



Huawei ARS Product Documentation

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Get to Know the Product

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6 Get to Know the Product

[Product Description](#)

This document describes the position, characteristics, networking and application, functions and features, device structure, operation and maintenance, and management technical specifications, and component selection guide for the AR.

[Hardware Description](#)

[Key Models and Features](#)

[Common Tools Collection](#)



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6.1 Product Description

This document describes the position, characteristics, networking and application, functions and features, device structure, operation and maintenance, and management technical specifications, and component selection guide for the AR.

[Product Positioning and Characteristics](#)

[Network Applications](#)

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Parent Topic: [Get to Know the Product](#)

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6.1.1 About This Document

Intended Audience

This document helps you understand the characteristics and features of the AR.

This document is intended for:






- Network planning engineers
- Hardware installation engineers
- Commissioning engineer
- Data configuration engineers
- On-site maintenance engineers
- Network monitoring engineers
- System maintenance engineers

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
--------	-------------



Symbol	Description
 DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
 NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.
 NOTE	Calls attention to important information, best practices and tips. NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

Security Conventions

- Password setting
 - When configuring a password, the cipher text is recommended. To ensure device security, change the password periodically.
 - When you configure a password in plain text that starts and ends with %@@%@, @%@@%, %#%#, or %^%# (the password can be decrypted by the device), the password is displayed in the same manner as the configured one in the configuration file. Do not use this setting.
 - When you configure a password in cipher text, different features cannot use the same cipher-text password. For example, the cipher-text password set for the AAA feature cannot be used for other features.
- Encryption algorithm

Currently, the device uses the following encryption algorithms: 3DES, AES, RSA, SHA1, SHA2, and MD5. 3DES, RSA and AES are reversible, while SHA1, SHA2, and MD5 are irreversible. The encryption algorithms DES/3DES/RSA (RSA-1024 or lower)/MD5 (in digital signature scenarios and password encryption)/SHA1 (in digital signature scenarios) have a low security, which may bring security risks. If protocols allowed, using more secure encryption algorithms, such as AES/RSA (RSA-2048 or higher)/SHA2/HMAC-SHA2, is recommended. The encryption algorithm depends on actual networking. The irreversible encryption algorithm must be used for the administrator password, SHA2 is recommended.
- Personal data

Some personal data may be obtained or used during operation or fault location of your purchased products, services, features, so you have an obligation to make privacy policies and take measures according to the applicable law of the country to protect personal data.
- The terms mirrored port, port mirroring, traffic mirroring, and mirroring in this manual are mentioned only to describe the product's function of communication error or failure detection, and do not involve collection or processing of any personal information or communication data of users.

Mappings Between Product Software Versions and NMS Versions

The mappings between product software versions and NMS versions are as follows.

AR100-S&AR110-S&AR120-S&AR150-S&AR160-S&AR200-S&AR1200-S&AR2200-S&AR3200-S Product Software Version	eSight	iManager U2000
V200R010C00	V300R009C00	V200R018C50

Change History

Changes between document issues are cumulative. Therefore, the latest document version contains all updates made to previous versions.



Changes in Issue 01 (2018-05-18)

Initial commercial release.

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6.1.2 Product Positioning and Characteristics

[Product Positioning](#)

[Product Characteristics](#)

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6.1.2.1 Product Positioning

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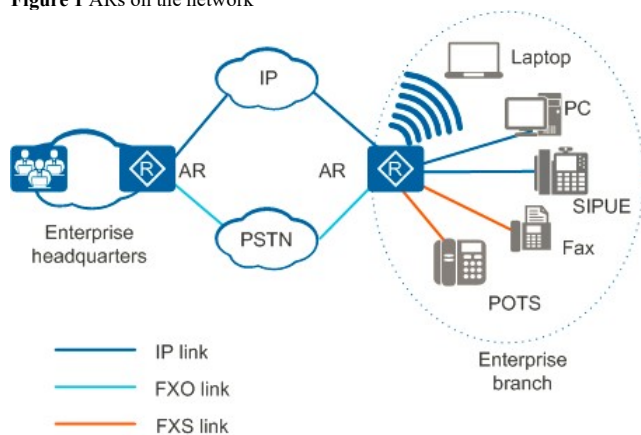
NOTICE:

AR Series Enterprise Routers are class A products. Customers should take preventative measures as the operating devices may cause radio interference.

AR series enterprise routers (ARs) include AR100-S&AR110-S&AR120-S&AR150-S&AR160-S&AR200-S&AR1200-S&AR2200-S&AR3200-S. They are the next-generation routing and gateway devices, which provide the routing, switching, wireless, voice, and security functions.

