



# **Yealink W80 DECT IP Multi-Cell System Administrator Guide**

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## Summary of Changes

This section describes the changes to this guide for each release and guide version.

### Changes for Release V83, Guide Version V83.80

The following sections are new for this version:

- [Emergency Alarm](#)
- [Hearing Aid Compatibility \(HAC\) Volume Control Configuration](#)
- [Account Registration File Customization](#)
- [Account Registration File Upload](#)
- [Device Management](#)
- [Obtaining the DM IP Address via DHCP Option 43](#)
- [Finding the MAC Address and IP Address of the Device](#)
- [Web Page Display](#)

Major updates have occurred to the following section:

- [Web Statistics](#)



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# W80 DECT IP Multi-Cell System Introduction

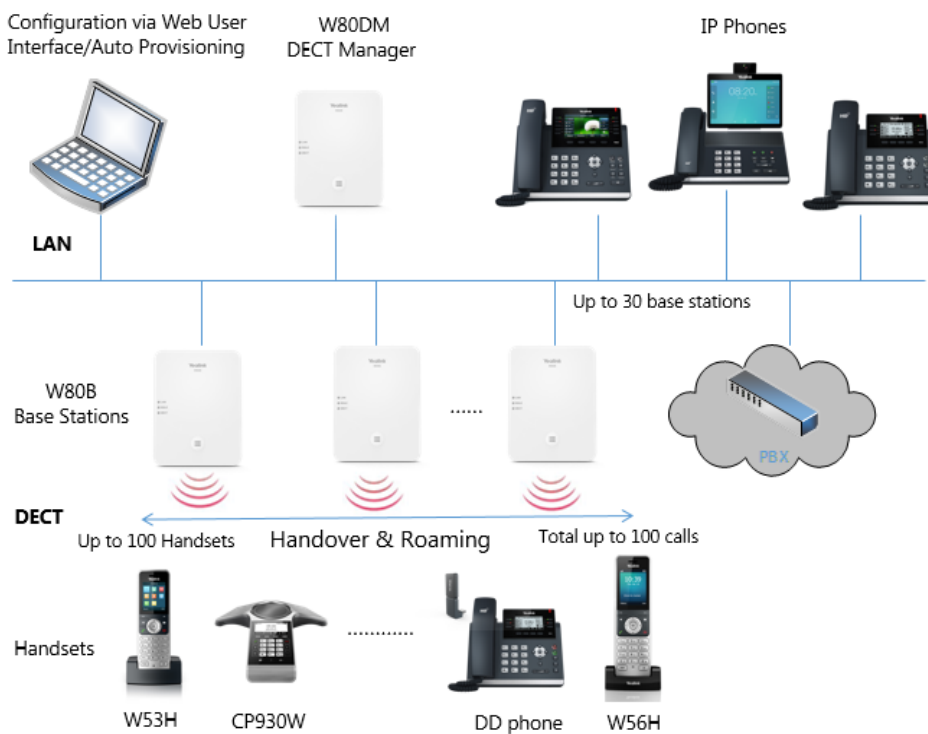
The DECT IP multi-cell system is used for connecting multiple DECT base stations to a VoIP PBX. It supports the roaming & handover feature, and provides a wider DECT signal coverage, and more handsets and simultaneous calls than the single-cell.

## Topics

- [Components of the DECT IP Multi-Cell System](#)
- [Deployments of the DECT IP Multi-Cell System](#)
- [Related Documentations](#)

## Components of the DECT IP Multi-Cell System

The following illustration shows the components of the DECT IP multi-cell system and the way the system is embedded in the IP phone environment:



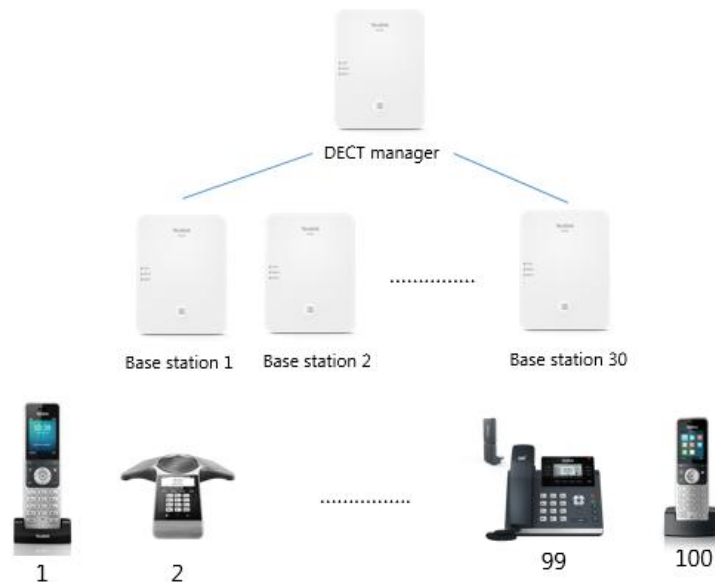
Components	Description
W80DM DECT Manager (sometimes just referred to as DM)	Management unit for a group of base stations. At least one DECT manager must be used for each installation. <ul style="list-style-type: none"> <li>• Manages base stations synchronization within the clusters.</li> <li>• Enables the account registration and centrally stores the account configuration.</li> <li>• Enables centralized configuration and deployment.</li> </ul>
W80B Base Stations	Up to 30 base stations can be supported by one DECT manager. <ul style="list-style-type: none"> <li>• Provide cell site DECT features.</li> <li>• Provide media processing from handsets directly towards PBX.</li> <li>• Provide connection channels for the handsets, the number depends on various factors such as the approved bandwidth.</li> </ul>



Components	Description
Handsets (Mobile Devices)	Up to 100 handsets can be supported by one DECT manager. Up to 100 DECT calls can be made simultaneously for VoIP call. Subscribers can accept or initiate calls in all base stations with their handsets ( <b>Roaming</b> ), and can also switch handsets DECT connection between the base stations during a call ( <b>Handover</b> ). A handover is only possible if base stations are synchronized.
PBX	IP PBX or Provider with VoIP (SIP) connections. <ul style="list-style-type: none"> <li>Establishes the connection to a public phone network.</li> <li>Enables the centralized management of phone connections, remote phone book, and voice mail.</li> </ul>

## Deployments of the DECT IP Multi-Cell System

The DECT IP multi-cell system can be deployed in the multi-story office building, supermarket, store, warehouse, hotel, and so on.



Device	Description
W80DM DECT Manager	At least one
W80B Base Stations	Up to 30 per DECT manager
Handsets (Mobile Devices)	Up to 100 per DECT manager

## Related Documentations

The following related documents are available:

- Quick Start Guide, describes how to install the W80DM/W80B and obtain the device's IP address.
- User Guide, describes how to configure and use the basic and advanced features available in the DECT IP multi-cell system.
- Deployment Guide, explains the necessary preparatory work for the installation and describes how to carry out measurements in order to find the best positions for your base stations.

For support or service, please contact your Yealink reseller or go to Yealink Technical Support online: <http://support.yealink.com/>.

Read the [Yealink Products Regulatory Notices guide](#) for all regulatory and safety guidance.

## First Steps

This chapter provides the information you need to prepare to configure your multi-cell system at the DECT manager.

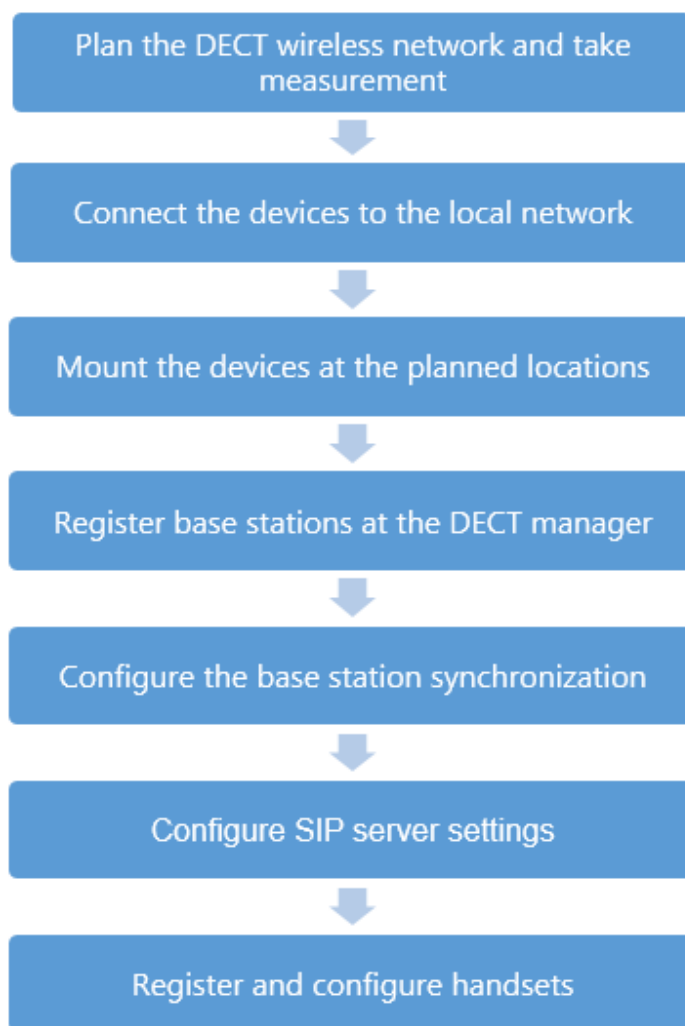
### Topics

[Preparing to Use the Multi-Cell System](#)

[Defining the Device Role](#)

[Configuring the System via Web User Interface](#)

## Preparing to Use the Multi-Cell System



## Defining the Device Role

The W80DM is shipped as a DECT Manager (DM) and the W80B is shipped as a base station.

The W80DM/W80B device supports the following roles:

- **Base:** The device works as a base station. You can configure the IP address of the DM via the web user interface or RPS.

- **DM:** The device works as a DECT manager.

If you want to change the device role of the W80DM/W80B, you can upgrade the firmware.

### Related Topics

[Firmware Upgrade](#)

## LED Indicators on the W80DM/W80B

**LAN LED:** indicates the LAN connection status.

LAN LED	Description
Green	Successful connection to LAN
Slowly flashing green (1s)	No connection to LAN or no IP address available/ assigned
Off	Power off

**ROLE LED:** indicates the device role.

ROLE LED	Description
Orange	Device role: <b>DM</b> .
Green	Device role: <b>Base</b> .
Slowly flashing orange (1s)	Active calls in the system

**DECT LED:** indicates the connection status to the DM.

DECT LED	Description
Green	Successful connection to DM, status: <b>Active and synced</b>
Off	Successful connection to DM, status: <b>Active, Deactive, or Offline</b>
Slowly flashing green (1s)	Active calls on the base station

**LED indicators** (some common status)

LAN LED	ROLE LED	DECT LED	Description
Slowly flashing green (1s)	Green	Off	Device role: <b>Base</b> , no connection to LAN
Slowly flashing green (1s)	Orange	Off	Device role: <b>DM</b> , no connection to LAN
Green	Green	Green	Synchronized, status: <b>Active and synced</b>
Green	Green	Off	Not synchronized, status: <b>Active, Deactive, or Offline</b>
Green	Green	Slowly flashing green(1s)	Successful connection to DM, active calls on the base station

LAN LED	ROLE LED	DECT LED	Description
Green	Orange	Green	First-level base station connected
Green	Orange	Off	No connected base on the DM
Green	Slowly flashing orange (1s)	Green	Active calls in the system
Fast flashing green (0.5s)	Fast flashing green(0.5s)	Fast flashing green (0.5s)	Firmware update in progress

## Finding the MAC Address and IP Address of the Device

You can find the MAC address and IP address of all Yealink DECT devices in the LAN through a PC scanning tool - Yealink Discovery Tool. Ask the distributor or Yealink FAE for the tool.

### Procedure

1. Run the scanning tool.
2. Enter the IP search rules.



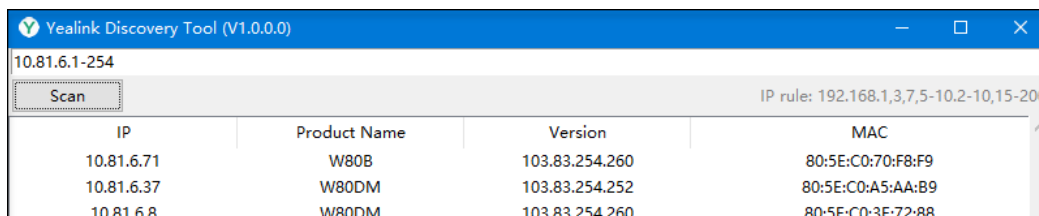
### Follow the following rules:

**The first two digits:** match the first two digits of your IP network segment.

**The last two digits:** indicate the search rule for the last two digits of the IP network segment. The dash “-” can be used to match a range of digits. The comma “,” can be used as a separator.

### Example:

- a. Enter 10.81.6.1-254 to search all network segments with 10.81.6.xx;
  - b. Enter 10.81.1,6.1-254 to search all network segments with 10.81.1.xx and 10.81.6.xx.
3. Click **Scan**.



## Configuring the System via Web User Interface

System settings are made via the web user interface of the W80DM and cannot be changed using the handsets.

This applies in particular for:

- De-registering the handset at the phone system.
- Renaming the handset.
- All settings for the VoIP account used by a handset for calls.
- Rebooting or restarting the base station.
- Configuration of the remote phone book.

Handset-specific settings are changed on your handset individually. For example, language, wallpaper, ring tones, and volume.

### Topics

[Accessing Web User Interface](#)

[Navigating the Web User Interface](#)

[Logging out of the Web User Interface](#)

## Accessing Web User Interface

You can configure and manage features of the multi-cell system via the web user interface.

When configuring via the web user interface, you require a user name and password for access. For a user - who has only limited access to some settings, the default user name and password are "user" (case-sensitive). For an administrator - who has unlimited access to call features of the web user interface, the default user name and password are "admin" (case-sensitive).

### Procedure

1. Find the current IP address of the device.
2. Open a web browser on your computer, enter the IP address into the address bar (for example, "https://192.168.0.10" or "192.168.0.10"), and then press the **Enter**.
3. Enter the user name and password on the login page and click **Login**.

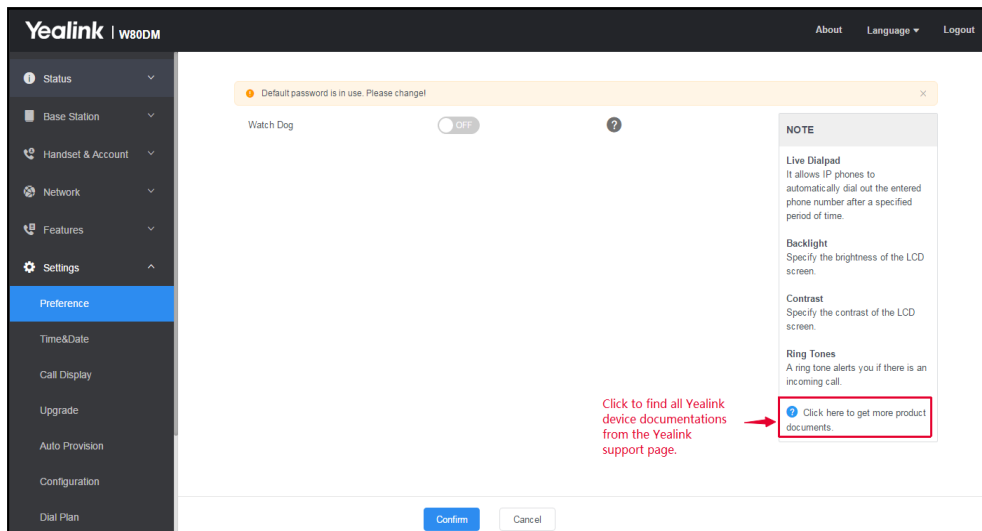
### Related Topics

[Accessing Web User Interface](#)

## Navigating the Web User Interface

When you log into the web user interface successfully, the device status is displayed on the first page of the web user interface.

The following figure is an example when you navigate to **Settings > Preference**:



## Logging out of the Web User Interface

By default, the device will automatically log out of the web user interface after five minutes of inactivity. You can also manually log out of the web user interface.

### Procedure

1. Click **Logout** at the top right of each web page.

---

# Initialization Instructions

This chapter provides basic initialization instructions of devices.

## Topics

[Initialization Process Overview](#)

[Verifying Startup](#)

## Initialization Process Overview

The initialization process of the device is responsible for network connectivity and operation of the device in your local network. Once you connect your device to the network and to an electrical supply, the device begins its initialization process.

## Topics

[Loading the ROM File](#)

[Configuring the VLAN](#)

[Querying the DHCP \(Dynamic Host Configuration Protocol\) Server](#)

[Contacting the Provisioning Server](#)

[Updating Firmware](#)

[Downloading the Resource Files](#)

## Loading the ROM File

The ROM file resides in the flash memory of the device. The device comes from the factory with a ROM file pre-loaded. During initialization, the device runs a bootstrap loader that loads and executes the ROM file.

## Configuring the VLAN

If you connect the device to a switch, the switch notifies the device of the VLAN information defined on the switch (if using LLDP or CDP). The device can then proceed with the DHCP request for its network settings (if using DHCP).

## Querying the DHCP (Dynamic Host Configuration Protocol) Server

The device is capable of querying a DHCP server.

After establishing network connectivity, the device can obtain the following network parameters from the DHCP server during initialization:

- IP Address
- Subnet Mask
- Default Gateway
- Primary DNS (Domain Name Server)
- Secondary DNS

By default, the devices obtain these parameters from a DHCPv4. You can configure network parameters of the device manually if any of them are not supplied by the DHCP server.

## Contacting the Provisioning Server

If you configure the device to obtain configurations from the provisioning server, it will be connected to the provisioning server, and then download the boot file and configuration file(s) during startup. The device will be able to resolve and update configurations written in the configuration file(s). If the device does not obtain configurations from the provisioning server, it will use the configurations stored in the flash memory.

## Updating Firmware

If you define the access URL of firmware in the configuration file, the device will download the firmware from the provisioning server. If the MD5 value of the downloaded firmware file differs from that stored in the flash memory, the



device will perform a firmware update.

You can manually upgrade the firmware if the device does not download the firmware from the provisioning server.

## Downloading the Resource Files

In addition to the configuration file(s), the device may require resource files before it provides service. These resource files are optional, but if you deploy some particular features, these files are required.

## Verifying Startup

After connected to the power and available network, the LAN LED indicator glows green. As a base station, the ROLE LED indicator glows green; as a DECT manager, the ROLE LED indicator glows orange.

## Setting up the Base Stations

The W80B device must be registered to the DM for normal use.

In the multicast network, the DM automatically recognizes the base stations within the network. In the non-multicast network, the DM recognizes the base stations only when the IP address of DM is configured to the base stations via the web user interface, RPS, or DHCP option.

After recognized, the base stations need to be registered, activated, and synchronized.

### Topics

[Base Station Pre-registration](#)

[DM IP](#)

[Base Station Settings](#)

[Base Station Synchronization](#)

## Base Station Pre-registration

In the multicast network, you can pre-register all base stations at the DM. After that, the base stations will be automatically registered at the DM once being detected in the network.

If the detected base station has not been pre-registered at the DM, you need to manually register the base stations via the web user interface.

### Topics

[Base Station Pre-registration Configuration](#)

[Manually Registering Base Stations to the DM](#)

## Base Station Pre-registration Configuration

The following table lists the parameters you can use to pre-register the base station.

<b>Parameter</b>	station.allowed.X.mac <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It sets the MAC address of the pre-registration base station.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	station.allowed.X.name <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It sets the name of the pre-registration base station.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	station.allowed.X.sync.cluster <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It sets the sync cluster of the pre-registration base station.	
<b>Permitted Values</b>	Integer from 1 to 10	


<b>Default</b>	Blank	
<b>Parameter</b>	station.allowed.X.sync.level <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It sets the sync level of the pre-registration base station.	
<b>Permitted Values</b>	Integer from 1 to 10	
<b>Default</b>	Blank	

[1]X is the pre-registration ID. X=1-30.

## Manually Registering Base Stations to the DM

You are allowed to manually register the base stations to the DM in the base station standby list.

### Procedure

1. Access the web user interface of the device.
2. Go to **Base Station > Base Station Registration**.
3. Click  next to the base station.
4. Complete the corresponding information of the base station, and click **OK**.  
The base station is successfully registered to the DM.

### Related Topic

[Accessing Web User Interface](#)

## DM IP

In the non-multicast network, the DM can detect and connect the base station only when you have configured the IP address of the DM on the W80B base station.

The W80B base station can also dynamically receive the DM IP address via DHCP option 43 and then automatically connect to the DM.

**Note:** You can configure the IP address of the DM for all base stations using RPS.

### Topics

[DM IP Configuration](#)

[Obtaining the DM IP Address via DHCP Option 43](#)

## DM IP Configuration

The following table lists the parameter you can use to configure the DM IP.

<b>Parameter</b>	features.dect_management.ip_address	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address of the DM.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Status > Base Mode > DM IP	

## Obtaining the DM IP Address via DHCP Option 43

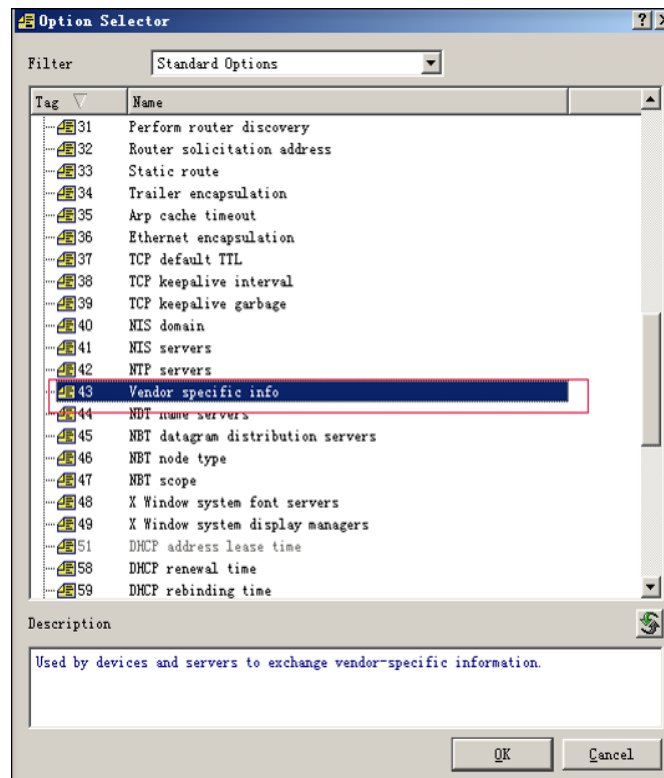
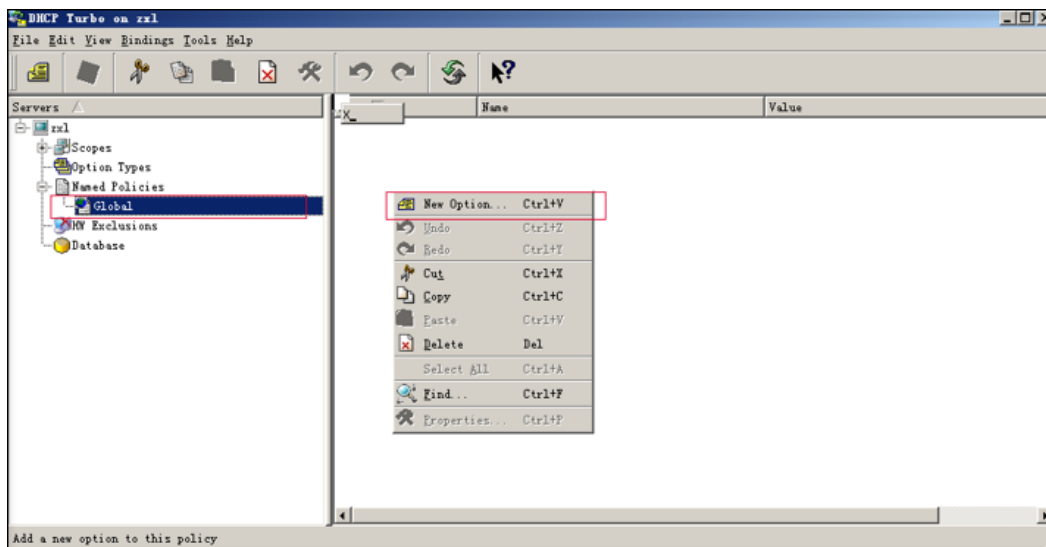
You can configure the value of option 43 on the DHCP server as the DM IP address. The base reads the value of option 43 and the obtained IP address is automatically filled in the "DM IP" configuration.

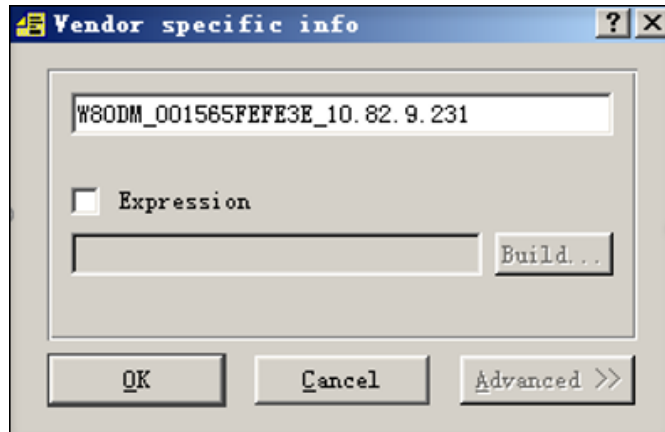
### Before you begin

The base obtains IP address through DHCP instead of static IP.

### Procedure

1. Configure option 43 on the DHCP server.



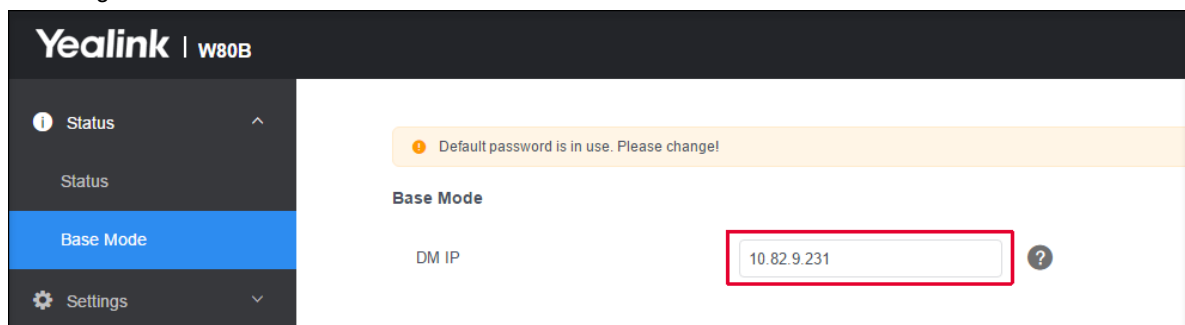


The valid format of the configuration value: **W80DM\_DMMAC\_DMIP**, for example: W80DM\_001565FEFE3E\_10.82.9.231.

**Note:** If you need to configure the option 43 for both DM IP and provisioning server address, the valid format is **http://192.168.10.25/W80DM\_001565FEFE3E\_10.82.9.231\_W80DM** or **http://192.168.10.25/W80DM\_001565FEFE3E\_10.82.9.231\_W80DM.cfg**, that is, the directory name of the configuration file or the file name is "W80DM\_001565FEFE3E\_10.82.9.231\_W80DM".

2. Connect the base to the network in the DHCP environment.

While obtaining the IP address, base can read the DM IP address in option 43 and automatically fill it into "DM IP" configuration.



## Base Station Settings

You can modify all settings of the registered base stations at the DECT manager.

### Topics

- [Base Station Settings Configuration](#)
- [Managing the Connected Base Stations](#)

## Base Station Settings Configuration

The following table lists the parameters you can use to modify the base station settings.

<b>Parameter</b>	station.X.name <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It sets the name of the base station.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Base station X	

<b>Web UI</b>	Base Station > Base Station Settings > Edit > Name / Location	
<b>Parameter</b>	station.X.sync.cluster <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It sets the sync cluster to which the base station belongs.	
<b>Permitted Values</b>	Integer from 1 to 10	
<b>Default</b>	1	
<b>Web UI</b>	Base Station > Base Station Settings > Edit > Cluster	
<b>Parameter</b>	station.X.sync.level <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It sets the sync level of the base station.	
<b>Permitted Values</b>	Integer from 1 to 10	
<b>Default</b>	1	
<b>Web UI</b>	Base Station > Base Station Settings > Edit > Sync Level	
<b>Parameter</b>	station.X.sync.type <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It sets the sync type of the base station.	
<b>Permitted Values</b>	0-Disabled 2-Over the air synchronization	
<b>Default</b>	2	
<b>Parameter</b>	station.X.active <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It triggers the active base station feature to on or off.	
<b>Permitted Values</b>	0-OFF 1-ON	
<b>Default</b>	1	
<b>Web UI</b>	Base Station > Base Station Settings > Edit > Active Base Station	
<b>Parameter</b>	static.station.X.network.type <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the type of network.	
<b>Permitted Values</b>	0-DHCP 2-Static IP	
<b>Default</b>	0	
<b>Web UI</b>	Base Station > Base Station Settings > Edit > IP Address Type	
<b>Parameter</b>	static.station.X.network.ip <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IPv4 address. <b>Note:</b> It works only if "static.station.X.network.type" is set to 2 (Static IP).	

<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Base Station > Base Station Settings > Edit > IP Address	
<b>Parameter</b>	static.station.X.network.mask <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IPv4 subnet mask. <b>Note:</b> It works only if "static.station.X.network.type" is set to 2 (Static IP).	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Base Station > Base Station Settings > Edit > Subnet Mask	
<b>Parameter</b>	static.station.X.network.gateway <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IPv4 default gateway. <b>Note:</b> It works only if "static.station.X.network.type" is set to 2 (Static IP).	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Base Station > Base Station Settings > Edit > Default Gateway	

<sup>[1]</sup>X is the registration location ID. X=1-30.

## Managing the Connected Base Stations

You can edit the data for a base station or manage a base station that is already registered to the DM.

You can customize the following information of the connected base stations:



Item	Description
<b>Base Station</b>	Name of the base station. When added to the list, <b>Base Station X</b> (X ranges from 1 to 30) is used as the name.
<b>RPN</b>	Radio Fixed Part Number. The base station identity allocated by the DECT system. <b>Note:</b> This cannot be edited.
<b>Cluster</b>	Number of the cluster to which the base station belongs.
<b>Sync Level</b>	Sync level within the sync hierarchy.
<b>Status</b>	Synchronization status of the base station. <ul style="list-style-type: none"> <li>• <b>Offline:</b> not available.</li> <li>• <b>Deactive:</b> available but not activated.</li> <li>• <b>Active:</b> activated but not synchronized.</li> <li>• <b>Active and synced:</b> activated and synchronized.</li> </ul>
<b>Active</b>	Activates or deactivates the base station. <b>Note:</b> A base station must be active to manage calls of the connected handsets. If it is deactivated, it will no longer connect handsets but it still stays in the list of connected base stations.

## Procedure


1. You can do the following:

- Select **ON** or **OFF** to activate or deactivate the base station.

**Note:** Please ensure that the base station you want to deactivate is not with sync level 1. Check your sync settings before deactivating the base station. Otherwise, your system may no longer work properly.

- Click  , and enter a descriptive name, assign the cluster, and set the sync level for the base station.
- Click  and select **OK** to reboot the base station.

All existing connections managed by the base station are terminated.

- Click  and select **OK** to delete the base station.
- Click **Reboot All** to reboot all connected base stations.

## Base Station Synchronization

Base station synchronization is the prerequisite for the functioning of the multi-cell system, inter-cell handover, and overload balancing. Overload balancing means that a handset can roam to another available base when the current base is fully loaded and cannot accept further handset connections.

Base stations can be synchronized "over the air", meaning that they are synchronized via DECT.

**Note:** Synchronization always refers to a cluster. In case you set up several clusters that are not synchronized with one another, there will be no possibility of a handover or overload balancing between them.

### Topic

#### Synchronization Planning

## Synchronization Planning

Base stations in the multi-cell system must synchronize with one another to ensure a smooth transition of the handsets from cell to cell (handover). No handover and no overload balancing are possible between cells that are not synchronized.

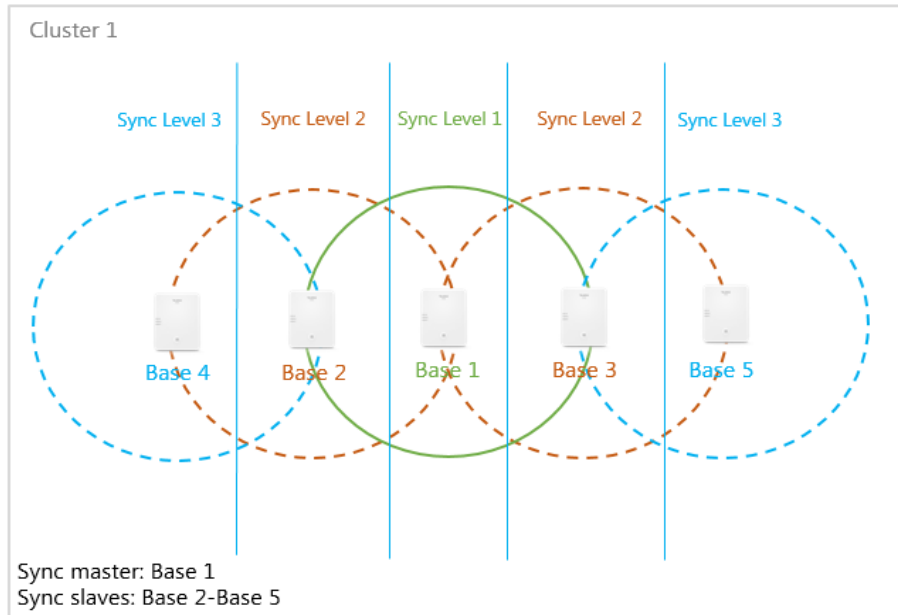
The synchronization within a cluster takes place in a master/slave procedure. It means that one base station (sync master) defines the synchronization cycle for one or more additional base stations (sync slaves). A base station can synchronize with each base station on a higher sync level. The sync level concept allows base stations to automatically select the best suitable base station (having a lower sync level number) to receive synchronization signal from.

During configuration, assign one sync level to each base. Sync level 1 is the highest level, which is the level of the sync master and appears only once in each cluster. A base station always synchronizes itself with a base station that has a better sync level. If it sees several base stations with a better sync level, it synchronizes itself with the base station that provides the best signal quality. If it does not see any base station with a higher sync level, it cannot synchronize.

To ensure the synchronization, you should plan the level 1 base station in the center as much as possible, and place the next sync level's base stations around the center.

The following is an example of a synchronization scenario:





# Managing the Handsets

You can use the web user interface to register all handsets or delete them from the multi-cell system.

## Topics

[Registering Handsets via Web User Interface](#)

[IPUI Registration](#)

[Handset Registration Center](#)

[De-registering a Handset](#)

## Registering Handsets via Web User Interface

### Procedure

1. Access the web user interface of the DM.
2. Go to **Handset & Account > Handset Registration**.
3. Click **Add Handset**.
4. Click **Start Register Handset** to set the DM to the registration mode.
5. On the handset, do one of the following:
  - Press the **Reg** soft key on the handset to register quickly.
  - Press **OK > Register Handset** and then select the desired base to register the handset.
  - Press **OK > Settings > Registration > Register Handset** and then select the desired base to register the handset.

On the DD phone, navigate to **Menu > Settings > Registration > Register Handset**.

After registration, the handset prompts "Handset Subscribed".

**Note:** The default base PIN is 0000.

### Related Topic

[Accessing Web User Interface](#)

## IPUI Registration

You can register handsets in batches by the IPUI code.

### Topics

[Obtaining the IPUI Code of the Handset](#)

[Notes on Configuring IPUI](#)

[IPUI Code Configuration](#)

## Obtaining the IPUI Code of the Handset

IPUI is a random code that includes 10 characters mixed with numbers and letters.

There are three ways to obtain the IPUI code:

- **Handset UI:** on the W56H/W53H/W59R handset, go to **OK > Status > Handset > IPUI Code**; on the CP930W, go to **Menu > Status > Phone Status > IPUI Code**; on the DD phone, go to **Menu > Status > Dongle Status > IPUI Code**.
- **Giftbox:** Obtain it from the sticker label on the handset's giftbox.
- **Shipping system:** Check it in the shipping system.

## Notes on Configuring IPUI

A few notes you should know when registering handsets using IPUI code:

- The registration status will not be disabled automatically if you enable it by "handset.X.reg.enable".
- If you duplicate the IPUI code during the configuration, only the IPUI with the smaller handset number takes effect.
- If you configure another IPUI code for another handset but the handset number is the same as an existing one, the existing IPUI will be overwritten.
- If you configure the IPUI code for the registered handset, the handset will be unregistered.
- When the handset is deleted, the handset and its IPUI code will be deleted at the same time.
- You cannot directly modify the IPUI code via the web user interface. The IPUI code can only be modified via auto provisioning, or re-entered after deleted via the web user interface.

## IPUI Code Configuration

The following table lists the parameters you can use to import the IPUI code.

<b>Parameter</b>	handset.X.reg.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the registration status for handset X. <b>Note:</b> The value of X corresponds to that of "account.X.user_name". When the IPUI code is invalid or not configured, the registration status cannot be enabled by this parameter.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset > Start Register Handset	
<b>Parameter</b>	handset.X.ipui <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the IPUI code of handset X. <b>Note:</b> The IPUI code is not case sensitive.	
<b>Permitted Values</b>	String within 10 characters (only contain numbers and letters)	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset > IPUI	

<sup>[1]</sup>X is the handset ID. X=1-100.

### Related Topics

[Obtaining the IPUI Code of the Handset](#)

## Handset Registration Center

The registration center allows you to register groups of handsets in one registration process. During this time, the system will automatically register the handset and assign the corresponding account according to the IPUI code.

You can find the following information from the registration center:

- **Total Handsets:** Shows how many handsets are registered in the current system.
- **Registered Handsets:** Shows how many handsets are registered through the registration center this time
- **Current Time:** Shows the current system time. It is updated in real time.

### Topics

[Registering Handsets Time-Controlled](#)  
[Registering Handsets at Once](#)  
[Manually Closing the Registration](#)

## Registering Handsets Time-Controlled

A registration process is started automatically according to the time you set.

### Procedure

1. Access the web user interface of the DM.
2. Go to **Handset & Account > Registration Center**.
3. In the **Registration Start Time** field, enter the time when the next registration process should be started.  
Valid value: at least 1 minute later than the current time but no more than 24 days.

3. In the **Registration Duration** field, enter the duration that the DM should stay in registration mode.  
Default: 3 minutes.
4. Click **Confirm**.

### Related Topic

[Manually Closing the Registration](#)

## Registering Handsets at Once

### Procedure

1. Access the web user interface of the DM.
2. Go to **Handset & Account > Registration Center**.
3. In the **Registration Duration** field, enter the duration that the DM should stay in registration mode.  
Default: 3 minutes.
4. Click **Start Now**.

The DM starts registration at once.

### Related Topic

[Manually Closing the Registration](#)

## Manually Closing the Registration

When the time is up, the system will automatically disable the registration status. You can also manually close the registration.

### Procedure

1. Click **Close**.  
The screen prompts you whether to close the registration.
2. Click **OK**.


### Related Topic

[Registering Handsets Time-Controlled](#)

## De-registering a Handset

You can only delete a handset from the multi-cell system via the web user interface.

### Procedure

1. Access the web user interface of the DM.
2. Go to **Handset & Account > Handset Registration**.
3. Click  .
4. Click **OK** to delete a handset.  
All registration information for the handset is deleted.

## Account Settings

This chapter shows you how to register accounts and configure account settings on Yealink devices.

### Topics

[Account Registration](#)  
[Outbound Proxy in Dialog](#)  
[Server Redundancy](#)  
[SIP Server Name Resolution](#)  
[Static DNS Cache](#)  
[Number of Active Handsets Per Base](#)

## Account Registration

Any handset must get assigned an individual SIP account. After registering the handset to the system, the handset can be assigned an account for receiving and sending VoIP connection.

### Topics

[Supported Accounts](#)  
[SIP Server Template Configuration](#)  
[Accounts Registration Configuration](#)  
[Registration Settings Configuration](#)  
[Account Registration File Customization](#)  
[Account Registration File Upload](#)

## Supported Accounts

The number of registered accounts must meet the following:

Registered Accounts on W80DM	Assigned Account per Handset
100	Only one

## SIP Server Template Configuration

You can use up to ten different SIP servers in the system. You can pre-configure up to 10 SIP server templates for choose when registering SIP accounts.

The following table lists the parameters you can use to configure the SIP server template.

<b>Parameter</b>	template.X.name <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It sets the name of the SIP server template.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > Template Name	
<b>Parameter</b>	template.X.sip_server.Y.address <sup>[1][2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address or domain name of the SIP server Y in which the account is registered.	
<b>Permitted</b>	String within 64 characters	

<b>Values</b>	
<b>Default</b>	Blank
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > SIP Server Y <sup>[2]</sup> > Server Host
<b>Parameter</b>	template.X.sip_server.Y.port <sup>[1][2]</sup> <y0000000000xx>.cfg
<b>Description</b>	It configures the port of SIP server Y.
<b>Permitted Values</b>	Integer from 0 to 65535
<b>Default</b>	5060
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > SIP Server Y <sup>[2]</sup> > Port
<b>Parameter</b>	template.X.sip_server.Y.transport_type <sup>[1][2]</sup> <y0000000000xx>.cfg
<b>Description</b>	It configures the type of transport protocol.
<b>Permitted Values</b>	<p>0-UDP</p> <p>1-TCP</p> <p>2-TLS</p> <p>3-DNS-NAPTR, if no server port is given, the device performs the DNS NAPTR and SRV queries for the service type and port.</p>
<b>Default</b>	0
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > SIP Server Y <sup>[2]</sup> > Transport
<b>Parameter</b>	template.X.sip_server.Y.expires <sup>[1][2]</sup> <y0000000000xx>.cfg
<b>Description</b>	It configures the registration expiration time (in seconds) of SIP server Y.
<b>Permitted Values</b>	Integer from 30 to 2147483647
<b>Default</b>	3600
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > SIP Server Y <sup>[2]</sup> > Server Expires
<b>Parameter</b>	template.X.sip_server.Y.retry_counts <sup>[1][2]</sup> <y0000000000xx>.cfg
<b>Description</b>	<p>It configures the retry times for the device to resend requests when the SIP server Y is unavailable or there is no response from the SIP server Y.</p> <p>The handset moves to the next available server after three failed attempts.</p>
<b>Permitted Values</b>	Integer from 0 to 20
<b>Default</b>	3
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > SIP Server Y <sup>[2]</sup> > Server Retry Counts
<b>Parameter</b>	template.X.outbound.enable <sup>[1]</sup> <y0000000000xx>.cfg
<b>Description</b>	It enables or disables the device to send requests to the outbound proxy server.

<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > Enable Outbound Proxy Server	
<b>Parameter</b>	template.X.outbound.Y.address <sup>[1][2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address or domain name of the outbound proxy server Y. <b>Note:</b> It works only if “template.X.outbound.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Base Station > SIP Server Settings > Edit > Outbound Proxy Server Y <sup>[2]</sup>	
<b>Parameter</b>	template.X.outbound.Y.port <sup>[1][2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the port of the outbound proxy server Y. <b>Note:</b> It works only if “template.X.outbound.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	5060	
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > Outbound Proxy Server Y <sup>[2]</sup> > Port	
<b>Parameter</b>	template.X.outbound.fallback_interval <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the time interval (in seconds) for the device to detect whether the working outbound proxy server is available by sending the registration request after the fallback server takes over call control.	
<b>Permitted Values</b>	Integer from 30 to 2147483647	
<b>Default</b>	3600	
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > Proxy Fallback Interval	

<sup>[1]</sup>X is the template ID. X=1-10.

<sup>[2]</sup>Y is the server ID. Y=1-2.

## Accounts Registration Configuration

The following table lists the parameters you can use to register accounts.

<b>Parameter</b>	account.X.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It defines the activation status of the account.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Line Active	
<b>Parameter</b>	account.X.label <sup>[1]</sup>	<MAC>.cfg



<b>Description</b>	It configures the display label of the account.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Label	
<b>Parameter</b>	account.X.display_name <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the display name of the account.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Display Name	
<b>Parameter</b>	account.X.auth_name <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the user name for authentication registration.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Register Name	
<b>Parameter</b>	account.X.user_name <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the user name of the account.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Username	
<b>Parameter</b>	account.X.password <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures password of the account.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Password	
<b>Parameter</b>	account.X.sip_server.template <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures which SIP server template to use for registering an account.	
<b>Permitted Values</b>	Integer from 1 to 10	
<b>Default</b>	1	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > SIP Server	
<b>Parameter</b>	account.X.reg_fail_retry_interval <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the re-registration period (in seconds) after the account registration fails.	

	<b>Note:</b> It works only if "account.X.reg_failed_retry_min_time" and "account.X.reg_failed_retry_max_time" are set to 0.	
<b>Permitted Values</b>	Integer from 0 to 1800	
<b>Default</b>	30	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > SIP Registration Retry Timer (0~1800s)	
<b>Parameter</b>	account.X.reg_failed_retry_min_time <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the base time to wait (in seconds) for the phone to retry to re-register after the account registration fails. <b>Note:</b> It is used in conjunction with the parameter "account.X.reg_failed_retry_max_time" to determine how long to wait. The algorithm is defined in RFC 5626. We recommend that you set this value to an integer between 10 to 120 if needed. If the values of this parameter and the parameter "account.X.reg_failed_retry_max_time" are set to 0, the interval configured by "account.X.reg_fail_retry_interval" will be used.	
<b>Permitted Values</b>	Integer greater than or equal to 0	
<b>Default</b>	0	
<b>Parameter</b>	account.X.reg_failed_retry_max_time <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the maximum time to wait (in seconds) for the phone to retry to re-register after the account registration fails. <b>Note:</b> It is used in conjunction with the parameter "account.X.reg_failed_retry_min_time" to determine how long to wait. The algorithm is defined in RFC 5626. We recommend that you set this value to an integer between 60 to 1800 if needed. If the values of this parameter and the parameter "account.X.reg_failed_retry_min_time" are set to 0, the interval configured by "account.X.reg_fail_retry_interval" will be used.	
<b>Permitted Values</b>	Integer greater than or equal to 0	
<b>Default</b>	60	

<sup>[1]</sup>X is the account ID. X=1-100.

<sup>[2]</sup>Y is the server ID. Y=1-2.

## Registration Settings Configuration

The following table lists the parameters you can use to change the registration settings.

<b>Parameter</b>	account.X.enable_user_equal_phone <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to add "user=phone" to the SIP header of the INVITE message.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Send user=phone	
<b>Parameter</b>	account.X.register_mac <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to add MAC address to the SIP header of the REGISTER message.	
<b>Permitted</b>	0-Disabled	

<b>Values</b>	1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > SIP Send MAC	
<b>Parameter</b>	account.X.register_line <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to add a line number to the SIP header of the REGISTER message. 0-99 stand for line1-line100.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > SIP Send Line	
<b>Parameter</b>	account.X.unregister_on_reboot <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to unregister first before re-registering account X after a reboot.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Unregister When Reboot	
<b>Parameter</b>	account.X.sip_server_type <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the type of SIP server.	
<b>Permitted Values</b>	0-Default 2-BroadSoft (It works only if "bw.enable" is set to 1 (Enabled)) 8-Genesys 10-Genesys Advanced	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > SIP Server Type	
<b>Parameter</b>	sip.reg_surge_prevention <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the waiting time (in seconds) for account register after startup.	
<b>Permitted Values</b>	Integer from 0 to 60	
<b>Default</b>	0	
<b>Web UI</b>	Network > Advanced > Registration Random > Registration Random (0~60s)	
<b>Parameter</b>	account.X.subscribe_register <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to subscribe to the registration state change notifications.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	

<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Subscribe Register	
<b>Parameter</b>	phone_setting.disable_account_without_username.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to disable the account whose username is empty.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Parameter</b>	account.X.register_expires_overlap <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the renewal time (in seconds) away from the registration lease.	
<b>Permitted Values</b>	Positive integer and -1	
<b>Default</b>	-1	
<b>Parameter</b>	account.X.subscribe_expires_overlap <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the renewal time (in seconds) away from the subscription lease.	
<b>Permitted Values</b>	Positive integer and -1	
<b>Default</b>	-1	

<sup>[1]</sup>X is the account ID. X=1-100.

<sup>[2]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Account Registration File Customization

You can ask the distributor or Yealink FAE for the account registration template. You can also obtain the template online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

### Topics

[Account Registration File Elements](#)  
[Customizing Account Registration File](#)

## Account Registration File Elements

The following table lists the elements and attributes you can use to assign accounts for handsets in the account registration file. We recommend that you do not edit these attributes.

Attributes	Description
account	Specify the account ID (1-100). This is required. If not filled, the line will not take effect.
ipui	Specify the IPUI of the handset to which you want to assign the account.
reg.enable	Enable or disable the registration status for the handset.
auth_name	Specify the register name of the account.
user_name	Specify the user name of the account.
password	Specify the password of the account.

Attributes	Description
display_name	Specify the display name of the account.
label	Specify the label of the account.
enable	Specify the activation status of the account.
sip_server.template	Specify the SIP server template.

## Customizing Account Registration File

1. Open the account registration file.
2. Specify the account information.

For example:

	A	B	C	D	E	F	G	H	I	J
1	account	ipui	reg.enable	auth_name	user_name	password	display_name	label	enable	sip_server.template
2	1	0291c075dd	1	21111	1111		1111	1111	1	1
3	2	0291c075c8	1	22223245	22223245		22223245	22223245	1	1
4	3	0291B11D58	1	1323133245	1323133245		1323133245	1323133245	1	1

3. Save the changes.

## Account Registration File Upload

You can upload account registration file to register accounts in batches and associate the account with the handset IPUI.

The following table lists the parameter you can use to upload the account registration file.

<b>Parameter</b>	ipui_account.data.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the custom account registration file (*.csv).	
<b>Permitted Values</b>	String within 512 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Import	

## Outbound Proxy in Dialog

An outbound proxy server can receive all initiating request messages and route them to the designated destination. If the device is configured to use an outbound proxy server within a dialog, all SIP request messages from the device will be sent to the outbound proxy server as a mandatory requirement.

**Note:** To use this feature, make sure the outbound server has been correctly configured on the device. For more information on how to configure the outbound server, refer to [Server Redundancy](#).

### Topic

[Outbound Proxy in Dialog Configuration](#)

## Outbound Proxy in Dialog Configuration

The following table lists the parameter you can use to configure the outbound proxy in dialog.

<b>Parameter</b>	sip.use_out_bound_in_dialog	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to send all SIP requests to the outbound proxy server mandatorily in a dialog.	
	<b>Note:</b> It works only if "template.X.outbound.enable" is set to 1 (Enabled).	

