EKSELANS BY ITS

ACCES POINT SYSTEMS INDOOR/OUTDOOR

Manual Specifications

v03

Index

Presentation

- AP **300 LP, AP750NG, AP1200W2** are indoor access points. The **CPE300-24LP, CPE300, CPE-1200-OLP and CPE-1200-O** 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

AP300LP

Superior View

Front View

Hardware

AP750NG/AP1200W

Superior View

Activity Traffic LED's

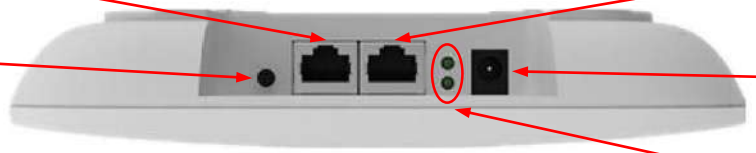
LAN Port

WAN Port (PoE)

Reset

Power

Front View

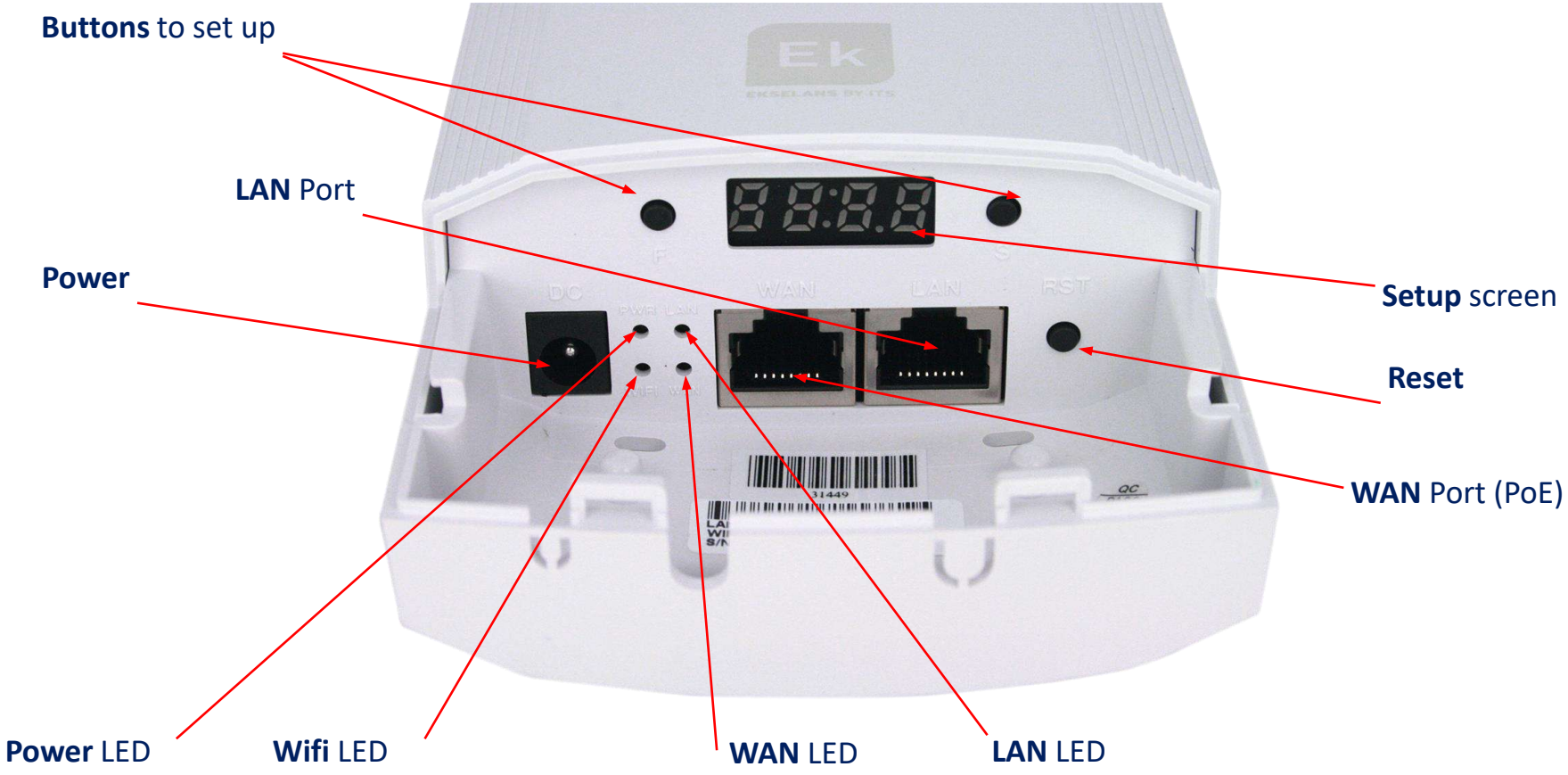


Ethernet LED

Hardware

CPE300-24LP

Front View



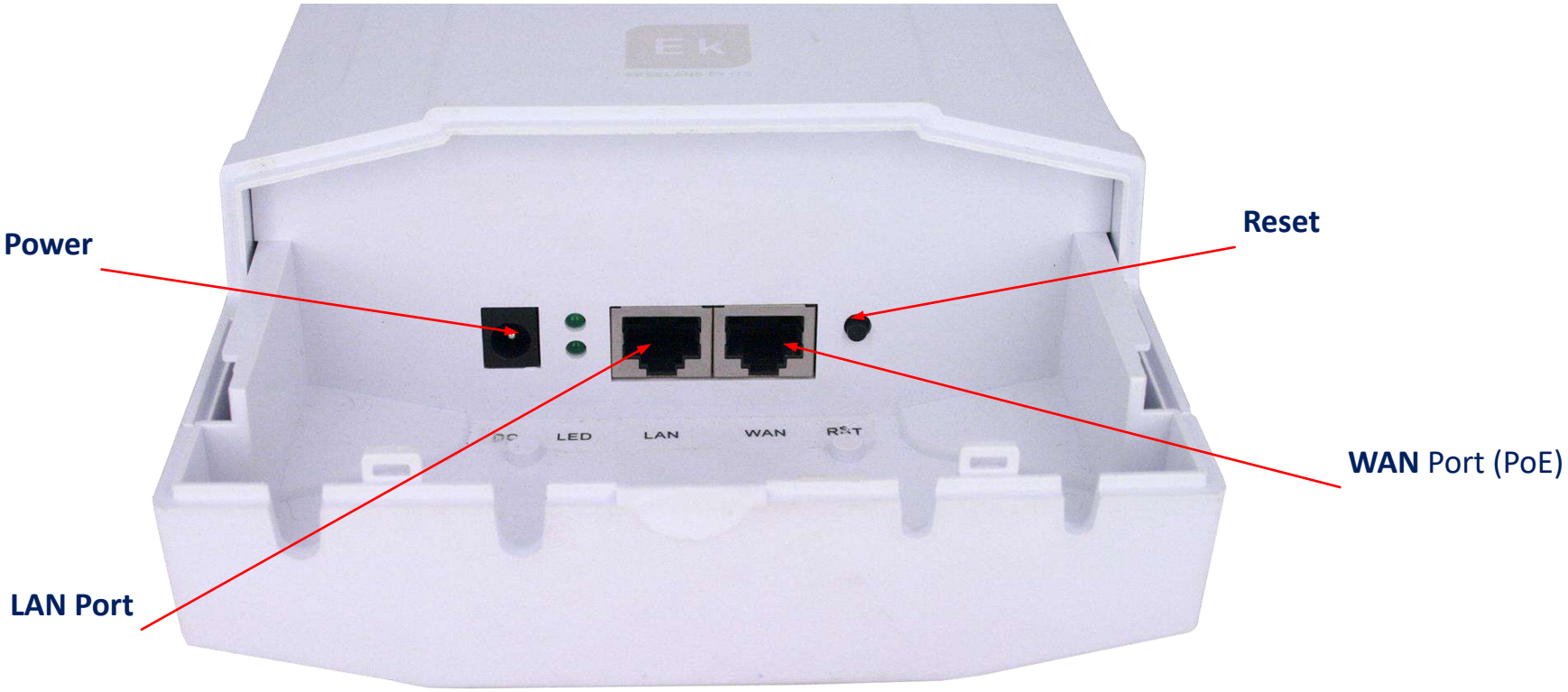
Hardware

CPE300

Front View

Hardware

CPE 1200-OLP



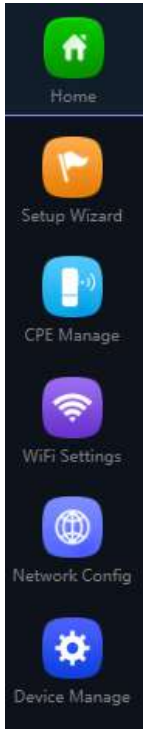
Hardware

CPE 1200-O

Antennas

Cable input

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

Access to equipment

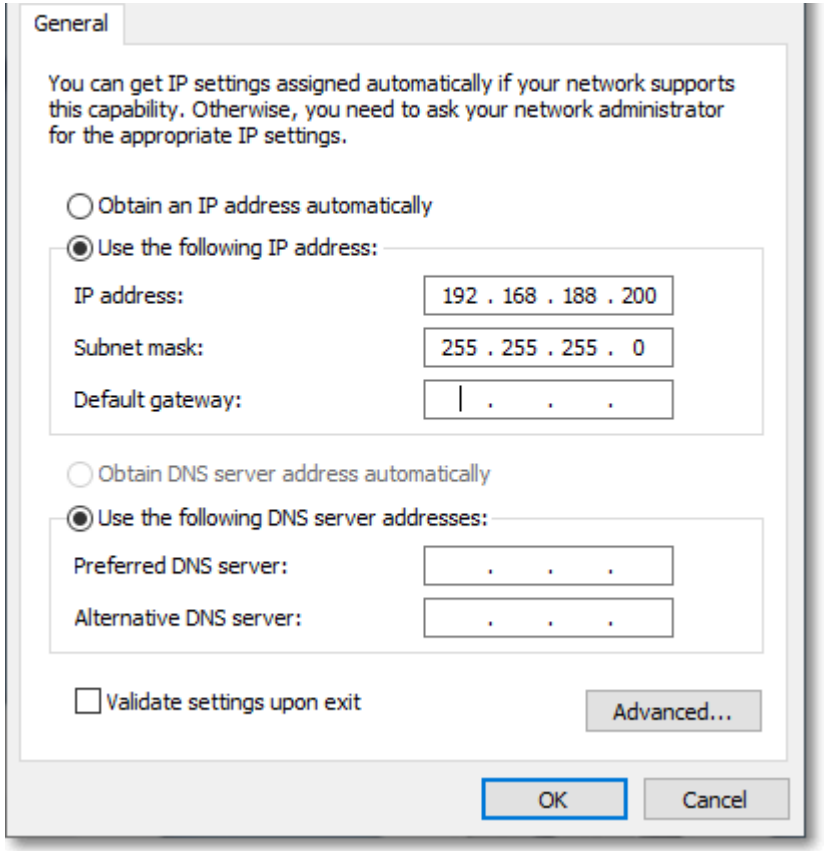
To access the APs, follow these steps:

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.