As shown in [Figure 1](#), the ARs are located between an enterprise network and a public network, functioning as the only ingress and egress for data transmitted between the two networks. The deployment of various network services over the ARs reduces operation & maintenance (O&M) costs as well as those associated with establishing an enterprise network. You can select ARs of different specifications as egress gateways based on the user quantity of an enterprise.

Figure 1 ARs on the network





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6.1.2.2 Product Characteristics

The ARs use leading hardware platforms and software architectures. The ARs provide integrated network solutions to enterprise customers with minimum investment costs; therefore, they can meet the many facets of future business expansion and IT industry developments.

[Carrier-Class Reliability](#)

[Service Integration Capability](#)

[Hardware Extensibility](#)

[Remote Maintenance Capability](#)

Parent Topic: [Product Positioning and Characteristics](#)

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6.1.2.2.1 Carrier-Class Reliability

- The device provides hot swappable interface cards, standby SRU, power module, fan module, and optical module, ensuring carrier-class reliability.
- The ARs are designed to provide quality service and comply with telecommunication standards.
- The ARs protect networks against attacks.
- The ARs support in-service patching so that the system software can be upgraded during system operation.
- The AR2240-S and AR3260-S support redundant power supply units. If one power supply unit is faulty, the AR2240-S and AR3260-S will still be able to operate.
- The AR3260-S provides dual SRUs in redundancy mode. When a fault occurs on the control, forwarding, or switching plane, services can be smoothly switched to the standby SRU.

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6.1.2.2.2 Service Integration Capability

The AR series routers integrate various services of routers, switches, and wireless devices, including voice, firewall, WLAN, 3G/LTE, and VPN.

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6.1.2.2.3 Hardware Extensibility

The ARs provide the highest port density in the industry and flexible slot combination, allowing enterprise customers to connect to LAN, WAN, or wireless networks. The ARs provide the most economical enterprise network solutions.

The ARs support flexible slot combination. For example, two SIC slots can be combined into a wide SIC (WSIC) slot, two SIC slots and one WSIC slot below can be combined into one XSIC slot by removing guide rails, and two multiple-function slots (MFSs) can be combined into an SRU slots by removing the guide rail between them.

NOTE:

- AR120-S&AR150-S&AR160-S&AR200-S series and AR2201-48FE-S do not support subcards.
- The WSIC card can be installed in the WSIC or XSIC slot.

Parent Topic: [Product Characteristics](#)

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6.1.2.2.4 Remote Maintenance Capability

In addition to one-stop deployment, plug and play capability, and remote commissioning functions, the ARs manage the customer premises equipment (CPE) remotely. The remote maintenance function improves efficiency and greatly reduces maintenance costs.

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6.2.6.4 Ethernet WAN Card

- [1GEC \(1-Port-GE Combo WAN Interface Card\)](#)
- [4GECS \(4-Port GE Combo WAN Interface Card\)](#)
- [2FE \(2-Port-FE WAN Interface Card\)](#)
- [2X10GL \(2-Port 10GE Optical Ports Interface Card\)](#)
- [4GEW-T \(4-Port 1000BASE-RJ45-L3 Ethernet WAN Interface Card\)](#)
- [4GEW-S \(4-Port 1000BASE-SFP-L3 Ethernet WAN Interface Card\)](#)

Parent Topic: [Cards](#)

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6.2.6.4.4 2X10GL (2-Port 10GE Optical Ports Interface Card)

- [Card Overview](#)
- [Version Mapping](#)
- [Functions and Features](#)
- [Panel](#)
- [Technical Specifications](#)
- [Ordering Information](#)

Card Overview

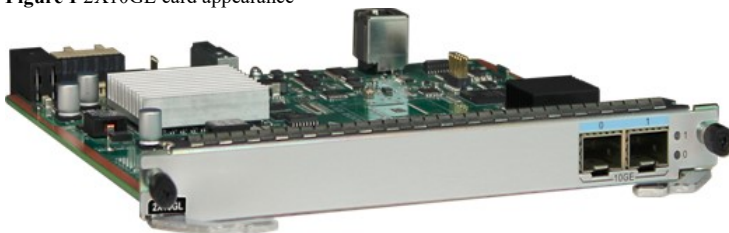
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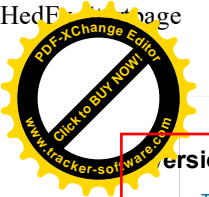
The 2X10GL is a high-speed WAN access module that provides two 10GE optical interfaces for high-speed uplink connection.

A 2X10GL card can be installed in a WSIC slot of a router.

[Figure 1](#) shows the appearance of a 2X10GL card.

Figure 1 2X10GL card appearance





Version Mapping

[Table 1](#) lists the device models and software versions supporting the 2X10GL.

