



EKSELANS BY ITS

ACCES POINT SYSTEMS INDOOR/OUTDOOR

Manual Specifications



- Presentation
- Hardware
- User Interface
- Access to serial equipment
- Home
- Setup Wizard. Mode Settings
- WiFi
- Network
- Security
- Administration
- Thecnical specifications



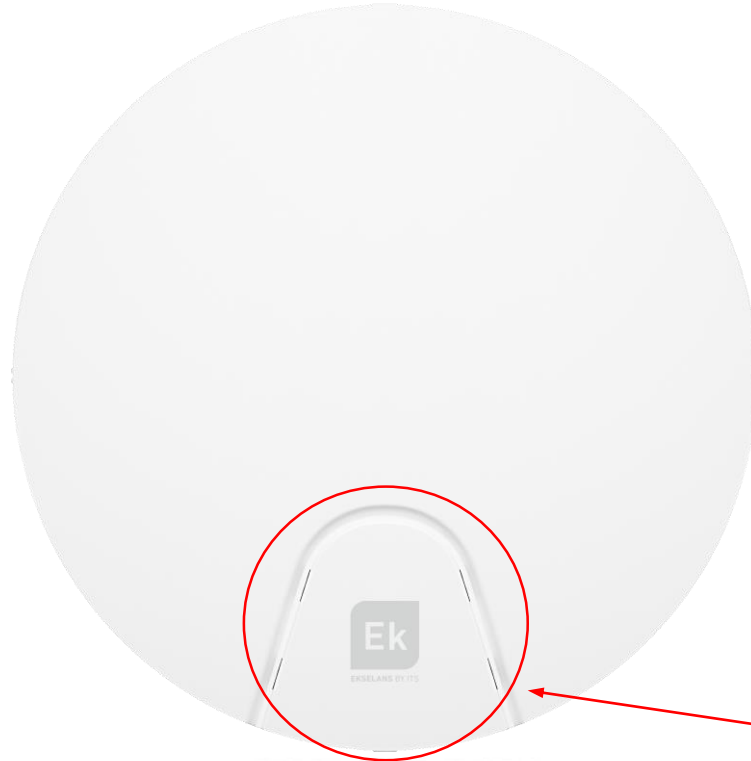
- **AP 300 LP, AP750NG, AP 1200W2** are indoor computers. The **CPE 300-24LP, CPE300, CPE750-O and CPE-1200-OLP** are outdoors. All Ek equipment is compact and high-function ideal for providing WiFi connectivity to individuals and offices
- The operation of the equipment depends on the mode selected :
 - **Access Point (AP) and Repeater** modes allow you to create a new WiFi network or extend an existing WiFi network, functioning as an ethernet **bridge**.
 - **Gateway and WISP** modes allow you to configure your **AP** as an internet access **router** via wired (Gateway mode) or wireless access (WISP mode))
- The **AP 300 LP** only has a 2'4GHz WiFi radio. The other equipment has two widely configurable radios (2'4GHz and 5GHz).
- All interior APs can be wall or ceiling mounted and supports power by source or PoE. The exteriors the fixation is for mast.



Hardware

AP 300LP

Superior View



Activity Traffic LED's

WAN Port (PoE)

Anchors for support

Reset

Front View



Hardware

AP 750NG/AP1200W

Superior View



Activity Traffic LED's

LAN Port

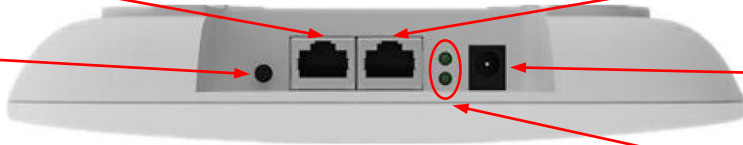
Reset

WAN Port (PoE)

Power

Ethernet LED

Front View



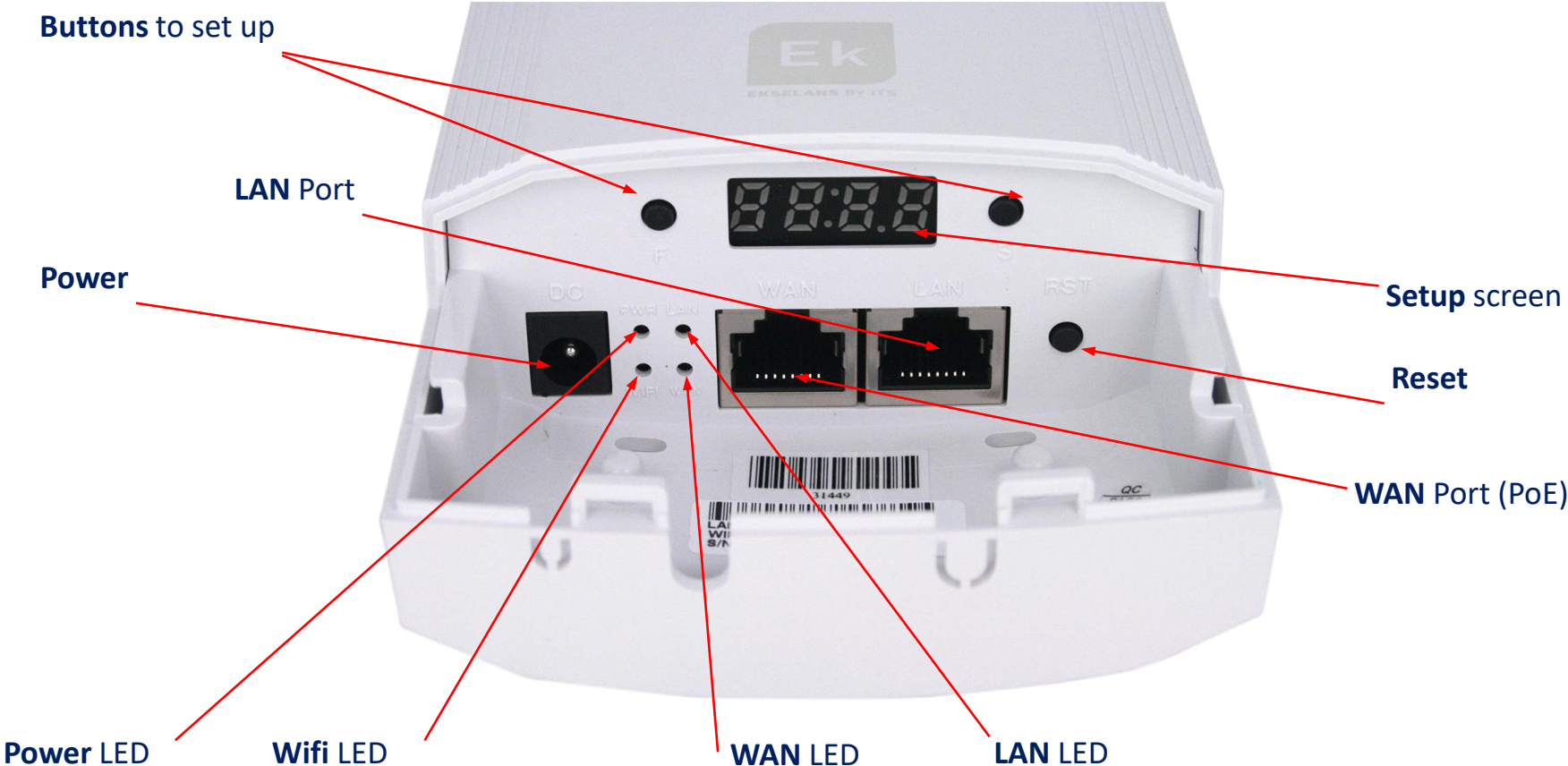
Hardware



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CPE 300-24LP

Front View



Hardware

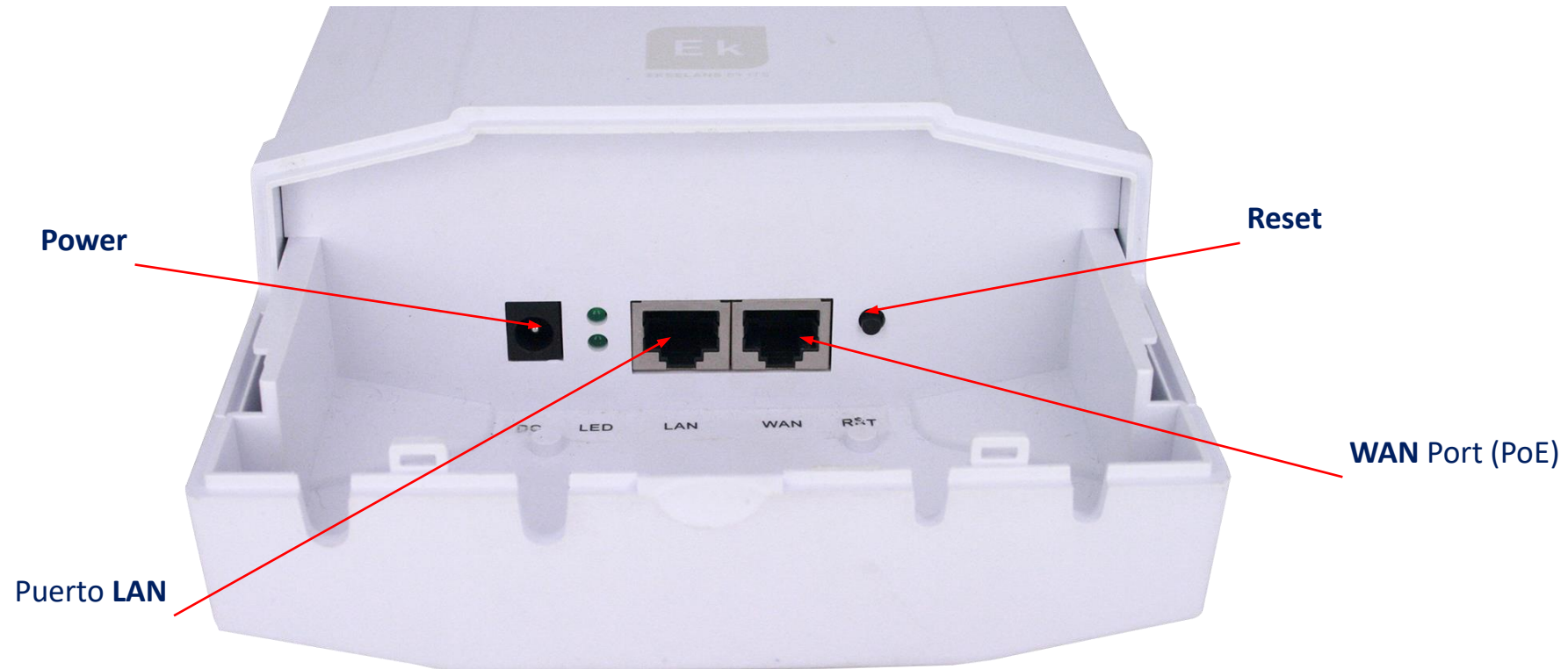
CPE300

Front View

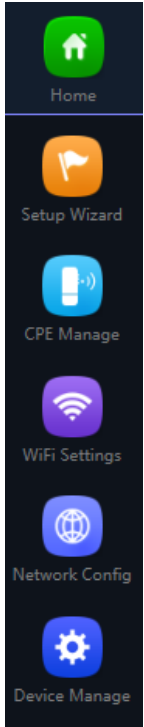


Hardware

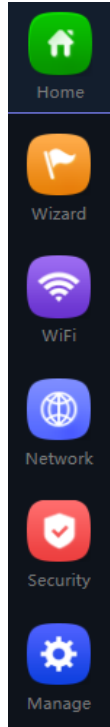
CPE 750-O/CPE 1200-OLP



User Interface... Sections



CPE 300-24LP
SUPER WDS



Home

Allows access to the main device status control screen.

Setup Wizard

Give style to the selection screen of one of the four basic operating modes of the device.

WiFi

To access WiFi settings screens: basic, advanced, VLAN and radio access control.

Network

Allows you to configure the IP parameters of the device and management, user address and, in router modes, the WAN configuration.

Security

Security features enable content and communications filters. Available only in **Gateway and WISP modes**.

Management

Device management enables updating, time settings, and other user management and quality-of-service features.

CPE

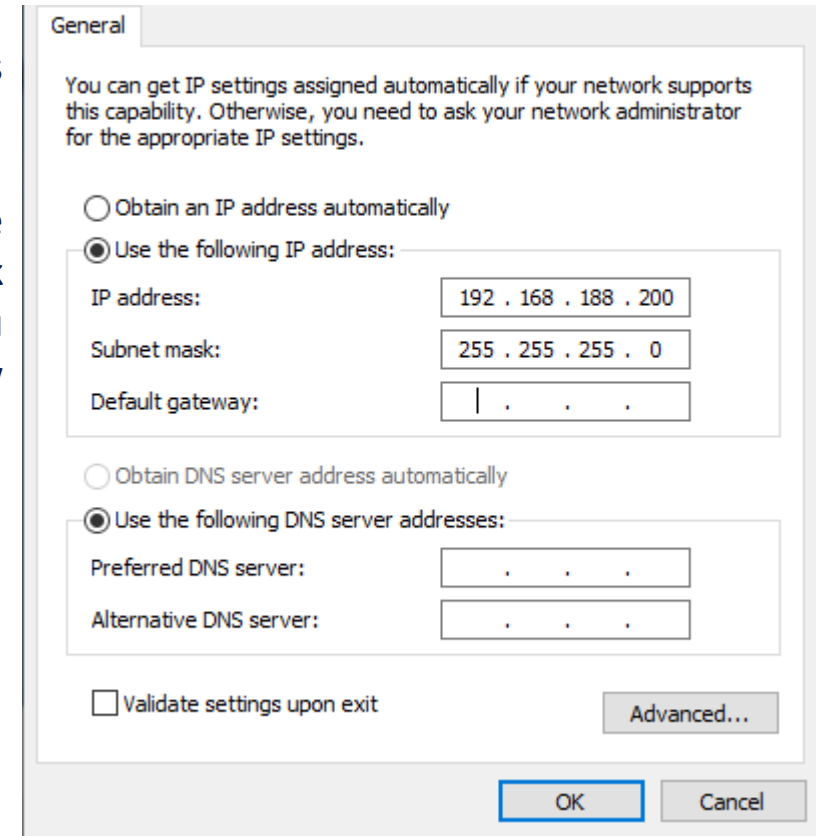
Option only available on the **CPE 300-24LP in SUPER WDS mode**. Allows you to manage **point-to-point** links connected to the AP.



Access to equipment

To access the APs, follow these steps:

1. Connect to APs with a network cable or wirelessly. Default wireless network is Ek_.... the default password is 123456789.
2. Configure the PC network adapter with a static IP as shown in the image. In order to become easy the configuration EK have the application **Ek NET Adapter**, you will be able to configure the network adapter easily. You can download from <https://ek.plus/software/> you will find a new section "EK NET ADAPTER".
3. Open a web browser and go to the URL: <http://192.168.188.253>
4. Password: admin.



General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

Obtain an IP address automatically

Use the following IP address:

IP address:

Subnet mask:

Default gateway:

Obtain DNS server address automatically

Use the following DNS server addresses:

Preferred DNS server:

Alternative DNS server:

Validate settings upon exit

Advanced...

OK Cancel



Home... General Device Status

Sections of CONFIGURATION

Current mode OPERATION

TRAFFIC Flow
WIFI or WAN depending on the mode

Wifi Selected

The screenshot displays a dashboard with several key sections:

- Navigation Menu (Left):** Home, Wizard, WiFi, Network, Manage.
- Operation Mode (Top Left):** AP Mode, Fat AP, Uptime 17:36:28.
- Traffic Flow (Top Right):** Line graph showing AP Down Stream (red) and AP Up Stream (green) in bps over time.
- Device Information (Bottom Left):** CPU Usage 3%, Memory Usage 30%.
- Device Description (Bottom Middle-Left):** AP1200W2 - testing, Click Settings.
- LAN Information (Bottom Middle-Right):** IP Mode (Get IP From AC), Lan IP (192.168.188.253), Subnet (255.255.255.0), AC Address (192.168.188.1), MAC Address (44:D1:FA:39:09:50).
- WiFi Configuration (Bottom Right):** 2G WiFi / 5G WiFi, Status ON, SSID Ek_2.4G, Channel 11, Encrypt WPA/WPA2PSK_TKIPAES, MAC Address 44:D1:FA:39:09:51.
- Footer:** Version:FIT-A780-AP-V5.3-Build20190228152323.

