

Airvine WaveTunnel[™]

User Manual and Configuration Guide



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WaveTunnel Introduction

The WaveTunnel 2041-DC is an indoor wireless backhaul system supporting multiple in-building topologies. Operating in the 60 GHz band, this is a point-to-point (PtP) system with a 2Gbps maximum throughput rate and a 100-meter link range.

The system has an advanced RF front end with enough gain to beam through indoor wall materials thus enabling NLOS backbones, and with +/- 45-degree steering can also avoid obstacles and beam around corners. The unit can be configured quickly by using a Smartphone App, AirvineMobile[™] or a browser version, VineManager[™]. Powered by a collection of software, VineSuite, the WaveTunnel is the world's first mmWave indoor wireless backbone.

The WaveTunnel system can be employed in a variety of applications or markets. The product has been designed from the ground up to be simple to install, simple to configure and simple to use. All of this means no rf or special skills are needed enabling installation of a single unit inminutes.

WaveTunnel is ideal for a multitude or applications, a sampling is listed here:

- Multiple Dwelling Units
- Hospitality

air**vine**

- Industrial and Manufacturing
- Large Private Venue



Featured benefits for these and other applications include the ability to deploy without construction and hence there is little to no disruption to tenants, guests, or employees. In addition, Wave Tunnel provides:

- The ability to be deployed in a ring or daisy chain topology
- Our proprietaryVineOS for resilient ring support
- Deployment of a high-speed Ethernet backbone in hours
- Nodes that automatically connect once configured
- The ability to be installed flush against a ceiling
- Three layers of security for your traffic

Regulatory Compliance & Safety Information

For important regulatory compliance information for the WaveTunnel System, please refer to the **Airvine Regulatory and Safety Guide** which is available for download at <u>www.airvine.com/support</u>.



Important Safety Warnings

All products are intended to be installed, used, and maintained by experienced and trained professional personnel only.

When installing and using these products, safety precautions should always be carefully followed to reduce the risk of fire, electrical shock, injury to persons, and damage to the system.

Such safety precautions including the following:

- Read the installation instructions before using, installing, or connecting the system to the power source.
- Only trained and qualified personnel should be allowed to install, replace, or service this equipment.
- Devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation.
- Installation of these products in the end use environments must conform to all applicable national and local regulations and codes including all relevant electrical codes.
- Devices are to be used with and powered only by power sources that are either provided by Airvine or recommended by Airvine. Failure to properly power the unit, which includes using power sources that don't comply to the system's required input voltage or current ranges, or the use of unapproved power sources, or the failure to not properly connect the power sources to the system's power connector, can result in possible injury or permanent damage to the unit.
- Ultimate disposal of this product should be handled according to all national laws and regulations.
- No user-serviceable parts inside; all repairs and services must be handled by a qualified Airvine service center.
- To avoid the risk of electric shock or damage to the unit, do not open unit or remove any covers of the unit.
- Do not insert any objects of any shape or size inside these devices while powered on. Such objects may contact hazardous energy parts that could result in a risk of fire, personal injury, or damage to the unit.
- Do not remove or alter the markings or labels affixed to these devices.
- Airvine devices are for indoor use only and are not meant to be installed outdoors.

Regularity and Safety Information

For important regulatory and safety information, please refer to the Airvine Regulatory and Safety Guide.



Key Specifications – Model 2041DC

Networking Interface	4 x 1 RJ45 Shielded Gigabit Ethernet ports Each port can support Power Over Ethernet (POE) PSE Output
RF Connections	2 x 60 GHz WaveTunnel radios – one on either side of the WaveTunnel unit, 802.11b/g/n WiFi for management.
Power Consumption	 Without External AC/DC Adapter: 27W (no POE output) 147W (with max 120 Watt POE output) Including ACC-PS180M External AC/DC Adapter (@115VAC): 28W (no POE output) 152W (with max 120 Watt POE output) Including ACC-PS180M External AC/DC Adapter (@230VAC): 30W (no POE output) 163W (with max 120 Watt POE output)
Power Input Voltage & Current	Input Voltage Range: 43 to 58 VDC Max Input Current: 4.7A
Power Output (POE)	Total Maximum POE Power for System:120 WattsMaximum POE Power for an Ethernet Port:60 WattsPOE Output Voltage Range:43 to 58 VDCNote: POE output voltage will be equivalent to the WaveTunnel input DCVoltage.
DC Input Power Connector Type	Kycon KPJX-4S Female 4-PIN connector
External AC/DC Power Adapter (included with PN: WT-2041DC-1)	Part Number: ACC-PS180M External AC/DC Adapter (optional) Description: 180-Watt, 90 VAC to 264 VAC Input, 54VDC Output, Class II
Operating Temperature	0 – 40 °C
Humidity	0 – 95%
Usage	For Indoor Use Only



Electrical and Mechanical Interfaces: Model 2041DC

The WaveTunnel's simple design has the following Electrical and Mechanical Interfaces on the front panel listed from left to right:

- DC Power Connector: Kycon KPJX-45 Circular Connector, 4-pin
- System Reset Button: Pin Hole (press to reset unit, press for 5 seconds to restore to factory defaults.
- 4 x 1 Gb Ethernet: RJ45, (POE Output, 120 Watts Total POE Output Power)
- Console Port
 - Micro USB Type B connector, non-powered



Model 2041DC – DC Power Connector Pinout

The following pinout shows the DC voltages assigned to each pin on the WaveTunnel DC Power Connector. The External Power Supplies offered by Airvine all follow this pinout and are compatible with the WaveTunnel unit. For optimal performance, it is recommended to use a power supply that outputs 54 Volts.

Warning: Not following the voltage/pin assignments will result in damage to the WaveTunnel unit (blowing internal non-replaceable fuses) and will require system repair.







Note: The WaveTunnel DC Power Kycon connector of Model 2041SM is upside down (rotated 180 degrees) from model 2041DC.





Connecting to and External DC Power Source

When connecting power to a WaveTunnel, connect the DC plug from the power brick into the WaveTunnel first. The circular connection is keyed for proper orientation. Once the DC plug is connected to the WaveTunnel, plug the AC power cord from the power brick into an electrical outlet.

For model **2041SM**, the flat side of the power connector is down.

For model **2041DC**, the flat side of the power connector is up.



