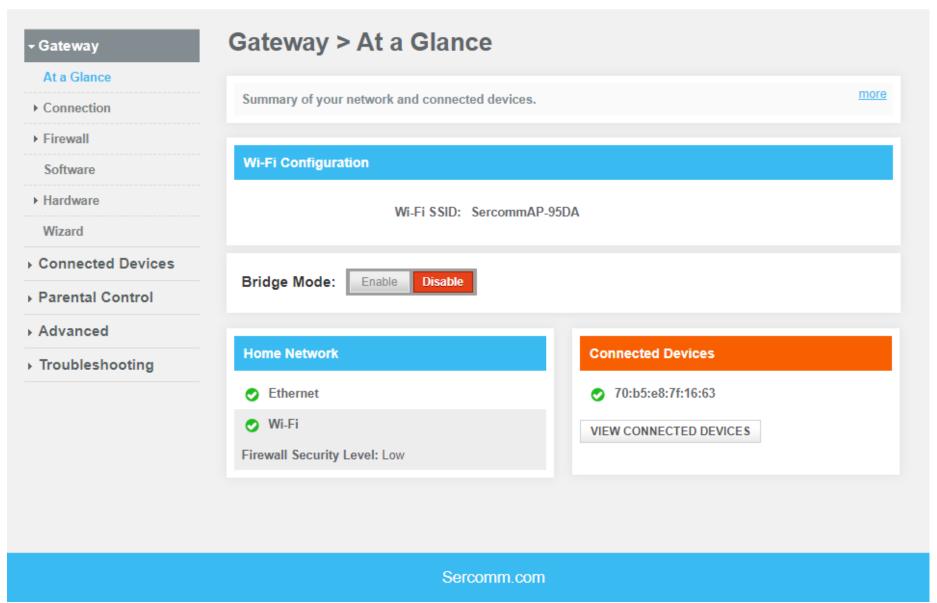
Remote IP: RF IP Address

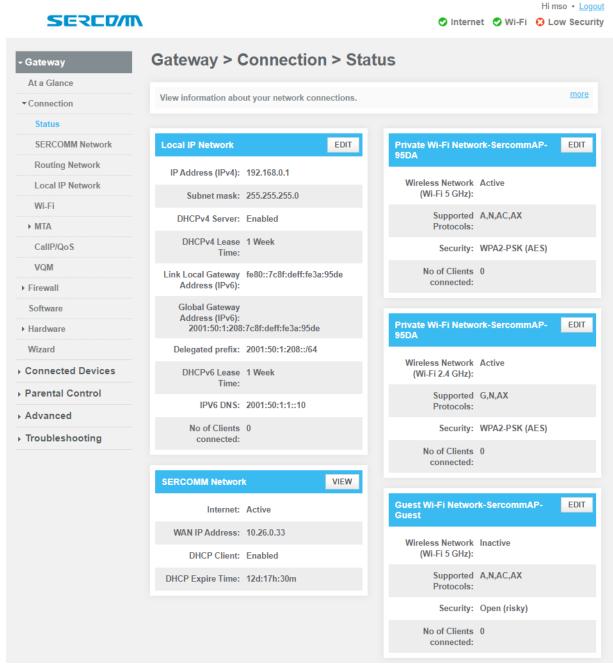
Login: mso

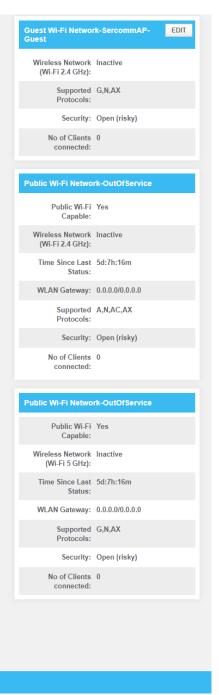
Password: daily password



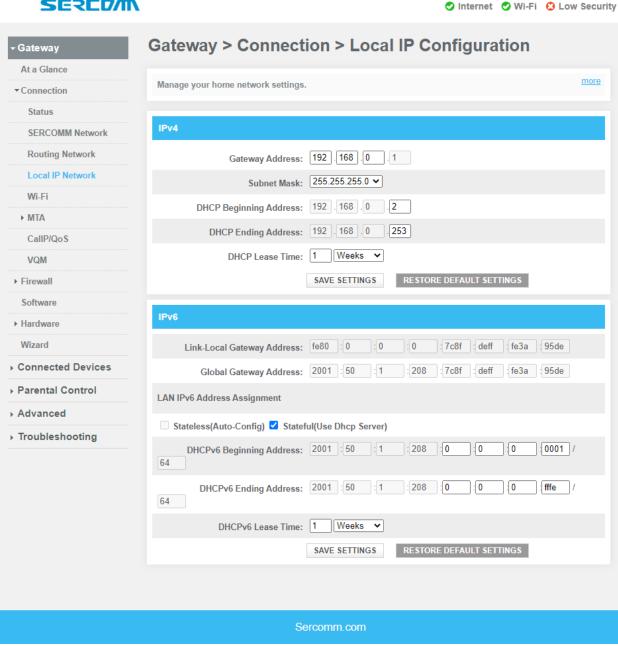
Hi mso • <u>Logout</u> **⊘** Internet **⊘** Wi-Fi **②** Low Security











