Huawei AR160 Series
Enterprise Routers Datasheet

HUAWEI

AR160 Series Enterprise Routers Datasheet

Huawei's next-generation routers, the AR160 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 AR160 series are fixed interface routers that provide a comprehensive platform for a variety of network topologies, including IMS, NGN, WAN and PSTN. The AR160s also employ embedded hardware encryption for security as well as a voice Digital Signal Processor (DSP) for voice services.

The AR160 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.

AR160s 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 AR160 series include the following models:

• AR161, AR161G-L, AR161W, AR169, AR169G-L, AR169W

• AR161F, AR161F-DGP, AR161FG-L, AR161FGW-L,AR161FW,AR161FV-1P, AR162F,AR168F,AR169F, AR169FVW,AR169FVW-8S, AR169FGW-L, AR169FGVW-L,AR168F-4P

• AR161EW, AR169EW, AR169EGW-L, AR161EW-LM1

• AR169CVW, AR169CVW-4B4S

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

Table1: AR160 Models

AR161	
	• WAN speed with services (IMIX): 150 Mbps • Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE 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.)

AR161G-L	
	• WAN speed with services (IMIX): 150 Mbps • Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE WAN, FDD LTE • 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.)

AR161W

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE WAN, 802.11 b/g/n
- 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.)

AR169

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2
- 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.)

AR169G-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, FDD LTE
- 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.)

AR169W

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2, 802.11 b/g/n
- 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.)

Table2: AR160F Models

AR161F

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo 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.)

AR161F-DGP

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo 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.)

AR161FW

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, 802.11 b/g/n
- 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.)

AR161FG-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, FDD LTE
- 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.)

AR161FGW-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, FDD LTE, 802.11 b/g/n
- 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.)

AR161FV-1P

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN
- Fixed Voice ports: 1 x VE1
- 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.)

AR162F

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, 1 x SA
- 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.)

AR168F

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x G.SHDSL 4-pair, 1 x GE Combo 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.)

AR168F-4P

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, 4 x E1, 1 x G.SHDSL , 1 x RS232
- 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.)

AR169F

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x VDSL2 with bonding, 1 x GE Combo 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.)

AR169FVW

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, 1 x VDSL2 with bonding, 802.11 b/g/n
- Fixed Voice ports: 4 x FXS, 1 x FXO
- 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.)

AR169FVW-8S

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, 1 x VDSL2 with bonding, 802.11 b/g/n
- Fixed Voice ports: 8 x FXS, 1 x FXO
- 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.)

AR169FGW-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, 1 x VDSL2 with bonding, LTE FDD, 802.11 b/g/n
- 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.)

AR169FGVW-L

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE Combo WAN, 1 x VDSL2 with bonding, LTE FDD, 802.11 b/g/n
- Fixed Voice ports: 4 x FXS, 1 x FXO
- 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.)

Table3: AR160E Models

AR161EW

- WAN speed with services (IMIX): 600 Mbps
- Fixed ports: 4 x GERJ45 LAN(can be configured as WAN interfaces), 1 x GE Combo WAN
- WLAN: 802.11a/b/g/n/ac/ac wave2, 4x4:4 MU-MIMO
- 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.)

AR169EW

- WAN speed with services (IMIX): 600 Mbps
- Fixed ports: 4 x GERJ45 LAN(can be configured as WAN interfaces), 1 x VDSL2 with Bonding, 1 x GE Combo WAN
- WLAN: 802.11a/b/g/n/ac/ac wave2, 4x4:4 MU-MIMO
- 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.)

AR169EGW-L

- WAN speed with services (IMIX): 600 Mbps
- Fixed ports: 4 x GERJ45 LAN(can be configured as WAN interfaces), 1 x VDSL2 with Bonding, 1 x GE Combo WAN
- WWAN: LTE FDD
- WLAN: 802.11a/b/g/n/ac/ac wave2, 4x4:4 MU-MIMO
- 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.)