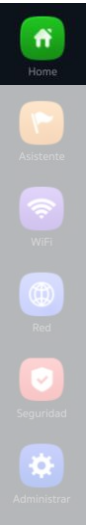
Version SW

Device STATE AND DESCRIPTION

LAN configuration

WiFi Configuration

Customers connected



Home... WDS MODE IN CPE 300-24LP



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Sections of CONFIGURATION

Current mode OPERATION

TRAFFIC Flow
WiFi or WAN depending on the mode

The screenshot displays the configuration interface for the CPE 300-24LP. On the left is a vertical navigation menu with icons for Home, Setup Wizard, CPE Manage, WiFi Settings, Network Config, and Device Manage. The main area is divided into several sections:

- Current mode OPERATION:** Shows 'Working Mode Super WDS Mode' with a diagram of two devices connected via LAN and wireless signals. Below the diagram, it indicates 'Uptime 0 Day 0 H 9 M 32 S'.
- TRAFFIC Flow:** A line graph showing 'Flow' over time. The y-axis ranges from 0k to 18k. Two lines are plotted: 'WDS Down Stream' (red) and 'WDS Up Stream' (green). The red line shows higher peaks, reaching approximately 16k, while the green line peaks around 6k.
- Device STATE AND DESCRIPTION:** A table-like section with the following data:

Device Information	WDS Status	ON	Bandwidth Test	WiFi Status	ON	Device Location
CPU Usage 6%	Encrypt	Open		User Conunt	0	Click Settings
Memory Usage 16%	AP BSSID	N/A		SSID	Ek_2.4G_E2DAA6	
	AP BSSID	N/A		Channel	9	
	AP BSSID	N/A		Encrypt	WPA/WPA2_PSK	
	AP BSSID	N/A		MAC Address	74:1A:E0:E2:DA:A6	
- Version SW:** Located at the bottom left of the main area, showing 'Version:CPE300-24LP-CPE-V4.4-B20190508114052'.

Device STATE AND DESCRIPTION

Version SW

WDS state

WiFi Configuration

Customers connected

Device STATE



Modes of Operation... Configuration

Wizard

Home
Wizard
WiFi
Network
Manage

Gateway mode Repetidor mode WISP mode AP mode

Gateway Mode Repeater Mode WISP Mode **Current Mode** AP Mode

In this mode, the AP wireless interface and cable interface are bridging together. Without NAT, firewall and all network related functions.

The screenshot shows a configuration wizard interface with a sidebar on the left containing icons for Home, Wizard, WiFi, Network, and Manage. The main area displays four mode selection options: Gateway Mode, Repeater Mode, WISP Mode, and AP Mode. The AP Mode is highlighted as the 'Current Mode'. Above these options, labels 'Gateway mode', 'Repetidor mode', 'WISP mode', and 'AP mode' are connected to their respective icons by red arrows. Below the mode selection, there is a diagram of a router connected to a wireless access point and a text description: 'In this mode, the AP wireless interface and cable interface are bridging together. Without NAT, firewall and all network related functions.'



Configuration Flow



Modes of Operation... Configuration IN CPE 300-24LP



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Configuration Flow



Modes of Operation... Bridge

Bridge mode configures the device for data transmission between its ethernet ports and its WiFi radios. IP functions (routing, DHCP, security, etc.) are not active in these modes

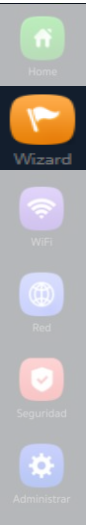
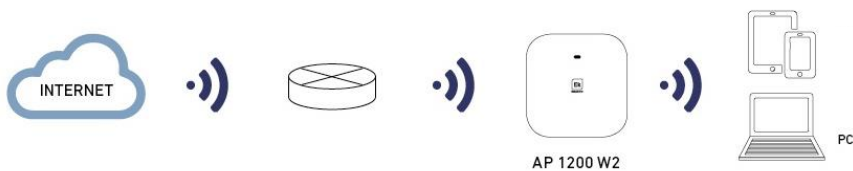
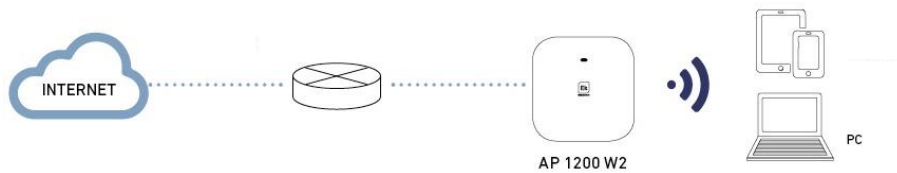
AP mode

AP (Access Point) mode provides WiFi coverage from the LAN connection, with the ability to activate up to 4 SSIDs per band (4 in 2'4GHz and another 4 in 5GHz). The **AP 300 LP** only works at 2'4GHz. In this mode, you can even configure VLANs that are associated with radiated SSIDs.

The device remains manageable through its own address, either a fixed IP configured or one obtained by DHCP.

Repeater mode

Repeater mode does the main connection as a client of an existing WiFi, either at 2'4 or 5GHz.). The **AP 300 LP** only works at 2'4GHz. This connection extends to the ethernet ports and the rest of the WiFi's that can be configured on this computer

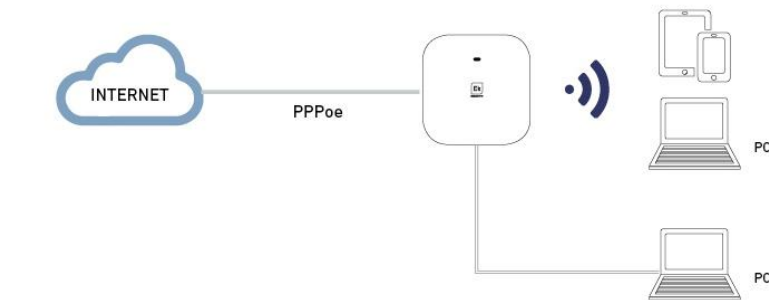


Modes of Operation...Router

Router-type modes isolate the inside network from the Internet, enabling **APs** to enable IP functions such as NAT, DHCP, routing, and security

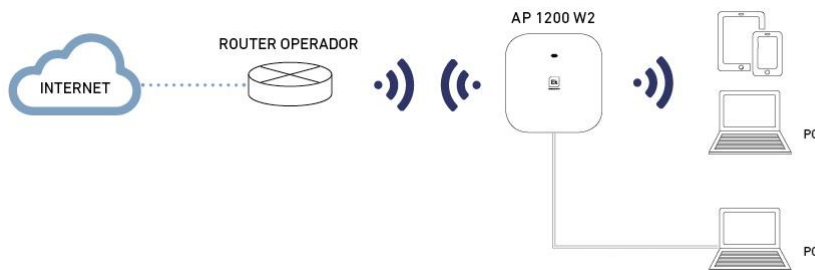
Gateway mode

Gateway mode allows Internet connection over the WAN port and has address translation (NAT), IP assignment (DHCP), and security filtering capability. WiFi networks are part of the local network configured along with the LAN port



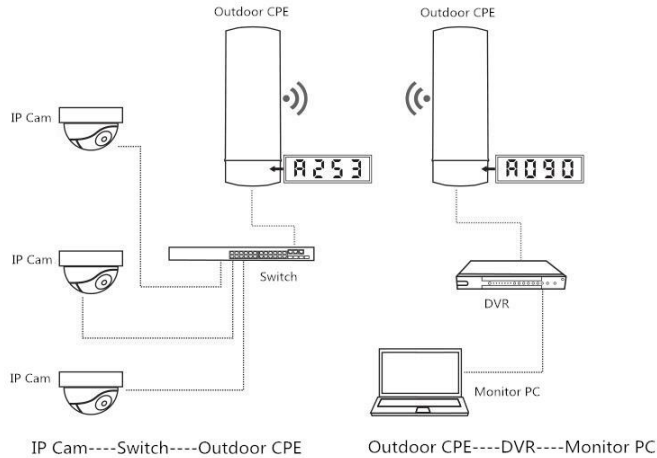
WISP mode

In WISP mode it is possible to use the **AP** as an Internet access router over an ISP WiFi network. The main connection is now established by configuring as a client one of the SSIDs on the computer, thus leaving the other interfaces (WAN, LAN and the rest of SSIDs WiFi) for the local user connection



Modes of Operation... Super WDS

Point to Point



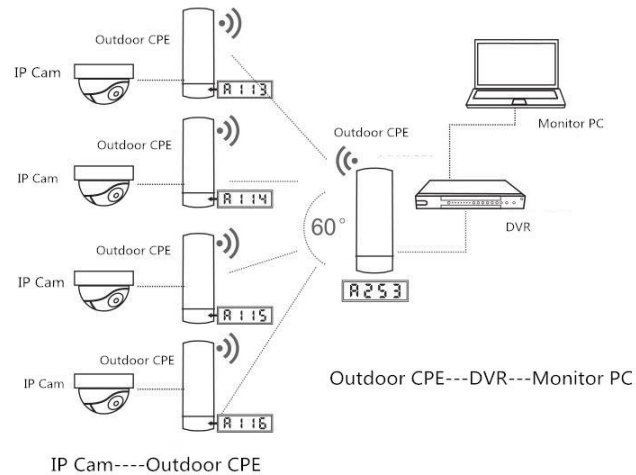
The CPE operation mode is configured by selecting the WDS option in the wizard, thus being able to configure point-to-point or multipoint connections (with a maximum of up to 4 terminals or CPEs)

P2P

The local terminal acts as host ("H", on the lower display) and the remote terminal as a client ("C"). The client is configured with the default IP (192.168.188.253), while the host is self-assigning an IP address that is not in use. Both directions are queryable through the lower display.



Point to Multi Point



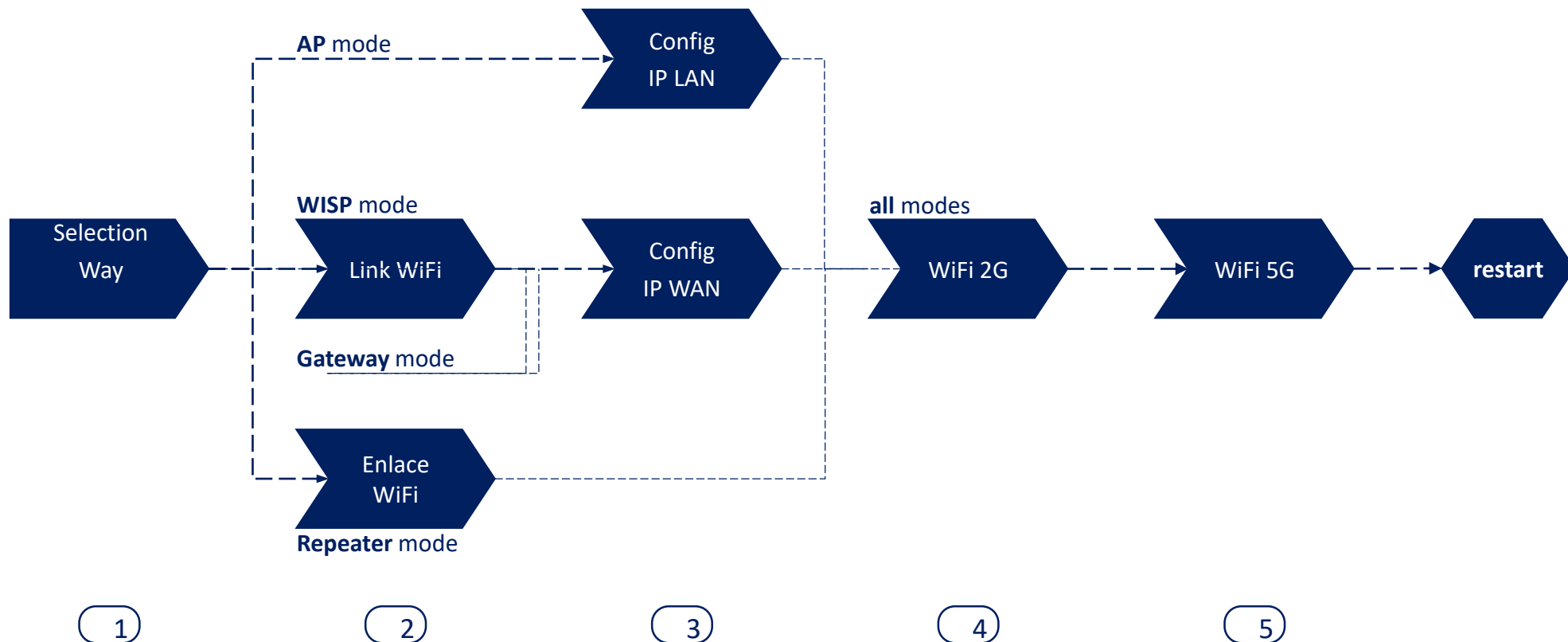
Multipoint

Up to 4 remote terminals (clients, "C") can be linked to the same host ("H"), allowing applications such as remote video surveillance, online connection of remote locations, etc.



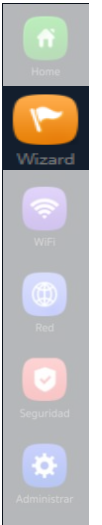
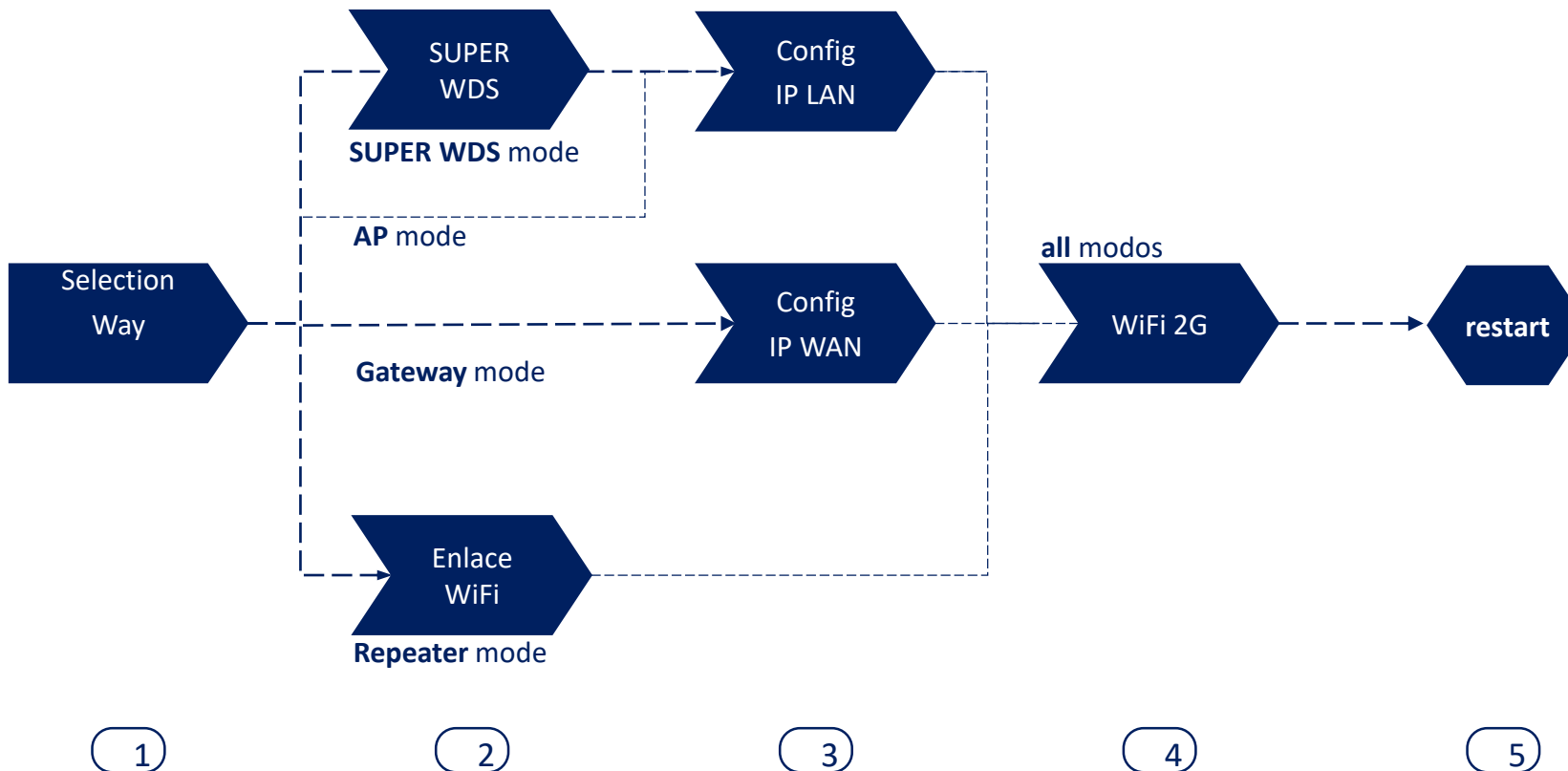
Setup Wizard ... Configuration Flow