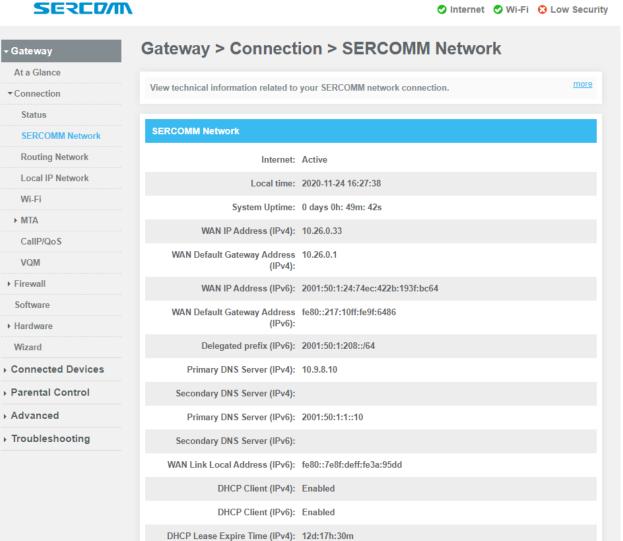
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► MTA

VOM





DHCP Lease Expire Time (IPv6): 0d:0h:42m

WAN MAC: 7C:8F:DE:3A:95:DD eMTA MAC: 7C:8F:DE:3A:95:DB CM MAC: 7C:8F:DE:3A:95:DA

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Initialization Procedure	
Initialize Hardware:	Complete
Acquire Downstream Channel:	Complete
Upstream Ranging:	Complete
DHCP bound:	Complete
Set Time-of-Day:	Complete
Configuration File Download:	Complete
Registration:	Complete
CM DHCP Parameters	
CM IP Address:	10.24.0.21
CM Subnet Mask:	255.255.0.0
CM IP Gateway:	10.24.0.1
CM TFTP Server:	10.9.8.10
CM Time Server:	10.9.8.10
CM Time Offset:	28800
CM Boot File:	generic.cfg
MDD IP Mode Override:	HONOR
Learned IP Mode:	DPM
CM IP Time Remaining	
DHCP Lease Time:	D: 0 H: 21 M: 32 S: 22
DHCP Rebind Time:	D: 0 H: 18 M: 44 S: 47
DHCP Renew Time:	D: 0 H: 10 M: 22 S: 1
CM PacketCable Options	
Sub-option 1 Service Provider's Primary DHCP:	255.255.255.255
Sub-option 1 Service Provider's Secondary DHCP:	255.255.255.255
MTA DHCP Parameters	
MTA FQDN:	
MTA IP Address:	0.0.0.0
MTA IP Subnet Mask:	0.0.0.0
MTA IP Gateway:	0.0.0.0
MTA Bootfile:	

Modulation

QAM256

de				
MTA IP Time Remaining				
DHCP Le	ase Time: D: 0 H:	0 M: 0 S: 0		
DHCP Reb	ind Time: D: 0 H:	0 M: 0 S: 0		
DHCP Rer	new Time: D: 0 H:	0 M: 0 S: 0		
MTA DHCP Option 6				
Network Prin	nary DNS: 0.0.0.0			
Network Second	lary DNS: 0.0.0.0			
MTA PacketCable Option	ns(Option 122)			
Sub	-option 3:			
Sub	-option 6:			
Sub	-option 7: 0			
Sub	option 8: 10			
Cable Modem				
	0.0			
HW Version:	0.D	0 4		
Vendor:		nm Corporation	4040	
BOOT Version:		36C.651996.R.201118	1642	
Core Version:	0.0.0.0			
Model:	DG424			
Product Type:	DG424			
Flash Part:	3744 M	_		
Download Version:	1.14.04			
Serial Number:	2010DI	1S000025		
Downstream	Channel Bondii	ng Value		
Index	2	1	3	4
Lock Status	Locked	Locked	Locked	Locked
Frequency	537000000	531000000	543000000	549000000
SNR	43.376591	43.376591	43.376591	44.625977
Power Level	4.900002	4.800003	4.599998	4.500000

QAM256

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QAM256

QAM256

Downstream OFDM Channels	Channel Bonding Value	
ChannellD	0	5
ChanIndicator		backupPrimary
SubcarrierZeroFreq	0	210100000
FirstActive SubcarrierNum	0	3596
LastActive SubcarrierNum	0	4595
NumActiveSubcarriers	0	968
SubcarrierSpacing	0	25
PlcFreq	0	308000000
LockStatus	Not Locked	Locked

Upstream	Channel Bonding Value	
Index	1	2
Lock Status	Locked	Locked
Frequency	34400000	28000000
Symbol Rate	5120 KSym/sec	5120 KSym/sec
Power Level	30.270599	30.270599
Modulation	64QAM	64QAM
Channel Type	US_TYPE_ATDMA	US_TYPE_ATDMA

Upstream OFDMA Channels	Channel Bonding Va	ılue
ChannellD	0	0
LockStatus	Not Locked	Not Locked
SubcarrierZeroFreq	0	0
FirstActive SubcarrierNum	0	0
LastActive Subcarrier Num	0	0
NumActive Subcarriers	0	0
SubcarrierSpacing	0	0
TxPower	0	0

CM Error Codeword	ls			
Unerrored Codewords	8734	8612	8506	8402
Correctable Codewords	0	0	0	0
Uncorrectable Codewords	0	0	0	0

