Huawei AR100,AR120 and AR200 Series Enterprise Routers Datasheet

HUAWEI TECHNOLOGIES CO., LTD.

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Enterprise Routers Datasheet

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Huawei's next-generation routers, the AR100, AR120 and AR200 series are designed for enterprise branch offices and small businesses, delivering a comprehensive set of services, including routing, switching, voice, security, and wireless access.

Product Overview

The AR100, AR120 and AR200 series are fixed interface routers that provide a comprehensive platform for a variety of network topologies, including IMS, NGN, WAN and PSTN. The AR100, AR120 and AR200 also employ embedded hardware encryption for security as well as a voice Digital Signal Processor (DSP) for voice services.

The AR100, AR120 and AR200 series are mature, stable and quiet routers that offer high performance functionality for small networks, enabling small businesses to greatly increase productivity at a lower cost.

AR100s, AR120s and AR200s are easy to deploy, configure and customize, greatly reducing cost of deployment and maintenance, while offering maximum value to customers. These models allow network administrators to expand their networks easily and quickly, saving time and costs. The routers support firewalls, call processing, and application program functionalities. The AR100, AR120 and AR200 series includes the following models:

- AR109, AR109W, AR109GW-L

- AR129CVW, AR129CGVW-L, AR129CV

- AR201,AR207

The specifications for these models are shown in the following table.

Table 1: AR100 Models

AR109

- WAN speed with services (IMIX): 40 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, 1 x GE WAN
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR109W

- WAN speed with services(IMIX): 40 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, 1 x GE WAN
- WLAN: 802.11b/g/n
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR109GW-L

- WAN speed with services(IMIX): 40 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, 1 x GE WAN
- LTE: LTE FDD
- WLAN: 802.11b/g/n
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

Table2: AR120 Models

AR129CV

- WAN speed with services (IMIX): 50 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, 1 x GE WAN
- Voice ports: 2 x FXS
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR129CVW

- WAN speed with services (IMIX): 50 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, 1 x GE WAN
- Voice ports: 2 x FXS
- WLAN: 802.11ac, 802.11b/g/n
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

AR129CGVW-L

- WAN speed with services (IMIX): 50 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, 1 x GE WAN
- Voice ports: 2 x FXS
- LTE: LTE FDD
- WLAN: 802.11ac, 802.11b/g/n
- Dimensions (H x W x D): 30 mm x 230mm x 130 mm(1.18 in. x 9.1 in. x 5.1 in.)

Table3: AR200 Models

AR201

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN(can be configured as WAN interfaces), 1 x FE WAN
- Dimensions (H x W x D): 44.0 mm x 300.0 mm x 216.4 mm (1.73 in. x 11.8 in. x 8.5 in.)

AR207

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 8 x FE LAN(can be configured as WAN interfaces), 1 x ADSL2+ Annex A/M
- Dimensions (H x W x D): 44.0 mm x 300.0 mm x 216.4 mm (1.73 in. x 11.8 in. x 8.5 in.)

Product Features and Benefits

❶ Small Size and High Performance

- More applications: Huawei series routers use the dual-core processor that isolates the control plane from the forwarding plane and processes more enterprise applications. Huawei series routers improve user experience for multimedia service when streams overlap.

- Higher performance: The AR100s, AR120s and AR200s can process various enterprise applications, and its service processing capability is four times that in the industry.

- Greater potential: Huawei series routers provide the capability to migrate services to the 3G and LTE networks.

❷ Low Investment with High Returns

- Easy to construct: The AR100s, AR120s and AR200s supports plug-and-play, intelligent configuration, and deployment using the USB flash drive. It can function immediately after being installed. Users do not need to configure an IP address manually. The PPP and VPN indicators show the status of corresponding services. The AR100s, AR120s and AR200s helps to quickly construct an enterprise IT network.

- Simplified solution: Huawei provides an all-around solution that integrates the routing, switching, voice, security, and wireless services. Customers can customize solutions as required.