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External Power Adapter Specifications

WaveTunnel Units Typically Ship with an External AC/DC Power Adapter. Specifications for this External Power Adapter are as follows:

ACC-PS180M – AC/DC External Power Adapter

Part Number: ACC-PS180M

External AC/DC Adapter (optional) Tested with WaveTunnel Model 2041-DC and included with WT-2041-DC-1.

ACC-PS180M – Key Specifications

Vendor/Model	GlobeTek, GTM9618	00PWWWVV.V	-T3
Input Voltage & Current	Maximum Input Voltage Range:90-264VACTypical Input Voltage Range:100-240 VACMax Input Current:2.2A		90-264VAC 100-240 VAC 2.2A
Output Voltage, Current, and Power	Output Voltage: Output Current: Output Power:		54 VDC 3.333A 180 Watts
Isolation	Class 2		
Efficiency	DoE Level VI and EU	J CoC Tier 2 Co	mpliant
Input Connector	Input Connector:	IEC 60320 C14 Accommodates Power Cord	Male IEC 60320 C13 Female Connector
Output Connector	Output Connector:	Kycon KPPX-4F	P, 4-PIN Circular Connector, Male
DC Input Power Connector Type	Kycon KPJX-4S Fema	ale 4-PIN conne	ector
Operating Temperature	Operating Temperate	ure: -10°C t	o 40 °C (full load)
Humidity	0 - 95%, Relative Hu	umidity, non-co	ndensing
Usage	For Indoor Use Only		



ACC-PS180M – Enclosure Drawing





Configuring and Managing WaveTunnel Devices

Management Interfaces of WaveTunnel device

There are several management interfaces supported by the WaveTunnel device which you can use to manage the network. It includes:

- WEB GUI
- Mobile App
- Command-Line Interface
- Open API
- SNMP interface

You can select the interfaces in your environment which are most appropriate to configure and monitor your network.



For Open API and SNMP, please refer to the API/SNMP documents for more detailed information.



The architecture of the WaveTunnel network is designed as the "controller-less" system. It means there is no central controller in the network to manage the WaveTunnel devices. You can connect to any WaveTunnel device in the network to manage others via the WEB GUI or Mobile App. Please refer to the diagrams below.



To manage the WaveTunnel device, you can select any device on the network from the drop-down list in the WEB GUI or Mobile App.



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Node Label		
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Prerequisites for using the management interfaces

Web GUI Prerequisites

For being able to connect to the WEB GUI of the WaveTunnel device, you need a computer installed with one of the following web browsers:

- Google Chrome
- Microsoft Edge
- Safari
- Firefox

The WEB GUI supports both **http** and **https** connections.For https connections,the web server of the WaveTunnel device uses the self-signed certificate. Thus, you need to ignore the security warnings on the browser to bypass the validation.

The information of the Airvine self-signed certificate.

Viewer: web.a	irvine.local
Details	
on Name (CN) zation (O) zational Unit (O	web.airvine.local Airvine Scientific U) software
on Name (CN) zation (O) zational Unit (O	web.airvine.local Airvine Scientific U) software
eriod	
On i On	Friday, March 19, 2021 at 2:42:21 PM Saturday, March 19, 2022 at 2:42:21 PM
its	
56 Fingerprint	C7 73 63 F0 27 FC D9 09 E2 06 DA 42 23 B1
	C4 AE CB A7 45 67 32 ED 53 F0 40 29 AC BE
Fingerprint	F7 70 3E 77 98 FE 82 E9 6F 86 1A 69 4C 82 93 78 12 51 AE 49
	Details Det

For Google Chrome, there is no link on the warning page to ignore the certificate and move forward. You can type "**thisisunsafe**" to proceed.





The default login credential of the WEB GUI are

User name: **admin** Password: **admin**

Mobile App Prerequisites

Download the "AirvineMobile" App from the App Store.

[Apple iOS]

Search "AirvineMobile" from the App Store in your mobile device.





[Android]

Search AirvineMobile and download the App from Google Play.



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The default login credential of the mobile App are

User name: **admin** Password: **admin**

Note: The MobileApp uses the 2.4 GHz WaveTunnel WiFi radio. To connect to

If you wish to use the WaveTunnel mobile app for managing your WaveTunnel devices, please read the "Terms and Conditions" before connecting.





Agree and Continue

Command-Line Interface Prerequisites

There are two methods you can use to get into the command-line interface of the WaveTunnel device. You can either use the serial cable or connect through the SSH connection.

The default login credential of the command-line interface is as follows.

User name: admin Password: admin

Enable Password: blank, just hit enter key



[CLI command keys]

Кеу	Action	
Enter	Show the sub categories or command list	
Tab	Auto complete	
$\uparrow\downarrow$	View the command history	
	Go up to the parent category	
Exit or Ctrl+D	Exit the CLI	

[SSH Client]

To connect the WaveTunnel device, you need to have the SSH(Secure Shell protocol) client. It can be the Linux terminal console or SSH client on other operating systems. For example, Putty, Kitty, MobaXterm.....etc.

Linux Terminal



SSH Clients



With these ssh clients, you can type "ssh admin@[IP of WaveTunel]" to connect to the device.



For example, ssh admin@192.168.3.1 if you are connecting through the management WLAN.



[Serial USB cable]

Micro-USB cable is required to connect to the WaveTunnel device if you want to use the console.



To use the serial cable connecting to the WaveTunnel device, you need to know the name of the serial port.

Below is an example of Linux or MacOS.





For Windows OS, please check the COM



Once you know the name of the serial port, you need to configure the settings in minicom or Putty as follows.

	: /dev/ttyUSB0	
3 – Lockfile Location	: /var/lock	
- Callin Program		1
- Callout Program	: 115200 8N1	
- Hardware Flow Contr	ol: No	i i
i - Software Flow Contr	ol:No	i
Change which setting		
1.0	oard I	
I Screen and Kevb		
Screen and Keyb Save setup as d	ft j	
Screen and Keyb Save setup as d Save setup as	ifl i	
Screen and Keyb Save setup as d Save setup as Exit	ifi. 	

You can see the screen if you can connect to the device.



Welcome to minicon 2.7.1		
OPTIONS: 118n Compiled on Aug 13 2017, 15:25:34. Port /dev/ttyUS01, 21:17:37		
Press CTRL-A Z for help on special keys		
drew02 login: 📕		
CTRL-A Z for help 115200 BN1 NOR M	inicon 2.7.1 VT102 Offline ttyU581	

The console prompt after successfully login.



		allerijalan-an: -	
AVS> ena Password AVS#	ble :		
Help: f op	show - Show the device sta config - Enter configuration irmware - Enter firmware menu eration - Enter operation men Navigate up one cat exit - Exit Command line i	tus menu u egory nterface	
AVS#			

How to connect to the new WaveTunnel device

1. Management WLAN



The default management SSID is "**avb_[MAC_ADDRESS]**". You can check the MAC address from the label of your WaveTunnel device.