3. Open a web browser and go to the URL: http://192.168.188.253

4. Password: admin.



Home… General Device Status

CONFIGURATION MENU

Current mode
OPERATION

TRAFFIC Flow
WIFI or WAN depending on the mode

Wifi
Selected

Version SW

Device **STATE AND DESCRIPTION**

LAN configuration

WiFi Configuration

Customers connected

Home… WDS MODE IN CPE 300-24LP

CONFIGURATION MENU

Current mode
OPERATION

TRAFFIC Flow
WIFI or WAN depending on the mode

Device **STATE AND DESCRIPTION**

Version SW

WDS state

WiFi Configuration

Customers connected

Device **STATE**

Operation modes… Configuration

Gateway mode

Repeater mode

WISP mode

AP mode

Wizard

Configuration Flow

Selection Mode → Lin kWiFi → Config IP → WiFi 2G → WiFi 5G → Restart

Operation modes… Configuration IN CPE 300-24LP

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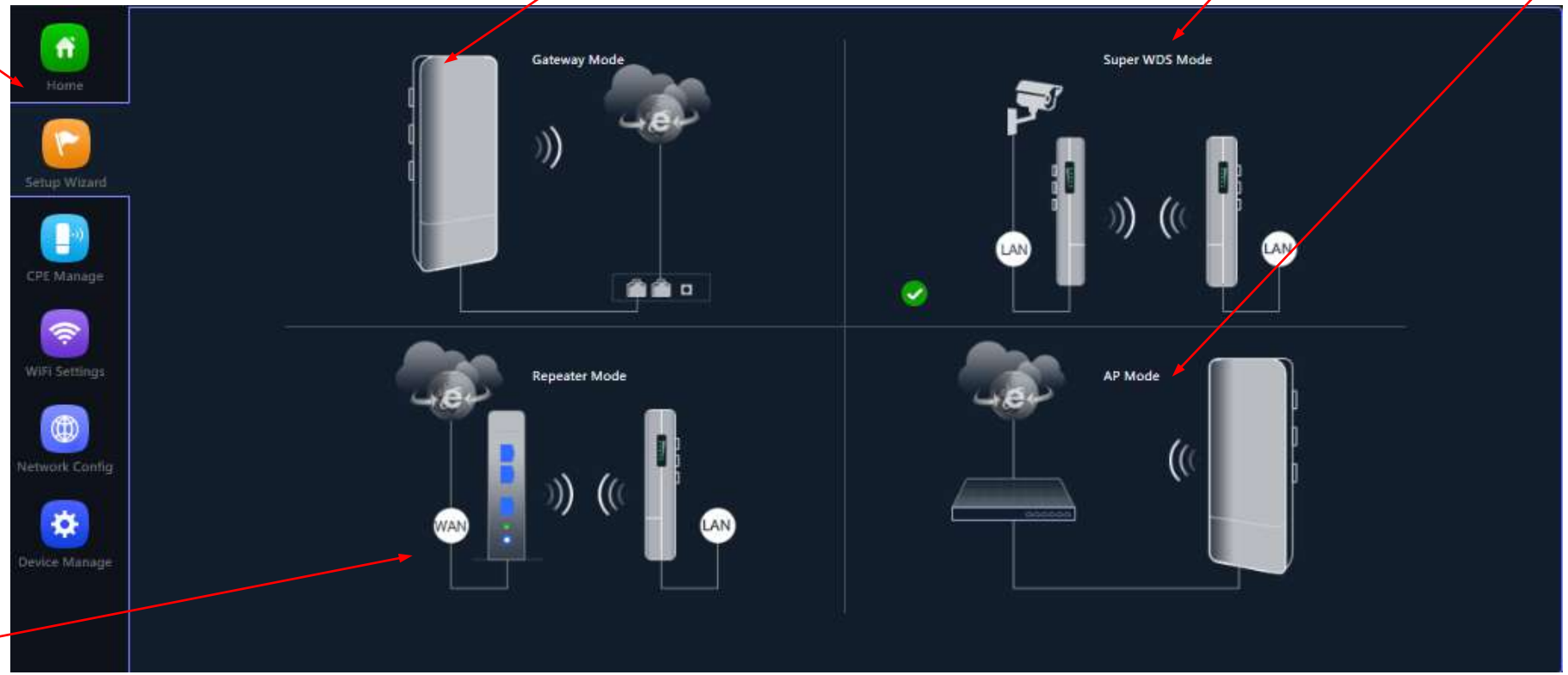
Gateway mode

Super WDS mode

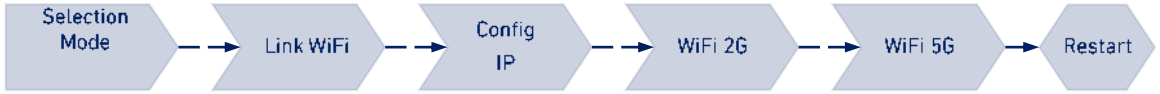
AP mode

Setup Wizzard

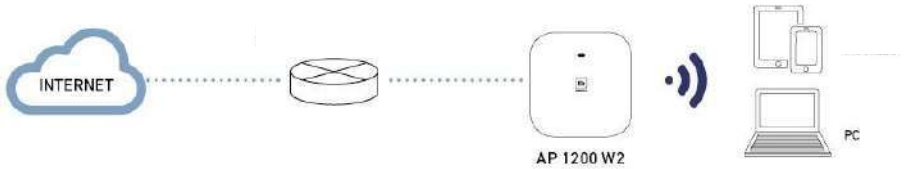


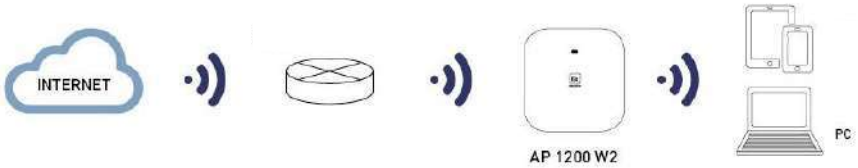
Repeater mode

Configuration Flow



Operation modes... 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

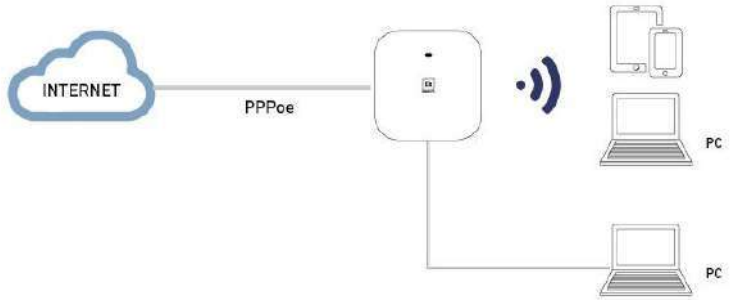
AP (Access Point) mode provides WiFi coverage from the LAN connection, with the ability to activate up to 4 SSIDs per band (4 in 2'4GHz and another 4 in 5GHz). The **AP 300 LP** only works at 2'4GHz. In this mode, you can even configure VLANs that are associated with radiated SSIDs.
The device remains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

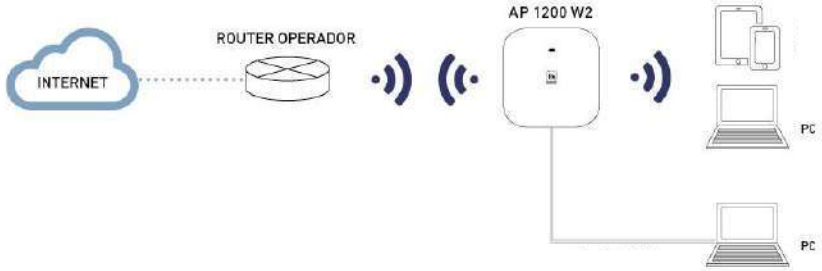
Operation modes...Router

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

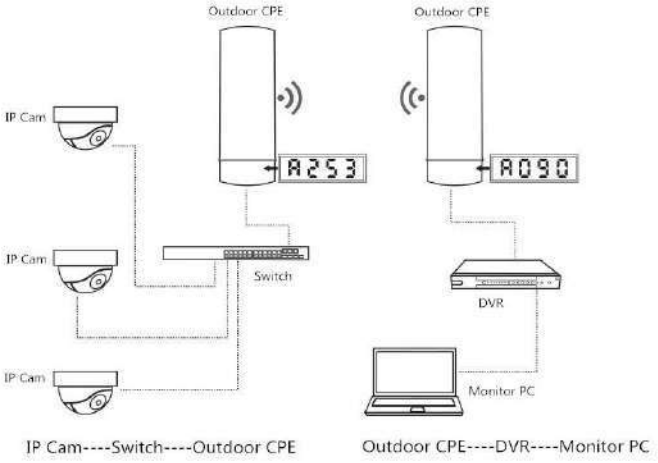


WISP mode

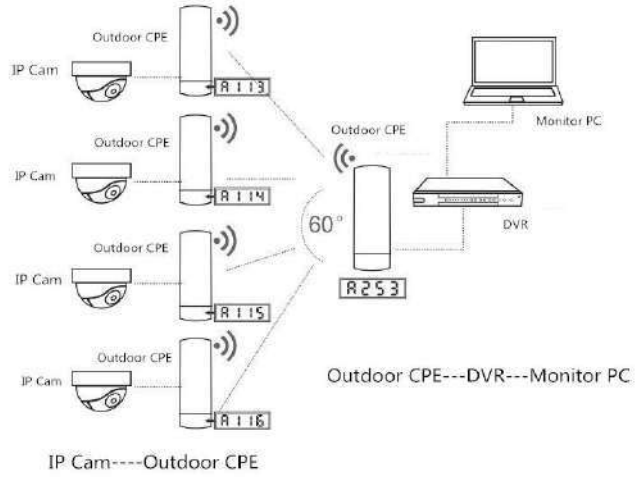
In WISP mode it is possible to use the **AP** as an Internet access router over an ISP WiFi network. The main connection is now established by configuring as a client one of the SSIDs on the computer, thus leaving the other interfaces (WAN, LAN and the rest of SSIDs WiFi) for the local user connection

Operation modes… Super WDS

Point to Point



Point to Multi 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

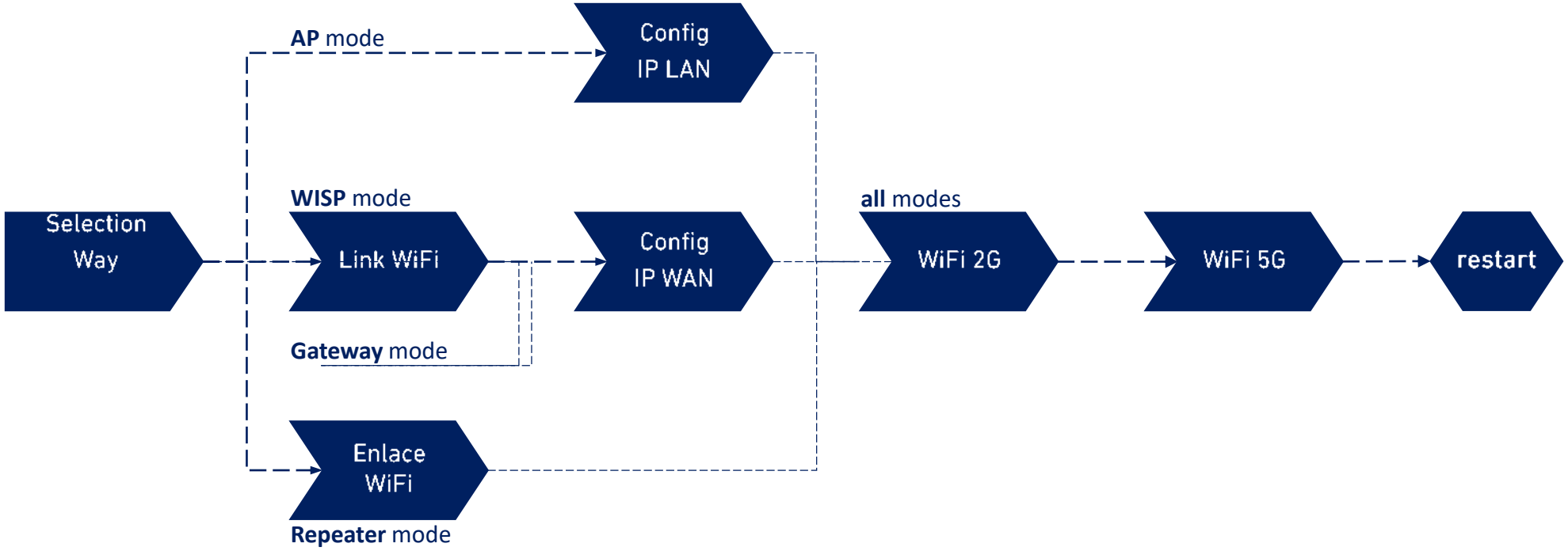
The local terminal acts as host ("H", on the lower display) and the remote terminal as a client ("C"). The client is configured with the default IP (192.168.188.253), while the host is self-assigning an IP address that is not in use. Both directions are queryable through the lower display.

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.