- Easy to expand: Huawei series routers have four/eight FE/GE ports, can access more employee for small enterprises. The two uplink WAN ports implement load balancing and link protection, maximizing the return on investments.
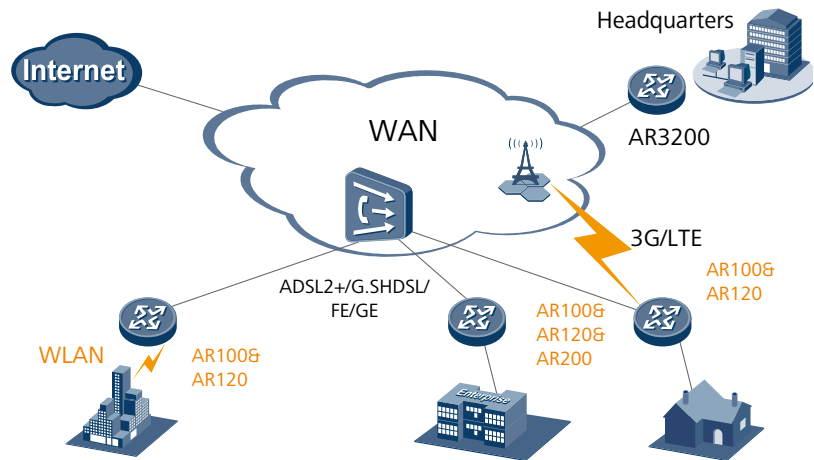
❸ Small footprint on a Comprehensive Platform

- Maturity and Stableness: The AR100s, AR120s and AR200s uses the Huawei VRP operating system and VSP voice platform. In addition, the AR100s, AR120s and AR200s uses modularized hardware design, which brings good user experience.

- Low-noise office: Huawei series routers have no fan, which brings low noise and good user experience.

- Secure environment: The lightning failure rate AR100s, AR120s and AR200s is only 3% of industry average. The AR100s, AR120s and AR200s can be applied in the harsh environment.
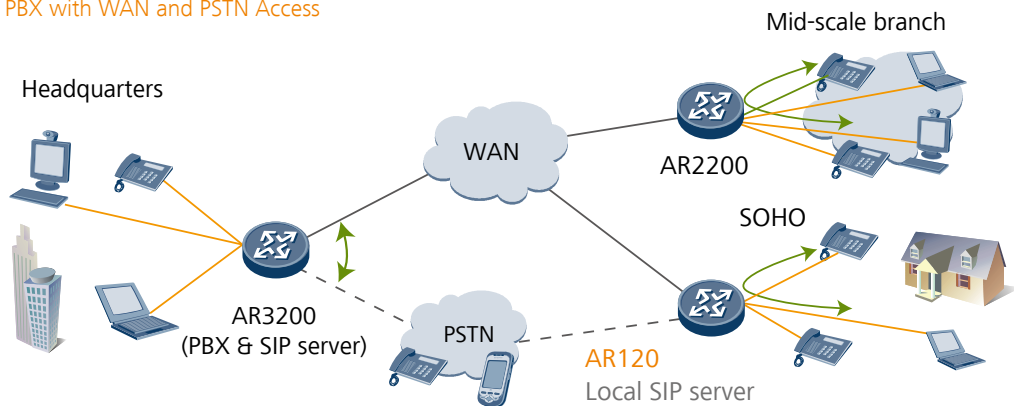
Sample Deployments

WAN Access

Example deployment in branch networks for WAN access. In this example, the AR100s, AR120s and AR200s function as the egress routers on enterprise branch networks and provide multiple access methods, including Ethernet, xDSL, 3G, LTE and WLAN.

