AR510 Series Agile Gateways
Datasheet

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AR510 Series Agile Gateways are gateways tailored for mobile Internet applications. They can be installed on vehicles (bus, train, police car, and school bus), bus stops, advertising boards, restaurants, and exhibition displays. AR510 integrates routing gateway and multimedia functions, provide network access, video programs, and ad broadcasting functions. They provide mobile information services for consumers and create an intelligent routing system.

Product Overview

The AR510 has a small size and is easy to install. It can directly receive power from the vehicle-mounted power supply. The AR510complies with industry standards and is dustproof, waterproof, shockproof, and high-temperature resistant. It can run stably and reliably even in harsh environments.

Dedicated for vehicle wireless access and vehicle-mounted video transmission, the AR510supports 2.4 GHz and 5 GHz and connect many users forsimultaneous access. It uses a 4G FDD LTE network for the data network but is compatible with a 3G network. With the wireless network, it provides long-distance data transmission and GPS.

The AR510supports firewall technology and multiple VPN technologies to establish reliable, secure links, and ensure data security.

The following describes the specifications of the AR510 model: AR511GW-LAV2M3,AR513W-V3M8.

Table 1: AR510 Series Models

Model	Specification
 AR511GW-LAV2M3	• Fixed interfaces: 2 xGE, 1USB HOST, 1USB OTG • Two video interfaces (HDMI, CVBS, or YPbPr) • Two stereo outputs (one output with audio power amplifier), one stereo input • FDD LTE, compatible with 3G • Wi-Fi: dual-band AP, 2.4 GHz and 5 GHz, 2x2 MIMO,802.11a/b/g/n • GPS • IP40 or IP54(Mount bracket) , Waterproof and dustproof • Dimensions (W x D x H): 275 mm x 160 mm x 30 mm
 AR513W-V3M8	• Fixed interfaces: 2*GE，1*eSATA，3*USB HOST，1*USB OTG • 2*HDMI，1*VGA • Two stereo outputs (L/R), 3.5mm headset jack • 2*DI+1*DO • Wi-Fi: dual-band AP, 2.4 GHz and 5 GHz, 2x2 MIMO,802.11a/b/g/n • Dimensions (W x D x H): 275 mm x 160 mm x 30 mm

Product Characteristics

Powerful Wireless Capability

- Supports Dual-band AP (2.4 GHz and 5 GHz) Wi-Fi access and adopts 2x2 MIMO antenna system to double the transmission speed.
- Provides LTE/3G upstream ports, allowing users to enjoy fast network access to services.
- Has a built-in GPS to provide value-added applications based on user’ s location.

Innovative multimedia playing

- Supports multiple analog or digital output formats, including HDMI, YPbPr, and CVBS.
- Plays two-channel HD video concurrently.
- Has large-capacity storage media to store video, ads, and application programs; supports wireless updates.

Industrial design

- Adopts industry-level standard design, and is dustproof as well as waterproof.
- Works in a large temperature range (-10° C to 60° C) with a fan-free design for natural heat dissipation.
- Meets anti-shock and anti-vibration requirements in QC/T 413-2002, and ISO 16750-3:2007.

Multi-level security protection

- Has a built-in firewall to prevent hacker attacks and viruses.
- Supports multiple authentication methods, including RADIUS and HWTACACS.
- Provides multiple VPN access solutions to set up trusted secure connections and ensure data security.

Easy deployment and easy O&M

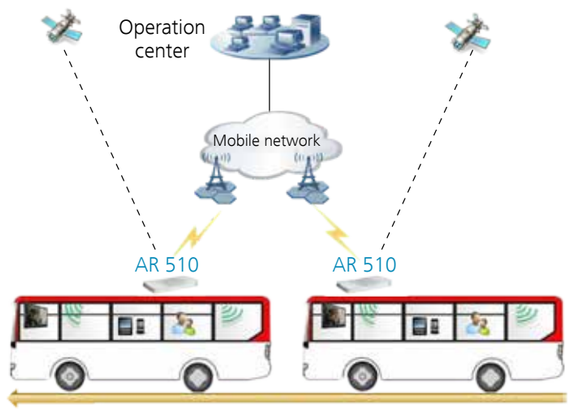
- Supports deployment using USB flash drive, and has plug-and-play feature.
- Works with uniform NMS to manage a large number of devices and implements visual O&M.
- Supports NQA function to monitor links in real-time.

Open service platform

- Android Operating system is installed, supporting secondary development.
- Accommodates a large number of applications to expand device functions.