<b>Permitted Values</b>	<b>0</b> -Disabled, only the new SIP request messages from the phone will be sent to the outbound proxy server in a dialog. <b>1</b> -Enabled, all the SIP request messages from the phone will be sent to the outbound proxy server in a dialog.
<b>Default</b>	0
<b>Web UI</b>	Features > General Information > Use Outbound Proxy In Dialog

## Server Redundancy

Server redundancy is often required in VoIP deployments to ensure continuity of phone service, for example, take the call server offline for maintenance, the server fails, or the connection between the device and the server fails.

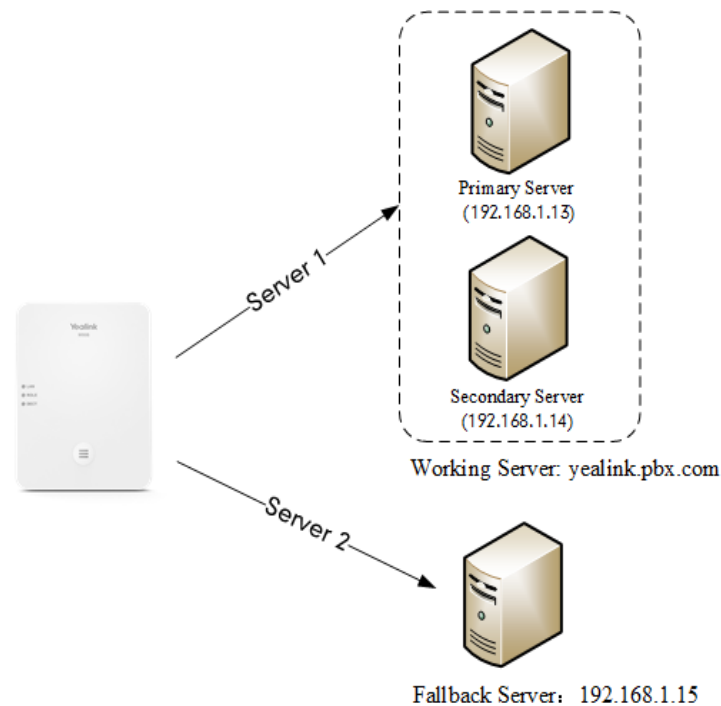
Two types of redundancy are possible. In some cases, a combination of the two may be deployed:

- **Failover:** In this mode, the full phone system functionality is preserved by having a second equivalent capability call server take over from the one that has gone down/off-line. This mode of operation should be done using the DNS mechanism from the primary to the secondary server. Therefore, if you want to use this mode, the server must be configured with a domain name.
- **Fallback:** In this mode, a second less featured call server with SIP capability takes over call control to provide the basic calling capability, but without some advanced features (for example, shared line and MWI) offered by the working server. The phones support configuration of two servers per SIP registration for the fallback purpose.

**Note:** For concurrent registration mode, it has a certain limitation when using some advanced features, and for successive registration mode, the phone service may have a brief interrupt while the server fails. So we recommend that you use the fail-over mode for server redundancy because this mode can ensure the continuity of the phone service and you can use all the call features while the server fails.

### Phone Configuration for Redundancy Implementation

To assist in explaining the redundancy behavior, an illustrative example of how an IP phone may be configured is shown below. In the example, server redundancy for fallback and failover purposes is deployed. Two separate servers (a working server and a fallback server) are configured for per line registration.



- **Working Server:** Server 1 is configured with the domain name of the working server. For example `yealink.pbx.com`. DNS mechanism is used such that the working server is resolved to multiple servers with different IP addresses for failover purpose. The working server is deployed in redundant pairs, designated as primary and secondary servers. The primary server (for example, 192.168.1.13) has the highest priority server in a cluster of servers resolved by the DNS server. The secondary server (for example, 192.168.1.14) backs up a primary server when the primary server fails and offers the same functionality as the primary server.
- **Fallback Server:** Server 2 is configured with the IP address of the fallback server. For example 192.168.1.15. A fallback server offers less functionality than the working server.

Yealink devices support Failover and Fallback server redundancy types. In some cases, you can deploy a combination of the two server redundancy types.

## Topics

[Behaviors When Working Server Connection Fails](#)

[Registration Method of the Failover/Fallback Mode](#)

[Fallback Server Redundancy Configuration](#)

[Failover Server Redundancy Configuration](#)

## Behaviors When Working Server Connection Fails

### For Outgoing Call

When you initiate a call, the phone will go through the following steps to connect the call:

1. Sends the INVITE request to the primary server.
2. If the primary server does not respond correctly to the INVITE (that is, the primary server responds to the INVITE with 503 message or the request for responding with 100 Trying message times out (64\*T1 seconds, defined in [RFC 3261](#))), then tries to make the call using the secondary server.
3. If the secondary server is also unavailable, the phone will try the fallback server until it either succeeds in making a call or exhausts all servers at which point the call will fail.

At the start of a call, server availability is determined by SIP signaling failure. SIP signaling failure depends on the SIP protocol being used as described below:

- If TCP is used, then the signaling fails if the connection or the send fails.
- If UDP is used, then the signaling fails if ICMP is detected or if the signal times out. If the signaling has been attempted through all servers in the list (this list contains all the server addresses resolved by the DNS server) and this is the last server, then the signaling fails after the complete UDP timeout defined in [RFC 3261](#). If it is not the last server in the list, the maximum number of retries depends on the configured retry counts (configured by "template.X.sip\_server.Y.retry\_counts").

## Registration Method of the Failover/Fallback Mode

### Registration method of the failover mode:

The IP phone must always register to the primary server first except in failover conditions. If this is unsuccessful, the phone will re-register as many times as configured until the registration is successful. When the primary server registration is unavailable, the secondary server will serve as the working server. As soon as the primary server registration succeeds, it returns to be the working server.

Registration methods of the fallback mode include (not applicable to outbound proxy servers):

- **Concurrent registration (default):** The IP phone registers to SIP server 1 and SIP server 2 (working server and fallback server) at the same time. Note that although the IP phone registers to two SIP servers, only one server works at the same time. If it fails, a fallback server can take over the basic calling capability, but without some advanced features (for example, shared lines and MWI) offered by the working server.
- **Successive registration:** The IP phone only registers to one server at a time. The IP phone first registers to the working server. In a failure situation, the phone registers to the fallback server, and the fallback server can take over all calling capabilities.

## Fallback Server Redundancy Configuration

The following table lists the parameters you can use to configure fallback server redundancy.

<b>Parameter</b>	account.X.fallback.redundancy_type <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the registration mode in fallback mode. <b>Note:</b> It is not applicable to outbound proxy servers.	
<b>Permitted Values</b>	0-Concurrent registration 1-Successive registration	
<b>Default</b>	0	
<b>Parameter</b>	account.X.fallback.timeout <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the time interval (in seconds) for the phone to detect whether the working server is available by sending the registration request after the fallback server takes over call control. <b>Note:</b> It is not applicable to outbound proxy servers.	
<b>Permitted Values</b>	Integer from 10 to 2147483647	
<b>Default</b>	120	

<sup>[1]</sup>X is the account ID. X=1-100.

## Failover Server Redundancy Configuration

The following table lists the parameters you can use to configure failover server redundancy.

<b>Parameter</b>	account.X.sip_server.Y.register_on_enable <sup>[1][2]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to send registration requests to the secondary server when encountering a failover.	
<b>Permitted Values</b>	0-Disabled, the phone will not attempt to register to the secondary server, since the phone assumes that the primary and secondary servers share registration information. So the phone will directly send the requests to the secondary server. 1-Enabled, the phone will register to the secondary server first, and then send the requests to it.	
<b>Default</b>	0	
<b>Parameter</b>	sip.skip_redundant_failover_addr	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone only to send requests to the servers with different IP addresses when encountering a failover.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Parameter</b>	account.X.sip_server.Y.only_signal_with_registered <sup>[1][2]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to only send requests to the registered server when encountering a failover. <b>Note:</b> It works only if “account.X.sip_server.Y.register_on_enable” is set to 1 (Enabled) and “account.X.sip_server.Y.fallback_mode” is set to 1, 2 or 3.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	



<b>Parameter</b>	account.X.sip_server.Y.invite_retry_counts <sup>[1][2]</sup>	<MAC>.cfg
<b>Description</b>	It configures the number of retries attempted before sending requests to the next available server when encountering a failover.	
<b>Permitted Values</b>	Integer from 1 to 10	
<b>Default</b>	3	
<b>Parameter</b>	account.X.sip_server.Y.failback_mode <sup>[1][2]</sup>	<MAC>.cfg
<b>Description</b>	It configures the mode for the phone to retry the primary server in failover. <b>Note:</b> It works only if "template.X.sip_server.Y.address" is set to the domain name of the SIP server.	
<b>Permitted Values</b>	<p><b>0</b>-newRequests: all requests are sent to the primary server first, regardless of the last server that was used.</p> <p><b>1</b>-DNSTTL: the phone will send requests to the last registered server first. If the time defined by DNSTTL on the registered server expires, the phone will retry to send requests to the primary server.</p> <p><b>2</b>-Registration: the phone will send requests to the last registered server first. If the registration expires, the phone will retry to send requests to the primary server.</p> <p><b>3</b>-duration: the phone will send requests to the last registered server first. If the time defined by the "account.X.sip_server.Y.failback_timeout" parameter expires, the phone will retry to send requests to the primary server.</p>	
<b>Default</b>	0	
<b>Parameter</b>	account.X.sip_server.Y.failback_timeout <sup>[1][2]</sup>	<MAC>.cfg
<b>Description</b>	<p>It configures the timeout (in seconds) for the phone to retry to send requests to the primary server after failing over to the current working server.</p> <p>If you set the parameter to 0, the phone will not send requests to the primary server until a failover event occurs with the current working server.</p> <p>If you set the parameter between 1 and 59, the timeout will be 60 seconds.</p> <p><b>Note:</b> It works only if "account.X.sip_server.Y.failback_mode" is set to 3 (duration).</p>	
<b>Permitted Values</b>	0, Integer from 60 to 65535	
<b>Default</b>	3600	
<b>Parameter</b>	account.X.sip_server.Y.failback_subscribe.enable <sup>[1][2]</sup>	<MAC>.cfg
<b>Description</b>	<p>It enables or disables the phone to retry to re-subscribe after registering to the secondary server with different IP addresses when encountering a failover.</p> <p><b>Note:</b> It works only if "account.X.sip_server.Y.failback_mode" is set to 1, 2 or 3.</p>	
<b>Permitted Values</b>	<p><b>0</b>-Disabled</p> <p><b>1</b>-Enabled, the phone will immediately re-subscribe to the secondary server, for ensuring the normal use of the features associated with the subscription (for example, BLF, SCA).</p>	
<b>Default</b>	0	

[2]Y is the server ID. Y=1-2.

## SIP Server Name Resolution

If a domain name is configured for a server, the IP address(es) associated with that domain name will be resolved through DNS as specified by [RFC 3263](#). The DNS query involves NAPTR, SRV and A queries, which allows the IP

phone to adapt to various deployment environments. The IP phone performs NAPTR query for the NAPTR pointer and transport protocol (UDP, TCP, and TLS), the SRV query on the record returned from the NAPTR for the target domain name and the port number, and the A query for the IP addresses.

If an explicit port (except 0) is specified, A query will be performed only. If a server port is set to 0 and the transport type is set to DNS NAPTR, NAPTR and SRV queries will be tried before falling to A query. If no port is found through the DNS query, 5060 will be used.

## Topic

### [SIP Server Name Resolution Configuration](#)

## SIP Server Name Resolution Configuration

The following table lists the parameters you can use to configure the SIP server name resolution.

<b>Parameter</b>	template.X.sip_server.Y.transport_type <sup>[1][2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the type of transport protocol.	
<b>Permitted Values</b>	0-UDP 1-TCP 2-TLS 3-DNS NAPTR, if no server port is given, the device performs the DNS NAPTR and SRV queries for the service type and port.	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > SIP Server Settings > Edit > SIP Server Y <sup>[2]</sup> > Transport	
<b>Parameter</b>	account.X.naptr_build <sup>[4]</sup>	<MAC>.cfg
<b>Description</b>	It configures the way of SRV query for the phone to be performed when no result is returned from the NAPTR query.	
<b>Permitted Values</b>	0-SRV query using UDP only 1-SRV query using UDP, TCP, and TLS.	
<b>Default</b>	0	
<b>Parameter</b>	sip.dns_transport_type	<y0000000000xx>.cfg
<b>Description</b>	It configures the transport protocol the phone uses to perform a DNS query.	
<b>Permitted Values</b>	0-UDP 1-TCP	
<b>Default</b>	0	
<b>Parameter</b>	static.network.dns.query_timeout <sup>[3]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the interval (in seconds) at which the phone retries to resolve a domain name when the DNS server does not respond.	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	3	
<b>Parameter</b>	static.network.dns.retry_times <sup>[3]</sup>	<y0000000000xx>.cfg

<b>Description</b>	It configures the retry times when the DNS server does not respond.
<b>Permitted Values</b>	Integer from 0 to 65535
<b>Default</b>	2

[1]X is the template ID. X=1-10.

[2]Y is the server ID. Y=1-2.

[3]If you change this parameter, the phone will reboot to make the change take effect.

[4]X is the account ID. X=1-100.

## Static DNS Cache

Failover redundancy can only be utilized when the configured domain name of the server is resolved to multiple IP addresses. If the IP phone is not configured with a DNS server, or the DNS query returns no result from a DNS server, you can statically configure a set of DNS NAPTR/SRV/A records into the IP phone. The phone will attempt to resolve the domain name of the SIP server with static DNS cache.

Support for negative caching of DNS queries as described in [RFC 2308](#) is also provided to allow faster failover when prior DNS queries have returned no results from the DNS server.

### Topics

[Behave with a Configured DNS Server](#)  
[Static DNS Cache Configuration](#)

## Behave with a Configured DNS Server

When the phone is configured with a DNS server, it will behave as follows to resolve the domain name of the server:

- The phone performs a DNS query to resolve the domain name from the DNS server.
- If the DNS query returns no results for the domain name, or the returned record cannot be contacted, the values in the static DNS cache (if configured) are used when their configured time intervals are not elapsed.
- If the configured time interval is elapsed, the phone will attempt to perform a DNS query again.
- If the DNS query returns a result, the phone will use the returned record from the DNS server and ignore the statically configured cache values.

When the phone is not configured with a DNS server, it will behave as follows:

- The phone attempts to resolve the domain name within the static DNS cache.
- The phone will always use the results returned from the static DNS cache.

## Static DNS Cache Configuration

The following table lists the parameters you can use to configure static DNS cache.

<b>Parameter</b>	account.X.dns_cache_type <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures whether the phone uses the DNS cache for domain name resolution of the SIP server and caches the additional DNS records.	
<b>Permitted Values</b>	<b>0</b> -Perform real-time DNS query rather than using DNS cache. <b>1</b> -Use DNS cache, but do not record the additional records. <b>2</b> -Use DNS cache and cache the additional DNS records.	
<b>Default</b>	1	
<b>Parameter</b>	account.X.static_cache_pri <sup>[1]</sup>	<MAC>.cfg

<b>Description</b>	It configures whether preferentially to use the static DNS cache for domain name resolution of the SIP server.	
<b>Permitted Values</b>	0-Use domain name resolution from server preferentially 1-Use static DNS cache preferentially	
<b>Default</b>	0	
<b>Parameter</b>	dns_cache_naptr.X.name <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the domain name to which NAPTR record X refers.	
<b>Permitted Values</b>	Domain name	
<b>Default</b>	Blank	
<b>Parameter</b>	dns_cache_naptr.X.order <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the order of NAPTR record X. NAPTR record with the lower order is more preferred.	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	0	
<b>Parameter</b>	dns_cache_naptr.X.preference <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the preference of NAPTR record X. NAPTR record with lower preference is more preferred.	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	0	
<b>Parameter</b>	dns_cache_naptr.X.replace <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures a domain name to be used for the next SRV query in NAPTR record X.	
<b>Permitted Values</b>	Domain name	
<b>Default</b>	Blank	
<b>Parameter</b>	dns_cache_naptr.X.service <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the transport protocol available for the SIP server in NAPTR record X.	
<b>Permitted Values</b>	<b>SIP+D2U</b> -SIP over UDP <b>SIP+D2T</b> -SIP over TCP <b>SIPS+D2T</b> -SIPS over TLS	
<b>Default</b>	Blank	
<b>Parameter</b>	dns_cache_naptr.X.ttl <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the time interval (in seconds) that NAPTR record X may be cached before the record should be consulted again.	
<b>Permitted Values</b>	Integer from 30 to 2147483647	
<b>Default</b>	300	
<b>Parameter</b>	dns_cache_srv.X.name <sup>[2]</sup>	<y0000000000xx>.cfg

<b>Description</b>	It configures the domain name in SRV record X.	
<b>Permitted Values</b>	Domain name	
<b>Default</b>	Blank	
<b>Parameter</b>	dns_cache_srv.X.port <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the port to be used in SRV record X.	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	0	
<b>Parameter</b>	dns_cache_srv.X.priority <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the priority for the target host in SRV record X. Lower priority is more preferred.	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	0	
<b>Parameter</b>	dns_cache_srv.X.target <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the domain name of the target host for an A query in SRV record X.	
<b>Permitted Values</b>	Domain name	
<b>Default</b>	Blank	
<b>Parameter</b>	dns_cache_srv.X.weight <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the weight of the target host in SRV record X. When priorities are equal, weight is used to differentiate the preference. Higher weight is more preferred.	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	0	
<b>Parameter</b>	dns_cache_srv.X.ttl <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the time interval (in seconds) that SRV record X may be cached before the record should be consulted again.	
<b>Permitted Values</b>	Integer from 30 to 2147483647	
<b>Default</b>	300	
<b>Parameter</b>	dns_cache_a.X.name <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the domain name in A record X.	
<b>Permitted Values</b>	Domain name	
<b>Default</b>	Blank	
<b>Parameter</b>	dns_cache_a.X.ip <sup>[2]</sup>	<y0000000000xx>.cfg

<b>Description</b>	It configures the IP address that the domain name in A record X maps to.	
<b>Permitted Values</b>	IP address	
<b>Default</b>	Blank	
<b>Parameter</b>	dns_cache_a.X.ttl <sup>[2]</sup>	<y000000000xx>.cfg
<b>Description</b>	It configures the time interval (in seconds) that A record X may be cached before the record should be consulted again.	
<b>Permitted Values</b>	Integer from 30 to 2147483647	
<b>Default</b>	300	
<b>Parameter</b>	static.network.dns.ttl_enable <sup>[3]</sup>	<y000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to use TTL (Time To Live) in the A record.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Parameter</b>	static.network.dns.last_cache_expired	<y000000000xx>.cfg
<b>Description</b>	It configures the validity period of the expired DNS cache. <b>Note:</b> It works only if "static.network.dns.last_cache_expired.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 0 to 65535 <b>0</b> -the expired DNS cache can only be used once. After using, the phone will perform a DNS query again. <b>1 to 65535</b> -the phone will use the expired DNS cache during the specified period. After that, the phone will perform a DNS query again.	
<b>Default</b>	3600	
<b>Parameter</b>	static.network.dns.last_cache_expired.enable	<y000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to use the DNS cache (even if the cache has expired) when the DNS server fails to resolve the domain name.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	

[1]X is the account ID. X=1-100.

[2]X is the record ID. X=1-12.

[3]If you change this parameter, the phone will reboot to make the change take effect.

## Number of Active Handsets Per Base

You can limit the max number of active handsets per W80B base station. The active handsets are free to communicate, access menu, configure features and so on. Operation is restricted on the inactive handsets, and the idle screen of the handset prompts "Path Busy".

The number of active handsets will also affect the number of simultaneous active calls on the base station.

Call Supported	Number of Active Handsets Per Base	Maximum Number of Simultaneous Active Calls	Maximum Number of Simultaneous Calls
Wide-band Calls	4	4	8
Narrow-band Calls	8	8	8

**Related Topics**

[Number of Active Handsets Per Base Configuration](#)

## Number of Active Handsets Per Base Configuration

The following table lists the parameter you can use to configure the number of active handsets per base.

<b>Parameter</b>	base.active_handset.number <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the maximum number of active handsets per base in the DECT multi-cell system.	
<b>Permitted Values</b>	4, 8	
<b>Default</b>	8	
<b>Web UI</b>	Features > General Information > Number Of Active Handset Per Base	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

# Network Configurations

You can make custom network configurations.

## Topics

[IPv4 Network Settings](#)

[DHCP Option for IPv4](#)

[VLAN](#)

[Real-Time Transport Protocol \(RTP\) Ports](#)

[Network Address Translation \(NAT\)](#)

[VPN](#)

[Quality of Service \(QoS\)](#)

[802.1x Authentication](#)

[TR-069 Device Management](#)

## IPv4 Network Settings

You can configure the devices to operate in IPv4 mode.

After establishing network connectivity, the devices obtain the IPv4 network settings from a Dynamic Host Configuration Protocol (DHCPv4) server.

You can also configure IPv4 network settings manually.

**Note:** Yealink devices comply with the DHCPv4 specifications documented in [RFC 2131](#), and ICMPv6 specifications documented in [RFC 4443](#).

## Topics

[IPv4 Configuration](#)

## IPv4 Configuration

The following table lists the parameters you can use to configure IPv4.

<b>Parameter</b>	static.network.internet_port.type <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the Internet port type for IPv4.	
<b>Permitted Values</b>	0-DHCP 2-Static IP	
<b>Default</b>	0	
<b>Web UI</b>	Network > Basic > IPv4 Config > Configuration Type	
<b>Parameter</b>	static.network.internet_port.ip <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IPv4 address. <b>Note:</b> It works only if "static.network.internet_port.type" is set to 2 (Static IP).	
<b>Permitted Values</b>	IPv4 Address	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Basic > IPv4 Config > Configuration Type (Static IP) > IP Address	
<b>Parameter</b>	static.network.internet_port.mask <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IPv4 subnet mask.	



	<b>Note:</b> It works only if "static.network.internet_port.type" is set to 2 (Static IP).	
<b>Permitted Values</b>	Subnet Mask	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Basic > IPv4 Config > Configuration Type (Static IP) > Subnet Mask	
<b>Parameter</b>	static.network.internet_port.gateway <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IPv4 default gateway. <b>Note:</b> It works only if "static.network.internet_port.type" is set to 2 (Static IP).	
<b>Permitted Values</b>	IPv4 Address	
<b>Default</b>	Blank	
<b>Phone UI</b>	Settings > Advanced Settings (default password: admin) > Network > WAN Port > IPv4 > Type (Static IP) > Gateway	
<b>Parameter</b>	static.network.static_dns_enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It triggers the static DNS feature to on or off. <b>Note:</b> It works only if "static.network.internet_port.type" is set to 0 (DHCP).	
<b>Permitted Values</b>	0-Off, the phone will use the IPv4 DNS obtained from DHCP. 1-On, the phone will use manually configured static IPv4 DNS.	
<b>Default</b>	0	
<b>Web UI</b>	Network > Basic > IPv4 Config > Static DNS	
<b>Parameter</b>	static.network.primary_dns <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the primary IPv4 DNS server. <b>Note:</b> In the DHCP environment, you need to make sure "static.network.static_dns_enable" is set to 1 (On).	
<b>Permitted Values</b>	IPv4 Address	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Basic > IPv4 Config > Configuration Type (Static IP)/Configuration Type (DHCP) > Primary DNS	
<b>Parameter</b>	static.network.secondary_dns <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the secondary IPv4 DNS server. <b>Note:</b> In the DHCP environment, you need to make sure "static.network.static_dns_enable" is set to 1 (On).	
<b>Permitted Values</b>	IPv4 Address	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Basic > IPv4 Config > Configuration Type (Static IP)/Configuration Type (DHCP) > Secondary DNS	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## DHCP Option for IPv4

The phone can obtain IPv4-related parameters in an IPv4 network via the DHCP option.

**Note:** For more information on DHCP options, refer to [RFC 2131](#) or [RFC 2132](#).

### Topics

[Supported DHCP Option for IPv4](#)  
[DHCP Option 66, Option 43 and Custom Option](#)  
[DHCP Option 42 Option 2](#)  
[DHCP Option 12](#)  
[DHCP Option 60](#)

## Supported DHCP Option for IPv4

The following table lists common DHCP options for IPv4 supported by Yealink phones.

Parameters	DHCP Option	Description
Subnet Mask	1	Specify the client's subnet mask.
Time Offset	2	Specify the offset of the client's subnet in seconds from Coordinated Universal Time (UTC).
Router	3	Specify a list of IP addresses for routers on the client's subnet.
Time Server	4	Specify a list of time servers available to the client.
Domain Name Server	6	Specify a list of domain name servers available to the client.
Host Name	12	Specify the name of the client.
Domain Server	15	Specify the domain name that the client should use when resolving host-names via DNS.
Network Time Protocol Servers	42	Specify a list of NTP servers available to the client by IP address.
Vendor-Specific Information	43	Identify the vendor-specific information.
Vendor Class Identifier	60	Identify the vendor type.
TFTP Server Name	66	Identify a TFTP server when the 'sname' field in the DHCP header has been used for DHCP options.

## DHCP Option 66, Option 43 and Custom Option

During the startup, the phone automatically detects the DHCP option for obtaining the provisioning server address. The priority is as follows: custom option > option 66 (identify the TFTP server) > option 43.

The phone can obtain the Auto Configuration Server (ACS) address by detecting option 43 during startup.

**Note:** If you fail to configure the DHCP options for discovering the provisioning server on the DHCP server, enable the phone to automatically discover the provisioning server address. One possibility is that connecting to the secondary DHCP server that responds to DHCP INFORM queries with a requested provisioning server address. For more information, refer to [RFC 3925](#).

### Related Topic

[DHCP Provision Configuration](#)

## DHCP Option 42 Option 2

Yealink phones support using the NTP server address offered by DHCP.

DHCP option 42 is used to specify a list of NTP servers available to the client by IP address. NTP servers should be listed in order of preference.

DHCP option 2 is used to specify the offset of the client's subnet in seconds from Coordinated Universal Time (UTC).

#### Related Topic

[NTP Settings](#)

## DHCP Option 12

You can specify a hostname for the phone when using DHCP. The DHCP client uses option 12 to send a pre-defined hostname to the DHCP registration server.

See [RFC 1035](#) for character set restrictions.

#### Topic

[DHCP Option 12 Hostname Configuration](#)

### DHCP Option 12 Hostname Configuration

The following table lists the parameter you can use to configure DHCP option 12 hostname.

<b>Parameter</b>	static.network.dhcp_host_name <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It specifies a hostname for the phone when using DHCP.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	SIP-W80B	
<b>Web UI</b>	Features > General Information > DHCP Hostname	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## DHCP Option 60

DHCP option 60 is used to indicate the vendor type. Servers can use option 43 to return the vendor-specific information to the client.

You can set the DHCP option 60 type.

#### Topic

[DHCP Option 60 Configuration](#)

### DHCP Option 60 Configuration

The following table lists the parameters you can use to configure DHCP option 60.

<b>Parameter</b>	static.network.dhcp.option60type	<y0000000000xx>.cfg
<b>Description</b>	It configures the DHCP option 60 type.	
<b>Permitted Values</b>	0-ASCII, vendor-identifying information is in ASCII format. 1-Binary, vendor-identifying information is in the format defined in <a href="#">RFC 3925</a> .	
<b>Default</b>	0	
<b>Parameter</b>	static.auto_provision.dhcp_option.option60_value	<y0000000000xx>.cfg
<b>Description</b>	It configures the vendor class identifier string to use in the DHCP interaction.	

<b>Permitted Values</b>	String within 99 characters
<b>Default</b>	yealink
<b>Web UI</b>	Settings > Auto Provision > IPv4 DHCP Option Value

## VLAN

The purpose of VLAN configurations on the phone is to insert a tag with VLAN information to the packets generated by the phone. When VLAN is properly configured for the ports (Internet port and PC port) on the phone, the phone will tag all packets from these ports with the VLAN ID. The switch receives and forwards the tagged packets to the corresponding VLAN according to the VLAN ID in the tag as described in IEEE Std 802.3.

In addition to manual configuration, the phone also supports the automatic discovery of VLAN via LLDP, CDP or DHCP. The assignment takes effect in this order: assignment via LLDP/CDP, manual configuration, then assignment via DHCP.

### Topics

[LLDP Configuration](#)

[CDP Configuration](#)

[Manual VLAN Configuration](#)

[DHCP VLAN Configuration](#)

[VLAN Change Configuration](#)

## LLDP Configuration

LLDP (Linker Layer Discovery Protocol) is a vendor-neutral Link Layer protocol, which allows the phones to advertise its identity and capabilities on the local network.

When LLDP feature is enabled on the phones, the phones periodically advertise their own information to the directly connected LLDP-enabled switch. The phones can also receive LLDP packets from the connected switch and obtain their VLAN IDs.

The following table lists the parameters you can use to configure LLDP.

<b>Parameter</b>	static.network.lldp.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the LLDP feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone attempts to determine its VLAN ID through LLDP.	
<b>Default</b>	1	
<b>Web UI</b>	Network > Advanced > LLDP > Active	
<b>Parameter</b>	static.network.lldp.packet_interval <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the interval (in seconds) that how often the phone sends the LLDP request. <b>Note:</b> It works only if "static.network.lldp.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 1 to 3600	
<b>Default</b>	60	
<b>Web UI</b>	Network > Advanced > LLDP > Packet Interval (1~3600s)	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## CDP Configuration

CDP (Cisco Discovery Protocol) allows the phones to receive and/or transmit device-related information from/to directly connected devices on the local network.

When CDP feature is enabled on the phones, the phones periodically advertise their own information to the directly connected CDP-enabled switch. The phones can also receive CDP packets from the connected switch and obtain their VLAN IDs.

The following table lists the parameters you can use to configure CDP.

<b>Parameter</b>	static.network.cdp.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the CDP feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone attempts to determine its VLAN ID through CDP.	
<b>Default</b>	1	
<b>Web UI</b>	Network > Advanced > CDP > Active	
<b>Parameter</b>	static.network.cdp.packet_interval <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the interval (in seconds) that how often the phone sends the CDP request. <b>Note:</b> It works only if "static.network.cdp.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 1 to 3600	
<b>Default</b>	60	
<b>Web UI</b>	Network > Advanced > CDP > Packet Interval (1~3600s)	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Manual VLAN Configuration

You can configure VLAN for the Internet port manually. Before configuring VLAN on the phones, you need to obtain the VLAN ID from your network administrator.

The following table lists the parameters you can use to configure VLAN manually.

<b>Parameter</b>	static.network.vlan.internet_port_enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the VLAN for the Internet port.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Network > Advanced > VLAN > WAN Port > Active	
<b>Parameter</b>	static.network.vlan.internet_port_vid <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the VLAN ID for the Internet port. <b>Note:</b> It works only if "static.network.vlan.internet_port_enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 1 to 4094	
<b>Default</b>	1	

<b>Web UI</b>	Network > Advanced > VLAN > WAN Port > VID (1-4094)	
<b>Parameter</b>	static.network.vlan.internet_port_priority <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the VLAN priority for the Internet port. 7 is the highest priority, 0 is the lowest priority. <b>Note:</b> It works only if "static.network.vlan.internet_port_enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 0 to 7	
<b>Default</b>	0	
<b>Web UI</b>	Network > Advanced > VLAN > WAN Port > Priority	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## DHCP VLAN Configuration

When the VLAN discovery method is set to DHCP, the phone examines the DHCP option for a valid VLAN ID. You can customize the DHCP option used to request the VLAN ID.

The following table lists the parameters you can use to configure DHCP VLAN discovery.

<b>Parameter</b>	static.network.vlan.dhcp_enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the DHCP VLAN discovery feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Network > Advanced > VLAN > DHCP VLAN > Active	
<b>Parameter</b>	static.network.vlan.dhcp_option <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the DHCP option from which the phone will obtain the VLAN settings. Multiple DHCP options (at most five) are separated by commas.	
<b>Permitted Values</b>	Integer from 1 to 255	
<b>Default</b>	132	
<b>Web UI</b>	Network > Advanced > VLAN > DHCP VLAN > Option (1-255)	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## VLAN Change Configuration

The following table lists the parameter you can use to configure the VLAN change.

<b>Parameter</b>	static.network.vlan.vlan_change.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to obtain VLAN ID using lower preference of VLAN assignment method, or to close the VLAN feature when the phone cannot obtain VLAN ID. The priority of each method is LLDP/CDP > Manual > DHCP VLAN.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone attempts to use the lower priority method when failing to obtain the VLAN ID using higher priority method. If all the methods are attempted, the phone will disable VLAN feature.	

<b>Default</b>	0
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<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Real-Time Transport Protocol (RTP) Ports

Since the phone supports conferencing and multiple RTP streams, it can use several ports concurrently. You can specify the phone's RTP port range.

The UDP port used for RTP streams is traditionally an even-numbered port. If the port 11780 is used to send and receive RTP for the first voice session, additional calls would then use ports 11782, 11784, 11786, and so on. The phone is compatible with [RFC 1889 - RTP: A Transport Protocol for Real-Time Applications](#) - and the updated [RFC 3550](#).

### Topic

[RTP Ports Configuration](#)

## RTP Ports Configuration

The following table lists the parameters you can use to configure RTP ports.

<b>Parameter</b>	static.network.port.min_rtpport <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the minimum local RTP port.	
<b>Permitted Values</b>	Integer from 1024 to 65535	
<b>Default</b>	11780	
<b>Web UI</b>	Network > Advanced > Local RTP Port > Min RTP Port (1024~65535)	
<b>Parameter</b>	static.network.port.max_rtpport <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the maximum local RTP port.	
<b>Permitted Values</b>	Integer from 1024 to 65535	
<b>Default</b>	12780	
<b>Web UI</b>	Network > Advanced > Local RTP Port > Max RTP Port (1024~65535)	
<b>Parameter</b>	features.rtp_symmetric.enable	<y0000000000xx>.cfg
<b>Description</b>	It configures the symmetrical RTP feature.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -reject RTP packets arriving from a non-negotiated IP address <b>2</b> -reject RTP packets arriving from a non-negotiated port <b>3</b> -reject RTP packets arriving from a non-negotiated IP address or a non-negotiated port	
<b>Default</b>	0	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Network Address Translation (NAT)

NAT enables phones with private unregistered addresses to communicate with devices with globally unique registered addresses.

### Topics

[NAT Traversal Configuration](#)  
[Keep Alive Configuration](#)  
[Rport Configuration](#)  
[SIP Port and TLS Port Configuration](#)

## NAT Traversal Configuration

The phones can traverse NAT gateways to establish and maintain connections with external devices.

Yealink phones support three NAT traversal techniques: manual NAT, STUN and ICE. If you enable manual NAT and STUN, the phone will use the manually-configured external IP address for NAT traversal. The TURN protocol is used as part of the ICE approach to NAT traversal.

The following table lists the parameters you can use to configure NAT traversal.

<b>Parameter</b>	account.X.nat.nat_traversal <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the NAT traversal for a specific account. <b>Note:</b> If it is set to 1 (STUN), it works only if “static.sip.nat_stun.enable” is set to 1 (Enabled); if it is set to 2 (Manual NAT), it works only if “static.network.static_nat.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-STUN 2-Manual NAT	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > NAT	
<b>Parameter</b>	static.network.static_nat.enable <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the manual NAT feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Network > NAT > Manual NAT > Active	
<b>Parameter</b>	static.network.static_nat.addr	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address to be advertised in SIP signaling. It should match the external IP address used by the NAT device. <b>Note:</b> It works only if “static.network.static_nat.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	IP Address	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > NAT > Manual NAT > IP Address	
<b>Parameter</b>	static.sip.nat_stun.enable	<y0000000000xx>.cfg



<b>Description</b>	It enables or disables the STUN (Simple Traversal of UDP over NATs) feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Network > NAT > STUN > Active	
<b>Parameter</b>	static.sip.nat_stun.server	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address or domain name of the STUN server. <b>Note:</b> It works only if "static.sip.nat_stun.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	String	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > NAT > STUN > STUN Server	
<b>Parameter</b>	static.sip.nat_stun.port	<y0000000000xx>.cfg
<b>Description</b>	It configures the port of the STUN server. <b>Note:</b> It works only if "static.sip.nat_stun.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 1024 to 65535	
<b>Default</b>	3478	
<b>Web UI</b>	Network > NAT > STUN > STUN Port (1024~65535)	
<b>Parameter</b>	static.ice.enable <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the ICE (Interactive Connectivity Establishment) feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Network > NAT > ICE > Active	
<b>Parameter</b>	static.sip.nat_turn.enable <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the TURN (Traversal Using Relays around NAT) feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Network > NAT > TURN > Active	
<b>Parameter</b>	static.sip.nat_turn.server <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address or the domain name of the TURN server. <b>Note:</b> It works only if "static.sip.nat_turn.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	IP Address or Domain Name	
<b>Default</b>	Blank	

<b>Web UI</b>	Network > NAT > TURN > TURN Server	
<b>Parameter</b>	static.sip.nat_turn.port <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the port of the TURN server. <b>Note:</b> It works only if “static.sip.nat_turn.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 1024 to 65535	
<b>Default</b>	3478	
<b>Web UI</b>	Network > NAT > TURN > TURN Port (1024~65535)	
<b>Parameter</b>	static.sip.nat_turn.username <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the user name to authenticate to the TURN server. <b>Note:</b> It works only if “static.sip.nat_turn.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	String	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > NAT > TURN > User Name (Username)	
<b>Parameter</b>	static.sip.nat_turn.password <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the password to authenticate to the TURN server. <b>Note:</b> It works only if “static.sip.nat_turn.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	String	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > NAT > TURN > Password	
<b>Parameter</b>	features.media_transmit.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the media stream to be forward forcibly on the DECT manager (DM) during a STUN/ICE call. <b>Note:</b> The value configured by the parameter “account.X.media_transmit.enable” takes precedence over that configured by this parameter.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Case Scenario</b>	<p>You need to enable this feature when there are some network differences between the DM and base station. For example:</p> <ol style="list-style-type: none"> <li>1. You assigned a static NAT address to the DM only and did NAT mapping on the firewall or gateway.</li> <li>2. LLDP/VLAN is enabled on the DM but not on the base station, and the router only limits LLDP/VLAN access to the external network.</li> <li>3. The base stations are connected to the DM, but the DM and the far-site device establish a connection through a VPN.</li> <li>4. For security, the DM's IP address is added in the whitelist but the base's IP address is not added in the whitelist.</li> </ol>	
<b>Parameter</b>	account.X.media_transmit.enable <sup>[1]</sup>	<MAC>.cfg

<b>Description</b>	It enables or disables the media stream to be forward forcibly on the DECT manager (DM) during a STUN/ICE call. <b>Note:</b> The value configured by this parameter takes precedence over that configured by the parameter "features.media_transmit.enable".
<b>Permitted Values</b>	0-Disabled 1-Enabled
<b>Default</b>	Blank

[1]X is the account ID. X=1-100.

[2]If you change this parameter, the phone will reboot to make the change take effect.

## Keep Alive Configuration

Yealink phones can send keep-alive packets to the NAT device for keeping the communication port open.

The following table lists the parameters you can use to configure keep alive.

<b>Parameter</b>	account.X.nat.udp_update_enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It sets the type of keep-alive packets sent by phone.	
<b>Permitted Values</b>	0-Disabled 1-Default (the phone sends the corresponding packets according to the transport protocol) 2-Options (the phone sends SIP OPTIONS packets to the server) 3-Notify (the phone sends SIP NOTIFY packets to the server)	
<b>Default</b>	1	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Keep Alive Type	
<b>Parameter</b>	account.X.nat.udp_update_time <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the interval (in seconds) at which the phone sends a keep-alive package. <b>Note:</b> It works only if "account.X.nat.udp_update_enable" is set to 1, 2 or 3.	
<b>Permitted Values</b>	Integer from 0 to 3600	
<b>Default</b>	30	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Keep Alive Interval (Seconds)	

[1]X is the account ID. X=1-100.

## Rport Configuration

Rport allows a client to request that the server sends the response back to the source IP address and port from which the request originated. It helps the phone traverse symmetric NATs.

Rport feature depends on support from a SIP server. For more information, refer to [RFC 3581](#).

The following table lists the parameter you can use to configure rport.

<b>Parameter</b>	account.X.nat.rport <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to add the "rport" parameter in the Via header.	
<b>Permitted</b>	0-Disabled	

<b>Values</b>	<p><b>1</b>-Enabled, the INVITE Contact header uses the port in the "rport" parameter but does not use the source IP address in the "received" parameter in the Via header of server's response.</p> <p><b>2</b>-Enable Direct Process, the INVITE Contact header uses the port in the "rport" parameter and uses the source IP address in the "received" parameter in the Via header of server's response.</p>
<b>Default</b>	0
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > RPort

[1]X is the account ID. X=1-100.

## SIP Port and TLS Port Configuration

You can configure the SIP and TLS source ports on the phone. Otherwise, the phone uses default values (5060 for UDP/TCP and 5061 for TLS).

If NAT is disabled, the port number shows in the Via and Contact SIP headers of SIP messages. If NAT is enabled, the phone uses the NAT port number (and NAT IP address) in the Via and Contact SIP headers of SIP messages, but still using the configured source port.

The following table lists the parameters you can use to configure SIP port and TLS port.

<b>Parameter</b>	sip.listen_port	<y0000000000xx>.cfg
<b>Description</b>	<p>It specifies the local SIP port.</p> <p>If it is set to 0, the phone will automatically listen to the local SIP port.</p>	
<b>Permitted Values</b>	0, Integer from 1024 to 65535	
<b>Default</b>	5060	
<b>Parameter</b>	sip.tls_listen_port	<y0000000000xx>.cfg
<b>Description</b>	<p>It specifies the local TLS listen port.</p> <p>If it is set to 0, the phone will not listen to the TLS service.</p>	
<b>Permitted Values</b>	0, Integer from 1024 to 65535	
<b>Default</b>	5061	

## VPN

Yealink phones use OpenVPN to achieve VPN feature. To prevent disclosure of private information, tunnel endpoints must authenticate each other before a secure VPN tunnel is established. After you configure VPN feature on the IP phone, the phone will act as a VPN client and use the certificates to authenticate with the VPN server.

### Topics

[OpenVPN Related Files](#)

[VPN Configuration](#)

## OpenVPN Related Files

To use OpenVPN, you should collect the VPN-related files into one archive file in .tar format and then upload this tar file. The VPN-related files include certificates (ca.crt and client.crt), key (client.key) and the configuration file (vpn.cnf) of the VPN client.

The following table lists the unified directories of the OpenVPN certificates and key in the configuration file (vpn.cnf) for Yealink phones:

VPN Files	Description	Unified Directories
ca.crt	CA certificate	/config/opensvpn/keys/ca.crt
client.crt	Client certificate	/config/opensvpn/keys/client.crt
client.key	Private key of the client	/config/opensvpn/keys/client.key

## VPN Configuration

The following table lists the parameters you can use to configure the VPN.

<b>Parameter</b>	static.network.vpn_enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the OpenVPN feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Network > Advanced > VPN > Active	
<b>Parameter</b>	static.opensvpn.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the *.tar file for OpenVPN.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Advanced > VPN > Upload VPN Config	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Quality of Service (QoS)

VoIP is extremely bandwidth and delay-sensitive. QoS is a major issue in VoIP implementations, regarding how to guarantee that packet traffic is not delayed or dropped due to interference from other lower priority traffic. VoIP can guarantee high-quality QoS only if the voice and the SIP packets are given priority over other kinds of network traffic. The phones support the DiffServ model of QoS.

### Voice QoS

In order to make VoIP transmissions intelligible to receivers, voice packets should not be dropped, excessively delayed, or made to suffer varying delay. DiffServ model can guarantee high-quality voice transmission when the voice packets are configured to a higher DSCP value.

### SIP QoS

The SIP protocol is used for creating, modifying, and terminating two-party or multi-party sessions. To ensure good voice quality, SIP packets emanated from the phones should be configured with a high transmission priority.

DSCPs for voice and SIP packets can be specified respectively.

**Note:** For voice and SIP packets, the phone obtains DSCP info from the network policy if LLDP feature is enabled, which takes precedence over manual settings. For more information on LLDP, refer to [LLDP Configuration](#).

### Topic

[Voice and SIP QoS Configuration](#)

## Voice and SIP QoS Configuration

The following table lists the parameters you can use to configure voice QoS and SIP QoS.

<b>Parameter</b>	static.network.qos.audiotos <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the DSCP (Differentiated Services Code Point) for voice packets. The default DSCP value for RTP packets is 46 (Expedited Forwarding).	
<b>Permitted Values</b>	Integer from 0 to 63	
<b>Default</b>	46	
<b>Web UI</b>	Network > Advanced > QoS > Voice QoS (0~63)	
<b>Parameter</b>	static.network.qos.signalto <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the DSCP (Differentiated Services Code Point) for SIP packets. The default DSCP value for SIP packets is 26 (Assured Forwarding).	
<b>Permitted Values</b>	Integer from 0 to 63	
<b>Default</b>	26	
<b>Web UI</b>	Network > Advanced > QoS > SIP QoS (0~63)	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## TR-069 Device Management

TR-069 is a technical specification defined by the Broadband Forum, which defines a mechanism that encompasses secure auto-configuration of a CPE (Customer-Premises Equipment), and incorporates other CPE management functions into a common framework. TR-069 uses common transport mechanisms (HTTP and HTTPS) for communication between CPE and ACS (Auto Configuration Servers). The HTTP(S) messages contain XML-RPC methods defined in the standard for configuration and management of the CPE.

### Topics

[Supported RPC Methods](#)

[TR-069 Configuration](#)

## Supported RPC Methods

The following table provides a description of RPC methods supported by the phones.

RPC Method	Description
GetRPCMethods	This method is used to discover the set of methods supported by the CPE.
SetParameterValues	This method is used to modify the value of one or more CPE parameters.
GetParameterValues	This method is used to obtain the value of one or more CPE parameters.
GetParameterNames	This method is used to discover the parameters accessible on a particular CPE.
GetParameterAttributes	This method is used to read the attributes associated with one or more CPE parameters.
SetParameterAttributes	This method is used to modify attributes associated with one or more CPE parameters.
Reboot	This method causes the CPE to reboot.
Download	This method is used to cause the CPE to download a specified file from the designated loc-

RPC Method	Description
	ation. File types supported by the phones are: <ul style="list-style-type: none"> <li>• Firmware Image</li> <li>• Configuration File</li> </ul>
Upload	This method is used to cause the CPE to upload a specified file to the designated location. File types supported by the phones are: <ul style="list-style-type: none"> <li>• Configuration File</li> <li>• Log File</li> </ul>
ScheduleInform	This method is used to request the CPE to schedule a one-time Inform method call (separate from its periodic Inform method calls) sometime in the future.
FactoryReset	This method resets the CPE to its factory default state.
TransferComplete	This method informs the ACS of the completion (either successful or unsuccessful) of a file transfer initiated by an earlier Download or Upload method call.
AddObject	This method is used to add a new instance of an object defined on the CPE.
DeleteObject	This method is used to remove a particular instance of an object.

## TR-069 Configuration

The following table lists the parameters you can use to configure TR-069.

<b>Parameter</b>	static.managementserver.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the TR-069 feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Settings > TR069 > Enable TR069	
<b>Parameter</b>	static.managementserver.username	<y0000000000xx>.cfg
<b>Description</b>	It configures the TR-069 ACS server user name used to authenticate the phone. Leave it blank if no authentication is required.	
<b>Permitted Values</b>	String within 128 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > TR069 > ACS Username	
<b>Parameter</b>	static.managementserver.password	<y0000000000xx>.cfg
<b>Description</b>	It configures the TR-069 ACS server password used to authenticate the phone. Leave it blank if no authentication is required.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > TR069 > ACS Password	

<b>Parameter</b>	static.managementserver.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the TR-069 ACS server.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > TR069 > ACS URL	
<b>Parameter</b>	static.managementserver.connection_request_username	<y0000000000xx>.cfg
<b>Description</b>	It configures the user name used to authenticate the connection requests from the ACS server.	
<b>Permitted Values</b>	String within 128 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > TR069 > Connection Request Username	
<b>Parameter</b>	static.managementserver.connection_request_password	<y0000000000xx>.cfg
<b>Description</b>	It configures the password used to authenticate the connection requests from the ACS server.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > TR069 > Connection Request Password	
<b>Parameter</b>	static.managementserver.periodic_inform_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to periodically report its configuration information to the ACS server.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Settings > TR069 > Enable Periodic Inform	
<b>Parameter</b>	static.managementserver.periodic_inform_interval	<y0000000000xx>.cfg
<b>Description</b>	It configures the interval (in seconds) at which the phone reports its configuration to the ACS server. <b>Note:</b> It works only if "static.managementserver.periodic_inform_enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 5 to 4294967295	
<b>Default</b>	60	
<b>Web UI</b>	Settings > TR069 > Periodic Inform Interval (seconds)	

## 802.1x Authentication

Yealink phones support the following protocols for 802.1x authentication:

- EAP-MD5
- EAP-TLS (requires Device and CA certificates, requires no password)
- EAP-PEAP/MSCHAPv2 (requires CA certificates)
- EAP-TTLS/EAP-MSCHAPv2 (requires CA certificates)



- EAP-PEAP/GTC (requires CA certificates)
- EAP-TTLS/EAP-GTC (requires CA certificates)
- EAP-FAST (supports EAP In-Band provisioning, requires CA certificates if the provisioning method is Authenticated Provisioning)

## Topic

### 802.1x Authentication Configuration

## 802.1x Authentication Configuration

The following table lists the parameters you can use to configure 802.1x authentication.