AR161EW-M1

- WAN speed with services (IMIX): 600 Mbps
- Fixed ports: 4 x GERJ45 LAN(can be configured as WAN interfaces), 1 x GE Combo WAN
- WLAN: 802.11a/b/g/n/ac/ac wave2, 4x4:4 MU-MIMO
- Hard disk: 2.5-inch hard disk (optional)
- 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.)

Table4: AR160C Models

AR169CVW

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE SFP, 1 x VDSL2, 802.11 ac/b/g/n
- Fixed Voice ports: 4 x FXS, 1 x FXO
- Dimensions (H x W x D): 30 mm x 270 mm x 155 mm (1.18 in. x 11.4 in. x 6.1 in.)

AR169CVW-4B4S

- WAN speed with services (IMIX): 150 Mbps
- Fixed ports: 4 x GE LAN(can be configured as WAN interfaces), 1 x GE SFP, 1 x VDSL2, 802.11 ac/b/g/n
- Fixed Voice ports: 4 x ISDN BRI, 4 x FXS, 1 x FXO
- Dimensions (H x W x D): 30 mm x 270 mm x 155 mm (1.18 in. x 11.4 in. x 6.1 in.)

Product Features and Benefits

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 AR160s 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.

Low Investment with High Returns

- Easy to construct: The AR160s 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 AR160s 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.

Small footprint on a Comprehensive Platform

Maturity and Stableness: The AR160s uses the Huawei VRP operating system and VSP voice platform. In addition, the AR160s 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 of AR160s is only 3% of industry average. The AR160s can be applied in the harsh environment.

Sample Deployments

WAN Access
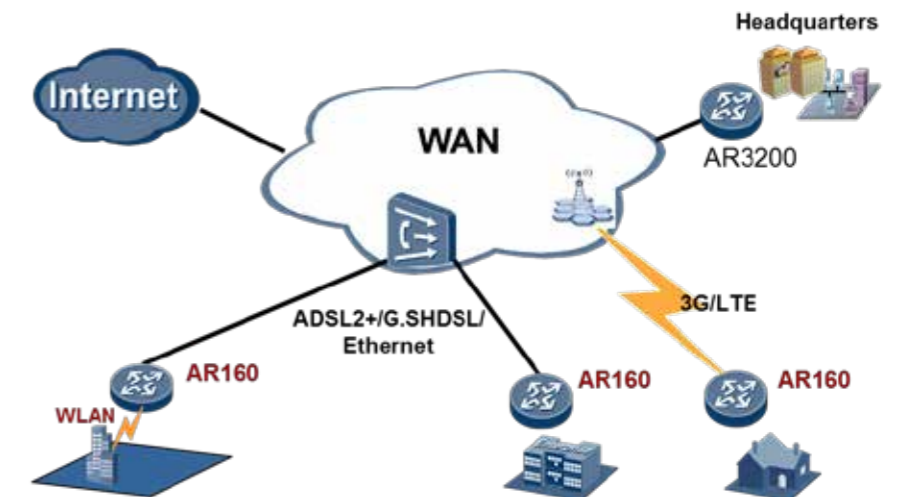
Example deployment in branch networks for WAN access. In this example, the AR160s function as the egress routers on enterprise branch networks and provide multiple access methods, including Ethernet, xDSL, 3G, LTE and WLAN.