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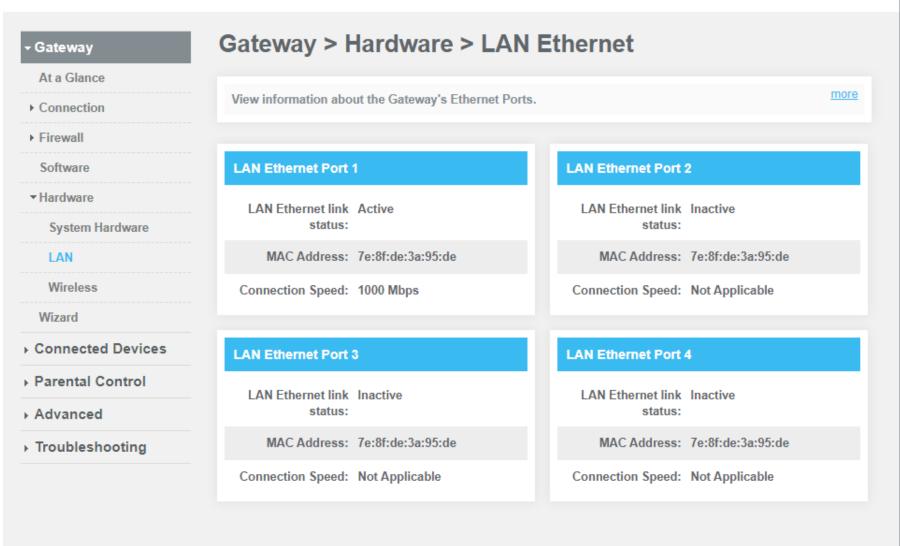
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IPv4 Routing Table			
IP/Prefix	Gateway	Interface	Metric
0.0.0.0/0	10.26.0.1	erouter0	0
10.26.0.0/16	0.0.0.0	erouter0	0
192.168.0.0/24	0.0.0.0	brlan0	0
192.168.2.0/24	0.0.0.0	brlan7	0
IP/Prefix	Gateway	Interface	Metric
2001:50:1:24:74ec:422b:1 93f:bc64		erouter0	256
2001:50:1:24::/64		erouter0	256
2001:50:1:208::/64		brlan0	256
::/0	fe80::217:10ff:fe9f:6486	erouter0	1024
	10.26.0.0/16 192.168.0.0/24 192.168.2.0/24 IPv6 Routing Table IP/Prefix 2001:50:1:24:74ec:422b:1 93f:bc64 2001:50:1:24::/64 2001:50:1:208::/64	0.0.0.0/0 10.26.0.1 10.26.0.0/16 0.0.0.0 192.168.0.0/24 0.0.0.0 192.168.2.0/24 0.0.0.0 IPv6 Routing Table IP/Prefix Gateway 2001:50:1:24:74ec:422b:1 93f:bc64 2001:50:1:24::/64 2001:50:1:208::/64	0.0.0.0/0 10.26.0.1 erouter0 10.26.0.0/16 0.0.0.0 erouter0 192.168.0.0/24 0.0.0.0 brlan0 192.168.2.0/24 0.0.0.0 brlan7 IPv6 Routing Table IP/Prefix Gateway Interface 2001:50:1:24:74ec:422b:1 erouter0 2001:50:1:24::/64 erouter0 2001:50:1:208::/64 brlan0

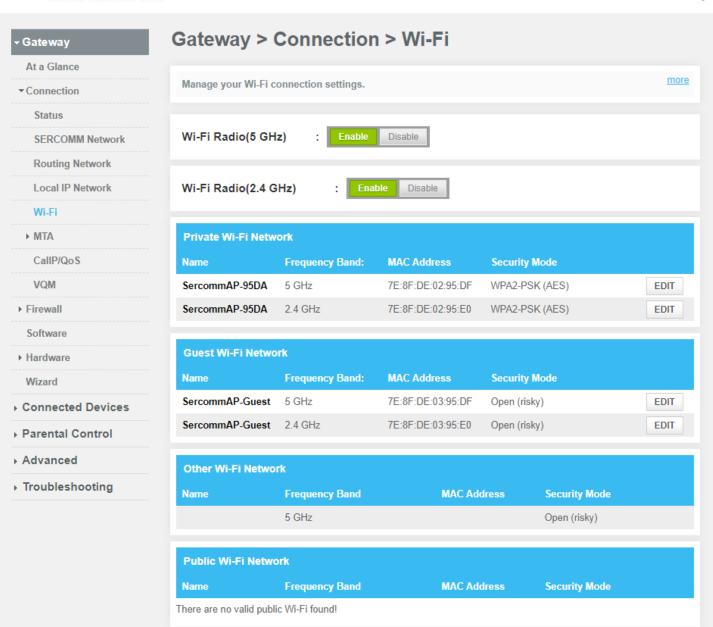


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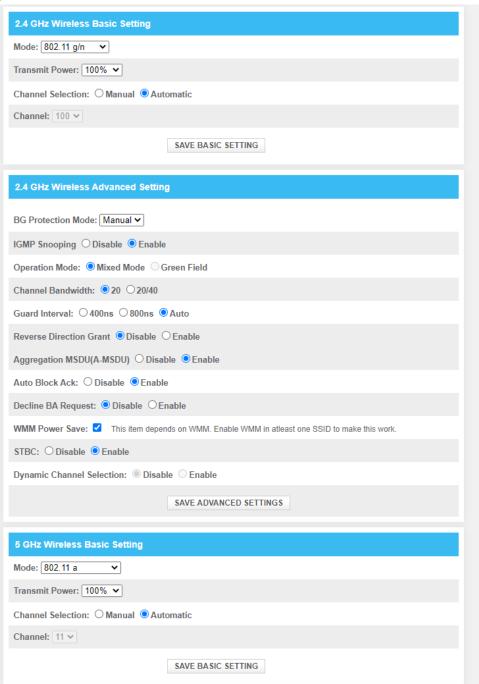