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Table 1 Version mapping

Card Name	Device Series	Device Model
2X10GL NOTE: This card is supported in V200R007C00 and later versions.	AR2200-S series	AR2240-S NOTE: When a router uses the SRU40 main control unit, this card can be installed in slots 7 and 8.
	AR3200-S series	All models in this series NOTE: When a router uses the SRU40 main control unit, this card can be installed in slots 8 and 10.

Functions and Features

[Table 2](#) describes the functions and features of a 2X10GL card.

Table 2 Functions and features

Function and Feature	Description
Two 10GE optical interfaces	The card provides 10G access to the WAN to implement Layer 3 services.
	The two 10GE optical interfaces provide 10 Gbit/s line-rate transmission to the upstream network.
Layer 3 protocols	IPv4 and IPv6.

Panel

[Figure 2](#) shows the indicators on a 2X10GL card, and [Table 3](#) describes the indicator states and meanings.

Figure 2 Indicators on a 2X10GL card



Table 3 Indicator description

Number	Indicator	Color	Description
0	LINK/ACT	Green	Steady on: A link has been established on 10GE/0. Blinking: Data is being transmitted or received on 10GE/0. Off: No link is established on 10GE/0.



Number	Indicator	Color	Description
1	LINK/ACT	Green	Steady on: A link has been established on 10GE/1. Blinking: Data is being transmitted or received on 10GE/1. Off: No link is established on 10GE/1.

[Figure 3](#) shows the interfaces on a 2X10GL card.

Figure 3 Interfaces on a 2X10GL card



1. Two 10GE optical interfaces

10GE optical interface

The 10GE optical interfaces can not work in GE mode and can only transmit and receive service traffic at 10 Gbit/s. [Table 4](#) lists attributes of a 10GE optical interface.

Table 4 10GE optical interface attributes

Attribute	Description
Connector type	LC/PC
Optical interface attributes	The optical interface attributes vary depending on the optical module used. For details, see 10GE SFP+ Optical Modules .
Standards compliance	IEEE802.3ae

Technical Specifications

[Table 5](#) lists the technical specifications of a 2X10GL card.

Table 5 Technical specifications

Item	Specifications
Card type	WSIC
Hot swap	Supported
Physical specifications	Dimensions (W x D x H): 201 mm x 223.5 mm x 19.82 mm (7.91 in. x 8.80 in. x 0.78 in.) Maximum power consumption: 22.1 W Weight: 0.5 kg (1.3 lb)
Environment parameters	Operating temperature: 0°C to 45°C (32°F to 113°F) Operating relative humidity: 5% to 95%, noncondensing Storage temperature: -40°C to +70°C (-40°F to +158°F) Operating altitude: 0 to 5000 m (16404.2 ft.)



Item	Specifications
Safety standards compliance	<ul style="list-style-type: none">• UL 60950-1• EN 60950-1• IEC 60950-1• BS EN 60950-1• CSA C22.2 No. 60950-1• AS/NZS 60950.1• IS 13252
EMC standards compliance	<ul style="list-style-type: none">• FCC 47CFR Part 15 Class A• ICES 003 Class A• EN55022 Class A• CISPR22 Class A• CISPR24• AS/NZS CISPR22 Class A• VCCI Class A• ETSI EN 300 386 Class A• EN55024
Environmental standards compliance	<ul style="list-style-type: none">• RoHS• ETSI EN 300 019-2-1• ETSI EN 300 019-2-2• ETSI EN 300 019-2-3

Ordering Information

To place an order, visit <http://e.huawei.com/en/how-to-buy> to find the local supplier or submit your inquiries online.

[Table 6](#) provides 2X10GL card ordering information.

Table 6 Ordering information

Part Number	Model	Name Label (Silkscreen)	Description
03022STN	AR-2X10GL-W	2X10GL	2-Port 10GE Optical Ports Interface Card

Parent Topic: [Ethernet WAN Card](#)

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6.2.8.11 10GE SFP+ Optical Modules

[OSXD22N00](#)

[OMXD30000](#)

[OSX010000](#)[OSX040N01](#)Parent Topic: [Pluggable Modules for Interfaces](#)

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6.2.8.11.3 OSX010000

Modelo de referência

Table 1 Technical Specifications

Item	Description
Transceiver form factor	SFP+
Transmission speed	10 Gbit/s
Center wavelength (nm)	1310
Standard compliance	10Gbase-LR
Connector type	LC
Applicable cable and maximum transmission distance	Single-mode fiber: 10 km
Transmit power (dBm)	-8.2 to +0.5
Maximum receiver sensitivity (dBm)	-12.6
Overload power (dBm)	0.5
Extinction ratio (dB)	3.5
Operating temperature	0°C to 70°C (32°F to 158°F)
Part number	02318170

Parent Topic: [10GE SFP+ Optical Modules](#)

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