Headquarters

Internet

WAN

AR3200

3G/LTE

AR100& AR120

ADSL2+/G.SHDSL/ FE/GE

WLAN

AR100& AR120

AR100& AR120& AR200

Enterprise Voice Services Deployment

IP PBX with WAN and PSTN Access

Mid-scale branch

Headquarters

WAN

AR2200

SOHO

AR3200
(PBX & SIP server)

PSTN

AR120
Local SIP server

This illustration shows AR120 series router deployed at an enterprise branch with access to a WAN and a PSTN. If a fault occurs on the WAN, the PSTN acts as a backup to the WAN and ensures that call services remain uninterrupted.AR120s are deployed at enterprise branch offices to provide intelligent, integrated dialing across the network. When deployed as voice service gateways, AR120s can function as IP PBX boxes and SIP access gateways.

IP PBX.AR120s have a built-in PBX, which supports the enterprise main number, interactive voice response (IVR), and billing query functions. These features help enhance the corporate image of small businesses by allowing them to look more professional to their customers, while simultaneously improving the efficiency of their enterprise communications.

SIP Server. AR120s have a built-in SIP server that ensures reliability of voice services. If the SIP server at the headquarters office becomes unreachable, the local built-in SIP server at the branch office ensures that communication remains uninterrupted between branch offices and the PSTN network.
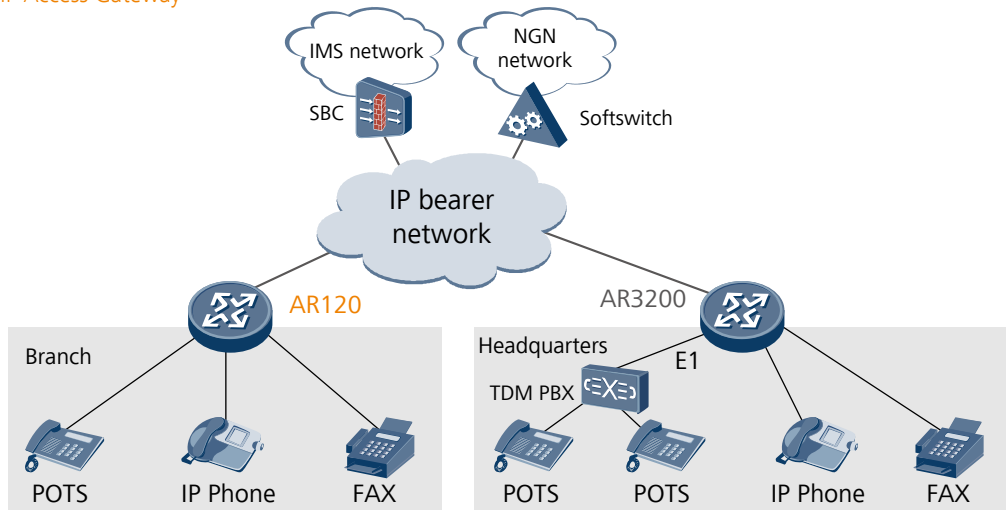
The AR120 series routers provide integrated voice, fax, and IP services. The AR120s can function as SIP access gateways for enterprise branch offices that transform traditional phone signals into Voice over IP (VoIP). Typically, AR120s are connected upstream from the IMS and NGN networks to enable anytime voice communication on any media, such as phones, handsets, and computers.

VPN Deployment for Secure Enterprise Communications

VPNs Connecting Branches and Partners to Headquarters

This illustration shows how to deploy AR100s, AR120s and AR200s using VPNs to connect branches and partners to headquarters.