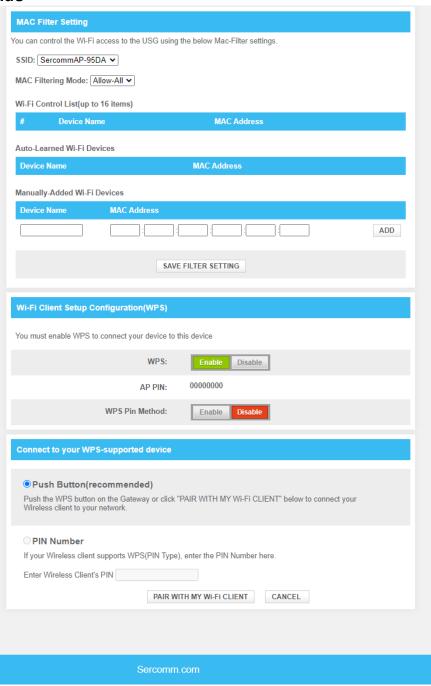
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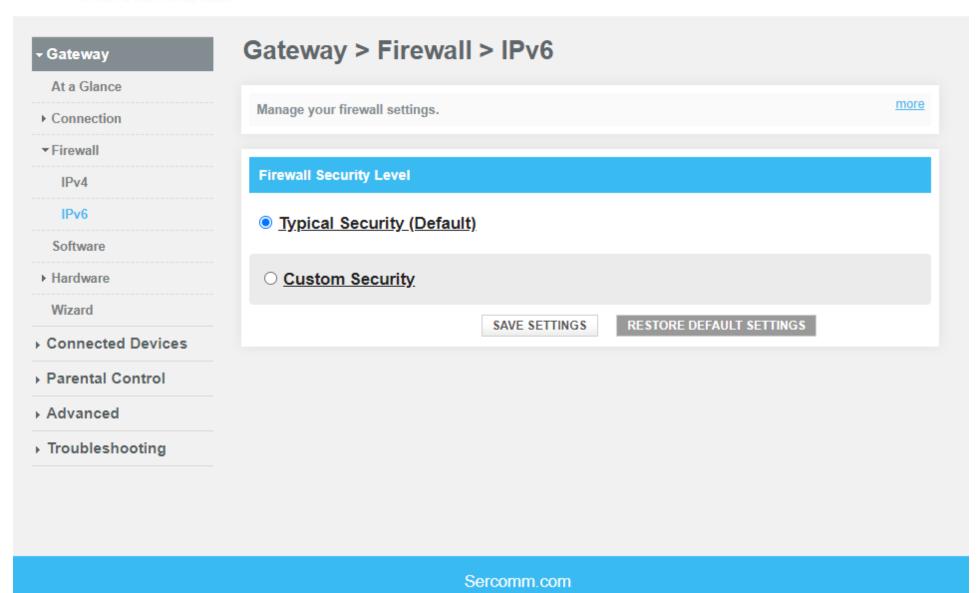
5 GHz Wireless Advanced Setting		
IGMP Snooping ○ Disable ● Enable		
Operation Mode: Mixed Mode Green Field		
Channel Bandwidth: 20 ○ 20/40		
Guard Interval: ○ 400ns ○ 800ns ● Auto		
Reverse Direction Grant Disable Enable		
Aggregation MSDU(A-MSDU) ○ Disable ● Enable		
Auto Block Ack: ○ Disable ● Enable		
Decline BA Request: ● Disable ○ Enable		
DFS Channel Selection In Auto Mode: Disable Enable		
WMM Power Save: This item depends on WMM. Enable WMM in atleast one SSID to make this work.		
STBC: ○ Disable ● Enable		
Dynamic Channel Selection: Disable Enable		
SAVE ADVANCED SETTINGS		
Band Steering		
Enable: Disable Enable		
Logging: STEERING HISTORY		
Utilzation Threshold(5 GHz): 0		
Signal Threshold(5 GHz): 0		
Physical Rate Threshold(5 GHz): 0		
Utilzation Threshold(2.4 GHz): 0		
Signal Threshold(2.4 GHz): 0		
Physical Rate Threshold(2.4 GHz): 0		
SAVE BAND STEERING SETTINGS		