<b>Parameter</b>	static.network.802_1x.mode <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the 802.1x authentication method.	
<b>Permitted Values</b>	0-EAP-None, no authentication 1-EAP-MD5 2-EAP-TLS 3-EAP-MSCHAPv2 4-EAP-TTLS/EAP-MSCHAPv2 5-EAP-PEAP/GTC 6-EAP-TTLS/EAP-GTC 7-EAP-FAST	
<b>Default</b>	0	
<b>Web UI</b>	Network > Advanced > 802.1x > 802.1x Mode	
<b>Parameter</b>	static.network.802_1x.eap_fast_provision_mode <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the EAP In-Band provisioning method for EAP-FAST. <b>Note:</b> It works only if "static.network.802_1x.mode" is set to 7 (EAP-FAST).	
<b>Permitted Values</b>	0-Unauthenticated Provisioning, EAP In-Band provisioning is enabled by server unauthenticated PAC (Protected Access Credential) provisioning using the anonymous Diffie-Hellman key exchange. 1-Authenticated Provisioning, EAP In-Band provisioning is enabled by server authenticated PAC provisioning using certificate-based server authentication.	
<b>Default</b>	0	
<b>Web UI</b>	Network > Advanced > 802.1x > Provisioning Mode	
<b>Parameter</b>	static.network.802_1x.anonymous_identity <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the anonymous identity (user name) for 802.1X authentication. It is used for constructing a secure tunnel for 802.1X authentication. <b>Note:</b> It works only if "static.network.802_1x.mode" is set to 2, 3, 4, 5, 6 or 7.	
<b>Permitted Values</b>	String within 512 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Advanced > 802.1x > Anonymous Identity	

<b>Parameter</b>	static.network.802_1x.identity <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the identity (user name) for 802.1x authentication.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Advanced > 802.1x > Identity	
<b>Parameter</b>	static.network.802_1x.md5_password <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the password for 802.1x authentication. <b>Note:</b> It is required for all methods except EAP-TLS.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Advanced > 802.1x > MD5 Password	
<b>Parameter</b>	static.network.802_1x.root_cert_url	<y0000000000xx>.cfg
<b>Description</b>	It configures the URL for uploading the 802.1x CA certificate. The format of the certificate must be *.pem, *.crt, *.cer or *.der. <b>Note:</b> It works only if "static.network.802_1x.mode" is set to 2, 3, 4, 5, 6 or 7. If the authentication method is EAP-FAST, you also need to set "static.network.802_1x.eap_fast_provision_mode" to 1 (Authenticated Provisioning).	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Advanced > 802.1x > CA Certificates	
<b>Parameter</b>	static.network.802_1x.client_cert_url	<y0000000000xx>.cfg
<b>Description</b>	It configures the URL for uploading the 802.1x client certificate. The format of the certificate must be *.pem. <b>Note:</b> It works only if "static.network.802_1x.mode" is set to 2 (EAP-TLS).	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Network > Advanced > 802.1x > Device Certificates	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Web Statistics

Web statistics is the measurement, collection, analysis and reporting of system data for purposes of understanding and optimizing the multi-cell system. When an abnormality occurs in the system, you can preliminarily check and locate the problem through the Statistics page.

### Topics

[Base Station Group](#)  
[All Calls](#)  
[Base Stations Calls](#)  
[Handsets Calls](#)  
[Abnormal Calls](#)  
[Upgrade Information](#)  
[DECT Signal](#)

## Base Station Group

The module of base station group shows the synchronization information among base stations. It can display the information of up to 30 base stations.

### Topics

[Base Station Statistics](#)  
[Cluster Graph Statistics](#)  
[Viewing Base Station Group Statistics](#)

## Base Station Statistics

The properties are shown below:

Item	Description
<b>Base Station</b>	Name of the base station.
<b>RPN</b>	Radio Fixed Part Number. The base station identity allocated by the DECT system.
<b>IP</b>	IP address of the base station.
<b>MAC</b>	MAC address of the base station.
<b>Sync Level</b>	Sync level within the sync hierarchy.
<b>Base Status</b>	Synchronization status of the base station. <ul style="list-style-type: none"> <li>• <b>Offline</b>: not available.</li> <li>• <b>Deactive</b>: available but not activated.</li> <li>• <b>Active</b>: activated but not synchronized.</li> <li>• <b>Active and synced</b>: activated and synchronized.</li> <li>• <b>Upgrading</b>: firmware upgrading.</li> </ul>
<b>RSSI</b>	RPN and signal value of the synchronous base. For example, "RPN3 (-76dBm)" indicates that the current base is synchronized with the base

Item	Description
	that is numbered RPN3 and the signal value is -76dBm. <b>Note:</b> RSSI refreshes automatically every 20 seconds.
<b>Interference</b>	Number of interferences detected by base.
<b>Fre/Slot</b>	<b>Fre:</b> frequency band where the base on a higher sync level is located. <b>Slot:</b> slot where the base on a higher sync level is located. For example, "8/6 (Good)" indicates that the frequency band of the base on a higher sync level is 8, the slot is 6, and the synchronization with the base is Good. <b>Note:</b> The synchronization with the base on a higher sync level includes <b>Good, Normal, Weak, Unknown</b> , and "-", where <b>Unknown</b> is displayed when the information is not updated, and "-" is displayed when the base is offline.
<b>Signal Num</b>	The number of signals that is greater or equal to -88dbm (RSSI > =-0x48) detected by base.
<b>Network Drop</b>	The number of network disconnections.
<b>Start Time</b>	The latest startup time of the base. <b>Note:</b> It will not be reset even if you manually clear the statistical data.

Due to the different base statuses, the following items are specially explained:




- **Async**、**Network Drop**: Corresponding values are displayed for any base status.
- **Signal Num**、**Start Time**: A value is displayed only when the base status is **Active** or **Active and synced**, and "-" is displayed for other base statuses.
- **RSSI**、**Fre/Slot**: A value is displayed only when the base status is **Active and synced**, and "-" is displayed for other base statuses.
- For the base with sync level 1, the following items always display "-": **RSSI**, **Async**, and **Fre/Slot**.

## Cluster Graph Statistics

The tree map is described as follows:

### (1) Cables

Different cables are used between the bases to indicate the synchronized base signal.




- **Solid blue line** (  ): -85dBm <= RSSI <= -28dBm
- **Red dotted line** (  ): -99dBm < RSSI <= -86dBm
- **Gray dotted line** (  ): No data available

**Note:** When the base status is not **Active and synced**, the base does not display the synchronized RSSI value. Both are connected with a gray dotted line.

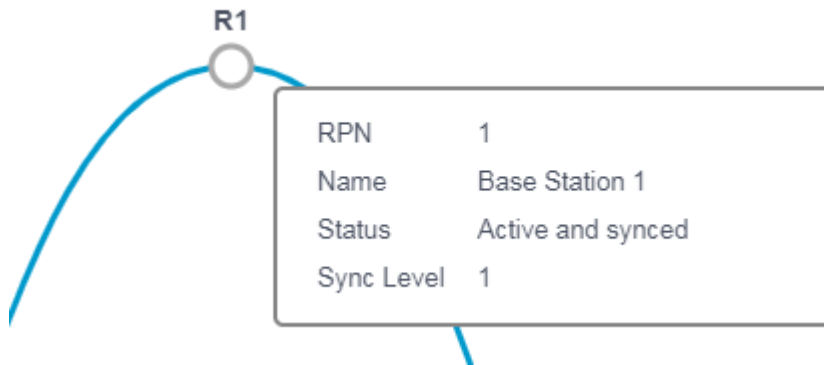
If the previous base on a higher sync level cannot be found (such as the base was deleted), there is no connection line, it is displayed individually and placed under the base with sync level 1.

### (2) Circles

Different circles are used to indicate different base status.

- **White hollow circle** (  ): Active and synced
- **Red solid circle** (  ): Offline, Active, Upgrading
- **Gray solid circle** (  ): Deactive

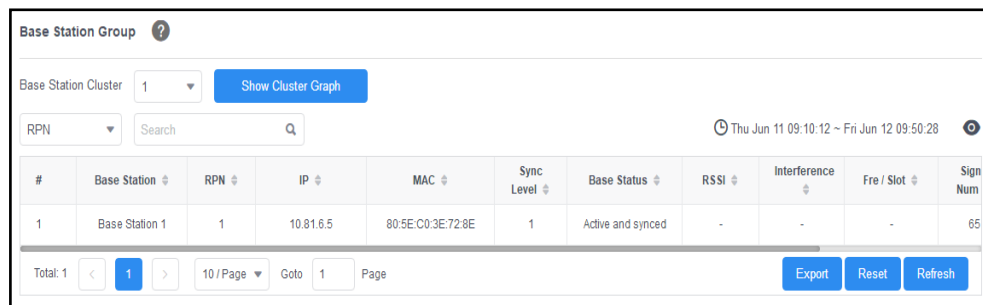
Hovering the mouse over the corresponding base will display the base details in the floating window, as shown below:



## Viewing Base Station Group Statistics

### Procedure

1. Access the web user interface of the DM.
2. Go to **Status > Base Station Group**.

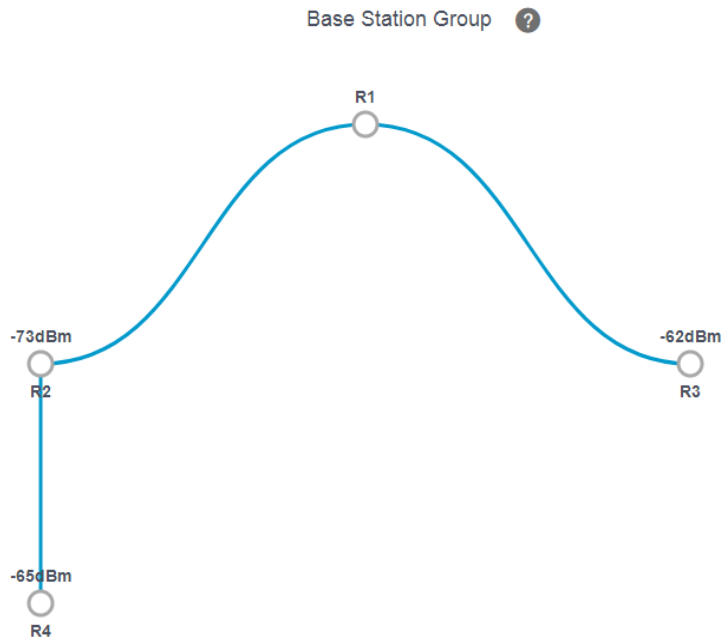


The screenshot shows the 'Base Station Group' interface. At the top, there is a 'Base Station Cluster' dropdown menu set to '1' and a 'Show Cluster Graph' button. Below this is a search bar for 'RPN' and a search input field. A timestamp indicates the current time is 'Thu Jun 11 09:10:12 ~ Fri Jun 12 09:50:28'. The main part of the interface is a table with the following data:

#	Base Station	RPN	IP	MAC	Sync Level	Base Status	RSSI	Interference	Fre / Slot	Sign Num
1	Base Station 1	1	10.81.6.5	80:5E:C0:3E:72:8E	1	Active and synced	-	-	-	65

At the bottom of the table, there is a pagination control showing 'Total: 1', a page number '1', and a 'Page' dropdown set to '10 / Page'. There are also 'Export', 'Reset', and 'Refresh' buttons.

3. You can do the following:
  - Select the desired cluster from the **Base Station Cluster** drop-down menu, and click **Show Cluster Graph** to view the synchronization information of the base.






To save the tree map, click **Save Image**.  
The picture is stored in PNG format by default.

- Select the desired cluster from the **Base Station Cluster** drop-down menu, select the search type and enter the search criteria to perform a search.

Base Station Cluster

- Click **Export** to export statistics.
- Click **Reset** to clear and restart the statistics.
- Click **Refresh** to refresh the current statistics.

### Related Topics

[Base Station Statistics](#)  
[Cluster Graph Statistics](#)

## All Calls

The module of all calls shows the call information of all handsets in the system. Up to 100 call records can be displayed, and the oldest one will be automatically deleted if the max limit has been reached.

### Topics

[All Calls Statistics](#)  
[Viewing All Calls Statistics](#)

## All Calls Statistics

The properties are shown below:

Item	Description
<b>Call Time</b>	Time when the call was established.
<b>Duration</b>	Call duration.
<b>Call Type</b>	Call type, including <b>Placed Calls</b> , <b>Received Calls</b> , and <b>Missed Calls</b> .
<b>Local User (Handset)</b>	Local identity of the call. Local User is the local account, and Handset is the local handset number. For example, 5707 (H7) indicates that the local account is 5707 and the handset number is H7.
<b>Remote User</b>	Far-site information of the call.
<b>Operation</b>	Call performance during a call, including <b>Transfer</b> , <b>Conference</b> , and <b>Forward</b> . <b>Note:</b> Only when a network conference is performed during a call will it be recorded as <b>Conference</b> .


## Viewing All Calls Statistics

### Procedure

1. Access the web user interface of the DM.
2. Go to **Statistics > All Calls**.
3. Select the desired call type from the **Call Type** drop-down menu.

All Calls						
Call Type	All Calls	?	Tue Nov 19 09:54:39 ~ Fri Dec 06 16:35:35			
#	Call Time	Duration	Call Type	Local User (Handset)	Remote User	Operation
1	Fri Dec 06 16:32:08	01:43	Received Calls	8531 (H4)	2560	-
2	Fri Dec 06 16:32:21	01:00	Received Calls	8106 (H29)	8218	-
3	Fri Dec 06 16:33:17	00:00	Missed Calls	3300 (H50)	8520	-
4	Fri Dec 06 16:31:09	00:00	Missed Calls	8604 (H43)	8539	-
5	Fri Dec 06 16:28:13	02:22	Received Calls	2321 (H47)	2344	-

4. You can do the following:

- Click  to customize the properties displayed in the statistics table.
- Click **Export** to export statistics.
- Click **Reset** to clear and restart the statistics.
- Click **Refresh** to refresh the current statistics.

### Related Topics

[All Calls Statistics](#)

## Base Stations Calls

The module of base station calls shows the call information on each base station in the system. Up to 100 call records can be displayed, and the oldest one will be automatically deleted if the max limit has been reached.

### Topics

[Base Stations Calls Statistics](#)
[Viewing Base Stations Calls Statistics](#)

## Base Stations Calls Statistics

The following shows base stations calls information:

Item	Description
<b>Base Station</b>	Name of the base station.
<b>IP</b>	IP address of the base station.
<b>MAC</b>	MAC address of the base station.
<b>Active</b>	Number of active handsets on the base station.
<b>Max Active</b>	Maximum number of active handsets that have appeared on the base station. <b>Note:</b> The maximum number of active handsets in narrowband is 8 and in wideband is 4.
<b>Busy</b>	Number of busy-state the base station has entered. The busy-state indicates that the number of active handsets under the base station reaches the limit (narrowband: 8; wideband: 4).
<b>Handover In</b>	Number of incoming handovers
<b>Handover Out</b>	Number of outgoing handovers <b>Note:</b> If a call is established on a base, the outgoing handovers are all recorded by this base. For example, if H1 establishes a call on Base1, roams to Base2 during the call, and then roams to Base3, the number of outgoing handovers on Base1 is 2, and the number of incoming handovers on Base1, Base2, and Base3 is 1.
<b>Call Drops</b>	Number of lost connections, for example, interrupted calls <b>Format:</b> number of lost connections / total number of calls For example, "1/4 (25%)" indicates that the total number of calls is 4, and the call is interrupted once.
<b>No Audio</b>	Number of silent calls on the base. <b>Format:</b> number of silent calls / total number of calls For example, "1/4 (25%)" indicates that the total number of calls is 4, and the silent call occurs once. <b>Note:</b> The number of silent times during a call is counted as one, and only the silent that occurs when the handset is not roaming during the call can be counted.

**Note:** The "Sum" line is the sum of all base call statistics.




## Viewing Base Stations Calls Statistics

### Procedure

1. Access the web user interface of the DM.
2. Go to **Statistics > Base Stations Calls**.

#	Base Station	IP	MAC	Active	Max Active	Busy	Handover In	Handover Out	Call Drops	No Audio
Sum	-	-	-	2	2	0	0	0	0/0 (-)	0/0 (-)
1	Base Station 1	10.81.6.5	80:5E:C0:3E:72:8E	2	2	0	0	0	0/0 (-)	0/0 (-)

3. You can do the following:

- Click  to customize the properties displayed in the statistics table.
- Click **Export** to export statistics.
- Click **Reset** to clear and restart the statistics.
- Click **Refresh** to refresh the current statistics.

### Related Topics

[Base Stations Calls Statistics](#)

## Handsets Calls

The module of handsets calls shows the call information on each handset in the system. It can display the information of up to 100 handsets.

### Topics

[Handsets Calls Statistics](#)

[Viewing Handsets Calls Statistics](#)

## Handsets Calls Statistics

The following shows all handsets call information:

Field	Description
<b>Handset</b>	Handset name The registered handsets are displayed in ascending order.
<b>Account</b>	Account number of the handset.
<b>Abnormal Calls / Total</b>	All abnormal calls / total calls of the handset.
<b>Average Call</b>	Average call duration of all calls on the handset.

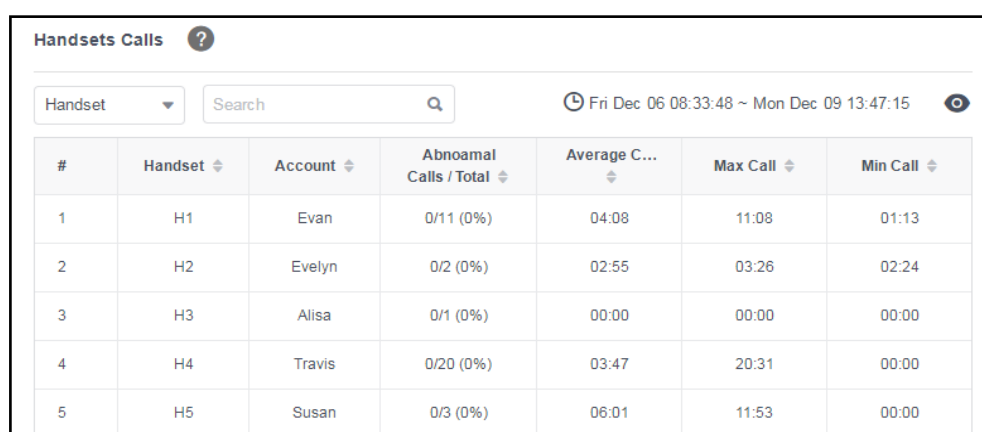
Field	Description
<b>Max Call</b>	Maximum call duration for all calls on the handset.
<b>Min Call</b>	Minimum call duration for all calls on the handset, including the number of calls with a duration of 0, such as Missed Call, Outgoing Rejection, and Incoming Call Rejection.

**Note:** The "Sum" line is the sum of all handset call statistics. Handsets that have not yet established a call are not counted.

## Viewing Handsets Calls Statistics


### Procedure

1. Access the web user interface of the DM.
2. Go to **Statistics > Handsets Calls**.



The screenshot shows the 'Handsets Calls' interface with a search bar, a date range filter (Fri Dec 06 08:33:48 ~ Mon Dec 09 13:47:15), and a table of statistics for five handsets (H1 to H5).

#	Handset	Account	Abnoamal Calls / Total	Average C...	Max Call	Min Call
1	H1	Evan	0/11 (0%)	04:08	11:08	01:13
2	H2	Evelyn	0/2 (0%)	02:55	03:26	02:24
3	H3	Alisa	0/1 (0%)	00:00	00:00	00:00
4	H4	Travis	0/20 (0%)	03:47	20:31	00:00
5	H5	Susan	0/3 (0%)	06:01	11:53	00:00

3. You can do the following:
  - Select the search type and enter the search criteria to perform a search.
  - Click  to customize the properties displayed in the statistics table.
  - Click **Export** to export statistics.
  - Click **Reset** to clear and restart the statistics.
  - Click **Refresh** to refresh the current statistics.

### Related Topics

[Handsets Calls Statistics](#)

## Abnormal Calls

The module of abnormal calls shows the abnormal call information in the system. Up to 30 call records can be displayed, and the oldest one will be automatically deleted if the max limit has been reached.

### Topics

[Abnormal Calls Statistics](#)

[Viewing Abnormal Calls Statistics](#)


## Abnormal Calls Statistics

The following shows all abnormal calls information:

Item	Description
<b>Call Time</b>	Time when the call was established.
<b>Handset</b>	Handset which has an abnormal call.
<b>Account</b>	Account number for the current handset.
<b>Call Type</b>	Call type, including <b>Placed Calls</b> , <b>Received Calls</b> , and <b>Missed Calls</b> .
<b>Duration</b>	Call duration.
<b>Base Handover</b>	Base received a handover during the call.
<b>Codec</b>	SIP codec used for the call negotiation.
<b>Remote User</b>	Far-site information of the call.
<b>Status</b>	Final state of the call.
<b>Reason</b>	Reason why the abnormality occurs during the call. <ul style="list-style-type: none"> <li>• OTA upgrading</li> <li>• Not found</li> <li>• Not in range</li> <li>• Unknown:</li> </ul>
<b>Packet Loss Rate</b>	Packet loss rate of the call. <b>Note:</b> This function is not supported for the time being, it is displayed as "—".

## Viewing Abnormal Calls Statistics

### Procedure

1. Access the web user interface of the DM.
2. Go to **Statistics > Abnormal Calls**.
3. Select the desired call type from the **Call Type** drop-down menu.
4. You can do the following:
  - Select the search type and enter the search criteria to perform a search.
  - Click  to customize the properties displayed in the statistics table.
  - Click **Export** to export statistics.
  - Click **Reset** to clear and restart the statistics.
  - Click **Refresh** to refresh the current statistics.

### Related Topics

[Abnormal Calls Statistics](#)

## Upgrade Information

The module of upgrade information shows the information about handset upgrade, including upgrading via web user interface, auto provisioning, or the handset. Up to 6 records will be displayed and the oldest will be automatically deleted.

### Topics

[Upgrade Information Statistics](#)

[Viewing Upgrade Information Statistics](#)

## Upgrade Information Statistics

The following shows all the upgrade information:

Field	Description
<b>Upgrade Time</b>	Start time of the upgrade.
<b>Upgrade Method</b>	Upgrade mode, including <b>Normal</b> and <b>Grayscale Upgrade</b> . <b>Note:</b> When upgrading via the web user interface, you can choose to upgrade in normal or grayscale mode, and the default upgrade mode for the handset upgrade is the grayscale mode.
<b>Duration</b>	How long the upgrade process lasts.
<b>Devices</b>	Type of the device that is upgraded at this time, including <b>W59R</b> , <b>W53H</b> , <b>W56H</b> , <b>T41S + DD10K</b> , and <b>CP930W</b> .
<b>Total</b>	Total number of handsets to be upgraded this time.
<b>Succeeded</b>	Number of handsets successfully upgraded this time.
<b>Failed</b>	Number of handsets that failed to upgrade this time.
<b>No Upgrade</b>	Number of handsets that are not upgraded this time.
<b>Description</b>	Handset that failed to upgrade. If there are more than 3, the first 3 will be displayed, and the following will be displayed as an ellipsis. Such as "H1, H2, H3 ...", when you hover your mouse to this place, all the information of the handsets that failed to upgrade will be displayed. If all handsets are successfully upgraded, it displays nothing. <b>Note:</b> It will not be recorded if the handset is not upgraded due to the same firmware version.

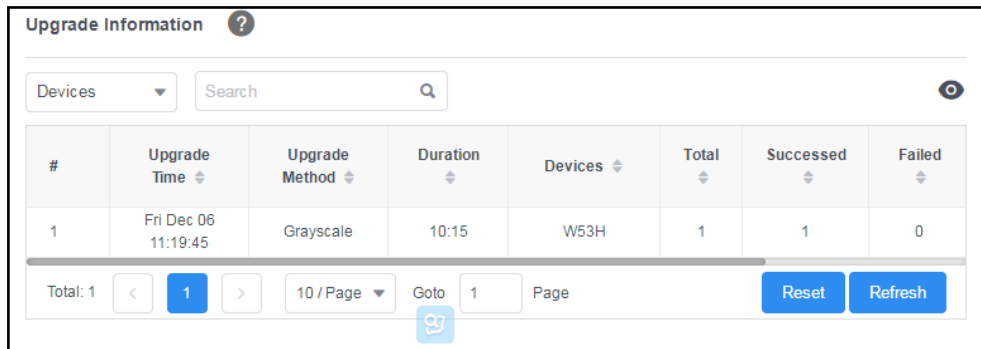
You may need to know the following statistical rules for the same version upgrade:

- If all handsets involved in this upgrade are the same as the upgraded version, there is no upgrade record.
- If some of the handsets involved in this upgrade are the same as the upgraded version, records of no upgrade caused by the same version will be recorded in the **No Upgrade** field.


## Viewing Upgrade Information Statistics

### Procedure

1. Access the web user interface of the DM.
2. Go to **Statistics > Upgrade Information**.



#	Upgrade Time	Upgrade Method	Duration	Devices	Total	Succeeded	Failed
1	Fri Dec 06 11:19:45	Grayscale	10:15	W53H	1	1	0

3. You can do the following:
  - Select the search type and enter the search criteria to perform a search.
  - Click  to customize the properties displayed in the statistics table.
  - Click **Export** to export statistics.
  - Click **Reset** to clear and restart the statistics.
  - Click **Refresh** to refresh the current statistics.

#### Related Topics

[Upgrade Information Statistics](#)

## DECT Signal

The module of DECT signal shows signal interference around each base station in the system.

#### Topics

[DECT Signal Statistics](#)




[Viewing DECT Signal Statistics](#)

## DECT Signal Statistics

The following shows some special values:

dBm	RSSI	Description
0	FF	The position of the base or the position of the handset under the base.

The meaning of each color in the statistical table is as follows.

RSSI	dBm	RSSI
	[-73,-27]	[70,D8]
	[-88,-73)	[48,70)
	[-97,-88)	[30,48)

RSSI	dBm	RSSI
■	[-99,-97)&0	[0,30)&FF

**Note:** The data presented in the statistics table includes the signal data transmitted by the base of the same system and the calls under the base.

The frequency bands in different regions of different versions are different. The frequency bands here start from 0. The actual number of frequency bands is based on actual conditions. For example, the frequency band used by Korea is Freq6-Freq8, but Freq0- Freq2 are displayed instead.

## Viewing DECT Signal Statistics

### Procedure

1. Access the web user interface of the DM.
2. Go to **Statistics > DECT Signal**.
3. Select the desired base station.
4. Select the desired unit.

DECT Signal ?

Base Station 1 dBm Export Refresh ■ 20 ■ 43 ■ 103 ■ 74

#	Fre 0	Fre 1	Fre 2	Fre 3	Fre 4	Fre 5	Fre 6	Fre 7	Fre 8	Fre 9
Slot 0	-73	-90	-59	-88	-93	-90	-90	-93	-90	-93
Slot 1	-93	-88	-85	-93	-93	-93	-90	-93	-93	-97
Slot 2	-90	-90	-79	-41	-76	-90	-90	-59	-85	-93
Slot 3	-73	-44	-56	-85	-90	-85	-90	-76	-90	-85
Slot 4	-79	-44	-39	-73	-88	-85	-90	-79	-90	-90
Slot 5	-93	-85	-39	-82	-90	-90	-93	-97	-93	-85

5. Click **Export** to export statistics.
6. Click **Refresh** to refresh the current statistics.

### Related Topics

[DECT Signal Statistics](#)

# Phone Provisioning

You can provision multiple phones with the same settings for large-scale deployments.

For more information, refer to [Yealink SIP IP Phones Auto Provisioning Guide](#).

## Topics

[Boot Files, Configuration Files, and Resource Files](#)

[Provisioning Methods](#)

[Setting Up a Provisioning Server](#)

[Keeping User's Personalized Settings after Auto Provisioning](#)

## Boot Files, Configuration Files, and Resource Files

You can use boot files, configuration files, and resource files to configure phone features and apply feature settings to phones. You can create or edit these files using a text editor such as Notepad++.

You can ask the distributor or Yealink FAE for template files. You can also obtain the template files online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

## Topics

[Boot Files](#)

[Configuration Files](#)

[Resource Files](#)

[Files Download Process](#)

## Boot Files

Yealink phones support boot files. The boot files maximize the flexibility to allow you to customize features and settings for multiple phones.

With the boot file, you can specify which configuration files should be downloaded. It is effective for you to provision the phones in different deployment scenarios:

- For all phones
- For a group of phones
- For a single phone

Yealink phones support two types of boot files: common boot file and MAC-Oriented boot file. You can use the default boot template file “y000000000000.boot” to create MAC-Oriented boot file by making a copy and renaming it.

**Note:** You can select whether to use the boot file or not according to your deployment scenario. If you do not want to use the boot file, please go to [Configuration Files](#).

## Topics

[Common Boot File](#)

[MAC-Oriented Boot File](#)

[Boot File Attributes](#)

[Customizing a Boot File](#)

## Common Boot File

Common boot file, named y000000000000.boot, is effective for all phones. You can use a common boot file to apply common feature settings to all of the phones rather than a single phone.

## MAC-Oriented Boot File

MAC-Oriented boot file, named <MAC>.boot. It will only be effective for a specific IP phone. In this way, you have high permission to control each phone by making changes on a per-phone basis.

You can create a MAC-Oriented boot file for each phone by making a copy and renaming the boot template file (y000000000000.boot). For example, if your phone MAC address is 00156574B150, rename the template file as 00156574b150.boot (lowercase).

**Tip:** MAC address, a unique 12-digit serial number is assigned to each phone. You can obtain it from the bar code on the back of the base.

## Boot File Attributes

The following table lists the attributes you need to know in the boot template file.

Attributes	Description
#lversion:1.0.0.1	It must be placed in the first line. Do not edit and delete.
include:config <xxx.cfg> include:config "xxx.cfg"	Each "include" statement can specify a location of a configuration file. The configuration file format must be *.cfg.  The locations in the angle brackets or double quotation marks support two forms: <ul style="list-style-type: none"> <li>Relative path (relative to the boot file): For example, sip.cfg, HTTP Directory/sip.cfg</li> <li>Absolute path (or URL): For example, http://10.2.5.258/HTTP Directory/sip.cfg</li> </ul> The location must point to a specific CFG file.
overwrite_mode	Enable or disable the overwrite mode.  <b>1</b> -(Enabled) - If the value of a parameter in configuration files is left blank, or if a non-static parameter in configuration files is deleted or commented out, the factory default value takes effect.  <b>0</b> -(Disabled) - If the value of a parameter in configuration files is left blank, deleted or commented out, the pre-configured value is kept.  <b>Note:</b> Overwrite mode can only be used in boot files. If a boot file is used but "overwrite_mode" is not configured, the overwrite mode is enabled by default.

**Tip:** The line beginning with "#" is considered to be a comment. You can use "#" to make any comment on the boot file.

## Customizing a Boot File

### Procedure

1. Open a boot template file.
2. To add a configuration file, add include:config < > or include:config "" to the file. Each starts on a separate line.
3. Specify a configuration file for downloading.  
For example:  
include:config <configure/sip.cfg >  
include:config "http://10.2.5.206/configure/account.cfg"  
include:config "http://10.2.5.206/configure/dialplan.cfg"
4. Specify the overwrite mode.  
For example:  
overwrite\_mode = 1



5. Save the boot file and place it on the provisioning server.

### Related Topic

[Boot File Attributes](#)

## Configuration Files

Yealink supports two configuration template files: Common CFG file and MAC-Oriented CFG file.

These configuration files contain two kinds of parameters:

- Static: The parameters start with a prefix “static.”, for example, static.auto\_provision.custom.protect.
- Non-static: The parameters do not start with a prefix “static.”, for example, local\_time.date\_format.

You can deploy and maintain a mass of Yealink phones automatically through configuration files stored in a provisioning server.

**Note:** For protecting against unauthorized access, you can encrypt configuration files. For more information on encrypting configuration files, refer to [Encrypting and Decrypting Files](#).

### Topics

[Common CFG File](#)

[MAC-Oriented CFG File](#)

[MAC-local CFG File](#)

[Configuration File Customization](#)

[Configuration File Attributes](#)

## Common CFG File

Common CFG file, named <y000000000xx>.cfg, contains parameters that affect the basic operation of the IP phone, such as language and volume. It will be effective for all phones in the same model. The common CFG file has a fixed name for each phone model.

The name of the common CFG file for W80DM device is y000000000103.cfg.

## MAC-Oriented CFG File

MAC-Oriented CFG file, which is named after the MAC address of the IP phone. For example, if the MAC address of an IP phone is 00156574B150, the name of MAC-Oriented CFG file is 00156574b150.cfg (lowercase). It contains parameters unique to a particular phone, such as account registration. It will only be effective for a MAC-specific IP phone.

## MAC-local CFG File

MAC-local CFG file, which is named after the MAC address of the IP phone. For example, if the MAC address of an IP phone is 00156574B150, the name of the MAC-local CFG file is 00156574b150-local.cfg (lowercase). It contains changes associated with a non-static parameter that you make via the web user interface or handset user interface (for example, changes for time and date formats).

This file generates only if you enable the provisioning priority mechanism. It is stored locally on the IP phone and you can upload it to the provisioning server each time the file updates. This file enables the users to keep their personalized configuration settings, even though the IP phone performs auto provisioning.

**Note:** The non-static changes that you made before enabling the provisioning priority mechanism are not saved in the generated MAC-local file, but the previous settings still take effect on the phone. The static changes are never be saved to the <MAC>-local.cfg file.

The provisioning priority mechanism is enabled by the parameter “static.auto\_provision.custom.protect”.

## Configuration File Customization

You can create some new CFG files by making a copy and renaming the configuration template file (for example, sip.cfg, account.cfg). You can rearrange the parameters in the configuration template file and create your own con-

figuration files with parameters you want. This flexibility is especially useful when you want to apply specific settings to a group of phones.

## Topic

### [Customizing a Configuration File](#)

#### Customizing a Configuration File

1. Copy and rename a configuration template file. For example, sip.cfg.
2. Rearrange the parameters in the sip.cfg, and set the valid values for them.

For example:

```
account.1.anonymous_call = 1
```

3. Save the configuration file and place it on the provisioning server.

## Related Topic

### [Configuration File Attributes](#)

#### Configuration File Attributes

The following table lists the attributes you need to know in the configuration template file.

Attributes	Description
#!version:1.0.0.1	It must be placed in the first line. Do not edit and delete.
Configuration Parameter=Valid Value (for example, account.1.dnd.enable = 1)	Specify the parameters and values to apply specific settings to the phones. <ul style="list-style-type: none"> <li>• Separate each configuration parameter and value with an equal sign</li> <li>• Set only one configuration parameter per line</li> <li>• Put the configuration parameter and value on the same line and do not break the line</li> </ul>

**Tip:** The line beginning with “#” is considered to be a comment. You can use “#” to make any comment on the configuration file.

## Resource Files

Resource files are optional, but if the particular feature is being employed, these files are required. You need to place resource files on the provisioning server. The phones request the resource files in addition to the configuration files during auto provisioning.

**Tip:** If you want to specify the desired phone to use the resource file, the access URL of the resource file should be specified in the MAC-Oriented CFG file. During auto provisioning, the phones will request the resource files in addition to the configuration files.

## Topic

### [Supported Resource Files](#)

#### Supported Resource Files

Yealink supplies some template of resource files for you, so you can directly edit the files as required.

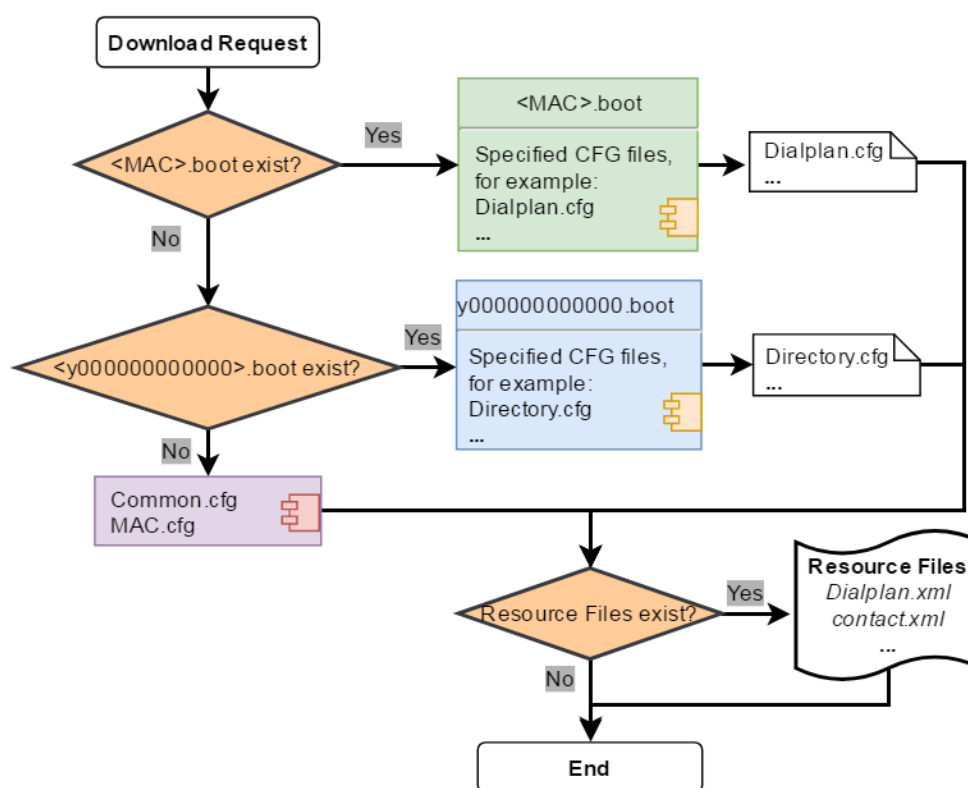
The following table lists the resource files Yealink supplies:

Template File	File Name	Description	Reference in Section
AutoDST Template	AutoDST.xml	Add or modify time zone and DST settings.	<a href="#">DST Settings</a>
Language Packs	For example, 1.English.js	Customize the translation of the existing language on the web user interface.	<a href="#">Language for Web Display Customization</a>

Template File	File Name	Description	Reference in Section
Replace Rule Template	DialPlan.xml	Customize replace rules for the dial plan.	<a href="#">Replace Rule File Customization</a>
Dial Now Template	DialNow.xml	Customize dial now rules for the dial plan.	<a href="#">Dial Now File Customization</a>
Super Search Template	super_search.xml	Customize the search source list.	<a href="#">Search Source File Customization</a>
Local Contact File	contact.xml	Add or modify multiple local contacts.	<a href="#">Local Contact File Customization</a>
Remote Phone Book Template	Department.xml Menu.xml	Add or modify multiple remote contacts.	<a href="#">Remote Phone Book File Customization</a>

## Files Download Process

When you provision the phones, the phones will request to download the boot files, configuration files and resource files from the provisioning server according to the following flowchart:



The parameters in the newly downloaded configuration files will override the same parameters in files downloaded earlier.

## Provisioning Methods

Yealink provides two ways to provision your phones:

- Manual Provisioning: provisioning via the handset user interface or web user interface.
- Central Provisioning: provisioning through configuration files stored in a central provisioning server.

The method you use depends on how many phones need to be deployed and what features and settings to be configured. Manual provisioning on the web or handset user interface does not contain all of the phone settings available with the centralized method. You can use the web user interface method in conjunction with a central

provisioning method and handset user interface method. We recommend using centralized provisioning as your primary provisioning method when provisioning multiple phones.

### Topics

[Provisioning Methods Priority](#)

[Web User Interface](#)

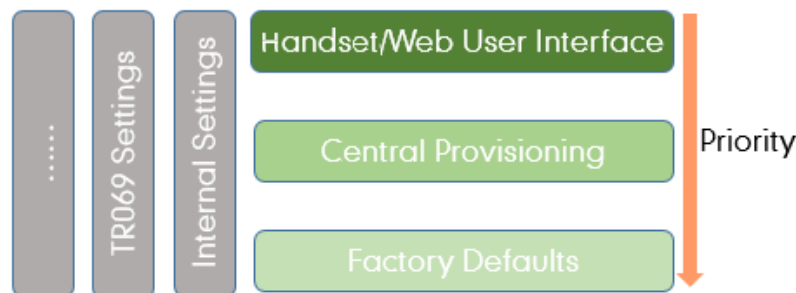
[Phone User Interface](#)

[Central Provisioning](#)

## Provisioning Methods Priority

There is a priority for configuration among the provisioning methods - settings you make using a higher priority provisioning method override settings made using a lower priority provisioning method.

The precedence order for configuration parameter changes is as follows (highest to lowest):



**Note:** The provisioning priority mechanism takes effect only if “static.auto\_provision.custom.protect” is set to 1. For more information on this parameter, refer to [Keeping User's Personalized Settings Configuration](#).

Static parameters have no priority. They take effect no matter what method (web user interface or phone user interface or configuration files) you are using for provisioning.

Static parameters are the parameters that start with a prefix “static.”, for example, the parameters associated with auto provisioning/network/syslog, TR069 settings and internal settings (the temporary configurations to be used for program running).

## Web User Interface

You can configure the phones via the web user interface, a web-based interface that is especially useful for remote configuration.

Because features and configurations vary by phone models and firmware versions, options available on each page of the web user interface can vary as well. Note that the features configured via the web user interface are limited. Therefore, you can use the web user interface in conjunction with a central provisioning method and phone user interface.

**Note:** When you manually configure a phone via the web user interface or handset user interface, the changes associated with non-static parameters you make will be stored in the MAC-local CFG file. For more information on the MAC-local CFG file, refer to [MAC-local CFG File](#).

### Topics

[Quick Login Configuration](#)

[Web Server Type Configuration](#)

## Quick Login Configuration

You can access the web user interface quickly using the request URI. It will locate you in the **Status** web page after accessing the web user interface. It is helpful to quickly log into the web user interface without entering the user-name and password on the login page.

**Note:** Accessing the web user interface by request URI may be restricted by the web explorer (for example, Internet Explorer).

For security purposes, we recommend that you use this feature in a secure network environment.

The following table lists the parameters you can use to configure quick login.

<b>Parameter</b>	wui.quick_login	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the quick login feature. <b>Note:</b> It works only if “static.wui.https_enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled, you can quickly log into the web user interface using a request URI (for example, https://IP/api/auth/login?@admin:admin).	
<b>Default</b>	0	
<b>Parameter</b>	wui.secure_domain_list	<y0000000000xx>.cfg
<b>Description</b>	It configures the valid domain name to access the web user interface of the phone. Multiple domain names are separated by semicolons. <b>Example:</b> wui.secure_domain_list = test.abc.com You are only allowed to use test.abc.com or IP address to access the web user interface of the phone. <b>Note:</b> To use a domain name to access the web user interface of the phone, make sure your DNS server can resolve the domain name to the IP address of the phone.	
<b>Permitted Values</b>	String If it is left blank, you are only allowed to use the IP address to access the web user interface of the phone. If it is set to “any”, you can use IP address or any domain name to access the web user interface of the phone.	
<b>Default</b>	any	

## Web Server Type Configuration

Yealink phones support both HTTP and HTTPS protocols for accessing the web user interface. You can configure the web server type. Web server type determines the access protocol of the web user interface. If you disable to access the web user interface using the HTTP/HTTPS protocol, both you and the user cannot access the web user interface.

The following table lists the parameters you can use to configure the web server type.

<b>Parameter</b>	static.wui.http_enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to access the web user interface of the phone over a non-secure tunnel (HTTP).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Network > Advanced > Web Server > HTTP	
<b>Parameter</b>	static.network.port.http <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the port used to access the web user interface of the phone over a non-secure tunnel (HTTP).	

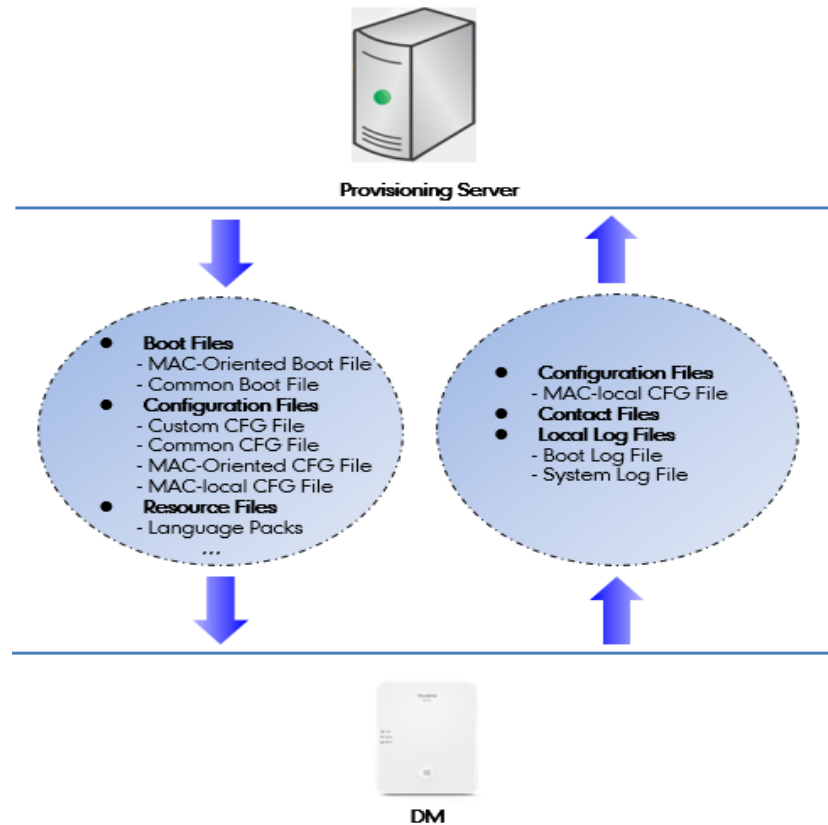
<b>Permitted Values</b>	Integer from 1 to 65535	
<b>Default</b>	80	
<b>Web UI</b>	Network > Advanced > Web Server > HTTP Port (1~65535)	
<b>Parameter</b>	static.wui.https_enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to access the web user interface of the phone over a secure tunnel (HTTPS).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Network > Advanced > Web Server > HTTPS	
<b>Parameter</b>	static.network.port.https <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the port used to access the web user interface of the phone over a secure tunnel (HTTPS).	
<b>Permitted Values</b>	Integer from 1 to 65535	
<b>Default</b>	443	
<b>Web UI</b>	Network > Advanced > Web Server > HTTPS Port (1~65535)	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Central Provisioning

Central provisioning enables you to provision multiple phones from a provisioning server that you set up, and maintain a set of boot files, configuration files and resource files for all phones in the central provisioning server.

The following figure shows how the phone interoperates with provisioning server when you use the centralized provisioning method:



Yealink phones can obtain the provisioning server address during startup. Then the phones first download boot files and configuration files from the provisioning server and then resolve and update the configurations written in configuration files. This entire process is called auto provisioning. For more information on auto provisioning, refer to [Yealink SIP IP Phones Auto Provisioning Guide](#).

The phones can be configured to upload log files (log files provide a history of phone events), call log files and contact files to the provisioning server. You can also configure a directory for each of these three files respectively.

## Topics

[Auto Provisioning Settings Configuration](#)

## Auto Provisioning Settings Configuration

The following table lists the parameters you can use to configure settings for auto provisioning.

<b>Parameter</b>	static.auto_provision.attempt_expired_time	<y0000000000xx>.cfg
<b>Description</b>	It configures the timeout (in seconds) to transfer a file via auto provisioning. <b>Note:</b> It has a higher priority than the value defined by the parameter “static.network.attempt_expired_time”.	
<b>Permitted Values</b>	Integer from 1 to 300	
<b>Default</b>	20	
<b>Web UI</b>	Settings > Auto Provision > Attempt Expired Time(s)	
<b>Parameter</b>	static.network.attempt_expired_time <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the timeout (in seconds) to transfer a file for HTTP/HTTPS connection. <b>Note:</b> It has a lower priority than the value defined by the parameter “static.auto_provision.attempt_	

	expired_time".	
<b>Permitted Values</b>	Integer from 1 to 20	
<b>Default</b>	10	
<b>Parameter</b>	static.auto_provision.attempt_before_failed	<y0000000000xx>.cfg
<b>Description</b>	It configures the maximum number of attempts to transfer a file before the transfer fails during auto provisioning.	
<b>Permitted Values</b>	Integer from 1 to 10	
<b>Default</b>	3	
<b>Parameter</b>	static.auto_provision.retry_delay_after_file_transfer_failed	<y0000000000xx>.cfg
<b>Description</b>	It configures the time (in seconds) to wait after a file transfer fails before retrying the transfer via auto provisioning.	
<b>Permitted Values</b>	Integer from 0 to 300	
<b>Default</b>	5	
<b>Parameter</b>	static.auto_provision.reboot_force.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	<p>It enables or disables the phone to reboot after auto provisioning, even if there is no specific configuration requiring a reboot.</p> <p><b>Note:</b> It works only for the current auto provisioning process. If you want the phone to reboot after every auto provisioning process, the parameter must be always contained in the configuration file and set to 1.</p> <p>If the phone reboots repeatedly after it is set to 1, you can try to set "static.auto_provision.power_on" to 0 (Off).</p>	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	Blank	
<b>Parameter</b>	static.auto_provision.power_on	<y0000000000xx>.cfg
<b>Description</b>	It triggers the power on feature to on or off.	
<b>Permitted Values</b>	0-Off 1-On, the phone performs auto provisioning when powered on.	
<b>Default</b>	1	
<b>Web UI</b>	Settings > Auto Provision > Power On	
<b>Parameter</b>	static.auto_provision.repeat.enable	<y0000000000xx>.cfg
<b>Description</b>	It triggers the repeatedly feature to on or off.	
<b>Permitted Values</b>	0-Off 1-On	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Auto Provision > Repeatedly	



<b>Parameter</b>	static.auto_provision.repeat.minutes	<y0000000000xx>.cfg
<b>Description</b>	It configures the interval (in minutes) for the phone to perform auto provisioning repeatedly. <b>Note:</b> It works only if “static.auto_provision.repeat.enable” is set to 1 (On).	
<b>Permitted Values</b>	Integer from 1 to 43200	
<b>Default</b>	1440	
<b>Web UI</b>	Settings > Auto Provision > Interval(Minutes)	
<b>Parameter</b>	static.auto_provision.weekly.enable	<y0000000000xx>.cfg
<b>Description</b>	It triggers the weekly feature to on or off.	
<b>Permitted Values</b>	0-Off 1-On, the phone performs an auto provisioning process weekly.	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Auto Provision > Weekly	
<b>Parameter</b>	static.auto_provision.weekly_upgrade_interval	<y0000000000xx>.cfg
<b>Description</b>	It configures the time interval (in weeks) for the phone to perform auto provisioning. If it is set to 0, the phone performs auto provisioning at the specific day(s) configured by the parameter “static.auto_provision.weekly.dayofweek” every week. If it is set to other values (for example, 3), the phone performs auto provisioning at a random day between the specific day(s) configured by the parameter “static.auto_provision.weekly.dayofweek” every three weeks. <b>Note:</b> It works only if “static.auto_provision.weekly.enable” is set to 1 (On).	
<b>Permitted Values</b>	Integer from 0 to 12	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Auto Provision > Weekly Upgrade Interval(0~12week)	
<b>Parameter</b>	static.auto_provision.inactivity_time_expire	<y0000000000xx>.cfg
<b>Description</b>	It configures the delay time (in minutes) to perform auto provisioning when the phone is inactive at regular week. If it is set to 0, the phone performs auto provisioning at random between a starting time configured by the parameter “static.auto_provision.weekly.begin_time” and an ending time configured by the parameter “static.auto_provision.weekly.end_time”. If it is set to other values (for example, 60), the phone performs auto provisioning only when it has been inactivated for 60 minutes (1 hour) between the starting time and ending time. <b>Note:</b> The phone may perform auto provisioning when you are using the phone during office hour. It works only if “static.auto_provision.weekly.enable” is set to 1 (On). The operations on the handset will not change the inactive status; only the functional operations related base station, such as calling, will change the inactive status.	
<b>Permitted Values</b>	Integer from 0 to 120	
<b>Default</b>	0	

<b>Web UI</b>	Settings > Auto Provision > Inactivity Time Expire(0~120min)	
<b>Parameter</b>	static.auto_provision.weekly.dayofweek	<y000000000xx>.cfg
<b>Description</b>	<p>It configures the days of the week for the phone to perform auto provisioning weekly.</p> <p><b>Example:</b></p> <p>static.auto_provision.weekly.dayofweek = 01</p> <p>If "static.auto_provision.weekly_upgrade_interval" is set to 0, it means the phone performs auto provisioning every Sunday and Monday.</p> <p>If "static.auto_provision.weekly_upgrade_interval" is set to other value (for example, 3), it means the phone performs auto provisioning by randomly selecting a day from Sunday and Monday every three weeks.</p> <p><b>Note:</b> It works only if "static.auto_provision.weekly.enable" is set to 1 (On).</p>	
<b>Permitted Values</b>	<p>0,1,2,3,4,5,6 or a combination of these digits</p> <p><b>0</b>-Sunday</p> <p><b>1</b>-Monday</p> <p><b>2</b>-Tuesday</p> <p><b>3</b>-Wednesday</p> <p><b>4</b>-Thursday</p> <p><b>5</b>-Friday</p> <p><b>6</b>-Saturday</p>	
<b>Default</b>	0123456	
<b>Web UI</b>	Settings > Auto Provision > Day of Week	
<b>Parameter</b>	static.auto_provision.weekly.begin_time static.auto_provision.weekly.end_time	<y000000000xx>.cfg
<b>Description</b>	<p>It configures the starting/ending time of the day for the phone to perform auto provisioning weekly.</p> <p><b>Note:</b> It works only if "static.auto_provision.weekly.enable" is set to 1 (On).</p>	
<b>Permitted Values</b>	Time from 00:00 to 23:59	
<b>Default</b>	00:00	
<b>Web UI</b>	Settings > Auto Provision > Time	
<b>Parameter</b>	static.auto_provision.flexible.enable	<y000000000xx>.cfg
<b>Description</b>	<p>It triggers the flexible feature to on or off.</p> <p><b>Note:</b> The day within the period is based upon the phone's MAC address and does not change with a reboot, whereas the time within the start and end is calculated again with every reboot. The timer starts again after each auto provisioning.</p>	
<b>Permitted Values</b>	<p><b>0</b>-Off</p> <p><b>1</b>-On, the phone performs auto provisioning at random between a starting time configured by the parameter "static.auto_provision.flexible.begin_time" and an ending time configured by the parameter "static.auto_provision.flexible.end_time" on a random day within the period configured by the parameter "static.auto_provision.flexible.interval".</p>	

<b>Default</b>	0	
<b>Web UI</b>	Settings > Auto Provision > Flexible Auto Provision	
<b>Parameter</b>	static.auto_provision.flexible.interval	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the interval (in days) for the phone to perform auto provisioning.</p> <p>The auto provisioning occurs on a random day within this period based on the phone's MAC address.</p> <p>The phone performs auto provisioning on a random day (for example, 18) based on the phone's MAC address.</p> <p><b>Note:</b> It works only if “static.auto_provision.flexible.enable” is set to 1 (On).</p>	
<b>Permitted Values</b>	Integer from 1 to 1000	
<b>Default</b>	30	
<b>Web UI</b>	Settings > Auto Provision > Flexible Interval Days	
<b>Parameter</b>	static.auto_provision.flexible.begin_time	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the starting time of the day for the phone to perform auto provisioning at random.</p> <p><b>Note:</b> It works only if “static.auto_provision.flexible.enable” is set to 1 (On).</p>	
<b>Permitted Values</b>	Time from 00:00 to 23:59	
<b>Default</b>	02:00	
<b>Web UI</b>	Settings > Auto Provision > Flexible Time	
<b>Parameter</b>	static.auto_provision.flexible.end_time	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the ending time of the day for the phone to perform auto provisioning at random.</p> <p>If it is left blank or set to a specific value equal to starting time configured by the parameter “static.auto_provision.weekly.begin_time”, the phone performs auto provisioning at the starting time.</p> <p>If it is set to a specific value greater than starting time configured by the parameter “static.auto_provision.weekly.begin_time”, the phone performs auto provisioning at random between the starting time and ending time.</p> <p>If it is set to a specific value less than starting time configured by the parameter “static.auto_provision.weekly.begin_time”, the phone performs auto provisioning at random between the starting time on that day and ending time in the next day.</p> <p><b>Note:</b> It works only if “static.auto_provision.flexible.enable” is set to 1 (On).</p>	
<b>Permitted Values</b>	Time from 00:00 to 23:59	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Auto Provision > Flexible Time	
<b>Parameter</b>	static.auto_provision.dns_resolv_nosys	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to resolve the access URL of the provisioning server using download libraries mechanism.	
<b>Permitted Values</b>	<p>0-Disabled, the phone resolves the access URL of the provisioning server using the system mechanism.</p> <p>1-Enabled</p>	

<b>Default</b>	1	
<b>Parameter</b>	static.auto_provision.dns_resolv_nretry	<y0000000000xx>.cfg
<b>Description</b>	It configures the retry times when the phone fails to resolve the access URL of the provisioning server. <b>Note:</b> For each different DNS server, it works only if "static.auto_provision.dns_resolv_nosys" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 1 to 10	
<b>Default</b>	2	
<b>Parameter</b>	static.auto_provision.dns_resolv_timeout	<y0000000000xx>.cfg
<b>Description</b>	It configures the timeout (in seconds) for the phone to retry to resolve the access URL of the provisioning server. <b>Note:</b> For each different DNS server, it works only if "static.auto_provision.dns_resolv_nosys" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 1 to 60	
<b>Default</b>	5	

[1]If you change this parameter, the phone will reboot to make the change take effect.