Enterprise Voice Services Deployment

IP PBX with WAN and PSTN Access
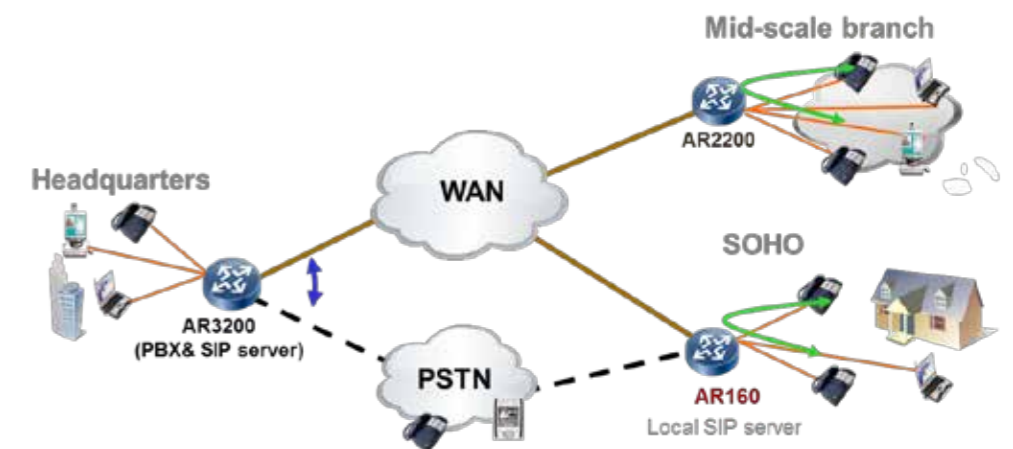
This illustration shows an AR160 series router deployed at an enterprise branch with access to a WAN and a PSTN. If a fault occurs on the WAN, the PSTN acts as a backup to the WAN and ensures that call services remain uninterrupted. AR160s are deployed at enterprise branch offices to provide intelligent, integrated dialing across the network. When deployed as voice service gateways, AR160s can function as IP PBX boxes and SIP access gateways.

IP PBX.AR160s 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. AR160s 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.

SIP Access Gateway
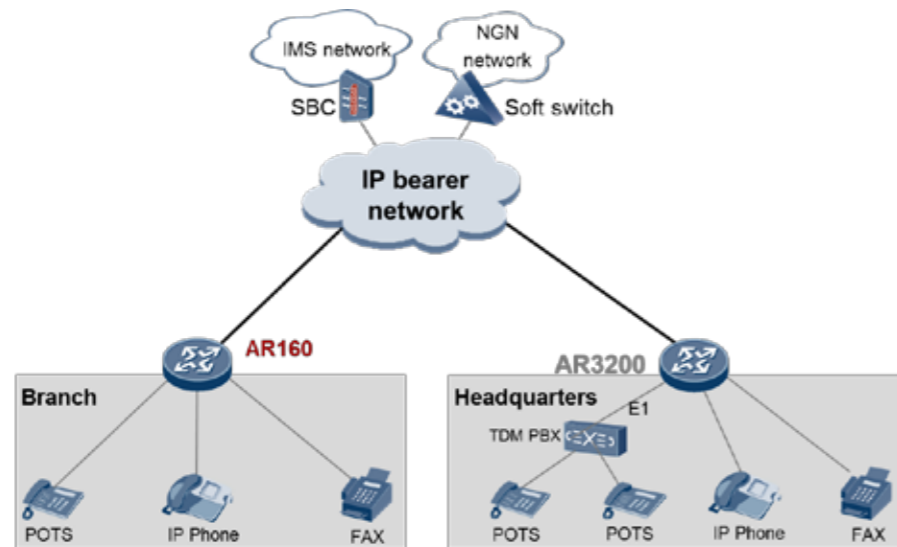
The AR160 series routers provide integrated voice, fax, and IP services. The AR160s can function as SIP access gateways for enterprise branch offices that transform traditional phone signals into Voice over IP (VoIP). Typically, AR160s are connected upstream from the IMS and NGN networks to enable anytime 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 AR160s using VPNs to connect branches and partners to headquarters.