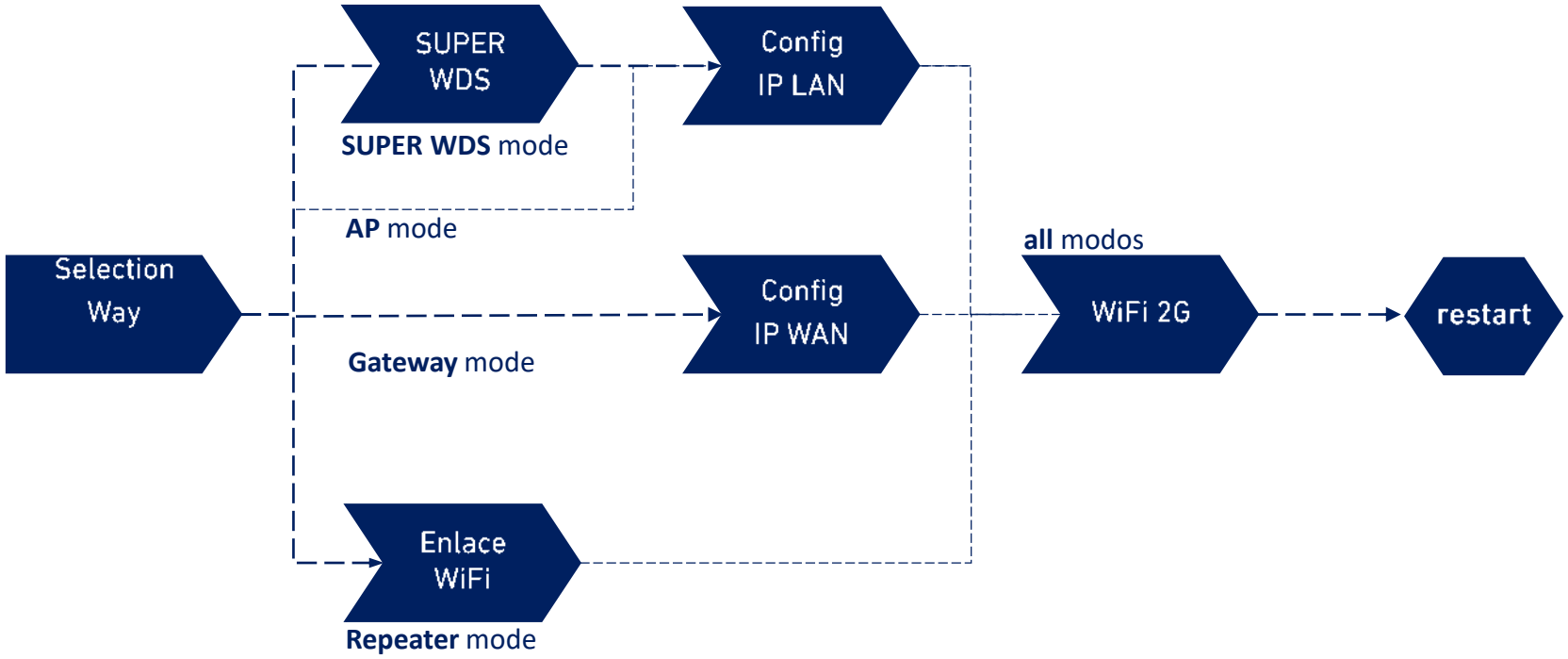
Setup Wizard … Configuration Flow

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

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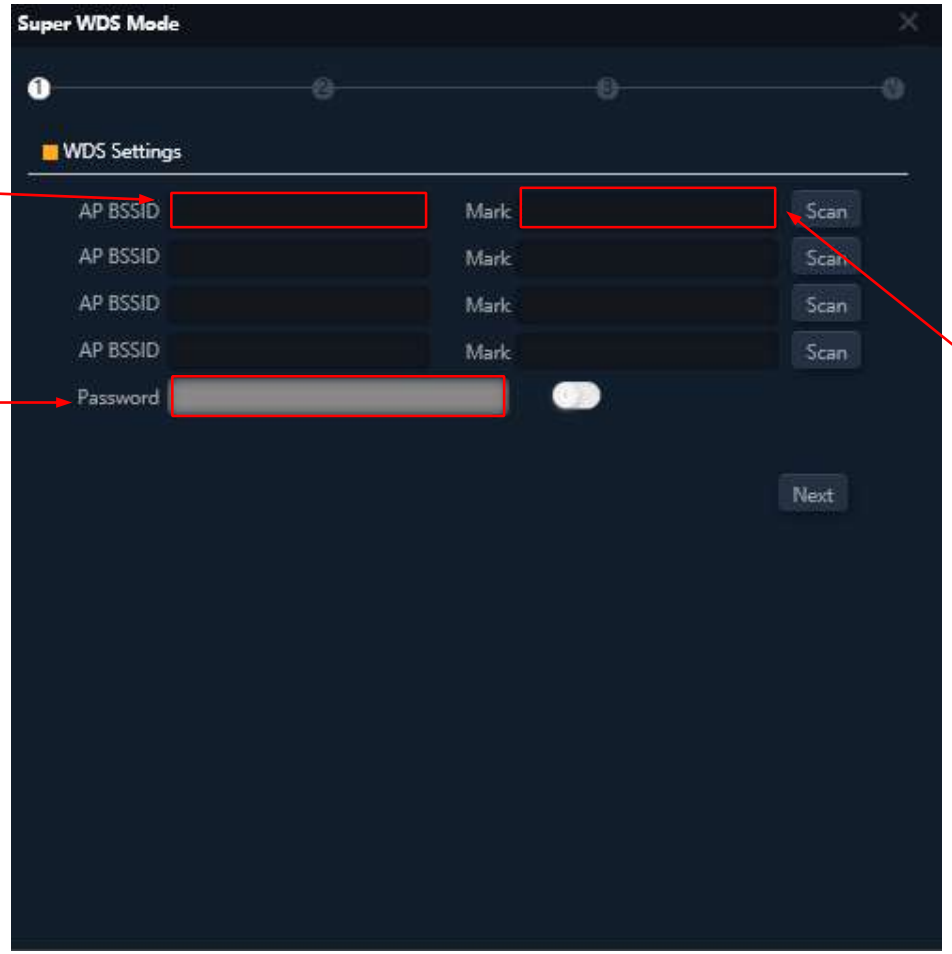
2 Link WiFi

Selection Way → **Link WiFi** → Config IP → WiFi 2G → WiFi 5G → restart

BSSID service

Password



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

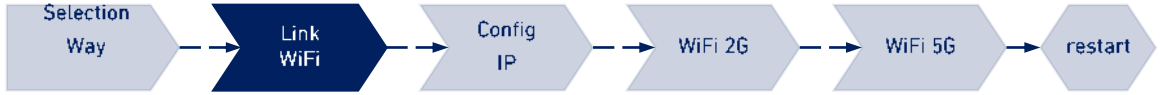
We must perform a search for the **BSSID** with which we want to establish the connection. Selecting it will automatically complete the **mark** section. If we do the configuration in this way you have to repeat the process on the two computers so **we recommend using the above method (use the displayes).**

Link **mark** you connected with

Setup Wizard … WiFi configuration

EKSELANS BY ITS

2 WiFi link

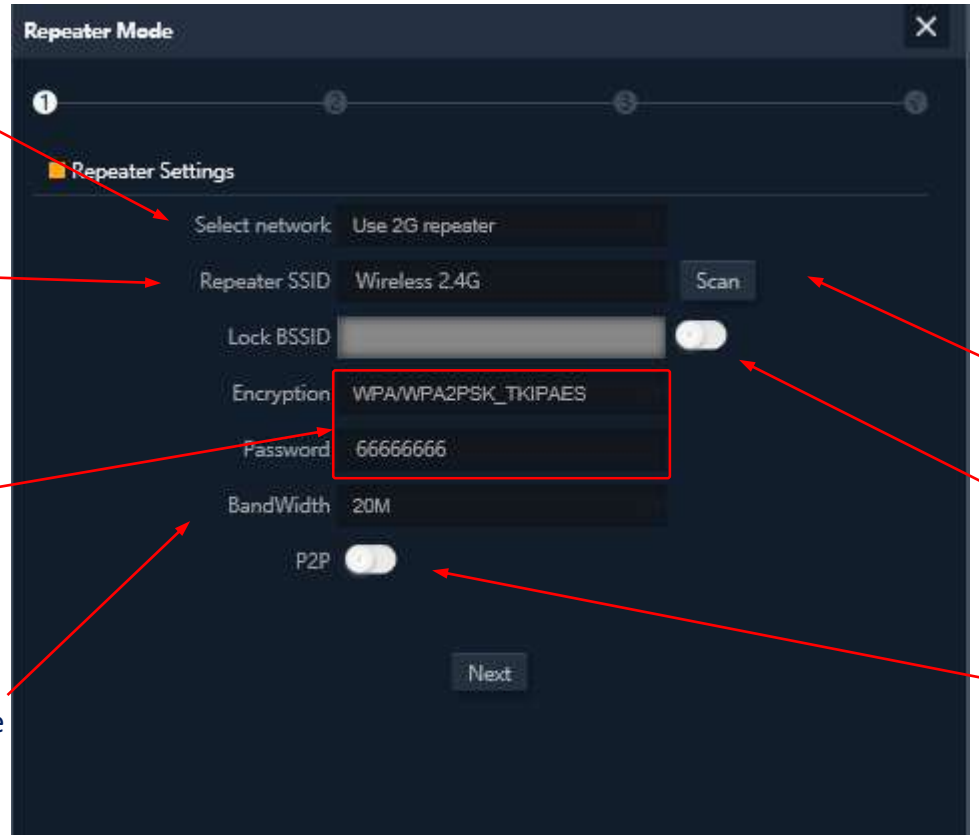


Radio client **sellection**
(2'4GHz o 5GHz)

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 WPS configuration between terminals
(Deactivation recommended)

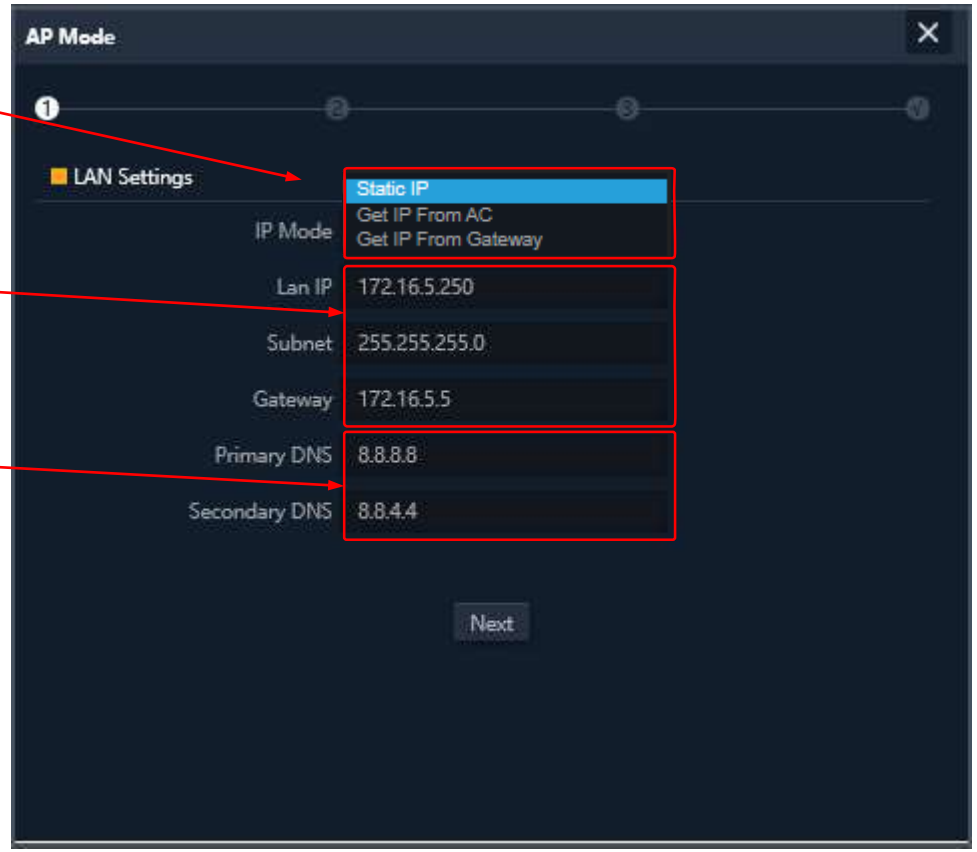
Setup Wizard ...IP LAN/Management configuration

3a IP LAN configuration

IP management of the connection
(Static IP, from AC or Gateway)

Addressing **IP** (*)

DNS servers (*)



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 adresses, manually getting 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

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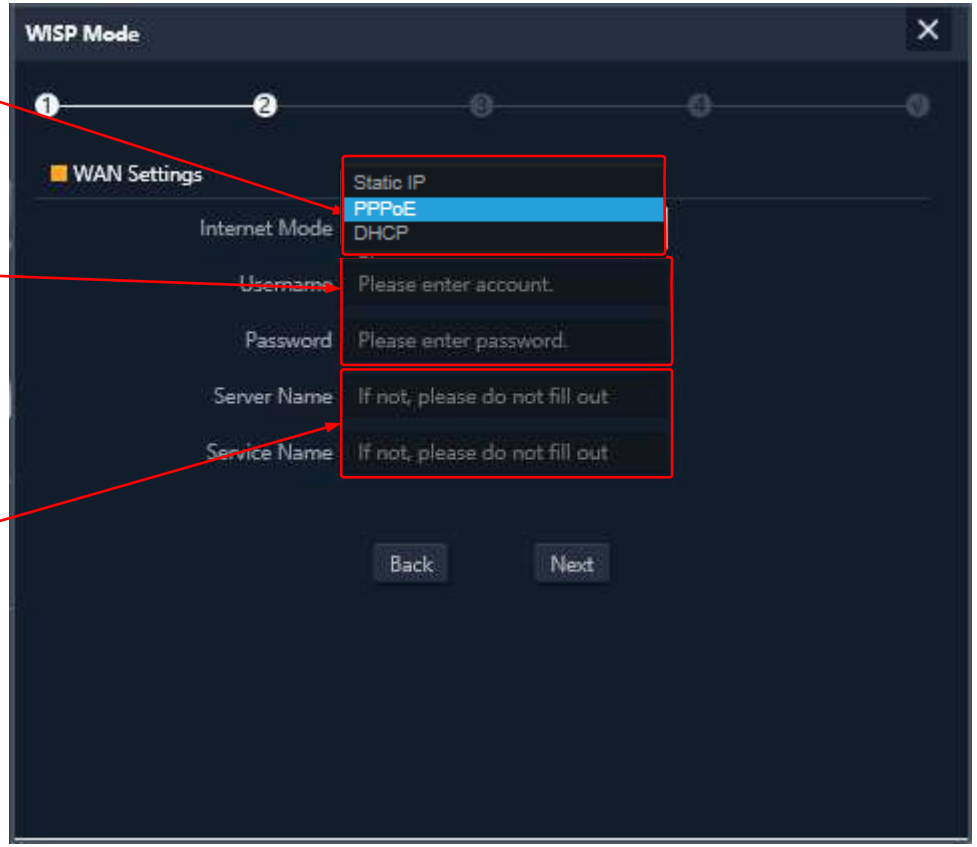
3b IP WAN configuration