You can connect to this SSID with your mobile device or laptop. The default passphrase is "airvine!".

For the laptop, type "http://192.168.3.1" on your browser to access the WEB GUI.

2. Ethernet cable

You can plug in the ethernet cable to any of the ports of the WaveTunnel device. The default IP address of the WaveTunnel device is "**192.168.0.253**". Set the IP address of your laptop to the same subnet(e.g. 192.168.0.100) for being able to connect to the WaveTunnel device.

3. Serial console cable

Please refer to the "Command-Line Interface Prerequisites" above.

Initialize the WaveTunnel device

Before You Begin you will need the following:

- MAC address, which is printed on each WaveTunnel device.
- Mounting location for each node





- Root node Ethernet cabling
- · Each of the nodes to be installed must be in the factory default state
- The network topology of your deployment. Please refer to the following example for the pilot phase.

Mounting Instructions

Select mounting locations for each node in the network. Nodes should be mounted using the appropriate bracket and hardware, and then powered-up before beginning the configuration process. When multiple Ethernet cables are used ensure they are bundled together.

Important: These pre-production Nodes need to be mounted facing the same direction so the radios can communicate properly (see below WaveTunnel example, the Airvine logo is on the same side.



Edge Noe

Root Node

For more detailed mounting instructions, please see the "WaveTunnel Installation Guide".

Take the example below to set up the wave tunnel connection between the first(root) and the second(edge) nodes.

[WEB GUI]

Connect the WEB GUI through the default management SSID or ethernet cable.

• Set up the Root Node



After logon to the WEB GUI, the initialization wizard is shown on the landing page. Following the Initialization wizard to set up the wave tunnel connection. The first step is selecting "Create a new network" and giving the name of this network.

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User 11		any	1.1997-22				-	
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Input the label of this root node to recognize it later.

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	devD1
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Configure the management IP of this WaveTunnel device. It can be DHCP or Static IP.



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4	AirVine Scientific, INC. @ 2022

For security considerations, you can also change the default admin password in this step.

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4	AirVine Scientific, INC © 2022



Review the settings and then click the "submit' button to finish the configurations. You can go back to the previous steps to change the setting before clicking the "submit" button. After setup successfully, you can see the Dashboard page in your browser.

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		Node Label	E.			dev01					
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Dominia		Admin Pass	word:			admin					
Characteristics IN											
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• Set up the Edge Node

After logon to the WEB GUI, the initialization wizard is shown on the landing page. Following the Initialization wizard to set up the wave tunnel connection. The first step is selecting "join the existing network". The page automatically scans the nearby WaveTunnel network and shows the list in the dropdown list.



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<u> </u>	Create a new network Join the existing network
③ Statistics	Scanning the nearby wave tunnels
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Select the network you want to connect from the drawdown list and then go to the "next" step.

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PSTEM	
Operations 4	
6	ArVina Scientific, INC. @ 20

Input the label of this leaf node to recognize it later.



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Management WLAN	
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For security considerations, you can change the default admin password in this step.

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Wave Turnel	Charten the administrator namered
E film	New Password
(J) shortes	******
CONFIGURATION	
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Configure the management IP of this WaveTunnel device, it can be DHCP or Static IP.





Review the settings and then click the "submit' button to finish the configurations. You can go back to the previous steps to change the setting before clicking the "submit" button. After setup successfully, you can see the Dashboard page in your browser.



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) Deshboard		Initialization wizard	
CHITODINO Device - This is General	a new wave tunnel device which has no	t been initialized.Please follow the step	below to setup the wave turnel device.
Elhemet Management WLAN Wave Turnel	Network Label	P Password	Summary
Event	Confirm the following settings are Node Type:	correct Edge	
) Statistics	Network Id: Node Label: IP type: Admin Password:	deno dev02 dhcp	
Network			
UTEM .		PHEVIOUS	
Operatore +			

If you need to set up more than two WaveTunnel devices in your network, you can repeat the Leaf node setup steps to initialize the configurations for the remaining nodes. The max. Number of the WaveTunnel nodes supported in this release is up to 8.



[Mobile App]

Open "AirvineMobile" App on your mobile device to configure a WaveTunnel node. The "Select Device Network" page appears for you to select the device network. Click "Device Wi-Fi" to select and connect to the management Wi-Fi SSID.

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Connect the WaveTunnel node to be configured via the default management SSID which is "avb_[Device MAC]". Note: A WaveTunnel node's MAC address is included in the default SSID for aiding in the setup of a network when there are other WaveTunnels broadcasting SSIDs in the area. The MAC address is printed on a label affixed to each WaveTunnel unit.

The default password for the management Wi-Fi SSID is "airvine!". The exclamation mark is required.

Once connected to the management Wi-Fi SSID, please press "<" on the bottom right to go to the "AirvineMobile" App.

11:23	LTE 1921	(• —	
Settings Wi-Fi	Edit	0505 D	
Wi-Fi		< AirVine_mgmt_02.03:04:05:06:41	-
✓ avb_a4:f9:e4:10:19:70	≜ ≈ ①	airvinet @	
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AllenHome-2.4G	≜ ≑ ①	1 2 3 4 5 6 7 8 9	
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Other		1.7.8 g (1.0.9.9) Box y (3.	
Ack to Join Networks	Notify	ш о ~	10
Ask to Join Networks	Notify >	III 0 ~	



The "AirvineMobile" App is checking to see if it can reach the device via the selected Wi-Fi SSID. If the mobile App can reach the device, it will show the Device Initialization wizard page.



There are slight differences between the configurations of the root node and all other nodes. Please check the steps below.

Initializing the root device:

- To configure the root device, select the "Create a new network" option in the network segment step.
- Then input the Network ID for this new deployment. The Network ID can be automatically generated, or you can input any meaningful string for future identification of your network, for example. "net01".
- Click "NEXT" for the next setting.