## Setting Up a Provisioning Server

You can use a provisioning server to configure your phones. A provisioning server allows for flexibility in upgrading, maintaining and configuring the phone. Boot files, configuration files, and resource files are normally located on this server.

### Topics

- [Supported Provisioning Protocols](#)
- [Supported Provisioning Server Discovery Methods](#)
- [Configuring a Provisioning Server](#)

## Supported Provisioning Protocols

Yealink phones support several transport protocols for provisioning:

- Trivial File Transfer Protocol (TFTP)
- File Transfer Protocol (FTP)
- Hyper Text Transfer Protocol – Secure (HTTPS)
- File Transfer Protocol – Secure (FTPS)

**Note:** There are two types of FTP methods—active and passive. The phones are not compatible with active FTP.

You can specify the transport protocol in the provisioning server address, for example, http://xxxxxxx. If not specified, the TFTP protocol is used.

### Topic

- [Provisioning Protocols Configuration](#)

## Provisioning Protocols Configuration

The following table lists the parameter you can use to configure provisioning protocols.

<b>Parameter</b>	static.auto_provision.server.type	<y0000000000xx>.cfg
<b>Description</b>	It configures the protocol the phone uses to connect to the provisioning server.	

	<b>Note:</b> It works only if the protocol type is not defined in the access URL of the provisioning server configured by the parameter "static.auto_provision.server.url".	
<b>Permitted Values</b>	1-http 2-https 3-ftp Other values-tftp	
<b>Default</b>	tftp	
<b>Parameter</b>	static.auto_provision.user_agent_mac.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone's MAC address to be included in the User-Agent header of HTTP/HTTPS request via auto provisioning.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	

<sup>[2]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Supported Provisioning Server Discovery Methods

After the phone has established network settings, it must discover a provisioning server to obtain software updates and configuration settings.

The IP phone supports the following methods to discover the provisioning server address:

- **PnP:** PnP feature allows the phones to discover the provisioning server address by broadcasting the PnP SUBSCRIBE message during startup.
- **DHCP:** DHCP option can be used to provide the address or URL of the provisioning server to phones. When the IP phone requests an IP address using the DHCP protocol, the resulting response may contain option 66 (for IPv4) or the custom option (if configured) that contains the provisioning server address.
- **Static:** You can manually configure the server address via the handset user interface or web user interface.

### Topics

[PnP Provision Configuration](#)

[DHCP Provision Configuration](#)

[Static Provision Configuration](#)

## PnP Provision Configuration

The following table lists the parameter you can use to configure PnP provision.

<b>Parameter</b>	static.auto_provision.pnp_enable	<y0000000000xx>.cfg
<b>Description</b>	It triggers the Plug and Play (PnP) feature to on or off.	
<b>Permitted Values</b>	0-Off 1-On, the phone broadcasts SIP SUBSCRIBE messages to obtain a provisioning server URL where the phone can request the configuration from during startup.	
<b>Default</b>	1	
<b>Web UI</b>	Settings > Auto Provision > PNP Active	

## DHCP Provision Configuration

The following table lists the parameters you can use to configure the DHCP provision.

<b>Parameter</b>	static.auto_provision.dhcp_option.enable	<y0000000000xx>.cfg
<b>Description</b>	It triggers the DHCP Active feature to on or off.	
<b>Permitted Values</b>	0-Off 1-On, the phone obtains the provisioning server address by detecting DHCP options.	
<b>Default</b>	1	
<b>Web UI</b>	Settings > Auto Provision > DHCP Active	
<b>Parameter</b>	static.auto_provision.dhcp_option.list_user_options	<y0000000000xx>.cfg
<b>Description</b>	It configures the IPv4 custom DHCP option for requesting provisioning server address. Multiple options are separated by commas. <b>Note:</b> It works only if "static.auto_provision.dhcp_option.enable" is set to 1 (On).	
<b>Permitted Values</b>	Integer from 128 to 254	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Auto Provision > IPv4 Custom Option	
<b>Parameter</b>	static.auto_provision.url_wildcard.pn	<y0000000000xx>.cfg
<b>Description</b>	It configures the characters to replace the wildcard \$PN in the received URL of the provisioning server. <b>Note:</b> The configured characters must be in accordance with the actual directory name of the provisioning server.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	W80B	

## Static Provision Configuration

To use the static provision method, you need to obtain the provisioning server address first when configuring a provisioning server.

The provisioning server address can be IP address, domain name or URL. If a user name and password are specified as part of the provisioning server address, for example, http://user:pwd@server/dir, they will be used only if the server supports them.

**Note:** A URL should contain forward slashes instead of backslashes and should not contain spaces. Escape characters are not supported.

If a user name and password are not specified as part of the provisioning server address, the User Name and Password of the provisioning server configured on the phone will be used.

The following table lists the parameters you can use to configure static provision.

<b>Parameter</b>	static.auto_provision.server.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the provisioning server.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	

<b>Web UI</b>	Settings > Auto Provision > Server URL	
<b>Parameter</b>	static.auto_provision.server.username	<y0000000000xx>.cfg
<b>Description</b>	It configures the user name for provisioning server access.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Auto Provision > Username	
<b>Parameter</b>	static.auto_provision.server.password	<y0000000000xx>.cfg
<b>Description</b>	It configures the password for provisioning server access.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Auto Provision > Password	

## Configuring a Provisioning Server

The provisioning server can be set up on the local LAN or anywhere on the Internet. Use the following procedure as a recommendation if this is your first provisioning server setup.

To set up the provisioning server:

1. Install a provisioning server application or locate a suitable existing server, such as 3CDaemon.
2. Create an account and home directory.
3. Set security permissions for the account.
4. Create boot files and configuration files, and then edit them as desired.
5. Copy the boot files, configuration files and resource files to the provisioning server.
6. If performing static provisioning, obtain the provisioning server address.

**Tip:** Typically, all phones are configured with the same server account, but the server account provides a means of conveniently partitioning the configuration. Give each account a unique home directory on the server and change the configuration on a per-line basis.

## Keeping User's Personalized Settings after Auto Provisioning

Generally, you deploy phones in batch and timely maintain company phones via auto provisioning, yet some users would like to keep the personalized settings after auto provisioning.

### Topics

[Keeping User's Personalized Settings Configuration](#)

[Auto Provisioning Flowchart for Keep User's Personalized Configuration Settings](#)

[Example: Keeping User's Personalized Settings](#)

[Clearing User's Personalized Configuration Settings](#)

[Custom Handset Related Configurations](#)

## Keeping User's Personalized Settings Configuration

The following table lists the parameters you can use to keep the user's personalized settings.

<b>Parameter</b>	static.auto_provision.custom.protect	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to keep the user's personalized settings after auto provisioning.	

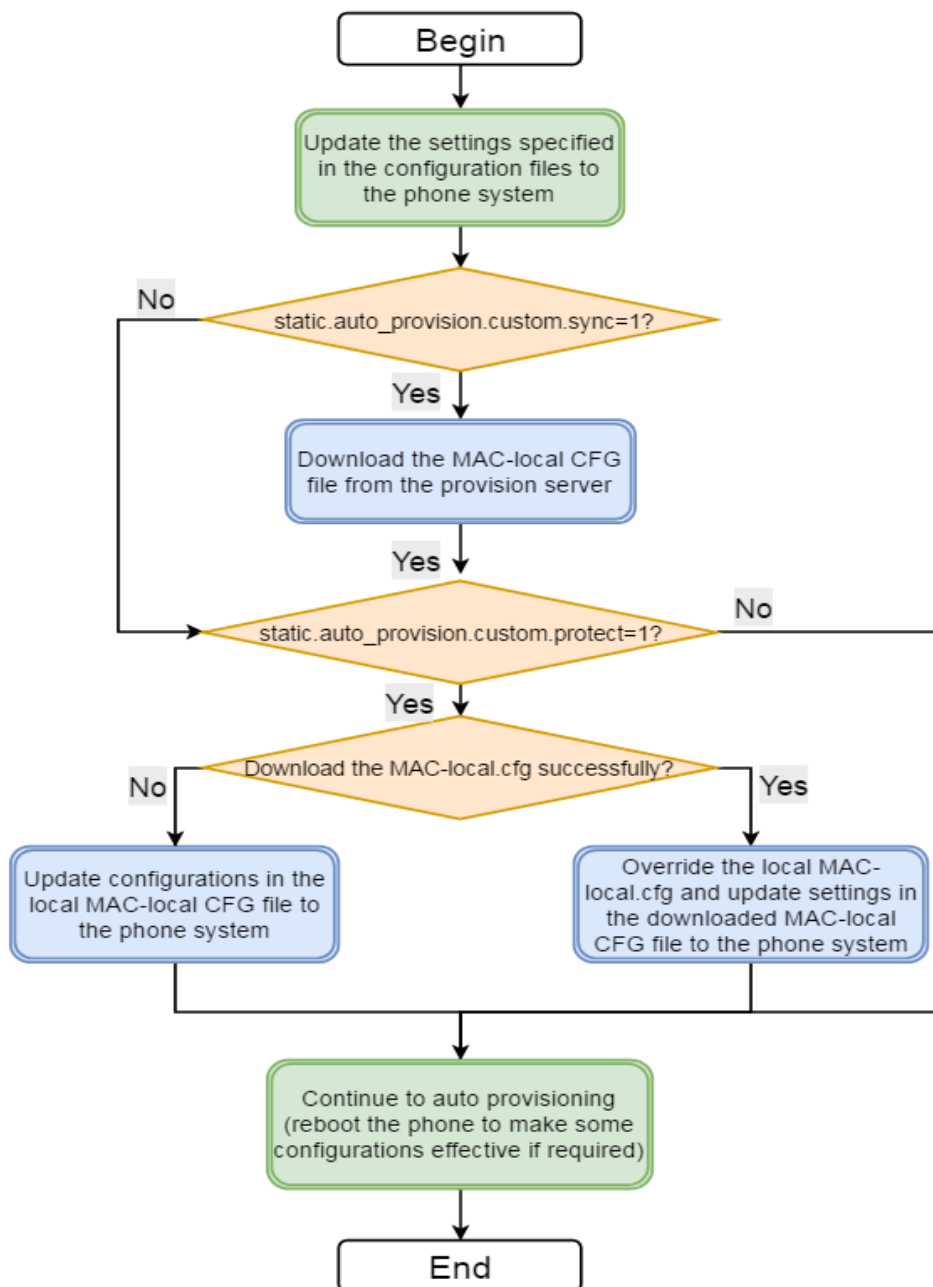
	<b>Note:</b> The provisioning priority mechanism (handset/web user interface > central provisioning > factory defaults) takes effect only if the value of this parameter is set to 1 (Enabled). If "overwrite_mode" is set to 1 in the boot file, the value of this parameter will be set to 1 (Enabled). It is not applicable to the <a href="#">custom handset related configurations</a> .	
<b>Permitted Values</b>	0-Disabled 1-Enabled, <MAC>-local.cfg file generates and personalized non-static settings configured via the web or handset user interface will be kept after auto provisioning.	
<b>Default</b>	0	
<b>Parameter</b>	static.auto_provision.custom.sync	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to upload the <MAC>-local.cfg file to the server each time the file updates, and to download the <MAC>-local.cfg file from the server during auto provisioning. <b>Note:</b> It works only if "static.auto_provision.custom.protect" is set to 1 (Enabled). The upload/download path is configured by the parameter "static.auto_provision.custom.sync.path".	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Parameter</b>	static.auto_provision.custom.sync.path	<y0000000000xx>.cfg
<b>Description</b>	It configures the URL for uploading/downloading the <MAC>-local.cfg file. If it is left blank, the phone will try to upload/download the <MAC>-local.cfg file to/from the provisioning server. <b>Note:</b> It works only if "static.auto_provision.custom.sync" is set to 1 (Enabled).	
<b>Permitted Values</b>	URL	
<b>Default</b>	Blank	
<b>Parameter</b>	static.auto_provision.custom.upload_method	<y0000000000xx>.cfg
<b>Description</b>	It configures the way the phone uploads the <MAC>-local.cfg file, <MAC>-calllog.xml file or <MAC>-contact.xml file to the provisioning server (for HTTP/HTTPS server only).	
<b>Permitted Values</b>	0-PUT 1-POST	
<b>Default</b>	0	
<b>Parameter</b>	static.auto_provision.handset_configured.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the base station to deliver custom handset configurations to the handset via auto provisioning/handset reboot/handset registration. <b>Note:</b> It is only applicable to the <a href="#">custom handset related configurations</a> .	
<b>Permitted Values</b>	0-Disabled, the custom handset settings can be only changed via the handset user interface. 1-Enabled, when the parameter "static.auto_provision.custom.handset.protect" is set to 0 (Disabled), the personalized handset settings will be overridden; if the parameter "static.auto_provision.custom.handset.protect" is set to 1 (Enabled), the personalized handset settings will not be overridden.	
<b>Default</b>	1	
<b>Parameter</b>	static.auto_provision.custom.handset.protect	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the handsets to keep user personalized settings after auto provisioning/handset reboot/handset registration.	



	<b>Note:</b> It works only if "static.auto_provision.handset_configured.enable" is set to 0 (Disabled). It is only applicable to the <a href="#">custom handset related configurations</a> .
<b>Permitted Values</b>	0-Disabled 1-Enabled
<b>Default</b>	1

## Auto Provisioning Flowchart for Keep User's Personalized Configuration Settings

The following shows an auto provisioning flowchart for Yealink phones when a user wishes to keep the user's personalized configuration settings.



## Example: Keeping User's Personalized Settings

This section shows you how to keep the personalized settings.

### Parameters Settings:

`static.auto_provision.custom.protect = 1`

After provisioning, if the users make changes via the phone user interface or web user interface, the MAC-local.cfg file with non-static personal settings generates locally.

### Scenario: Keeping user's personalized settings when upgrading the firmware

If you set "`static.auto_provision.custom.sync = 1`", then the phones attempt to upload the MAC-local.cfg file to the provisioning server each time the file updates. When performing auto provisioning, they download their own MAC-local.cfg file from the provisioning server, and then update settings in MAC-local.cfg file to the IP phone system. The personalized settings locally are overridden by the MAC-local.cfg file from the provisioning server.

If you set "`static.auto_provision.custom.sync = 0`", the MAC-local.cfg file will be kept locally. The personalized settings will not be overridden after auto provisioning.

### Scenario: Keeping user personalized settings after factory reset

The IP phone requires a factory reset when it has a breakdown, but the user wishes to keep personalized settings of the phone after a factory reset. Before factory reset, make sure that you have set "`static.auto_provision.custom.sync = 1`", and the MAC-local.cfg file has kept on the provisioning server.

After resetting all configurations to factory defaults, both the parameters settings "`static.auto_provision.custom.protect`" and "`static.auto_provision.custom.sync`" are reset to 0. Although the MAC-local.cfg files locally are cleared, they are still kept on the provisioning server.

You can set "`static.auto_provision.custom.protect = 1`" and "`static.auto_provision.custom.sync = 1`", and then trigger the phone to perform auto provisioning. The phones download their own MAC-local.cfg file from the provisioning server, and then update settings in MAC-local.cfg file to the IP phone system.

As a result, the personalized configuration settings of the phone are retrieved after the factory reset.

## Clearing User's Personalized Configuration Settings

When the IP phone is given to a new user but many personalized configurations settings of the last user are saved on the phone; or when the end-user encounters some problems because of the wrong configurations, you can clear the user's personalized configuration settings via the web user interface at the path: **Settings > Upgrade > Reset Local Settings**.

**Note:** The **Reset local settings** option on the web user interface appears only if you set "`static.auto_provision.custom.protect = 1`".

If you set "`static.auto_provision.custom.sync = 1`", the MAC-local.cfg file on the provisioning server will be cleared too. If not, the MAC-local.cfg file is kept on the provisioning server, and the phone could download it and update the configurations to the phone after the next auto provisioning.

## Custom Handset Related Configurations

This section shows you the custom handset related configurations.

Parameter	Related Topic
custom.handset.date_format	<a href="#">Time and Date Format Configuration</a>
custom.handset.time_format	
custom.handset.auto_answer.enable	<a href="#">Auto Answer Configuration</a>

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Parameter	Related Topic
custom.handset.low_battery_tone.enable	<a href="#">Advisory Tones Configuration</a>
custom.handset.confirmation_tone.enable	
custom.handset.keypad_tone.enable	
custom.handset.keypad_light.enable	<a href="#">Handset Keypad Light Configuration</a>
custom.handset.backlight_in_charger.enable	<a href="#">Handset Backlight Configuration</a>
custom.handset.backlight_out_of_charger.enable	
custom.handset.screen_saver.enable	<a href="#">Handset Screen Saver Configuration</a>
custom.handset.language	<a href="#">Language Display Configuration</a>

# Security Features

This chapter provides information about configuring the security features for the phone.

## Topics

[User and Administrator Identification](#)  
[Auto Logout Time](#)  
[Base PIN](#)  
[Emergency Number](#)  
[Emergency Alarm](#)  
[Transport Layer Security \(TLS\)](#)  
[Secure Real-Time Transport Protocol \(SRTP\)](#)  
[Encrypting and Decrypting Files](#)  
[Incoming Network Signaling Validation](#)

## User and Administrator Identification

By default, some menu options are protected by privilege levels: user and administrator, each with its own password. You can also customize the access permission for the configurations on the web user interface and phone/handset user interface.

When logging into the web user interface or access advanced settings on the phone, as an administrator, you need an administrator password to access various menu options. The default username and password for administrator is “admin”. Both you and the user can log into the web user interface, and you will see all of the user options. The default username and password for the user is “user”.

For security reasons, you should change the default user or administrator password as soon as possible. Since advanced menu options are strictly used by the administrator, users can configure them only if they have administrator privileges.

## Topic

[User and Administrator Identification Configuration](#)  
[User Access Level Configuration](#)

## User and Administrator Identification Configuration

The following table lists the parameters you can use to configure the user and administrator identification.

<b>Parameter</b>	static.security.user_name.user	<y0000000000xx>.cfg
<b>Description</b>	It configures the user name for the user to access the phone's web user interface.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	user	
<b>Parameter</b>	static.security.user_name.admin	<y0000000000xx>.cfg
<b>Description</b>	It configures the user name for the administrator to access the phone's web user interface.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	admin	
<b>Parameter</b>	static.security.user_name.var	<y0000000000xx>.cfg
<b>Description</b>	It configures the user name for the var to access the phone's web user interface. <b>Note:</b> It works only if “static.security.var_enable” is set to 1 (Enabled).	

<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	var	
<b>Parameter</b>	static.security.user_password	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the password.</p> <p>The phone uses "user" as the default user password, "var" as the default var password and "admin" as the default administrator password.</p> <p>The valid value format is &lt;username&gt;:&lt;new password&gt;.</p> <p><b>Example:</b></p> <p>static.security.user_password = user:123 means setting the password of user to 123.</p> <p>static.security.user_password = admin:456 means setting the password of administrator to 456.</p> <p>static.security.user_password = var:789 means setting the password of var to 789.</p> <p><b>Note:</b> The phones support ASCII characters 32-126(0x20-0x7E) in passwords. You can set the password to be empty via the web user interface only.</p>	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Security > Password	

## User Access Level Configuration

For more information, refer to [Yealink SIP IP Phones Configuration Guide for User Access Level](#).

The following table lists the parameters you can use to configure the user access level.

<b>Parameter</b>	static.security.var_enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the 3-level access permissions (admin, user, var).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Parameter</b>	static.web_item_level.uri <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the file, which defines 3-level access permissions.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	static.security.default_access_level <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the default access level to access the handset user interface.</p> <p><b>Note:</b> It works only if "static.security.var_enable" is set to 1 (Enabled).</p>	
<b>Permitted Values</b>	0-user 1-var 2-admin	
<b>Default</b>	0	

[1]If you change this parameter, the phone will reboot to make the change take effect.

## Auto Logout Time

Auto logout time defines how long the phone will log out of the web user interface automatically when you do not perform any actions on the web user interface. Once logging out, you must re-enter username and password for web access authentication.

### Topic

[Auto Logout Time Configuration](#)

## Auto Logout Time Configuration

The following table lists the parameter you can use to configure the auto logout time.

<b>Parameter</b>	features.relog_offtime	<y0000000000xx>.cfg
<b>Description</b>	It configures the timeout interval (in minutes) for web access authentication.	
<b>Permitted Values</b>	Integer from 1 to 1000	
<b>Default</b>	5	
<b>Web UI</b>	Features > General Information > Auto Logout Time(1~1000min)	

## Base PIN

To avoid unauthorized registration or access to some features on the handset, you should keep the base PIN secret.

You can change the base PIN for security.

### Topic

[Base PIN Configuration](#)

## Base PIN Configuration

The following table lists the parameters you can use to configure the base PIN.

<b>Parameter</b>	base.pin_code	<y0000000000xx>.cfg
<b>Description</b>	It configures the base PIN.	
<b>Permitted Values</b>	Integer from 0000 to 9999	
<b>Default</b>	0000	
<b>Web UI</b>	Security > Base PIN > Base Unit PIN	
<b>Parameter</b>	base.double_pin_code.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables double PIN feature.	
<b>Permitted Values</b>	<p><b>0</b>-Disabled, users use the PIN configured by "base.pin_code" to register the handset or access some features.</p> <p><b>1</b>-Enabled, users use the PIN configured by "base.pin_code_for_register" to register the handset, and use the PIN configured by "base.pin_code" to access some features.</p>	

<b>Default</b>	0	
<b>Parameter</b>	base.pin_code_for_register	<y0000000000xx>.cfg
<b>Description</b>	It configures the PIN for registering or de-registering a handset. <b>Note:</b> It works only if "base.double_pin_code.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 0000 to 9999	
<b>Default</b>	0000	

## Emergency Number

Public telephone networks in countries around the world have a single emergency telephone number (emergency services number), that allows a caller to contact local emergency services for assistance when necessary.

You can specify the emergency numbers for contacting the emergency services in an emergency situation. The emergency telephone number may differ from country to country. It is typically a three-digit number so that it can be easily remembered and dialed quickly.

You can dial these numbers when the phone is locked.

### Topic

[Emergency Number Configuration](#)

## Emergency Number Configuration

The following table lists the parameter you can use to configure the emergency number.

<b>Parameter</b>	phone_setting.emergency.number	<y0000000000xx>.cfg
<b>Description</b>	It configures emergency numbers. Multiple emergency numbers are separated by commas.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	112,911,110	

## Emergency Alarm

Emergency alarm can provide safety reliance for people who work in dangerous environment.

W59R handset supports the following four alarm types:

- **Button:** Long press the emergency alarm button for 2 seconds to manually set off the emergency alarm.
- **Man Down:** If the handset stays in a tilt angle less than 30 degrees with the ground for some time, an alarm will be triggered.
- **No-Movement:** If the handset stays in a fixed position without movement for a certain period of time, an alarm will be triggered.
- **Running:** The handset detects the running state, and maintains this state for a certain period of time, an alarm will be triggered.



In order to increase the accuracy of the alarm and prevent false alarms, you can also set the corresponding delayed alarm time. The delayed alarm time is actually the time during which the handset maintains the state, and the alarm will be triggered when the time is reached.

### Topic

[Emergency Alarm Configuration](#)

## Emergency Alarm Configuration

The following table lists the parameter you can use to configure the emergency alarm.

<b>Parameter</b>	alarm.X.name <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the alarm name.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Alarm > Edit > Alarm Name	
<b>Parameter</b>	alarm.X.type <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the alarm type.	
<b>Permitted Values</b>	0-None, do not turn on the alarm. 1-Button 2-Man Down 3-No Movement 4-Running	
<b>Default</b>	0	
<b>Web UI</b>	Features > Alarm > Edit > Alarm Type	
<b>Parameter</b>	alarm.X.handset_stop.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to terminate the alarm from the handset.	



<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Features > Alarm > Edit > Stop Alarm From Handset	
<b>Parameter</b>	alarm.X.trigger_delay <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the delay time (in seconds) to trigger the alarm from the handset.	
<b>Permitted Values</b>	Integer from 1 to 7200	
<b>Default</b>	3	
<b>Web UI</b>	Features > Alarm > Edit > Trigger Delay	
<b>Parameter</b>	alarm.X.pre_alarm.handset_stop.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to stop the pre-alarm (reminder before the alarm) from the handset.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Features > Alarm > Edit > Stop Pre-Alarm From Handset	
<b>Parameter</b>	alarm.X.pre_alarm.delay <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the pre-alarm time (in seconds) of the handset.	
<b>Permitted Values</b>	Integer from 0 to 7200	
<b>Default</b>	0	
<b>Web UI</b>	Features > Alarm > Edit > Pre-Alarm Delay	
<b>Parameter</b>	alarm.X.ring.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to play the ringtone when the handset initiates the pre-alarm.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Features > Alarm > Edit > Ring	
<b>Parameter</b>	alarm.X.weekly.begin_time <sup>[1]</sup> alarm.X.weekly.end_time <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the starting / ending time of the day for the handset to perform an alarm detection. The alarm detection occurs on a random time between the starting time and the ending time. <b>Note:</b> If the configured starting time is greater than the ending time, such as 23:00-06:00, it means that the alarm detection is enabled on the day from 00:00-06:00 and 23:00-00:00.	
<b>Permitted Values</b>	Time from 00:00 to 23:59	

<b>Default</b>	00:00	
<b>Web UI</b>	Features > Alarm > Edit > Time	
<b>Parameter</b>	alarm.X.weekly.dayofweek <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the days of the week for the handset to perform an alarm detection weekly.	
<b>Permitted Values</b>	0123456	
<b>Default</b>	0123456 or a combination of these digits	
<b>Web UI</b>	Features > Alarm > Edit > Day of Week	
<b>Parameter</b>	account.X.alarm.template <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the alarm template for the specific account. Multiple alarm templates are seperated by commas.	
<b>Permitted Values</b>	Random combination of numbers 1 to 10	
<b>Default</b>	Blank	
<b>Parameter</b>	account.X.alarm.server <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the server through which the specific account sends an alarm.	
<b>Permitted Values</b>	<b>0</b> -Same As SIP Server <b>1-10</b> -Pre-configued SIP server (server name is configured by "template.X.name")	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Alarm Server	
<b>Parameter</b>	account.X.alarm.number <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the emergency alarm number.	
<b>Permitted Values</b>	String within 128 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Alarm Number	

<sup>[1]</sup>X is the alarm ID. X=1-10.

<sup>[2]</sup>X is the account ID. X=1-100.

#### Related Topic

[SIP Server Template Configuration](#)

## Transport Layer Security (TLS)

TLS is a commonly-used protocol for providing communications privacy and managing the security of message transmission, allowing the phones to communicate with other remote parties and connect to the HTTPS URL for provisioning in a way that is designed to prevent the data from being eavesdropped and tampered.

Yealink phones support TLS version 1.0, 1.1 and 1.2. When TLS is enabled for an account, the SIP message of this account will be encrypted, and a lock icon appears on the LCD screen after the successful TLS negotiation.

## Topics

[Supported Cipher Suites](#)

[Supported Trusted and Server Certificates](#)

[TLS Configuration](#)

## Supported Cipher Suites

A cipher suite is a named combination of authentication, encryption, and message authentication code (MAC) algorithms used to negotiate the security settings for a network connection using the TLS/SSL network protocol.

Yealink phones support the following cipher suites:

- DHE-RSA-AES256-SHA
- DHE-DSS-AES256-SHA
- AES256-SHA
- EDH-RSA-DES-CBC3-SHA
- EDH-DSS-DES-CBC3-SHA
- DES-CBC3-SHA
- DES-CBC3-MD5
- DHE-RSA-AES128-SHA
- DHE-DSS-AES128-SHA
- AES128-SHA
- RC2-CBC-MD5
- IDEA-CBC-SHA
- DHE-DSS-RC4-SHA
- RC4-SHA
- RC4-MD5
- RC4-64-MD5
- EXP1024-DHE-DSS-DES-CBC-SHA
- EXP1024-DES-CBC-SHA
- EDH-RSA-DES-CBC-SHA
- EDH-DSS-DES-CBC-SHA
- DES-CBC-SHA
- DES-CBC-MD5
- EXP1024-DHE-DSS-RC4-SHA
- EXP1024-RC4-SHA
- EXP1024-RC4-MD5
- EXP-EDH-RSA-DES-CBC-SHA
- EXP-EDH-DSS-DES-CBC-SHA
- EXP-DES-CBC-SHA
- EXP-RC2-CBC-MD5
- EXP-RC4-MD5

## Supported Trusted and Server Certificates

The IP phone can serve as a TLS client or a TLS server. In the TLS feature, we use the terms trusted and server certificate. These are also known as CA and device certificates.

The TLS requires the following security certificates to perform the TLS handshake:

- **Trusted Certificate:** When the IP phone requests a TLS connection with a server, the phone should verify the certificate sent by the server to decide whether it is trusted based on the trusted certificates list. You can upload 10 custom certificates at most. The format of the trusted certificate files must be \*.pem, \*.cer, \*.crt and \*.der and the maximum file size is 5MB.

- **Server Certificate:** When clients request a TLS connection with the IP phone, the phone sends the server certificate to the clients for authentication. The IP phone has two types of built-in server certificates: a unique server certificate and a generic server certificate. You can only upload one server certificate to the IP phone. The old server certificate will be overridden by the new one. The format of the server certificate files must be \*.pem and \*.cer and the maximum file size is 5MB.

**A unique server certificate:** It is unique to an IP phone (based on the MAC address) and issued by the Yealink Certificate Authority (CA).

**A generic server certificate:** It is issued by the Yealink Certificate Authority (CA). Only if no unique certificate exists, the phone may send a generic certificate for authentication.

The IP phone can authenticate the server certificate based on the trusted certificates list. The trusted certificates list and the server certificates list contain the default and custom certificates. You can specify the type of certificates the IP phone accepts: default certificates, custom certificates or all certificates.

Common Name Validation feature enables the IP phone to mandatorily validate the common name of the certificate sent by the connecting server. The security verification rules are compliant with RFC 2818.

**Note:** Resetting the IP phone to factory defaults will delete custom certificates by default. However, this feature is configurable by the parameter "static.phone\_setting.reserve\_certs\_enable" using the configuration file.

## Topic

### Supported Trusted Certificates

## Supported Trusted Certificates

Yealink phones trust the following CAs by default:

- DigiCert High Assurance EV Root CA
- Deutsche Telekom Root CA 2
- Equifax Secure Certificate Authority
- Equifax Secure eBusiness CA-1
- Equifax Secure Global eBusiness CA-1
- GeoTrust Global CA
- GeoTrust Global CA2
- GeoTrust Primary Certification Authority
- GeoTrust Primary Certification Authority G2
- GeoTrust Universal CA
- GeoTrust Universal CA2
- Thawte Personal Freemail CA
- Thawte Premium Server CA
- Thawte Primary Root CA
- Thawte Primary Root CA - G2
- Thawte Primary Root CA - G3
- Thawte Server CA
- VeriSign Class 1 Public Primary Certification Authority
- VeriSign Class 1 Public Primary Certification Authority - G2
- VeriSign Class 1 Public Primary Certification Authority - G3
- VeriSign Class 2 Public Primary Certification Authority - G2
- VeriSign Class 2 Public Primary Certification Authority - G3
- VeriSign Class 3 Public Primary Certification Authority
- VeriSign Class 3 Public Primary Certification Authority - G2
- VeriSign Class 3 Public Primary Certification Authority - G3
- VeriSign Class 3 Public Primary Certification Authority - G4
- VeriSign Class 3 Public Primary Certification Authority - G5

- VeriSign Class 4 Public Primary Certification Authority - G2
- VeriSign Class 4 Public Primary Certification Authority - G3
- VeriSign Universal Root Certification Authority
- ISRG Root X1 (Let's Encrypt Authority X1 and Let's Encrypt Authority X2 certificates are signed by the root certificate ISRG Root X1.)
- Baltimore CyberTrust Root
- DST Root CA X3
- Verizon Public SureServer CA G14-SHA2
- AddTrust External CA Root
- Go Daddy Class 2 Certification Authority
- Class 2 Primary CA
- Cybertrust Public SureServer SV CA
- DigiCert Assured ID Root G2
- DigiCert Assured ID Root G3
- DigiCert Assured ID Root CA
- DigiCert Global Root G2
- DigiCert Global Root G3
- DigiCert Global Root CA
- DigiCert Trusted Root G4
- Entrust Root Certification Authority
- Entrust Root Certification Authority - G2
- Entrust.net Certification Authority (2048)
- GeoTrust Primary Certification Authority - G3
- GlobalSign Root CA
- GlobalSign Root CA - R2
- Starfield Root Certificate Authority - G2
- TC TrustCenter Class 2 CA II
- TC TrustCenter Class 3 CA II
- TC TrustCenter Class 4 CA II
- TC TrustCenter Universal CA I
- TC TrustCenter Universal CA III
- Thawte Universal CA Root
- VeriSign Class 3 Secure Server CA - G2
- VeriSign Class 3 Secure Server CA – G3
- Thawte SSL CA
- StartCom Certification Authority
- StartCom Certification Authority G2
- Starfield Services Root Certificate Authority - G2
- RapidSSL CA
- Go Daddy Root Certificate Authority - G2
- Cybertrust Global Root
- COMODOSSLCA
- COMODO RSA Domain Validation Secure Server CA
- COMODO RSA Certification Authority
- AmazonRootCA4
- AmazonRootCA3
- AmazonRootCA2
- AmazonRootCA1

- Yealink Root CA
- Yealink Equipment Issuing CA

**Note:** Yealink endeavors to maintain a built-in list of most common used CA Certificates. Due to memory constraints, we cannot ensure a complete set of certificates. If you are using a certificate from a commercial Certificate Authority not in the list above, you can send a request to your local distributor. At this point, you can upload your particular CA certificate into your phone.

## TLS Configuration

The following table lists the parameters you can use to configure TLS.

<b>Parameter</b>	template.X.sip_server.Y.transport_type <sup>[1][2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the type of transport protocol.	
<b>Permitted Values</b>	<b>0</b> -UDP <b>1</b> -TCP <b>2</b> -TLS <b>3</b> -DNS NAPTR, if no server port is given, the phone performs the DNS NAPTR and SRV queries for the service type and port.	
<b>Default</b>	0	
<b>Web UI</b>	Base Station > SIP Server Settings > Edit > SIP Server Y <sup>[2]</sup> > Transport	
<b>Parameter</b>	static.security.default_ssl_method <sup>[3]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the TLS version the phone uses to authenticate with the server.	
<b>Permitted Values</b>	<b>0</b> -TLS 1.0 <b>3</b> -SSL V23 (automatic negotiation with the server. The phone starts with TLS 1.2 for negotiation.) <b>4</b> -TLS 1.1 <b>5</b> -TLS 1.2	
<b>Default</b>	3	
<b>Parameter</b>	static.security.server_ssl_method <sup>[3]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the supported TLS version to use for handshake negotiation between the phone and web browser.	
<b>Permitted Values</b>	<b>0</b> -TLS 1.0, TLS 1.1 and TLS 1.2 <b>1</b> -TLS 1.1 and TLS 1.2 <b>2</b> -TLS 1.2	
<b>Default</b>	2	
<b>Parameter</b>	static.security.trust_certificates <sup>[3]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to only trust the server certificates in the Trusted Certificates list.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled, the phone will authenticate the server certificate based on the trusted certificates list. Only when the authentication succeeds, will the phone trust the server.	
<b>Default</b>	1	

<b>Web UI</b>	Security > Trusted Certificates > Only Accept Trusted Certificates	
<b>Parameter</b>	static.security.ca_cert <sup>[3]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the type of certificates in the Trusted Certificates list for the phone to authenticate for TLS connection.	
<b>Permitted Values</b>	0-Default Certificates 1-Custom Certificates 2-All Certificates	
<b>Default</b>	2	
<b>Web UI</b>	Security > Trusted Certificates > CA Certificates	
<b>Parameter</b>	static.security.cn_validation <sup>[3]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to mandatorily validate the CommonName or SubjectAltName of the certificate sent by the server.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Security > Trusted Certificates > Common Name Validation	
<b>Parameter</b>	static.security.dev_cert <sup>[3]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the type of device certificates for the phone to send for TLS authentication.	
<b>Permitted Values</b>	0-Default Certificates 1-Custom Certificates	
<b>Default</b>	0	
<b>Web UI</b>	Security > Server Certificates > Device Certificates	
<b>Parameter</b>	static.trusted_certificates.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the custom trusted certificate used to authenticate the connecting server. <b>Note:</b> The certificate you want to upload must be in *.pem, *.crt, *.cer or *.der format.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Security > Trusted Certificates > Upload Trusted Certificate File	
<b>Parameter</b>	static.trusted_certificates.delete	<y0000000000xx>.cfg
<b>Description</b>	It deletes all uploaded trusted certificates.	
<b>Permitted Values</b>	http://localhost/all	
<b>Default</b>	Blank	
<b>Parameter</b>	static.server_certificates.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the certificate the phone sends for authentication. <b>Note:</b> The certificate you want to upload must be in *.pem or *.cer format.	

<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Security > Server Certificates > Upload Server Certificate File	
<b>Parameter</b>	static.server_certificates.delete	<y000000000xx>.cfg
<b>Description</b>	It deletes all uploaded server certificates.	
<b>Permitted Values</b>	http://localhost/all	
<b>Default</b>	Blank	
<b>Parameter</b>	static.phone_setting.reserve_certs_enable	<y000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to reserve custom certificates after it is reset to factory defaults.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	

[1]X is the account ID. X=1-100.

[2]Y is the server ID. Y=1-2.

## Secure Real-Time Transport Protocol (SRTP)

Secure Real-Time Transport Protocol (SRTP) encrypts the audio streams during VoIP phone calls to avoid interception and eavesdropping. The parties participating in the call must enable SRTP feature simultaneously. When this feature is enabled on both phones, the type of encryption to use for the session is negotiated between the phones. This negotiation process is compliant with [RFC 4568](#).

When you place a call on the enabled SRTP phone, the phone sends an INVITE message with the RTP/RTCP encryption algorithm to the destination phone. As described in [RFC 3711](#), RTP/RTCP streams may be encrypted using an AES (Advanced Encryption Standard) algorithm.

Example of the RTP encryption algorithm carried in the SDP of the INVITE message:

```
m=audio 11780 RTP/SAVP 0 8 18 9 101
a=crypto:1 AES_CM_128_HMAC_SHA1_80 > inline:NzFINTUwZDk2OGVIOTc3YzNkYTkwZWVkMTM1YWFj
a=crypto:2 AES_CM_128_HMAC_SHA1_32 > inline:NzkyM2FjNzQ2ZDgxYjg0MzQwMGVmMGUxMzdmNWFm
a=crypto:3 F8_128_HMAC_SHA1_80 inline:NDliMWIzZGE1ZTAwZjA5ZGFhNjQ5YmEANTMzYzA0
a=rtpmap:0 PCMU/8000
a=rtpmap:8 PCMA/8000
a=rtpmap:18 G729/8000
a=fmtp:18 annexb=no
a=rtpmap:9 G722/8000
a=fmtp:101 0-15
a=rtpmap:101 telephone-event/8000
a=ptime:20
a=sendrecv
```



The callee receives the INVITE message with the RTP encryption algorithm and then answers the call by responding with a 200 OK message which carries the negotiated RTP encryption algorithm.

Example of the RTP encryption algorithm carried in the SDP of the 200 OK message:

```
m=audio 11780 RTP/SAVP 0 101
a=rtpmap:0 PCMU/8000
a=rtpmap:101 telephone-event/8000
a=crypto:1 AES_CM_128_HMAC_SHA1_80 inline:NGY4OGViMDYzZjQzYTNiOTNkOWRiYzRiMjM0Yzcy
a=sendrecv
a=ptime:20
a=fmtp:101 0-15
```

When SRTP is enabled on both phones, RTP streams will be encrypted, and a lock icon appears on the LCD screen of each IP phone after a successful negotiation.

**Note:** If you enable SRTP, then you should also enable TLS. This ensures the security of SRTP encryption. For more information on TLS, refer to [Transport Layer Security \(TLS\)](#).

## Topic

### SRTP Configuration

## SRTP Configuration

The following table lists the parameters you can use to configure the SRTP.

<b>Parameter</b>	account.X.srtp_encryption <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures whether to use audio encryption service.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Optional, the phone will negotiate with the other phone what type of encryption to use for the session. <b>2</b> -Compulsory, the phone must use SRTP during a call.	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > RTP Encryption (SRTP)	

<sup>[1]</sup>X is the account ID. X=1-100.

## Encrypting and Decrypting Files

Yealink phones support downloading encrypted files from the server and encrypting files before/when uploading them to the server.

You can encrypt the following files:

- **Configuration files:** MAC-Oriented CFG file (<MAC>.cfg), Common CFG file (y0000000000xx.cfg), MAC-local CFG file (<MAC>-local.cfg) or other custom CFG files (for example, sip.cfg, account.cfg)
- **Contact Files:** <MAC>-contact.xml

To encrypt/decrypt files, you may have to configure an AES key.

**Note:** AES keys must be 16 characters/32 characters. The supported characters contain: 0 ~ 9, A ~ Z, a ~ z and special characters: # \$ % \* + , - . : = ? @ [ ] ^ \_ { } ~.

## Topics

[Configuration Files Encryption Tools](#)  
[Configuration Files Encryption and Decryption](#)  
[Encryption and Decryption Configuration](#)  
[Example: Encrypting Configuration Files](#)

## Configuration Files Encryption Tools

Yealink provides three configuration files encryption tools:

- Config\_Encrypt\_Tool.exe (via graphical tool for Windows platform)
- Config\_Encrypt.exe (via DOS command line for Windows platform)
- yealinkencrypt (for Linux platform)

The encryption tools encrypt plaintext configuration files (for example, account.cfg, <y0000000000xx>.cfg, <MAC>.cfg) (one by one or in batch) using 16-character symmetric keys (the same or different keys for configuration files) and generate encrypted configuration files with the same file name as before.

These tools also encrypt the plaintext 16-character symmetric keys using a fixed key, which is the same as the one built in the IP phone, and generate new files named as <xx\_Security>.enc (xx is the name of the configuration file, for example, y000000000103\_Security.enc for y000000000103.cfg file, account\_Security.enc for account.cfg). These tools generate another new file named as Aeskey.txt to store the plaintext 16-character symmetric keys for each configuration file.

## Configuration Files Encryption and Decryption

Encrypted configuration files can be downloaded from the provisioning server to protect against unauthorized access and tampering of sensitive information (for example, login passwords, registration information).

You can encrypt the configuration files using encryption tools. You can also configure the <MAC>-local.cfg files to be automatically encrypted using 16-character symmetric keys when uploading to the server (by setting "static.auto\_provision.encryption.config" to 1).

For security reasons, you should upload encrypted configuration files, <xx\_Security>.enc files to the root directory of the provisioning server. During auto provisioning, the phone requests to download the boot file first and then download the referenced configuration files. For example, the phone downloads an encrypted account.cfg file. The phone will request to download <account\_Security>.enc file (if enabled) and decrypt it into the plaintext key (for example, key2) using the built-in key (for example, key1). Then the IP phone decrypts account.cfg file using key2. After decryption, the phone resolves configuration files and updates configuration settings onto the IP phone system.

## Encryption and Decryption Configuration

The following table lists the parameters you can use to configure the encryption and decryption.

<b>Parameter</b>	static.auto_provision.update_file_mode	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone only to download the encrypted files.	
<b>Permitted Values</b>	<p><b>0</b>-Disabled, the phone will download the configuration files (for example, sip.cfg, account.cfg, &lt;MAC&gt;-local.cfg) from the server during auto provisioning no matter whether the files are encrypted or not. And then resolve these files and update settings onto the phone system.</p> <p><b>1</b>-Enabled, the phone will only download the encrypted configuration files (for example, sip.cfg, account.cfg, &lt;MAC&gt;-local.cfg) from the server during auto provisioning, and then resolve these files and update settings onto the phone system.</p>	
<b>Default</b>	0	
<b>Parameter</b>	static.auto_provision.aes_key_in_file	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to decrypt configuration files using the encrypted AES keys.	

<b>Permitted Values</b>	<p>0-Disabled, the phone will decrypt the encrypted configuration files using plaintext AES keys configured on the phone.</p> <p>1-Enabled, the phone will download &lt;xx_Security&gt;.enc files (for example, &lt;sip_Security&gt;.enc, &lt;account_Security&gt;.enc) during auto provisioning, and then decrypts these files into the plaintext keys (for example, key2, key3) respectively using the phone built-in key (for example, key1). The phone then decrypts the encrypted configuration files using the corresponding key (for example, key2, key3).</p>	
<b>Default</b>	0	
<b>Parameter</b>	static.auto_provision.aes_key.com	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the plaintext AES key for encrypting/decrypting the Common CFG/Custom CFG file.</p> <p>The valid characters contain: 0 ~ 9, A ~ Z, a ~ z and the following special characters are also supported: # \$ % * + , - . : = ? @ [ ] ^ _ { } ~.</p> <p><b>Example:</b> static.auto_provision.aes_key.com = 0123456789abcdef</p> <p><b>Note:</b> For decrypting, it works only if "static.auto_provision.aes_key_in_file" is set to 0. If the downloaded MAC-Oriented file is encrypted and the parameter "static.auto_provision.aes_key.mac" is left blank, the phone will try to encrypt/decrypt the MAC-Oriented file using the AES key configured by the parameter "static.auto_provision.aes_key.com".</p>	
<b>Permitted Values</b>	16/32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Auto Provision > Common AES Key	
<b>Parameter</b>	static.auto_provision.aes_key.mac	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the plaintext AES key for encrypting/decrypting the MAC-Oriented files (&lt;MAC&gt;.cfg, &lt;MAC&gt;-local.cfg and &lt;MAC&gt;-contact.xml).</p> <p>The valid characters contain: 0 ~ 9, A ~ Z, a ~ z and the following special characters are also supported: # \$ % * + , - . : = ? @ [ ] ^ _ { } ~.</p> <p><b>Example:</b> static.auto_provision.aes_key.mac = 0123456789abmins</p> <p><b>Note:</b> For decrypting, it works only if "static.auto_provision.aes_key_in_file" is set to 0. If the downloaded MAC-Oriented file is encrypted and the parameter "static.auto_provision.aes_key.mac" is left blank, the phone will try to encrypt/decrypt the MAC-Oriented file using the AES key configured by the parameter "static.auto_provision.aes_key.com".</p>	
<b>Permitted Values</b>	16/32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Auto Provision > MAC-Oriented AES Key	
<b>Parameter</b>	static.auto_provision.encryption.config	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to encrypt <MAC>-local.cfg file using the plaintext AES key.	
<b>Permitted Values</b>	<p>0-Disabled, the MAC-local CFG file will be uploaded unencrypted and will replace the one (encrypted or unencrypted) stored on the server if you have configured to back up the MAC-local CFG file to the server by the parameter "static.auto_provision.custom.sync".</p>	

	1-Enabled, the MAC-local CFG file will be uploaded encrypted and will replace the one (encrypted or unencrypted) stored on the server if you have configured to back up the MAC-local CFG file to the server by the parameter “static.auto_provision.custom.sync”. The plaintext AES key is configured by the parameter “static.auto_provision.aes_key.mac”.
<b>Default</b>	0

[1]X is an activation code ID. X=1-50.