The APs Setup Wizard allows you to select and configure modes of operation, with a simple flow that guides through their stages. The **AP300LP only works up to 2G Wifi.**



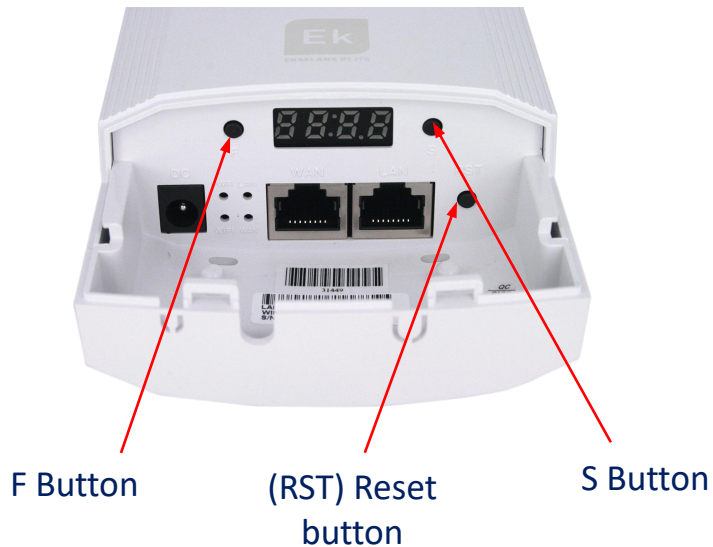
Setup Wizard ... Configuration Flow CPE 300-24LP

The APs Setup Wizard allows you to select and configure modes of operation, with a simple flow that guides through their stages. **The AP300LP only works up to 2G Wifi.**



Setup Wizard ... WDS Link Configuration by Display

By default all computers are configured in Super WDS mode. If you reset one of the computers, you must relink by following the steps below:

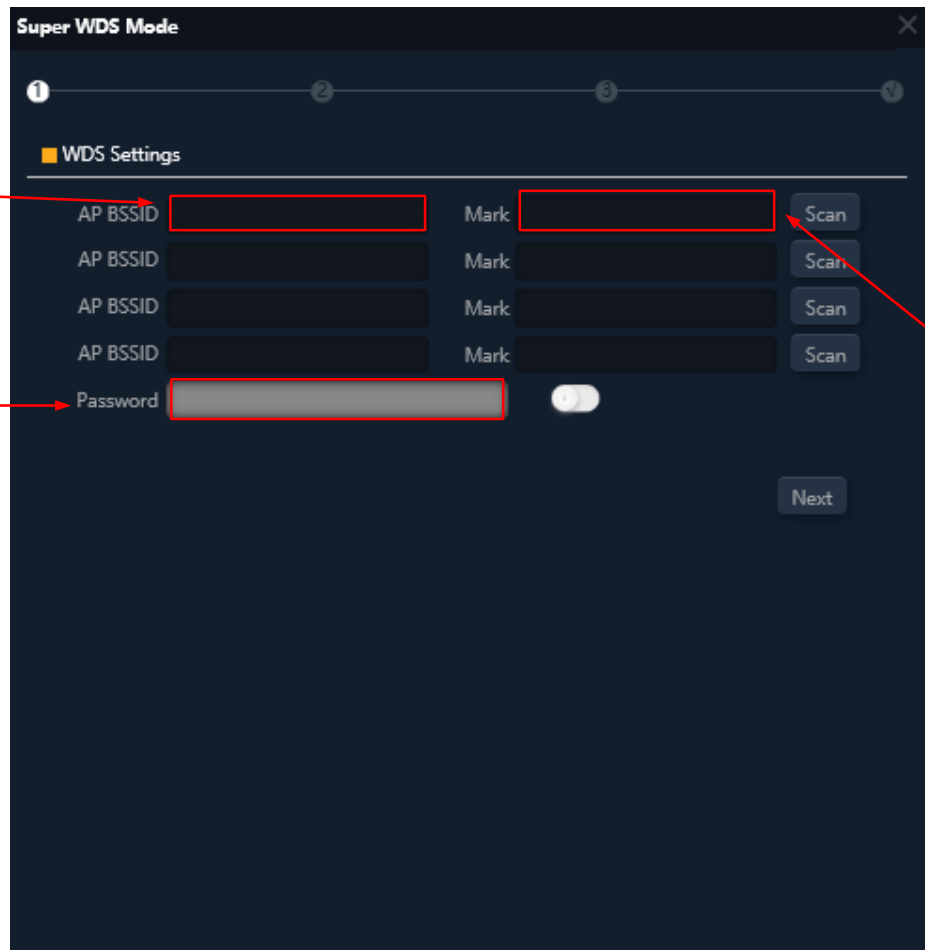


1. With the two teams in an **F** and **S** button controlled scenario we configured one of the two as **H** and the other as **C**. They must also be on the same channel, an example is sender **H009** and receiver **C009**.
2. We search for the **two links** at the same time with the RST button (shortly). We know that you perform the search as a **P** will be on the left side on the display.
3. They should be linked, we perform a connection test. If successful, pressing the S button should show us different values on the display:
 - C (client) or H (host) and channel, example: H009.
 - A253: This is the access IP to the equipment for management, e.g. 192.168.188.253.
 - P-04: Power on the link. Power level received in dBm.



Setup Wizard.. WDS CPE 300-24LP Configuration

2 Link WiFi



Super WDS Mode

1 2 3 4

WDS Settings

AP BSSID	<input type="text"/>	Mark	<input type="text"/>	Scan
AP BSSID	<input type="text"/>	Mark	<input type="text"/>	Scan
AP BSSID	<input type="text"/>	Mark	<input type="text"/>	Scan
AP BSSID	<input type="text"/>	Mark	<input type="text"/>	Scan

Password

Next

BSSID service

Password

In **SUPER WDS** mode, a point-to-point connection is established with the selected emitter.

We must perform a search for the **BSSID** with which we want to establish the connection. Selecting it will automatically complete the **mark** section. If we do the configuration in this way you have to repeat the process on the two computers so **we recommend using the above method (use the displays)**.

Link **mark** you connected with



Setup Wizard ... WiFi configuration

2 WiFi link

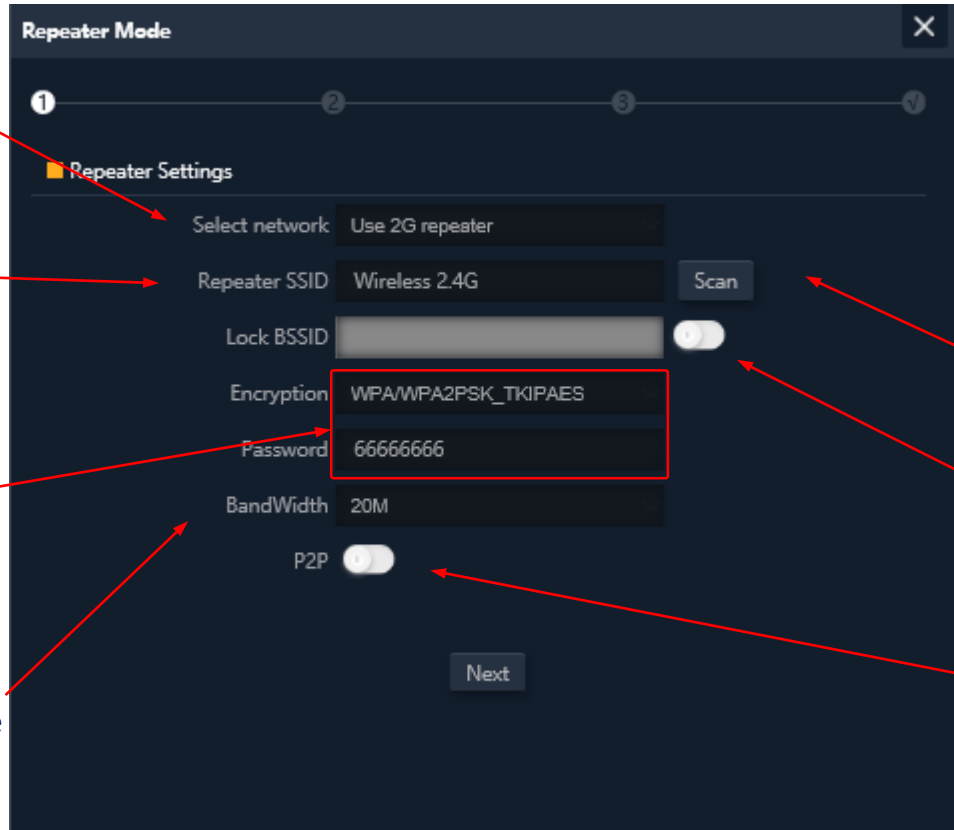


Radio client selection
(2'4GHz o 5GHz)

SSID service

Setting up Security

Bandwidth of the channel
(options of 20 and/or 40 MHz depending on the Standard WiFi Active)



In **WISP and Repeater** modes the Internet output is established with a WiFi connection to an existing service (service SSID). A radius of the **APs** is configured as a client and thus establishes the link to output user traffic.

In **Gateway** mode the connection is established by the WAN port, while in **AP** mode it is indistinct between LAN or WAN ports, except when using VLANs, which are only switchable by the WAN port.

Possibility of SSID selection via **scan WiFi**

Fixed association option to a remote radio (MAC lock, BSSID)

The P2P option is specific to the mode Repeater and allows to propagate the WDS configuration between terminals (Deactivation recommended)



Setup Wizard ...IP LAN/Management configuration

3a) IP LAN configuration

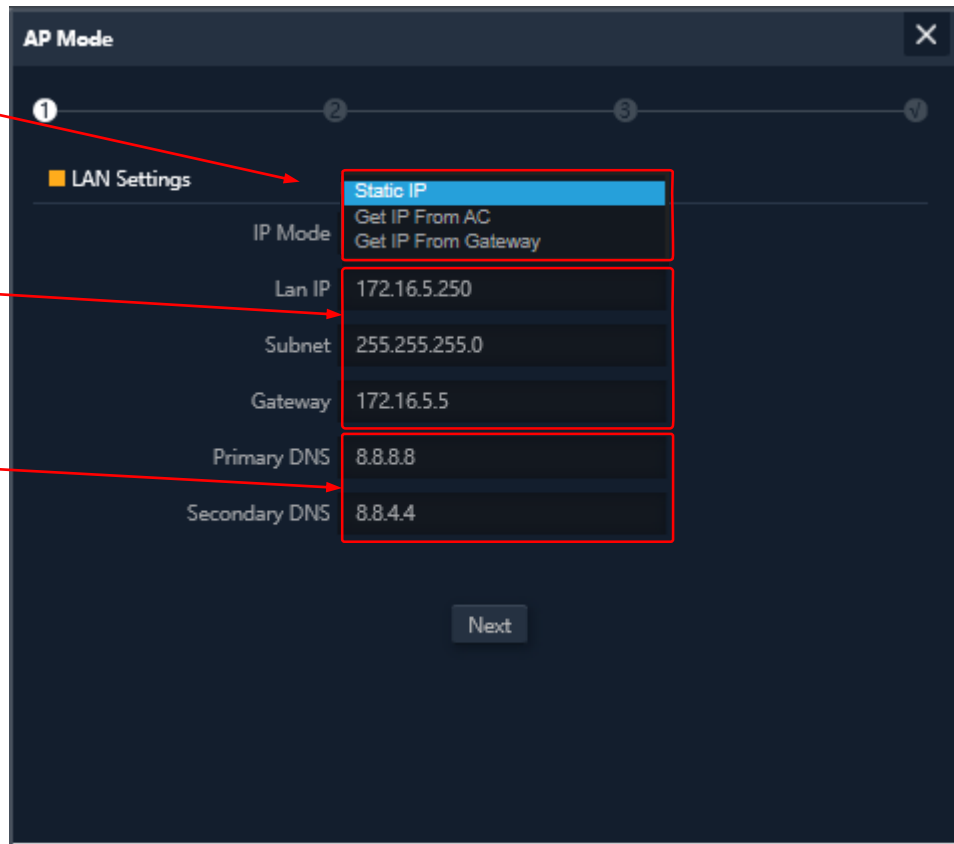


IP management of the connection

(Static IP, from AC or Gateway)

Addressing IP (*)

DNS servers (*)



Field	Value
IP Mode	Static IP
Get IP From AC	
Get IP From Gateway	
Lan IP	172.16.5.250
Subnet	255.255.255.0
Gateway	172.16.5.5
Primary DNS	8.8.8.8
Secondary DNS	8.8.4.4

Configuring the LAN IP address of the APs in the wizard makes it easier for us to manage them after the reboot.

Three possible IP configuration modes are supported:

Static IP addresses, manual lygetting of IP addressing (as shown in the figure).

- **IP from AC**, is the preferred option if the installation integrates an Ek WiFi controller (CAP1 or CAP2). This option allows you to manage a specific IP address for **APs** automatically and always separate from the addresses assigned to the user terminals.
- **IP from Gateway**, uses the DHCP protocol to obtain an IP address from the access router. Therefore, the management IP address of the **APs** will be accessible to users of the LAN network.
- (*) Configuration example.



Setup Wizard... IP WAN configuration

3b) IP WAN configuration

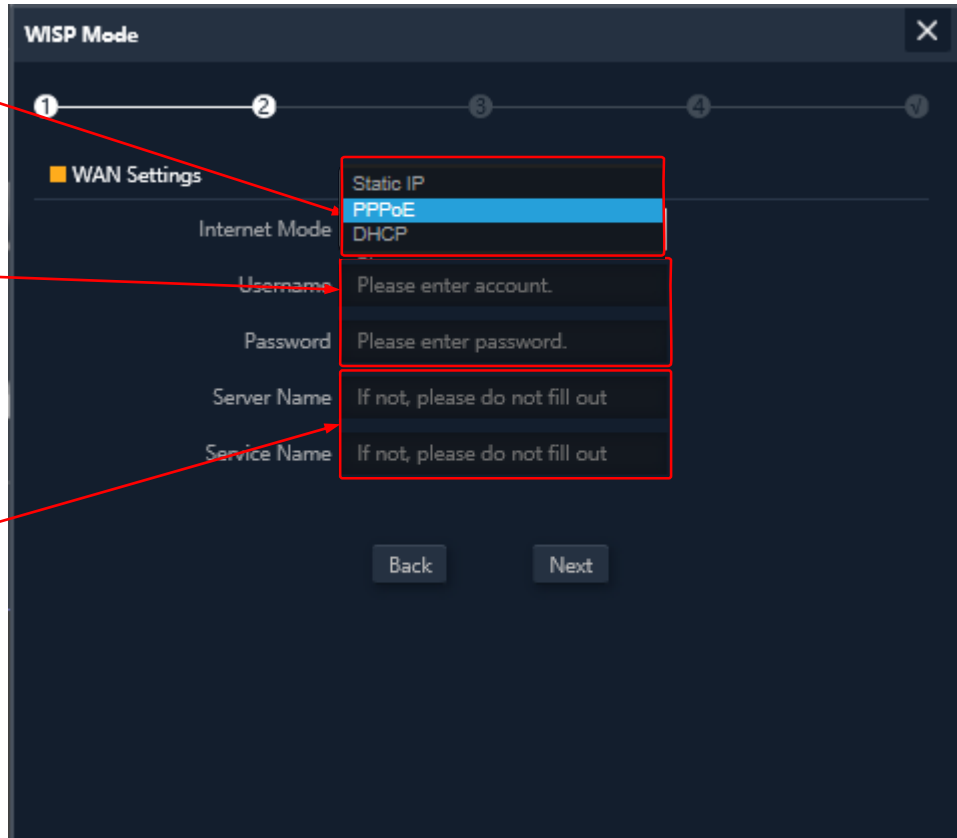


Management of the Connection IP

(IP Estática, PPPoE o DHCP)

PPPoE parameters user

PPPoE parameters server



WISP Mode

1 2 3 4 5

WAN Settings

Internet Mode: Static IP, **PPPoE**, DHCP

Username: Please enter account.