AR160s provide various VPN tunnel protocols to ensure secure communications between:

- Enterprise branches and other branch offices
- Enterprise branches and headquarters
- Partners and enterprise resources

AR160s support the following VPN tunnel protocols:

- GRE VPN
- IPSEC VPN
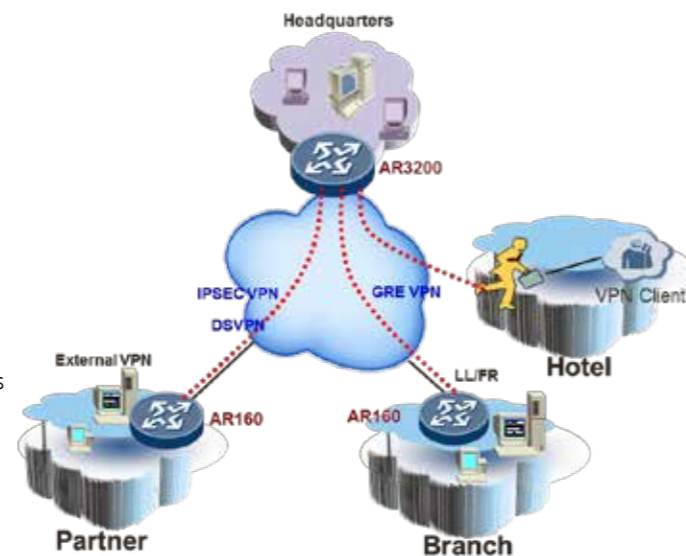
- DSVPN
- L2TP VPN

AR160s support fast tunnel set-up and authentication.

Wireless Access and Management in Branch

3G/LTEand Wi-Fi Wireless Access application

The AR160s 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, and ISDN uplinks. The backup link improves network stability and reduces network construction costs.

Some models of AR160s 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
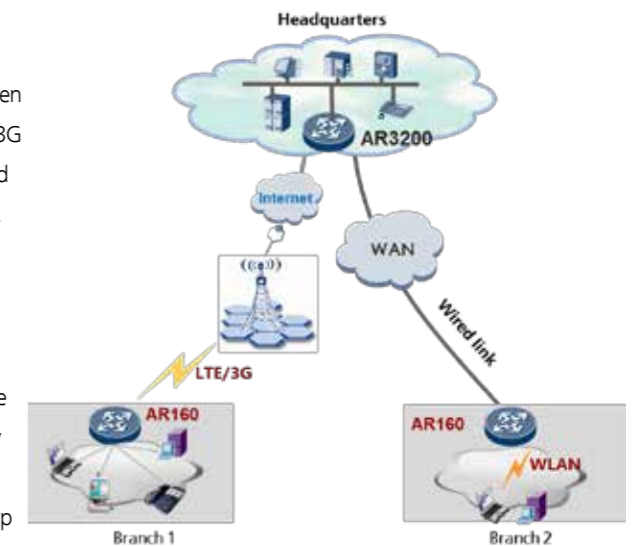
The AR160s routers integrated WLAN wireless access capabilities, support 802.11a/b/g/n standard communication, Built-in AC function make the deployment and management more conveniently. Its wireless features can meet users' demand for wireless access, and help enterprises to build a branch network flexibly.

Wireless AC Managementapplication
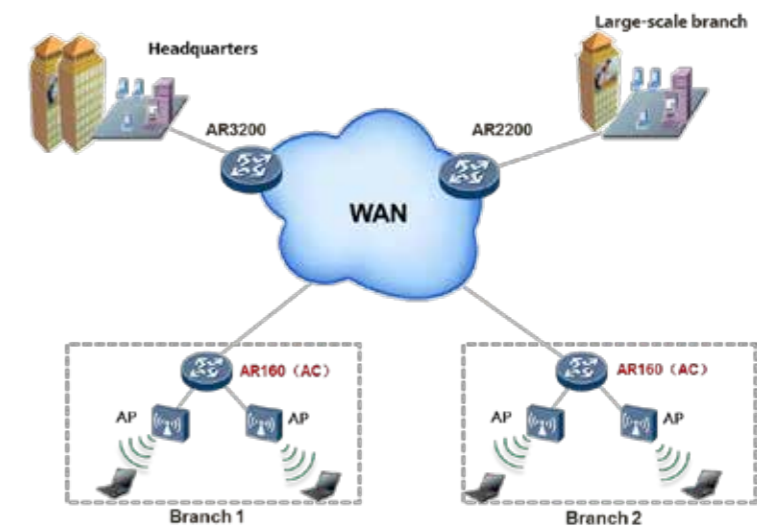
The AR160s routers integrated AC (Access Controller, a wireless controller) functionality, which can manage the wireless AP (Access Point, Access Point) in wireless LAN. AR supported rich certification and flexible user access control, which can provide security access guarantee for Wi-Fi users. The 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.