[2]If you change this parameter, the phone will reboot to make the change take effect.

## Example: Encrypting Configuration Files

The following example describes how to use “Config\_Encrypt\_Tool.exe” to encrypt the account.cfg file. For more information on the other two encryption tools, refer to [Yealink Configuration Encryption Tool User Guide](#).

The way the IP phone processes other configuration files is the same as that of the account.cfg file.

### Procedure:

1. Double click “Config\_Encrypt\_Tool.exe” to start the application tool.

The screenshot of the main page is shown below:

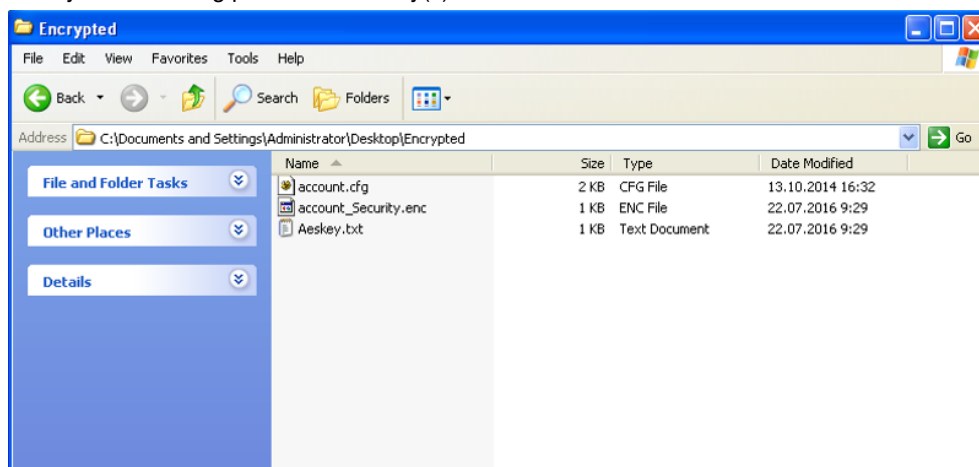


2. When you start the application tool, a file folder named “Encrypted” is created automatically in the directory where the application tool is located.
3. Click **Browse** to locate configuration file(s) (for example, account.cfg) from your local system in the **Select File (s)** field.  
To select multiple configuration files, you can select the first file and then press and hold the **Ctrl** key and select other files.
4. (Optional.) Click **Browse** to locate the target directory from your local system in the **Target Directory** field.  
The tool uses the file folder “Encrypted” as the target directory by default.
5. (Optional.) Mark the desired radio box in the **AES Model** field.  
If you mark the **Manual** radio box, you can enter an **AES key** in the **AES KEY** field or click **Re-Generate** to generate an **AES key** in the **AES KEY** field. The configuration file(s) will be encrypted using the **AES key** in the **AES KEY** field.  
If you mark the **Auto Generate** radio box, the configuration file(s) will be encrypted using a random **AES key**. The AES keys of configuration files are different.
6. Click **Encrypt** to encrypt the configuration file(s).



7. Click **OK**.

The target directory will be automatically opened. You can find the encrypted CFG file(s), encrypted key file(s) and an Aeskey.txt file storing plaintext AES key(s).



## Incoming Network Signaling Validation

Yealink phones support the following three optional levels of security for validating incoming network signaling:

- **Source IP address validation:** ensure the request is received from an IP address of a server belonging to the set of target SIP servers.
- **Digest authentication:** challenge requests with digest authentication using the local credentials for the associated registered account.
- **Source IP address validation and digest authentication:** apply both of the above methods.

### Topic

[Incoming Network Signaling Validation Configuration](#)

## Incoming Network Signaling Validation Configuration

The following table lists the parameters you can use to configure the incoming network signaling validation.

<b>Parameter</b>	sip.request_validation.source.list	<y0000000000xx>.cfg
<b>Description</b>	It configures the name of the request method for which source IP address validation will be applied.	
<b>Example:</b>	sip.request_validation.source.list = INVITE, NOTIFY	

<b>Permitted Values</b>	INVITE, ACK, BYE, REGISTER, CANCEL, OPTIONS, INFO, MESSAGE, SUBSCRIBE, NOTIFY, REFER, PRACK, UPDATE	
<b>Default</b>	Blank	
<b>Parameter</b>	sip.request_validation.digest.list	<y0000000000xx>.cfg
<b>Description</b>	It configures the name of the request method for which digest authentication will be applied. <b>Example:</b> sip.request_validation.digest.list = INVITE, SUBSCRIBE	
<b>Permitted Values</b>	INVITE, ACK, BYE, REGISTER, CANCEL, OPTIONS, INFO, MESSAGE, SUBSCRIBE, NOTIFY, REFER, PRACK, UPDATE	
<b>Default</b>	Blank	
<b>Parameter</b>	sip.request_validation.digest.realm	<y0000000000xx>.cfg
<b>Description</b>	It configures the string used for the authentication parameter Realm when performing the digest authentication.	
<b>Permitted Values</b>	A valid string	
<b>Default</b>	YealinkSPIP	
<b>Parameter</b>	sip.request_validation.event	<y0000000000xx>.cfg
<b>Description</b>	It configures which events specified within the Event header of SUBSCRIBE or NOTIFY request should be validated. If it is left blank, all events will be validated.	
<b>Permitted Values</b>	A valid string	
<b>Default</b>	Blank	

## Firmware Upgrade

When first using your device, we recommend updating to the latest firmware version.

There are two methods of firmware upgrade:

- Manually, from the local system for a single device via the web user interface.
- Automatically, from the provisioning server for a mass of devices.

**Note:** We recommend that the devices running the latest firmware should not be downgraded to an earlier firmware version. The new firmware is compatible with old configuration parameters, but not vice versa.

### Topics

[Firmware for Each Phone Model](#)

[Firmware Upgrade Configuration](#)

[Upgrading Multiple Handsets via Web User Interface](#)

## Firmware for Each Phone Model

You can download the latest firmware online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

The following table lists the associated and latest firmware name for each device model (X is replaced by the actual firmware version).

Product	Firmware Name	Example
DECT IP Multi-Cell System	W80DM/W80B: 103.x.x.x.rom	W80DM/W80B: 103.83.0.70.rom
	W56H: 61.x.x.x.rom	W56H: 61.83.0.90.rom
	W53H: 88.x.x.x.rom	W53H: 88.83.0.90.rom
	CP930W: 87.x.x.x.rom	CP930W: 87.83.0.60.rom
	DD phone: 66.x.x.x.rom	DD phone: 66.84.0.115.rom
	W59R: 115.x.x.x.rom	W59R: 115.83.0.10.rom

**Note:** The W80DM/W80B must work with the W56H/W53H/CP930W/DD phone handset running a specific firmware version. When you register an older handset (not multi-cell version) to the base station, the handset firmware will be automatically upgraded to a matched one.

## Firmware Upgrade Configuration

Before upgrading firmware, you need to know the following:

- Do not close and refresh the browser when the device is upgrading firmware via the web user interface.
- Do not unplug the network cables and power cables when the device is upgrading firmware.

The following table lists the parameters you can use to upgrade firmware.

<b>Parameter</b>	static.firmware.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the firmware file. <b>Note:</b> When upgrading the DM, the registered base station will be upgraded automatically.	
<b>Permitted Values</b>	URL within 511 characters	

<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Upgrade > Upgrade Firmware	
<b>Parameter</b>	over_the_air.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the handset firmware file.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Upgrade > Select and Upgrade Handset Firmware	
<b>Parameter</b>	over_the_air.url.w56h	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the W56H handset firmware file. <b>Note:</b> The priority of parameter "over_the_air.url.w56h" is higher than "over_the_air.url".	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Upgrade > Select and update handset firmware.	
<b>Parameter</b>	over_the_air.url.w53h	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the W53H handset firmware file. <b>Note:</b> The priority of parameter "over_the_air.url.w53h" is higher than "over_the_air.url".	
<b>Permitted Values</b>	URL within 512 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Upgrade > Select and update handset firmware.	
<b>Parameter</b>	over_the_air.url.cp930w	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the CP930W phone firmware file. <b>Note:</b> The priority of parameter "over_the_air.url.cp930w" is higher than "over_the_air.url".	
<b>Permitted Values</b>	URL within 512 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	over_the_air.url.w59r	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the W59R handset firmware file. <b>Note:</b> The priority of parameter "over_the_air.url.w59r" is higher than "over_the_air.url".	
<b>Permitted Values</b>	URL within 512 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	over_the_air.url.t41s_dd10k	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the DD phone firmware file. <b>Note:</b> The priority of parameter "over_the_air.url.t41s_dd10k" is higher than "over_the_air.url".	
<b>Permitted Values</b>	URL within 512 characters	



<b>Default</b>	Blank	
<b>Parameter</b>	over_the_air.handset_tip	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to pop up a tip when upgrading the handset firmware from the provisioning server. <b>Note:</b> It works only if “over_the_air.base_trigger” and “over_the_air.handset_trigger” are set to 0 (Disabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the handset will pop up the message “Handset has a new firmware, update now?”.	
<b>Default</b>	1	
<b>Parameter</b>	over_the_air.handset_trigger	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to upgrade the handset firmware compulsively when the handset is registered to a base station or turned on successfully. It is only applicable when the current handset firmware is different from the one on the provisioning server. <b>Note:</b> It works only if “over_the_air.base_trigger” is set to 0 (Disabled).	
<b>Permitted Values</b>	0-Disabled, if “over_the_air.handset_tip” is set to 1 (Enabled), it will pop up a tip on the handset to notify the user to confirm upgrading the firmware or not. If “over_the_air.handset_tip” is set to 0, you may go to <b>Settings &gt; Upgrade Firmware</b> on the handset to trigger the upgrading manually. 1-Enabled, it will upgrade the handset firmware compulsively without a pop-up tip on the handset.	
<b>Default</b>	1	
<b>Parameter</b>	over_the_air.base_trigger	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to upgrade the handset firmware compulsively when the base station detects a new handset firmware from the provisioning server.	
<b>Permitted Values</b>	0-Disabled, if “over_the_air.handset_tip” is set to 1 (Enabled), it will pop up a tip on the handset to notify the user to confirm upgrading the firmware or not. If “over_the_air.handset_tip” is set to 0, you may go to <b>Settings &gt; Upgrade Firmware</b> on the handset to trigger the upgrading manually. 1-Enabled, it will upgrade the handset firmware compulsively without a pop-up tip on the handset.	
<b>Default</b>	1	
<b>Parameter</b>	over_the_air.mode	<y0000000000xx>.cfg
<b>Description</b>	It configures the mode for upgrading the handset via the web user interface/auto provisioning. <b>Note:</b> If you upgrade in normal mode, you cannot initiate an auto provisioning; if you upgrade in grayscale mode, you can initiate an auto provisioning, and the current upgrade is forced to end.	
<b>Permitted Values</b>	0-Grayscale Upgrade, two handsets per base station one time. The upgrading does not affect the use of the remaining handsets. 1-Normal, four handsets per base station one time. During upgrading, other handsets are not available for the base-related operations. For example, calling, accessing the directory.	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Upgrade > Select and update handset firmware. > Upgrade Mode	

## Upgrading Multiple Handsets via Web User Interface

You can upload the different firmware for different handset types at the same time via the web user interface, and the system will upgrade them one by one.

### Procedure

1. Access the web user interface of the DM.
2. Go to **Settings > Upgrade**.
3. Click **Add** to add an entrance to import the firmware.

You can add up to four entrances.

4. Click **Upgrade All**.

The system will upgrade the handset one by one according to the order you import the firmware.

### Related Topic

[Accessing Web User Interface](#)

## Audio Features

This chapter describes the audio sound quality features and options you can configure for the IP phone.

### Topics

[Alert Tone](#)

[Ringer Device](#)

[Tones](#)

[Audio Codecs](#)

[Packetization Time \(PTime\)](#)

[Early Media](#)

[Acoustic Clarity Technology](#)

[DTMF](#)

## Alert Tone

You can configure the following audio alert for the phone:

- Voice mail tone: allow the IP phone to play a warning tone when receiving a new voice mail. You can customize the warning tone or select specialized tone sets (vary from country to country) for your IP phone.
- Dial tone: allow the IP phone to play a specific dial tone for a specified time.

### Topic

[Alert Tone Configuration](#)

## Alert Tone Configuration

The following table lists the parameters you can use to configure the alert tone.

<b>Parameter</b>	features.call.dialtone_time_out	<y0000000000xx>.cfg
<b>Description</b>	It configures the duration time (in seconds) that a dial tone plays before a call is dropped. If it is set to 0, the call is not dropped.	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	15	
<b>Parameter</b>	features.voice_mail_tone_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to play a warning tone when it receives a new voice mail. <b>Note:</b> It works only if “account.X.display_mwi.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Features > General Information > Voice Mail Tone	

## Ringer Device

You can use either or both the speaker and the headset as the ringer devices. You can configure which ringer device to be used when receiving an incoming call. For example, if the ringer device is set to Headset, ring tone will be played through your headset.

### Topic

[Ringer Device Configuration](#)

## Ringer Device Configuration

The following table lists the parameters you can use to configure the ringer device.

<b>Parameter</b>	features.ringer_device.is_use_headset	<y0000000000xx>.cfg
<b>Description</b>	It configures the ringer device for the phone.	
<b>Permitted Values</b>	<b>0</b> -Use Speaker <b>1</b> -Use Headset <b>2</b> -Use Headset & Speaker	
<b>Default</b>	0	
<b>Web UI</b>	Features > Audio > Ringer Device for Headset	

## Hearing Aid Compatibility (HAC) Volume Control Configuration

The following table lists the parameters you can use to configure the HAC feature.

<b>Parameter</b>	voice.handset.tia4965.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the handset's volume level to be reset to level 3 after the call if the volume level for the current call exceeds the standards TIA4965.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled, if the handset's volume level for the current call is adjusted to level 4 or 5, the volume level automatically resets to 3 after the call. That is, the initial volume level is 3 for the next call.	
<b>Default</b>	1	
<b>Parameter</b>	voice.headset.tia4965.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the headset's volume level to be reset to level 3 after the call if the volume level for the current call exceeds the standards TIA4965.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled, if the headset's volume level for the current call is adjusted to level 4 or 5, the volume level automatically resets to 3 after the call. That is, the initial volume level is 3 for the next call.	
<b>Default</b>	1	

## Tones

When receiving a message, the phone will play a warning tone. You can customize tones or select specialized tone sets (vary from country to country) to indicate different conditions of the IP phone.

### Topics

[Supported Tones](#)

[Tones Configuration](#)

## Supported Tones

The default tones used on the phones are the US tone sets. Available tone sets for phones:

- Australia
- Austria

- Brazil
- Belgium
- China
- Czech
- Denmark
- Finland
- France
- Germany
- Great Britain
- Greece
- Hungary
- Lithuania
- India
- Italy
- Japan
- Mexico
- New Zealand
- Netherlands
- Norway
- Portugal
- Spain
- Switzerland
- Sweden
- Russia
- United States
- Chile
- Czech ETSI

Configured tones can be heard on the phones in the following conditions.

Condition	Description
Dial	When in the dialing interface
Ring Back	Ring-back tone
Busy	When the callee is busy
Call Waiting	Call waiting tone (For more information on call waiting, refer to <a href="#">Call Waiting</a> )

## Tones Configuration

The following table lists the parameters you can use to configure tones.

<b>Parameter</b>	voice.tone.country	<y0000000000xx>.cfg
<b>Description</b>	It configures the country tone for the phones.	
<b>Permitted Values</b>	Custom, Australia, Austria, Brazil, Belgium, Chile, China, Czech, Czech ETSI, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Lithuania, India, Italy, Japan, Mexico, New Zealand, Netherlands, Norway, Portugal, Spain, Switzerland, Sweden, Russia, United States	
<b>Default</b>	Custom	
<b>Web UI</b>	Settings > Tones > Select Country	

<b>Parameter</b>	voice.tone.dial	<y0000000000xx>.cfg
<b>Description</b>	<p>It customizes the dial tone.</p> <p>tone list = element[,element] [,element]...</p> <p>Where</p> <p><b>element</b> = [!]Freq1[+Freq2][+Freq3][+Freq4] /Duration</p> <p><b>Freq</b>: the frequency of the tone (ranges from 200 to 4000 Hz). If it is set to 0 Hz, it means the tone is not played.</p> <p><b>Duration</b>: the duration (in milliseconds) of the dial tone, ranges from 0 to 30000ms.</p> <p>You can configure at most eight different tones for one condition, and separate them by commas. (for example, 250/200,0/1000,200+300/500,200+500+800+1500/1000).</p> <p>If you want the IP phone to play tones once, add an exclamation mark "!" before tones (for example, !250/200,0/1000, 200+300/500,200+500+800+1500/1000).</p> <p><b>Note</b>: It works only if "voice.tone.country" is set to Custom.</p>	
<b>Permitted Values</b>	String	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Tones > Dial	
<b>Parameter</b>	voice.tone.ring	<y0000000000xx>.cfg
<b>Description</b>	<p>It customizes the ringback tone.</p> <p>The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial".</p> <p><b>Note</b>: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.</p>	
<b>Permitted Values</b>	String	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Tones > Ring Back	
<b>Parameter</b>	voice.tone.busy	<y0000000000xx>.cfg
<b>Description</b>	<p>It customizes the tone when the callee is busy.</p> <p>The value format is Freq/Duration. For more information on the value format, refer to the parameter "voice.tone.dial".</p> <p><b>Note</b>: It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.</p>	
<b>Permitted Values</b>	String	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Tones > Busy	
<b>Parameter</b>	voice.tone.callwaiting	<y0000000000xx>.cfg
<b>Description</b>	<p>It customizes the call waiting tone.</p> <p>The value format is Freq/Duration. For more information on the value format, refer to the parameter</p>	

	"voice.tone.dial". <b>Note:</b> It works only if "voice.tone.country" is set to Custom. If you want to disable this warning tone, set it to 0.
<b>Permitted Values</b>	String
<b>Default</b>	Blank
<b>Web UI</b>	Settings > Tones > Call Waiting

## Audio Codecs

CODEC is an abbreviation of COmpress-DECompress, capable of coding or decoding a digital data stream or signal by implementing an algorithm. The object of the algorithm is to represent the high-fidelity audio signal with a minimum number of bits while retaining the quality. This can effectively reduce the frame size and the bandwidth required for audio transmission.

The audio codec that the phone uses to establish a call should be supported by the SIP server. When placing a call, the phone will offer the enabled audio codec list to the server and then use the audio codec negotiated with the called party according to the priority.

### Topics

[Supported Audio Codecs](#)

[Audio Codecs Configuration](#)

## Supported Audio Codecs

The following table summarizes the supported audio codecs on the phones:

Codec	Algorithm	Reference	Bit Rate	Sample Rate	Packetization Time
G722	G.722	RFC 3551	64 Kbps	16 Ksps	20ms
PCMA	G.711 a-law	RFC 3551	64 Kbps	8 Ksps	20ms
PCMU	G.711 u-law	RFC 3551	64 Kbps	8 Ksps	20ms
G729	G.729	RFC 3551	8 Kbps	8 Ksps	20ms
G726-16	G.726	RFC 3551	16 Kbps	8 Ksps	20ms
G726-24	G.726	RFC 3551	24 Kbps	8 Ksps	20ms
G726-32	G.726	RFC 3551	32 Kbps	8 Ksps	20ms
G726-40	G.726	RFC 3551	40 Kbps	8 Ksps	20ms
iLBC	iLBC	RFC 3952	15.2 Kbps 13.33 Kbps	8 Kps	20ms 30ms
opus	opus	RFC 6716	8-12 Kbps 16-20 Kbps 28-40 Kbps 48-64 Kbps 64-128 Kbps	8 Ksps 12 Ksps 16 Ksps 24 Ksps 48 Ksps	20ms

**Note:** The network bandwidth necessary to send the encoded audio is typically 5~10% higher than the bit rate due to packetization overhead. For example, a two-way G.722 audio call at 64 Kbps consumes about 135 Kbps of network bandwidth.

The following table lists the audio codecs supported by each phone model:

Supported Audio Codecs	Default Audio Codecs
G722, PCMA, PCMU, G729, G726-16, G726-24, G726-32, G726-40, iLBC, Opus	G722, PCMA, PCMU, G729

## Audio Codecs Configuration

The following table lists the parameters you can use to configure the audio codecs.

Parameter	account.X.codec.<payload_type>.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It enables or disables the specified audio codec.</p> <p>The name (payload_type) of the audio codec:</p> <p><b>g722</b>-G722</p> <p><b>pcmu</b>-PCMU</p> <p><b>pcma</b>-PCMA</p> <p><b>g729</b>-G729</p> <p><b>g726_16</b>-G726-16</p> <p><b>g726_24</b>-G726-24</p> <p><b>g726_32</b>-G726-32</p> <p><b>g726_40</b>-G726-40</p> <p><b>opus</b>-Opus</p> <p><b>ilbc</b>-iLBC</p> <p><b>Example:</b></p> <p>account.1.codec.g722.enable = 1</p> <p><b>Note:</b> The name of the audio codec in this parameter should be the correct one as listed in the above example, otherwise the corresponding configuration will not take effect.</p>	
<b>Permitted Values</b>	<p><b>0</b>-Disabled</p> <p><b>1</b>-Enabled</p>	
<b>Default</b>	<p><b>Default:</b></p> <p>When the audio codec is G722, the default value is 1;</p> <p>When the audio codec is PCMU, the default value is 1;</p> <p>When the audio codec is PCMA, the default value is 1;</p> <p>When the audio codec is G729, the default value is 1;</p> <p>When the audio codec is G726-16, the default value is 0;</p> <p>When the audio codec is G726-24, the default value is 0;</p> <p>When the audio codec is G726-32, the default value is 0;</p> <p>When the audio codec is G726-40, the default value is 0;</p> <p>When the audio codec is Opus, the default value is 0;</p>	



	When the audio codec is iLBC, the default value is 0;
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Audio Codec
<b>Parameter</b>	account.X.codec.<payload_type>.priority <sup>[1]</sup> <MAC>.cfg
<b>Description</b>	<p>It configures the priority of the enabled audio codec.</p> <p>The name of the audio codec:</p> <p><b>g722</b>-G722</p> <p><b>pcmu</b>-PCMU</p> <p><b>pcma</b>-PCMA</p> <p><b>g729</b>-G729</p> <p><b>g726_16</b>-G726-16</p> <p><b>g726_24</b>-G726-24</p> <p><b>g726_32</b>-G726-32</p> <p><b>g726_40</b>-G726-40</p> <p><b>opus</b>-Opus</p> <p><b>ilbc</b>-iLBC</p> <p><b>Example:</b></p> <p>account.1.codec.g722.priority = 1</p> <p><b>Note:</b> The priority of the codec in the disable codec list is not specified, and numerical value 1 is defined as the highest priority in the enable codec list. The name of the audio codec in this parameter should be the correct one as listed in the above example, otherwise, the corresponding configuration will not take effect.</p>
<b>Permitted Values</b>	Integer from 0 to 10
<b>Default</b>	<p>When the audio codec is G722, the default value is ;</p> <p>When the audio codec is PCMU, the default value is ;</p> <p>When the audio codec is PCMA, the default value is ;</p> <p>When the audio codec is G729, the default value is ;</p> <p>When the audio codec is G726_16, the default value is 0;</p> <p>When the audio codec is G726_24, the default value is 0;</p> <p>When the audio codec is G726_32, the default value is 0;</p> <p>When the audio codec is G726_40, the default value is 0;</p> <p>When the audio codec is Opus, the default value is 0;</p> <p>When the audio codec is iLBC, the default value is 0;</p>
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Audio Codec

[1]X is the account ID. X=1-100.

## Packetization Time (PTime)

PTime is a measurement of the duration (in milliseconds) that how long the audio data in each RTP packet is sent to the destination, and defines how much the network bandwidth is used for the RTP stream transfer. Before establishing a conversation, codec and ptime are negotiated through SIP signaling. The valid values of ptime range from 10 to 60, in increments of 10 milliseconds. The default ptime is 20ms. You can also disable the ptime negotiation.

### Topics

[Supported PTime of Audio Codec](#)  
[PTime Configuration](#)

## Supported PTime of Audio Codec

The following table summarizes the valid values of ptime for each audio codec:

Codec	Packetization Time (Minimum)	Packetization Time (Maximum)
G722	10ms	40ms
PCMA	10ms	40ms
PCMU	10ms	40ms
G729	10ms	80ms
G726-16	10ms	30ms
G726-24	10ms	30ms
G726-32	10ms	30ms
G726-40	10ms	30ms
iLBC	20ms	30ms
opus	10ms	20ms

## PTime Configuration

The following table lists the parameter you can use to configure the PTime.

Parameter	account.X.ptime <sup>[1]</sup>	<MAC>.cfg
Description	It configures the ptime (in milliseconds) for the codec.	
Permitted Values	<b>0</b> -Disabled <b>10</b> -10 <b>20</b> -20 <b>30</b> -30 <b>40</b> -40 <b>50</b> -50	

	60-60
<b>Default</b>	20
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > PTime (ms)

[1]X is the account ID. X=1-100.

## Early Media

The early media refers to the media (for example, audio and video) played to the caller before a SIP call is actually established.

### Topic

[Early Media Configuration](#)

## Early Media Configuration

The following table lists the parameters you can use to configure the early media.

<b>Parameter</b>	phone_setting.is_deal180	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to deal with the 180 SIP message received after the 183 SIP message.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone will resume and play the local ringback tone upon a subsequent 180 message received.	
<b>Default</b>	1	
<b>Web UI</b>	Features > General Information > 180 Ring Workaround	

[1]If you change this parameter, the phone will reboot to make the change take effect.

## Acoustic Clarity Technology

To optimize the audio quality in your network, Yealink phones support the acoustic clarity technology: Background Noise Suppression (BNS), Automatic Gain Control (AGC), Voice Activity Detection (VAD), Comfort Noise Generation (CNG) and jitter buffer.

### Topics

[Background Noise Suppression \(BNS\)](#)

[Automatic Gain Control \(AGC\)](#)

[Voice Activity Detection \(VAD\)](#)

[Comfort Noise Generation \(CNG\)](#)

[Jitter Buffer](#)

## Background Noise Suppression (BNS)

Background noise suppression (BNS) is designed primarily for hands-free operation and reduces background noise to enhance communication in noisy environments.

## Automatic Gain Control (AGC)

Automatic Gain Control (AGC) is applicable to the hands-free operation and is used to keep audio output at nearly a constant level by adjusting the gain of signals in some circumstances. This increases the effective user-phone radius and helps with the intelligibility of soft-talkers.

## Voice Activity Detection (VAD)

VAD can avoid unnecessary coding or transmission of silence packets in VoIP applications, saving on computation and network bandwidth.

### Topic

[VAD Configuration](#)

## VAD Configuration

The following table lists the parameter you can use to configure VAD.

<b>Parameter</b>	voice.vad	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the VAD (Voice Activity Detection) feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Voice > Echo Cancellation > VAD	

## Comfort Noise Generation (CNG)

Comfort Noise Generation (CNG) is used to generate background noise for voice communications during periods of silence in a conversation.

**Note:** VAD is used to send CN packets when the phone detects a "silence" period; CNG is used to generate comfortable noise when the phone receives CN packets from the other side.

### Topic

[CNG Configuration](#)

## CNG Configuration

The following table lists the parameter you can use to configure CNG.

<b>Parameter</b>	voice.cng	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the CNG (Comfortable Noise Generation) feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Settings > Voice > Echo Cancellation > CNG	

## Jitter Buffer

Yealink phones support two types of jitter buffers: fixed and adaptive. A fixed jitter buffer adds the fixed delay to voice packets. You can configure the delay time for the static jitter buffer on the phones. An adaptive jitter buffer is capable of adapting the changes in the network's delay. The range of the delay time for the dynamic jitter buffer added to packets can be also configured on the phones.

### Topic

[Jitter Buffer Configuration](#)

## Jitter Buffer Configuration

You can configure the mode of jitter buffer and the delay time for jitter buffer in the wired network or wireless network.

The following table lists the parameters you can use to configure the jitter buffer.

<b>Parameter</b>	voice.jib.adaptive	<y0000000000xx>.cfg
<b>Description</b>	It configures the type of jitter buffer in the wired network.	
<b>Permitted Values</b>	0-Fixed 1-Adaptive	
<b>Default</b>	1	
<b>Web UI</b>	Settings > Voice > Jitter Buffer > Type	
<b>Parameter</b>	voice.jib.min	<y0000000000xx>.cfg
<b>Description</b>	It configures the minimum delay time (in milliseconds) of the jitter buffer in the wired network. <b>Note:</b> It works only if “voice.jib.adaptive” is set to 1 (Adaptive). The value of this parameter should be less than or equal to that of “voice.jib.normal”.	
<b>Permitted Values</b>	Integer from 0 to 400	
<b>Default</b>	60	
<b>Web UI</b>	Settings > Voice > Jitter Buffer > Min Delay	
<b>Parameter</b>	voice.jib.max	<y0000000000xx>.cfg
<b>Description</b>	It configures the maximum delay time (in milliseconds) of the jitter buffer in the wired network. <b>Note:</b> It works only if “voice.jib.adaptive” is set to 1 (Adaptive). The value of this parameter should be greater than or equal to that of “voice.jib.normal”.	
<b>Permitted Values</b>	Integer from 0 to 400	
<b>Default</b>	240	
<b>Web UI</b>	Settings > Voice > Jitter Buffer > Max Delay	
<b>Parameter</b>	voice.jib.normal	<y0000000000xx>.cfg
<b>Description</b>	It configures the normal delay time (in milliseconds) of the jitter buffer in the wired network. <b>Note:</b> It works only if “voice.jib.adaptive” is set to 0 (Fixed). The value of this parameter should be greater than or equal to that of “voice.jib.min” and less than or equal to that of “voice.jib.max”.	
<b>Permitted Values</b>	Integer from 0 to 400	
<b>Default</b>	120	
<b>Web UI</b>	Settings > Voice > Jitter Buffer > Normal	

## DTMF

DTMF (Dual Tone Multi-frequency) tone, better known as touch tone. DTMF is the signal sent from the IP phone to the network, which is generated when pressing the IP phone’s keypad during a call. Each key pressed on the IP phone generates one sinusoidal tone of two frequencies. One is generated from a high-frequency group and the other from a low-frequency group.

**Topics**

[DTMF Keypad](#)  
[Transmitting DTMF Digit](#)  
[Suppress DTMF Display](#)  
[Transfer via DTMF](#)  
[Local DTMF Tone](#)

**DTMF Keypad**

The DTMF keypad is laid out in a 4x4 matrix, with each row representing a low frequency, and each column representing a high frequency. Pressing a digit key (such as '1') will generate a sinusoidal tone for each of two frequencies (697 and 1209 hertz (Hz)).

**DTMF Keypad Frequencies:**

	1209 Hz	1336 Hz	1477 Hz	1633 Hz
697 Hz	1	2	3	A
770 Hz	4	5	6	B
852 Hz	7	8	9	C
941 Hz	*	0	#	D

**Note:** The phones will not send the DTMF sequence when the call is placed on hold or is held.

**Transmitting DTMF Digit**

Three methods of transmitting DTMF digits on SIP calls:

- **RFC 2833** -- DTMF digits are transmitted by RTP Events compliant with RFC 2833. You can configure the payload type and sending times of the end RTP Event packet. The RTP Event packet contains 4 bytes. The 4 bytes are distributed over several fields denoted as Event, End bit, R-bit, Volume, and Duration. If the End bit is set to 1, the packet contains the end of the DTMF event. You can configure the sending times of the end RTP Event packet.
- **INBAND** -- DTMF digits are transmitted in the voice band. It uses the same codec as your voice and is audible to conversation partners.
- **SIP INFO** -- DTMF digits are transmitted by SIP INFO messages. DTMF digits are transmitted by the SIP INFO messages when the voice stream is established after a successful SIP 200 OK-ACK message sequence. The SIP INFO message can transmit DTMF digits in three ways: DTMF, DTMF-Relay, and Telephone-Event.

**Topic**

[Transmitting DTMF Digit Configuration](#)

**Transmitting DTMF Digit Configuration**

The following table lists the parameters you can use to configure the transmitting DTMF digit.

<b>Parameter</b>	account.X.dtmf.type <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the DTMF type.	
<b>Permitted Values</b>	0-INBAND, DTMF digits are transmitted in the voice band. 1-RFC2833, DTMF digits are transmitted by RTP Events compliant to RFC 2833. 2-SIP INFO, DTMF digits are transmitted by the SIP INFO messages.	

	<b>3-RFC2833 + SIP INFO</b> , DTMF digits are transmitted by RTP Events compliant to RFC 2833 and the SIP INFO messages.	
<b>Default</b>	1	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > DTMF Type	
<b>Parameter</b>	account.X.dtmf.dtmf_payload <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the value of DTMF payload. <b>Note:</b> It works only if “account.X.dtmf.type” is set to 1 (RFC2833) or 3 (RFC2833 + SIP INFO).	
<b>Permitted Values</b>	Integer from 96 to 127	
<b>Default</b>	101	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > DTMF Payload Type (96~127)	
<b>Parameter</b>	account.X.dtmf.info_type <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the DTMF info type. <b>Note:</b> It works only if “account.X.dtmf.type” is set to 2 (SIP INFO) or 3 (RFC2833 + SIP INFO).	
<b>Permitted Values</b>	1-DTMF-Relay 2-DTMF 3-Telephone-Event	
<b>Default</b>	1	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > DTMF Info Type	
<b>Parameter</b>	features.dtmf.repetition	<y0000000000xx>.cfg
<b>Description</b>	It configures the repetition times for the phone to send the end RTP Event packet during an active call.	
<b>Permitted Values</b>	1, 2 or 3	
<b>Default</b>	3	
<b>Web UI</b>	Features > General Information > DTMF Repetition	
<b>Parameter</b>	features.dtmf.duration <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the duration time (in milliseconds) for each digit when a sequence of DTMF tones is played out automatically. <b>Note:</b> If the time interval between two DTMF digits is less than this value, two or more same DTMF digits could be identified as one DTMF digit. This may cause the loss of one or more DTMF digits. For example, 2662 may be identified as 262. If so, you can modify the value of this parameter to a little lower than the default value.	
<b>Permitted Values</b>	Integer from 0 to	
<b>Default</b>	100	
<b>Parameter</b>	features.dtmf.volume	<y0000000000xx>.cfg

<b>Description</b>	It configures the volume of the DTMF tone (in dB).
<b>Permitted Values</b>	Integer from -33 to 0
<b>Default</b>	-10

[1]X is the account ID. X=1-100.

[2]If you change this parameter, the phone will reboot to make the change take effect.

## Suppress DTMF Display

Suppress DTMF display allows the phones to suppress the display of DTMF digits during an active call. DTMF digits are displayed as “\*” on the phone screen. Suppress DTMF display delay defines whether to display the DTMF digits for a short period of time before displaying as “\*”.

### Topic

[Suppress DTMF Display Configuration](#)

## Suppress DTMF Display Configuration

The following table lists the parameters you can use to configure the suppress DTMF display.

<b>Parameter</b>	features.dtmf.hide	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to suppress the display of DTMF digits during an active call.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the DTMF digits are displayed as asterisks.	
<b>Default</b>	0	
<b>Web UI</b>	Features > General Information > Suppress DTMF Display	
<b>Parameter</b>	features.dtmf.hide_delay	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to display the DTMF digits for a short period before displaying asterisks during an active call. <b>Note:</b> It works only if “features.dtmf.hide” is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Features > General Information > Suppress DTMF Display Delay	



## Handset Customization

You can make the phone more personalized by customizing various settings.

### Topics

[Power LED Indicator of Handset](#)  
[Handset Keypad Light](#)  
[Handset Backlight](#)  
[Handset Wallpaper](#)  
[Handset Screen Saver](#)  
[Language](#)  
[Time and Date](#)  
[Input Method](#)  
[Search Source List in Dialing](#)  
[Call Display](#)  
[Display Method on Dialing](#)  
[Key As Send](#)  
[Recent Call Display in Dialing](#)  
[Warnings Display](#)  
[Advisory Tones](#)  
[Shortcut Customization](#)

## Power LED Indicator of Handset

The handset power LED indicator indicates power status and phone status.

You can configure the power LED indicator behavior in the following scenarios:

- The handset is idle
- The handset receives an incoming call
- The handset receives a voice mail

It is not applicable to CP930W.

### Topic

[Power LED Indicator of Handset Configuration](#)

## Power LED Indicator of Handset Configuration

The following table lists the parameters you can use to configure the power LED indicator of the handset.

<b>Parameter</b>	phone_setting.common_power_led_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the handset power LED indicator to be turned on when the handset is idle.	
<b>Permitted Values</b>	0-Disabled (handset power LED indicator is off) 1-Enabled (handset power LED indicator is solid red)	
<b>Default</b>	0	
<b>Parameter</b>	phone_setting.ring_power_led_flash_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the handset power LED indicator to flash when the handset receives an incoming call.	
<b>Permitted Values</b>	0-Disabled (handset power LED indicator is off) 1-Enabled (handset power LED indicator fast flashes (300ms) red)	

<b>Default</b>	1	
<b>Parameter</b>	phone_setting.mail_power_led_flash_enable	<y000000000xx>.cfg
<b>Description</b>	It enables or disables the handset power LED indicator to flash when the handset receives a voice mail.	
<b>Permitted Values</b>	0-Disabled (handset power LED indicator does not flash) 1-Enabled (handset power LED indicator slow flashes (1000ms) red)	
<b>Default</b>	1	
<b>Parameter</b>	phone_setting.missed_call_power_led_flash.enable	<y000000000xx>.cfg
<b>Description</b>	It enables or disables the handset power LED indicator to flash when the handset receives an incoming call.	
<b>Permitted Values</b>	0-Disabled (handset power LED indicator does not flash) 1-Enabled (handset power LED indicator slow flashes (1000ms) red)	
<b>Default</b>	1	

## Handset Keypad Light

You can enable the handset keypad light to light up the keypad when any key is pressed. This helps you distinguish keys from each other in a dark environment.

### Topic

[Handset Keypad Light Configuration](#)

## Handset Keypad Light Configuration

The following table lists the parameter you can use to configure the handset keypad light.

<b>Parameter</b>	custom.handset.keypad_light.enable	<y000000000xx>.cfg
<b>Description</b>	It enables or disables the handset to turn on the keypad light (digital key, # key, * key, TRAN key, and Mute key) when any key is pressed. <b>Note:</b> It will take effect on all handsets that are registered to the same base station. It works only if "static.auto_provision.handset_configured.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	-1-Do not modify the configuration. 0-Disabled 1-Enabled	
<b>Default</b>	-1	
<b>Supported Devices</b>	W59R, W53H, W56H	
<b>Handset UI</b>	OK > Settings > Display > Keypad LED	

## Handset Backlight

The handset supports different backlight status and you can configure it.

For W59R/W53H/W56H, the backlight in charger or out of charger can be configured independently. You can enable the backlight to be on for about 30 minutes when the handset is charged, and then you can check the charging state during this period. You can also enable the backlight to be on for about 30 minutes when the handset is

not charged. The backlight will be turned off after the handset is idle for a period of time. When an incoming call arrives, a key is pressed or the status of handset changes, the backlight is automatically turned on.

For CP930W, the backlight automatically turns off, when the phone is charging and inactive for a specified time. You can only change the specified time by navigating to **Menu > Settings > Basic Settings > Display > Display Backlight**.

### Topic

[Handset Backlight Configuration](#)

## Handset Backlight Configuration

The following table lists the parameters you can use to configure the handset backlight.

<b>Parameter</b>	custom.handset.backlight_in_charger.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the handset backlight to be on for about 30 minutes when it is charged. <b>Note:</b> It will take effect on all handsets that are registered on the same base station. It works only if “static.auto_provision.handset_configured.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	-1-Do not modify the handset configuration (Keep the original configuration of the handset). 0-Disabled, the backlight will be turned off after the handset is idle for about 10 seconds. 1-Enabled, the backlight will be turned off after the handset is idle for about 30 minutes.	
<b>Default</b>	-1	
<b>Supported Devices</b>	W59R, W53H, W56H	
<b>Handset UI</b>	OK > Settings > Display > Display Backlight > In Charger	
<b>Parameter</b>	custom.handset.backlight_out_of_charger.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the handset backlight to be on for about 30 minutes when it is not charged. <b>Note:</b> It will take effect on all handsets that are registered on the same base station. It works only if “static.auto_provision.handset_configured.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	-1-Do not modify the handset configuration (Keep the original configuration of the handset). 0-Disabled, the backlight will be turned off after the handset is idle for about 10 seconds. 1-Enabled, the backlight will be turned off after the handset is idle for about 30 minutes.	
<b>Default</b>	-1	
<b>Supported Devices</b>	W59R, W53H, W56H	
<b>Handset UI</b>	OK > Settings > Display > Display Backlight > Out Of Charger	

## Handset Wallpaper

Wallpaper is an image used as the background for the handset idle screen. Users can select an image from handset's built-in background.

### Topic

[Handset Wallpaper Configuration](#)

## Handset Wallpaper Configuration

The following table lists the parameter you can use to configure the handset wallpaper.

<b>Parameter</b>	custom.handset.wallpaper	<y000000000xx>.cfg
<b>Description</b>	It configures the wallpaper displayed on the handset LCD screen. <b>Note:</b> It will take effect on all handsets that are registered on the same base station. It works only if "static.auto_provision.handset_configured.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	1-Wallpaper1 2-Wallpaper2 3-Wallpaper3 4-Wallpaper4 5-Wallpaper5	
<b>Default</b>	-1, do not change the wallpaper set on each handset.	
<b>Supported Devices</b>	W59R, W53H, W56H	
<b>Handset UI</b>	OK > Settings > Display > Wallpaper	

## Handset Screen Saver

The screen saver of the handset is designed to protect your LCD screen. You can enable the screen saver to protect the LCD screen, an analog clock will be activated and appear on the LCD screen after the handset is idle for approximately 10 seconds.

It is only applicable to W59R/W56H/W53H handsets.

### Topic

[Handset Screen Saver Configuration](#)

## Handset Screen Saver Configuration

The following table lists the parameter you can use to configure the handset screen saver.

<b>Parameter</b>	custom.handset.screen_saver.enable <sup>[1]</sup>	<y000000000xx>.cfg
<b>Description</b>	It enables or disables screen saver feature. <b>Note:</b> It will take effect on all handsets that are registered on the same base station. It works only if "static.auto_provision.handset_configured.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	-1-Do not modify the handset configuration (Keep the original configuration of the handset). 0-Disabled 1-Enabled, an analog clock will be activated and appear on the LCD screen if no user activity is sensed for approximately 10 seconds.	
<b>Default</b>	-1	
<b>Supported Devices</b>	W59R, W53H, W56H	
<b>Handset UI</b>	OK > Settings > Display > Screen Saver	

## Language

Yealink phones support multiple languages. Languages used on the handset user interface and web user interface can be specified respectively as required.

## Topics

[Supported Languages](#)  
[Language Display Configuration](#)  
[Language for Web Display Customization](#)

## Supported Languages

You can ask the distributor or Yealink FAE for language packs. You can also obtain the language packs online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

The following table lists available languages and associated language packs supported by the handset user interface and the web user interface.

Phone User Interface		Web User Interface		
Language	Language Pack	Language	Language Pack	Note Language Pack
English	/	English	1.English.js	1.English_note.xml
French	/	French	4.French.js	4.French_note.xml
German	/	German	5.German.js	5.German_note.xml
Italian	/	Italian	6.Italian.js	6.Italian_note.xml
Polish	/	Polish	7.Polish.js	7.Polish_note.xml
Portuguese	/	Portuguese	8.Portuguese.js	8.Portuguese_note.xml
Spanish	/	Spanish	9.Spanish.js	9.Spanish_note.xml
Turkish	/	Turkish	10.Turkish.js	10.Turkish_note.xml
Russian	/	Russian	11.Russian.js	11.Russian_note.xml

## Language Display Configuration

The default language displayed on the phone/handset user interface is English. If your web browser displays a language not supported by the IP phone, the web user interface will display English by default. You can specify the languages for the phone/handset user interface and web user interface respectively.

The following table lists the parameters you can use to configure the language display.

<b>Parameter</b>	lang.wui	<y000000000xx>.cfg
<b>Description</b>	It configures the language used on the web user interface.	
<b>Permitted Values</b>	English, French, German, Italian, Polish, Portuguese, Spanish, Turkish, Russian, or the custom language name.	
<b>Default</b>	English	
<b>Web UI</b>	On the top-right corner of the web user interface	
<b>Parameter</b>	custom.handset.language	<y000000000xx>.cfg
<b>Description</b>	It configures the language used on the handset user interface. <b>Note:</b> It will take effect on all handsets that are registered on the same system. It works only if "static.auto_provision.handset_configured.enable" is set to 1 (Enabled).	

<b>Permitted Values</b>	<b>0</b> -English <b>1</b> -French <b>2</b> -German <b>3</b> -Italian <b>4</b> -Polish <b>5</b> -Portuguese <b>6</b> -Spanish <b>7</b> -Turkish <b>8</b> -Swedish <b>9</b> -Russian
<b>Default</b>	0
<b>Supported Devices</b>	All handsets except DD phones
<b>Handset UI</b>	<u>W59R/W53H/W56H:</u> OK > Settings > Language <u>CP930W:</u> Menu > Settings > Basic Settings > Language

## Language for Web Display Customization

You can customize the translation of the existing language on the web user interface. You can modify translation of an existing language or add a new language for web display.

You can ask the distributor or Yealink FAE for language packs. You can also obtain the language packs online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

### Topics

[Customizing a Language Pack for Web Display](#)  
[Custom Language for Web Display Configuration](#)

## Customizing a Language Pack for Web Display

When you add a new language pack for the web user interface, the language pack must be formatted as "X.name.js" (X starts from 14, "name" is replaced with the language name). If the language name is the same as the existing one, the newly uploaded language file will override the existing one. We recommend that the file name of the new language pack should not be the same as the existing one.

**Note:** To modify the translation of an existing language, do not rename the language pack.

### Procedure

Open the desired language template pack (for example, 1.English.js) using an ASCII editor.

Modify the characters within the double quotation marks on the right of the colon. Do not modify the translation item on the left of the colon.

The following shows a portion of the language pack "1.English.js" for the web user interface:

```

1 var _objTrans =
2 {
3   //login.htm
4   "The username can not be empty.":"The username can
5   "Failed to connect to the server. Please check net
6   "Login":"Login",
7   "Username":"Username",
8   "Password":"Password",
9   "Confirm":"Confirm",
10  "admin":"admin",
11  "user":"user",
12  "var":"var",
13
14  //header.htm
15  "Log_Out":"Log Out",
16  "Status":"Status",
17  "Network":"Network",
18  "Dsskey":"Dsskey",
19  "Features":"Features",
20  "Settings":"Settings",
21  "Directory":"Directory",
22  "Security":"Security",
23  "Applications":"Applications",
24

```

Save the language pack and place it to the provisioning server.

## Custom Language for Web Display Configuration

If you want to add a new language (for example, Wuilan) to phones, prepare the language file named as "14.Wuilan.js" for downloading. After the update, you will find a new language selection "Wuilan" at the top-right corner of the web user interface.

The following table lists the parameters you can use to configure a custom language for web display.

<b>Parameter</b>	wui_lang.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the custom language pack for the web user interface.	
<b>Permitted Values</b>	URL within 511 characters For example http://localhost/X.GUI.name.lang X starts from 014, "name" is replaced with the language name	
<b>Default</b>	Blank	
<b>Parameter</b>	wui_lang.delete	<y0000000000xx>.cfg
<b>Description</b>	It deletes the specified or all custom web language packs and note language packs of the web user interface.	
<b>Permitted Values</b>	http://localhost/all or http://localhost/Y.name.js Y starts from 014, "name" is replaced with the language name	
<b>Default</b>	Blank	

## Time and Date

Yealink phones maintain a local clock. You can choose to get the time and date from SNTP (Simple Network Time Protocol) time server to have the most accurate time and set DST (Daylight Saving Time) to make better use of daylight and to conserve energy, or you can set the time and date manually. The time and date can be displayed in several formats on the idle screen.

### Topics

[Time Zone](#)

- [NTP Settings](#)
- [DST Settings](#)
- [Time and Date Manually Configuration](#)
- [Time and Date Format Configuration](#)
- [Date Customization Rule](#)

## Time Zone

The following table lists the values you can use to set the time zone location.