Sample Deployments

Intelligent Bus example



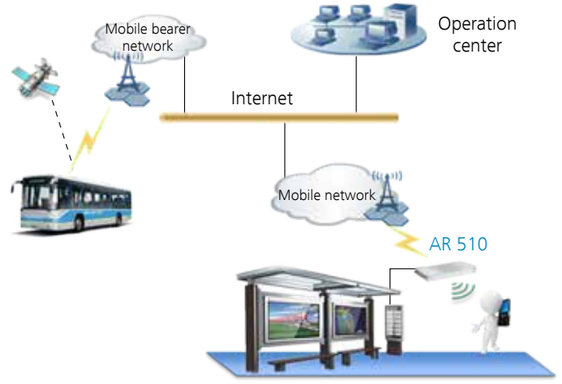
The AR510 can be deployed in a bus to provide a mobile interconnection solution. As the mobile gateway, the AR510 supports LTE/3G, and provides free Wi-Fi access so that users can enjoy Internet surfing anytime.

The AR510 integrates audio and video interfaces that can be used to connect to multimedia terminals on the bus and provide HD video services. The AR510 has a high-capacity storage medium that can pre-store multimedia resources, provide the content service for a mounted-vehicle TV, and update multimedia resources online.

The AR510 design fully takes into consideration vehicle motion and vibration, and the AR510 is highly reliable with environmental features such as dustproof, waterproof, shockproof, and high-temperature resistant.

The intelligent bus system uniformly schedules and manages multiple vehicle-mounted gateways through the Operation center, and can periodically maintain or update applications such as video, games, and software applications.

Intelligent Station example

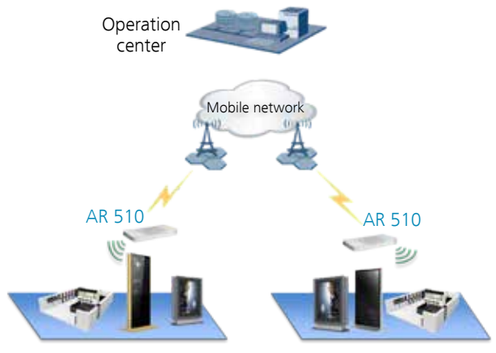


The AR510 can be deployed in a bus station to build an intelligent digital platform.The bus station using the AR510improves the functions of a traditional bus station because now it candeliver accurate schedule information by time and position. Passengers can find out about bus arrival times and distances in real-time.

The AR510complies with industry standards and is built to operate efficiently in any harsh environment. After the AR510 is installed, services can be deployed using a USB flash drive, which is convenient when there are many sparsely distributed stations or when the software is installed for the first time.

The intelligent station system uniformly schedules updates to stations in different locations through the Operation center to release the latest information by time and position. This ensures proper and accurate resource delivery.

Intelligent Media example

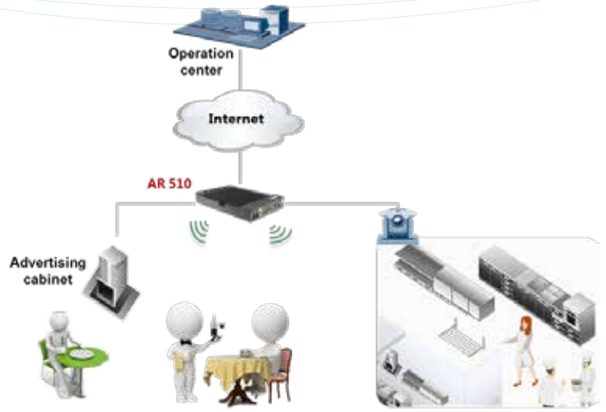


The AR510 series can be deployed to provide accurate multimedia resource deliveryin places such as exhibition halls, shopping malls, and newspaper stands. It can be used by customers to build a powerful advertising platform where ads can be managed, controlled, and updated in real-time.

With Wi-Fi integrated in the AR510, each advertisement screen can become a Wi-Fi hotspot, and can provide a hotspot service to the public as needed, as well as push customized information.

The intelligent media system uniformly schedules multimedia delivery to terminals in different locations through the Operation center, and can implement customized precision marketing.

Intelligent Restaurant example



The AR510 series can be deployed in restaurants, connecting to multimedia terminals such as advertising screens and touchscreens. These devices play kitchen videos, policies, regulations, advertising videos of restaurants, and HD advertising images. The gateways have SATA interfaces that can connect to SATA hard disks on which restaurants can store real-time or historical videos for local or remote playing.

The AR510 supports Wi-Fi, and consumers can use mobile terminals such as mobile phones or pads to access the Internet or visit portal pages through the Wi-Fi network.

Additionally, the intelligent restaurant system uniformly schedules chain restaurants in different locations through the operation center to implement uniform business management and multi-store sales activities.