Password: Please enter password.

Server Name: If not, please do not fill out

Service Name: If not, please do not fill out

Back Next

The WAN IP configuration of the **AP** applies to **Gateway** (WAN port) and WISP modes (a WiFi configured as a client).

The IP address management method is selected based on the network configuration that gives access to the Internet, with three possible options:

Static IP Address, for manual input of IP addressing (IP address, network mask, and gateway address) and DNS servers (primary and secondary).

PPPoE, a configurable connection option with user (name and password) and service parameters (server name and PPPoE service name). Consult your Internet provider in case of doubt.

DHCP, to get the IP address of a Internet access router (or equivalent).

(*). Configuration example.



Setup Wizard ... WiFi 2'4GHz configuration

4 WiFi 2G configuration



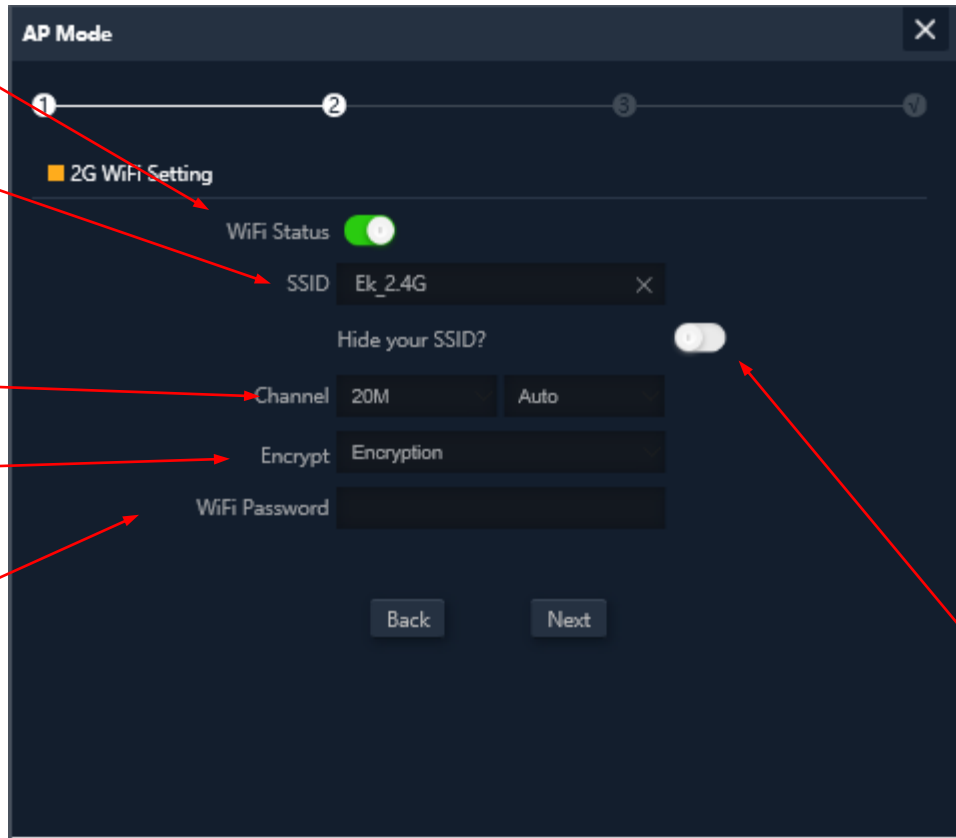
Activation
WiFi 2'4GHz

Name SSID

Bandwidth
WiFi channel

Activating the Encryption

PSK password Encryption



The **setup wizard** allows you to configure the basic parameters of the two WiFi radios. The parameters offered as an option depend on the active advanced settings (WiFi section).

The selectable parameters are as follows:

Activation, allows to activate or not activate this radio.

SSID, allows you to set the name of the radiating signal and select its concealment.

Radio parameters, such as the bandwidth to be used (20 or 40 MHz for 2'4GHz) and the channel to use (automatic configuration or fixed channel selection). This channel configuration affects all active SSIDs over the 2'4GHz radio,

Security, allows you to leave the WiFi open or set WPA2 AES encryption (compatible with TKIP), which is the best level available now with WPA2.

Hiding the SSID



Setup Wizard ... 5GHz configuration does not apply to AP300LP

5 5G WiFi settings



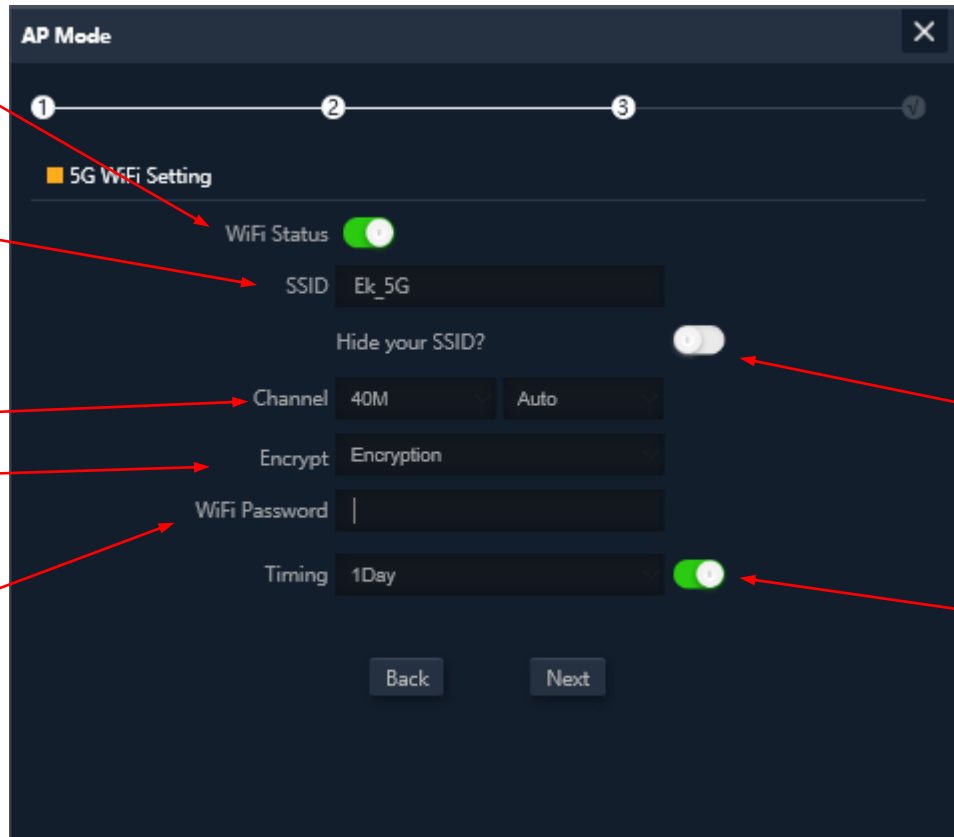
Activation
WiFi 2'4GHz

Name SSID

Bandwidth
WiFi channel

Activating the Encryption

PSK password Encryption



The configuration of the 5GHz radio is analogous to that of 2'4GHz, depending also on the active advanced configuration.

Naturally, the radio configuration allows you to select a channel width of up to 80MHz and a larger number of radio channels.

Additionally, you can enable and configure an automatic device restart option on this **last screen** of the wizard.

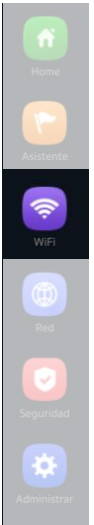
Hiding the SSID
(provides increased security)

Rebooting your device
(allows you to activate and program the periodic reboot of the device)



The WiFi Settings screen offers 5 options tabs.

- **WiFi 2G...** configures the 2'4GHz radio and the four SSIDs that are supported
- WiFi 5G... analog settings for 5GHz radio
- Access Control (ACL)... defines WiFi access lists
- WiFi Timing... allows you to turn off WiFi in a programmable time interval
- Advanced... gives access to the fundamental parameters of WiFi operation and which govern both radios



WiFi... WiFi 2G and WiFi 5G

The configuration of the radios at 2.4GHz and 5GHz is identical, only the selectable channels and bandwidths (specific to each frequency) change. Configure the main SSID ("Basic") and the three additional SSIDs ("VAP1 to VAP3"), which always share channel and bandwidth settings.

The **"Basic"** tab allows you to select the channel and streaming bandwidth

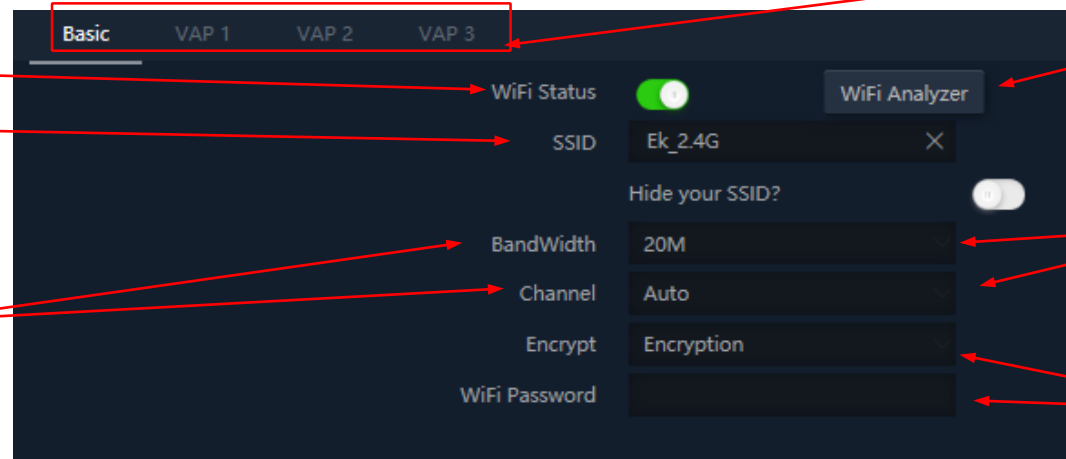
Each of the four tabs allows you to enable or disable the respective SSID, enabling if you want to encrypt traffic for it.

Enabling the SSID

SSID Name

Configuration radio

(channel and bandwidth)

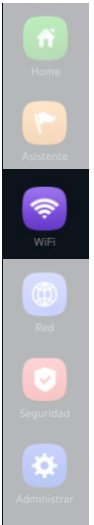


SSIDs available
(are activated separately)

Spectre Analyzer
(allows viewing existing networks in the environment)

Possible **bandwidth** and **channel** values are based on advanced settings

SSID security
(encryption and PSK)



WiFi... WDS

Selection of the Service BSSID

Setting up Security

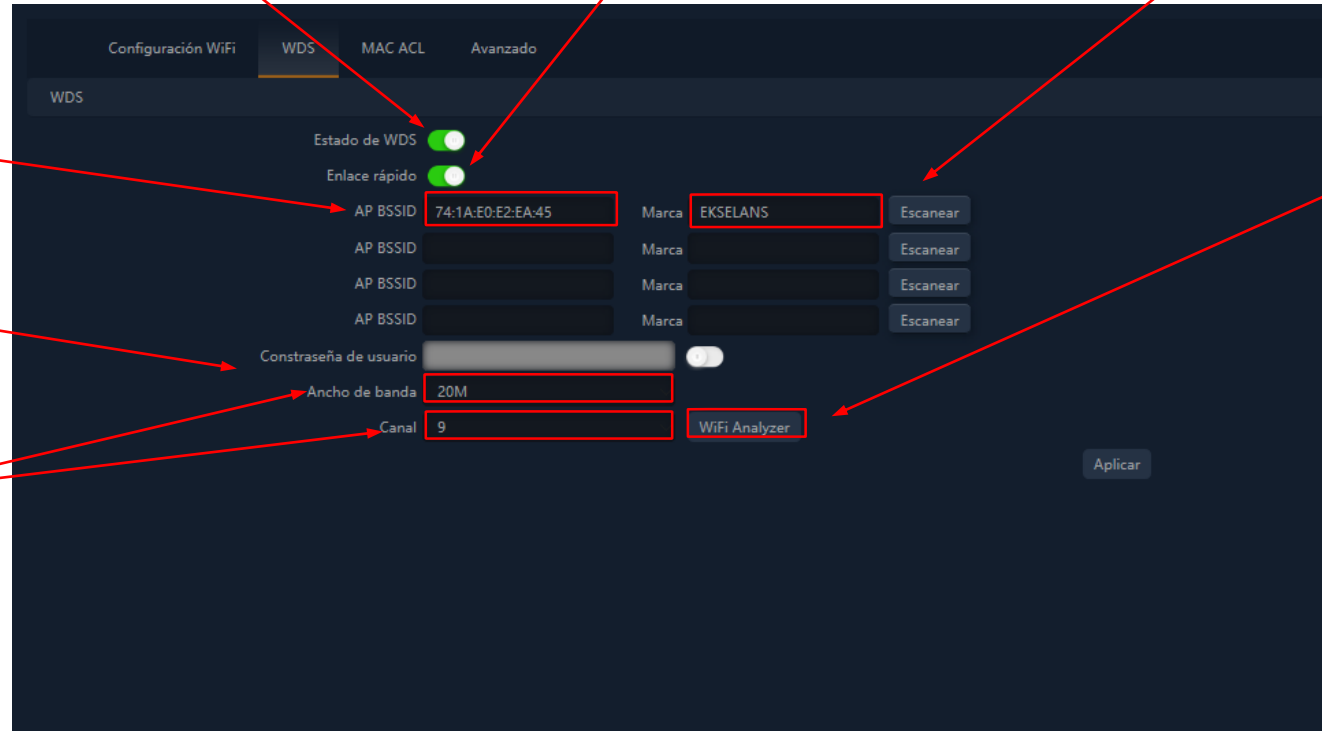
Configuration radio
(channel and bandwidth)

Enable/Disable WDS

Enable/disable quick link

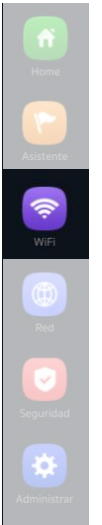
Name of BSSID

Channel Analyzer



The screenshot shows the WDS configuration page with the following elements highlighted by red boxes and arrows:

- WDS Settings:** 'Estado de WDS' and 'Enlace rápido' are both turned on.
- Service BSSID:** The first 'AP BSSID' field contains '74:1A:E0:E2:EA:45' and the 'Marca' field contains 'EKSELANS'.
- Security:** The 'Constraseña de usuario' field is empty and the toggle switch is off.
- Radio Configuration:** 'Ancho de banda' is set to '20M' and 'Canal' is set to '9'.
- Channel Analyzer:** A 'WiFi Analyzer' button is visible next to the channel selection.