AR100s, AR120s and AR200s provide various VPN tunnel protocols to ensure secure communications between:

- Enterprise branches and other branch offices

- Enterprise branches and headquarters

- Partners and enterprise resources

AR100s, AR120s and AR200s support the following VPN tunnel protocols:

- GRE VPN

- IPSEC VPN

- DSVPN

- L2TP VPN

AR100s, AR120s and AR200s support fast tunnel set-up and authentication.
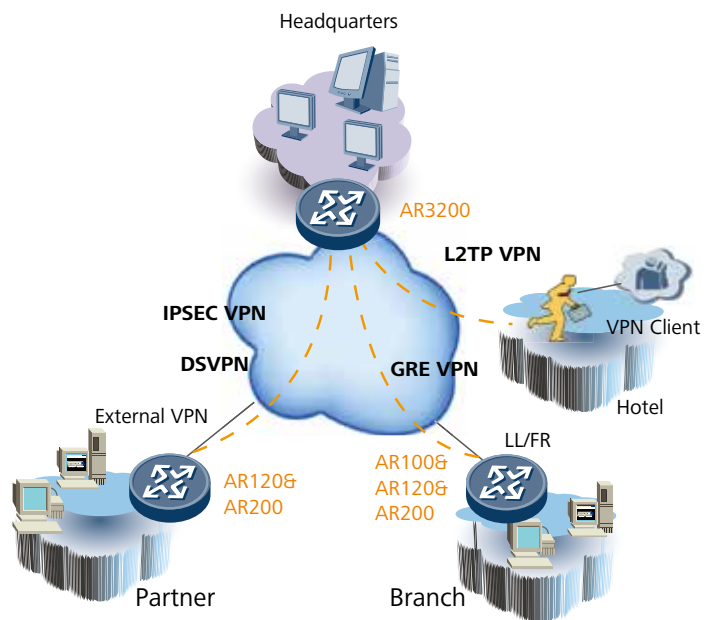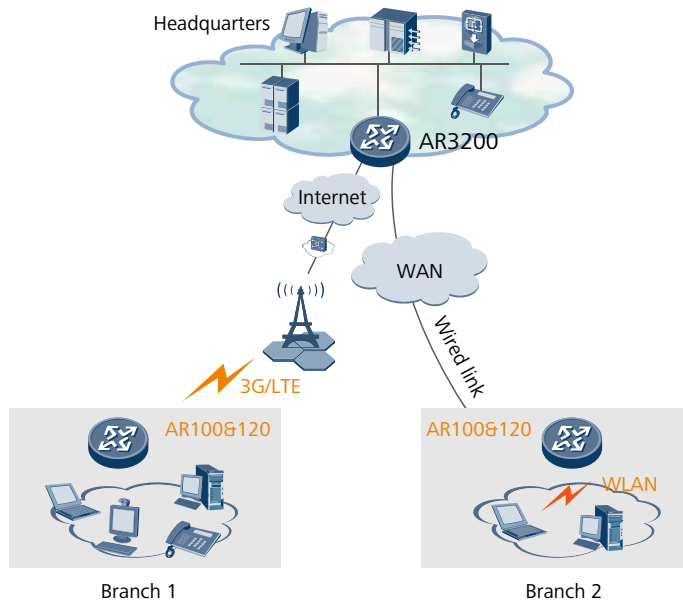
Wireless Access and Management in Branch

3G/LTE and Wi-Fi Wireless Access application

The AR100s, AR120s routers complied with 3G and LTE standards including HSPA+ and FDD LTE, meeting the wireless communication requirements between branches and the headquarters. In addition, the 3G or LTE data link can be used as a backup for wired link to protect the xDSL, FE/GE, uplinks. The backup link improves network stability and reduces network construction costs.

Some models of AR100s, AR120s routers are dual SIM devices, providing dual SIM standby. The customers can switch the SIM card manually according to 3G/LTE network standards. In addition, the device can switch to the backup SIM card when signal is weak to avoid link interruption.

The AR100s, AR120s routers integrated WLAN wireless access capabilities, support 802.11a/b/g/n standard communication, Built-in AC function make the deployment and management more conveniently. Its wireless features can meet users' demand for wireless access, and help enterprises to build a branch network flexibly.