Selection Way → Link WiFi → Config IP → WiFi 2G → WiFi 5G → reinicio

Management of the Connection IP
(Static IP, PPPoE o DHCP)

PPPoE parameters **user**

PPPoE parameters **server**



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

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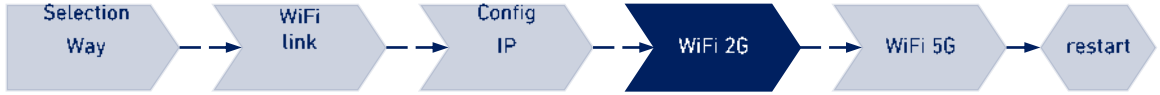
4 WiFi 2G configuration



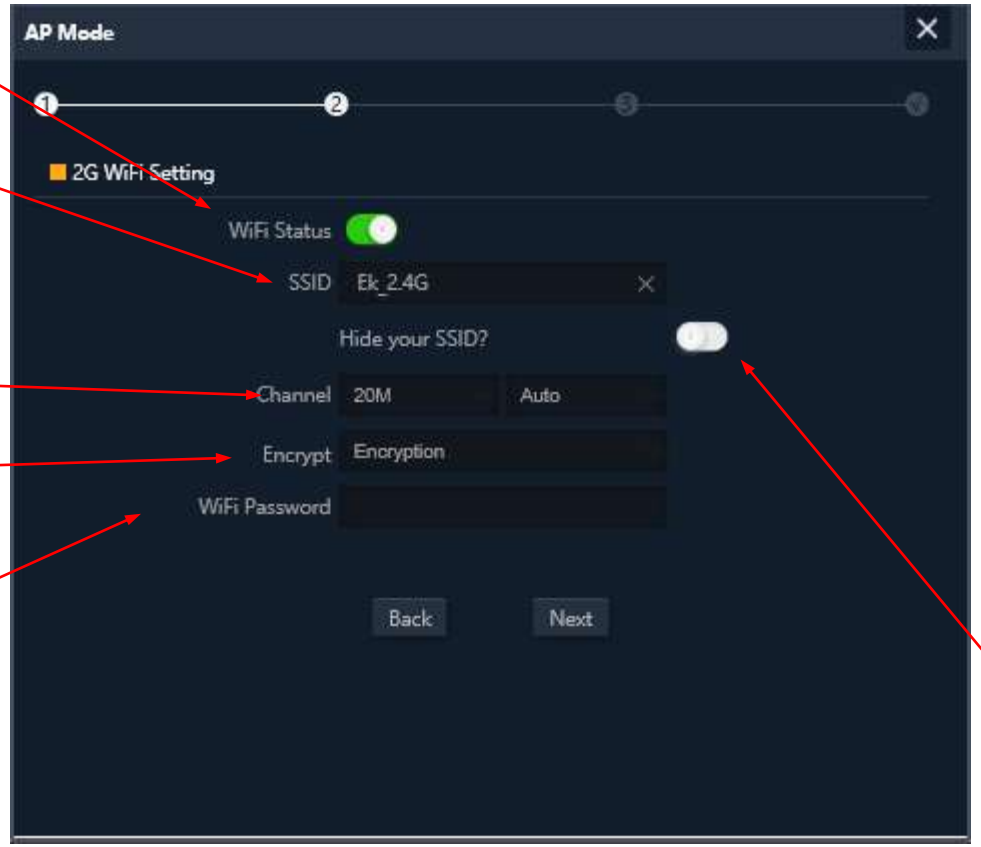
Activation
WiFi 2'4GHz

Name **SSID**

Bandwidth
WiFi channel

Activating the **Encryption**

PSK **password Encryption**



Hiding the SSID

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.

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

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5 5G WiFi settings

Selection Way → Link WiFi → Config IP → WiFi 2G → **WiFi 5G** → restart

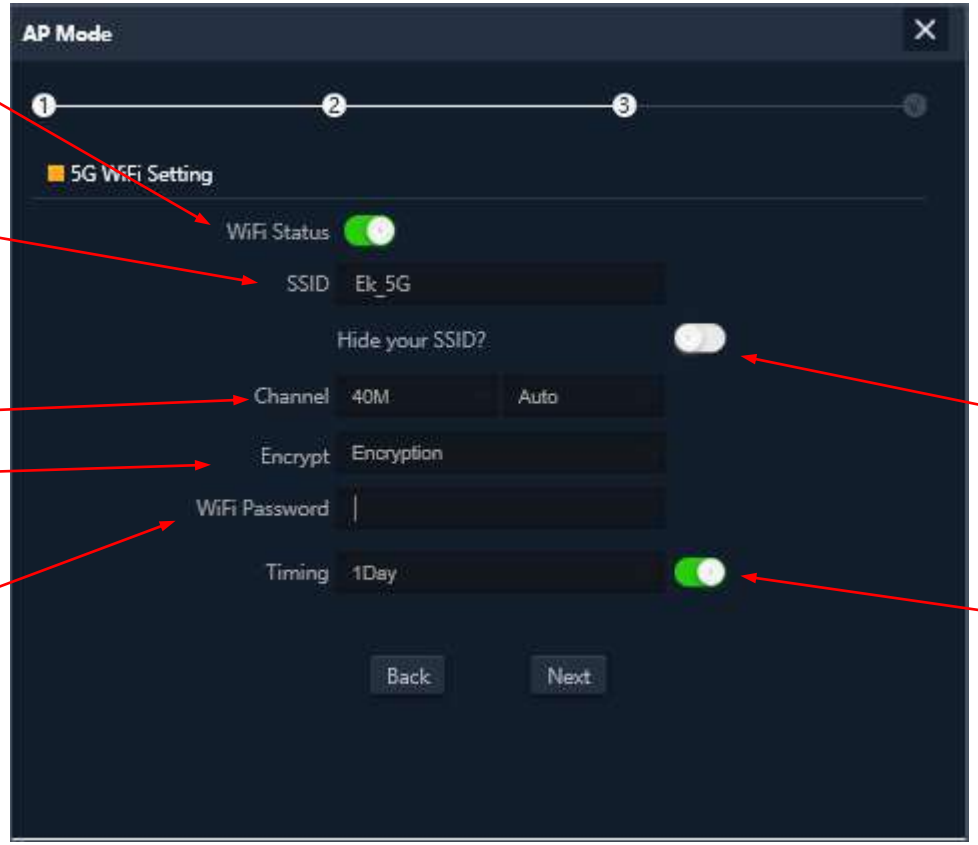
Activation
WiFi 2'4GHz

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.

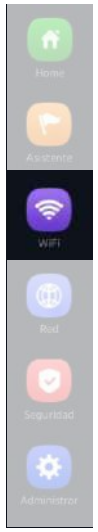
Hiding the SSID
(provides increased security)

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

WiFi

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.

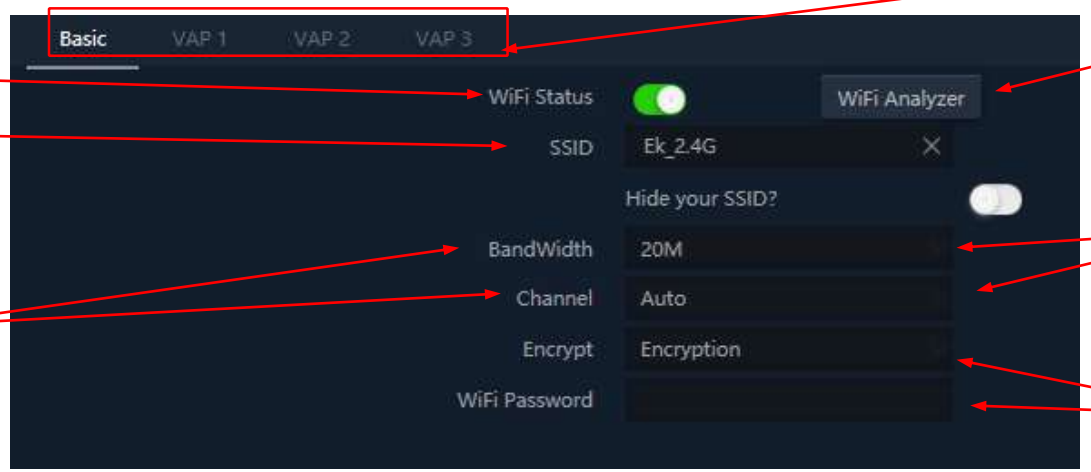
The **"Basic"** tab allows you to select the channel and streaming bandwidth

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

SSIDs available
(are activabled separately)

Enabling the SSID

Spectre Analyzer
(allows viewing existing networks in the environment)

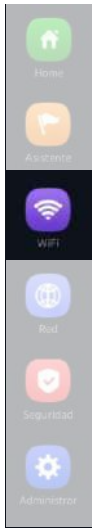


SSID Name

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

Configuration radio
(channel and bandwidth)

SSID security
(encryption and PSK)



WiFi… WDS

Enable/Disable **WDS**

Enable/disable quick link

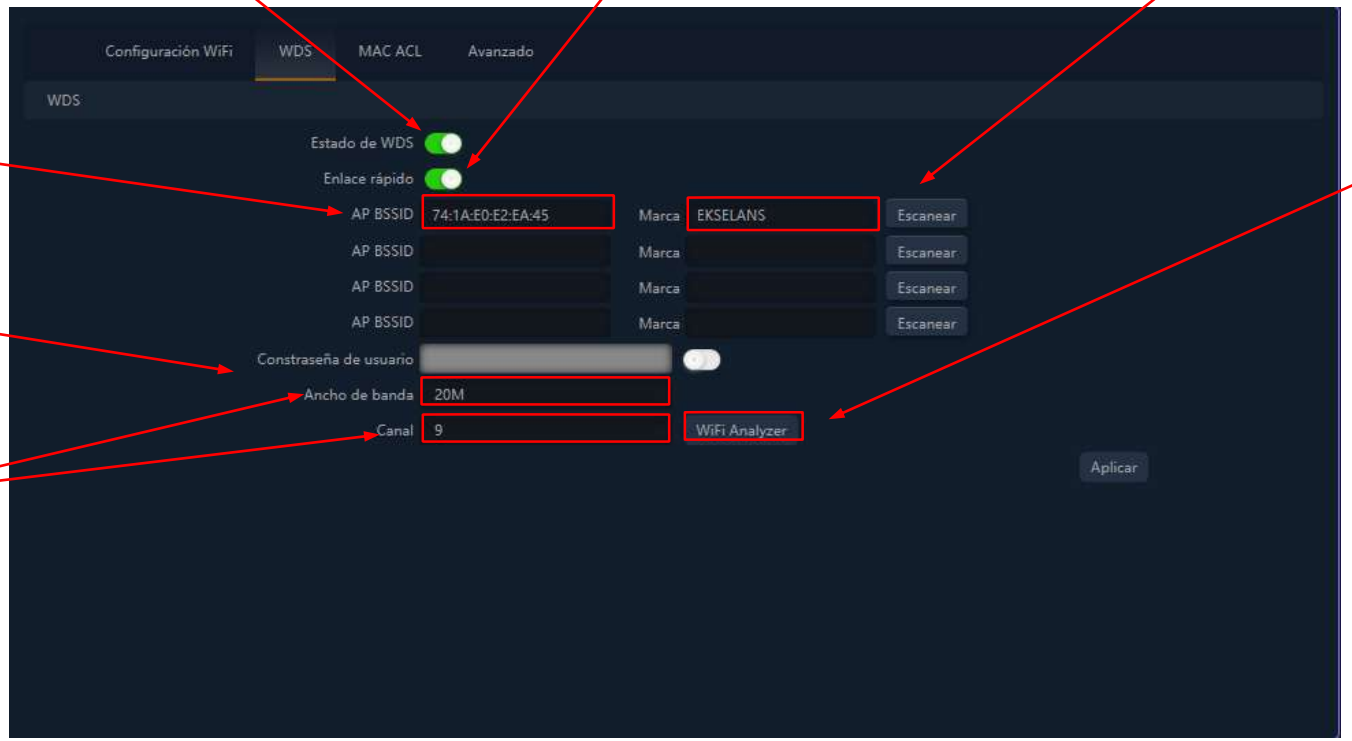
Name of ***BSSID***

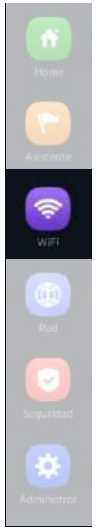
Selection of the **Service BSSID**

Setting up **Security**

Configuration radio (channel and bandwidth)