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	10:35 👘 💼
Dev	vice Initialization 🛛 🗔 🕞
0	Network Segment Create a new network or join the existing
	Wave Tunnel Network
	Create a new network
	Join the network
	Network Id net01
	5/8
	NEXT BACK Node Label Use the auto-generated device label or Set its value
0 0	IP Settings Set the Management IP
0 0 0	IP Settings Set the Management IP Admin Password Change the Admin Password



Input the "Device Label" to name this device. It will be used to recognize your device later.





Click "Next" to set the management IP of your device.





Click "Next" to change the admin password of your device.




Click "Next" to check the summary of your configurations.

Device Initialization	
Admin Passwo	rd Password
Summary Please confirm	the following
settings are co Node Type:	Root node
Network Id:	net01
Device Label:	room1
Password:	admin
IP Type:	Static
IP Address :	192.168.1.100
Subnet Mask :	255.255.255.0
Gateway :	
NEXT BACK	



Once you confirm the configurations are correct, click "Next" to initialize the settings for this device.

When the initialization is completed, the popup window appears. Click "Continue" to finish the settings.

Note: the format of the management SSID for the WaveTunnel node has changed to a combination of avb_[network Id]_[device label].



The "Select Device Network" page will be shown to you after completing the initialization step.





Click on "Select Wi-FI" to switch to the newly configured management SSID "avb_net01_room1".

Note: The management SSID changes after completing the initialization process from a default SSID to an SSID that includes the Network ID name and Node Label name.



Click "Connect" to go to the Login page.





The root device has now been configured successfully. You can use the default username and password to login into the mobile App management pages.





To configure the remaining devices in the network, select the "Join the network" option in the network segment step.

Nearby WaveTunnel devices will be broadcasting their SSIDs, which will appear in the list. Click on the SSID of the next node to be configured. This is the node that will talk to the root node that was just configured. Then click "next" for next settings.

As each node is added to the network, traffic flows are automatically configured between that node and the root node. These flows can pass through relay nodes, but all traffic must flow to and from the root node.





Enter the "Device Label" for this device. Your device can be recognized later using this information.







Click "Next" to set the management IP of your device.

1	90:41 🗢 🗢
Dev	ice Initialization \Box \Box
ø	Network Segment Create a new network or join the existing
0	Node Label Use the auto-generated device label or Set its value
0	IP Settings Set the Management IP
	IP type dhcp 🔿 static 🖲
	IP address 192.168.1.101
	13/32 Subet mask 255.255.255.0
	13/32 Default Gateway
	0/32
	NEXT BACK



Click "Next" to change the admin password of your device.





Click "Next" to check the summary of your configurations.

Devi	ce Initialization	
0	Admin Passwor Change the Admin	r d Password
0	Summary Please confirm	the following
-	settings are con	rect
	Node Type:	Inner node
	Network Id:	demo
	Device Label:	room2
	Password:	admin
	IP Type:	Static
	IP Address :	192.168.1.101
	Subnet Mask :	255.255.255.0
	Gateway :	
	NEXT BACK	



Once you confirm the configurations are correct, click "Next" to initialize the WaveTunnel settings for this device. When the initialization is completed, the popup window appears. Click "Continue" to finish the settings.

The format of the management SSID is now a combination of **avb_[network Id]_[device label]**.





The "Select Device Network" page will be shown for you to switch the New Management SSID.



Click "Select Wi-FI" to switch to the newly configured management SSID "avb_net01_room2".







Click "Connect" to go to the Login page

	3		₽
=	Logir	ì	-
	~		
	M AIR	VINE	
Curr	ent Device : root		
Curr	ent Device : root		
Curr	ent Device : root Username		
Curr a Ø	ent Device : root Username Password		0
Curr a Q	ent Device : root Username Password		0
Curr a	ent Device : root Username Password Back	Login	•
Curr A	ent Device : root Username Password Back	Login	0
Curr a	ent Device : root Username Password Back	Login	•
Curr a	Username Password Back	Login	•



This device is configured successfully. You can use the default username and password to login the mobile App management page. You will see the tunnel connection is established on the dashboard page.





Check the current firmware information

There are two image banks in the WaveTunnel device which allow us to load two firmware image files. But only one image is active and the other is the backup. This gives us the capability to update the image to the back bank first without impacting the service. Also, we can revert back to the previous if the new firmware is not running well.

The Firmware information page shows the following information.

Active status, Is Primary or backup image, Firmware version , Size, checksum.

[WEB GUI] Operation -> Firmware Update

AIRVINE

Current Firmware Inform	ation					Refresh
Image Number	Active	Primary	Version	Size	Checksum	
1	Active	Primary	0.5.1.1678391060	113.9M	18267e997b384384ca3788bf514b5568	
2	inactive	Backup	0.5,1.1678307349	113.9M	f3542c3c2154f320c7efd804f9503de8	
Set As Primary						





[Mobile App] Settings -> Firmware -> Info



[CLI] Firmware -> info

AVS(firmware)#						
Help: download - write - primary - file - server - exit - AVS(firmware)# in Current firmware	Show the ci Download ti Write the Set the fi Sub menu t Sub menu t Sub menu t Navigate u Exit Comma fo info:	urrent firm he firmware fi rmware imag o manage th o configure o one categ nd line int	ware status file from the confi le into image bank e as primary e firmware file the firmware file so ory erface	gured ser	ver	
Image number	Active	Primary	Version	Size	Checksum	
1	Active	Primary	0.5.1.1678391060	113.9M	18267e997b384384ca3788bf514b5568	
				113.98	£2542+2+2154£220+7+£4004£05024+0	



Upload/Download the firmware file to the device

There are two mechanisms you can get the firmware image file to be loaded into your WaveTunnel device. You can set up the Http,FTP or TFPF server and put the image file on it. Then, you can download the image file from the server through WEB GUI, Mobile App or CLI to your device. Or you can directly upload the firmware image file from your local laptop through the WEB GUI to the device.

For the download mechanism, you need to put the server address, server port, the file path of the image file, user name(optional),password(optional) before starting the download operation.

[WEB GUI]

Operation -> Firmware Update -> Step 1 Input the server setting and click "download" button

Get the firmware from:	О НТТР 🔿 FTР 🔿	TFTP 🔘
Server address	192.168.31.252	_ @
Server port.	8080	~
File path	/avs_nor0.bin	~
User name		
User password		Ģ

Select the firmware image file from your local laptop and then click "upload" button.