Time Zone	Time Zone Name	Time Zone	Time Zone Name
-12	Eniwetok,Kwajalein	+2	Estonia(Tallinn)
-11	Midway Island	+2	Finland(Helsinki)
-11	Samoa	+2	Gaza Strip(Gaza)
-10	United States-Hawaii-Aleutian	+2	Greece(Athens)
-10	United States-Alaska-Aleutian	+2	Harare
-9:30	French Polynesia	+2	Israel(Tel Aviv)
-9	United States-Alaska Time	+2	Jordan(Amman)
-8	Canada(Vancouver,Whitehorse)	+2	Latvia(Riga)
-8	Mexico(Tijuana,Mexicali)	+2	Lebanon(Beirut)
-8	United States-Pacific Time	+2	Moldova(Kishinev)
-8	Baja California	+2	Pretoria
-7	Canada(Edmonton,Calgary)	+2	Jerusalem
-7	Mexico(Mazatlan,Chihuahua)	+2	Russia(Kaliningrad)
-7	United States-Mountain Time	+2	Bulgaria(Sofia)
-7	United States-MST no DST	+2	Lithuania(Vilnius)
-7	Chihuahua,La Paz	+2	Cairo
-7	Arizona	+2	Istanbul
-6	Guatemala	+2	E.Europe
-6	El Salvador	+2	Tripoli
-6	Honduras	+2	Romania(Bucharest)
-6	Nicaragua	+2	Syria(Damascus)
-6	Costa Rica	+2	Turkey(Ankara)
-6	Belize	+2	Ukraine(Kyiv, Odessa)
-6	Canada-Manitoba(Winnipeg)	+3	East Africa Time
-6	Chile(Easter Islands)	+3	Iraq(Baghdad)
-6	Guadalajara	+3	Russia(Moscow)



Time Zone	Time Zone Name	Time Zone	Time Zone Name
-6	Monterrey	+3	St.Petersburg
-6	Mexico(Mexico City,Acapulco)	+3	Kuwait,Riyadh
-6	Saskatchewan	+3	Nairobi
-6	United States-Central Time	+3	Minsk
-5	Bahamas(Nassau)	+3	Volgograd (RTZ 2)
-5	Bogota,Lima	+3:30	Iran(Teheran)
-5	Canada(Montreal,Ottawa,Quebec)	+4	Armenia(Yerevan)
-5	Cuba(Havana)	+4	Azerbaijan(Baku)
-5	Indiana (East)	+4	Georgia(Tbilisi)
-5	Peru	+4	Kazakhstan(Aktau)
-5	Quito	+4	Russia(Samara)
-5	United States-Eastern Time	+4	Abu Dhabi,Muscat
-4:30	Venezuela(Caracas)	+4	Izhevsk,Samara (RTZ 3)
-4	Canada(Halifax,Saint John)	+4	Port Louis
-4	Atlantic Time (Canada)	+4:30	Afghanistan(Kabul)
-4	San Juan	+5	Kazakhstan(Aqtobe)
-4	Manaus,Cuiaba	+5	Kyrgyzstan(Bishkek)
-4	Georgetown	+5	Ekaterinburg (RTZ 4)
-4	Chile(Santiago)	+5	Karachi
-4	Paraguay(Asuncion)	+5	Tashkent
-4	United Kingdom-Bermuda(Bermuda)	+5	Pakistan(Islamabad)
-4	United Kingdom(Falkland Islands)	+5	Russia(Chelyabinsk)
-4	Trinidad&Tobago	+5:30	India(Calcutta)
-3:30	Canada-New Foundland(St.Johns)	+5:30	Mumbai,Chennai
-3	Greenland(Nuuk)	+5:30	Kolkata,New Delhi
-3	Argentina(Buenos Aires)	+5:30	Sri Jayawardenepura
-3	Brazil(no DST)	+5:45	Nepal(Katmandu)
-3	Brasilia	+6	Kazakhstan(Astana, Almaty)
-3	Cayenne,Fortaleza	+6	Russia(Novosibirsk,Omsk)
-3	Montevideo	+6	Bangladesh(Dhaka)
-3	Salvador	+6:30	Myanmar(Naypyitaw)

Time Zone	Time Zone Name	Time Zone	Time Zone Name
-3	Brazil(DST)	+6:30	Yangon (Rangoon)
-2:30	Newfoundland and Labrador	+7	Russia(Krasnoyarsk)
-2	Brazil(no DST)	+7	Thailand(Bangkok)
-2	Mid-Atlantic	+7	Vietnam(Hanoi)
-1	Portugal(Azores)	+7	Jakarta
-1	Cape Verde Islands	+8	China(Beijing)
0	GMT	+8	Singapore(Singapore)
0	Greenland	+8	Hong Kong,Urumqi
0	Western Europe Time	+8	Taipei
0	Monrovia	+8	Kuala Lumpur
0	Reykjavik	+8	Australia(Perth)
0	Casablanca	+8	Russia(Irkutsk, Ulan-Ude)
0	Denmark-Faroe Islands(Torshavn)	+8	Ulaanbaatar
0	Ireland(Dublin)	+8:45	Eucla
0	Edinburgh	+9	Korea(Seoul)
0	Portugal(Lisboa,Porto,Funchal)	+9	Japan(Tokyo)
0	Spain-Canary Islands(Las Palmas)	+9	Russia(Yakutsk,Chita)
0	United Kingdom(London)	+9:30	Australia(Adelaide)
0	Lisbon	+9:30	Australia(Darwin)
0	Morocco	+10	Australia(Sydney,Melbourne,Canberra)
+1	Albania(Tirane)	+10	Australia(Brisbane)
+1	Austria(Vienna)	+10	Australia(Hobart)
+1	Belgium(Brussels)	+10	Russia(Vladivostok)
+1	Caicos	+10	Magadan (RTZ 9)
+1	Belgrade	+10	Guam,Port Moresby
+1	Bratislava	+10	Solomon Islands
+1	Ljubljana	+10:30	Australia(Lord Howe Islands)
+1	Chad	+11	New Caledonia(Noumea)
+1	Copenhagen	+11	Chokurdakh (RTZ 10)
+1	West Central Africa	+11	Russia(Srednekolymsk Time)
+1	Poland(Warsaw)	+11:30	Norfolk Island

Time Zone	Time Zone Name	Time Zone	Time Zone Name
+1	Spain(Madrid)	+12	New Zealand(Wellington,Auckland)
+1	Croatia(Zagreb)	+12	Fiji Islands
+1	Czech Republic(Prague)	+12	Russia(Kamchatka Time)
+1	Denmark(Kopenhagen)	+12	Anadyr
+1	France(Paris)	+12	Petropavlovsk-Kamchatsky (RTZ 11)
+1	Germany(Berlin)	+12	Marshall Islands
+1	Hungary(Budapest)	+12:45	New Zealand(Chatham Islands)
+1	Italy(Rome)	+13	Nuku'alofa
+1	Switzerland(Bern)	+13	Tonga(Nukualofa)
+1	Sweden(Stockholm)	+13:30	Chatham Islands
+1	Luxembourg(Luxembourg)	+14	Kiribati
+1	Macedonia(Skopje)		
+1	Netherlands(Amsterdam)		
+1	Namibia(Windhoek)		
+1	Spain(Madrid)		

## NTP Settings

You can set an NTP time server for the desired area as required. The NTP time server address can be offered by the DHCP server or configured manually.

### Topic

[NTP Configuration](#)

## NTP Configuration

The following table lists the parameters you can use to configure the NTP.

<b>Parameter</b>	local_time.manual_ntp_srv_prior	<y0000000000xx>.cfg
<b>Description</b>	It configures the priority for the phone to use the NTP server address offered by the DHCP server.	
<b>Permitted Values</b>	0- High (use the NTP server address offered by the DHCP server preferentially) 1- Low (use the NTP server address configured manually preferentially)	
<b>Default Value</b>	0	
<b>Web UI</b>	Settings > Time&Date > NTP by DHCP Priority	
<b>Parameter</b>	local_time.dhcp_time	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to update time with the offset time offered by the DHCP server. <b>Note:</b> It is only available to offset from Greenwich Mean Time GMT 0.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	

<b>Default</b>	0	
<b>Web UI</b>	Settings > Time&Date > DHCP Time	
<b>Parameter</b>	local_time.ntp_server1	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address or the domain name of the primary NTP server.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	cn.pool.ntp.org	
<b>Web UI</b>	Settings > Time&Date > Primary Server	
<b>Parameter</b>	local_time.ntp_server2	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address or the domain name of the secondary NTP server. If the primary NTP server is not configured by the parameter "local_time.ntp_server1", or cannot be accessed, the phone will request the time and date from the secondary NTP server.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	pool.ntp.org	
<b>Web UI</b>	Settings > Time&Date > Secondary Server	
<b>Parameter</b>	local_time.interval	<y0000000000xx>.cfg
<b>Description</b>	It configures the interval (in seconds) at which the phone updates time and date from the NTP server.	
<b>Permitted Values</b>	Integer from 15 to 86400	
<b>Default</b>	1000	
<b>Web UI</b>	Settings > Time&Date > Update Interval (15~86400s)	
<b>Parameter</b>	local_time.time_zone	<y0000000000xx>.cfg
<b>Description</b>	It configures the time zone.	
<b>Permitted Values</b>	-12 to +14 For available time zones, refer to <a href="#">Time Zone</a> .	
<b>Default</b>	+8	
<b>Web UI</b>	Settings > Time&Date > Time Zone	
<b>Parameter</b>	local_time.time_zone_name	<y0000000000xx>.cfg
<b>Description</b>	It configures the time zone name. <b>Note:</b> It works only if "local_time.summer_time" is set to 2 (Automatic) and the parameter "local_time.-time_zone" should be configured in advance.	
<b>Permitted Values</b>	String within 32 characters The available time zone names depend on the time zone configured by the parameter "local_time.-time_zone". For available time zone names, refer to <a href="#">Time Zone</a> .	
<b>Default</b>	China(Beijing)	
<b>Web UI</b>	Settings > Time&Date > Location	

## DST Settings

You can set DST for the desired area as required. By default, the DST is set to Automatic, so it can be adjusted automatically from the current time zone configuration.

The time zone and corresponding DST pre-configurations exist in the AutoDST file. If the DST is set to Automatic, the phone obtains the DST configuration from the AutoDST file.

You can customize the AutoDST file if required. The AutoDST file allows you to add or modify time zone and DST settings for your area each year.

### Topics

[Auto DST File Attributes](#)  
[Customizing Auto DST File](#)  
[DST Configuration](#)

## Auto DST File Attributes

The following table lists the description of each attribute in the template file:

Attributes	Type	Values	Description
szTime	required	[+/-][X]:[Y], X=0~14, Y=0~59	Time Zone
szZone	required	String (if the content is more than one city, it is the best to keep their daylight saving time the same)	Time Zone name
iType	optional	0/1 0: DST by Date 1: DST by Week	DST time type (This item is needed if you want to configure DST.)
szStart	optional	Month/Day/Hour (for iType=0) Month: 1~12 Day: 1~31 Hour: 0 (midnight)~23 Month/Week of Month/Day of Week/Hour of Day(for iType=1) Month: 1~12 Week of Month: 1~5 (the last week) Day of Week: 1~7 Hour of Day: 0 (midnight)~23	Starting time of the DST
szEnd	optional	Same as szStart	Ending time of the DST
szOffset	optional	Integer from -300 to 300	The offset time (in minutes) of DST

## Customizing Auto DST File

Before customizing, you need to obtain the AutoDST file. You can ask the distributor or Yealink FAE for DST template. You can also obtain the DST template online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

1. Open the AutoDST file.
2. To add a new time zone, add `<DST szTime="" szZone="" iType="" szStart="" szEnd="" szOffset="" />` between `<DSTData >` and `</DSTData >`.
3. Specify the DST attribute values within double quotes.

For example:

Add a new time zone (+6 Paradise) with daylight saving time 30 minutes:

<DST szTime="+6" szZone="Paradise" iType="1" szStart="3/5/7/2" szEnd="10/5/7/3" szOffset="30"/>

```

AutoDST.xml x
0 10 20 30 40 50 60 70 80 90
<DST szTime="+4:30" szZone="Afghanistan (Kabul)" />
<DST szTime="+5" szZone="Kazakhstan (Aqtobe)" />
<DST szTime="+5" szZone="Kyrgyzstan (Bishkek)" />
<DST szTime="+5" szZone="Pakistan (Islamabad)" iType="0" szStart="4/15/0" szEnd="11/1/0" />
<DST szTime="+5" szZone="Russia (Chelyabinsk)" />
<DST szTime="+5:30" szZone="India (Calcutta)" />
<DST szTime="+5:45" szZone="Nepal (Katmandu)" />
<DST szTime="+6" szZone="Paradise" iType="1" szStart="3/5/7/2" szEnd="10/5/7/3" szOffset="30"/>
<DST szTime="+6" szZone="Kazakhstan (Astana, Almaty)" />
<DST szTime="+6" szZone="Russia (Novosibirsk, Omsk)" />
    
```

Modify the DST settings for the existing time zone "+5 Pakistan(Islamabad)" and add DST settings for the existing time zone "+5:30 India(Calcutta)".

```

AutoDST.xml x
0 20 30 40 50 60 70 80 90 100 110
<DST szTime="+3:30" szZone="Iran (Teheran)" iType="0" szStart="3/22/0" szEnd="9/22/0" szOffset="60"/>
<DST szTime="+4" szZone="Armenia (Yerevan)" iType="1" szStart="3/5/7/2" szEnd="10/5/7/3" szOffset="60"/>
<DST szTime="+4" szZone="Azerbaijan (Baku)" iType="1" szStart="3/5/7/4" szEnd="10/5/7/5" szOffset="60"/>
<DST szTime="+4" szZone="Georgia (Tbilisi)" />
<DST szTime="+4" szZone="Kazakhstan (Aktau)" />
<DST szTime="+4" szZone="Russia (Samara)" />
<DST szTime="+4:30" szZone="Afghanistan (Kabul)" />
<DST szTime="+5" szZone="Kazakhstan (Aqtobe)" />
<DST szTime="+5" szZone="Kyrgyzstan (Bishkek)" />
<DST szTime="+5" szZone="Pakistan (Islamabad)" iType="0" szStart="4/15/0" szEnd="11/1/0" szOffset="60"/>
<DST szTime="+5:30" szZone="India (Calcutta)" iType="1" szStart="9/5/7/3" szEnd="4/1/7/2" szOffset="60"/>
<DST szTime="+5:45" szZone="Nepal (Katmandu)" />
<DST szTime="+6" szZone="Kazakhstan (Astana, Almaty)" />
<DST szTime="+6" szZone="Russia (Novosibirsk, Omsk)" />
<DST szTime="+6:30" szZone="Myanmar (Naypyitaw)" />
<DST szTime="+7" szZone="Russia (Krasnoyarsk)" />
<DST szTime="+7" szZone="Thailand (Bangkok)" />
<DST szTime="+8" szZone="China (Beijing)" />
<DST szTime="+8" szZone="Singapore (Singapore)" />
    
```

4. Save this file and place it to the provisioning server.

**Related Topic**

[Time Zone](#)

**DST Configuration**

The following table lists the parameters you can use to configure DST.

<b>Parameter</b>	local_time.summer_time	<y0000000000xx>.cfg
<b>Description</b>	It configures the Daylight Saving Time (DST) feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled 2-Automatic	
<b>Default</b>	2	
<b>Web UI</b>	Settings > Time&Date > Daylight Saving Time	
<b>Parameter</b>	local_time.dst_time_type	<y0000000000xx>.cfg
<b>Description</b>	It configures the Daylight Saving Time (DST) type. <b>Note:</b> It works only if "local_time.summer_time" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-DST by Date 1-DST by Week	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Time&Date > Fixed Type	

<b>Parameter</b>	local_time.start_time	<y0000000000xx>.cfg
<b>Description</b>	It configures the start time of the Daylight Saving Time (DST). <b>Note:</b> It works only if "local_time.summer_time" is set to 1 (Enabled).	
<b>Permitted Values</b>	<p>Month/Day/Hour-DST by Date, use the following mapping:</p> <p><b>Month:</b> 1=January, 2=February,..., 12=December</p> <p><b>Day:</b> 1=the first day in a month,..., 31= the last day in a month</p> <p><b>Hour:</b> 0=0am, 1=1am,..., 23=11 pm</p> <p>Month/Week of Month/Day of Week/Hour of Day-DST by Week, use the following mapping:</p> <p><b>Month:</b> 1=January, 2=February,..., 12=December</p> <p><b>Week of Month:</b> 1=the first week in a month,..., 5=the last week in a month</p> <p><b>Day of Week:</b> 1=Monday, 2=Tuesday,..., 7=Sunday</p> <p><b>Hour of Day:</b> 0=0am, 1=1am,..., 23=11 pm</p>	
<b>Default</b>	1/1/0	
<b>Web UI</b>	Settings > Time&Date > Start Date	
<b>Parameter</b>	local_time.end_time	<y0000000000xx>.cfg
<b>Description</b>	It configures the end time of the Daylight Saving Time (DST). <b>Note:</b> It works only if "local_time.summer_time" is set to 1 (Enabled).	
<b>Permitted Values</b>	<p>Month/Day/Hour-DST by Date, use the following mapping:</p> <p><b>Month:</b> 1=January, 2=February,..., 12=December</p> <p><b>Day:</b> 1=the first day in a month,..., 31= the last day in a month</p> <p><b>Hour:</b> 0=0am, 1=1am,..., 23=11 pm</p> <p>Month/Week of Month/Day of Week/Hour of Day-DST by Week, use the following mapping:</p> <p><b>Month:</b> 1=January, 2=February,..., 12=December</p> <p><b>Week of Month:</b> 1=the first week in a month,..., 5=the last week in a month</p> <p><b>Day of Week:</b> 1=Monday, 2=Tuesday,..., 7=Sunday</p> <p><b>Hour of Day:</b> 0=0am, 1=1am,..., 23=11 pm</p>	
<b>Default</b>	12/31/23	
<b>Web UI</b>	Settings > Time&Date > End Date	
<b>Parameter</b>	local_time.offset_time	<y0000000000xx>.cfg
<b>Description</b>	It configures the offset time (in minutes) of Daylight Saving Time (DST). <b>Note:</b> It works only if "local_time.summer_time" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from -300 to 300	
<b>Default</b>	60	
<b>Web UI</b>	Settings > Time&Date > Offset (minutes)	
<b>Parameter</b>	auto_dst.url	<y0000000000xx>.cfg

<b>Description</b>	It configures the access URL of the DST file (AutoDST.xml). <b>Note:</b> It works only if "local_time.summer_time" is set to 2 (Automatic).
<b>Permitted Values</b>	URL within 511 characters
<b>Default</b>	Blank

## Time and Date Manually Configuration

You can set the time and date manually when the phones cannot obtain the time and date from the NTP time server.

The following table lists the parameter you can use to configure time and date manually.

<b>Parameter</b>	local_time.manual_time_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to obtain time and date from manual settings.	
<b>Permitted Values</b>	0-Disabled, the phone obtains time and date from the NTP server. 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Time&Date > Manual Time	

Note: After the device reboots, it will be forcibly switched to obtain the time and date from the NTP server.

## Time and Date Format Configuration

You can customize the time and date by choosing between a variety of time and date formats, including options to date format with the day, month, or year, and time format in 12 hours or 24 hours, or you can also custom the date format as required.

The following table lists the parameters you can use to configure time and date format.

<b>Parameter</b>	custom.handset.time_format	<y0000000000xx>.cfg
<b>Description</b>	It configures the time format for all registered handsets. <b>Note:</b> It works only if "static.auto_provision.handset_configured.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Hour 12, the time will be displayed in 12-hour format with AM or PM specified. 1-Hour 24, the time will be displayed in 24-hour format (for example, 2:00 PM displays as 14:00).	
<b>Default</b>	1	
<b>Web UI</b>	Settings > Time&Date > Time Format	
<b>Handset UI</b>	OK > Settings > Display > Time Format	
<b>Parameter</b>	custom.handset.date_format	<y0000000000xx>.cfg
<b>Description</b>	It configures the date format for all registered handsets. <b>Note:</b> The value configured by the parameter "lcl.datetime.date.format" takes precedence over that configured by this parameter.	
<b>Permitted Values</b>	0-WWW MMM DD 1-DD-MMM-YY 2-YYYY-MM-DD	



	<b>3-DD/MM/YYYY</b> <b>4-MM/DD/YY</b> <b>5-DD MMM YYYY</b> <b>6-WWW DD MMM</b> Use the following mapping: “WWW” represents the abbreviation of the week; “DD” represents a two-digit day; “MMM” represents the first three letters of the month; “YYYY” represents a four-digit year, and “YY” represents a two-digit year.	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Time&Date > Date Format	
<b>Handset UI</b>	OK > Settings > Display > Date Format	
<b>Parameter</b>	local_time.time_format	<y0000000000xx>.cfg
<b>Description</b>	It configures the time format.	
<b>Permitted Values</b>	<b>0</b> -Hour 12, the time will be displayed in 12-hour format with AM or PM specified. <b>1</b> -Hour 24, the time will be displayed in 24-hour format (for example, 2:00 PM displays as 14:00).	
<b>Default</b>	1	
<b>Web UI</b>	Settings > Time&Date > Time Format	
<b>Parameter</b>	local_time.date_format	<y0000000000xx>.cfg
<b>Description</b>	It configures the date format. <b>Note:</b> The value configured by the parameter “lcl.datetime.date.format” takes precedence over that configured by this parameter.	
<b>Permitted Values</b>	<b>0-WWW MMM DD</b> <b>1-DD-MMM-YY</b> <b>2-YYYY-MM-DD</b> <b>3-DD/MM/YYYY</b> <b>4-MM/DD/YY</b> <b>5-DD MMM YYYY</b> <b>6-WWW DD MMM</b> Use the following mapping: “WWW” represents the abbreviation of the week; “DD” represents a two-digit day; “MMM” represents the first three letters of the month; “YYYY” represents a four-digit year, and “YY” represents a two-digit year.	
<b>Default</b>	0	

<b>Web UI</b>	Settings > Time&Date > Date Format	
<b>Parameter</b>	lcl.datetime.date.format	<y0000000000xx>.cfg
<b>Description</b>	It configures the display format of the date.	
<b>Permitted Values</b>	<p>Any combination of Y, M, D, W and the separator (for example, space, dash, slash).</p> <p>Use the following mapping:</p> <p><b>Y</b> = year, <b>M</b> = month, <b>D</b> = day, <b>W</b> = day of week</p> <p>“Y”/“YY” represents a two-digit year, more than two “Y” letters (for example, YYYY) represent a four-digit year;</p> <p>“M”/“MM” represents a two-digit month, “MMM” represents the abbreviation of the month, three or more than three “M” letters (for example, MMM) represent the long format of the month;</p> <p>One or more than one “D” (for example, DDD) represents a two-digit day;</p> <p>“W”/“WW” represents the abbreviation of the day of the week, three or more three “W” letters (for example, WWW) represent the long format of the day of the week.</p> <p>For the more rules, refer to <a href="#">Date Customization Rule</a>.</p> <p><b>Note:</b> It will take effect on all handsets that are registered on the same system. If configured, users can only change the date format via the handset.</p>	
<b>Default</b>	Blank	

## Date Customization Rule

You need to know the following rules when customizing date formats:

Format	Description
Y/YY	It represents a two-digit year. For example, 16, 17, 18...
Y is used more than twice (for example, YYY, YYYY)	It represents a four-digit year. For example, 2016, 2017, 2018...
M/MM	It represents a two-digit month. For example, 01, 02,..., 12
MMM	It represents the abbreviation of the month. For example, Jan, Feb,..., Dec
D is used once or more than once (for example, DD)	It represents a two-digit day. For example, 01, 02,..., 31
W/WW	It represents the abbreviation of the day of week (not applicable to CP930W/DD Phones). For example, Mon., Tues., Wed., Thur., Fri., Sat., Sun.
W is used more than twice (for example, WWW, WWWW)	It represents the long format of the day of week (only applicable to CP930W/DD Phones). For example, Monday, Tuesday,..., Sunday

## Input Method

You can specify the default input method for the DECT phone when searching for contacts.

### Topic

## Input Method Configuration

### Input Method Configuration

The following table lists the parameter you can use to configure the input method.

<b>Parameter</b>	directory.search_default_input_method	<y0000000000xx>.cfg
<b>Description</b>	It configures the default input method when the user searches for contacts in the Local Directory, LDAP, Remote Phone Book, Blacklist or Network Directory.	
<b>Permitted Values</b>	For DD phone: Abc, 2aB, 123, abc or ABC For W59R/W56H/W53H/CP930W: 1-Abc 2-123 3-ABC 4-abc 5-ABГ 6-AAÅ 7-aää 8-SŠŠ 9-sšš 10-aбв 11-AБВ 12-אבג	
<b>Default</b>	For DD phone: Abc For W59R/W56H/W53H/CP930W: 1	

## Search Source List in Dialing

The search source list in dialing allows you to search entries from the source list when the phone is on the pre-dialing/dialing screen. You can select the desired entry to dial out quickly.

The search source list can be configured using a supplied super search template file (super\_search.xml).

### Topics

[Search Source File Customization](#)

[Search Source List Configuration](#)

## Search Source File Customization

You can ask the distributor or Yealink FAE for super search template. You can also obtain the super search template online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

### Topics

[Search Source File Attributes](#)

## Customizing Search Source File

### Search Source File Attributes

The following table lists the attributes you can use to add source lists to the super search file:

Attributes	Valid Values	Description
id_name	local_directory_search calllog_search remote_directory_search ldap_search BroadSoft_directory_search	The directory list (For example, "local_directory_search" for the local directory list). <b>Note:</b> Do not edit this field.
display_name	Local Contacts History Remote Phonebook LDAP Network Directories	The display name of the directory list. <b>Note:</b> We recommend that you do not edit this field.
priority	1 to 5 1 is the highest priority.	The priority of the search results.
enable	0/1 0: Disabled 1: Enabled.	Enable or disable the phone to search the desired directory list.

### Customizing Search Source File

1. Open the search source file.
2. To configure each directory list, edit the values within double quotes in the corresponding field.  
For example, enable the local directory search, disable the call log search and specify a priority.  

```
<item id_name="local_directory_search" display_name="Local Contacts" priority="1" enable="1" />
```

```
<item id_name="calllog_search" display_name="History" priority="2" enable="0" />
```
3. Save the change and place this file to the provisioning server.

### Search Source List Configuration

The following table lists the parameters you can use to configure the search source list.

<b>Parameter</b>	super_search.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the custom super search file.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > Settings > Search Source List In Dialing	
<b>Parameter</b>	search_in_dialing.local_directory.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to automatically search entries from the local directory, and display results on the pre-dialing/dialing screen.	
<b>Permitted</b>	0-Disabled	

<b>Values</b>	1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Directory > Settings > Search Source List In Dialing	
<b>Parameter</b>	search_in_dialing.local_directory.priority	<y0000000000xx>.cfg
<b>Description</b>	It configures the search priority of the local directory.	
<b>Permitted Values</b>	Integer greater than or equal to 0	
<b>Default</b>	1	
<b>Web UI</b>	Directory > Settings > Search Source List In Dialing	
<b>Parameter</b>	search_in_dialing.history.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to automatically search entries from the call history list, and display results on the pre-dialing/dialing screen.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Directory > Settings > Search Source List In Dialing	
<b>Parameter</b>	search_in_dialing.history.priority	<y0000000000xx>.cfg
<b>Description</b>	It configures the search priority of the call history list.	
<b>Permitted Values</b>	Integer greater than or equal to 0	
<b>Default</b>	2	
<b>Web UI</b>	Directory > Settings > Search Source List In Dialing	
<b>Parameter</b>	search_in_dialing.remote_phone_book.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to automatically search entries from the remote phone book, and display results on the pre-dialing/dialing screen.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Directory > Settings > Search Source List In Dialing	
<b>Parameter</b>	search_in_dialing.remote_phone_book.priority	<y0000000000xx>.cfg
<b>Description</b>	It configures the search priority of the remote phone book.	
<b>Permitted Values</b>	Integer greater than or equal to 0	
<b>Default</b>	3	

<b>Web UI</b>	Directory > Settings > Search Source List In Dialing	
<b>Parameter</b>	search_in_dialing.ldap.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to automatically search entries from the LDAP, and display results on the pre-dialing/dialing screen.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Directory > Settings > Search Source List In Dialing	
<b>Parameter</b>	search_in_dialing.ldap.priority	<y0000000000xx>.cfg
<b>Description</b>	It configures the search priority of the LDAP.	
<b>Permitted Values</b>	Integer greater than or equal to 0	
<b>Default</b>	4	
<b>Web UI</b>	Directory > Settings > Search Source List In Dialing	

## Call Display

By default, the phones present the contact information when receiving an incoming call, dialing an outgoing call or engaging in a call.

You can configure what contact information presents and how to display the contact information. If the contact exists in the phone directory, the phone displays the saved contact name and number. If not, it will use the Calling Line Identification Presentation (CLIP) or Connected Line Identification Presentation (COLP) to display the contact's identity.

### Topic

[Call Display Configuration](#)

## Call Display Configuration

The following table lists the parameters you can use to configure the call display.

<b>Parameter</b>	phone_setting.called_party_info_display.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to display the local identity when it receives an incoming call. <b>Note:</b> The information display method is configured by the parameter "phone_setting.call_info_display_method".	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Settings > Call Display > Display Called Party Information	
<b>Parameter</b>	phone_setting.call_info_display_method	<y0000000000xx>.cfg
<b>Description</b>	It configures the call information display method when the phone receives an incoming call, dials an outgoing call or is during a call.	

<b>Permitted Values</b>	<b>0</b> -Name+Number <b>1</b> -Number+Name <b>2</b> -Name <b>3</b> -Number <b>4</b> -Full Contact Info (display name<sip:xxx@domain.com > )	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Call Display > Call Information Display Method	
<b>Parameter</b>	account.X.update_ack_while_dialing <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to update the display of call ID according to the ACK message.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled	
<b>Default</b>	0	
<b>Parameter</b>	sip.disp_incall_to_info <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to display the identity contained in the To field of the INVITE message when it receives an incoming call.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled	
<b>Default</b>	0	

<sup>[1]</sup>X is the account ID. X=1-100.

<sup>[2]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Display Method on Dialing

When the phone is on the pre-dialing or dialing screen, the account information will be displayed on the phone screen.

Yealink phones support three display methods: Label, Display Name, and User Name. You can customize the account information to be displayed on the IP phone as required.

### Topic

[Display Method on Dialing Configuration](#)

## Display Method on Dialing Configuration

The following table lists the parameters you can use to configure the display method on dialing.

<b>Parameter</b>	features.caller_name_type_on_dialing	<y0000000000xx>.cfg
<b>Description</b>	It configures the selected account information displayed on the pre-dialing or dialing screen.	
<b>Permitted Values</b>	<b>1</b> -Label, configured by the parameter "account.X.label". <b>2</b> -Display Name, configured by the parameter "account.X.display_name". <b>3</b> -User Name, configured by the parameter "account.X.user_name".	
<b>Default</b>	3	

<b>Web UI</b>	Features > General Information > Display Method on Dialing
---------------	--

## Key As Send

Key as send allows you to assign the pound key (“#”) or asterisk key (“\*”) as the send key.

### Topic

[Key As Send Configuration](#)

## Key As Send Configuration

The following table lists the parameters you can use to configure the key as send.

<b>Parameter</b>	features.key_as_send	<y0000000000xx>.cfg
<b>Description</b>	It configures the “#” or “*” key as the send key.	
<b>Permitted Values</b>	<b>0</b> -Disabled, neither “#” nor “*” can be used as the send key. <b>1</b> -# key <b>2</b> -* key	
<b>Default</b>	1	
<b>Web UI</b>	Features > General Information > Key As Send	

## Recent Call Display in Dialing

Recent call display allows you to view the placed calls list when the phone is on the dialing screen. You can select to place a call from the placed calls list.

### Topic

[Recent Call in Dialing Configuration](#)

## Recent Call in Dialing Configuration

The following table lists the parameter you can use to configure the recent call display in dialing.

<b>Parameter</b>	super_search.recent_call	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables Recent Call in Dialing feature.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled, users can view the placed calls list when the phone is on the dialing screen.	
<b>Default</b>	1	
<b>Web UI</b>	Directory > Settings > Recent Call In Dialing	

## Warnings Display

Yealink phones support displaying the warning details about the issue in the **Status** screen when the default password is used.

### Topic

[Warnings Display Configuration](#)



## Warnings Display Configuration

The following table lists the parameter you can use to configure the warnings display.

<b>Parameter</b>	phone_setting.warnings_display.mode	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to display warnings.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	

## Advisory Tones

Advisory tones are the acoustic signals of your handset, which inform you of different actions and states.

It is not applicable to DD phones.

You can configure the following advisory tones independently for each other:

- **Keypad Tone:** plays when you press any key of the keypad. For CP930W, you can only configure it by navigating to **Menu > Settings > Basic Settings > Sound > Advisory Tones > Keypad Tone**.
- **Touch Tone:** plays when you tap the keys (except the off-hook key and the touch keypad). You can only configure it by navigating to **Menu > Settings > Basic Settings > Sound > Advisory Tones > Touch Tone**. It is only applicable to CP930W.
- **Confirmation:** plays when you save settings or place the handset in the charger cradle. For CP930W, you can only configure it by navigating to **Menu > Settings > Basic Settings > Sound > Advisory Tones > Confirmation**.
- **Low Battery:** plays when battery capacity is low and the handset requires being charged. For CP930W, you can only configure it by navigating to **Menu > Settings > Basic Settings > Sound > Advisory Tones > Low Battery**.

### Topic

[Advisory Tones Configuration](#)

## Advisory Tones Configuration

The following table lists the parameters you can use to configure the advisory tones.

<b>Parameter</b>	custom.handset.keypad_tone.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the handset to play a tone when any key is pressed. For CP930W, it plays a tone only when the touch keypad is tapped. <b>Note:</b> It will take effect on all handsets that are registered on the same system. It works only if "static.auto_provision.handset_configured.enable" is set to 1 (Enabled) and the silent mode is off.	
<b>Permitted Values</b>	-1-Do not modify the handset configuration (Keep the original configuration of the handset). 0-Disabled 1-Enabled	
<b>Default</b>	-1	
<b>Supported Devices</b>	W59R, W53H, W56H, CP930W	
<b>Handset UI</b>	<b>W59R/W56H/W53H:</b> OK > Settings > Audio > Advisory Tones > Keypad Tone <b>CP930W:</b> Menu > Settings > Basic Settings > Sound > Advisory Tones	

<b>Parameter</b>	custom.handset.confirmation_tone.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the handset to play a tone when a user saves settings or places the handset in the charger cradle. <b>Note:</b> It will take effect on all handsets that are registered on the same system. It works only if "static.auto_provision.handset_configured.enable" is set to 1 (Enabled) and the silent mode is off.	
<b>Permitted Values</b>	-1-Do not modify the handset configuration (Keep the original configuration of the handset). 0-Disabled 1-Enabled	
<b>Default</b>	-1	
<b>Supported Devices</b>	W59R, W53H, W56H, CP930W	
<b>Handset UI</b>	<b>W59R/W56H/W53H:</b> OK > Settings > Audio > Advisory Tones > Confirmation <b>CP930W:</b> Menu > Settings > Basic Settings > Sound > Confirmation	
<b>Parameter</b>	custom.handset.low_battery_tone.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the handset to play a tone when battery capacity is low. <b>Note:</b> It will take effect on all handsets that are registered on the same system. It works only if "static.auto_provision.handset_configured.enable" is set to 1 (Enabled) and the silent mode is off.	
<b>Permitted Values</b>	-1-Do not modify the handset configuration (Keep the original configuration of the handset). 0-Disabled 1-Enabled	
<b>Default</b>	-1	
<b>Supported Devices</b>	W59R, W53H, W56H, CP930W	
<b>Handset UI</b>	<b>W59R/W56H/W53H:</b> OK > Settings > Audio > Advisory Tones > Low Battery <b>CP930W:</b> Menu > Settings > Basic Settings > Sound > Low Battery	

## Shortcut Customization

Shortcuts allow you to quickly and directly access the feature without scrolling through the menu when the phone is idle. You can customize six shortcuts on the handset in total.

It is only applicable to W59R/W56H/W53H.

### Topics

[Shortcut Customization Configuration](#)

## Shortcut Customization Configuration

The following table lists the parameters you can use to customize the key function on the idle screen.

<b>Parameter</b>	custom.handset.defined_left_key.type custom.handset.defined_right_key.type	<y0000000000xx>.cfg
------------------	---	---------------------

<b>Description</b>	It configures the role of the Left Softkey/Right Softkey on the idle screen.	
<b>Permitted Values</b>	<b>0</b> : current experience <b>25</b> : XML Browser <b>26</b> : XML Dir (XML Phone Book)	
<b>Default</b>	0	
<b>Parameter</b>	custom.handset.defined_direction_left_key.type custom.handset.defined_direction_right_key.type custom.handset.defined_direction_up_key.type custom.handset.defined_direction_down_key.type	<y0000000000xx>.cfg
<b>Description</b>	It configures the role of the left/right/up/down navigation key on the idle screen.	
<b>Permitted Values</b>	<b>0</b> : current experience <b>25</b> : XML Browser <b>26</b> : XML Dir (XML Phone Book)	
<b>Default</b>	0	
<b>Parameter</b>	custom.handset.defined_left_key.xml_url custom.handset.defined_right_key.xml_url custom.handset.defined_direction_left_key.xml_url custom.handset.defined_direction_right_key.xml_url custom.handset.defined_direction_up_key.xml_url custom.handset.defined_direction_down_key.xml_url	<y0000000000xx>.cfg
<b>Description</b>	It configures the available access URL to browse the XML object. <b>Note:</b> It works only if "custom.handset.defined_left_key.type"/"custom.handset.defined_right_key.type"/"custom.handset.defined_direction_left_key.type"/"custom.handset.defined_direction_right_key.type"/"custom.handset.defined_direction_up_key.type"/"custom.handset.defined_direction_down_key.type" is set to 25 (XML Browser).	
<b>Permitted Values</b>	String within 512 characters	
<b>Default</b>	Blank	

# Directory

The Yealink IP phone provides several types of phone directories.

## Topics

[Local Directory](#)  
[Favorite Contacts](#)  
[Lightweight Directory Access Protocol \(LDAP\)](#)  
[Remote Phone Book](#)  
[Shared Directory](#)  
[XML Phonebook](#)  
[Directory Search Settings](#)

## Local Directory

Yealink phones maintain a local directory that you can use to store contacts. You can store up to 100 contacts per handset, each with a name, a mobile number, and an office number.

Contacts and groups can be added either one by one or in batch using a local contact file. Yealink phones support both \*.xml and \*.csv format contact files, but you can only customize the \*.xml format contact file.

## Topics

[Local Contact File Customization](#)  
[Local Contact Files and Resource Upload](#)

## Local Contact File Customization

You can ask the distributor or Yealink FAE for local contact template. You can also obtain the local contact template online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

## Topics

[Local Contact File Elements and Attributes](#)  
[Customizing Local Contact File](#)

## Local Contact File Elements and Attributes

The following table lists the elements and attributes you can use to add groups or contacts in the local contact file. We recommend that you do not edit these elements and attributes.

Elements	Attributes	Description
Contact	display_name	Specify the contact name. For example Jim <b>Some characters (for example, ") are key syntax markers and may never appear in the content. Non-standard name formats may cause XML parsing to fail. You can use the escape sequence instead.</b> <b>Error:</b> display_name="Hurrell & Mclean" <b>Correct 1:</b> display_name="Hurrell & Mclean" <b>Correct 2:</b> display_name="Hurrell & Mclean" <b>Note:</b> The contact name cannot be blank.
	office_number	Specify the office number.

Elements	Attributes	Description
	mobile_number	Specify the mobile number.
	other_number	Specify the other number.

### Related Topics

[Example: Using EDK Macro Strings as the Contact Number](#)

## Customizing Local Contact File

1. Open the local contact file.
2. To add a contact, add `<contact display_name="" office_number="" mobile_number="" other_number="" />` to the file. Each starts on a new line.
3. Specify the values within double quotes.

For example:

```
<contact display_name="Lily" office_number="1020" mobile_number="1021" other_number="1112" />
<contact display_name="Tom" office_number="2020" mobile_number="2021" other_number="2112" />
```

4. Save the changes and place this file to the provisioning server.

## Local Contact Files and Resource Upload

You can upload local contact files to add multiple contacts at a time.

The following table lists the parameter you can use to upload the local contact files.

<b>Parameter</b>	handset.X.contact_list.url <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the contact file of a specific handset.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > DECT Directory > Import Contacts > Import to (Handset X)	

[1]X is the handset ID. X=1-100.

## Lightweight Directory Access Protocol (LDAP)

LDAP is an application protocol for accessing and maintaining information services for the distributed directory over an IP network. You can configure the phones to interface with a corporate directory server that supports LDAP version 2 or 3. The following LDAP servers are supported:

- Microsoft Active Directory
- Sun ONE Directory Server
- Open LDAP Directory Server
- Microsoft Active Directory Application Mode (ADAM)

For more information on LDAP, refer to [LDAP Directory on Yealink IP Phones](#).

### Topics

[LDAP Attributes](#)

[LDAP Configuration](#)

## LDAP Attributes

The following table lists the most common attributes used to configure the LDAP lookup on the phones.

Abbreviation	Name	Description
gn	givenName	First name
cn	commonName	LDAP attribute is made up from given name joined to surname.
sn	surname	Last name or family name
dn	distinguishedName	Unique identifier for each entry
dc	dc	Domain component
-	company	Company or organization name
-	telephoneNumber	Office phone number
mobile	mobilephoneNumber	Mobile or cellular phone number
ipPhone	IPphoneNumber	Home phone number

## LDAP Configuration

The following table lists the parameters you can use to configure LDAP.

<b>Parameter</b>	ldap.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the LDAP feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Directory > LDAP > LDAP Enable	
<b>Parameter</b>	ldap.name_filter	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the search criteria for LDAP contact names lookup.</p> <p>The “*” symbol in the filter stands for any character. The “%” symbol in the filter stands for the name entered by the user.</p> <p><b>Example:</b></p> <p>ldap.name_filter =  (cn=%)(sn=%)</p> <p>When the cn or sn of the LDAP contact matches the entered name, the record will be displayed on the phone screen.</p> <p>ldap.name_filter = (&amp;(cn=*)(sn=%))</p> <p>When the cn of the LDAP contact is set and the sn of the LDAP contact matches the entered name, the records will be displayed on the phone screen.</p> <p>ldap.name_filter = !(cn=%)</p> <p>When the cn of the LDAP contact does not match the entered name, the records will be displayed on the phone screen.</p>	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Name Filter	

<b>Parameter</b>	ldap.number_filter	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the search criteria for LDAP contact numbers lookup.</p> <p>The "*" symbol in the filter stands for any number. The "%" symbol in the filter stands for the number entered by the user.</p> <p><b>Example:</b></p> <p>ldap.number_filter = ((telephoneNumber=%)(mobile=%)(ipPhone=%))</p> <p>When the number of the telephoneNumber, mobile or ipPhone of the contact record matches the search criteria, the record will be displayed on the phone screen.</p> <p>ldap.number_filter = (&amp;(telephoneNumber=*)(mobile=%))</p> <p>When the telephoneNumber of the LDAP contact is set and the mobile of the LDAP contact matches the entered number, the record will be displayed on the phone screen.</p>	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Number Filter	
<b>Parameter</b>	ldap.tls_mode	<y0000000000xx>.cfg
<b>Description</b>	It configures the connection mode between the LDAP server and the phone.	
<b>Permitted Values</b>	<p>0-LDAP—The unencrypted connection between the LDAP server and the IP phone (port 389 is used by default).</p> <p>1-LDAP TLS Start—The TLS/SSL connection between the LDAP server and the IP phone (port 389 is used by default).</p> <p>2-LDAPs—The TLS/SSL connection between the LDAP server and the IP phone (port 636 is used by default).</p>	
<b>Default</b>	0	
<b>Web UI</b>	Directory > LDAP > LDAP TLS Mode	
<b>Parameter</b>	ldap.host	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address or domain name of the LDAP server.	
<b>Permitted Values</b>	IP address or domain name	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Server Address	
<b>Parameter</b>	ldap.port	<y0000000000xx>.cfg
<b>Description</b>	It configures the port of the LDAP server.	
<b>Permitted Values</b>	Integer from 1 to 65535	
<b>Default</b>	389 (LDAPS: 636)	
<b>Web UI</b>	Directory > LDAP > Port	
<b>Parameter</b>	ldap.base	<y0000000000xx>.cfg
<b>Description</b>	It configures the LDAP search base which corresponds to the location of the LDAP phonebook from	

	<p>which the LDAP search request begins. The search base narrows the search scope and decreases directory search time.</p> <p><b>Example:</b> ldap.base = dc=yealink,dc=cn</p>	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Base	
<b>Parameter</b>	ldap.user	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the user name used to log into the LDAP server.</p> <p>This parameter can be left blank in case the server allows anonymity to log into. Otherwise, you will need to provide the user name to log into the LDAP server.</p> <p><b>Example:</b> ldap.user = cn=manager,dc=yealink,dc=cn</p>	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Username	
<b>Parameter</b>	ldap.password	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the password to log into the LDAP server.</p> <p>This parameter can be left blank in case the server allows anonymous to log into. Otherwise, you will need to provide the password to log into the LDAP server.</p>	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Password	
<b>Parameter</b>	ldap.max_hits	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the maximum number of search results to be returned by the LDAP server.</p> <p>If the value of the "Max.Hits" is blank, the LDAP server will return all searched results. Please note that a very large value of the "Max. Hits" will slow down the LDAP search speed, therefore it should be configured according to the available bandwidth.</p>	
<b>Permitted Values</b>	Integer from 1 to 1000	
<b>Default</b>	50	
<b>Web UI</b>	Directory > LDAP > Max Hits (1~1000)	
<b>Parameter</b>	ldap.name_attr	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the name attributes of each record to be returned by the LDAP server. It compresses the search results. You can configure multiple name attributes separated by spaces.</p> <p><b>Example:</b> ldap.name_attr = cn sn</p>	



	This requires the "cn" and "sn" attributes set for each contact record on the LDAP server.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Name Attributes	
<b>Parameter</b>	ldap.numb_attr	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the number attributes of each record to be returned by the LDAP server.</p> <p>Multiple number attributes are separated by spaces.</p> <p><b>Example:</b></p> <p>ldap.numb_attr = mobile ipPhone</p> <p>This requires the "mobile" and "ipPhone" attributes set for each contact record on the LDAP server.</p>	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Number Attributes	
<b>Parameter</b>	ldap.display_name	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the display name of the contact record displayed on the phone screen.</p> <p>The value must start with a "%" symbol.</p> <p><b>Example:</b></p> <p>ldap.display_name = %cn</p> <p>The cn of the contact record is displayed on the phone screen.</p>	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Display Name	
<b>Parameter</b>	ldap.version	<y0000000000xx>.cfg
<b>Description</b>	It configures the LDAP protocol version supported by the IP phone. The version must be the same as the version assigned on the LDAP server.	
<b>Permitted Values</b>	2 or 3	
<b>Default</b>	3	
<b>Web UI</b>	Directory > LDAP > Protocol	
<b>Parameter</b>	ldap.call_in_lookup	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to perform an LDAP search when receiving an incoming call.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Directory > LDAP > LDAP Lookup for Incoming Call	

<b>Parameter</b>	ldap.call_out_lookup	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to perform an LDAP search when placing a call.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Directory > LDAP > LDAP Lookup for Callout	
<b>Parameter</b>	ldap.ldap_sort	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to sort the search results in alphabetical order or numerical order.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Directory > LDAP > LDAP Sorting Results	
<b>Parameter</b>	ldap.incoming_call_special_search.enable	<y0000000000xx>.cfg
<b>Description</b>	<p>It enables or disables the phone to search the telephone numbers starting with "+" symbol and "00" from the LDAP server if the incoming phone number starts with "+" or "00". When completing the LDAP search, all the search results will be displayed on the phone screen.</p> <p><b>Example:</b></p> <p>If the phone receives an incoming call from the phone number 0044123456789, it will search 0044123456789 from the LDAP server first, if no result found, it will search +44123456789 from the server again. The phone will display all the search results.</p> <p><b>Note:</b> It works only if "ldap.call_in_lookup" is set to 1 (Enabled). You may need to set "ldap.name_filter" to be ((cn=%)(sn=%)(telephoneNumber=%)(mobile=%)) for searching the telephone numbers starting with "+" symbol.</p>	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Parameter</b>	ldap.customize_label	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the display name of the LDAP phone book.</p> <p>If it is left blank, LDAP is displayed.</p> <p><b>Note:</b> It works only if "ldap.enable" is set to 1 (Enabled).</p>	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > LDAP > LDAP Label	

## Remote Phone Book

The remote phone book is a centrally maintained phone book, stored on the remote server. Users only need the access URL of the remote phone book. The IP phone can establish a connection with the remote server and download the phone book, and then display the remote phone book entries on the phone.

Yealink phones support up to 5 remote phone books. The remote phone book is customizable.

**Note:** We recommend that you download less than 5000 remote contacts from the remote server.

**Topics**

[Remote Phone Book File Customization](#)  
[Remote Phone Book Configuration](#)  
[Example: Configuring a Remote Phone Book](#)

**Remote Phone Book File Customization**

Yealink phones support remote phone book contact customization.

You can add multiple contacts at a time and/or share contacts between the phones using the supplied template files (Menu.xml and Department.xml).

You can ask the distributor or Yealink FAE for remote phone book template. You can also obtain the remote phone book template online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

**Topics**

[Remote Phone Book File Elements](#)  
[Customizing Remote Phone Book File](#)

**Remote Phone Book File Elements**

Yealink phones support two template files: Menu.xml and Department.xml.

The Menu.xml file defines the group/department of a remote phone book. The Department.xml file defines contact lists for a department/group, which is nested in Menu.xml file.

The following table lists the elements you can use to add groups or contacts in the remote phone book file. We recommend that you do not edit these elements.

Template	Element	Valid Values
Department.xml		
Menu.xml	<MenuItem > <Name > Department</Name > <URL > Department URI</URL > </MenuItem >	Add a contact department/group file: Specify the department/group name between <Name > and </Name > ; Specify the department/group access URL between <URL > and</URL >
	<SoftKeyItem > <Name > #</Name > <URL > http://10.2.9.1:99/Department.xml</URL > </SoftKeyItem >	Specify a department/group file for a key: Specify *key, # key or digit key between <Name > and </Name > ; Specify the department/group access URL between <URL > and</URL >

**Customizing Remote Phone Book File**

1. Add contacts in a Department.xml file. Each starts on a new line.  
For example,
2. You can create multiple department.xml files, rename these files and specify multiple contacts in these files. For example, Market.xml with contact Lily and Jim, Propaganda.xml with other contacts and so on.
3. Save these files and place them on the provisioning server.
4. Copy the department files URLs and specify them in the Menu.xml file.  
For example,  
<MenuItem >

    <Name > Market</Name >

```

<URL > http://192.168.0.1:99/Market.xml</URL >

</MenuItem >
<SoftKeyItem >

  <Name > 1</Name >
  <URL > http://192.168.0.1:99/Propaganda.xml</URL >

</SoftKeyItem >

```

5. Save Menu.xml file and place it to the provisioning server.

## Remote Phone Book Configuration

The following table lists the parameters you can use to configure the remote phone book.

<b>Parameter</b>	remote_phonebook.data.X.url <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the remote phone book. <b>Note:</b> The size of a remote phone book file should be less than 1.5M.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > Remote Phone Book > Remote URL	
<b>Parameter</b>	remote_phonebook.data.X.name <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the display name of the remote phone book item.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Directory > Remote Phone Book > Display Name	
<b>Parameter</b>	remote_phonebook.display_name	<y0000000000xx>.cfg
<b>Description</b>	It configures the display name of the remote phone book. If it is left blank, "Remote Phone Book" will be the display name.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	features.remote_phonebook.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to perform a remote phone book search for an incoming or outgoing call and display the matched results on the phone screen.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Directory > Remote Phone Book > Incoming/Outgoing Call Lookup	
<b>Parameter</b>	features.remote_phonebook.flash_time	<y0000000000xx>.cfg
<b>Description</b>	It configures how often to refresh the local cache of the remote phone book. If it is set to 3600, the phone will refresh the local cache of the remote phone book every 3600	

	seconds (1 hour). If it is set to 0, the phone will not refresh the local cache of the remote phone book.
<b>Permitted Values</b>	0, Integer from 3600 to 1296000
<b>Default</b>	21600
<b>Web UI</b>	Directory > Remote Phone Book > Update Time Interval(Seconds)

[1]X is the phone book ID. X=1-5.