Channel Analyzer



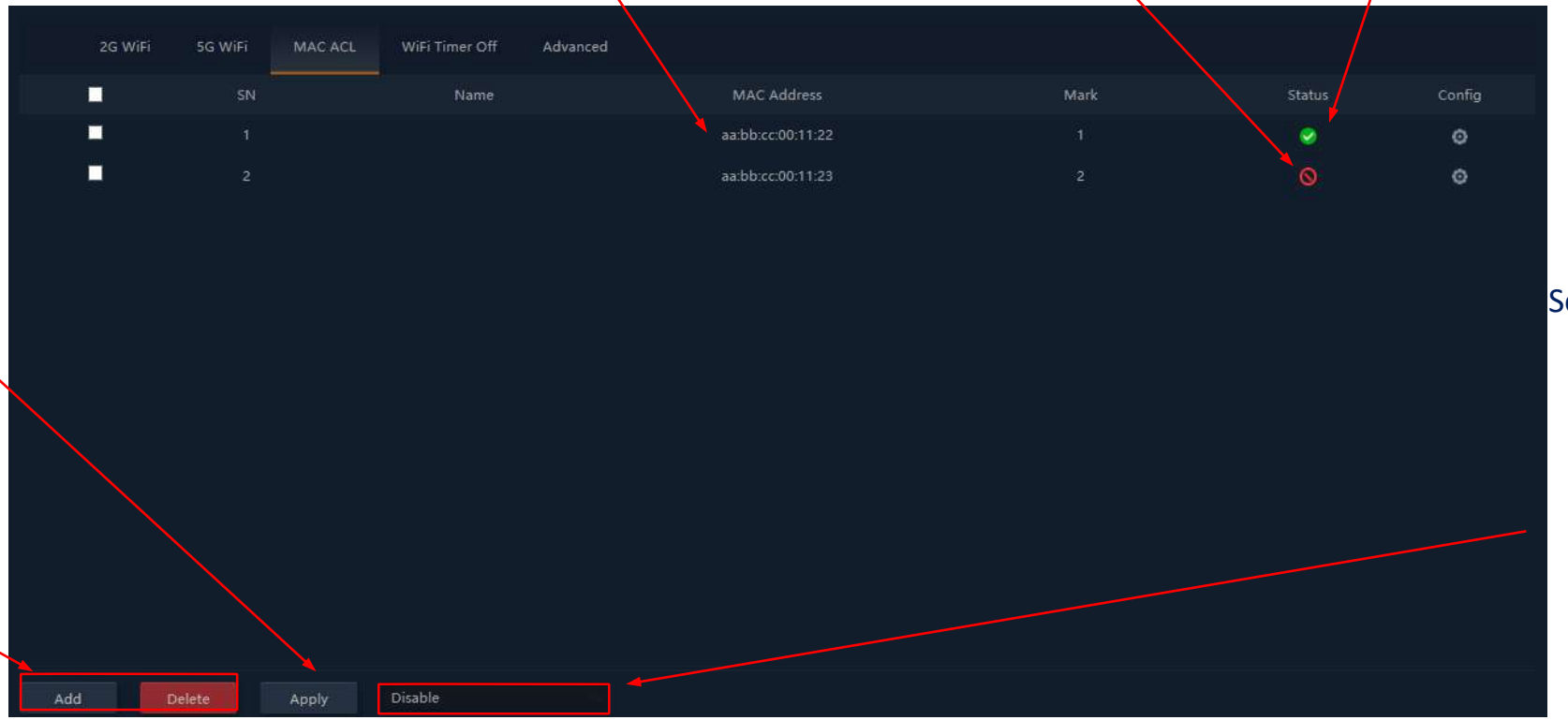


WiFi… MAC ACL

MAC Address
subject of the restriction

Non-active restriction

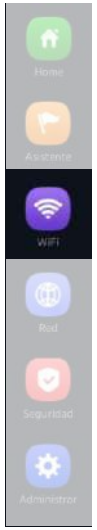
Active restriction



"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*)

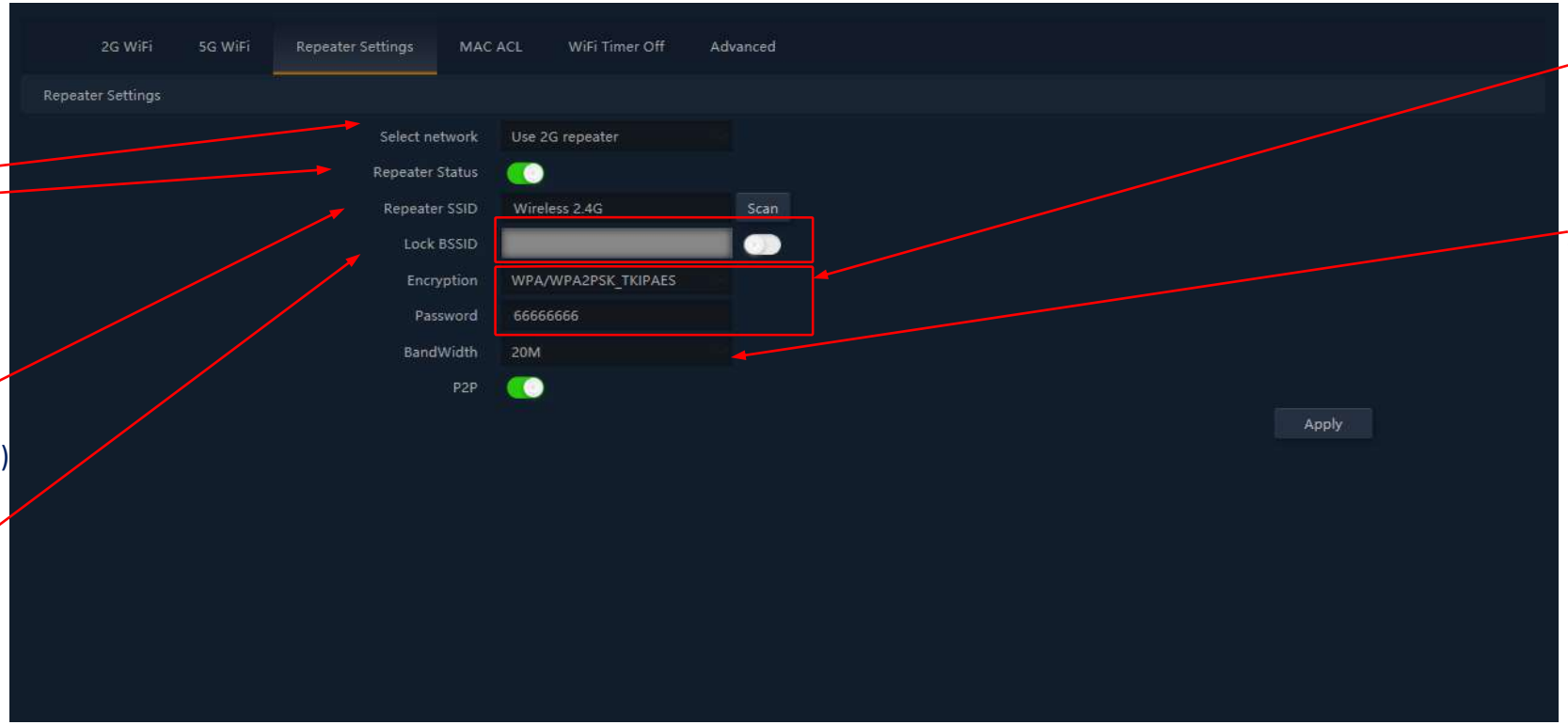
WiFi… Link WiFi

Selection of the **client radio** (support link)

Activating the link function

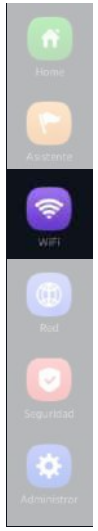
SSID service (gives Internet access)

Fixed partnership (link lock MAC address of the remote radio)



Setting up **security** of the service network

Bandwidth of the used channel for the link



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

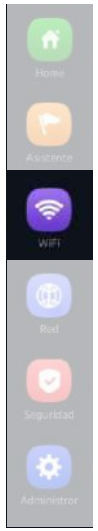
5G mode

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

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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

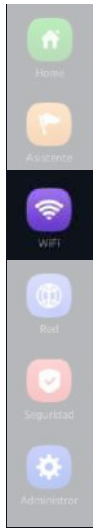
It is a security option that allows you to isolate WiFi terminals in such a way that they cannot establish direct ethernet communication within the scope of the WiFi network.

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

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Power Tx

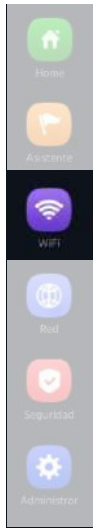
This parameter regulates the transmission power of the **AP** relative to its maximum, having five levels of regulation.

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

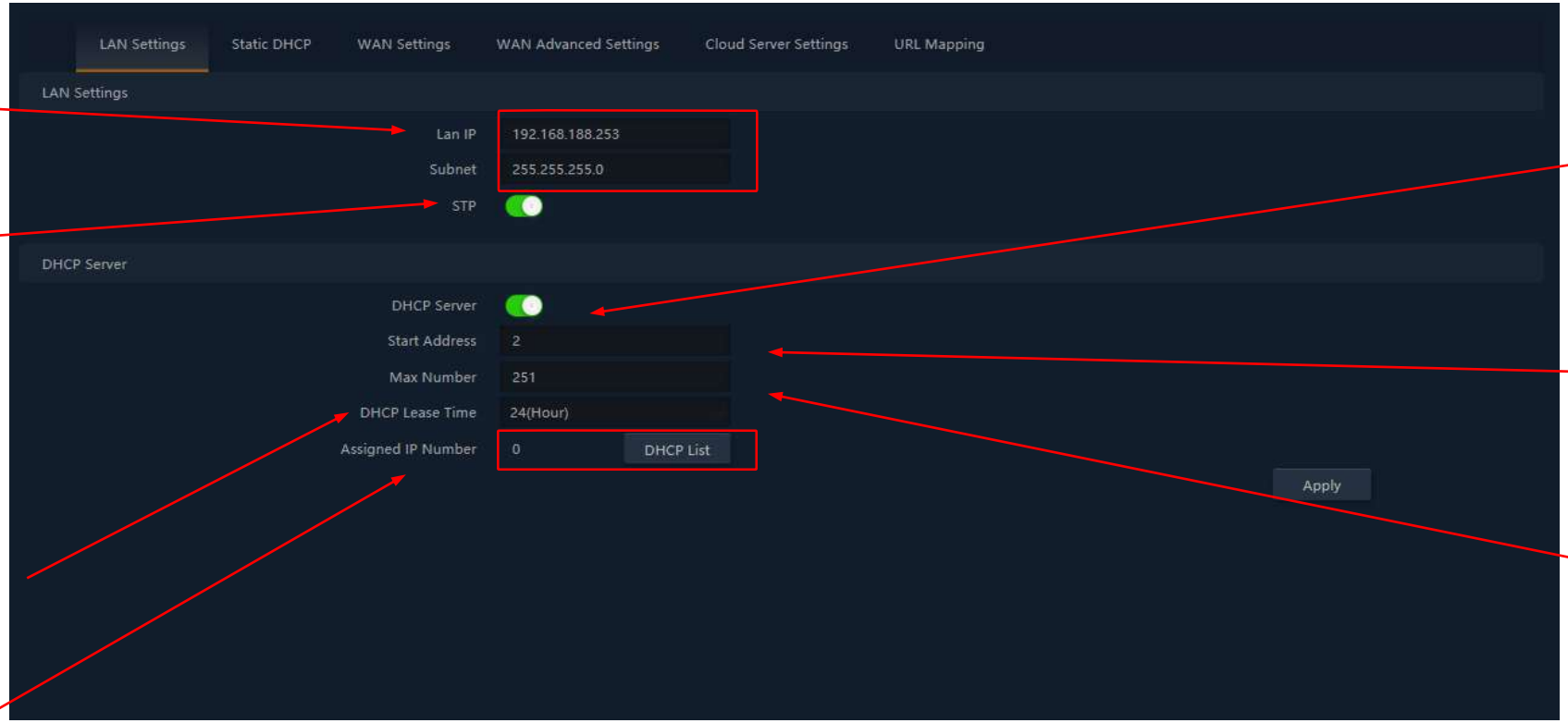
The settings in the "Network" section vary by mode.
For Gateway and WISP modes the configuration is more complete and parameterizable

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)