JUL LING				
irmware 🤇	HTTP OFTP OTF	FTP 💽 Local File		
rom:				
to unload the f	irmwara fila click[Choose F	Fiel to		
elect the file a	and click [Upload] to confir	m		
	and even followed to enviro			
Choose File	No file chosen			



[Mobile App]

Settings -> Firmware -> Download

Input the server setting and click download button

< 1	Device Firmwar	re
- Info	<u>₽</u> Download	C Update
Download HTTP/FTP/	the firmware f TFTP server to	ile from o the
Server type		
http 💿 ftp	p () tftp ()	
Server address 192.168.31.	252	~
Server port 8080		~
File path /avs_nor0.b	bin	~
User name		~
User passw	vord	~
Downlo	ad	Reload



[CLI] Firmware - > Server

Input the server configurations in this category.

0 • •	NATES OF STREET, STREE	esh ad
AVS(firmware-server)#		
Help: ll – List the f set – Set the at save – Save the c – Navigate u exit – Exit Comma	irmware server set tribute of the fin hanged attributes o one category nd line interface	ting mware file servers of the file servers
VS(firmware-server)# ll		
irmware file server setting	S	
Description	Attribute Name	Current Value
Server type	serverType	нттр
HTTP server address	httpServer	192.168.31.252
HTTP server port	httpPort	8080
HTTP remote image path	httpPath	/avs_nor0.bin
HTTP server user name	httpUser	
HTTP server user password	httpPassword	
FTP server address	ftpServer	192.168.31.252
FTP server port	ftpPort	21
FTP remote image path	ftpPath	/avs_nor0.bin
FTP server user name	ftpUser	
FTP server user password	ftpPassword	
TFTP server address	tftpServer	192.168.31.252
TFTP server port	tftpPort	69
TFTP remote image path	tftpPath	/avs_nor0.bin

Firmware -> download

Input the "download" command to download the file

```
AVS(firmware-server)# ..

AVS(firmware)# ll

Unknown Command: ll

Help:

info - Show the current firmware status

download - Download the firmware file from the configured server

write - Write the firmware file into image bank

primary - Set the firmware file into image bank

primary - Set the firmware file as primary

file - Sub menu to manage the firmware file

server - Sub menu to configure the firmware file servers

AVS(firmware)# download
```



Update the firmware

Once the firmware image file is downloaded or uploaded to the WaveTunnel device. You can see the image file name on the page. Clicking the "Write image" button to update the firmware to the WaveTunnel device. Clicking the "Delete image" button to discard the uploaded image.

There are two options on the update page.

[Set as primary] => The updated image will set to primary after system reboot [Reboot after update] => The WaveTunnel will be rebooted automatically after the firmware update operation. Un-selected it to delay the reboot if you want to do it later. But the image will only take effect after the system reboot with the primary flag set.

[WEB GUI] Operation -> Firmware Update -> Step 2

Step 2: Write the firmware image to device	
File Name: avsImage-	
Is1043ardb.bin (119.6M)	
Set as primary	
Reboot after update	
O Write Image	
O Write Image	



[Mobile App] Settings -> Firmware -> Update





[CLI] Firmware -> File -> Info

To check if the firmware image file exists or not.

	1990	auth.autwice()16.116.112.113	
AVS(firmware)#			
Help: info - Show the download - Download write - Write th primary - Set the file - Sub menu server - Sub menu Navigate exit - Exit Com	current fi the firmware e firmware im firmware im to manage to configu up one cat mand line i	rmware status re file from the configured server file into image bank age as primary the firmware file re the firmware file servers egory nterface	
AVS(firmware)# file AVS(firmware-file)#			
Help: info - Show inf verify - Verify t delete - Delete t Navigate exit - Exit Com	ormation of he the down he download up one cat mand line i	the downloaded firmware file loaded firmware file ed firmware file egory nterface	
AVS(firmware-file)# info			
Available firmware image f	ile:		
Name	Size		
avsImage-ls1043ardb.bin	119.6M		
AVS(firmware-file)#			

[CLI] Firmware - > Write

Type "write" command to trigger the firmware update operation.





Configuring WaveTunnel Devices

Once the Wave tunnel connections are established, you should not change the setting in most scenarios. But if you do need to modify the configuration, here are the pages for you to do it.

Updating WaveTunnel Configurations

General WaveTunnel settings

The General Node settings, you can change the label and the antenna direction. For the antenna direction, you will need to adjust the position of the nodes after you make the changes. We suggest you not change it if there is no strong requirement.

The Downstream tunnel settings.

You can enable/disable the downstream connection or change the channel value. If you disable the connection, it will cause the connection to be lost in the network. We suggest disable only when there is no downstream node connected. For the channel setting, please ensure the channel setting is not identical to the neighboring device to avoid the interference.

The Upstream tunnel settings.

You can enable/disable the upstream connection or change the connection name. If you disable the connection, it will cause the connection to be lost in the network. We suggest disable only when there is no upstream node connected or you want to switch the upstream connection to another device.



[WEB GUI]

Configuration -> Network -> Wave Tunnel

Network Id			
newair8	~		
Node Label			
root	~		
Antenna Direction			
🔾 Default 🔘 Flipped			

Connection Enabled Disable Channel			
1 Please set the channel	~		

Jpstream Tunnel settings	
Connection	
Enabled O Disable	
Connection Name	
auto accurate DC	



[Mobile App] Settings -> Wave Tunnel settings

✓ Node settings root ✓ Network Id newair8 ✓ Node Label root ✓ Antenna Direction ✓ Default ③ Flipped ○	3:04		🕈 🗖
root ↓ Network Id newair8 ✓ Node Label root ✓ Antenna Direction Default ⓒ Flipped O Update	<	Node settings	
Network Id newair8	root		*
Node Label root Antenna Direction Default Flipped O Update	Network Id newair8		~
Antenna Direction Default Flipped Update	Node Label root		~
		, where o	



Settings -> Downstream Tunnel settings

root Status	4
Enabled Disable Channel 1	0 - ×~
opus	



Settings -> Upstream Tunnel settings



[CLI] config -> wavetunnel

		8 admini@10.16.113.10	Contraction of Contractions of the
AVS(config)#			
Help: device - Sub menu ethernet - Sub menu wavetunnel - Sub menu wifi - Sub menu persist - Save the autoSave - Set if pe user - Sub menu Navigate exit - Exit Comm	to configure the device settings to configure the ethernet settings to configure the wave tunnel setting to configure the management WIFI set running configuration permanently risist the running configuraitons au to configure the User settings up one category mand line interface	js ttings tomatically	
AVS(config)# wavetunnel AVS(config-wavetunnel)#			
Help: downstream - Configure node - Configure upstream - Configure Navigate exit - Exit Comm	the downstream wave tunnel settings the wave tunnel node settings the upstream wave tunnel settings up one category mand line interface	•	
AV5(config-wavetunnel)#			



