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# ETAP04 user 's manual

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# 1 Introduction

This document is applicable to projects based on ESL Gen3。

This document is applicable to projects based on eRetail 3.1 or higher。

## 1.1 ETAP04 brief introduction

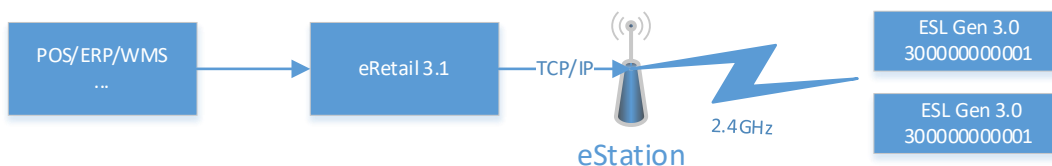
ERetail e-tag solution can be simply divided into four parts: upper layer customer application, eRetail 3.1 system, ETAP04 and ESL equipment。

The upper customer application refers to the data management system in the final customer business project, such as POS, SAP/ERP, WMS, HIS, etc;

**eRetail 3.1** system is responsible for integrating with the customer's upper application data, managing ETAP04 and ESL equipment, and packaging the upper application data and transferring it to the hardware;

**ETAP04**, also known as the base station, or AP, is the subject object described in this manual (D33). The ESL here refers specifically to ESL Gen3.0。

The overall structure of the electronic label solution is divided as follows:



ETAP04 It has the following characteristics:

- 1 Support multiple deployment modes, including traditional fixed parameter deployment, and automatic configuration for rapid deployment;
- 2 Support multi protocol extension: according to project requirements, the mainstream Internet of Things communication protocol extension can be added;
- 3 Anti network fluctuation: support local caching of large amounts of data, and protect the base station from network jitter.

Specific definitions of terms:

**ETAP04**, refers to the data node in the eRetail tag solution, which is usually called the base station or AP. The BTS contains two identity attributes: ShopCode and ID. The store number range is 0000 to 9999, and the ID range is 00 to 99. Under the same store number, the BTS ID cannot be duplicate, or there will be a logical conflict。

ETAP04 supports concurrent operations and offline data caching。

**ShopCode** also known as store number, is used for logical division of data (including eStation, ESL and other data)。

**ID**, also known as the base station number, is designed to be forward compatible with the logic of eRetail 1.0, 2.0, and 3.0. In fact, the MAC address is the only one used for identity verification。

be careful:

ShopCode and ID is the logic concept attached to ETAP04 by eRetail system。

## 1.2 ETAP04 Agent brief introduction

The Station Agent is the deployment and configuration tool of ETAP04. It is mainly used by field implementers to configure the connection information of the redirect server to ETAP04 devices, and also used for OTA upgrading (eRetail system also supports OTA).

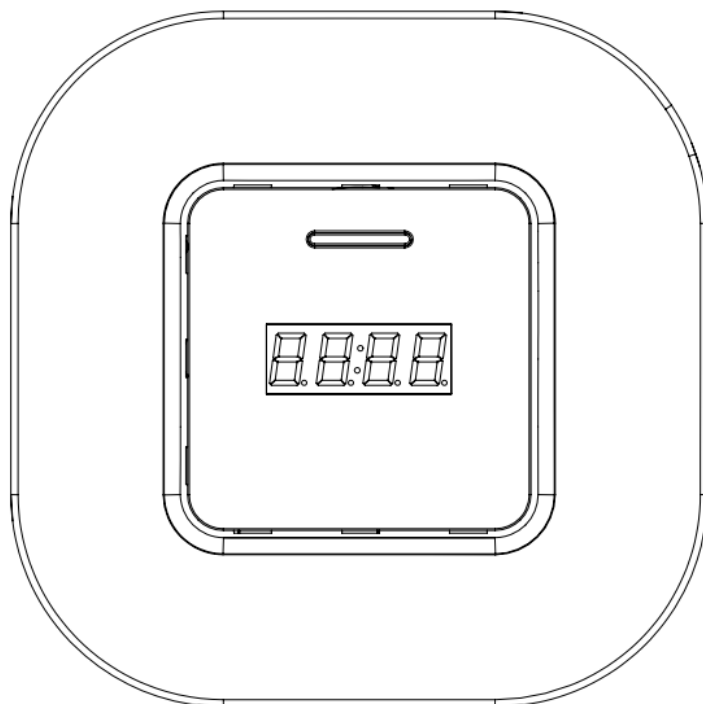
In addition, ETAP04 Agent also provides testing functions for production personnel. For the method of recording ETAP04 firmware, please refer to F01 ETAP04 Production Operation Guide.