Wireless AC Managementapplication

The AR120s and AR200s routers integrated AC (Access Controller, a wireless controller) functionality, which can manage the wireless AP (Access Point, Access Point) in wireless LAN. AR supported rich certification and flexible user access control, which can provide security access guarantee for Wi-Fi users. The rich wireless capabilities integrated in one device, this can realize centralized management of wired and wireless network, meet the customers' requirements of building different scale enterprises networks.
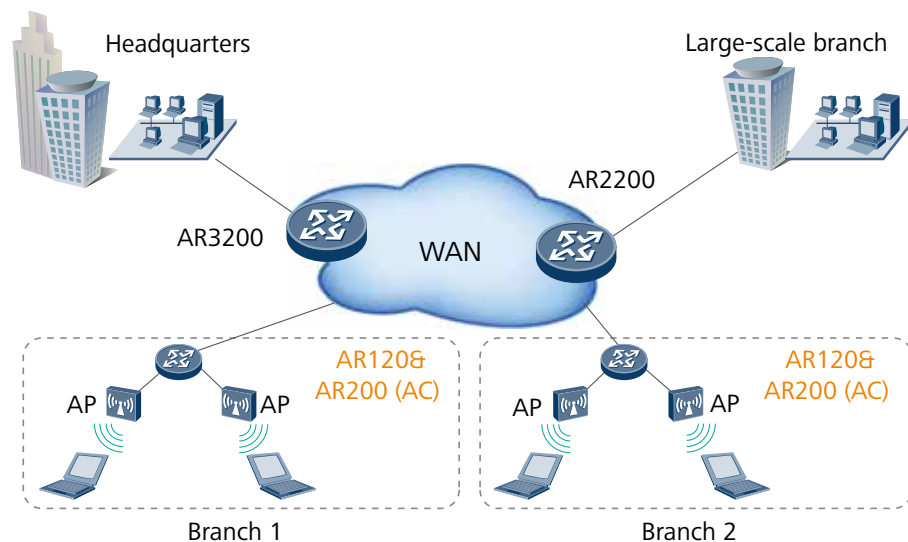
Technical Specifications

Table1: AR100s Technical Specifications

Item	AR109	AR109W	AR109GW-L
Hardware			
WAN speed with services* (IMIX)	40 Mbps	40 Mbps	40 Mbps
Number of recommended users	20	20	20
Fixed WAN ports	1 x VDSL2(compatible with ADSL2+ Annex A/M，Annex B/J. Support Vectoring), 1 x GE	1 x VDSL2(compatible with ADSL2+ Annex A/M，Annex B/J. Support Vectoring), 1 x GE	1 x VDSL2(compatible with ADSL2+ Annex A/M，Annex B/J. Support Vectoring), 1 x GE
Fixed Ethernet switching ports	4 x GE	4 x GE	4 x GE
Integrated LTE	-	-	LTE FDD
Wi-Fi	-	802.11 b/g/n	802.11 b/g/n
USB 2.0 ports	1	1	1
console ports	1	1	1
Memory size	256 MB	256 MB	256 MB
Flash memory	256 MB	256 MB	256 MB
Maximum power	24 W	24 W	24W
Power supply (AC)	100 V to 240 V		
Frequency	50/60 Hz		
Dimensions (H x W x D)	30mm x 230 mm x 130mm (1.18 in. x 9.1 in. x 5.1 in.)		
Operating temperature	0°C to 40°C		
Relative humidity	5% to 95% (non-condensing)		
Software			
Basic features	ARP , PBR, DNS, DHCP, NAT		
WLAN(AP)	-	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management	
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP, etc.		
IPv4 routing	Routing policy,static route, RIP, BGP		
IPv6 routing	Routing policy, static route, RIPng,BGP4+		
Multicast	IGMP version1/2/3		
VPN	IPSec VPN, GRE VPN,L2TP VPN		