## Example: Configuring a Remote Phone Book

The following example shows the configuration for the remote phone book.

Customize the "Department.xml" and "Menu.xml" files, and then place these files to the provisioning server "http://192.168.10.25".

### Example

```
remote_phonebook.data.1.url = http://192.168.10.25/Menu.xml
```

```
remote_phonebook.data.1.name = Yealink
```

```
remote_phonebook.data.2.url = http://192.168.10.25/Market.xml
```

```
remote_phonebook.data.2.name = Market
```

After provision, you can navigate to **OK > Directory > Remote Phone Book** to access the corporate directory.

## Shared Directory

The shared directory can store up to 1000 contacts.

Users can manage contacts and use them in all handsets that are registered on the same system.

### Topics

[Shared Directory Configuration](#)

[Shared Contact File Customization](#)

## Shared Directory Configuration

The following table lists the parameters you can use to configure the shared directory.

<b>Parameter</b>	static.directory_setting.shared_contact.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the Shared Directory feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Parameter</b>	shared_contact_list.url	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the access URL of the shared contact file (*.xml) of the handsets.</p> <p><b>Example:</b> shared_contact_list.url = http://192.168.10.25/contact.xml</p> <p><b>Note:</b> It works only if "static.directory_setting.shared_contact.enable" is set to 1 (Enabled).</p>	

<b>Permitted Values</b>	URL within 511 characters
<b>Default</b>	Blank
<b>Web UI</b>	Directory > DECT Directory > Import Contacts > Import to (Shared Directory) > Select .xml file form

## Shared Contact File Customization

You can customize the shared contacts using local contact template.

You can ask the distributor or Yealink FAE for local contact template. You can also obtain the template online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

### Topics

[Shared Contact File Elements and Attributes](#)  
[Customizing Shared Contact File](#)

## Shared Contact File Elements and Attributes

The following table lists the elements and attributes you can use to add contacts in the shared contact file. We recommend that you do not edit these elements and attributes.

Elements	Attributes	Description
Contact	display_name	Specify the contact name. <b>Note:</b> The contact name cannot be blank or duplicated.
	office_number	Specify the office number.
	mobile_number	Specify the mobile number.
	other_number	Specify the other number.

## Customizing Shared Contact File

1. Open the shared contact file.
2. To add a contact, add `<contact display_name="" office_number="" mobile_number="" other_number="" />` to the file. Each starts on a new line.
3. Specify the values within double quotes.  
For example:  

```
<contact display_name="Lily" office_number="1020" mobile_number="1021" other_number="1112" />
```

```
<contact display_name="Tom" office_number="2020" mobile_number="2021" other_number="2112" />
```
4. Save the changes and place this file to the provisioning server.

## XML Phonebook

You can get contacts by searching an XML phonebook in real time.

### Topics

[XML Phonebook Configuration](#)

## XML Phonebook Configuration

The following table lists the parameters you can use to configure the XML phonebook.

<b>Parameter</b>	xml_phonebook.data.X.url <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the requested URL of the XML phonebook.	

	<b>Note:</b> The contacts in the XML phonebook are all in the first level, and any nesting is not allowed.	
<b>Permitted Values</b>	String within 512 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	xml_phonebook.data.X.name <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the name of the XML phonebook to be displayed on the handset. If it is left blank, XML Dir x is displayed.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	xml_phonebook.data.X.username <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the authentication user name to request the XML phonebook.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	xml_phonebook.data.X.password <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the authentication password to request the XML phonebook.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	xml_phonebook.data.max_hits	<y0000000000xx>.cfg
<b>Description</b>	It configures the maximum number of contacts returned by the server when you perform a XML phonebook search. <b>Note:</b> Contacts with multiple numbers are counted as only one contact.	
<b>Permitted Values</b>	Integer from 1 to 800	
<b>Default</b>	50	

[1]X is the XML phonebook ID. X=1-8.

## Directory Search Settings

You can configure how the phones search contacts.

### Topic

[Directory Search Settings Configuration](#)

## Directory Search Settings Configuration

The following table lists the parameter you can use to configure directory search settings.

<b>Parameter</b>	directory.search_type	<y0000000000xx>.cfg
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<b>Description</b>	It configures the search type when searching the contact in Local Directory, Remote Phone Book, Network Directory or Blacklist.
<b>Permitted Values</b>	<b>0</b> -Approximate string matching, the phone will search the contact numbers or names contain the entered character(s). <b>1</b> -Prefix matching, the phone will search the contact numbers or names start with the entered character(s).
<b>Default</b>	0



## Call Log

Yealink phones record and maintain phone events to a call log, also known as a call list.

Call log consists of four lists: Missed Calls, Placed Calls, Received Calls, and All Calls. Each call log list supports up to 100 entries.

### Topics

[Call Log Display](#)

[Call Log Configuration](#)

## Call Log Display

The following table describes the detailed call log information:

Display Field	Description
Name	Shows the name of the remote party.
Number	Shows the number of the remote party.
Time	Shows the call initiation time.
Duration	Shows the duration of the call.

### Related Topic

[Call Log Configuration](#)

## Call Log Configuration

The following table lists the parameter you can use to change the call log settings.

<b>Parameter</b>	features.save_call_history	<y000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to log the call history (missed calls, placed calls, received calls and forwarded calls) in the call lists.	
<b>Permitted Values</b>	0-Disabled, the phone cannot log the placed calls, received calls, missed calls and the forwarded calls in the call lists. 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Features > General Information > Save Call Log	

## Call Features

This chapter shows you how to configure the call feature on Yealink phones.

### Topics

[Dial Plan](#)  
[Emergency Dialplan](#)  
[Off Hook Hot Line Dialing](#)  
[Call Timeout](#)  
[Anonymous Call](#)  
[Call Number Filter](#)  
[Auto Answer](#)  
[Anonymous Call Rejection](#)  
[Call Waiting](#)  
[Do Not Disturb \(DND\)](#)  
[Call Hold](#)  
[Call Forward](#)  
[Call Transfer](#)  
[Conference](#)  
[End Call on Hook](#)

## Dial Plan

Dial plan is a string of characters that governs the way how the phones process the inputs received from the IP phone's keypads. You can use the regular expression to define the dial plan.

Yealink phones support four patterns:

- **Replace rule:** is an alternative string that replaces the numbers entered by the user. Yealink phones support up to 100 replace rules.
- **Dial now:** is a string used to match numbers entered by the user. When entered numbers match the predefined dial now rule, the phone will automatically dial out the numbers without pressing the send key. Yealink phones support up to 20 dial now rules.
- **Area code:** are also known as Numbering Plan Areas (NPAs). They usually indicate geographical areas in one country. When entered numbers match the predefined area code rule, the phone will automatically add the area code before the numbers when dialing out them. Yealink phones only support one area code rule.
- **Block out:** prevents users from dialing out specific numbers. When entered numbers match the predefined block out rule, the phone screen prompts "Forbidden Number". Yealink phones support up to 10 block out rules.

You can configure these four patterns via the web user interface or auto provisioning. For replace rule and dial now, you can select to add the rule one by one or using the template file to add multiple rules at a time.

### Topics

[Basic Regular Expression Syntax for Four Patterns](#)  
[Replace Rule File Customization](#)  
[Dial Now File Customization](#)  
[Replace Rule Configuration](#)  
[Dial Now Configuration](#)  
[Area Code Configuration](#)  
[Block Out Configuration](#)  
[Example: Adding Replace Rules Using a Replace Rule File](#)

## Basic Regular Expression Syntax for Four Patterns

You need to know the following basic regular expression syntax when creating a dial plan:

Regular expression	Description
.	The dot "." can be used as a placeholder or multiple placeholders for any string. Example: "12." would match "123", "1234", "12345", "12abc", and so on.
x	The "x" can be used as a placeholder for any character. Example: "12x" would match "121", "122", "123", "12a", and so on.
-	The dash "-" can be used to match a range of characters within the brackets. Example: "[5-7]" would match the number "5", "6" or "7".
,	The comma "," can be used as a separator within the bracket. Example: "[2,5,8]" would match the number "2", "5" or "8".
[]	The square bracket "[]" can be used as a placeholder for a single character which matches any of a set of characters. Example: "91[5-7]1234" would match "9151234", "9161234", "9171234".
()	The parenthesis "()" can be used to group together patterns, for instance, to logically combine two or more patterns. Example: "([1-9])([2-7])3" would match "923", "153", "673", and so on.
\$	The "\$" followed by the sequence number of a parenthesis means the characters placed in the parenthesis. The sequence number stands for the corresponding parenthesis. Example: A replace rule configuration, Prefix: "001(xxx)45(xx)", Replace: "9001\$145\$2". When you dial out "0012354599" on your phone, the phone will replace the number with "9001 <b>2354599</b> ". "\$1" means 3 digits in the first parenthesis, that is, "235". "\$2" means 2 digits in the second parenthesis, that is, "99".

## Replace Rule File Customization

The replace rule file helps create multiple replace rules. At most 100 replace rules can be added to the IP phone.

You can ask the distributor or Yealink FAE for the replace rule file template. You can also obtain the replace rule file template online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

### Topics

[Replace Rule File Attributes](#)  
[Customizing the Replace Rule File](#)

## Replace Rule File Attributes

The following table lists the attributes you can use to add replace rules to the replace rule file:

Attributes	Description
Prefix	Specify the number to be replaced.
Replace	Specify the alternate string instead of what the user enters.
LineID	Specify a registered line to apply the replace rule. Valid Values: 0-100 0 stands for all lines; 1~100 stand for line1~line100 Multiple line IDs are separated by commas.

## Customizing the Replace Rule File

1. Open the replace rule file.
2. To add a replace rule, add `<Data Prefix="" Replace="" LineID="" />` to the file. Each starts on a new line.
3. Specify the values within double quotes.  
For example,  
`<Data Prefix="2512" Replace="05922512" LineID="1" />`
4. Save the changes and place this file to the provisioning server.

## Dial Now File Customization

The dial now file helps create multiple dial now rules. At most 20 dial now rules can be added to the IP phone.

You can ask the distributor or Yealink FAE for dial now file template. You can also obtain the dial now file template online: <http://support.yealink.com/documentFront/forwardToDocumentFrontDisplayPage>.

### Topics

[Dial Now File Attributes](#)

[Customizing the Dial Now File](#)

### Dial Now File Attributes

The following table lists the attributes you can use to add dial-now rules to the dial now file:

Attributes	Description
DialNowRule	Specify the dial-now number.
LineID	Specify a registered line to apply the dial-now rule. Valid Values: 0-100 0 stands for all lines; 1~100 stand for line1~line100 Multiple line IDs are separated by commas.

## Customizing the Dial Now File

1. Open the dial now file.
2. To add a dial-now rule, add `<Data DialNowRule="" LineID="" />` to the file. Each starts on a new line.
3. Specify the values within double quotes.  
For example,  
`<Data DialNowRule="1001" LineID="0" />`
4. Save the changes and place this file to the provisioning server.

## Replace Rule Configuration

You can configure replace rules either one by one or in batch using a replace rule template.

The following table lists the parameters you can use to configure the replace rule.

<b>Parameter</b>	dialplan.replace.prefix.X <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the entered number to be replaced.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	

<b>Web UI</b>	Settings > Dial Plan > Replace Rule > Prefix	
<b>Parameter</b>	dialplan.replace.replace.X <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the alternate number to replace the entered number. The entered number is configured by "dialplan.replace.prefix.X".	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Dial Plan > Replace Rule > Replace	
<b>Parameter</b>	dialplan.replace.line_id.X <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the desired line to apply the replace rule. The digit 0 stands for all lines. If it is left blank, the replace rule will apply to all lines on the phone. Multiple line IDs are separated by commas. <b>Note:</b>	
<b>Permitted Values</b>	0 to 100	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Dial Plan > Replace Rule > Account	
<b>Parameter</b>	dialplan_replace_rule.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the replace rule template file. For customizing replace rule template file, refer to <a href="#">Replace Rule File Customization</a> .	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	

<sup>[1]</sup>X is from 1 to 100.

## Dial Now Configuration

You can configure dial now rules either one by one or in batch using a dial now template.

The following table lists the parameters you can use to configure the dial now.

<b>Parameter</b>	dialplan.dialnow.rule.X <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the dial now rule (the string used to match the numbers entered by the user). When entered numbers match the predefined dial now rule, the phone will automatically dial out the numbers without pressing the send key. <b>Example:</b> dialplan.dialnow.rule.1 = 123	
<b>Permitted Values</b>	String within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Dial Plan > Dial Now > Rule	
<b>Parameter</b>	dialplan.dialnow.line_id.X <sup>[1]</sup>	<y0000000000xx>.cfg

<b>Description</b>	It configures the desired line to apply the dial now rule. The digit 0 stands for all lines. If it is left blank, the dial-now rule will apply to all lines on the phone. <b>Note:</b> Multiple line IDs are separated by commas.	
<b>Permitted Values</b>	0 to 100	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Dial Plan > Dial Now > Account	
<b>Parameter</b>	phone_setting.dialnow_delay	<y0000000000xx>.cfg
<b>Description</b>	It configures the delay time (in seconds) for the dial now rule. When entered numbers match the predefined dial now rule, the phone will automatically dial out the entered number after the designated delay time. If it is set to 0, the phone will automatically dial out the entered number immediately.	
<b>Permitted Values</b>	Integer from 0 to 14	
<b>Default</b>	1	
<b>Web UI</b>	Features > General Information > Time Out for Dial Now Rule	
<b>Parameter</b>	dialplan_dialnow.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the dial now template file. For customizing dial now template file, refer to <a href="#">Dial Now File Customization</a> .	
<b>Permitted Values</b>	String within 511 characters	
<b>Default</b>	Blank	

[1]X is from 1 to 20.

## Area Code Configuration

The following table lists the parameters you can use to configure the area code.

<b>Parameter</b>	dialplan.area_code.code	<y0000000000xx>.cfg
<b>Description</b>	It configures the area code to be added before the entered numbers when dialing out. <b>Note:</b> The length of the entered number must be between the minimum length configured by the parameter “dialplan.area_code.min_len” and the maximum length configured by the parameter “dialplan.area_code.max_len”.	
<b>Permitted Values</b>	String within 16 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Dial Plan > Area Code > Code	
<b>Parameter</b>	dialplan.area_code.min_len	<y0000000000xx>.cfg
<b>Description</b>	It configures the minimum length of the entered number.	
<b>Permitted Values</b>	Integer from 1 to 15	

<b>Default</b>	1	
<b>Web UI</b>	Settings > Dial Plan > Area Code > Min Length (1-15)	
<b>Parameter</b>	dialplan.area_code.max_len	<y0000000000xx>.cfg
<b>Description</b>	It configures the maximum length of the entered number. <b>Note:</b> The value must be larger than the minimum length.	
<b>Permitted Values</b>	Integer from 1 to 15	
<b>Default</b>	15	
<b>Web UI</b>	Settings > Dial Plan > Area Code > Max Length (1-15)	
<b>Parameter</b>	dialplan.area_code.line_id	<y0000000000xx>.cfg
<b>Description</b>	It configures the desired line to apply the area code rule. The digit 0 stands for all lines. If it is left blank, the area code rule will apply to all lines on the IP phone. <b>Note:</b> Multiple line IDs are separated by commas.	
<b>Permitted Values</b>	0 to 100	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Dial Plan > Area Code > Account	

## Block Out Configuration

The following table lists the parameters you can use to configure the block out.

<b>Parameter</b>	dialplan.block_out.number.X <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the block out numbers. <b>Example:</b> dialplan.block_out.number.1 = 4321 When you dial the number "4321" on your phone, the dialing will fail and the phone screen will prompt "Forbidden Number".	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Dial Plan > Block Out > BlockOut NumberX <sup>[1]</sup>	
<b>Parameter</b>	dialplan.block_out.line_id.X <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the desired line to apply the block out rule. The digit 0 stands for all lines. If it is left blank, the block out rule will apply to all lines on the IP phone. <b>Note:</b> Multiple line IDs are separated by commas.	
<b>Permitted Values</b>	0 to 100	
<b>Default</b>	Blank	

<b>Web UI</b>	Settings > Dial Plan > Block Out > Account
---------------	--

[1]X is from 1 to 10.

## Example: Adding Replace Rules Using a Replace Rule File

The following example shows the configuration for adding replace rules.

Customize the replace rule template file and place this file to the provisioning server “http://192.168.10.25”.

### Example

*dialplan\_replace\_rule.url = http://192.168.10.25/DialPlan.xml*

After provisioning, the rules defined in this file are added to the IP phone, and you can use the replace rules on the phone.

## Emergency Dialplan

You can dial the emergency telephone number (emergency services number) at any time when the IP phone is powered on and has been connected to the network. It is available even if your phone keypad is locked or no SIP account is registered.

Yealink phones support emergency dialplan.

### Emergency Dial Plan

You can configure the emergency dial plan for the phone (for example, emergency number, emergency routing). The phone determines if this is an emergency number by checking the emergency dial plan. When placing an emergency call, the call is directed to the configured emergency server. Multiple emergency servers may need to be configured for emergency routing, avoiding that emergency calls could not get through because of the server failure. If the phone is not locked, it checks against the regular dial plan. If the phone is locked, it checks against the emergency dial plan.

### Topic

[Emergency Dialplan Configuration](#)

## Emergency Dialplan Configuration

The following table lists the parameters you can use to configure emergency dialplan.

<b>Parameter</b>	dialplan.emergency.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the Emergency dialplan feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Parameter</b>	dialplan.emergency.asserted_id_source	<y0000000000xx>.cfg
<b>Description</b>	It configures the precedence of the source of emergency outbound identities when placing an emergency call. <b>Note:</b> If the obtained LLDP-MED ELIN value is blank and no custom outbound identity, the PAI header will not be included in the SIP INVITE request. It works only if “dialplan.emergency.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	<b>ELIN</b> -The outbound identity used in the P-Asserted-Identity (PAI) header of the SIP INVITE request is taken from the network using an LLDP-MED Emergency Location Identifier Number (ELIN). The custom outbound identity configured by “dialplan.emergency.custom_asserted_id” will be used if the phone fails to get the LLDP-MED ELIN value.	



	<b>CUSTOM</b> -The custom outbound identity configured by "dialplan.emergency.custom_asserted_id" will be used; if "dialplan.emergency.custom_asserted_id" is left blank, the LLDP-MED ELIN value will be used.	
<b>Default</b>	ELIN	
<b>Parameter</b>	dialplan.emergency.custom_asserted_id	<y0000000000xx>.cfg
<b>Description</b>	It configures the custom outbound identity when placing an emergency call. <b>Note:</b> It works only if "dialplan.emergency.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	<b>A number with 10 to 25 digits</b> - for example, 1234567890. The SIP URI constructed from the number and SIP server (for example, abc.com) is included in the P-Asserted-Identity (PAI) header (for example, <sip:1234567890@abc.com > ). <b>SIP URI</b> - for example, sip:1234567890123@abc.com. The full URI is included in the P-Asserted-Identity (PAI) header and the address will be replaced by the emergency server (for example, <sip:1234567890123@emergency.com > ). <b>TEL URI</b> - for example, tel:+16045558000. The full URI is included in the P-Asserted-Identity (PAI) header (for example, <tel:+16045558000 > ).	
<b>Default</b>	Blank	
<b>Parameter</b>	dialplan.emergency.server.X.address <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address or domain name of the emergency server X to be used for routing calls. <b>Note:</b> If the account information has been configured (no matter whether the account registration succeeds or fails), the emergency calls will be dialed using the following priority: SIP server > emergency server; if not, the emergency server will be used. It works only if "dialplan.emergency.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	IP address or domain name	
<b>Default</b>	Blank	
<b>Parameter</b>	dialplan.emergency.server.X.port <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the port of emergency server X to be used for routing calls. <b>Note:</b> It works only if "dialplan.emergency.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	5060	
<b>Parameter</b>	dialplan.emergency.server.X.transport_type <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the transport protocol the phones use to communicate with the emergency server X. <b>Note:</b> It works only if "dialplan.emergency.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-UDP 1-TCP 2-TLS 3-DNS-NAPTR	
<b>Default</b>	0	
<b>Parameter</b>	dialplan.emergency.X.value <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the emergency number to use on your phones so a caller can contact emergency services in the local area when required.	

	<b>Note:</b> It works only if “dialplan.emergency.enable” is set to 1 (Enabled).	
<b>Permitted Values</b>	Number or SIP URI	
<b>Default</b>	When X = 1, the default value is 911; When X = 2-255, the default value is Blank.	
<b>Parameter</b>	dialplan.emergency.X.server_priority <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the priority of which the emergency servers to be used first.</p> <p>Multiple values are separated by commas. The servers to be used in the order listed (left to right).</p> <p>The IP phone tries to make emergency calls using the emergency server with higher priority, and then with lower priority. The IP phone tries to send the INVITE request to each emergency server three times.</p> <p><b>Note:</b> If the account information has been configured (no matter whether the account registration succeeds or fails), the emergency calls will be dialed using the following priority: SIP server &gt; emergency server; if not, the emergency server will be used.</p>	
<b>Permitted Values</b>	a combination of digits 1, 2 and 3	
<b>Default</b>	1, 2, 3	

[1] X is from 1 to 3.

[2] X is from 1 to 255.

## Off Hook Hot Line Dialing

For security reasons, the phones support off hook hot line dialing feature, which allows the phone to automatically dial out the pre-configured number when you call any number. The SIP server may then prompts you to enter an activation code for call service. Only if you enter a valid activation code, the phone will use this account to dial out a call successfully.

Off hook hot line dialing feature is configurable on a per-line basis and depends on the support from a SIP server. The server actions may vary from different servers.

**Note:** Off hook hot line dialing feature limits the call-out permission of this account and disables the hotline feature. For example, when the phone goes off-hook using the account with this feature enabled, the configured hotline number will not be dialed out automatically.

### Topic

[Off Hook Hot Line Dialing Configuration](#)

## Off Hook Hot Line Dialing Configuration

The following table lists the parameters you can use to configure off hook hot line dialing.

<b>Parameter</b>	account.X.auto_dial_enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to automatically dial out a pre-configured number when a user calls any number.	
<b>Permitted Values</b>	<p><b>0</b>-Disabled</p> <p><b>1</b>-Enabled, the phone will dial out the pre-configured number (configured by “account.X.auto_dial_num”).</p>	
<b>Default</b>	0	
<b>Parameter</b>	account.X.auto_dial_num <sup>[1]</sup>	<MAC>.cfg

<b>Description</b>	It configures the number that the phone automatically dials out when a user calls any number. <b>Note:</b> It works only if "account.X.auto_dial_enable" is set to 1 (Enabled).
<b>Permitted Values</b>	String within 1024 characters
<b>Default</b>	Blank

[1]X is the account ID. X=1-100.

## Call Timeout

Call timeout defines a specific period of time after which the phone will cancel the dialing if the call is not answered.

### Topic

[Call Timeout Configuration](#)

## Call Timeout Configuration

The following table lists the parameter you can use to configure call timeout.

<b>Parameter</b>	phone_setting.ringback_timeout	<y0000000000xx>.cfg
<b>Description</b>	It configures the duration time (in seconds) in the ringback state. If it is set to 180, the phone will cancel the dialing if the call is not answered after 180 seconds.	
<b>Permitted Values</b>	Integer from 1 to 3600	
<b>Default</b>	180	

## Anonymous Call

Anonymous call allows the caller to conceal the identity information shown to the callee. The callee's phone screen prompts an incoming call from anonymity.

Anonymous calls can be performed locally or on the server. When performing anonymous call on local, the phone sends an INVITE request with a call source "From: "Anonymous" sip:anonymous@anonymous.invalid". If performing Anonymous call on a specific server, you may need to configure anonymous call on code and off code to activate and deactivate server-side anonymous call feature.

### Topic

[Anonymous Call Configuration](#)

## Anonymous Call Configuration

The following table lists the parameters you can use to configure the anonymous call.

<b>Parameter</b>	account.X.anonymous_call <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It triggers the anonymous call feature to on or off.	
<b>Permitted Values</b>	0-Off 1-On, the phone will block its identity from showing to the callee when placing a call. The callee's phone screen presents "Anonymous" instead of the caller's identity.	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Local Anonymous	

<b>Handset UI</b>	OK > Call Features > Anonymous Call > Status	
<b>Parameter</b>	account.X.send_anonymous_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the phone to send anonymous on/off code to activate/deactivate the server-side anonymous call feature for a specific account.	
<b>Permitted Values</b>	<b>0</b> -Off Code, the phone will send anonymous off code to the server when you deactivate the anonymous call feature. <b>1</b> -On Code, the phone will send anonymous on code to the server when you activate the anonymous call feature.	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Send Anonymous Code	
<b>Parameter</b>	account.X.anonymous_call_oncode <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the anonymous call on code. The phone will send the code to activate the anonymous call feature on server-side when you activate it on the phone.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Send Anonymous Code > On Code	
<b>Parameter</b>	account.X.anonymous_call_offcode <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the anonymous call off code. The phone will send the code to deactivate the anonymous call feature on server-side when you deactivate it on the phone.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Send Anonymous Code > Off Code	

<sup>[1]</sup>X is the account ID. X=1-100.

## Call Number Filter

Call number filter feature allows IP phone to filter designated characters automatically when dialing.

### Topic

[Call Number Filter Configuration](#)

## Call Number Filter Configuration

The following table lists the parameter you can use to configure call number filter.

<b>Parameter</b>	features.call_num_filter	<y0000000000xx>.cfg
<b>Description</b>	It configures the characters the phone filters when dialing. If the dialed number contains configured characters, the phone will automatically filter these characters when dialing.	

	<p><b>Example:</b></p> <pre>features.call_num_filter = -</pre> <p>If you dial 3-61, the phone will filter the character - and then dial out 361.</p> <p><b>Note:</b> If it is left blank, the phone will not automatically filter any characters when dialing.</p>
<b>Permitted Values</b>	String within 99 characters
<b>Default</b>	?,-()
<b>Web UI</b>	Features > General Information > Call Number Filter

## Auto Answer

Auto answer allows the handset to automatically answer an incoming call by picking up it from the charger cradle without having to press the off-hook key. The handset will not automatically answer the incoming call during a call even if the auto answer is enabled.

The auto answer feature works only if the handset is placed in the charger cradle.

### Topic

[Auto Answer Configuration](#)

## Auto Answer Configuration

The following table lists the parameter you can use to configure the auto answer.

<b>Parameter</b>	custom.handset.auto_answer.enable	<y0000000000xx>.cfg
<b>Description</b>	<p>It enables or disables a user to answer incoming calls by lifting the handset from the charger cradle without having to press the off-hook key.</p> <p><b>Note:</b> It works if the handset is placed in the charger cradle and the parameter "static.auto_provision.handset_configured.enable" is set to 1 (Enabled).</p>	
<b>Permitted Values</b>	<p>-1-Do not modify the handset configuration (Keep the original configuration of the handset).</p> <p>0-Disabled</p> <p>1-Enabled</p>	
<b>Default</b>	-1	
<b>Handset UI</b>	OK > Settings > Telephony > Auto Answer	

## Anonymous Call Rejection

Anonymous call rejection allows IP phone to automatically reject incoming calls from callers whose identity has been deliberately concealed.

Anonymous call rejection can be performed locally or on the server. When performing anonymous call rejection on local, the phone sends the server a status message "Anonymity Disallowed". If performing Anonymous call rejection on a specific server, you may need to configure anonymous call rejection on code and off code to activate and deactivate server-side anonymous call rejection feature.

### Topic

[Anonymous Call Rejection Configuration](#)

## Anonymous Call Rejection Configuration

The following table lists the parameters you can use to configure anonymous call rejection.

<b>Parameter</b>	account.X.reject_anonymous_call <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It triggers the anonymous call rejection feature to on or off.	
<b>Permitted Values</b>	0-Off 1-On, the phone will automatically reject incoming calls from users enabled anonymous call feature. The anonymous user's phone screen presents "Forbidden".	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Local Anonymous Rejection	
<b>Handset UI</b>	OK > Call Features > Anon. Call Rejection > Status	
<b>Parameter</b>	account.X.anonymous_reject_oncode <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the anonymous call rejection on code. The phone will send the code to activate anonymous call rejection feature on server-side when you activate it on the phone.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Send Anonymous Rejection Code > On Code	
<b>Parameter</b>	account.X.send_anonymous_rejection_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the IP phone to send anonymous call rejection on/off code to activate/deactivate the server-side anonymous call rejection feature for account X.	
<b>Permitted Values</b>	0-Off Code, the phone will send anonymous rejection off code to the server when you deactivate the anonymous call rejection feature. 1-On Code, the phone will send anonymous rejection on code to the server when you activate the anonymous call rejection feature.	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Send Anonymous Rejection Code	
<b>Parameter</b>	account.X.anonymous_reject_offcode <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the anonymous call rejection off code. The phone will send the code to deactivate anonymous call rejection feature on server-side when you deactivate it on the phone.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Send Anonymous Rejection Code > Off Code	

<sup>[1]</sup>X is the account ID. X=1-100.

## Call Waiting

Call waiting enables you to receive another call when there is already an active call on your phone. If it is disabled, the new incoming call will be rejected automatically.

You can enable call waiting feature and set the phone to play a warning tone to avoid missing important calls during a call.

Yealink phones also support call waiting on code and off code to activate and deactivate server-side call waiting feature. They may vary on different servers.

## Topic

### [Call Waiting Configuration](#)

## Call Waiting Configuration

The following table lists the parameters you can use to configure call waiting.

<b>Parameter</b>	call_waiting.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the call waiting feature.	
<b>Permitted Values</b>	<b>0</b> -Disabled, a new incoming call is automatically rejected by the phone with a busy message during a call. <b>1</b> -Enabled, the phone screen will present a new incoming call during a call.	
<b>Default</b>	1	
<b>Web UI</b>	Features > General Information > Call Waiting	
<b>Handset UI</b>	OK > Call Features > Call Waiting > Status	
<b>Parameter</b>	call_waiting.tone	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to play the call waiting tone when the phone receives an incoming call during a call. <b>Note:</b> It works only if "call_waiting.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Features > Audio > Call Waiting Tone	
<b>Handset UI</b>	OK > Call Features > Call Waiting > Tone	
<b>Parameter</b>	call_waiting.on_code	<y0000000000xx>.cfg
<b>Description</b>	It configures the call waiting on code. The phone will send the code to activate call waiting on server-side when you activate it on the phone.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > General Information > Call Waiting On Code	
<b>Parameter</b>	call_waiting.off_code	<y0000000000xx>.cfg
<b>Description</b>	It configures the call waiting off code. The phone will send the code to deactivate call waiting on server-side when you deactivate it on the phone.	
<b>Permitted Values</b>	String within 32 characters	

<b>Default</b>	Blank
<b>Web UI</b>	Features > General Information > Call Waiting Off Code

## Do Not Disturb (DND)

DND feature enables the phone to reject all incoming calls automatically when you do not want to be interrupted. You can choose to implement DND locally on the phone or on the server-side.

### Topics

- [DND Settings Configuration](#)
- [DND Feature Configuration](#)
- [DND Synchronization for Server-side Configuration](#)

## DND Settings Configuration

You can change the following DND settings:

- Enable or disable the DND feature. If disabled, the users have no permission to configure DND on their phone.
- Define the return code and the reason of the SIP response message for a rejected incoming call when DND is activated. The caller's phone screen displays the received return code.

The following table lists the parameters you can use to configure the DND settings.

<b>Parameter</b>	features.dnd.allow	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the DND feature.	
<b>Permitted Values</b>	0-Disabled, DND cannot be activated and users are not allowed to configure DND on the phone. 1-Enabled	
<b>Default</b>	1	
<b>Parameter</b>	features.dnd_refuse_code	<y0000000000xx>.cfg
<b>Description</b>	It configures a return code and reason of SIP response messages when rejecting an incoming call by DND. A specific reason is displayed on the caller's phone screen. <b>Note:</b> It works only if "features.dnd.allow" is set to 1 (Enabled).	
<b>Permitted Values</b>	404-Not Found 480-Temporarily Unavailable 486-Busy Here, the caller's phone screen will display the reason "Busy Here" when the callee enables DND feature. 603-Denial	
<b>Default</b>	480	
<b>Web UI</b>	Features > General Information > Return Code When DND	

## DND Feature Configuration

Yealink phones support DND on code and off code to activate and deactivate server-side DND feature. They may vary on different servers.

### Topic

## DND Configuration

The following table lists the parameters you can use to configure DND.



<b>Parameter</b>	account.X.dnd.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It triggers the DND feature to on or off.	
<b>Permitted Values</b>	0-Off 1-On, the phone will reject incoming calls on account X.	
<b>Default</b>	0	
<b>Web UI</b>	Features > Forward& DND > DND > AccountX > DND Status	
<b>Parameter</b>	account.X.dnd.on_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the DND on code to activate the server-side DND feature. The phone will send the DND on code to the server when you activate the DND feature on the phone.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward& DND > DND > AccountX > On Code	
<b>Parameter</b>	account.X.dnd.off_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the DND off code to deactivate the server-side DND feature. The phone will send the DND off code to the server when you deactivate the DND feature on the phone.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward& DND > DND > AccountX > Off Code	

## DND Synchronization for Server-side Configuration

DND synchronization feature provides the capability to synchronize the status of the DND features between the IP phone and the server.

If the DND is activated in phone mode, the DND status changing locally will be synchronized to all registered accounts on the server; but if the DND status of a specific account is changed on the server, the DND status locally will be changed.

The following table lists the parameters you can use to configure DND synchronization for server-side.

<b>Parameter</b>	features.feature_key_sync.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to synchronize the feature status between the IP phone and the server.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone sends a SUBSCRIBE message with event "as-feature-event".	
<b>Default</b>	0	

## Call Hold

Call hold provides a service of placing an active call on hold. It enables you to pause activity on an active call so that you can use the phone for another task, for example, to place or receive another call.

When a call is placed on hold, the phones send an INVITE request with HOLD SDP to request remote parties to stop sending media and to inform them that they are being held. The phones support two call hold methods, one is [RFC 3264](#), which sets the “a” (media attribute) in the SDP to sendonly, recvonly or inactive (for example, a=sendonly). The other is [RFC 2543](#), which sets the “c” (connection addresses for the media streams) in the SDP to zero (for example, c=0.0.0.0).

## Topic

[Call Hold Configuration](#)

## Call Hold Configuration

The following table lists the parameters you can use to configure call hold.

<b>Parameter</b>	sip.rfc2543_hold	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to use RFC 2543 (c=0.0.0.0) outgoing hold signaling.	
<b>Permitted Values</b>	<b>0</b> -Disabled, SDP media direction attributes (such as a=sendonly) per RFC 3264 is used when placing a call on hold. <b>1</b> -Enabled, SDP media connection address c=0.0.0.0 per RFC 2543 is used when placing a call on hold.	
<b>Default</b>	0	
<b>Web UI</b>	Features > General Information > RFC 2543 Hold	
<b>Parameter</b>	account.X.hold_use_inactive <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to use inactive outgoing hold signaling. <b>Note:</b> It works only if “sip.rfc2543_hold” is set to 0 (Disabled).	
<b>Permitted Values</b>	<b>0</b> -Disabled, SDP media direction attribute “a=sendonly” is used when placing a call on hold. <b>1</b> -Enabled, SDP media direction attribute “a=inactive” is used when placing a call on hold. RTP packets will not be sent or received.	
<b>Default</b>	0	

[1]X is the account ID. X=1-100.

## Call Forward

You can forward calls in special situations, such as when the phone is busy or there is no answer, or forwarding all incoming calls to a contact immediately.

### Topics

[Call Forward Settings Configuration](#)

[Call Forward Feature Configuration](#)

[Call Forward Synchronization for Server-side Configuration](#)

## Call Forward Settings Configuration

You can change the following call forward settings:

- Enable or disable the call forward feature. If disabled, the users have no permission to configure call forward on their phone.
- Allow or disallow users to forward an incoming call to an international telephone number (the prefix is 00).
- Enable or disable the display of the Diversion header. The Diversion header allows the phone which receives a forwarded-call to indicate where the call was from.

The following table lists the parameters you can use to change the call forward settings.

<b>Parameter</b>	features.fwd.allow	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the call forward feature.	
<b>Permitted Values</b>	0-Disabled, call forward feature is not available to the users. 1-Enabled	
<b>Default</b>	1	
<b>Parameter</b>	forward.international.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to forward incoming calls to international numbers (the prefix is 00).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Features > General Information > Fwd International	
<b>Parameter</b>	features.fwd_diversion_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to present the diversion information when an incoming call is forwarded to the IP phone.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the server can use the Diversion field with a SIP header to inform the phone of a call's history.	
<b>Default</b>	1	
<b>Web UI</b>	Features > General Information > Diversion/History-Info	

## Call Forward Feature Configuration

Yealink phones support call forward on code and off code to activate and deactivate server-side call forward feature. They may vary on different servers.

### Topic

## Call Forward Configuration

The following table lists the parameters you can use to configure call forward.

<b>Parameter</b>	account.X.always_fwd.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It triggers always forward feature to on or off. <b>Note:</b> It works only if "features.fwd.allow" is set to 1 (Enabled) and "features.fwd_mode" is set to 1 (Custom).	
<b>Permitted Values</b>	0-Off 1-On, incoming calls to the account X are forwarded to the destination number (configured by the parameter "account.X.always_fwd.target") immediately.	
<b>Default</b>	0	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > Always Forward > On/Off	
<b>Parameter</b>	account.X.always_fwd.target <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the destination number of the always forward. <b>Note:</b> It works only if "features.fwd.allow" is set to 1 (Enabled) and "features.fwd_mode" is set to 1 (Custom).	

<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > Always Forward > Target	
<b>Parameter</b>	account.X.always_fwd.on_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It configures the always forward on code to activate the server-side always forward feature.</p> <p>The phone will send the always forward on code and the pre-configured destination number (configured by the parameter “account.X.always_fwd.target”) to the server when you activate always forward feature on the phone.</p> <p><b>Note:</b> It works only if “features.fwd.allow” is set to 1 (Enabled) and “features.fwd_mode” is set to 1 (Custom).</p>	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > Always Forward > On Code	
<b>Parameter</b>	account.X.always_fwd.off_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It configures the always forward off code to deactivate the server-side always forward feature.</p> <p>The phone will send the always forward off code to the server when you deactivate always forward feature on the phone.</p> <p><b>Note:</b> It works only if “features.fwd.allow” is set to 1 (Enabled) and “features.fwd_mode” is set to 1 (Custom).</p>	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > Always Forward > Off Code	
<b>Parameter</b>	account.X.busy_fwd.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It triggers the busy forward feature to on or off.	
<b>Permitted Values</b>	<p>0-Off</p> <p>1-On, incoming calls to the account X are forwarded to the destination number (configured by the parameter “account.X.busy_fwd.target”) when the callee is busy.</p>	
<b>Default</b>	0	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > Busy Forward > On/Off	
<b>Parameter</b>	account.X.busy_fwd.target <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It configures the destination number of the busy forward.</p> <p><b>Note:</b> It works only if “features.fwd.allow” is set to 1 (Enabled) and “features.fwd_mode” is set to 1 (Custom).</p>	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	

<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > Busy Forward > Target	
<b>Parameter</b>	account.X.busy_fwd.on_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It configures the busy forward on code to activate the server-side busy forward feature.</p> <p>The phone will send the busy forward on code and the pre-configured destination number (configured by the parameter "account.X.busy_fwd.target") to the server when you activate the busy forward feature on the phone.</p> <p><b>Note:</b> It works only if "features.fwd.allow" is set to 1 (Enabled) and "features.fwd_mode" is set to 1 (Custom).</p>	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > Busy Forward > On Code	
<b>Parameter</b>	account.X.busy_fwd.off_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It configures the busy forward off code to deactivate the server-side busy forward feature.</p> <p>The phone will send the busy forward off code to the server when you deactivate the busy forward feature on the phone.</p> <p><b>Note:</b> It works only if "features.fwd.allow" is set to 1 (Enabled) and "features.fwd_mode" is set to 1 (Custom).</p>	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > Busy Forward > Off Code	
<b>Parameter</b>	account.X.timeout_fwd.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It triggers no answer forward feature to on or off.</p> <p><b>Note:</b> It works only if "features.fwd.allow" is set to 1 (Enabled) and "features.fwd_mode" is set to 1 (Custom).</p>	
<b>Permitted Values</b>	<p>0-Off</p> <p>1-On, incoming calls to the account X are forwarded to the destination number (configured by the parameter "account.X.timeout_fwd.target") after a period of ring time.</p>	
<b>Default</b>	0	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > No Answer Forward > On/Off	
<b>Parameter</b>	account.X.timeout_fwd.target <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It configures the destination number of the no answer forward.</p> <p><b>Note:</b> It works only if "features.fwd.allow" is set to 1 (Enabled) and "features.fwd_mode" is set to 1 (Custom).</p>	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > No Answer Forward > Target	
<b>Parameter</b>	account.X.timeout_fwd.timeout <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures ring times (N) to wait before forwarding incoming calls.	

	<b>Note:</b> It works only if “features.fwd.allow” is set to 1 (Enabled) and “features.fwd_mode” is set to 1 (Custom).	
<b>Permitted Values</b>	Integer from 0 to 20	
<b>Default</b>	2	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > No Answer Forward > After Ring Time(0~120s)	
<b>Parameter</b>	account.X.timeout_fwd.on_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It configures the no answer forward on code to activate the server-side no answer forward feature.</p> <p>The phone will send the no answer forward on code and the pre-configured destination number (configured by the parameter “account.X.timeout_fwd.target”) to the server when you activate no answer forward feature on the phone.</p> <p><b>Note:</b> It works only if “features.fwd.allow” is set to 1 (Enabled) and “features.fwd_mode” is set to 1 (Custom).</p>	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > No Answer Forward > On Code	
<b>Parameter</b>	account.X.timeout_fwd.off_code <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	<p>It configures the no answer forward off code to deactivate the server-side no answer forward feature.</p> <p>The phone will send the no answer forward off code to the server when you deactivate no answer forward feature on the phone.</p> <p><b>Note:</b> It works only if “features.fwd.allow” is set to 1 (Enabled) and “features.fwd_mode” is set to 1 (Custom).</p>	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Forward&DND > Forward > AccountX > No Answer Forward > Off Code	

[1]X is the account ID. X=1-100.

## Call Forward Synchronization for Server-side Configuration

Call forward synchronization feature provides the capability to synchronize the status of the call forward features between the IP phone and the server.

If the call forward is activated in phone mode, the forward status changing locally will be synchronized to all registered accounts on the server; but if the forward status of the specific account is changed on the server, the forward status locally will be changed.

The following table lists the parameters you can use to configure call forward synchronization for server-side.

<b>Parameter</b>	features.feature_key_sync.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to synchronize the feature status between the IP phone and the server.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled, the phone sends a SUBSCRIBE message with event “as-feature-event” to the server.	
<b>Default</b>	0	

## Call Transfer

Call transfer enables the phones to transfer an existing call to a third party. For example, if party A is in an active call with party B, party A can transfer this call to party C (the third party). Then, party B will begin a new call with party C, and party A will disconnect.

Yealink phones support call transfer using the REFER method specified in [RFC 3515](#) and offer three types of transfer:

- **Blind Transfer** -- Transfer a call directly to another party without consulting. Blind transfer is implemented by a simple REFER method without Replaces in the Refer-To header.
- **Semi-attended Transfer** -- Transfer a call after hearing the ringback tone. The semi-attended transfer is implemented by a REFER method with Replaces in the Refer-To header.  
The semi-attended transfer is applicable to that when users do not want to consult with the third party after hearing the ringback tone, and the third party has not answered the call, the users can cancel the transfer or implement the transfer.
- **Attended Transfer (Consultative Transfer)** -- Transfer a call with prior consulting. Attended transfer is implemented by a REFER method with Replaces in the Refer-To header.

### Topic

#### [Call Transfer Configuration](#)

## Call Transfer Configuration

The following table lists the parameters you can use to configure call transfer.

<b>Parameter</b>	transfer.semi_attend_tran_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the semi-attended transfer.	
<b>Permitted Values</b>	<b>0</b> -Disabled, when the user the TRAN key after hearing the ringback tone, the phone will blind transfer the call. <b>1</b> -Enabled, when the user the TRAN key after hearing the ringback tone, the phone will transfer the call after the transferee answers the call.	
<b>Default</b>	1	
<b>Web UI</b>	Features > Transfer > Semi-Attended Transfer	
<b>Parameter</b>	account.X.transfer_refer_to_contact_header.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the Refer-To header to use the information of the Contact header in the second 200 OK message when attended transfer.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled	
<b>Default</b>	0	
<b>Parameter</b>	transfer.blind_tran_on_hook_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to complete the blind transfer through on-hook besides the TRAN key. <b>Note:</b> Blind transfer means transferring a call directly to another party without consulting.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled	
<b>Default</b>	1	

<b>Web UI</b>	Features > Transfer > Blind Transfer On Hook	
<b>Parameter</b>	transfer.on_hook_trans_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to complete the semi-attended/attended transfer through on-hook besides the TRAN key. <b>Note:</b> Semi-attended transfer means transferring a call after hearing the ringback tone; Attended transfer means transferring a call with prior consulting.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Features > Transfer > Attended Transfer On Hook	

[1]X is the account ID. X=1-100.

## Conference

The Yealink phones support local conference and network conference.

### Topics

[Conference Type Configuration](#)

[Network Conference Configuration](#)

## Conference Type Configuration

You can specify which type of conference to establish.

The following table lists the parameter you can use to set a conference type.

<b>Parameter</b>	account.X.conf_type <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the conference type for a specific account.	
<b>Permitted Values</b>	0-Local Conference 2-Network Conference	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Conference Type	

[1]X is the account ID. X=1-100.

## Network Conference Configuration

Network conference, also known as a centralized conference, provides you with the flexibility of call with multiple participants (more than three). The phones implement network conference using the REFER method specified in [RFC 4579](#). This feature depends on the support from a SIP server

For network conference, if any party leaves the conference, the remaining parties are still connected.

The following table lists the parameter you can use to configure the network conference.

<b>Parameter</b>	account.X.conf_uri <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the network conference URI for a specific account. <b>Note:</b> It works only if "account.X.conf_type" is set to 2 (Network Conference).	
<b>Permitted Values</b>	SIP URI within 511 characters	



<b>Default</b>	Blank
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Conference URI

[1]X is the account ID. X=1-100.

## End Call on Hook

You can configure whether to end a call when you place the handset into the charging cradle.

### Topic

[End Call on Hook Configuration](#)

## End Call on Hook Configuration

The following table lists the parameter you can use to configure the end call on hook.

<b>Parameter</b>	phone_setting.end_call_on_hook.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to end a call when placing the handset into the charger cradle.	
<b>Permitted Values</b>	0-Never 1-Always	
<b>Default</b>	1	
<b>Supported Devices</b>	W59R, W53H, W56H	
<b>Web UI</b>	Features > General Information > End Call On Hook	

## Advanced Features

The advanced features require server support. Consult your server partner to find out if these features are supported.

### Topics

[Call Park and Retrieve](#)

[Shared Line](#)

[Voice Mail](#)

## Call Park and Retrieve

Call park allows users to park a call on a special extension and then retrieve it from another phone (for example, a phone in another office or conference room).

- **FAC mode:** parks the call to the local extension or the desired extension through dialing the park code.
- **Transfer mode:** parks the call to the shared parking lot through performing a blind transfer. For some servers, the system will return a specific call park retrieve number (park retrieve code) from which the call can be retrieved after parking successfully.

### Topic

[Call Park and Retrieve Configuration](#)

## Call Park and Retrieve Configuration

The following table lists the parameters you can use to configure the call park and retrieve.

<b>Parameter</b>	features.call_park.park_mode	<y0000000000xx>.cfg
<b>Description</b>	It configures the call park mode.	
<b>Permitted Values</b>	1-FAC, park a call through dialing the call park code. 2-Transfer, blind transfer the call to a shared parking lot.	
<b>Default</b>	2	
<b>Web UI</b>	Features > Call Park > Call Park Mode	
<b>Parameter</b>	features.call_park.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the call park feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Features > Call Park > Call Park	
<b>Parameter</b>	features.call_park.park_code	<y0000000000xx>.cfg
<b>Description</b>	It configures the call park code for FAC call park mode or configures shared parking lot for Transfer call park mode.	
<b>Permitted Values</b>	String within 256 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Call Park > Call Park Code	

<b>Parameter</b>	features.call_park.park_retrieve_code	<y0000000000xx>.cfg
<b>Description</b>	It configures the park retrieve code for FAC call park mode or configures retrieve parking lot for Transfer call park mode.	
<b>Permitted Values</b>	String within 256 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Call Park > Park Retrieve Code	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## Shared Line

Yealink phones support Shared Call Appearance (SCA) to share a line. Shared call appearances enable more than one phone to share the same line or registration. The methods you use vary with the SIP server you are using.

The shared line users have the ability to do the following:

- Place and answer calls
- Place a call on hold
- Retrieve a held call remotely
- Barge in an active call
- Pull a shared call

### Topic

[Shared Call Appearance \(SCA\) Configuration](#)

## Shared Call Appearance (SCA) Configuration

In SCA scenario, an incoming call can be presented to multiple phones simultaneously. Any IP phone can be used to originate or receive calls on the shared line.

Yealink phones support SCA using a SUBSCRIBE/NOTIFY mechanism as specified in [RFC 3265](#). The events used are:

- “call-info” for call appearance state notification.
- “line-seize” for the phone to ask to seize the line.

### Topic

[SCA Configuration](#)

## SCA Configuration

The following table lists the parameters you can use to configure SCA.

<b>Parameter</b>	account.X.shared_line <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the registration line type.	
<b>Permitted Values</b>	0-Disabled 1-Shared Call Appearance	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Shared Line	
<b>Parameter</b>	account.X.line_seize.expires <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the line-seize subscription expiration time (in seconds).	

	<b>Note:</b> It works only if “account.X.shared_line” is set to 1 (Shared Call Appearance).	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	15	
<b>Parameter</b>	features.barge_in_via_username.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to use the user name of the account to barge in an active call.	
<b>Permitted Values</b>	<b>0</b> -Disabled, user register name to barge in, the phone sends INVITE request with the register name when barging in a call <b>1</b> -Enabled, the phone sends INVITE request with the user name when barging in a call	
<b>Default</b>	0	

[1]X is the account ID. X=1-100.

## Voice Mail

Yealink phones support voice mail.

You can configure a message waiting indicator (MWI) to inform users how many messages are waiting in their mailbox without calling the mailbox. Yealink phones support both audio and visual MWI alert when receiving new voice messages.

### Topic

[MWI for Voice Mail Configuration](#)

## MWI for Voice Mail Configuration

Yealink phones support both solicited and unsolicited MWI.

**Unsolicited MWI:** The IP phone sends a SUBSCRIBE message to the server for message-summary updates. The server sends a message-summary NOTIFY within the subscription dialog each time the MWI status changes. Unsolicited MWI is a server related feature.

**Solicited MWI:** The IP phone can subscribe to the MWI messages to the account or the voice mail number. For solicited MWI, you must enable MWI subscription feature on the phones.