The ETAP04 Agent is used for NET 6.0. The communication between it and ETAP04 needs to be kept in the same LAN, and the network administrator has allowed UDP data broadcast packets of the LAN。 When the field implementer cannot connect to any ETAP04 device in the ETAP04 Agent, he/she should first confirm with the network administrator whether the UDP datacast packet of the LAN is disabled.

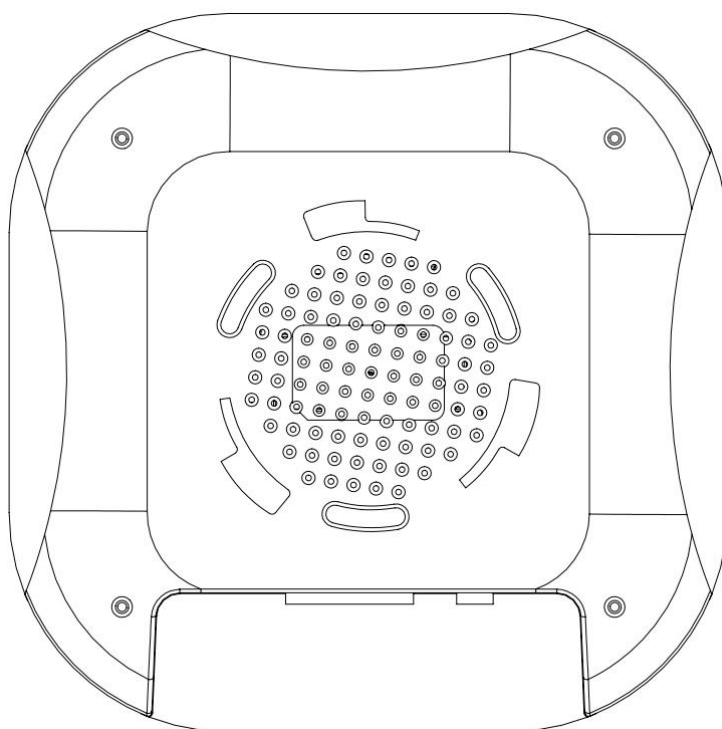
## 2 ETAP04 use

### 2.1 Physical description

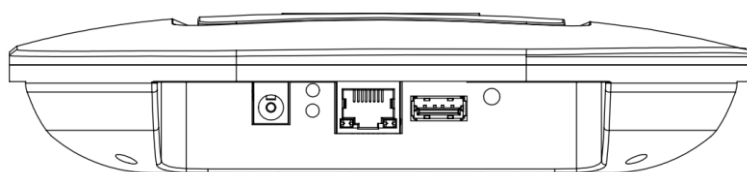
model	ETAP04
size (L*W*H)	190mm*190mm*40mm
weight	360g
Interface	USB 2.0
network	Ethernet
power supply	DC 12V 1A
display	4-digit digital tube



( Front view )



( Back view )



( Interface View )

## 2.2 Display code

Assuming that the ID of ETAP04 is set to 01, the number carried by ETAP04 may have the following display:

show contents	Representative meaning
----	ETAP04 initialization
boot	Restarting, usually when the configuration starts
FILE	U disk configuration mode, ready for U disk configuration
COFG	Configuration mode, or OTA mode, configuration or upgrade in progress
A-01	ID: 01, on line
F-01	ID: 01, off-line
P-01	ID: 01, Port failure
≡207	The current communication quantity is 207. In particular, the first digit is the channel opening module. Each ETAP04 has three wireless channels, and the three "-" correspond to the data transmission status of the three wireless channels respectively.
5678	Total number of caches. The difference from the current communication data is that the first digit is a number, not "≡".
Err0	USB configuration file parsing exception
Err1	Factory test file parsing exception
Err1	Factory test file parsing exception