[CLI] config -> wavetunnel -> node

		ssh admin@10.16.113.10
l)# node		
tings		
Attribute Name	Current Value	
type	Root Node	
networkId	newair8	
nodeId	1	
antennaDirection	Default direction	
label	root	
	<pre>l)# node tings Attribute Name type networkId nodeId antennaDirection label</pre>	l)# node tings Attribute Name Current Value type Root Node networkId newair8 nodeId 1 antennaDirection Default direction label root

AVS(config-wavetunnel-node)# set networkId test

Set networkId to test

Wave tunnel node settings

Description	Attribute Name	Current Value	Modified Value
Node Type	type	Root Node	
Network Id	networkId	newair8	test
Node Id	nodeId	1	
Antenna direction	antennaDirection	Default direction	
Node label	label	root	

AVS(config-wavetunnel-node)# save

[CLI] config -> wavetunnel -> downstream AVS(config-wavetunnel)# downstream

Description	Attribute Name	Current Value	
Status	enabled	Enabled	
Channel	channel	1	
VS(config-wave et channel to 2 ownstream wave	tunnel-downstream)# 2 tunnel settings	set channel 2	
VS(config-waves et channel to 2 ownstream wave Description	tunnel-downstream)# 2 tunnel settings Attribute Name	set channel 2	Modified Value
VS(config-waves et channel to 2 ownstream wave Description Status	tunnel-downstream)# 2 tunnel settings Attribute Name enabled	set channel 2 Current Value Enabled	Modified Value



config -> wavetunnel -> upstream

VS(config-wavetunn	nel)# upstream				
pstream wave tunne	el settings				
Description	Attribute Name	Current Value			
Status	enabled	Enabled	1		
Connection Name	ssid	aub neusirs as			
VS(config-wavetunn et ssid to avb_dem pstream wave tunne	nel-upstream}# set no_06 >l settings	ssid avb_demo_06			
VS(config-wavetunn et ssid to avb_dem pstream wave tunne Description	hel-upstream)# set no_06 el settings Attribute Name	ssid avb_demo_06	Modified Value		
VS{config-wavetunn et ssid to avb_dem pstream wave tunne Description Status	hel-upstream)# set no_06 al settings Attribute Name enabled	Ssid avb_demo_06	Modified Value		

Scan the WaveTunnel network

If there is a WaveTunnel device removed from the network or you are seeing an abnormal network topology diagram on the WEB GUI, you can use the "Scan Tunnel" to clean up the cache data of network devices. It will retrieve the information from each node in the network and reflect the changes of your network.

System -> System Operations-> Scan Tunnel







Close the Ring Network

WaveTunnel devices are configured in order (from root to leaf).. If you want to form a ring network to support the redundancy. You can use this function to close the ring network. The configuration is to set the root node point to the end leaf node. You can either do it from WEB GUI or Mobile App.





[Mobile App] Settings -> Wave Tunnel settings->Close Ring



Click the "Close" button to set the network as a Ring.

Close



Insert a WaveTunnel Device to the Network

WaveTunnel devices are configured in order (from root to leaf). The function can be used to finish the setup if you need to install a new WaveTunnel device in the position of an existing network.





USER MANUAL AND CONFIGURATION GUIDE

11:10	🗢 🗖
< Insert A New Node	e
Connected Node: root Network Diagram:	
fifth sight fourth rat fourth rat third second	
Select the upstream of the inserti and input the MAC address of the Upstream node root	on position new node.
MAC address of the insertion node: a4:f9:e4:10::	
Mark the insertion positi	on

There are two steps to finish the insertion. Let's take the above network as an example for inserting a device between node third and node fourth.

Step 1: Mark the insertion position

Connect to any device in the existing network. Select node "third" as the upstream node and input the MAC address of the new node which is planned to be inserted.



USER MANUAL AND CONFIGURATION GUIDE

	=	23060402fitth 👻	교 3.0 % @ 41.0 % 팀 2.9 % 🗘 🕹 admin
(3) Dashboard		- Harristen	210 M
		Inn	stath
印 General			
Cit Nations			
Contract of the second		Tourn	
Ethemet			
Wave Tunnel			
Management WLAN			
		1 contraction of the second se	
	40 - C	11 States and a state of the st	second
		Deemions	
		Close Ring Network O Insert Node After The Following Selection	
		lpstream Node	
		third	
		maps asked the Upstream of the new rade	
		AC Address of the Inseration Node	
		4:19:e4:10 80 18	
		() Inset	

Step 2: join the new WaveTunnel device to the network

Use WEB GUI or Mobile to connect to the new WaveTunnel device. In the setup wizard, select the option "Insert a node into the network". Following the steps of the setup wizard to finish the initialization of the new device. Once finished, you can see the new node is inserted into the position specified in step 1.

		E D314% @ 373% E01% 0 6 stron
C Dashboard		and the second se
MONITORINO		Initialization wissed
E Device		This is a new wave turnel device which has not been initialized. Please follow the steps below to retup the wave turnel device.
E Event		
() Statistics		
CONTRACTOR		Attrictive Active Ac
() General		Cheeter a new network or join the existing one
C Nerwork		Create a new nervion
gi uw	i.	Just the entry reviews Control of the entry reviews Scarring the network
SPOTEM		
Coerations	iii	
		PREVENUE



USER MANUAL AND CONFIGURATION GUIDE



Note: You need to finish step (2) within 30 minutes after step(1). Otherwise, the settings in step (1) will be rollback. This design is to avoid the service impact of the WaveTunnel disconnection.

Update the Management WiFi Wireless LAN (WLAN)

The Wi-Fi management WLAN is used for local management of the WaveTunnel device. You can change the settings according to your need. For example, you can disable the WLAN or change the default passphrase after the wave tunnel initialization for security considerations.

There are several attribute values you can change on this page. It includes enabled/disable, SSID name, encryption method, passphrase, channel and local subnet.