Item	AR109	AR109W	AR109GW-L
QoS	priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ)		
Security	ACL, firewall, AAA authentication, ICMP attack defense, URPF,HTTPS,		
Management and maintenance	Upgrade management, device management, web-based GUI, RMON, CWMP, Auto-Config, site deployment using USB disk, CLI, SSH (v1/v2)		

Table 2: AR120s Technical Specifications

Item	AR129CVW	AR129CV	AR129CGVW-L
Hardware			
WAN speed with services* (IMIX)	50 Mbps	50Mbps	50 Mbps
Number of recommended users	20	20	20
Fixed WAN ports	1 x VDSL2 (compatible with ADSL2+ Annex A/M, Annex B/J. Support Vectoring), 1 x GE	1 x VDSL2(compatible with ADSL2+ Annex A/M, Annex B/J. Support Vectoring), 1 x GE	1 x VDSL2 (compatible with ADSL2+ Annex A/M, Annex B/J. Support Vectoring), 1 x GE
Fixed Ethernet switching ports	4 x GE(can be configured as WAN interfaces)	4 x GE(can be configured as WAN interfaces)	4 x GE(can be configured as WAN interfaces)
Fixed voice ports	2 x FXS	2 x FXS	2 x FXS
Integrated LTE	-	-	FDD LTE
WiFi	802.11b/g/n,2x2 MIMO 802.11ac, 2 x 2MIMO	-	802.11b/g/n,2x2 MIMO 802.11ac, 2 x 2MIMO
USB 2.0 ports	1	1	1
console ports	1	1	1
Memory size	256 MB	256 MB	256 MB
Flash memory	256 MB	256 MB	256 MB
Maximum power	24 W	24 W	24 W
Power supply (AC)	100 V to 240 V		
Frequency	50/60 Hz		

Item	AR129CVW	AR129CV	AR129CGVW-L
Dimensions (H x W x D)	30 mm x 230 mm x 130 mm (1.18 in. x 9.1 in. x 5.1 in.)		
Operating temperature	0°C to 40°C		
Relative humidity	5% to 95% (non-condensing)		
Software			
Basic features	ARP , PBR, DNS, DHCP, NAT		
WLAN(AC)	AP management(AC discovery/AP access/AP management),CAPWAP,WLAN user management , WLAN radio management（802.11a/b/g/n）,WLAN QoS（WMM), WLAN security（WEP/WPA/WPA2/Key management）		
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP, etc.		
IPv4 routing	Routing policy,static route, RIP, BGP		
IPv6 routing	Routing policy,static route, RIPng, BGP4+		
Multicast	IGMP version1/2/3,MLD,		
VPN	IPSec VPN, GRE VPN, DSVPN, L2TP VPN		
QoS	priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy),		
Security	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, blacklist, IP source tracing, PKI, HTTPS,		
Management and maintenance	Upgrade management, device management, web-based GUI, SNMP(v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, site deployment using USB disk, CLI, SSH (v1/v2)		

Table 3: AR200 Technical Specifications

Item	AR201	AR207
Hardware		
WAN speed with services* (IMIX)	150 Mbps	150 Mbps
Number of recommended users	50	50
Fixed WAN ports	1 x FE	1 x ADSL2+ Annex A/M
Fixed Ethernet switching ports	8 x FE(can be configured as WAN interfaces)	8 x FE(can be configured as WAN interfaces)
USB 2.0 ports	1	1
Console ports	1	1