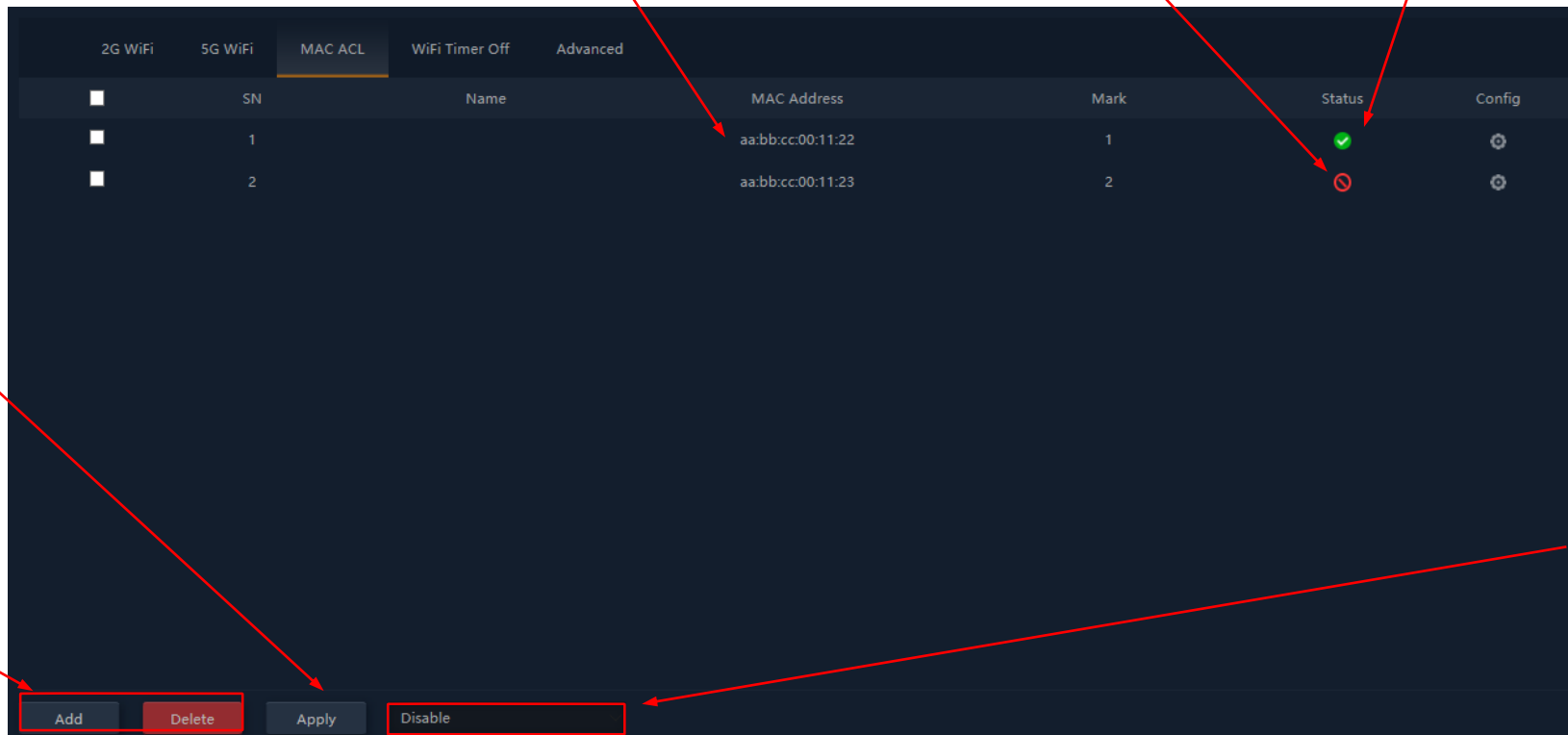


WiFi... MAC ACL

MAC Address
subject of the restriction

Non-active restriction

Active restriction



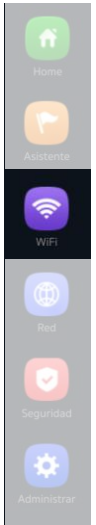
	SN	Name	MAC Address	Mark	Status	Config
<input type="checkbox"/>	1		aa:bb:cc:00:11:22	1	✔	⚙️
<input type="checkbox"/>	2		aa:bb:cc:00:11:23	2	⊘	⚙️

Buttons: Add, Delete, Apply, Disable

"Apply"
(saves and executes
the
configuration)

Addition and
Erased
tickets

Selection of the
list mode:
White
(allows access)
Black
(denies access)

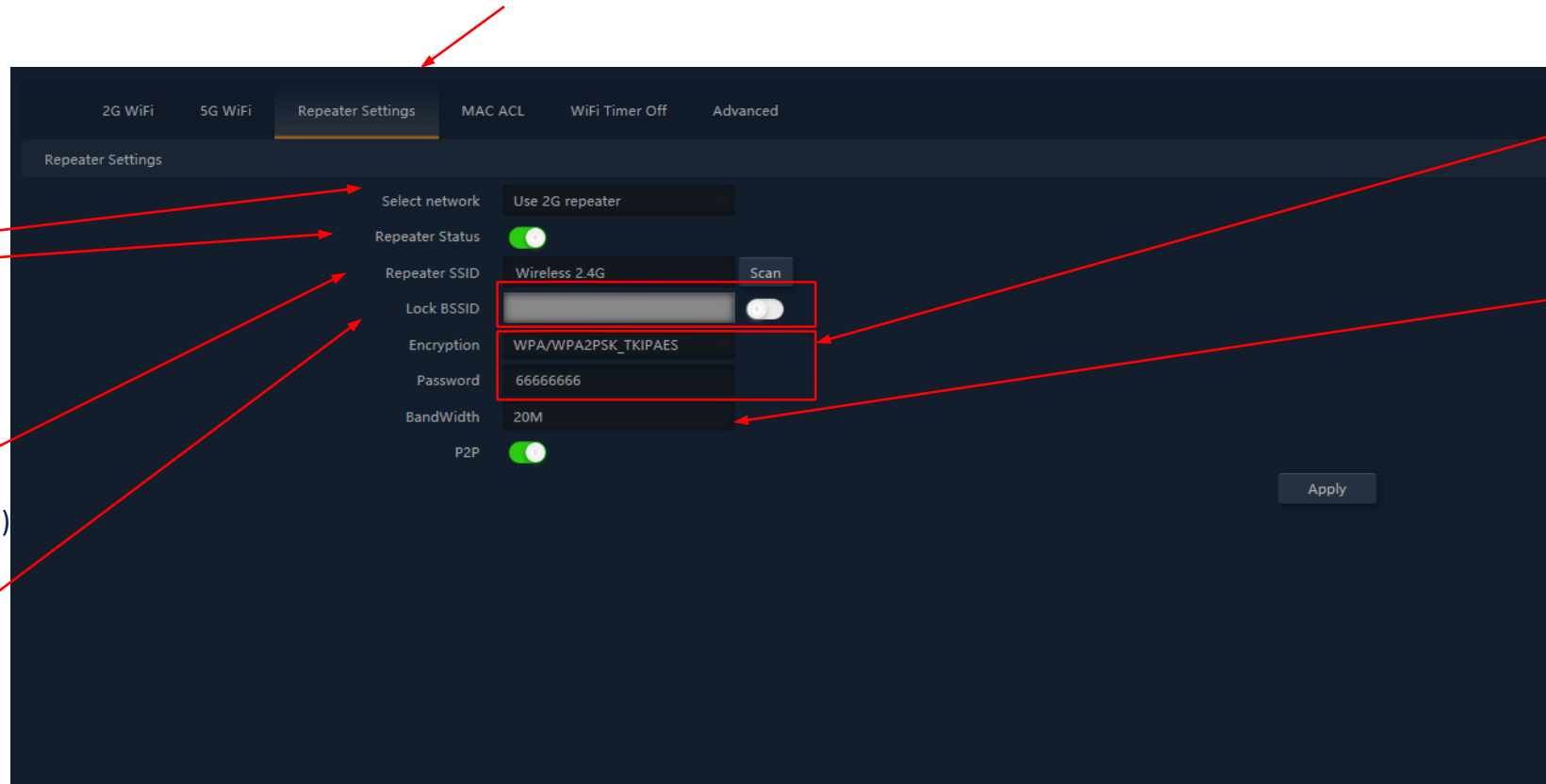


APs allow you to control access to WiFi SSIDs defined by a single list (ACL) configurable as permission (*white*) or denial (*black*)



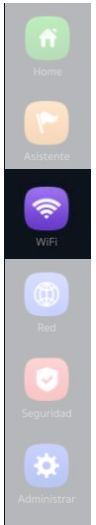
WiFi... Link WiFi

The WiFi link setting option ("repeatr") is **active** in **Repeater and WISP mode**.

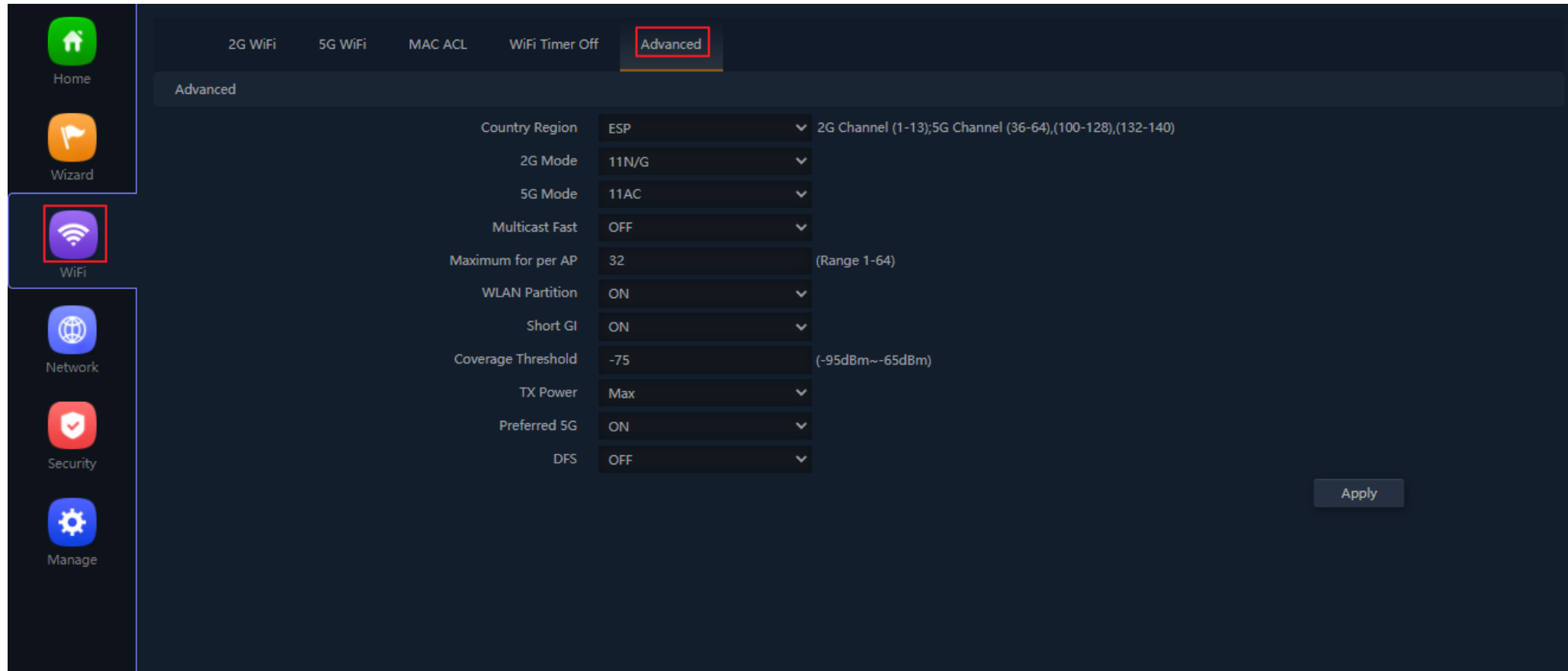


Setting up **security** of the service network

Bandwidth of the used channel for the link



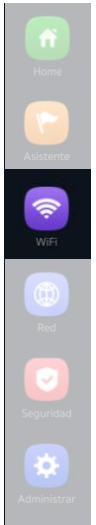
WiFi... Advanced Options



The screenshot shows a configuration interface for WiFi settings. On the left is a sidebar with icons for Home, Wizard, WiFi (highlighted with a red box), Network, Security, and Manage. The main area has tabs for 2G WiFi, 5G WiFi, MAC ACL, WiFi Timer Off, and Advanced (highlighted with a red box). Below the tabs is a table of settings:

Advanced		
Country Region	ESP	2G Channel (1-13);5G Channel (36-64),(100-128),(132-140)
2G Mode	11N/G	
5G Mode	11AC	
Multicast Fast	OFF	
Maximum for per AP	32	(Range 1-64)
WLAN Partition	ON	
Short GI	ON	
Coverage Threshold	-75	(-95dBm~-65dBm)
TX Power	Max	
Preferred 5G	ON	
DFS	OFF	

An 'Apply' button is located at the bottom right of the configuration area.



WiFi... Advanced Options

Legal Regulation

Select the correct regulatory environment, depending on the location of the installation. This option determines the available channels. For Spain (**ESP**) channels (1..13) are authorized for 2'4GHz and (3..64), (100..128) and (132..140) for 5GH.

2G mode

Determines the operation of the 2G radio between the **b/g** and **n/g** modes and, among other factors, conditions the available bandwidths when configuring the 2'4GHz radio.

- Only with **n/g** mode, 40MHz bandwidth options (40Mhz and 20/40MHz) are enabled on the 2'4GHz radio. The 40MHz option does not allow 802.11g terminal connection as these do not support this bandwidth.
- In **b/g** mode, compatibility is guaranteed even with the oldest terminals (802.11b), even at the cost of penalizing the performance of this radio when they are associated

5G mode

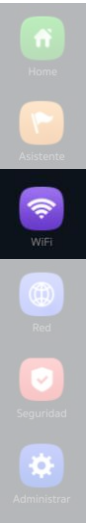
Select from three operating modes for the 5G radio: **a**, **an** and **ac**. Each allows different channel bandwidth options:

a: 20MHz **an**: 20, 40 y 20/40MHz

ac: 20, 40, 80, 20/40, 20/40/80MHz

Fast Multicast

This option is useful when there is multicast traffic (e.g. video over IP) on the LAN and you want to carry it over WiFi interfaces. To do this, simply deselect the OFF option (default) and select a multicast WiFi transmission speed, with speeds of 6, 12 and 24 Mbps being recommended, as they are basic speeds of the Device.



WiFi... Advanced Options

User Limit by AP

Allows you to limit the total number of terminals associated with a device. It is a useful option in heavy-duty deployments, to spread the usage load between different terminals, although it requires proper planning. Its default value is 32, although **APs** support more than 64 terminals with peace of mind.

WLAN partition

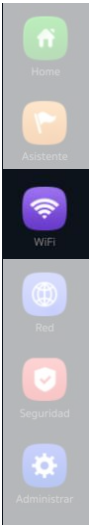
It is a security option that allows you to isolate WiFi terminals in such a way that they cannot establish direct ethernet communication within the scope of the WiFi network.

Short GI

The save interval (GI) is a parameter that regulates the time that elapses between two different symbols. It usually takes a value of 800ns, but can be reduced to 400ns. This optimization allows you to gain speed in **n** and **ac** modes, although it may not be suitable in high-interference environments.

Coverage Threshold

It is a quality parameter over the power demandable to a terminal in reception on the AP, so that those received users with lower power are automatically disassociated. The resulting effect is equivalent to limiting range in distance and, therefore, that the connected terminals have a better service.



WiFi... Advanced Options

Power Tx

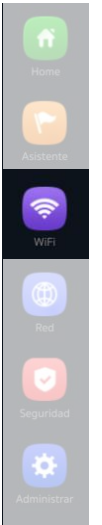
This parameter regulates the transmission power of the **AP** relative to its maximum, having five levels of regulation.

Preference 5G

With this option enabled, the **AP** can actively cause a radio change from a terminal, from the 2'4GHz band to the 5GHz band. To do this, the only condition is to have an SSID in each band that has both the same name. The algorithm obviously detects and acts only on WiFi terminals with support for both frequency bands.

DFS

The DFS function is suitable for environments with nearby radars (e.g. ports or airports) where heavy interference is generated. This function, when detecting an anomaly, analyzes the other radio channels at 5GHz and, after a scan time, identifies and migrates communications to a new channel. Except in cases of proven need, it is generally recommended to deactivate.