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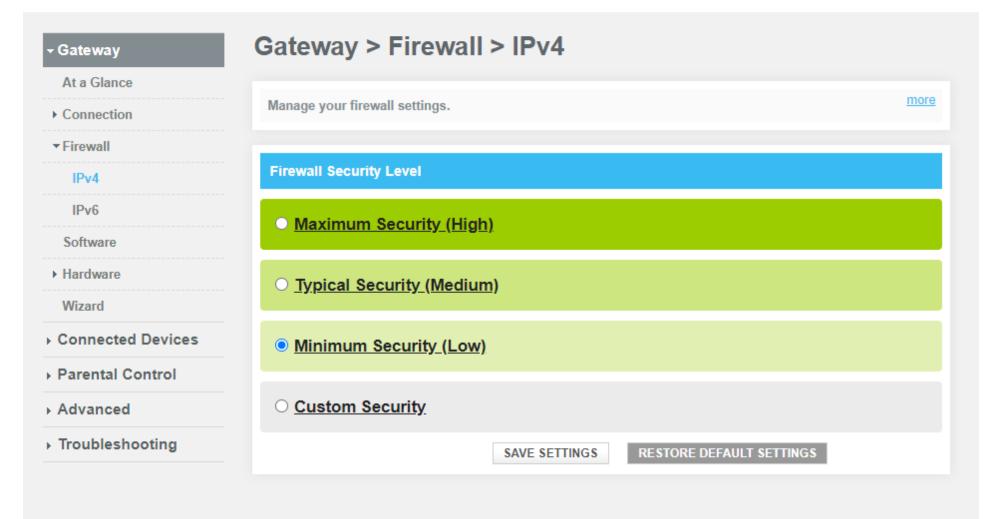
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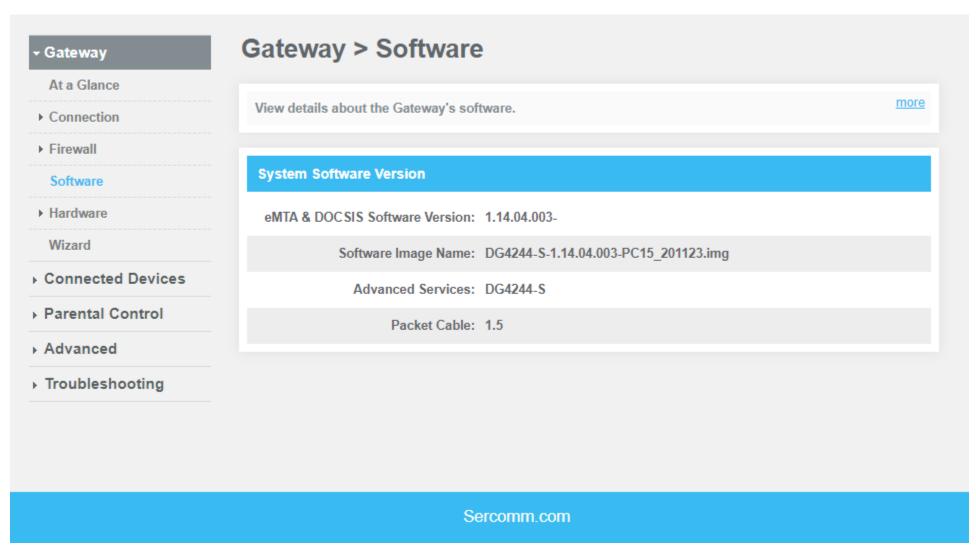




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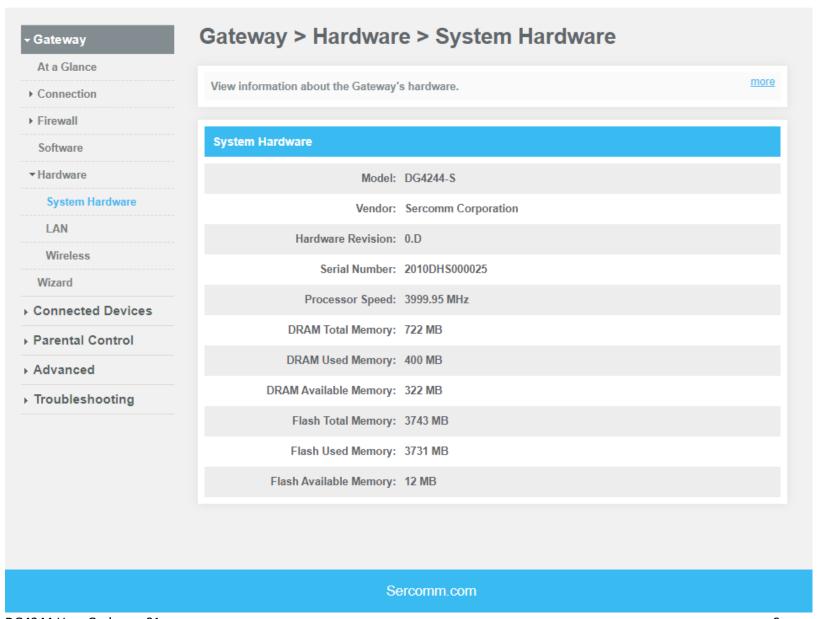