## 3 ETAP04 Agent use

### 3.1 Main interface

The main interface of ETAP04 Agent is shown below:

The main interface includes four areas, as well as the number of connections, language, version number, etc:

- 1 Server information: including server address, port and test;
- 2 Store configuration information: including store number, network allocation method (and network configuration), automatic configuration, network card selection and export configuration content;
- 3 Base station list: displays the configuration information, status and remote access of the base station;

- 4 Toolbox: including OTA, special broadcast instructions and factory inspection.
- 1 It also includes:
  - 2 Number of connections: Displays all BTSs in the current LAN. When the configuration information of all BTSs meets the settings of the configuration target, show as GREEN, When one or more conflicts or errors exist, show as **Orange red**;
  - 3 Language: English (EN) and Simplified Chinese (Chinese) are supported;
  - 4 Version number, copyright and author information.

## 2.3 Parameter Configuration Description

The current version of ETAP04 has the following configuration parameters:

Parameter name	Parameter Description
ID	ID, base station ID, 2 digits for compatibility with previous systems
Group	Shop Code, Store number, 4 digits for compatibility with previous systems
Firmware	Firmware. In fact, this is a read-only parameter, ETAP04 will be read according to its own DLL version number when it starts
SeverIP	Target server IP address
ServerPort	Server Port Default is 9071
<i>--ProxyPort</i>	<i>ETAP04 Agent port, default 9072, Do not modify at will</i>
AutoIP	Distribution network mode: 0-Automatic acquisitionIP, 1&2- According to the fixed address below
LocalIP	Local IP address, Effective when Auto IP is 1 or 2
SubnetMask	Subnet mask, Effective when AutoIP is 1 or 2
Gateway	Gateway address, Effective when AutoIP is 1 or 2
DNS1	Preferred DNS proxy address
DNS2	Secondary DNS proxy address
<i>--ServiceName</i>	<i>Service name, No setting required</i>
<i>--AppPath</i>	<i>Program path, No setting required</i>
<i>--UpdatePath</i>	<i>Update path, ncluded in the recording image</i>
<i>--BackupPath</i>	<i>Backup path, ncluded in the recording image, Anti rollback</i>
<i>--LogPath</i>	<i>Log path, ncluded in the recording image</i>
<i>--CleanDays</i>	<i>Log retention days, the scheduled task has been used instead, Included in the recording image</i>
<i>--AutoHeartBeat</i>	<i>Whether the heartbeat is automatic</i>
<i>--HeartbeatSpeed</i>	<i>Heartbeat rate, default 60 seconds/1 minute</i>
<i>--Encoding</i>	<i>Encoding mode, default ASCII encoding</i>
<i>--LastConfig</i>	<i>The last configuration time is used by the configuration program without modification</i>

*Note: The default settings mean that these configurations have been included in the system image, and the implementation personnel do not need to change them.*

## 2.4 Description of distribution network mode

Note: Before selecting the distribution network mode, the implementation personnel should confirm the correct network configuration mode with the network administrator of the network where the project is located.

ETAP04 supports three network configuration modes:

1. DHCP method is used for automatic acquisition of IP addresses;
2. Specify an available IP address range and automatically assign IP addresses;
3. The IP address is configured manually.

### 2.4.1 Automatic acquisition

Set IP address assignment to get automatically.

### 2.4.2 Automatic Area Allocation

Set IP address assignment to automatic zone assignment.

When set the IP range start, IP range end, subnet mask and default gateway in the automatically popped up Network Configuration dialog box.

Note: For the number of available IP addresses within the IP range, you need to confirm the actual number of ETAP04 BTSs by yourself, and the IP number segments need to be consistent. For example, the IP address range of 192.168.1.20 to 192.168.1.30 is reasonable, and there are 11 available IP addresses. However, 192.168.1.20 to 192.168.2.30 are invalid because they are not in a number segment.

Note: Manually configure DNS options unless required.

### 2.4.3 Manual Assignment

Set IP address assignment to manual assignment.