Network... LAN

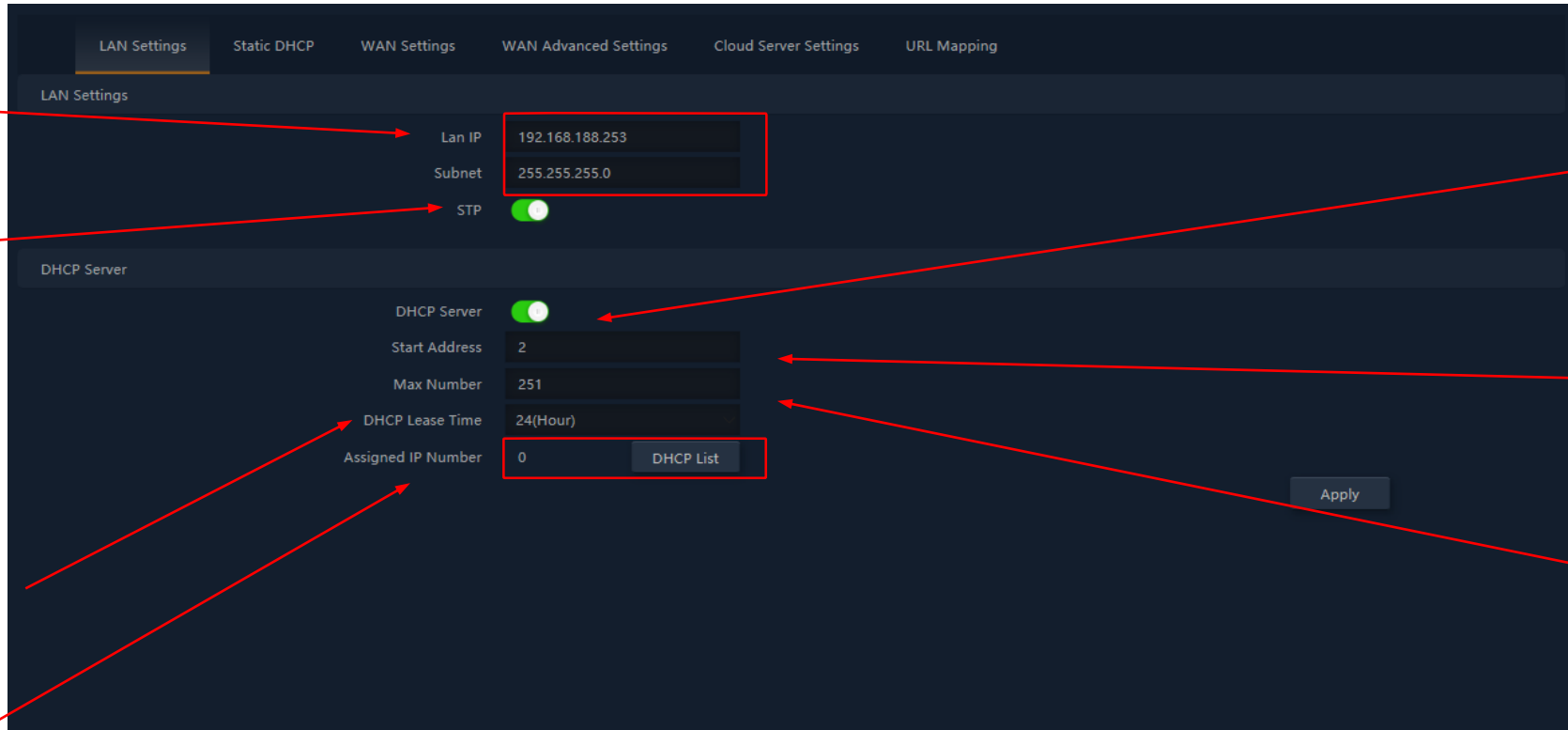
The settings in the "Network" section vary by mode.
For Gateway and WISP modes the configuration is more complete and parameterizable

IP address
(local area network)

Spanning Tree protocol
(enable in case of possible ethernet loops)

Time of Assignment
(sets the time behind which the terminal will renew the IP)

Assignments
(see list allocations IP<>terminals)

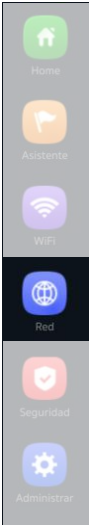


The screenshot shows the configuration interface for LAN settings and DHCP server. The top navigation bar includes: LAN Settings (selected), Static DHCP, WAN Settings, WAN Advanced Settings, Cloud Server Settings, and URL Mapping. The LAN Settings section shows: Lan IP (192.168.188.253), Subnet (255.255.255.0), and STP (enabled). The DHCP Server section shows: DHCP Server (enabled), Start Address (2), Max Number (251), DHCP Lease Time (24(Hour)), and Assigned IP Number (0). A 'DHCP List' button is next to the Assigned IP Number field. An 'Apply' button is at the bottom right. Red arrows point from external text blocks to these specific fields.

Activating the DHCP service

Home Address IP pool to serve

Pool Size addresses
(from the home address)

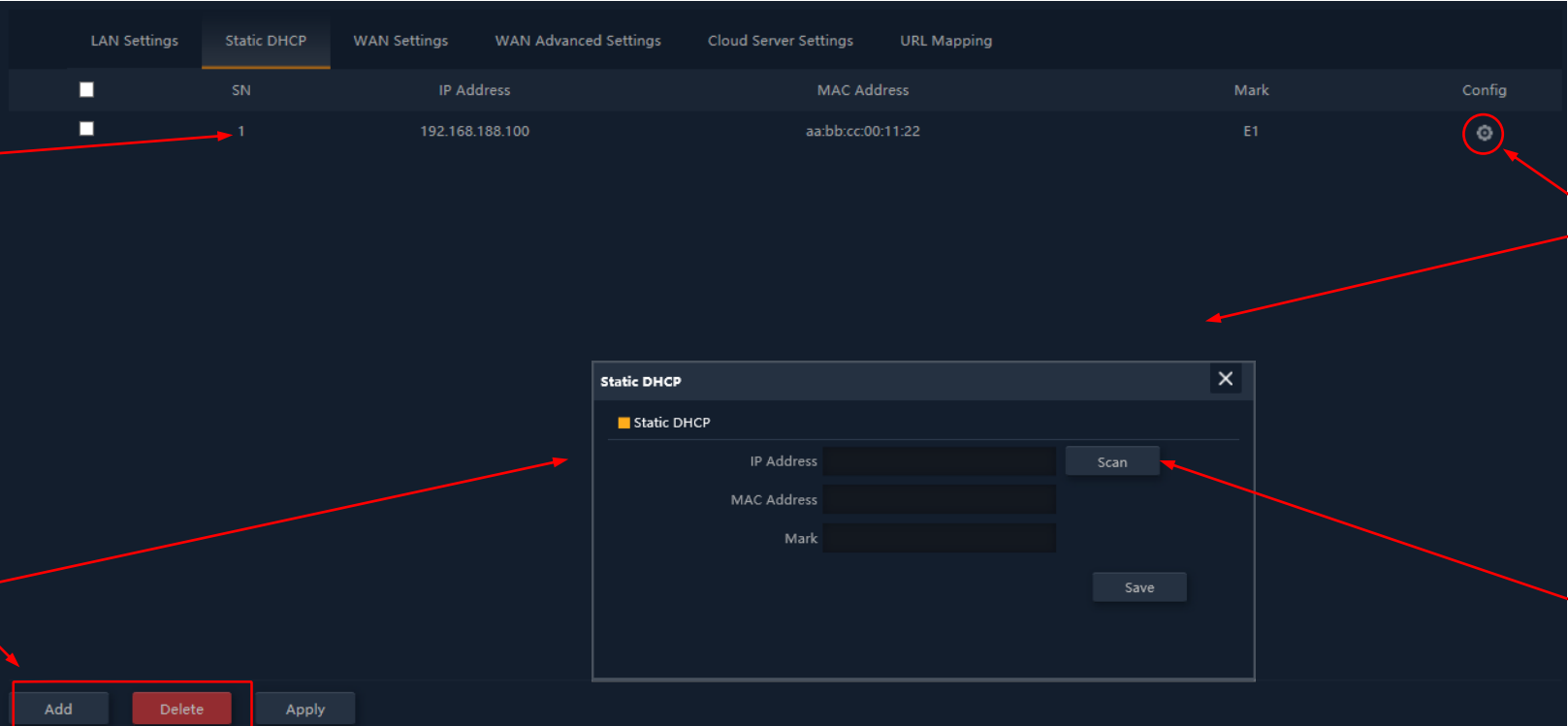


Note... note that DNS addresses are not included in the DHCP configuration.
By default, the LAN IP address is served as DNS Proxy.
If there are fixed DNS addresses in the WAN configuration, then these are the ones that are served



Network... Static DHCP

The DHCP server allows you to preassign IP addresses. These addresses can be within the pool configured as outside the pool, combining the advantages of fixed addressing with the convenience of automatic DHCP assignment



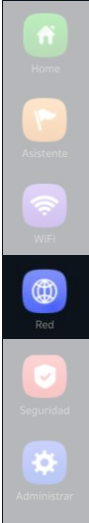
The screenshot shows the 'Static DHCP' configuration page. At the top, there are tabs for 'LAN Settings', 'Static DHCP', 'WAN Settings', 'WAN Advanced Settings', 'Cloud Server Settings', and 'URL Mapping'. Below the tabs is a table with columns for 'SN', 'IP Address', 'MAC Address', and 'Mark'. The table contains one entry with SN '1', IP Address '192.168.188.100', MAC Address 'aa:bb:cc:00:11:22', and Mark 'E1'. A 'Config' icon is visible in the rightmost column of the table. At the bottom of the page, there are buttons for 'Add', 'Delete', and 'Apply'. A modal window titled 'Static DHCP' is open, showing input fields for 'IP Address', 'MAC Address', and 'Mark', along with 'Scan' and 'Save' buttons.

List of pre-assigned IPs (mac assignment)

Addition and Erased tickets

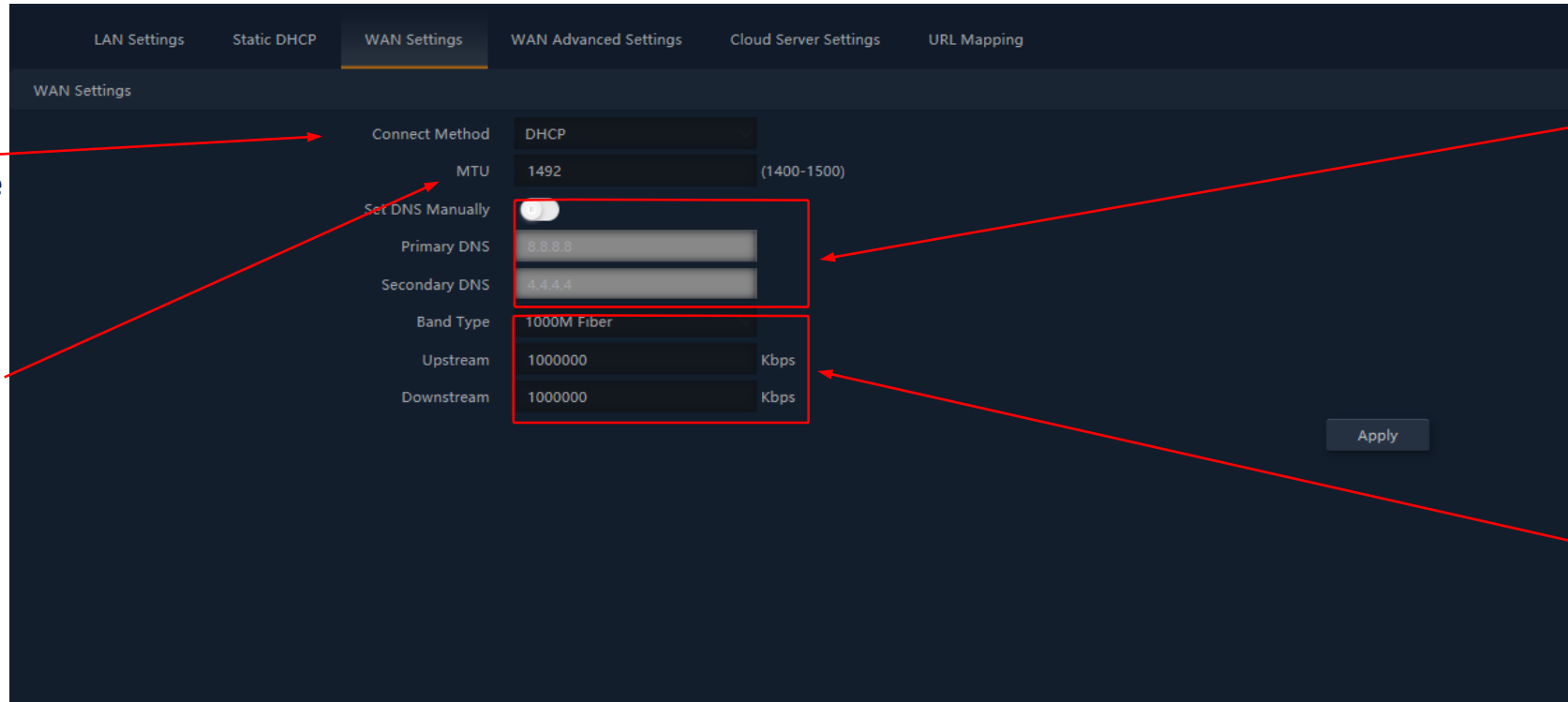
Modification from the entrance

Scan (identifies terminals already partners)



Network... WAN

Wan configuration allows you to configure Internet binding in Gateway and WISP modes. In the first case it is an ethernet connection while in the second case, the WAN interface is logically established over the selected and configured WiFi link



The screenshot shows the WAN Settings configuration page with the following fields:

Field	Value
Connect Method	DHCP
MTU	1492 (1400-1500)
Set DNS Manually	<input type="checkbox"/>
Primary DNS	8.8.8.8
Secondary DNS	4.4.4.4
Band Type	1000M Fiber
Upstream	1000000 Kbps
Downstream	1000000 Kbps

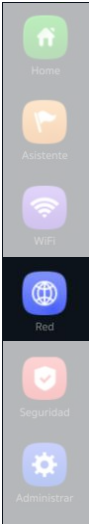
An 'Apply' button is located at the bottom right of the configuration area.