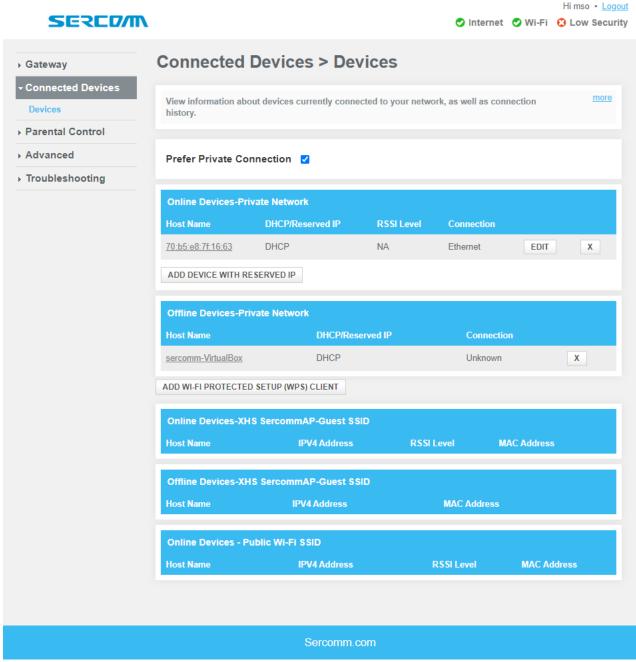






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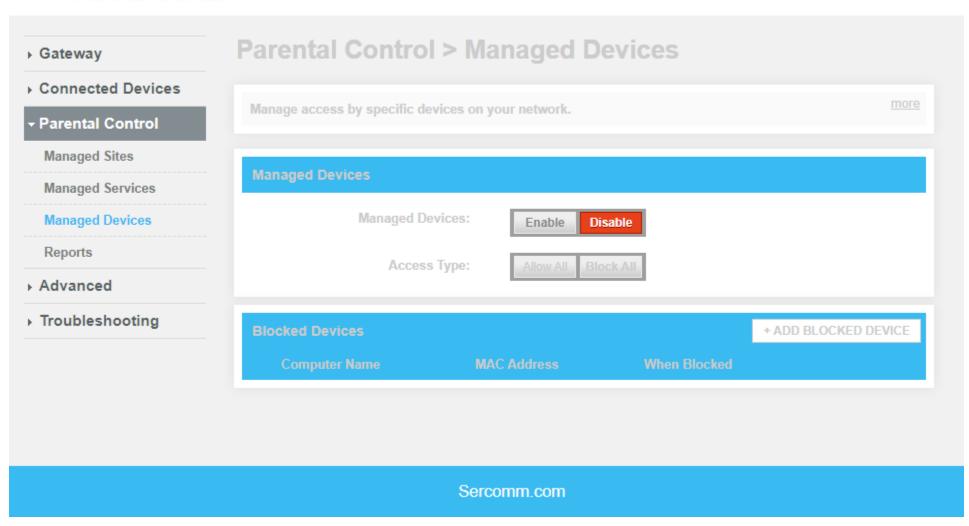






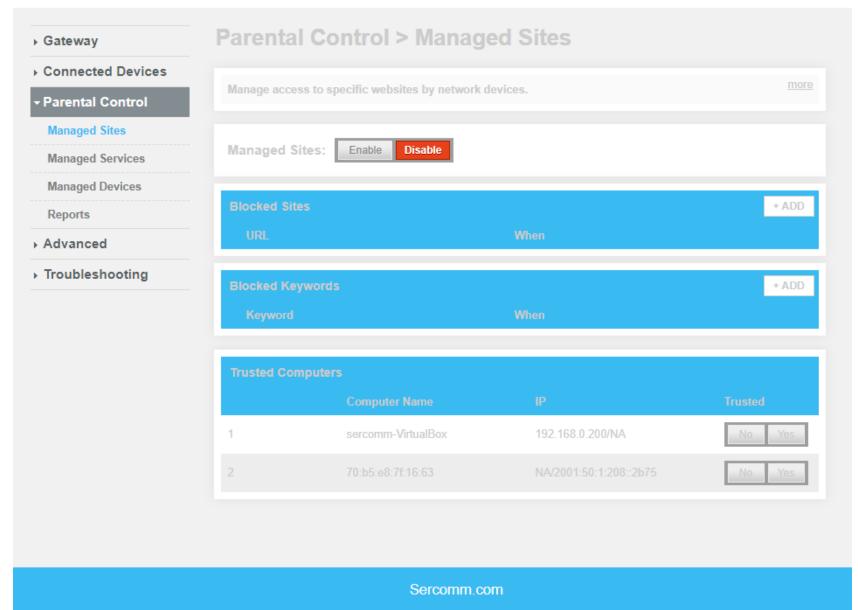






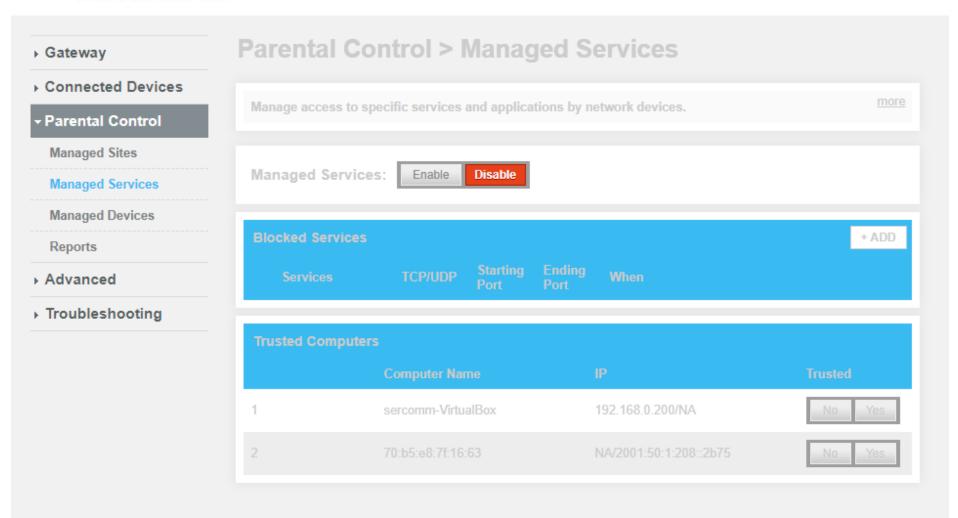


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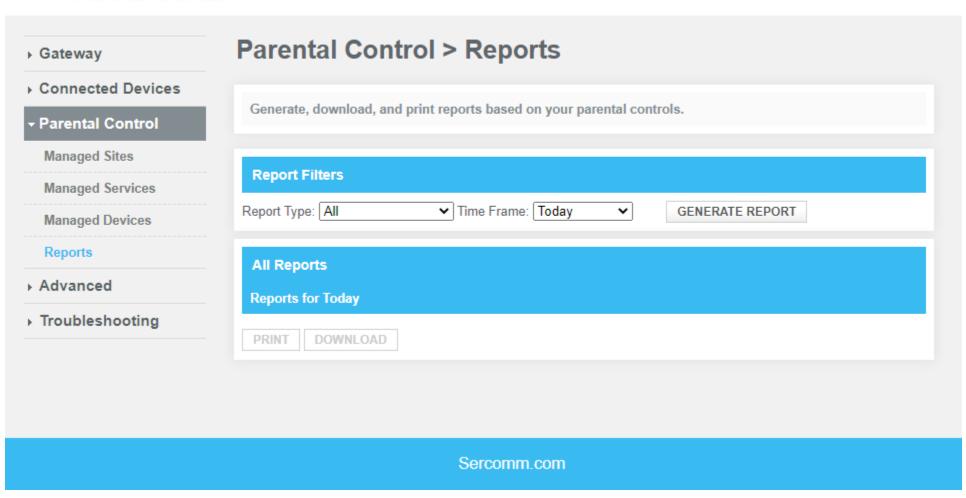