Technical Specifications

Specifications	AR511GW-LAV2M3	AR513W-V3M8
Hardware Specifications		
Device model	Metal box (external plastic shell can be used)	Metal box
Fixed Ethernet interface	2 x GE	2 x GE
Video interface	Two video interfaces (HDMI, CVBS, or YPbPr), which support playing 1080p HD video	2*HDMI，1*VGA
Video Codec	MPEG1, MPEG2, MPEG4, H.263, H.264, VC-1, Divx 3/4/5/6, Xvid ASP, RV8/RV9/RV10	MPEG4、H.264、H.263、Divx、Xvid、RV10
Video file format	MKV, RM, RMVB, AVI, MP4, MOV, FLV, 3GP, DivX, M2TS, MTS	MP4、RM、DivX、3GP、MOV、MKV
Audio interface	Two stereo outputs (one output: audio power amplifier), one stereo input	Two stereo outputs (L/R)，3.5mm headset jack
Audio Codec	MP3, AAC, AAC+, eAAC+, WMA, OGG, AC-3	MP3、AAC、AAC+、eAAC+、WMA、OGG、AC-3

Specifications	AR511GW-LAV2M3	AR513W-V3M8
Audio file format	MP3, WAV, WMA, OGG, AMR, AAC	MP3、WAV、WMA、OGG、AMR、AAC
Hard disk interface	-	1*eSATA
3G/LTE	FDD LTE, compatible with 3G(WCDMA/HSDPA/HSUPA/HSPA+) Dual SIM cards(one standby)	-
Wi-Fi	Dual-band AP (2.4 GHz and 5 GHz), 2x2 MIMO 802.11a/b/g/n	Dual-band AP (2.4 GHz and 5 GHz), 2x2 MIMO, 802.11a/b/g/n
GPS	Supported	-
Console interface	1	1
USB2.0	1 USB HOST, 1 USB OTG	3*USB HOST,1*USB OTG
Memory	2 GB	2 GB
Storage*	Built-in Flash 4 GB	Built-in Flash 4 GB
Power supply	Dual DC inputs: 8V to 36V	DC: 12V
Maximum Power	30W	60W
Dimensions (W x D x H)	275 mm x 160 mm x 30 mm	275mm × 180mm × 40mm
Weight	1.3Kg	2.3Kg
Operating temperature	-10°C to +60°C	-10℃~60℃
Storage temperature	-40°C to +85°C	-40° C to +85° C
Operating humidity	5% RH to 95% RH (non-condensing)	
Installation method	Wall-mounted or horizontally	Wall-mounted
Shock and vibration standards	QC/T 413-2002, ISO 16750-3:2007	-
Software Specifications		
Basic features	DHCP server/client/relay, DNS client/proxy/relay, NAT, ARP, Port management	
WLAN	WLAN QoS, WLAN Security, WLAN radio management, WLAN VAP management, WLAN user management, WLAN anti-attack	
IPv4 unicast routing	Unicast routing management, routing policies, static routes, RIP, OSPF, IS-IS, BGP, MBGP	
Multicast	IGMPv1/v2/v3, PIM SM, PIM DM, PIM-SSM, MSDP	
VPN	L2TP VPN, GRE VPN, Efficient VPN	
QoS	ACL, QoS, MQC, SAC	
Security	Firewall, AAA authentication, RADIUS authentication, HWTACACS authentication, ICMP attack defense, Unicast Reverse Path Forwarding (URPF), CPCAR, blacklist, Public Key Infrastructure (PKI)	
Management and maintenance	Web Management, System management, Upgrade management, Device management, SNMPv1/v2c/v3, USB-based deployment	

Note: Supports SD Expanded Card which can be purchased separately.

Device Selection

Before selecting a device, determine the device model and auxiliary.

Device model

Select the device model according to the interface type and service requirements.

Cable

After interface modules are selected, the cable type and quantity are determined according to the line features and interface quantity.

Ordering Information

Tables 3Lists the part numbers to use when ordering components.

Table 3: AR510Series ModelOptions

Chassis Model	Description
AR511GW-LAV2M3	AR511GW-LAV2M3, 2 x GE, Wi-Fi 2.4G + 5G, LTE, 2 x Video Output (HDMI/CVBS/YPbPr), 2 x Audio Output + 1 x Audio Input, 2 x USB 2.0, 2 x DC Input (8V to 36V)
AR513W-V3M8	AR513W-V3M8,2*GE,2*2 MIMO Wi-Fi 2.4G + 5G,3*Video Output(2*HDMI+1*VGA),1*Audio Output,1*eSATA,1*DI/O,3*USB+1*USB OTG,DC 12V Input

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