Copperand Fiber integration Access Solution
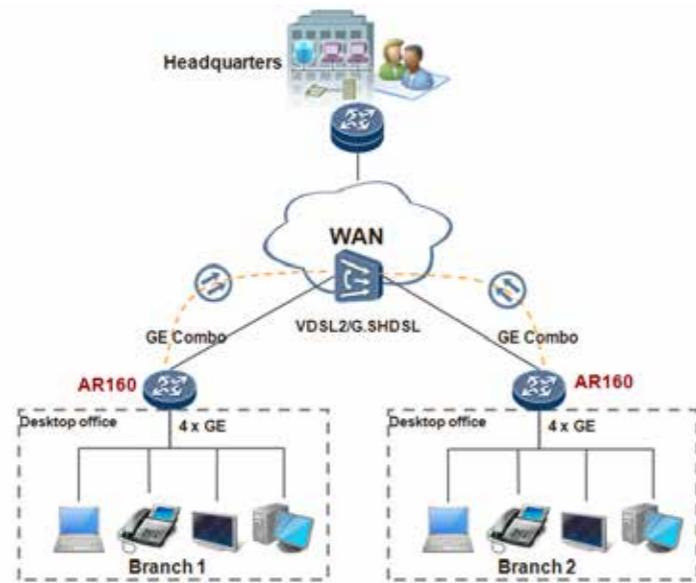
Huawei new generation AR160routers integrated 4 GE LAN and 1 GE WAN ports, some models support VDSL2 access, which can provide 100M access bandwidth (800 meters). This new box device can bring a high bandwidth experience to the enterprise and carriercustomers.

In the future, if the customers have optical access requirements, they don't need to replace the devices. As the GE WAN port supports Combo switch. The one box solution can meet the customers' requirements perfectly, therebyprotect their investments.

Technical Specifications

Table 1: AR160s Technical Specifications

Item	AR161	AR161W	AR161G-L	AR169	AR169W	AR169G-L
Hardware						
WAN speed with services* (IMIX)	150Mbps	150Mbps	150Mbps	150Mbps	150Mbps	150Mbps
Number of recommended users	50	50	50	50	50	50
Fixed WAN ports	1 x GE	1 x GE	1 x GE	1 x VDSL2 (compatible with ADSL2+ Annex A/M，Annex B/J. Support Vectoring)	1 x VDSL2 (compatible with ADSL2+ Annex A/M，Annex B/J. Support Vectoring)	1 x VDSL2 (compatible with ADSL2+ Annex A/M，Annex B/J. Support Vectoring)
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)	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)
Integrated LTE	-	-	FDD LTE	-	-	FDD LTE
Wi-Fi	-	802.11 b/g/n	-	-	802.11 b/g/n	-
USB 2.0 ports	1	1	1	1	1	1
Console ports	1	1	1	1	1	1
Memory size	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB
Flash memory	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB
Maximum power	24W	24W	24W	24W	24W	24W
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℃ to 45℃					
Relative humidity	5% to 95% (non-condensing)					
Software						

Item	AR161	AR161W	AR161G-L	AR169	AR169W	AR169G-L
Basic features	DHCP server/client, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, Sub interface management					
WLAN(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management(Only WLAN models support WLAN AP features)					
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,MBGP					
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)					