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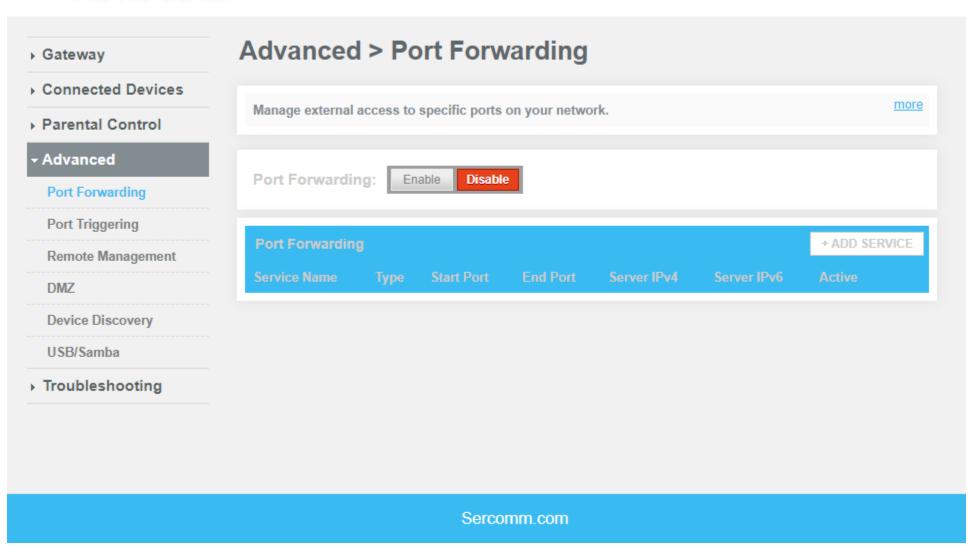