[WEB GUI] Configuration -> Network -> Management WLAN

Config Gade G4-Onett-dock - X	(Rober Geburn-Geogle Richt st.) Antwei-Device Konsperiern i st. antwei-De Konsperationskelt. ■ 199 ← → 1, 2, 2, 4 ← 0, 0, 4 ⊕, 6, 2, 0, 2, 5 € (2, 5)	neta Management X 🍂 Google Translat X 🔶 R. C. C. A. J. K. G. D. B. S. S. S. S. A. D. A. R. D. A. S.
=	47210104root ~	🗆 5.4 % 👙 60.8 % 🗐 1.4 % 🚨 💑 admin
A		
WLAN settings		Refresh
WLAN Enabled Disa WLAN wLAN wb_newair8_root_d WPA2 WPA4 Passphrase	n VIPA2	
Charinel 11 Pisses set the charmel Local Subnet 192.168.3.0	~	
⊘ Save Ø Canc	3	
		AirVine Scientific, INC. © 207

[Mobile App] Settings -> WIFI settings





[CLI] config -> wifi

			ost adming/10.16.113.10	
VS(config)#				
elp: device - Sul ethernet - Sul wavetunnel - Sul wifi - Sul persist - Sav autoSave - Sei user - Sul Nav exit - Ex	b menu to configure b menu to configure b menu to configure b menu to configure ve the running con t if persist the ri b menu to configure vigate up one cate it Command line in	e the device settings e the ethernet settings e the wave tunnel setti figuration permanently unning configurations a e the User settings gory terface	ings nettings nutomatically	
VS(config)# wifi anagement WIFI sett:	ings			
VS(config)# wifi anagement WIFI sett: Description	ings Attribute Name	Current Value	1	
VS(config)# wifi anagement WIFI sett: Description Connection	ings Attribute Name enabled	Current Value Enabled]	
VS(config)# wifi anagement WIFI sett: Description Connection SSID	ings Attribute Name enabled name	Current Value Enabled avb_newair8_root_01		
VS(config)# wifi anagement WIFI sett: Description Connection SSID Encryption method	ings Attribute Name enabled name encryption	Current Value Enabled avb_newair8_root_01 WPA2		
VS(config)# wifi anagement WIFI sett: Description Connection SSID Encryption method Passphrase	ings Attribute Name enabled name encryption passphrase	Current Value Enabled avb_newair8_root_01 WPA2 airvine!		
VS(config)# wifi anagement WIFI sett: Description Connection SSID Encryption method Passphrase Channel	ings Attribute Name enabled name encryption passphrase channel	Current Value Enabled avb_newair8_root_01 WPA2 airvine! 11		

escription	Attribute Name	Current Value	
onnection	enabled	Enabled	
SID	name	avb_newair8_root_01	
incryption method	encryption	WPA2	
assphrase	passphrase	airvine!	
hannel	channel	11	
ocal subnet	subnet	192.168.3.0	
(config-wifi)# se channel to 1 agement WIFI sett	t channel 1 ings		
(config-wifi)# se channel to 1 agement WIFI sett escription	t channel 1 ings Attribute Name	Current Value	- Modified Value
(config-wifi)# se channel to 1 agement WIFI sett escription	t channel 1 ings Attribute Name enabled	Current Value Enabled	Modified Value
Config-wifi)# set channel to 1 lagement WIFI sett escription connection SID	t channel 1 ings Attribute Name enabled name	Current Value Enabled avb_newair8_root_01	Modified Value
<pre>(config-wifi)# se channel to 1 agement WIFI sett escription connection SID incryption method</pre>	t channel 1 ings Attribute Name enabled name encryption	Current Value Enabled avb_newair8_root_01 WPA2	Modified Value
Config-wifi)# se channel to 1 agement WIFI sett escription connection SID accryption method assphrase	t channel 1 ings Attribute Name enabled name encryption passphrase	Current Value Enabled avb_newair8_root_01 WPA2 airvine!	Modified Value
<pre>config-wifi)# se channel to 1 agement WIFI sett escription connection SID incryption method assphrase channel</pre>	t channel 1 ings Attribute Name enabled name encryption passphrase channel	Current Value Enabled avb_newair8_root_01 WPA2 airvine! 11	Modified Value



Update the Ethernet Configurations

Management IP settings

You can configure the management IP of the WaveTunnel device on this page. It includes the type of IP assignment, IP address, subnet mask, default gateway and management VLAN.

[WEB GUI] Configuration-> Network ->Ethernet ->IP settings

47210104-	-root U 10.9% @ 60.8% E 1.2% Q
P settings Link Aggregation settings VI	LAN settings
IP assignment	
O DHCP O Static	
IP address	
_v⊡	
Subnet mask	
Delanir Barawah	
×	
Preferred DNS	
×	
Alternate DNS	
×	
Management VLAN	
O Enabled 🔘 Disable	
VLAN ID	
4090 🗸	


[Mobile App] Settings-> Management

3:18	
Anagement IP setting	ngs
root	\downarrow
^{IP type} dhcp () static ()	
IP address	~
Subnet mask	~
Defautl gateway	~
Preferred DNS	~
Alternate DNS	~
Management VLAN Enabled 💿 Disable 🔿	
VLAN 4090	~
4090 Update	~



[CLI]

config ->ethernet-> management

			ah admin8/10.16.110.10	COMPACT AND IN			
AVS(config)#							
Help: device - Sub menu wavetunnel - Sub menu wifi - Sub menu persist - Save the autoSave - Set if user - Sub menu Navigata	a to configure the det a to configure the et a to configure the war a to configure the mar e running configureti persist the running co a to configure the Use a up one category	vice settings hernet settings ve tunnel setting nagement WIFI set on permanently onfiguraltons aut er settings	ngs ttings ntomatically				
exit - Exit ⊂or AVS(config)# ethernet AVS(config-ethernet)# mana Ethernet IP settings	mand line interface agement						
exit - Exit Cor AVS(config)# ethernet AVS(config-ethernet)# manu Ethernet IP settings Description	mmand line interface agement Attribute Name	Current Value					
exit - Exit Co AVS(config)# ethernet AVS(config-ethernet)# manu Ethernet IP settings Description IP assignment	mmand line interface agement Attribute Name ipType	Current Value					
exit - Exit Cor AVS(config)# ethernet AVS(config-ethernet)# manu Ethernet IP settings Description IP assignment Preferred DNS	mand line interface agement Attribute Name ipType primaryDnsServer	Current Value DHCP					
exit - Exit Cor AVS(config)# ethernet AVS(config-ethernet)# manu Ethernet IP settings Description IP assignment Preferred DNS Alternate DNS	mand line interface agement Attribute Name ipType primaryDnsServer secondaryDnsServer	Current Value DHCP					