Table2: AR160Fs Technical Specifications

Item	AR161F	AR161F-DGP	AR161FW	AR161FG-L	AR161FGW-L
Hardware					
WAN speed with services* (IMIX)	150 Mbps	150 Mbps	150 Mbps	150 Mbps	150 Mbps
Number of recommended users	50	50	50	50	50

Item	AR161F	AR161F-DGP	AR161FW	AR161FG-L	AR161FGW-L
Fixed WAN ports	1x GE Combo	1x GE Combo (Support Dying gasp)	1x GE Combo	1x GE Combo	1x GE Combo
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)	4 x GE(can be configured as WAN interfaces)	4 x GE(can be configured as WAN interfaces)
Integrated LTE	-	-	-	FDD LTE	FDD LTE
Wi-Fi	-	-	802.11 b/g/n	-	802.11 b/g/n
USB 2.0 ports	1	1	1	1	1
Console ports	1	1	1	1	1
Memory size	512 MB	512 MB	1 GB	512 MB	512 MB
Flash memory	512 MB	512 MB	512 MB	512 MB	512 MB
Maximum power	24W	24W	24W	24W	24W
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℃ to 45℃				
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(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management(Only WLAN models support WLAN AP features)				
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,MBGP				
VPN	IPSec VPN, GRE VPN, DSVPN, L2TP VPN				

Item	AR161F	AR161F-DGP	AR161FW	AR161FG-L	AR161FGW-L
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)				

Table3: AR160Fs Technical Specifications

Item	AR161FV-1P	AR162F	AR168F	AR168F-4P	AR169F
WAN speed with services*	150 Mbps	150 Mbps	150 Mbps	150 Mbps	150 Mbps
Number of recommended users	50	50	50	50	50
Fixed WAN ports	1x GE Combo	1 x SA 1x GE Combo	1 xG.SHDSL 4-pair, 1x GE Combo	1 x G.SHDSL 4-pair, 1x GE Combo, 4 xE1, 1 x RS232	1 x VDSL2 with bonding (compatible with ADSL2+ Annex A/M. Support Vectoring), 1x GE Combo
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)	4 x GE(can be configured as WAN interfaces)	4 x GE(can be configured as WAN interfaces)
Fixed voice ports	1xVE1	—	—	—	—
USB 2.0 ports	1	1	1	1	1
Console ports	1	1	1	1	1
Memory size	512 MB	512 MB	512 MB	512 MB	512 MB
Flash memory	512 MB	512 MB	512 MB	512 MB	512 MB
Maximum power	24W	36 W	24W	24W	24 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.)				

Item	AR161FV-1P	AR162F	AR168F	AR168F-4P	AR169F
Operating temperature	0℃ to 45℃				
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				
Voice	RTP, SIP, SIP AG, IP PBX/TDM PBX, FXO/FXS, VoIP, BEST, DISA, SBC(Only voice models support voice features)				
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,MBGP				
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)				

Table4: AR160Fs Technical Specifications

Item	AR169FVW	AR169FVW-8S	AR169FGW-L	AR169FGVW-L
WAN speed with services*	150 Mbps	150 Mbps	150 Mbps	150 Mbps
Number of recommended users	50	50	50	50
Fixed WAN ports	1 x VDSL2 with bonding(compatible with ADSL2+ Annex A/M. Support Vectoring), 1x GE Combo,	1 x VDSL2 with bonding(compatible with ADSL2+ Annex A/M. Support Vectoring), 1x GE Combo,	1 x VDSL2 with bonding(compatible with ADSL2+ Annex A/M. Support Vectoring), 1x GE Combo	1 x VDSL2 with bonding(compatible with ADSL2+ Annex A/M. Support Vectoring), 1x GE Combo