Item	AR201	AR207
Memory size	512 MB	512 MB
Flash memory	512 MB	512 MB
Maximum power	36 W	36 W
Power supply (AC)	100 V to 240 V	
Frequency	50/60 Hz	
Dimensions (H x W x D)	44.0 mm x 300.0 mm x 216.4 mm (1.73 in. x 11.8 in. x 8.5 in.)	
Operating temperature	0˚ C to 45˚ C	
Relative humidity	5% to 95% (non-condensing)	
	Software	
Basic features	DHCP server/client, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, Sub interface management	
WLAN(AC)	AP management(AC discovery/AP access/AP management),CAPWAP,WLAN user management , WLAN radio management（802.11a/b/g/n）,WLAN QoS（WMM）, WLAN security（WEP/WPA/WPA2/Key management）	
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP, etc.	
IPv4 unicast routing	Routing policy, static route, RIP, OSPF, IS-IS, BGP	
IPv6 unicast routing	Routing policy, static route, RIPng, OSPFv3, IS-ISv6, BGP4+	
Multicast	IGMP version1/2/3, PIM SM, PIM DM, MSDP	
VPN	IPSec VPN, GRE VPN, DSVPN, L2TP VPN	
QoS	Diffserv mode, Priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), HierarchicalQoS, Smart Application Control (SAC)	
Security	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, IP source tracing, PKI,	
Management and maintenance	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, site deployment using USB disk, CLI, SSH (v1/v2)	

*Service performance depending on specific feature configuration.

How to Configurethe Modular AR100, AR120 and AR200 Routers

The AR100, AR120 and AR 200 series routers require 2 types of configuration modules:

• Basic software configuration
• Software license configuration

The basic software configuration modules provide functions such as routing, switching, voice, and security. The software license configuration modules provide additional functions such as AC.

Ordering Information

The AR100, AR120 and AR200 series routers are configured by selecting and installing the appropriate configuration module. The configuration module ordering information and descriptions are shown in the following table4-7.

Table 4: Chassis Options

Chassis Configuration	Description
AR109	AR109,1 GE WAN,1 VDSL WAN,4 GE LAN,1 USB2.0
AR109W	AR109W,1 GE WAN,1 VDSL WAN,4 GE LAN,WIFI 2.4G,1 USB2.0
AR109GW-L	AR109GW-L,1 GE WAN,1 VDSL WAN,4 GE LAN,1 LTE,WIFI 2.4G,1 USB2.0
AR129CV	AR129CV,1 GE WAN,1 VDSL WAN,4 GE LAN,2 FXS,1 USB2.0
AR129CVW	AR129CVW,1 GE WAN,1 VDSL WAN,4 GE LAN,2 FXS,WIFI 2.4G+5G,1 USB2.0
AR129CGVW-L	AR129CGVW-L,1 GE WAN,1 VDSL WAN,4 GE LAN,1 LTE,2 FXS,WIFI 2.4G+5G,1 USB2.0
AR0M0001BA00	AR201,1FE WAN,8FE LAN,1USB
AR0M0007BA00	AR207,ADSL2+ ANNEX A/M WAN,8FE LAN,1USB

Table 5: Power Module Options

Power Module	Description
W0ACPSE03	Adapter,0degC,40degC,90V,264V,12V/3A,C8/4pin

Table 6: License Options

License	Description
LAR0DATAE01	AR200 Value-Added Data Package
LAR0AC01	AR200 AC Express License
LAR0CMBEST01	AR CM&BEST License-5 telephones
LAR0CMBEST02	AR CM&BEST License-25 telephones
LAR0CT01	AR CT(Call Trunk) License-5 sessions
LAR0CT02	AR CT(Call Trunk) License-25 sessions
LAR0IVR01	AR IVR(Interactive Voice Response) License-1 session
LAR0SECE01	AR200 Value-Added Security Package
LAR0DSVPN01	AR200 DSVPN(Dynamic Smart VPN) Function

Table 7: SD Card and USB Disk Options

SD Cards & USB Disks	Description
NUSBDSK16	USB Flash Disk,72mmX21.9mmX13mm,16GB,USB2.0,Alcor Micro MCU

Professional Service and Support

Huawei Professional Services provides expert network design and service optimization tasks, helping customers design and deploy a high-performance network that is reliable and secure, maximizing return on investment as well as reducing operational expenses.

Company Addendum

For more information, please visit http://enterprise.huawei.com/en/ or contact your local Huawei office.