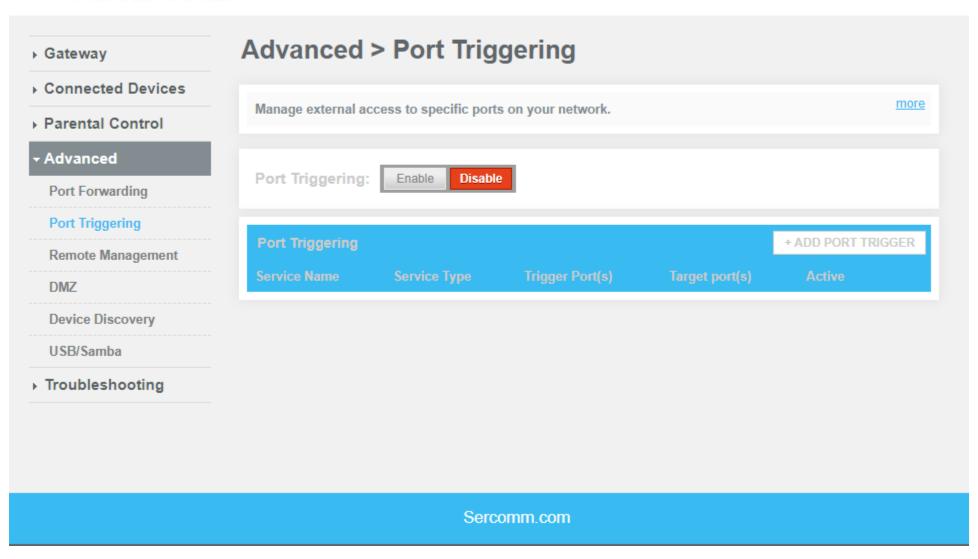


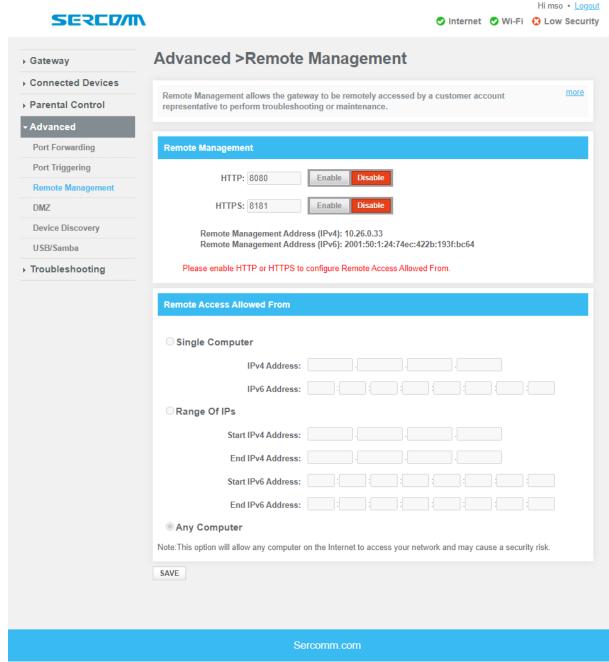








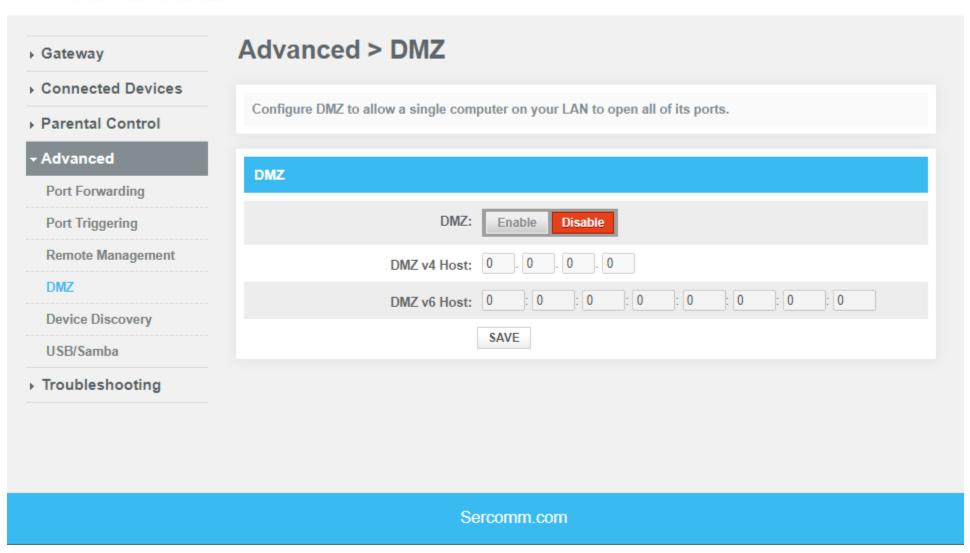




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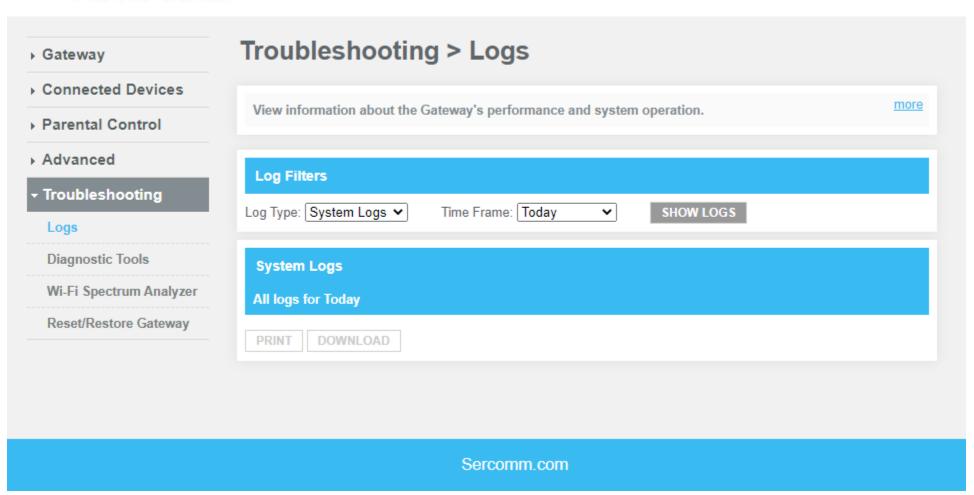
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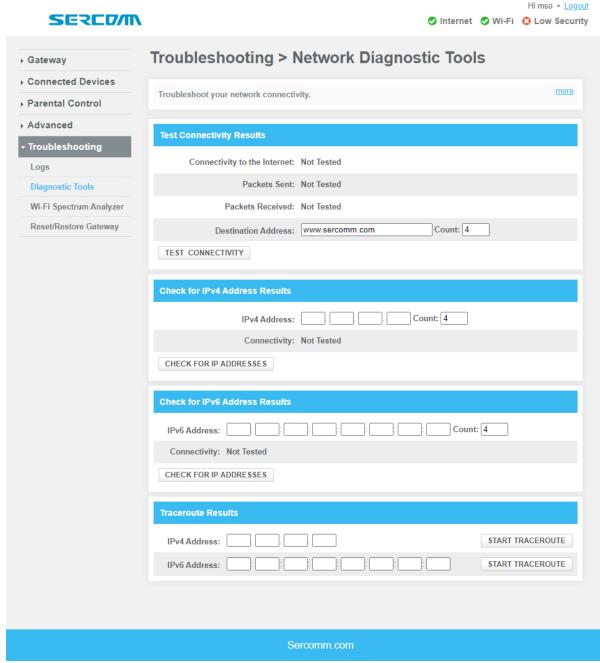
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Manage UPnP network. Device Discovery UPnP: Enable Disable Advertisement Period: 30 minutes DMZ Device Discovery USB/Samba SAVE	Gateway	Advanced > Device Discovery
Parental Control Advanced Port Forwarding Port Triggering Remote Management DMZ Device Discovery UPnP: Enable Disable Advertisement Period: 30 minutes DMZ Time To Live: 5 hops SAVE	Connected Devices	Manager LIDe Disease de la modernitation de la
Port Forwarding Port Triggering Remote Management DMZ Device Discovery UPnP: Enable Disable Advertisement Period: 30 minutes Time To Live: 5 hops SAVE	Parental Control	Manage UPnP network.
Port Triggering Remote Management Advertisement Period: DMZ Device Discovery USB/Samba UPnP: Enable Disable 30 minutes 5 hops		Device Discovery
DMZ Time To Live: Device Discovery USB/Samba SAVE		UPnP: Enable Disable
Device Discovery USB/Samba Time To Live: 5 hops SAVE		Advertisement Period: 30 minutes
SAVE		Time To Live: 5 hops
Troubleshooting	USB/Samba	SAVE
	Troubleshooting	
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