escription	Attribute Name	Current Value	
[P assignment	ірТуре	DHCP	1.
Preferred DNS	primaryDnsServer] .
Alternate DNS	secondaryDnsServer		
Management vlan enable	mgmtVlanEnabled	Disable	
: ipType to static mernet IP settings Description	Attribute Name	Current Value	Modified Value
t ipType to static hernet IP settings Description IP assignment	Attribute Name ipType	Current Value DHCP	Modified Value static (Static)
t ipType to static mernet IP settings Description IP assignment IP address	Attribute Name ipType ip	Current Value DHCP	Modified Value static (Static)
t ipType to static hernet IP settings Description IP assignment IP address Subnet mask	Attribute Name ipType ip submask	Current Value DHCP	Modified Value static (Static)
t ipType to static mernet IP settings Description IP assignment IP address Subnet mask Default gateway	Attribute Name ipType ip submask gateway	Current Value DHCP	Modified Value static (Static)
t ipType to static hernet IP settings Description IP assignment IP address Subnet mask Default gateway Preferred DNS	Attribute Name ipType ip submask gateway primaryDnsServer	Current Value DHCP	Modified Value static (Static)
t ipType to static hernet IP settings Description IP assignment IP address Subnet mask Default gateway Preferred DNS Alternate DNS	Attribute Name ipType ip submask gateway primaryDnsServer secondaryDnsServer	Current Value DHCP	Modified Value static (Static)



Link aggregation settings

If your backend switch supports link aggregation, you can configure ethernet ports on this page. Select the LAG type and the ports want to be aggregated. The LAG interface also supports trunk VLAN and native VLAN. For trunk VLAN, it can be a range of VLAN id. For example, 2,3,4-8.

[WEB GUI] Configuration-> Network -> Ethernet -> Link aggregation settings

	ngs		Refresh
P settings	Link Aggregation settings	VLAN settings	
LAG setting	IS		
Link Aggreg	ation		
Enabled	O Disable		
Mode			
🔿 active-b	ackup 💿 static 🔵 802.3a		
Members			
D Port 1	Port 2 Port 3 D	Port 4	
Trunk port v	lans		
1.	O Disable		
C Enabled			
Enabled Trunk VLAN	s		
 Enabled Trunk VLAN 100 	s	-	
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Enabled Trunk VLAN 100 Native Unta	s gged vlan	•]	



[Mobile App] Settings -> LAG

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root	:							\checkmark
Link	Aggreg	ation	6					
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config -> ethernet - lag							
••• AVS(config_ethernet	1#	1 1 7	ant administrative reasons	80 (73	S 738 %	- 11 - 7 3 0	
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A MARKET CONTRACTOR OF A DESCRIPTION OF A DESCRIPANTA DESCRIPTION OF A DESCRIPTION OF A DESCRIPTION OF A DES					sh admin@10.16.113.16
WS(config-ethernet	-lag)#				
lelp: set - S save - S N exit - E	ist out et the c ave the avigate xit Comm	the support configuratic configurati up one cate land line in	ed attr on attri on gory oterface	ibutes butes	
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thernet LAG settin	gs				
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Link aggregation WS(config-ethernet et enabled to true thernet LAG settine Description Link aggregation Mode Members (e.g. '1, Trunk vlan status	enable -lag)# s gs 2,3,4'	d Attribute enabled mode tagVlanEna	Disab true Name	Le Current Value Disable static Disable	Modified Value true (Enabled)



Ethernet Port and VLAN settings

You can configure the ethernet port settings on this page. Enable/Disable the ethernet port or change the VLAN settings. The ethernet port supports trunk VLAN and native VLAN. For trunk VLAN, it can be a range of VLAN id. For example, 2,3,4-8. The port 4 can be enabled to be the dedicated management interface.

IP settings Link Agg	regation settings	VLAN settings				
Ethernet Port Co	nfigurations					
Port Name	Port Enabled	Management Port	Management Vlan	Trunk Vlans	Untagged Vlan	
Port 1	Yes	No	N/A	N/A	N/A	Ed
Port 2	Yes	No	N/A	N/A	N/A	Ed
Port 3	Yes	No	N/A	N/A	N/A	Edi
Port 4/Mgmt Port	Yes	No	N/A	N/A	N/A	Edi

[WEB GUI] ----.....

Click "edit" to configure the specific port

Port 1 configurations			
Port			
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Trunk port vlans			
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Port Enabled Disable Management port Enabled Disable	Port configurations				
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		Disable Disable Disable Disable	Port configurations Disable Dort Disable	Ort configurations Disable Dort Disable	Ort configurations Disable Dort Disable

Port 4 can be configured as a dedicated management port.





ALC			ssh adminie to. 10.113.10
AVS(config-ethernet-por	t1)#		
Help: ll – List (set – Set t) save – Save – Navig: exit – Exit (AVS(config-ethernet-por	out the supported at he configuration at the configuration ate up one category Command line interfa t1)# ll	ttributes tributes ace	
Port 1 settings	(٦
Description	Attribute Name	Current Value	_
Port	enabled	Enabled	
Trunk vlan status	tagVlanEnabled	Disable	
lintaged vlan status	unTagVlanEnabled	Disable	
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[CLI]

config -> ethernet -> portN



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USER MANUAL AND CONFIGURATION GUIDE

ssh admin@10.16.113.10

port1	- Configure the Ethernet Port 1 settings
port2	 Configure the Ethernet Port 2 settings
port3	- Configure the Ethernet Port 3 settings
port4	- Configure the Ethernet(management) Port 4 settings
internal	- Configure the Internal IP settings
	- Navigate up one category
exit	- Exit Command line interface

AVS(config-ethernet)# port4

Port 4 settings

Description	Attribute Name	Current Value	
Port	enabled	Enabled	
Management Port	mgmtVlanEnabled	Disable	
Trunk vlan status	tagVlanEnabled	Disable	
Untagged vlan status	unTagVlanEnabled	Disable	

AVS(config-ethernet-port4)# set mgmtVlanEnabled true

Set mgmtVlanEnabled to true

Port 4 settings

Description	Attribute Name	Current Value	Modified Value
Port	enabled	Enabled	
Management Port	mgmtVlanEnabled	Disable	true (Enabled)
Trunk vlan status	tagVlanEnabled	Disable	
Untagged vlan status	unTagVlanEnabled	Disable	

AVS(config-ethernet-port4)# save