Item	AR169FVW	AR169FVW-8S	AR169FGW-L	AR169FGVW-L
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)	4 x GE (can be configured as WAN interfaces)
Fixed voice ports	4 x FXS, 1 x FXO	8 x FXS, 1 x FXO	-	4 x FXS, 1 x FXO
Integrated LTE	-	-	FDD LTE	FDD LTE
Wi-Fi	802.11b/g/n	802.11b/g/n	802.11b/g/n	802.11b/g/n
USB 2.0 ports	1	1	1	1
Console ports	1	1	1	1
Memory size	1GB	1GB	1GB	1GB
Flash memory	512 MB	512 MB	512 MB	512 MB
Maximum power	24W	24W	24 W	24 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℃ to 45℃			
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			
Voice	RTP, SIP, SIP AG, IP PBX/TDM PBX, FXO/FXS, VoIP, BEST, DISA, SBC(Only voice models support voice features)			
WLAN(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management(Only WLAN models support WLAN AP features)			
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,MBGP			
VPN	IPSec VPN, GRE VPN, DSVPN, L2TP VPN			

Item	AR169FVW	AR169FVW-8S	AR169FGW-L	AR169FGVW-L
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)			

Table5: AR160Es Technical Specifications

Item	AR161EW	AR169EW	AR169EGW-L	AR161EW-M1
Hardware				
WAN speed with services* (IMIX)	600Mbps	600Mbps	600Mbps	600Mbps
Number of recommended users	50	50	50	50
Fixed WAN ports	1x GE Combo	1 x VDSL2 over POTS with Bonding (support dying gasp. Support Vectoring) 1 x GE Combo		1 x GE Combo
Fixed Ethernet switching ports	4 x GE RJ45(can be configured as WAN interfaces)			
Integrated LTE	-	-	FDD LTE Dual SIM slots, one active, one standby	-
Wi-Fi	802.11a/b/g/n/ac/ac wave2,4x4:4 MU-MIMO			
USB	1 USB3.0, compatible with USB2.0			
Serial auxiliary/console ports	1			
Memory size	1 GB			
Flash memory	512 MB			
Hard disk	-			2.5-inch hard disk (optional)

Item	AR161EW	AR169EW	AR169EGW-L	AR161EW-M1
Maximum power	24W	36W	36W	36W
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℃ to 45℃			
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(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management(Only WLAN models support WLAN AP features)			
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,MBGP			
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)			

Table 6: AR160Cs Technical Specifications

Item	AR169CVW	AR169CVW-4B4S
Hardware		
WAN speed with services* (IMIX)	150 Mbps	150 Mbps
Number of recommended users	50	50
Fixed WAN ports	1 x VDSL2(compatible with ADSL2+ Annex A/M，Annex B/J. Support Vectoring) 1 x GE SFP	1 x VDSL2(compatible with ADSL2+ Annex A/M，Annex B/J. Support Vectoring) 1 x GE SFP
Fixed Ethernet switching ports	4 x GE RJ45 (can be configured as WAN interfaces)	4 x GE RJ45 (can be configured as WAN interfaces)
Fixed voice ports	4 x FXS, 1 x FXO	4 x ISDN BRI 4 x FXS, 1 x FXO
Wi-Fi	802.11b/g/n, 2.4GHz,2x2 MIMO 802.11ac, 5GHz, 2 x 2MIMO	802.11b/g/n, 2.4GHz,2x2 MIMO 802.11ac, 5GHz, 2 x 2MIMO
USB	1 USB3.0, compatible with USB2.0	1 USB3.0, compatible with USB2.0
Console ports	1	1
Memory size	512 MB	512 MB
Flash memory	512 MB	512 MB
Maximum power	24W	24W
Power supply (AC)	100 V to 240 V	
Frequency	50/60 Hz	
Dimensions (H x W x D)	30 mm x 270 mm x 155 mm (1.18 in. x 11.4 in. x 6.1 in.)	
Operating temperature	0℃ to 45℃	
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	
Voice	RTP, SIP, SIP AG, IP PBX/TDM PBX, FXO/FXS, VoIP, BEST, DISA, SBC (Only voice models support voice features)	

Item	AR169CVW	AR169CVW-4B4S
WLAN(AP)	AP management, WLAN QoS, WLAN security, WLAN radio management, WLAN user management(Only WLAN models support WLAN AP features)	
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,MBGP	
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 AR160 Routers

The AR160 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 AR160 series routers are configured by selecting and installing the appropriate configuration module. The configuration module ordering information and descriptions are shown in the following tables.