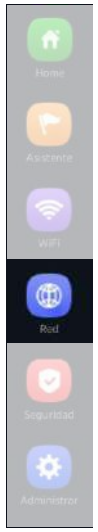
Assignments
(see list allocations IP<>terminals)



Activating the DHCP service

Home Address
IP pool to serve

Pool Size addresses
(from the home address)



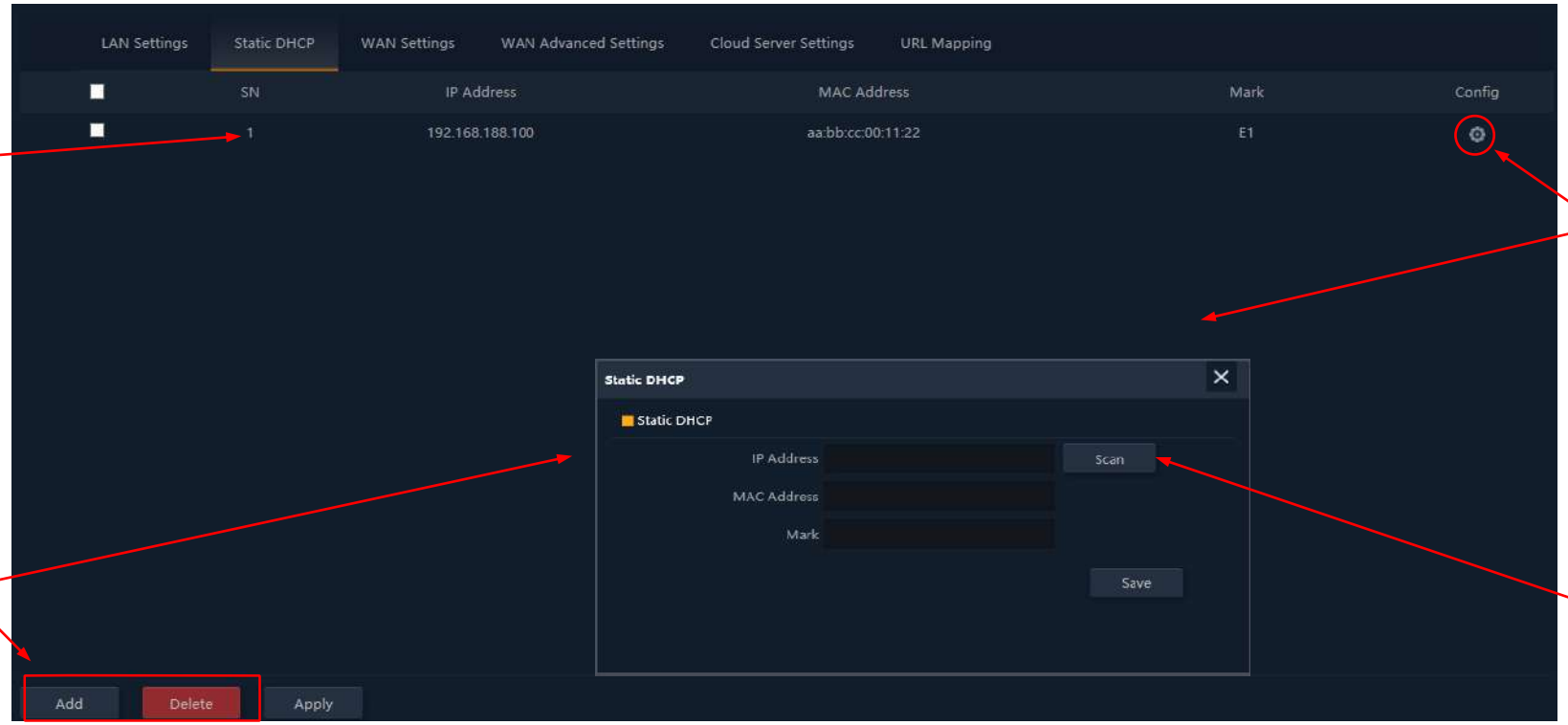
Note... note that DNS addresses are not included in the DHCP configuration.
By default, the LAN IP address is served as DNS Proxy.
If there are fixed DNS addresses in the WAN configuration, then these are the ones that are served

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

List of pre-assigned IPs
(mac assignment)

Addition and Erased
tickets



Modification
from the entrance

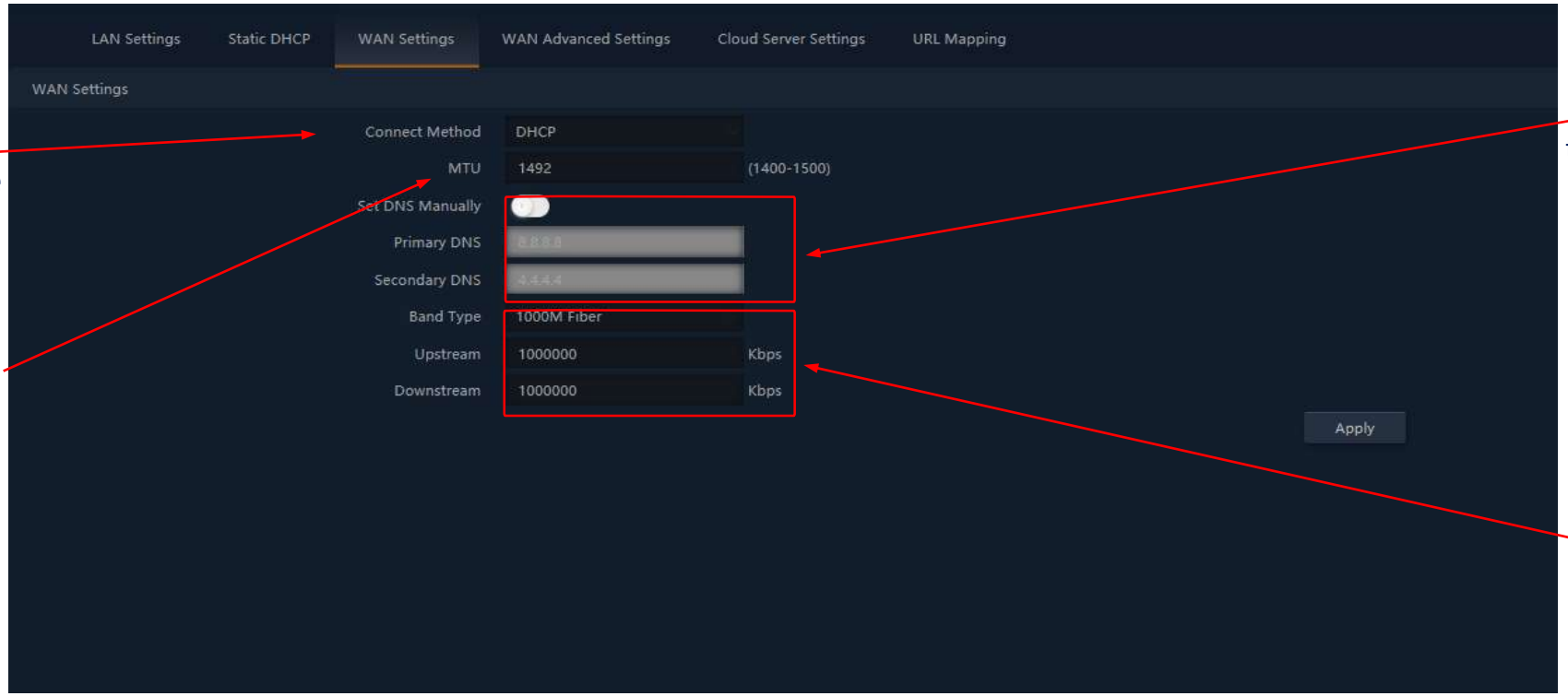
Scan
(identifies terminals already partners)

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

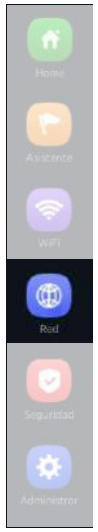
Connection mode
(Static IP, PPPoE o DHCP)

MTU
(1500 for Ethernet 1492 for PPPoE)



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

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



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://<external_ip>:<port>

"MAC Address Clone" (MAC)

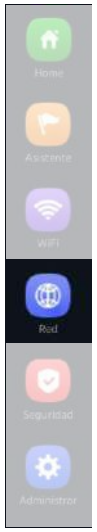
- Useful option for those Internet access services that are authenticated based on the MAC address of the user's PC. APs can emulate such a MAC and thus provide simultaneous connection to multiple devices.

"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.

"Enable VPN IPSec/PPTP/L2TP pass through"

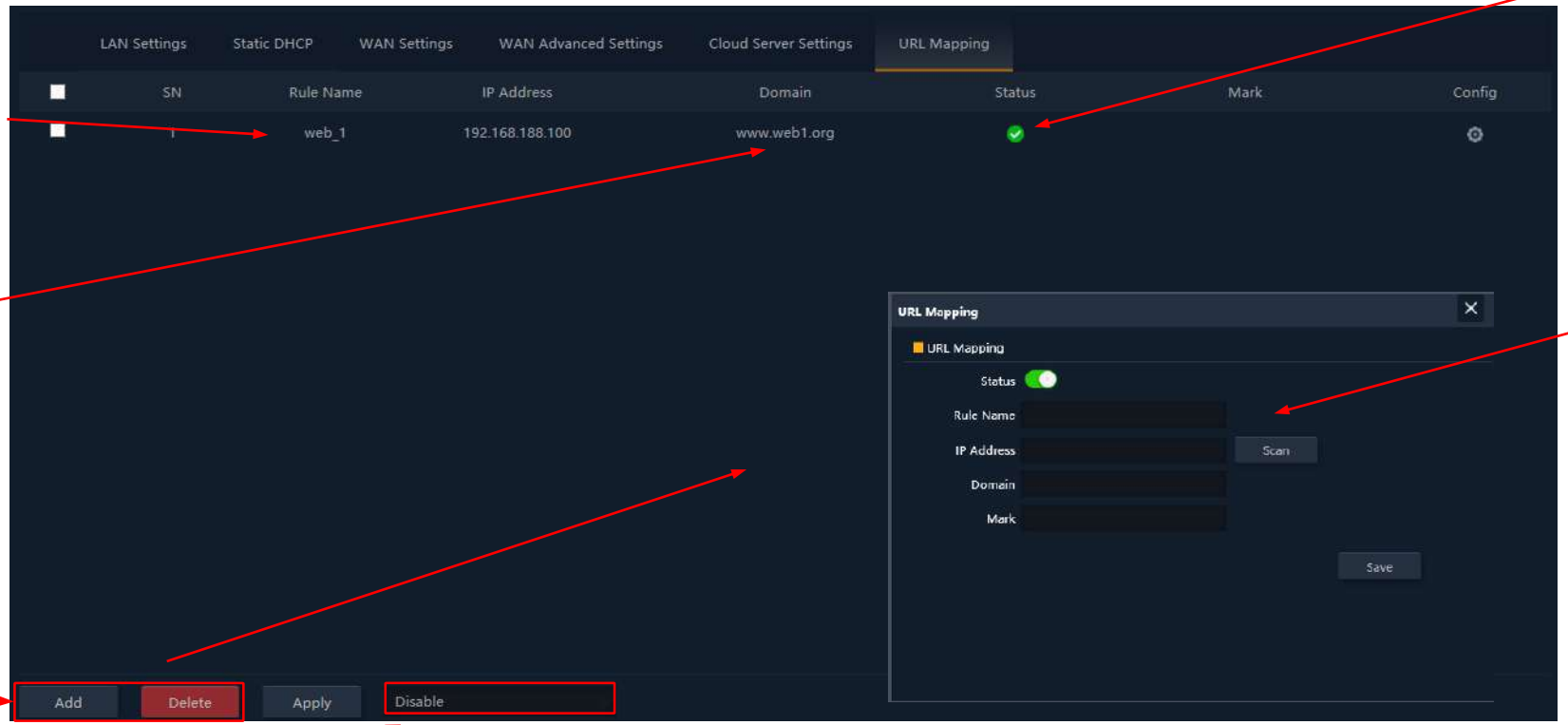
- Allows tunnel-type VPN connections to pass through without the need for more specific configuration.