Connection mode
(Static IP, PPPoE
o DHCP)

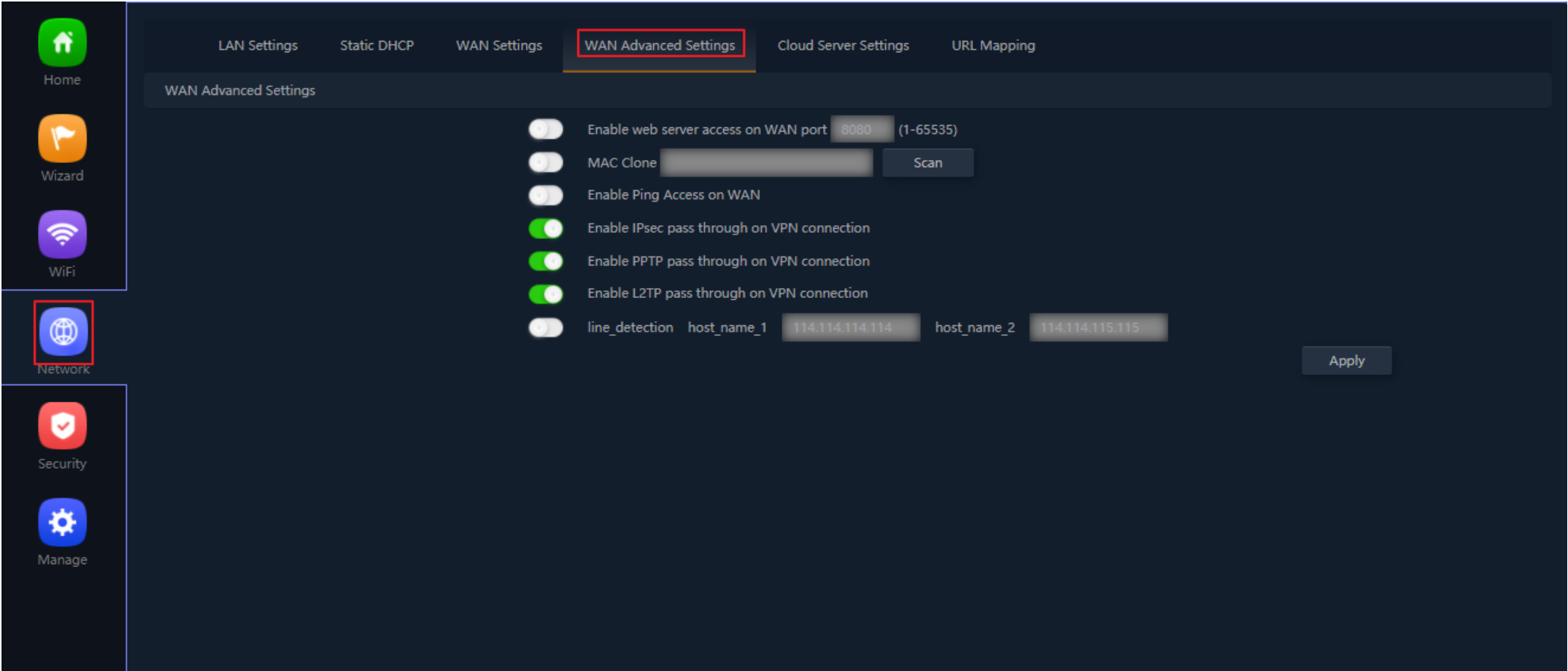
MTU
(1500 for Ethernet
1492 for PPPoE)

DNS configuration
(if activated
these addresses will be
served by DHCP)

WAN configuration
(permite definir la
velocidad del interfaz
y los caudales de
subida y bajada)



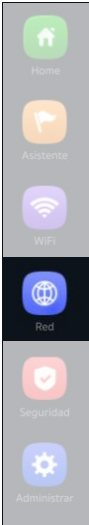
Network... Advanced WAN



The screenshot shows the WAN Advanced Settings page in a dark-themed web interface. The left sidebar contains icons for Home, Wizard, WiFi, Network (highlighted with a red box), Security, and Manage. The top navigation bar includes LAN Settings, Static DHCP, WAN Settings, WAN Advanced Settings (highlighted with a red box), Cloud Server Settings, and URL Mapping. The main content area is titled 'WAN Advanced Settings' and contains several configuration options:

- Enable web server access on WAN port: 8080 (1-65535) [Off]
- MAC Clone [Off] [Scan]
- Enable Ping Access on WAN [Off]
- Enable IPsec pass through on VPN connection [On]
- Enable PPTP pass through on VPN connection [On]
- Enable L2TP pass through on VPN connection [On]
- line_detection: host_name_1 114.114.114.114 host_name_2 114.114.115.115 [Off]

An 'Apply' button is located at the bottom right of the settings area.



Network... Advanced WAN

Advanced WAN configuration options have the following use:

"Enable remote web management over WAN" (port)

- It allows the device to be managed from the Internet, with the management website available at http://<ip_externa>:<puerto>

"MAC Address Clone" (MAC)

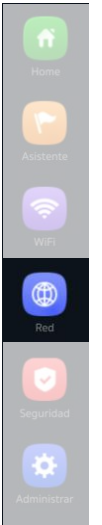
- Useful option for those Internet access services that are authenticated based on the MAC address of the user's PC. APs can emulate such a MAC and thus provide simultaneous connection to multiple devices.

"Enable Ping Response over WAN"

A first security option is to hide all response to unsolicited connections, such as a ping over the WAN interface.

"Habilitar paso de IPSec/PPTP/L2TP en conexión VPN"

- Allows tunnel-type VPN connections to pass through without the need for more specific configuration.



Red... URL mapping

APs make it easy to connect servers installed on the LAN, even supporting the redirection of domain calls that, received on the WAN interface, are routed to specific IP addresses.

List of servers on LAN

SN	Rule Name	IP Address	Domain	Status	Mark	Config
	web_1	192.168.188.100	www.web1.org	✓		⚙️

Buttons: Add, Delete, Apply, Disable

Modal: URL Mapping

Modal Fields: Status (on), Rule Name, IP Address, Domain, Mark, Scan, Save

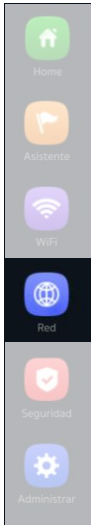
Status of each one of the rules URL mapping

LAN IP address from the server Mapping

Addresses of Domain (requests received WAN IP and forwarded to the corresponding IPs)

Addition and Erased tickets

Enabling the URL mapping function

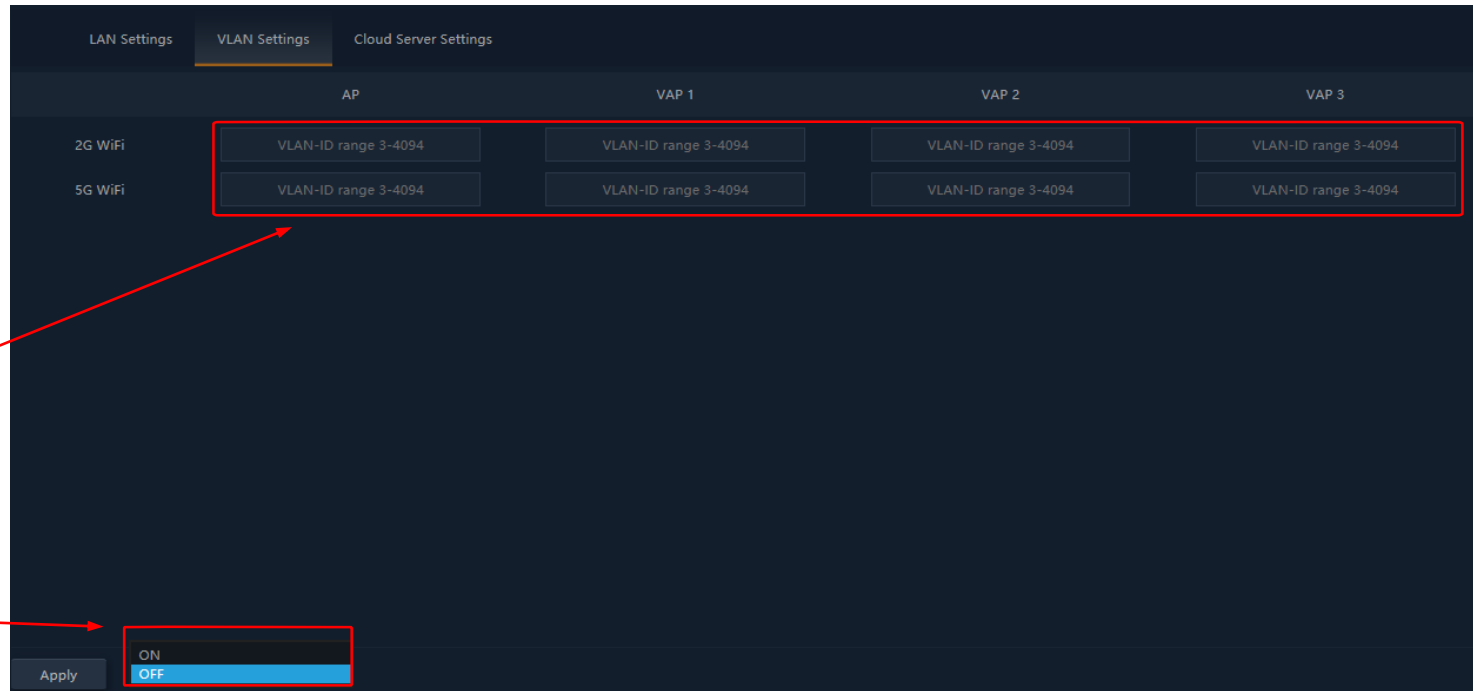


Network... VLANs (AP mode)

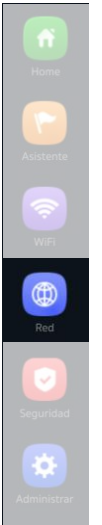
APs support a VLAN for each of the activatable SSIDs (four over each radio), and user traffic can be completely segregated. Frames are marked with VLANid identifiers according to 802.1q, understandable for a configurable switch.

Identifiers
VLANid for each
Activable SSID
(VLANid values
cannot be repeated)

Functionality
VLAN is activated
Globally



Before you leave the screen,
Click **Apply** to save the settings



Security features are specific to Gateway and WISP modes (router modes).

URL Filter

- Permite bloquear el acceso a las direcciones de Internet configuradas

IP Filtering

- It provides a system of rules that allows you to filter traffic to the Internet. Rules can be blocking or permission, as selected (black lists or whitelists).

MAC Filter

- Enables restriction or denial of Internet access to devices based on their MAC address.

Port Mapping

- Ensures external publication of services available on the LAN, by mapping external WAN ports over LAN resources (IP address + port, internal).

DMZ

- When enabled, this feature redirects all external requests to the WAN interface (which are not already mapped) against the defined LAN IP address. With DMZ disabled, these requests are discarded.
- DMZ is a feature that can compromise the security of the internal network and its use must be taken care of.



Security... URL filter

Blocked URLs

SN	Rule Name	Time Group	URL	Status	Mark	Config
1	webfilter_1	Any	www.webfilter.com	✓	web	⚙️

Url Filter

Url Filter

Status:

Rule Name:

Time Group: Custom

Time Range: 00 : 00 - 00 : 00

Work Date: Everyday Weekly

Mon Tue Wed Thu Fri Sat Sun

URL:

Mark:

IP Filters Defined

Temporary validity (defined in a custom way or according to predefined "temporary groups")

New filter settings

Enabling filters (don't forget "Apply")

URL to block

Temporary settings (predefined options are available, permanent and filter-specific)

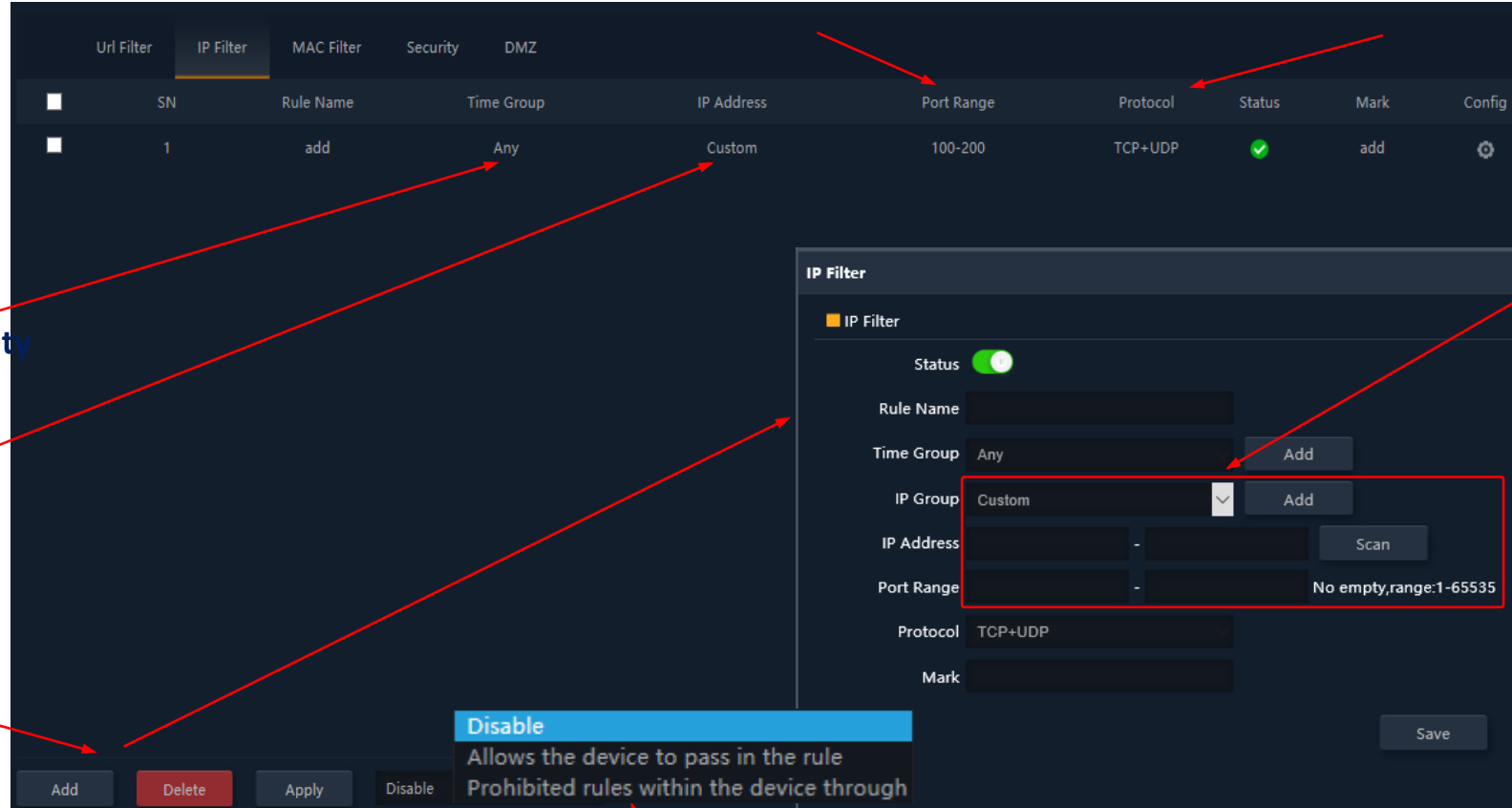
State activation from the filter



Security... IP filter

Port range
on which filters act

Filtered protocol



The screenshot shows the IP Filter configuration page. At the top, there are tabs for 'Url Filter', 'IP Filter', 'MAC Filter', 'Security', and 'DMZ'. Below the tabs is a table with columns: SN, Rule Name, Time Group, IP Address, Port Range, Protocol, Status, Mark, and Config. A single rule is listed with SN '1', Rule Name 'add', Time Group 'Any', IP Address 'Custom', Port Range '100-200', Protocol 'TCP+UDP', Status 'checked', Mark 'add', and a Config icon. A modal window titled 'IP Filter' is open, showing configuration fields: Status (checked), Rule Name (empty), Time Group (Any), IP Group (Custom), IP Address (empty), Port Range (empty), Protocol (TCP+UDP), and Mark (empty). A red box highlights the IP Group, IP Address, and Port Range fields. At the bottom of the modal, there is a 'Save' button and a 'Disable' button with a tooltip that reads: 'Allows the device to pass in the rule' and 'Prohibited rules within the device through'. The main interface has buttons for 'Add', 'Delete', 'Apply', and 'Disable' at the bottom left.