Then set the subnet mask and default gateway in the automatically popped up "Network Configuration" dialog box.

Note:

1. Manually configure DNS options unless required.
2. After manual assignment of network IP addresses is selected, automatic configuration cannot be selected .



The screenshot shows a 'network configuration' window with the following elements:

- IP assignment:** Two radio button options: '1. Obtain IP address automatically' (unselected) and '2. Assign IP addresses in the following range' (selected).
- IP Range Start:** A four-field numeric input box with a red border.
- End of IP Range:** A four-field numeric input box with a red border.
- 3. Set static IP address manually:** An unselected radio button option.
- Note:** Text stating '2 and 3 need to set the following:'.
- Subnet mask:** A four-field numeric input box with a red border.
- Default Gateway:** A four-field numeric input box with a red border.
- DNS Settings:** A checkbox for 'Manual setting' (unchecked).
- Preferred DNS Server:** A four-field numeric input box.
- Secondary DNS server:** A four-field numeric input box.
- Buttons:** 'cancel' and 'determine' buttons at the bottom.

## 2.5 Description of automatic configuration

As mentioned earlier, automatic configuration includes automatic ID allocation, automatic IP allocation (or automatic area allocation mode) and parameter configuration.

Herefore, you need to set:

- 1 IP address assignment mode: automatic acquisition or automatic region assignment;
- 2 Automatic ID allocation: Yes;
- 3 Automatic configuration: Yes;
- 4 Network: the network card located in the same LAN as the ETAP04 base station to be configured.

## 2.6 Manual Configuration Instructions

ETAP04. Agent provides manual configuration if neither automatic configuration nor automatic region assignment is applicable. In this mode, you need to manually configure ETAP04 one by one, and carefully check to ensure that the parameters will not be wrong and conflict repeatedly.

## 2.7 USB flash disk configuration description

In case of emergency, if the implementer does not have the corresponding equipment or

network environment and cannot configure the ETAP04 through network configuration, it can be configured through USB flash disk.

Before starting USB flash disk configuration, you need to prepare the following:

1. A USB flash disk, a single partition, and the file format is NTFS. If there are important data files in the USB flash disk, please backup them properly to avoid loss.
2. The USB flash disk cannot have a file with the same name: ETAP04Config.txt and any 12 bit hex file, ETAP04 and ETAP04.Agent can read or written this type of file.

The configuration file contents are as follows:

```
eStationConfig.txt
1 ServerIP:192.168.1.92
2 ServerPort:9071
3 ShopCode:0001
4 ID:00
5 IPType:1
6 IP:192.168.1.101
7 IPFrom:192.168.1.100
8 IPTo:192.168.1.120
9 Subnet:255.255.255.0
10 Gateway:192.168.1.1
11 DNS1:
12 DNS2:
```

The specific contents of USB flash disk configuration are as follows:

Key value	meaning	remarks
ServerIP	Target server IP address	
ServerPort	Target Server Port	
ID	ETAP04 ID	00: Obtain ID automatically, increasing according to the configured quantity Other: Explicitly specify ID
IPType	IP collocation method, 0/1/2	0: Obtain IP address automatically, 1: Automatically sort and allocate within the given IP starting range, 2: Specify address
IP	ETAP04 IP	When IPType=2 is Valid
IPFrom	ETAP04 ETAP04 IP value range start	When IPType=1 is Valid
IPTo	ETAP04 End of IP value range	When IPType=1 is Valid
Subnet	Subnet mask	When IPType=1/2 is Valid
Gateway	gateway	When IPType=1/2 is Valid
DNS1	DNS1	Valid when DNS address is enabled in proxy mode
DNS2	DNS2	Valid when DNS address is enabled in proxy mode

When the USB stick is inserted, the nixie tube will display "FILE". When the update starts, it will display "COFG". After the update, it will restart and display "boot".

be careful:

The timeliness of the USB flash disk configuration will only exit the configuration within about ten minutes after the ETAP04 is powered on and started, and it should be powered on again.

After inserting the USB flash disk, the system will exit the configuration when it finds that the configuration file is consistent with the existing configuration parameters. At this time, if you need to configure again, you need to power on again.



## Caution

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.