Network... URL mapping

Status of each one of the rules URL mapping

List of servers on LAN

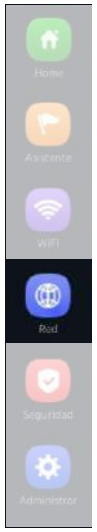


LAN IP address from the server Mapping

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

Addition and Erased tickets

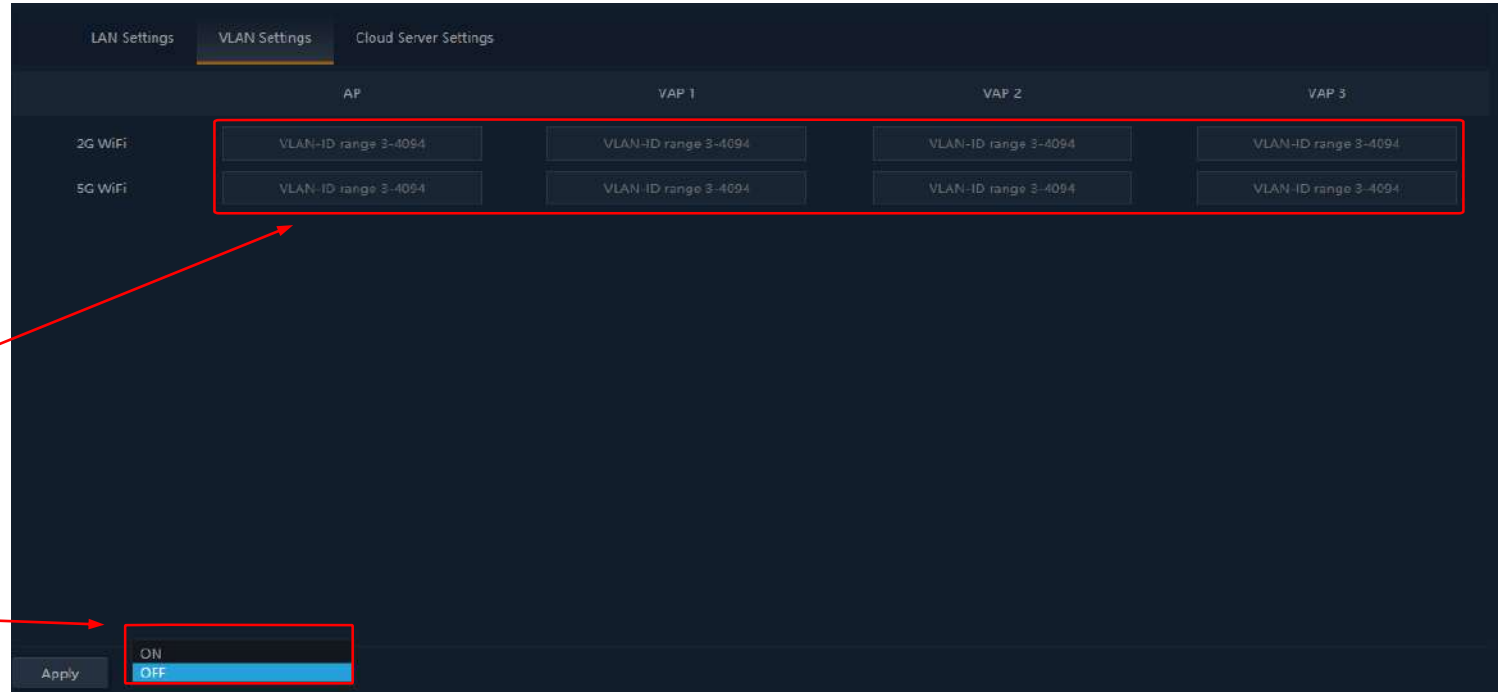
Enabling the **URL mapping** function



Network… VLANs (AP mode)

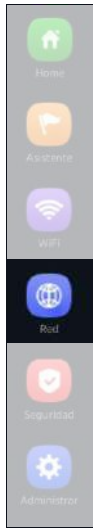
APs support a VLAN for each of the activatable SSIDs (four over each radio), and user traffic can be completely segregated. Frames are marked with VLANid identifiers according to 802.1q, understandable for a configurable switch.

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

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).

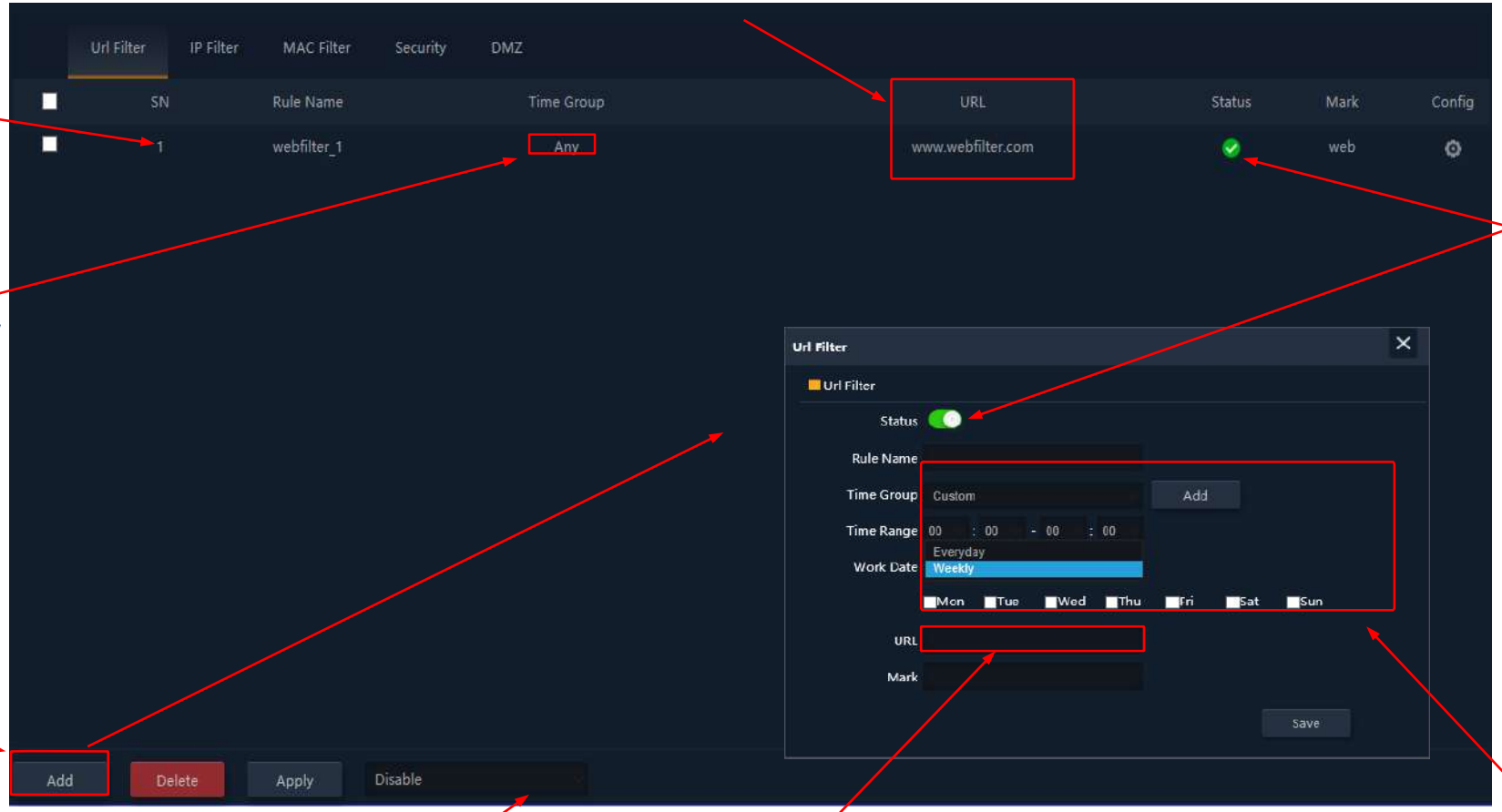
DMZ

- 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

IP Filters
Defined



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

New filter settings

State activation from the filter

Enabling filters (don't forget "Apply")

URL to block

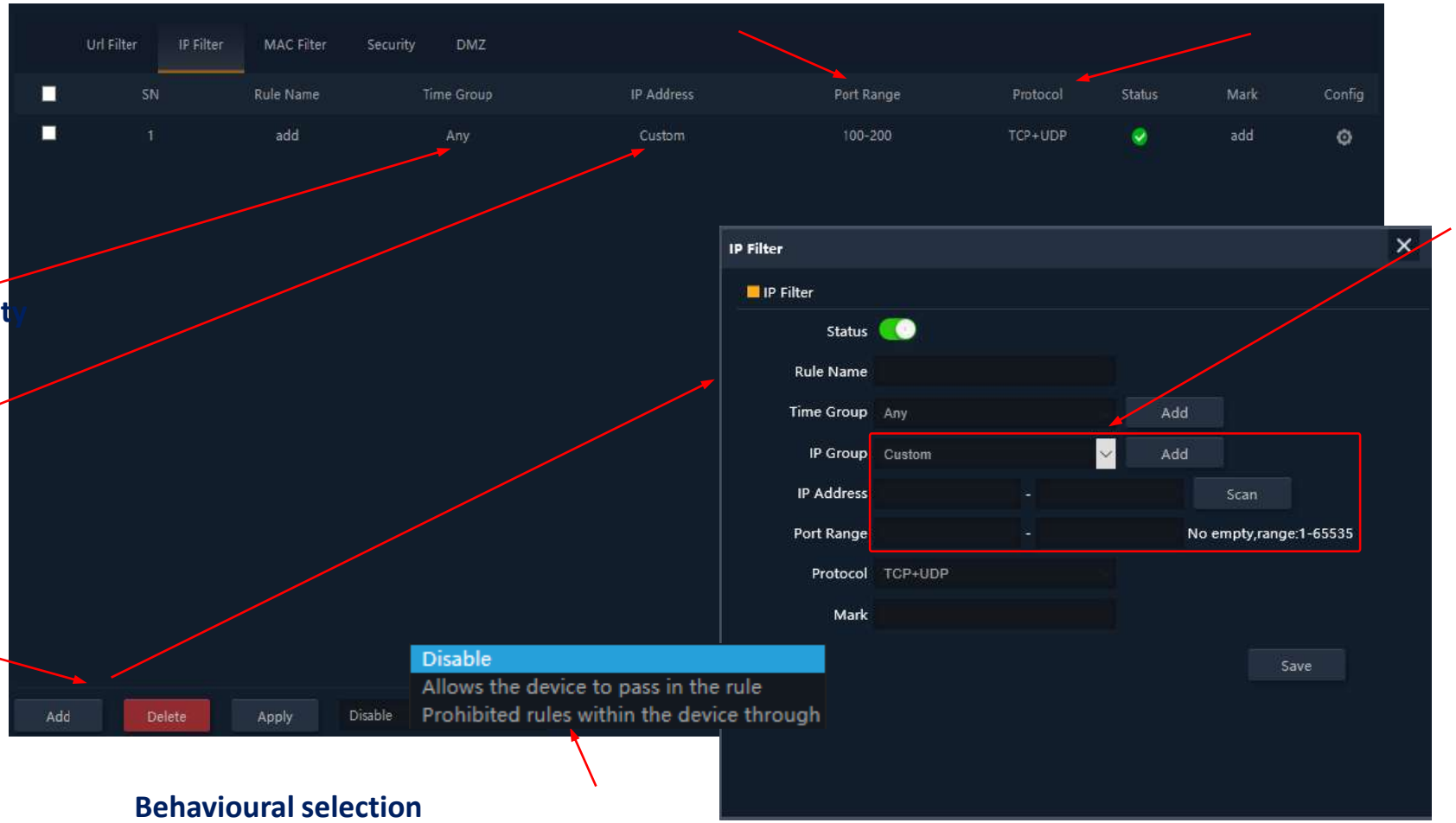
Temporary settings (predefined options are available, permanent and filter-specific)