Table 1: Chassis Options

Chassis Configuration	Description
AR161	AR161,1GE WAN,4GE LAN
AR161F	AR161F,1GE COMB WAN,4GE LAN,1 USB
AR161FG-L	AR161FG-L,1GE COMB WAN,LTE FDD,4GE LAN,1 USB
AR161FGW-L	AR161FGW-L,1GE COMB WAN,LTE FDD,4GE LAN,802.11b/g/n AP,1 USB
AR161FW	AR161FW,1GE COMBO WAN,4GE LAN,1 USB,1 WLAN
AR161G-L	AR161G-L,1GE WAN,4GE LAN,LTE
AR161W	AR161W,1GE WAN,4GE LAN,WIFI 2.4G
AR161FV-1P	AR161FV-1P,1GE COMBO WAN,4GE LAN,1 USB,1 VE1
AR162F	AR162F,1SA,1GE COMBO WAN,4GE LAN,1 USB
AR168F	AR168F,4 copper pair G.SHDSL WAN,1GE COMBO WAN,4GE LAN,1 USB
AR168F-4P	AR168F-4P,4 copper pair G.SHDSL WAN,1GE COMBO WAN,4GE LAN, 4 E1, 1 RS232, 1 USB
AR169	AR169,1VDSL WAN,4GE LAN
AR169F	AR169F,VDSL over POTS with bonding WAN,1GE COMB WAN,4GE LAN,1 USB
AR169FVW	AR169FVW,1GE COMBO WAN,4GE LAN,1 USB,4 FXS,1FXO,1 WLAN
AR169FVW-8S	AR169FVW-8S,1GE COMBO WAN,4GE LAN,1 USB,8 FXS,1FXO,1 WLAN
AR169FGW-L	AR169FGW-L,1GE COMBO WAN,4GE LAN,1 USB,4 1 WLAN
AR169FGVW-L	AR169FGVW-L,1GE COMBO WAN,4GE LAN,1 USB,4 FXS,1FXO,1 WLAN
AR169G-L	AR169G-L,1VDSL WAN,4GE LAN,LTE

Chassis Configuration	Description
AR169W	AR169W,1VDSL WAN,4GE LAN,WIFI 2.4G
AR169CVW	AR169CVW,1 VDSL WAN,1 GE SFP WAN,4 GE LAN,4 FXS,1 FXO,WIFI 2.4G+5G,1 USB2.0
AR169CVW-4B4S	AR169CVW-4B4S,1 VDSL WAN,1 GE SFP WAN,4 GE LAN,4 FXS,1 FXO,4 ISDN,WIFI 2.4G+5G,1 USB3.0
AR161EW	AR161EW,1*GE Combo WAN,4*GE LAN,4*4 MIMO WIFI,1*USB
AR169EW	AR169EW,1*GE Combo WAN,VDSL over POTS with bonding WAN,4*GE LAN,4*4 MIMO WIFI,1*USB
AR169EGW-L	AR169EGW-L,1*GE Combo WAN,VDSL over POTS with bonding WAN,4*GE LAN,4*4 MIMO WIFI,FDD,1*USB
AR161EW-M1	AR161EW-M1,1*GE Combo WAN,4*GE LAN,4*4 MIMO WIFI,1*USB,1*HDD

Table 2: Power Module Options

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

Table 3: License Options

License	Description
LAR0DATAE01	AR160&200 Value-Added Data Package
LAR0AC01	AR160&200 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	AR160&200 Value-Added Security Package

Table 4: SD Card and USB Disk Options

SD Cards & USB Disks	Description
NUSBDSK01	Storage USB DISK,4GB,USB 2.0

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

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