SN	Rule Name	Time Group	IP Address	Port Range	Protocol	Status	Mark	Config
1	add	Any	Custom	100-200	TCP+UDP	✓	add	⚙️

Configuration
range of
IP addresses

Temporary validity
IP filter

IP address range
from the filter

Configuración de
nuevo filtro

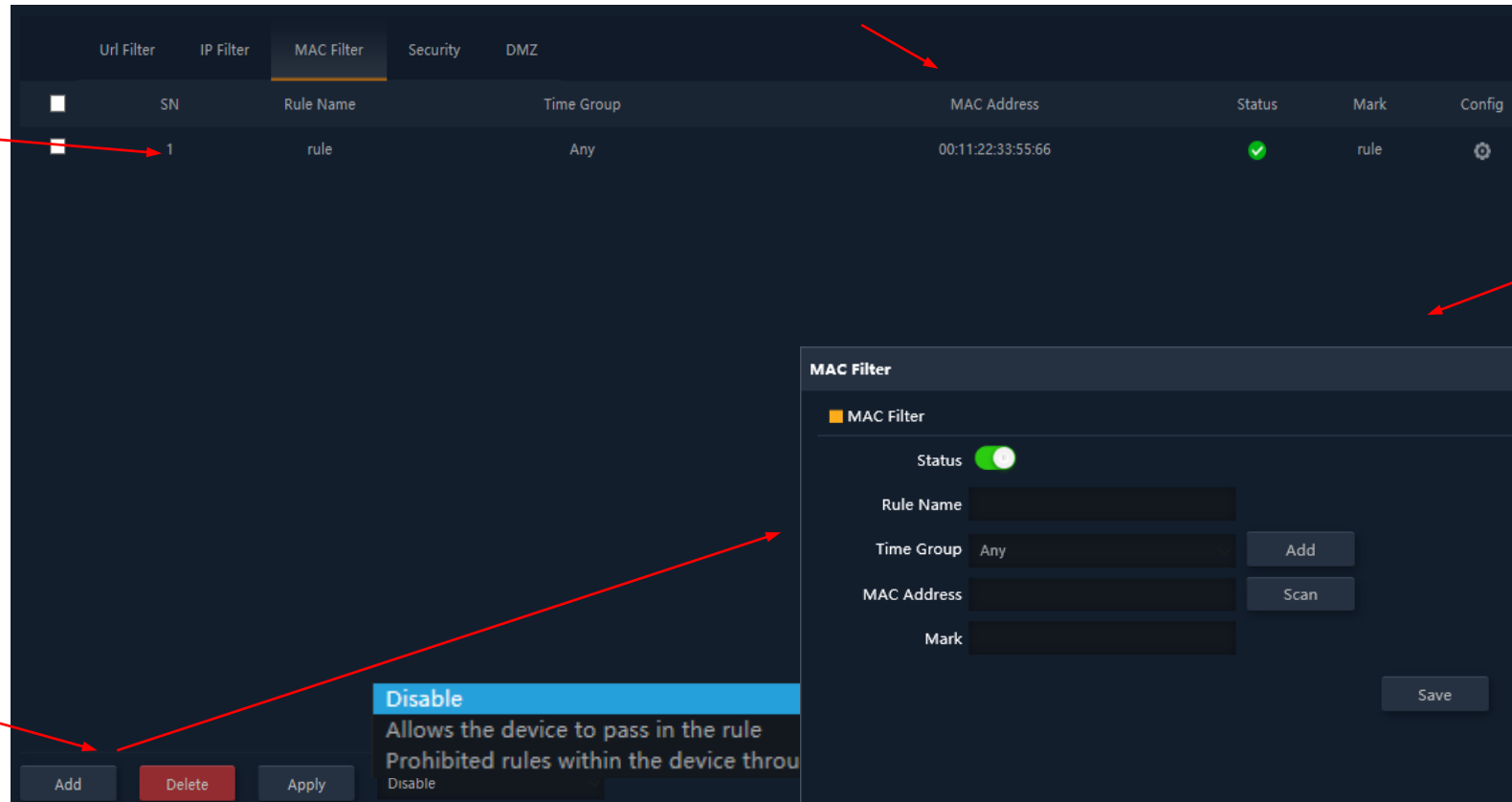
Behavioural selection
filters (permission or denial of way)



Security...MAC filter

MAC addresses
object of filters

MAC Filters
Defined



SN	Rule Name	Time Group	MAC Address	Status	Mark	Config
1	rule	Any	00:11:22:33:55:66	✓	rule	⚙️

MAC Filter

MAC Filter

Status

Rule Name

Time Group

MAC Address

Mark

Disable
Allows the device to pass in the rule
Prohibited rules within the device through
Disable

Setup
And
Modification

Add filter



Security... Port Mapping ("Security")

The screenshot displays a network security configuration interface. At the top, there are tabs for 'Url Filter', 'IP Filter', 'MAC Filter', 'Security', and 'DMZ'. Below these is a table with columns: SN, Rule Name, Lan IP, Protocol, External Port, Internal Port, Status, Mark, and Config. A single rule is listed with SN '1', Rule Name 'user', Lan IP '192.168.1.1', Protocol 'TCP+UDP', External Port '100-200', Internal Port '100-200', and Status 'checked'. Below the table are buttons for 'Add', 'Delete', 'Apply', and 'Disable'. A 'Disable' button is highlighted in blue, with the text 'Enable Port Mapping Function' below it. A 'Security' configuration dialog box is open, showing fields for 'Rule Class' (User Defined), 'Rule Name', 'Protocol' (TCP+UDP), 'Lan IP', 'External Port', 'Internal Port', and 'Mark'. The 'External Port' and 'Internal Port' fields are highlighted with a red box. A 'Scan' button is next to the 'Lan IP' field. A 'Save' button is at the bottom right of the dialog.

Selection of the Service
(predefined or configuration manual)

IP protocol

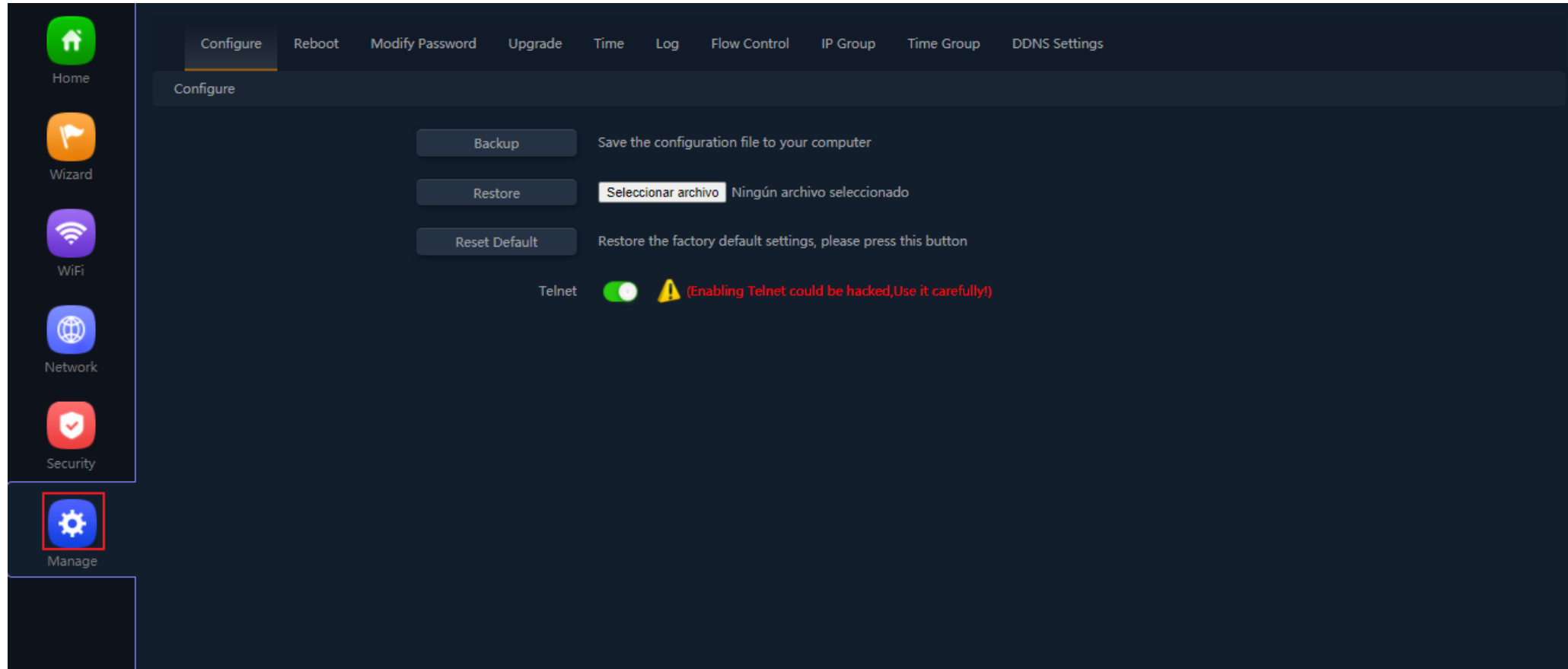
Internal IP
(device Internal destination of the mapping)

Add new port allocation

Port correspondence
(port ranges defined by start and end)



Management



The screenshot displays the management interface with a dark theme. A top navigation bar includes tabs for Configure, Reboot, Modify Password, Upgrade, Time, Log, Flow Control, IP Group, Time Group, and DDNS Settings. The 'Configure' tab is active. On the left, a vertical sidebar contains icons for Home, Wizard, WiFi, Network, Security, and Manage (highlighted with a red box). The main content area shows configuration options: 'Backup' (Save the configuration file to your computer), 'Restore' (with a 'Seleccionar archivo' button and 'Ningún archivo seleccionado' text), and 'Reset Default' (Restore the factory default settings, please press this button). Below these is a 'Telnet' toggle switch, which is turned on, accompanied by a warning icon and the text '(Enabling Telnet could be hacked, Use it carefully!)'.



The device **management** features are as follows

Configuration

- **Backup...** Saves the current device settings in the downloadable file "config.bin"
- **Restore...** Allows you to recover a previously loaded configuration. The device restarts automatically after loading the selected configuration.
- **Default settings...** Reset the factory settings and restart the device.
- **Telnet...** Enables Telnet port management of the LAN IP address of the device.
It is recommended that Telnet is disabled, as long as it is not necessary to use it, for security reasons.

Restart

- Allows you to run an immediate reboot of the device or schedule a periodic reboot of the device.



Password

- Allows you to set a new password, after verification of the current one.

Update

- It makes it easy to change the version of the device software, optionally offering to restore the factory settings during the reboot.

Time

- Setting the device time is done either by synchronizing with the computer itself with which the configuration is performed, or by using the NTP protocol.
- The NTP service configuration only requires selecting one of the preloaded NTP servers. (or report another one desired) and adjust the corresponding time band. As long as your device has an IP settings for Internet access and management, you can correctly synchronize your time.

Registration

- An activity log that can be activated at will is available and can be redirected to an external server of type syslog or equivalent.



Management... Flow Control (QoS)



EKSELANS BY ITS

Rules flow control

Scope of the rule (address range temporary validity)

Addition and Erased tickets

SN	Address Name	Time Group	Limited Mode	Up	Down	Status	Mark	Config
1	add2	Any	Shared Limited	75000	50000	✓		⚙️

Speed Limit

Speed Limit

Status:

IP Group: add2 [Add]

Time Group: Any [Add]

Limited Mode: Shared Limited Bandwidth

Up: 75000 Kbps

Down: 50000 Kbps

Mark:

Save

Add Delete Apply

Disable QoS Enable QoS

Setting up QoS limitation (bandwidths ascending and descending, and kind limitation by shared traffic or dedicated)



IP group

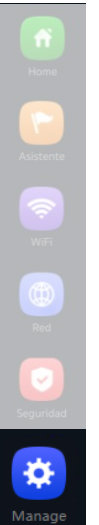
- These are groups of one or more LAN IP addresses over which security rules will apply (URL filters, IP filters, etc.) or traffic control rules (QoS).
- Your configuration requires few parameters: group name, start and end IP addresses of the range that defines the group (it can be a group with a single IP address) and optionally a help note within the "Mark" field.

Temporal group

- Time groups allow you to restrict the application of security rules and/or flow control to specific time slots, including not only schedules but even specific days of the week.
- Temporary groups are selectable in the IP rules configuration, URL, QoS from the form itself defining these rules and, of course, can be applied in different rules at the same time, depending on the configuration.

DDNS

- Allows you to configure a DDNS server (it is an external service as "No-IP", "Dynu"). With this service we can emulate a fixed Ip from provider.



AP 300 LP Specifications (INDOOR)

- Dual WiFi Access Point
 - 2'4 GHz... 802.11 b/g/n, 300 Mbps
 - Until 4 SSIDs
 - Pot. Tx 23dBmW
 - Encryption WPA2 128bits (AES/TKIP)
- 1 ethernet
 - WAN 10/100 Mbps
- Power
 - **Passive PoE 24 Vdc**
 - Consumption less than 15W
- 4 Operating modes
 - Router para acceso fijo
 - Router WISP inalámbrico
 - Punto de Acceso WiFi
 - Repetidor/Extensor WiFi
- Funciones de seguridad
 - DoS
 - Firewall
 - Filtrado de tráfico
 - ACLs IN WiFi
- Dimensions:Ø 15.7 x 3.6 cm



AP specifications 750 NG (INDOOR)

- Dual WiFi Access Point
 - 2'4 GHz... 802.11 b/g/n, 300 Mbps
 - **5 GHz... 802.11 a/g/n/ac, 450 Mbps**
 - Until 8 SSIDs (4 for band)
 - Pot. Tx 27dBmW
 - Encryption WPA2 128bits (AES/TKIP)
- 2 Ethernet
 - **WAN/LAN 10/100 Mbps**
- Power
 - 12 Vdc directa
 - **PoE 802.3at (48 Vdc)**
 - Consumption less than 30W
- 4 Operating modes
 - Router para acceso fijo
 - Router WISP inalámbrico
 - Punto de Acceso WiFi
 - Repetidor/Extensor WiFi
- Security features
 - DoS
 - Firewall
 - Traffic filtering
 - ACLs in WiFi
- Dimensions: 188 x 188 x 50 mm



AP 1200 W2 specifications (INDOOR)

- Dual WiFi Access Point
 - 2'4 GHz... 802.11 b/g/n, 300 Mbps
 - **5 GHz... 802.11 a/g/n/ac, 900 Mbps**
 - Until 8 SSIDs (4 for band)
 - Pot. Tx 27dBmW
 - Encryption WPA2 128bits (AES/TKIP)
- 2 Ethernet
 - **WAN/LAN 10/100/1000 Mbps**
- Power
 - 12 Vdc directa
 - **PoE 802.3at (48 Vdc)**
 - Consumption less than 30W
- 4 Operating modes
 - Router for fixed access
 - Router WISP Wireless
 - WiFi Access Point
 - WiFi Repeater/Extender
- Security features
 - DoS
 - Firewall
 - Traffic filtering
 - ACLs in WiFi
- Dimensions: 188 x 188 x 50 mm



CPE 300-24LP specifications (OUTDOOR)

- Dual WiFi Access Point
 - **2'4 GHz... 802.11 b/g/n, 300 Mbps**
 - Until 4 SSIDs
 - Pot. Tx 20dBmW
 - Directivity 8dBi (H: 60º, V: 30º)
 - Encryption WPA2 128bits (AES/TKIP)
- 2 Ethernet
 - WAN/LAN 10/100 Mbps
- Power
 - 12 Vdc directa
 - PoE (24V)
 - Consumo menor de 30W
- CPE manager for point-to-point installations
- 4 Operating modes
 - Router for fixed access
 - WDS mode
 - Punto de Acceso WiFi
 - WiFi Repeater/Extender
- Security features
 - DoS
 - Firewall
 - Traffic filtering
 - ACLs in WiFi
- Dimensions: 16 x 9 x 6 cm



CPE 300 specifications (OUTDOOR)

- Dual WiFi Access Point
 - **5,8 GHz... 802.11 b/g/n, 300 Mbps**
 - Until 4 SSIDs
 - Pot. Tx 25dBmW
 - Encryption WPA2 128bits (AES/TKIP)
- 2 Ethernet
 - WAN/LAN 10/100 Mbps
- Power
 - 12 Vdc directa
 - PoE (24V)
 - Consumption less than 15W
- CPE manager for point-to-point installations
- 4 Operating modes
 - Router para fixed access
 - Router WISP Wireless
 - WiFi Access Point
 - WiFi Repeater/Extender
- Security features
 - DoS
 - Firewall
 - Traffic filtering
 - ACLs in WiFi
- Dimensions: 25 x 9 x 3,2 cm



CPE 750-O specifications (OUTDOOR)

- Dual WiFi Access Point
 - 2'4 GHz... 802.11 b/g/n, 300 Mbps
 - **5,8 GHz... 802.11 a/g/n/ac, 450 Mbps**
 - Until 8 SSIDs (4 for band)
 - Pot. Tx 27dBmW
 - Encriptación WPA2 128bits (AES/TKIP)
- 2 puertos ethernet
 - **WAN/LAN 10/100**
- Alimentación
 - 12 Vdc directa
 - PoE 802.3at (48 Vdc)
 - Consumption less than 20W
- 4 Operating modes
 - Router for fixed access
 - Router WISP Wireless
 - WiFi Access Point
 - WiFi Repeater/Extender
- Security features
 - DoS
 - Firewall
 - Traffic filtering
 - ACLs in WiFi



CPE-1200-OLP specifications (OUTDOOR)

- Dual WiFi Access Point
 - 2'4 GHz... 802.11 b/g/n, 300 Mbps
 - **5,8 GHz... 802.11 a/g/n/ac, 900 Mbps**
 - Until 8 SSIDs (4 for band)
 - Pot. Tx 27dBmW
 - Encriptación WPA2 128bits (AES/TKIP)
- 2 puertos ethernet
 - **WAN/LAN 10/100/1000 Mbps**
- Alimentación
 - 12 Vdc directa
 - PoE 802.3at (48 Vdc)
 - Consumption less than 20W
- 4 Operating modes
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