Security... IP filter

Port range
on which filters act

Filtered protocol

Configuration
range of
IP addresses



Temporary validity
IP filter

IP address range
from the filter

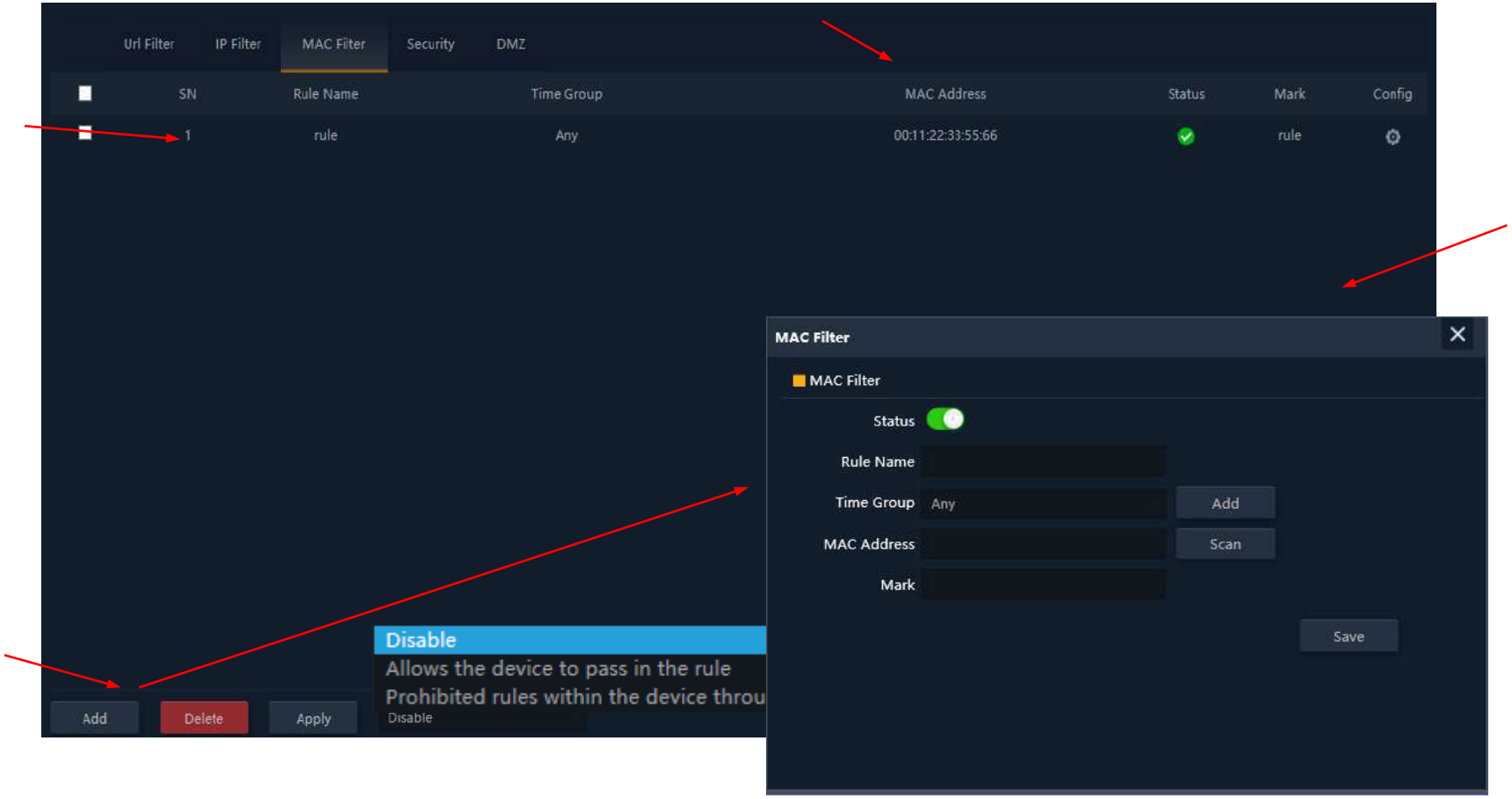
Configuración de
nuevo filtro

Behavioural selection
filters (permission or denial of way)

Security...MAC filter

MAC addresses
object of filters

MAC Filters
Defined



Setup
And
Modification

Add filter

Security… Port Mapping (“Security”)

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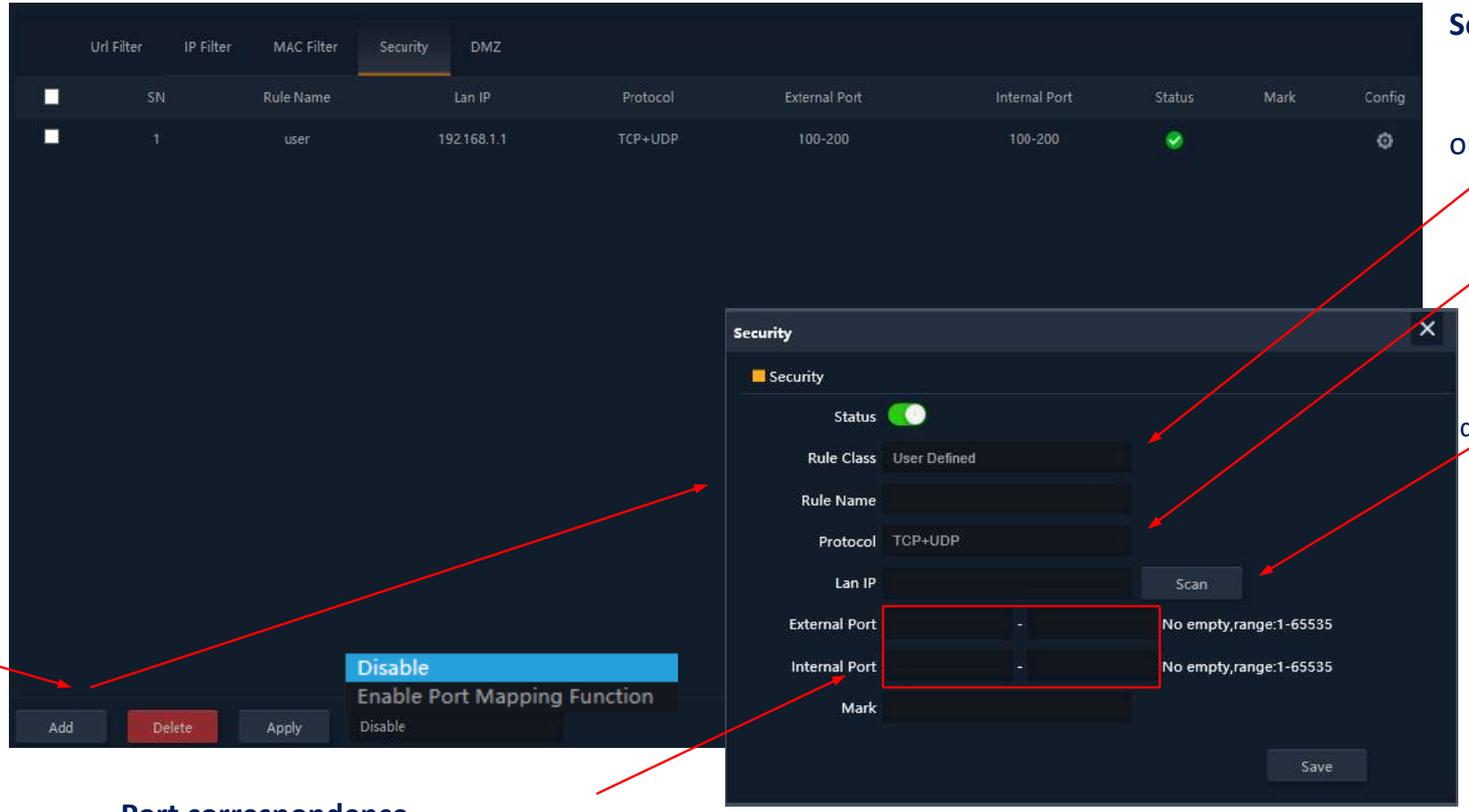

Selection of the Service
(predefined or configuration manual)

IP protocol

Internal IP
(device Internal destination of the mapping)

Add new
port allocation

Port correspondence
(port ranges defined by start and end)

Management

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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.

Management

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.

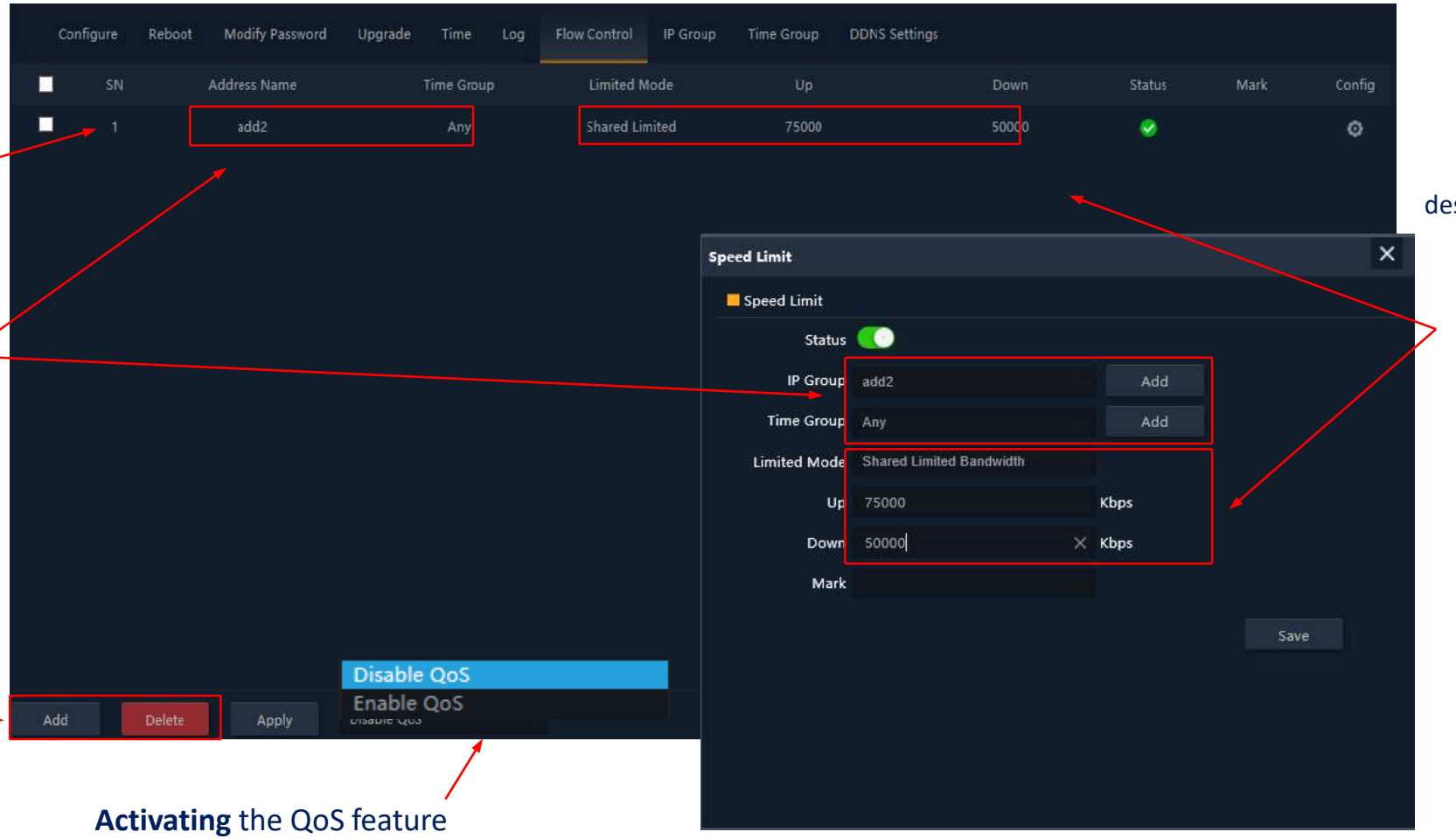
Management… Flow Control (QoS)

Rules
flow control

Scope of the rule
(address range temporary validity)

Addition and Erased
tickets

Activating the QoS feature



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

Management

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" fiel.

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.

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
  - Gateway Mode
  - WISP Mode
  - AP Mode
  - Repeater Mode
- Security features
  - DoS
  - Firewall
  - Traffic Filter
  - ACLs IN WiFi
- Dimensions: Ø 15.7 x 3.6 cm

AP 750 NG specifications (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
  - **PoE 802.3at (48 Vdc)**
  - Consumption less than 30W
- 4 Operating modes
  - Gateway Mode
  - WISP Mode
  - AP Mode
  - Repeater Mode
- 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
  - **PoE 802.3at (48 Vdc)**
  - Consumption less than 30W
- 4 Operating modes
  - Gateway Mode
  - WISP Mode
  - AP Mode
  - Repeater Mode
- 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: 60°, V: 30°)
  - Encryption WPA2 128bits (AES/TKIP)
- 2 Ethernet
  - WAN/LAN 10/100 Mbps
- Power
  - 12 Vdc
  - PoE (24V)
  - Consumo menor de 30W
- CPE manager for point-to-point installations
- 4 Operating modes
  - Gateway Mode
  - WISP Mode
  - AP Mode
  - Repeater Mode
- 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
  - PoE (24V)
  - Consumption less than 15W
- CPE manager for point-to-point installations

- 4 Operating modes
  - Gateway Mode
  - WISP Mode
  - AP Mode
  - Repeater Mode
- Security features
  - DoS
  - Firewall
  - Traffic filtering
  - ACLs in WiFi

- Dimensions: 25 x 9 x 3,2 cm

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**
- Power
  - 12 Vdc
  - PoE 802.3at (48 Vdc)
  - Consumption less than 20W
- 4 Operating modes
  - Gateway Mode
  - WISP Mode
  - AP Mode
  - Repeater Mode
- Security features
  - DoS
  - Firewall
  - Traffic filtering
  - ACLs in WiFi

CPE-1200-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, 1200 Mbps**
  - Until 8 SSIDs (4 for band)
  - Pot. Tx 29dBmW
  - Encryption WPA2 128bits (AES/TKIP)
- 1 Ethernet
  - **WAN/LAN 10/100/1000 Mbps**
- Power
  - 12 Vdc
  - PoE 802.3at (48 Vdc)
  - Consumption less than 30W
- 4 Operating modes
  - Gateway Mode
  - WISP Mode
  - AP Mode
  - Repeater Mode
- Security features
  - DoS
  - Firewall
  - Traffic filtering
  - ACLs in WiFi
- Dimensions: 21,5 x 27,6 x 8 cm

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