The following table lists the parameters you can use to configure MWI for voice mail.

<b>Parameter</b>	account.X.subscribe_mwi <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to subscribe to the message waiting indicator.	
<b>Permitted Values</b>	<b>0</b> -Disabled, the server automatically sends a message-summary NOTIFY in a new dialog each time the MWI status changes. (This requires server support). <b>1</b> -Enabled, the phone will send a SUBSCRIBE message to the server for message-summary updates.	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Subscribe for MWI	
<b>Parameter</b>	account.X.subscribe_mwi_expires <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures MWI subscribe expiry time (in seconds). <b>Note:</b> It works only if “account.X.subscribe_mwi” is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 0 to 84600	

<b>Default</b>	3600	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > MWI Subscription Period (Seconds)	
<b>Parameter</b>	account.X.sub_fail_retry_interval <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the interval (in seconds) for the phone to retry to re-subscribe when subscription fails.	
<b>Permitted Values</b>	Integer from 0 to 3600	
<b>Default</b>	30	
<b>Parameter</b>	account.X.subscribe_mwi_to_vm <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to subscribe to the message waiting indicator for the voice mail number. <b>Note:</b> It works only if "account.X.subscribe_mwi" is set to 1 (Enabled) and "voice_mail.number.X" is configured.	
<b>Permitted Values</b>	0-Disabled, the phone will subscribe to the message waiting indicator to a specific account. 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Subscribe MWI to Voice Mail	
<b>Parameter</b>	voice_mail.number.X <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the voice mail number.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Voice Mail	
<b>Handset UI</b>	OK > Voice Mail > Set Voice Mail > Number	
<b>Parameter</b>	account.X.display_mwi.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the MWI alert to indicate that you have an unread voice mail message.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Voice Mail Display	
<b>Parameter</b>	features.voice_mail_alert.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to pop up the message when receiving the same amount of new voicemails.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	

<sup>[1]</sup>X is the account ID. X=1-100.

## Device Management

You can enable the device management feature to report device information to the Yealink Device Management Platform, where you can view device information and manage devices.

### Topic

[Device Management Configuration](#)

## Device Management Configuration

The following table lists the parameters you can use to configure the device management feature.

<b>Parameter</b>	static.dm.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the device management feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Parameter</b>	static.dm.server.address <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the server address of the Yealink Device Management Platform.	
<b>Permitted Values</b>	String within 512 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	static.dm.server.port <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the server port of the Yealink Device Management Platform.	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	443	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

## General Features

This section shows you how to configure general features on Yealink phones.

### Topics

[Line Identification Presentation](#)  
[Return Code for Refused Call](#)  
[Accept SIP Trust Server Only](#)  
[100 Reliable Retransmission](#)  
[SIP Session Timer](#)  
[Session Timer](#)  
[Reboot in Talking](#)  
[Reserve # in User Name](#)  
[Busy Tone Delay](#)

## Line Identification Presentation

Yealink phones can derive calling and connected line identification from SIP headers and display the name associated with the telephone number on the LCD screen.

**Calling Line Identification Presentation (CLIP):** It allows the phones to display the caller identity, derived from a SIP header contained in the INVITE message when receiving an incoming call. Yealink phones can derive caller identity from three types of SIP header: From, P-Asserted-Identity (PAI) and Remote-Party-ID (RPID). Identity presentation is based on the identity in the relevant SIP header.

**Connected Line Identification Presentation (COLP):** It allows the phones to display the identity of the connected party specified for outgoing calls. The phones can display the Dialed Digits, or the identity in a SIP header (Remote-Party-ID, P-Asserted-Identity or contact) received, or the identity in the From header carried in the UPDATE message sent by the callee as described in [RFC 4916](#). Connected line identification presentation is also known as Called line identification presentation. In some cases, the remote party will be different from the called line identification presentation due to call diversion.

**Note:** If the caller/callee already exists in the local directory, the local contact name assigned to the caller will be preferentially displayed and stored in the call log.

For more information on calling line identification presentation, refer to [Calling and Connected Line Identification Presentation on Yealink IP Phones](#).

### Topic

[CLIP and COLP Configuration](#)

## CLIP and COLP Configuration

The following table lists the parameters you can use to configure the CLIP and COLP.

Parameter	account.X.cid_source <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the identity of the caller.	
<b>Permitted Values</b>	<b>0</b> -FROM <b>1</b> -PAI <b>2</b> -PAI-FROM <b>3</b> -PRID-PAI-FROM <b>4</b> -PAI-RPID-FROM <b>5</b> -RPID-FROM	

	<b>6</b> -PREFERENCE, the phone uses the custom priority order for the sources of caller identity (configured by the parameter "sip.cid_source.preference").	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Keep Alive Interval (Seconds)	
<b>Parameter</b>	account.X.cid_source_privacy <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to process the Privacy header field in the SIP message. <b>Note:</b> The priority order: PPI > Privacy > PRID/PAI/From.	
<b>Permitted Values</b>	0-Disabled, the phone does not process the Privacy header. 1-Enabled, the phone screen presents anonymity instead if there is a Privacy: id in the INVITE request.	
<b>Default</b>	1	
<b>Parameter</b>	account.X.cid_source_ppi <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to process the P-Preferred-Identity (PPI) header in the request message for caller identity presentation.	
<b>Permitted Values</b>	0-Disabled, the phone does not process the PPI header. 1-Enabled, the phone presents the caller identity from the PPI header.	
<b>Default</b>	0	
<b>Parameter</b>	sip.cid_source.preference	<y0000000000xx>.cfg
<b>Description</b>	It configures the priority order for the sources of caller identity information. <b>Note:</b> Yealink phones can derive caller identity from the following SIP headers: From, P-Asserted-Identity (PAI), P-Preferred-Identity and Remote-Party-ID (RPID). It works only if "account.X.cid_source" is set to 6 (PREFERENCE).	
<b>Permitted Values</b>	String	
<b>Default</b>	P-Preferred-Identity, P-Asserted-Identity, Remote-Party-ID, From	
<b>Parameter</b>	account.X.cp_source <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the identity of the callee according to the response message.	
<b>Permitted Values</b>	0-PAI-RPID 1-Dialed Digits 2-RFC4916, the caller sends the SIP request message which contains the from-change tag in the Supported header. The caller then receives an UPDATE message from the server and displays the identity in the "From" header. 3-Contact	
<b>Default</b>	0	

<sup>[1]</sup>X is the account ID. X=1-100.

## Return Code for Refused Call

You can define the return code and reason of the SIP response message for the refused call. The caller's phone LCD screen displays the reason according to the received return code. Available return codes and reasons are:



- 404 (Not Found)
- 480 (Temporarily Unavailable)
- 486 (Busy Here)
- 603 (Decline)

**Topic**

[Return Code for Refused Call Configuration](#)

## Return Code for Refused Call Configuration

The following table lists the parameters you can use to configure the return code for the refused call.

<b>Parameter</b>	features.normal_refuse_code	<y0000000000xx>.cfg
<b>Description</b>	It configures a return code and reason of SIP response messages when the phone rejects an incoming call. A specific reason is displayed on the caller's phone screen.	
<b>Permitted Values</b>	<b>404</b> -Not Found <b>480</b> -Temporarily Unavailable <b>486</b> -Busy Here <b>603</b> -Decline	
<b>Default</b>	486	
<b>Web UI</b>	Features > General Information > Return Code When Refuse	

## Accept SIP Trust Server Only

Accept SIP trust server only enables the phones to only accept the SIP message from your SIP server and outbound proxy server. It can prevent the phone from receiving the ghost calls whose phone number maybe 100, 1000 and so on. If you enable this feature, the phone cannot accept an IP address call.

**Topic**

[Accept SIP Trust Server Only Configuration](#)

## Accept SIP Trust Server Only Configuration

The following table lists the parameters you can use to configure accept SIP trust server only.

<b>Parameter</b>	sip.trust_ctrl	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to only accept the SIP message from the SIP and outbound proxy server.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled, users cannot accept the IP call	
<b>Default</b>	0	
<b>Web UI</b>	Features > General Information > Accept SIP Trust Server Only	

## 100 Reliable Retransmission

As described in [RFC 3262](#), the 100rel tag is for the reliability of provisional responses. When presented in a Supported header, it indicates that the phone can send or receive reliable provisional responses. When presented in a Require header in a reliable provisional response, it indicates that the response is to be sent reliably.

Example of a SIP INVITE message:

```

INVITE sip:1024@pbx.test.com:5060 SIP/2.0
Via: SIP/2.0/UDP 10.3.6.197:5060;branch=z9hG4bK1708689023
From: "1025" <sip:1025@pbx.test.com:5060 > ;tag=1622206783
To: <sip:1024@pbx.test.com:5060 >
Call-ID: 0_537569052@10.3.6.197
CSeq: 2 INVITE
Contact: <sip:1025@10.3.6.197:5060 >
Authorization: Digest username="1025", realm="pbx.test.com", nonce="BroadWorksXi5stub71Ts2nb05BW", uri="sip:1024@pbx.test.com:5060", response="f7e9d35c55af45b3f89beae95e913171", algorithm=MD5, cnonce="0a4f113b", qop=auth, nc=00000001
Content-Type: application/sdp
Allow: INVITE, INFO, PRACK, ACK, BYE, CANCEL, OPTIONS, NOTIFY, REGISTER, SUBSCRIBE, REFER, PUBLISH, UPDATE, MESSAGE
Max-Forwards: 70
User-Agent: Yealink W80B 103.83.254.58
Supported: 100rel
Allow-Events: talk,hold,conference,refer,check-sync
Content-Length: 302

```

**Topic**[100 Reliable Retransmission Configuration](#)

## 100 Reliable Retransmission Configuration

The following table lists the parameter you can use to configure the 100 reliable retransmission.

<b>Parameter</b>	account.X.100rel_enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the 100 reliable retransmission feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Retransmission	

[1]X is the account ID. X=1-100.

## SIP Session Timer

SIP session timers T1, T2 and T4 are SIP transaction layer timers defined in [RFC 3261](#). These session timers are configurable on the phones.

**Timer T1**

Timer T1 is an estimate of the Round Trip Time (RTT) of transactions between a SIP client and SIP server.

**Timer T2**

Timer T2 represents the maximum retransmitting time of any SIP request message. The re-transmitting and doubling of T1 will continue until the retransmitting time reaches the T2 value.

**Example:**

The user registers a SIP account for the IP phone and then set the value of Timer T1, Timer T2 respectively (Timer T1: 0.5, Timer T2: 4). The SIP registration request message will be re-transmitted between the IP phone and SIP server. The re-transmitting and doubling of Timer T1 (0.5) will continue until the retransmitting time reaches the Timer T2 (4). The total registration request retry time will be less than 64 times of T1 ( $64 * 0.5 = 32$ ). The re-transmitting interval in sequence is 0.5s, 1s, 2s, 4s, 4s, 4s, 4s, 4s, 4s and 4s.

**Timer T4**

Timer T4 represents that the network will take to clear messages between the SIP client and server.

**Topic**

[SIP Session Timer Configuration](#)

## SIP Session Timer Configuration

The following table lists the parameters you can use to configure the SIP session timer.

<b>Parameter</b>	sip.timer_t1	<y0000000000xx>.cfg
<b>Description</b>	It configures the SIP session timer T1 (in seconds).	
<b>Permitted Values</b>	Float from 0.5 to 10	
<b>Default</b>	0.5	
<b>Parameter</b>	sip.timer_t2	<y0000000000xx>.cfg
<b>Description</b>	It configures the SIP session timer T2 (in seconds).	
<b>Permitted Values</b>	Float from 2 to 40	
<b>Default</b>	4	
<b>Parameter</b>	sip.timer_t4	<y0000000000xx>.cfg
<b>Description</b>	It configures the SIP session timer T4 (in seconds).	
<b>Permitted Values</b>	Float from 2.5 to 60	
<b>Default</b>	5	

## Session Timer

Session timer allows a periodic refresh of SIP sessions through an UPDATE request, to determine whether a SIP session is still active. Session timer is specified in [RFC 4028](#). The phones support two refresher modes: UAC and UAS. Whether the endpoint functions as a UAC or a UAS depends on the UA that initiates the SIP request. If the initiator is configured as UAC, the other client or the SIP server will function as a UAS. If the initiator is configured as UAS, the other client or the SIP server will function as a UAC. The session expiration is negotiated via the Session-Expires header in the INVITE message. The negotiated refresher is always the UAC and it will send an UPDATE request at the negotiated session expiration. The value "refresher=uac" included in the UPDATE message means that the UAC performs the refresh.

Example of UPDATE message (UAC mode):

```
UPDATE sip:1058@10.10.20.34:5060 SIP/2.0
```

```

Via: SIP/2.0/UDP 10.10.20.32:5060;branch=z9hG4bK2104991394
From: "10111" <sip:10111@10.2.1.48:5060>;tag=2170397024
To: <sip:1058@10.2.1.48:5060>;tag=200382096
Call-ID: 4_1556494084@10.10.20.32
CSeq: 2 UPDATE
Contact: <sip:10111@10.10.20.32:5060>
Max-Forwards: 70
User-Agent: Yealink W80B 103.83.254.58
Session-Expires: 90;refresher=uac
Supported: timer
Content-Length: 0

```

**Topic**[Session Timer Configuration](#)

## Session Timer Configuration

The following table lists the parameters you can use to configure the session timer.

<b>Parameter</b>	account.X.session_timer.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the session timer.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone will send periodic UPDATE requests to refresh the session during a call.	
<b>Default</b>	0	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Session Timer	
<b>Parameter</b>	account.X.session_timer.expires <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the interval (in seconds) for refreshing the SIP session during a call. An UPDATE will be sent after 50% of its value has elapsed. For example, if it is set to 1800 (1800s), the phone will refresh the session during a call every 900 seconds. <b>Note:</b> It works only if "account.X.session_timer.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 90 to 7200	
<b>Default</b>	1800	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Session Expires (90~7200s)	
<b>Parameter</b>	account.X.session_timer.refresher <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures who refreshes the SIP session during a call. <b>Note:</b> It works only if "account.X.session_timer.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-UAC 1-UAS	
<b>Default</b>	0	

<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Session Refresher
---------------	---

[1]X is the account ID. X=1-100.

## Reboot in Talking

Reboot in talking feature allows the phones to reboot during an active call when it receives a reboot Notify message.

### Topic

[Reboot in Talking Configuration](#)

## Reboot in Talking Configuration

The following table lists the parameter you can use to configure the reboot in talking.

<b>Parameter</b>	features.reboot_in_talk_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to reboot during a call when it receives a reboot Notify message.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Features > General Information > Reboot in Talking	

## Reserve # in User Name

Reserve # in User Name feature allows the phones to reserve “#” in user name. When Reserve # in User Name feature is disabled, “#” will be converted into “%23”. For example, the user registers an account (user name: 1010#) on the phone, the phone will send 1010%23 instead of 1010# in the REGISTER message or INVITE message to the SIP server.

Example of a SIP REGISTER message:

```
INVITE sip:2@10.2.1.48:5060 SIP/2.0
Via: SIP/2.0/UDP 10.3.20.6:5060;branch=z9hG4bK1867789050
From: "1010" <sip:1010%23@10.2.1.48:5060>;tag=1945988802
To: <sip:2@10.2.1.48:5060>
Call-ID: 0_2336101648@10.3.20.6
CSeq: 1 INVITE

Contact: <sip:1010%23@10.3.20.6:5060>
Content-Type: application/sdp
Allow: INVITE, INFO, PRACK, ACK, BYE, CANCEL, OPTIONS, NOTIFY, REGISTER, SUBSCRIBE, REFER, PUBLISH, UPDATE, MESSAGE
Max-Forwards: 70
User-Agent: Yealink W80B 103.83.254.58
Allow-Events: talk,hold,conference,refer,check-sync
Content-Length: 300
```

**Topic**[Reserve # in User Name Configuration](#)

## Reserve # in User Name Configuration

The following table lists the parameter you can use to configure the reserve # in user name.

<b>Parameter</b>	sip.use_23_as_pound	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to reserve the pound sign (#) in the user name.	
<b>Permitted Values</b>	0-Disabled (convert the pound sign into "%23") 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Features > General Information > Reserve # in User Name	

## Busy Tone Delay

The busy tone is an audible signal to indicate that the call is released by the other party. You can define the amount of time that the busy tone lasts.

**Topic**[Busy Tone Delay Configuration](#)

## Busy Tone Delay Configuration

The following table lists the parameter you can use to configure busy tone delay.

<b>Parameter</b>	features.busy_tone_delay	<y0000000000xx>.cfg
<b>Description</b>	It configures the duration (in seconds) that the busy tone lasts when the call is released by the remote party.	
<b>Permitted Values</b>	0-the phone will not play a busy tone. 3-3s, a busy tone lasts for 3 seconds on the phone. 5-5s, a busy tone lasts for 5 seconds on the phone	
<b>Default</b>	0	
<b>Web UI</b>	Features > General Information > Busy Tone Delay (Seconds)	

## Web Page Display

You can customize the web page display, such as model name.

**Topic**[Web Page Display Configuration](#)

## Web Page Display Configuration

The following table lists the parameter you can use to customize web page display.

<b>Parameter</b>	web_setting.dm.title	<y0000000000xx>.cfg
<b>Description</b>	It configures the title bar name of the web page for W80DM.	
<b>Permitted Values</b>	String within 32 characters	

<b>Default</b>	Yealink \$DEV (Yealink W80DM)	
<b>Parameter</b>	web_setting.dm.model_name	<y0000000000xx>.cfg
<b>Description</b>	It configures the model name of the web page for W80DM.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	\$DEV (W80DM)	
<b>Parameter</b>	phone_setting.dm.login_note_text	<y0000000000xx>.cfg
<b>Description</b>	It configures the product name of the web login page for W80DM.	
<b>Permitted Values</b>	String within 128 characters	
<b>Default</b>	\$DEVNAME (DECT IP Multi-Cell DECT Manager)	
<b>Parameter</b>	web_setting.base.title	<y0000000000xx>.cfg
<b>Description</b>	It configures the title bar name of the web page for W80B.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Yealink \$DEV (Yealink W80B)	
<b>Parameter</b>	web_setting.base.model_name	<y0000000000xx>.cfg
<b>Description</b>	It configures the model name of the web page for W80B.	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	\$DEV (W80B)	
<b>Parameter</b>	phone_setting.dm.login_note_text	<y0000000000xx>.cfg
<b>Description</b>	It configures the product name of the web login page for W80B.	
<b>Permitted Values</b>	String within 128 characters	
<b>Default</b>	\$DEVNAME (DECT IP Multi-Cell Base Station)	

## Configuration Parameters

This section provides a description and permitted values of some settings.

### Topics

[BroadSoft Parameters](#)

[Ethernet Interface MTU Parameter](#)

[SIP Settings Parameters](#)

[Call Settings Parameters](#)

## BroadSoft Parameters

This section shows the parameters you can use to configure the phone with BroadSoft server.

### BroadSoft Settings

<b>Parameter</b>	bw.enable <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the BroadSoft features.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

### Broadsoft XSI

<b>Parameter</b>	account.X.xsi.user <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the user name for XSI authentication. <b>Note:</b> It works only if "bw.xsi.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Applications > Broadsoft XSI > XSI Account > User ID	
<b>Parameter</b>	account.X.xsi.password <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the password for XSI authentication. <b>Note:</b> It works only if "sip.authentication_for_xsi" is set to 0 (User Login Credentials for XSI Authentication) and "bw.xsi.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Applications > Broadsoft XSI > XSI Account > Password	
<b>Parameter</b>	account.X.xsi.host <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the IP address or domain name of the Xtended Services Platform server. <b>Note:</b> It works only if "bw.xsi.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	IP address or domain name	



<b>Default</b>	Blank	
<b>Web UI</b>	Applications > Broadsoft XSI > XSI Account > Host Server	
<b>Parameter</b>	account.X.xsi.server_type <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the access protocol of the Xtended Services Platform server. <b>Note:</b> It works only if "bw.xsi.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	<b>http-HTTP</b> <b>https-HTTPS</b>	
<b>Default</b>	http	
<b>Web UI</b>	Applications > Broadsoft XSI > XSI Account > XSI Server Type	
<b>Parameter</b>	account.X.xsi.port <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the port of the Xtended Services Platform server. <b>Note:</b> It works only if "bw.xsi.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	Integer from 1 to 65535	
<b>Default</b>	80	
<b>Web UI</b>	Applications > Broadsoft XSI > XSI Account > Port	
<b>Parameter</b>	bw.xsi.enable <sup>[2]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the XSI authentication feature for the phone.	
<b>Permitted Values</b>	<b>0-Disabled</b> <b>1-Enabled</b> If it is set to 0 (Disabled), the following features are unavailable on the phone: BroadWorks Anywhere Remote Office Line ID Blocking Anonymous Call Rejection Simultaneous Ring Personal BroadSoft Directory BroadSoft Call Log Call Park Feature via XSI Mode Call Waiting Feature via XSI Mode Voice Messaging Silent Alerting	
<b>Default</b>	0	
<b>Parameter</b>	sip.authentication_for_xsi	<y0000000000xx>.cfg
<b>Description</b>	It configures the authentication mechanism for XSI access. <b>Note:</b> It works only if "bw.xsi.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	<b>0-User Login Credentials for XSI Authentication</b> , the phone uses the XSI user ID and password for XSI authentication.	

	1-SIP Credentials for XSI Authentication, the phone uses the XSI user ID, the register name and password of the SIP account for XSI authentication.
<b>Default</b>	0
<b>Web UI</b>	Applications > Broadsoft XSI > XSI Account > Allow SIP Authentication for XSI

[1]X is the account ID. X=1-100.

[2]If you change this parameter, the phone will reboot to make the change take effect.

## Broadsoft Network Directory

<b>Parameter</b>	bw.xsi.directory.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the network directory feature. <b>Note:</b> It works only if "bw.xsi.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Parameter</b>	bw_phonebook.group_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to display the group directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Group	
<b>Parameter</b>	bw_phonebook.personal_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to display the personal directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Personal	
<b>Parameter</b>	bw_phonebook.group_common_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to display the group common directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Group Common	
<b>Parameter</b>	bw_phonebook.enterprise_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to display the enterprise directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled	

<b>Values</b>	1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Enterprise	
<b>Parameter</b>	bw_phonebook.enterprise_common_enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to display the enterprise common directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	1	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Enterprise Common	
<b>Parameter</b>	bw_phonebook.enterprise_common_displayname	<y0000000000xx>.cfg
<b>Description</b>	It configures the display name on the phone screen for the enterprise common directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" and "bw_phonebook.enterprise_common_enable" are set to 1 (Enabled).	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	EnterpriseCommon	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Enterprise Common	
<b>Parameter</b>	bw_phonebook.custom	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the custom directory feature. <b>Note:</b> It works only if "bw.xsi.directory.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Enable Custom Directory	
<b>Parameter</b>	bw_phonebook.group_displayname	<y0000000000xx>.cfg
<b>Description</b>	It configures the display name on the phone screen for the group directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" and "bw_phonebook.group_enable" are set to 1 (Enabled).	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Group	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Group	
<b>Parameter</b>	bw_phonebook.enterprise_displayname	<y0000000000xx>.cfg
<b>Description</b>	It configures the display name on the phone screen for the enterprise directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" and "bw_phonebook.enterprise_enable" are set to 1 (Enabled).	
<b>Permitted Values</b>	String within 99 characters	

<b>Default</b>	Enterprise	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Enterprise	
<b>Parameter</b>	bw_phonebook.personal_displayname	<y0000000000xx>.cfg
<b>Description</b>	It configures the display name on the phone screen for the personal directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" and "bw_phonebook.personal_enable" are set to 1 (Enabled).	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Personal	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Personal	
<b>Parameter</b>	bw.xsi.call_log.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the BroadSoft call log feature. <b>Note:</b> It works only if "bw.xsi.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Call Log > Network Call Log	
<b>Parameter</b>	bw.xsi.call_log.multiple_accounts.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the user to view BroadSoft Call Log for multiple accounts. <b>Note:</b> It works only if "bw.xsi.call_log.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled, you will directly access the BroadSoft Call Log for the first account by default, and you can only view the BroadSoft call log entry for the first account 1-Enabled, you are allowed to select a specific account to access the BroadSoft Call Log and view the call log entry	
<b>Default</b>	0	
<b>Parameter</b>	directory.update_time_interval	<y0000000000xx>.cfg
<b>Description</b>	It configures the interval (in minutes) for the phone to update the data of the BroadSoft directory from the BroadSoft server.	
<b>Permitted Values</b>	Integer from 60 to 34560	
<b>Default</b>	60	
<b>Parameter</b>	bw_phonebook.group_common_displayname	<y0000000000xx>.cfg
<b>Description</b>	It configures the display name on the phone screen for the group common directory. <b>Note:</b> It works only if "bw.xsi.directory.enable" and "bw_phonebook.group_common_enable" are set to 1 (Enabled).	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	GroupCommon	
<b>Web UI</b>	Applications > Broadsoft XSI > Network Directory > Group Common	

<b>Parameter</b>	search_in_dialing.bw_directory.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to automatically search entries from the BroadSoft directory, and display the results on the pre-dialing/dialing screen.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Parameter</b>	search_in_dialing.bw_directory.priority	<y0000000000xx>.cfg
<b>Description</b>	It configures the search priority of the BroadSoft directory.	
<b>Permitted Values</b>	Integer greater than or equal to 0	
<b>Default</b>	5	

## Broadsoft Call Park

<b>Parameter</b>	features.call_park.park_mode	<y0000000000xx>.cfg
<b>Description</b>	It configures the call park mode.	
<b>Permitted Values</b>	0-XSI 1-FAC, park a call through dialing the call park code.	
<b>Default</b>	0	
<b>Web UI</b>	Features > Call Park > Call Park Mode	
<b>Parameter</b>	features.call_park.group_enable	<y0000000000xx >.cfg
<b>Description</b>	It enables or disables the group call park feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, users can select <b>GPark</b> during a call to park a call to the first available user in the call park group.	
<b>Default</b>	0	
<b>Web UI</b>	Features > Call Park > Group Call Park	
<b>Parameter</b>	features.call_park.park_ring	<y0000000000xx >.cfg
<b>Description</b>	It enables or disables the phone to play a warning tone when a call is parked against its line. <b>Note:</b> It works only if "features.call_park.park_visual_notify_enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Features > Call Park > Audio Alert for Parked Call	
<b>Parameter</b>	features.call_park.park_visual_notify_enable	<y0000000000xx >.cfg
<b>Description</b>	It enables or disables the phone to display a parked indicator when a call is parked against its line.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	

<b>Default</b>	0	
<b>Web UI</b>	Features > Call Park > Visual Alert for Parked Call	
<b>Parameter</b>	features.call_park.group_park_code	<y0000000000xx>.cfg
<b>Description</b>	It configures the group call park code. <b>Note:</b> It works only if "features.call_park.park_mode" is set to 1 (FAC).	
<b>Permitted Values</b>	String within 32 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Features > Call Pickup > Group Call Park Code	
<b>Parameter</b>	account.X.callpark_enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables Broadsoft call park feature.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone sends the subscription package to the server with the header "Event:x-broad-works-callpark"	
<b>Default</b>	1	

[1]X is the account ID. X=1-100.

## BroadSoft Call Waiting Sync

<b>Parameter</b>	call_waiting.mode	<y0000000000xx>.cfg
<b>Description</b>	It configures the call waiting mode. <b>Note:</b> If it is set to 1 (XSI), it works only if "bw.xsi.enable" is set to 1 (Enabled).	
<b>Permitted Values</b>	0-Local 1-XSI, the status of the call waiting feature between the IP phone and the BroadWorks server can be synchronized.	
<b>Default</b>	0	

## BroadSoft DND and Forward Sync

The BroadSoft synchronization feature provides the capability to synchronize the status of the DND and forward features between the IP phone and the server.

If the DND (or forward) is activated, the DND (or forward) status changing locally will be synchronized to all registered accounts on the server; but if the DND (or forward) status of a specific account is changed on the server, the DND (or forward) status locally will be changed.

<b>Parameter</b>	features.feature_key_sync.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables to synchronize the feature status between the phone and the server.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone sends a SUBSCRIBE message with event "as-feature-event".	
<b>Default</b>	0	

## Ethernet Interface MTU Parameter

<b>Parameter</b>	static.network.mtu_value <sup>[1]</sup>	<y0000000000xx>.cfg
------------------	---	---------------------

<b>Description</b>	It configures the Ethernet interface Maximum Transmission Unit (MTU) on the phones.
<b>Permitted Values</b>	Integer from 1280 to 1500
<b>Default</b>	1500

[1]If you change this parameter, the phone will reboot to make the change take effect.

## SIP Settings Parameters

<b>Parameter</b>	account.X.custom_ua <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the suffix of User-Agent in SIP request messages from the phone.	
<b>Permitted Values</b>	String within 128 characters	
<b>Default</b>	Blank	
<b>Parameter</b>	account.X.check_cseq.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to check if the CSeq sequence number in the request is lower than that in the previous request on the same dialog.	
<b>Permitted Values</b>	0-Disabled 1-Enabled. If the CSeq sequence number in the request is lower than that in the previous request, the phone will reject the request.	
<b>Default</b>	1	
<b>Parameter</b>	account.X.check_to_tag.enable <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It enables or disables the phone to check if the To-tag is carried in the To header in renewal request.	
<b>Permitted Values</b>	0-Disabled 1-Enabled. If the To-tag does not exist, the phone will reject the request.	
<b>Default</b>	0	
<b>Parameter</b>	sip.send_response_by_request	<y0000000000xx>.cfg
<b>Description</b>	It configures where the IP phone retrieves the destination address for response. The phone will then send all SIP response messages to the destination address.	
<b>Permitted Values</b>	0-from VIA header in the request message 1-from source address of the request message	
<b>Default</b>	1	
<b>Parameter</b>	sip.requesturi.e164.addglobalprefix	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to add a global prefix "+" to the E.164 user parts in SIP: URI.	
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone will automatically add a prefix "+" to the number in the E.164 format when you dial using the SIP URI (for example 862512345000@sip.com).	
<b>Default</b>	0	
<b>Parameter</b>	sip.mac_in_ua	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to carry the MAC address information in the User-Agent header.	

<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled, the phone will carry the MAC address with colons (for example 00:15:65:7f:fb:7e) in the User-Agent header. <b>2</b> -Enabled, the phone will carry the MAC address without colons (for example 0015657ffb7e) in the User-Agent header.	
<b>Default</b>	0	
<b>Parameter</b>	account.X.blf.subscribe_period <sup>[1]</sup>	<MAC>.cfg
<b>Description</b>	It configures the period (in seconds) of the BLF subscription.	
<b>Permitted Values</b>	Integer from 30 to 2147483647	
<b>Default</b>	1800	
<b>Web UI</b>	Handset & Account > Handset Registration > Add Handset/Edit > Subscription Period (Seconds)	
<b>Parameter</b>	push_xml.sip_notify	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to process the push XML via SIP NOTIFY message. <b>Note:</b> It is only applicable to modify configurations of the IP phones.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled	
<b>Default</b>	0	

[1]X is the account ID. X=1-100.

## Call Settings Parameters

<b>Parameter</b>	phone_setting.end_call_net_disconnect.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to end the call if the network is unavailable during the call.	
<b>Permitted Values</b>	<b>0</b> -Disabled <b>1</b> -Enabled, the phone will end the call and go to the Idle screen after 5 seconds.	
<b>Default</b>	0	
<b>Parameter</b>	phone_setting.ringing_timeout	<y0000000000xx>.cfg
<b>Description</b>	It configures the duration time (in seconds) in the ringing state. If it is set to 180, the phone will stop ringing if the call is not answered within 180 seconds.	
<b>Permitted Values</b>	Integer from 1 to 3600	
<b>Default</b>	120	



# Troubleshooting Methods

Yealink phones provide feedback in a variety of forms such as log files, packets, status indicators and so on, which can help you more easily find the system problem and fix it.

## Topics

- [All Base Diagnostics](#)
- [Log Files](#)
- [Resetting Phone and Configuration](#)
- [Packets Capture](#)
- [Watch Dog](#)
- [Analyzing Configuration Files](#)
- [Exporting All the Diagnostic Files](#)
- [Device Status](#)
- [Phone Reboot](#)

## All Base Diagnostics

You can export all base diagnostic files (including Pcap trace, local log files, and BIN configuration files) at a time to help analyze the events that affect the base stations.

## Topics

- [Diagnostics File Type and Naming Rules](#)
- [All Base Diagnostics Configuration](#)

## Diagnostics File Type and Naming Rules

The following table displays the diagnostic file type and the naming rules:

Diagnostics File Type	Naming Rules
<b>Pcap trace:</b> saves the capture files of all bases (including DM).	<ul style="list-style-type: none"> <li>• <b>DM:</b> is named as <i>DM_IP_STIME_TIME.xxx</i>.</li> <li>• <b>Base:</b> is named as "<i>DM_IP_STIME_BASE_RPN_IP_TIME.xxx</i>".</li> </ul> Where <b>.xxx</b> refers to the suffix name of the file, such as .pcap, .log, .bin. STIME indicates the time when you click <b>Start</b> on web user interface. TIME represents the time when the DM/Base uploads the files to the server. <b>Example:</b> DM_10.81.6.81_20191205T093800Z_BASE_2_10.81.6.26_20191205T100458Z.pcap.
<b>Local log:</b> saves the log files of all bases (including DM).	
<b>BIN file:</b> saves the BIN files of all bases (including DM).	

## All Base Diagnostics Configuration

The following table lists the parameter you can use to configure all base diagnostics.

<b>Parameter</b>	static.diagnose.server.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the URL to which the DM uploads all base diagnostics information. <b>Note:</b> The file uploading should be supported by the server, including http, https, ftp and tftp server.	
<b>Permitted Values</b>	String within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Configuration > All Base Diagnostics > Server URL	

<b>Parameter</b>	static.diagnose.server.port	<y0000000000xx>.cfg
<b>Description</b>	It specifies the port of the server to which the DM uploads all base diagnostics information.	
<b>Permitted Values</b>	Integer from 0 to 65535	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Configuration > All Base Diagnostics > Port	
<b>Parameter</b>	static.diagnose.server.username	<y0000000000xx>.cfg
<b>Description</b>	It configures the user name used to authenticate to the diagnostic server.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Configuration > All Base Diagnostics > Username	
<b>Parameter</b>	static.diagnose.server.password	<y0000000000xx>.cfg
<b>Description</b>	It configures the password used to authenticate to the diagnostic server.	
<b>Permitted Values</b>	String within 64 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Configuration > All Base Diagnostics > Password	
<b>Parameter</b>	static.diagnose.type	<y0000000000xx>.cfg
<b>Description</b>	It configures the type of all base diagnostics information to be uploaded.	
<b>Permitted Values</b>	1-Pcap 2-Local Log 3-Bin 1,2-Pcap,Local Log 1,3-Pcap,Bin 2,3-Local Log,Bin 1,2,3-Pcap,Local Log,Bin	
<b>Default</b>	1,2,3	
<b>Web UI</b>	Settings > Configuration > All Base Diagnostics > Type Of Diagnosis	
<b>Parameter</b>	static.diagnose.pcap.max_size	<y0000000000xx>.cfg
<b>Description</b>	It configures the maximum size (KB) of each uploaded Pcap trace file. If it is set to 5120, the Pcap trace file will be uploaded to the server each time it reaches 5M.	
<b>Permitted Values</b>	Integer from 1024 to 20480	

<b>Default</b>	5120	
<b>Parameter</b>	static.diagnose.log.max_size	<y0000000000xx>.cfg
<b>Description</b>	It configures the maximum size (KB) that one diagnosis process lasts. If it is set to 4096, the local log file will be uploaded to the server each time it reaches 4M.	
<b>Permitted Values</b>	Integer from 1024 to 20480	
<b>Default</b>	4096	

**Related Topic**

[Diagnostics File Type and Naming Rules](#)

## Log Files

You can configure your device to generate the log files locally or sent the log to a syslog server in real time, and use these log files to generate informational, analytic and troubleshoot phones.

**Topics**

[Local Logging](#)  
[Syslog Logging](#)

## Local Logging

You can enable local logging, specify the severity level, and choose to keep the log locally or upload the local log files to the provisioning server.

**Topics**

[Local Logging Configuration](#)  
[Exporting the Log Files to a Local PC](#)  
[Viewing the Log Files](#)

## Local Logging Configuration

The following table lists the parameters you can use to configure local logging.

<b>Parameter</b>	static.local_log.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to record log locally. <b>Note:</b> We recommend that you do not disable this feature.	
<b>Permitted Values</b>	<b>0</b> -Disabled, the phone will stop recording log to the log files locally. The log files recorded before are still kept on the phone. <b>1</b> -Enabled, the phone will continue to record log to the log files locally. You can upload the local log files to the provisioning server or a specific server or export them to the local system.	
<b>Default</b>	1	
<b>Web UI</b>	Settings > Configuration > Enable Local Log	
<b>Parameter</b>	static.local_log.level	<y0000000000xx>.cfg
<b>Description</b>	It configures the lowest level of local log information to be rendered to the <MAC>.log file. When you choose a log level, it includes all events of an equal or higher severity level and excludes events of a lower severity level. The logging level you choose determines the lowest severity of events to log.	
<b>Permitted</b>	<b>0</b> -the system is unusable	

<b>Values</b>	<p>1-action must be taken immediately</p> <p>2-critical condition</p> <p>3-error conditions</p> <p>4-warning conditions</p> <p>5-normal but significant condition</p> <p>6-informational</p>	
<b>Default</b>	6	
<b>Web UI</b>	Settings > Configuration > Local Log Level	
<b>Parameter</b>	static.local_log.max_file_size	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the maximum size (in KB) of the log files can be stored on the IP phone.</p> <p>When this size is about to be exceeded,</p> <p>(1) If the local log files are configured to be uploaded to the server by the parameter "static.auto_provision.local_log.backup.enable", the phone will clear all the local log files on the phone once successfully backing up.</p> <p>(2) If "static.auto_provision.local_log.backup.enable" is set to 0 (Disabled), the phone will erase half of the logs from the oldest log information on the phone.</p> <p>Example:</p> <p>static.local_log.max_file_size = 1024</p>	
<b>Permitted Values</b>	Integer from 2048 to 20480	
<b>Default</b>	20480	
<b>Web UI</b>	Settings > Configuration > Max Log File Size (2048-20480KB)	
<b>Parameter</b>	static.auto_provision.local_log.backup.enable	<y0000000000xx>.cfg
<b>Description</b>	<p>It enables or disables the phone to upload the local log files to the provisioning server or a specific server.</p> <p><b>Note:</b> The upload path is configured by the parameter "static.auto_provision.local_log.backup.path".</p>	
<b>Permitted Values</b>	<p>0-Disabled</p> <p>1-Enabled, the phone will upload the local log files to the provisioning server or the specific server to back up these files when one of the following happens:</p> <ul style="list-style-type: none"> <li>- Auto provisioning is triggered;</li> <li>- The size of the local log files reaches the maximum configured by the parameter "static.local_log.max_file_size";</li> <li>- It's time to upload local log files according to the upload period configured by the parameter "static.auto_provision.local_log.backup.upload_period".</li> </ul>	
<b>Default</b>	0	
<b>Parameter</b>	static.auto_provision.local_log.backup.upload_period	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the period (in seconds) of the local log files uploads to the provisioning server or a specific server.</p> <p><b>Note:</b> It works only if "static.auto_provision.local_log.backup.enable" is set to 1 (Enabled).</p>	
<b>Permitted</b>	Integer from 30 to 86400	

<b>Values</b>	
<b>Default</b>	30
<b>Parameter</b>	static.auto_provision.local_log.backup.path <y0000000000xx>.cfg
<b>Description</b>	<p>It configures the upload path of the local log files.</p> <p>If you leave it blank, the phone will upload the local log files to the provisioning server.</p> <p>If you configure a relative URL (for example, /upload), the phone will upload the local log files by extracting the root directory from the access URL of the provisioning server.</p> <p>If you configure an absolute URL with the protocol (for example, tftp), the phone will upload the local log files using the desired protocol. If no protocol, the phone will use the same protocol with auto provisioning for uploading files.</p> <p><b>Example:</b></p> <p>static.auto_provision.local_log.backup.path = tftp://10.3.6.133/upload/</p> <p><b>Note:</b> It works only if "static.auto_provision.local_log.backup.enable" is set to 1 (Enabled).</p>
<b>Permitted Values</b>	URL within 1024 characters
<b>Default</b>	Blank
<b>Parameter</b>	static.auto_provision.local_log.backup.append <y0000000000xx>.cfg
<b>Description</b>	It configures whether the uploaded local log files overwrite the existing files or are appended to the existing files.
<b>Permitted Values</b>	<p>0-Overwrite</p> <p>1-Append (not applicable to TFTP Server)</p>
<b>Default</b>	0
<b>Parameter</b>	static.auto_provision.local_log.backup.append.limit_mode <y0000000000xx>.cfg
<b>Description</b>	It configures the behavior when local log files on the provisioning server or a specific server reach the maximum file size.
<b>Permitted Values</b>	<p>0-Append Delete, the server will delete the old log and the phone will continue uploading log.</p> <p>1-Append Stop, the phone will stop uploading log.</p>
<b>Default</b>	0
<b>Parameter</b>	static.auto_provision.local_log.backup.append.max_file_size <y0000000000xx>.cfg
<b>Description</b>	It configures the maximum size (in KB) of the local log files can be stored on the provisioning server or a specific server.
<b>Permitted Values</b>	Integer from 200 to 65535
<b>Default</b>	1024
<b>Parameter</b>	static.auto_provision.local_log.backup.bootlog.upload_wait_time <y0000000000xx>.cfg
<b>Description</b>	It configures the waiting time (in seconds) before the phone uploads the boot log file to the provisioning server or a specific server after startup.
<b>Permitted Values</b>	Integer from 1 to 86400
<b>Default</b>	120

## Exporting the Log Files to a Local PC

### Procedure

1. From the web user interface, navigate to **Settings > Configuration**.
2. In the **Enable Local Log** field, select **Enabled** or **ON**.
3. Select **6** from the **Local Log Level** drop-down menu.  
The default local log level is "3".
4. Enter the limit size of the log files in the **Max Log File Size** field.
5. Click **Confirm** to accept the change.
6. Reproduce the issue.
7. Click **Export** to open the file download window, and then save the file to your local system.

## Viewing the Log Files

You can verify whether you got the correct log through the following key fields:

- <0+emerg >
- <1+alert >
- <2+crit >
- <3+error >
- <4+warning >
- <5+notice >
- <6+info >

The default local log level is 3.

The following figure shows a portion of a boot log file (for example, boot.log):

```

1 Jan 1 00:00:24 syslogd started: BusyBox v1.10.3
2 Jan 1 00:00:25 sys [655]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
3 Jan 1 00:00:25 sys [655]: ANY <0+emerg > ANY =3
4 Jan 1 00:00:25 sys [655]: ANY <0+emerg > Version :7.2.0.10 for release
5 Jan 1 00:00:25 sys [655]: ANY <0+emerg > Built-at :Apr 20 2016,11:32:02
6 May 26 00:00:02 Log [706]: ANY <0+emerg > Log log :sys=1,cons=1,time=0,E=3,W=4,N=5,I=6,D=7
7 May 26 00:00:02 Log [706]: ANY <0+emerg > ETLL=3
8 May 26 00:00:02 auto[706]: ANY <0+emerg > autoServer log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
9 May 26 00:00:02 auto[706]: ANY <0+emerg > ANY =3
0 May 26 00:00:02 auto[706]: ANY <0+emerg > Version :6.1.0.8 for release
1 May 26 00:00:02 auto[706]: ANY <0+emerg > Built-at :May 25 2016,10:26:42
2 May 26 00:00:02 sys [706]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
3 May 26 00:00:02 sys [706]: ANY <0+emerg > LSYS=3
4 May 26 00:00:02 ATP [706]: ANY <0+emerg > ATP log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
5 May 26 00:00:02 ATP [706]: ANY <0+emerg > ANY =3
6 May 26 00:00:05 sys [835]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
7 May 26 00:00:05 sys [835]: ANY <0+emerg > LSYS=3
8 May 26 00:00:05 sua [835]: ANY <0+emerg > sua log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
9 May 26 00:00:05 sua [835]: ANY <0+emerg > ANY =5
0 May 26 00:00:05 sua [835]: ANY <0+emerg > ANY =3
1 May 26 00:00:06 Log [884]: ANY <0+emerg > Log log :sys=1,cons=0,time=0,E=3,W=4,N=5,I=6,D=7
2 May 26 00:00:06 Log [884]: ANY <0+emerg > ANY =5
3 May 26 00:00:07 ipvp[887]: ANY <0+emerg > 807.194.980:ipvp log :type=1,time=1,E=3,W=4,N=5,I=6,D=7
4 May 26 00:00:07 ipvp[887]: ANY <0+emerg > 807.196.179:Version :1.0.0.8 for release
5 May 26 00:00:07 ipvp[887]: ANY <0+emerg > 807.197.104:Built-at :Feb 29 2016,14:11:35
6 May 26 00:00:07 ipvp[887]: ANY <0+emerg > 807.198.138:ANY =4
7 May 26 00:00:07 sys [887]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
8 May 26 00:00:07 sys [887]: ANY <0+emerg > LSYS=3
9 May 26 00:00:08 TR9 [897]: ANY <0+emerg > TR9 log :sys=1,cons=0,time=0,E=3,W=4,N=5,I=6,D=7

```

The boot log file reports the logs with all severity levels.

The following figure shows a portion of a sys log file (for example, 00156574b150.log):

```

1 May 31 09:02:05 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
2 May 31 09:02:37 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
3 May 31 09:03:16 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
4 May 31 09:03:27 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
5 May 31 09:03:41 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
6 May 31 09:03:47 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
7 May 31 19:28:18 sys [1076]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
8 May 31 19:28:18 sys [1076]: ANY <0+emerg > LSYS=3
9 Jun 1 02:33:52 Log [884]: DSSK<3+error > get page:ExpIndex error![255]
10 Jun 1 07:28:17 sys [1111]: ANY <0+emerg > sys log :type=1,time=0,E=3,W=4,N=5,I=6,D=7
11 Jun 1 07:28:17 sys [1111]: ANY <0+emerg > LSYS=3
12 Jun 1 11:34:57 sua [835]: SUB <3+error > [000] BLF Can't find js by sid(0)
13 Jun 1 11:34:57 sua [835]: SUB <3+error > [000] BLF Can't find js by sid(0)
14 [ web ]
15 step = 2

```

The <MAC>.log file reports the logs with a configured severity level and the higher. For example, if you have configured the severity level of the log to be reported to the <MAC>.log file to 4, then the log with a severity level of 0 to 4 will all be reported.

## Syslog Logging

You can also configure the IP phone to send syslog messages to a syslog server in real time.

You can specify syslog details such as IP address or hostname, server type, facility, and the severity level of events you want to log. You can also choose to prepend the phone's MAC address to log messages.

### Topics

[Syslog Logging Configuration](#)

[Viewing the Syslog Messages on Your Syslog Server](#)

## Syslog Logging Configuration

The following table lists the parameters you can use to configure syslog logging.

<b>Parameter</b>	static.syslog.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to upload log messages to the syslog server in real time.	
<b>Permitted Values</b>	0-Disabled 1-Enabled	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Configuration > Syslog > Enable Syslog	
<b>Parameter</b>	static.syslog.server	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP address or domain name of the syslog server when exporting log to the syslog server.	
<b>Permitted Values</b>	String within 99 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Configuration > Syslog > Syslog Server	
<b>Parameter</b>	static.syslog.server_port	<y0000000000xx>.cfg
<b>Description</b>	It configures the port of the syslog server.	
<b>Permitted Values</b>	Integer from 1 to 65535	
<b>Default</b>	514	
<b>Web UI</b>	Settings > Configuration > Syslog > Syslog Server > Port	

<b>Parameter</b>	static.syslog.transport_type	<y0000000000xx>.cfg
<b>Description</b>	It configures the transport protocol that the IP phone uses when uploading log messages to the syslog server.	
<b>Permitted Values</b>	<b>0</b> -UDP <b>1</b> -TCP <b>2</b> -TLS	
<b>Default</b>	0	
<b>Web UI</b>	Settings > Configuration > Syslog > Syslog Transport Type	
<b>Parameter</b>	static.syslog.level	<y0000000000xx>.cfg
<b>Description</b>	It configures the lowest level of syslog information that displays in the syslog. When you choose a log level, it includes all events of an equal or higher severity level and excludes events of a lower severity level. The logging level you choose determines the lowest severity of events to log.	
<b>Permitted Values</b>	<b>0</b> -Emergency: system is unusable <b>1</b> -Alert: action must be taken immediately <b>2</b> -Critical: critical conditions <b>3</b> -Critical: error conditions <b>4</b> -Warning: warning conditions <b>5</b> -Warning: normal but significant condition <b>6</b> -Informational: informational messages	
<b>Default</b>	3	
<b>Web UI</b>	Settings > Configuration > Syslog > Syslog Level	
<b>Parameter</b>	static.syslog.facility	<y0000000000xx>.cfg
<b>Description</b>	It configures the facility that generates the log messages. <b>Note:</b> For more information, refer to <a href="#">RFC 3164</a> .	
<b>Permitted Values</b>	<b>0</b> -Kernel Messages <b>1</b> -User-level Messages <b>2</b> -Mail System <b>3</b> -System Daemons <b>4</b> -Security/Authorization Messages (Note 1) <b>5</b> -Messages are generated internally by syslog <b>6</b> -Line Printer Subsystem <b>7</b> -Network News Subsystem <b>8</b> -UUCP Subsystem <b>9</b> -Clock Daemon (note 2) <b>10</b> -Security/Authorization Messages (Note 1) <b>11</b> -FTP Daemon	



	<p><b>12-NTP Subsystem</b></p> <p><b>13-Log Audit (note 1)</b></p> <p><b>14-Log Alert (note 1)</b></p> <p><b>15-Clock Daemon (Note 2)</b></p> <p><b>16-Local Use 0 (Local0)</b></p> <p><b>17-Local Use 1 (Local1)</b></p> <p><b>18-Local Use 2 (Local2)</b></p> <p><b>19-Local Use 3 (Local3)</b></p> <p><b>20-Local Use 4 (Local4)</b></p> <p><b>21-Local Use 5 (Local5)</b></p> <p><b>22-Local Use 6 (Local6)</b></p> <p><b>23-Local Use 7 (Local7)</b></p> <p><b>Note:</b> Note 1 - Various operating systems have been found to utilize Facilities 4, 10, 13 and 14 for security/authorization, audit, and alert messages which seem to be similar. Note 2 - Various operating systems have been found to utilize both Facilities 9 and 15 for clock (cron/at) messages.</p>
<b>Default</b>	16
<b>Web UI</b>	Settings > Configuration > Syslog > Syslog Facility
<b>Parameter</b>	static.syslog.prepend_mac_address.enable <y000000000xx>.cfg
<b>Description</b>	It enables or disables the phone to prepend the MAC address to the log messages exported to the syslog server.
<b>Permitted Values</b>	0-Disabled 1-Enabled
<b>Default</b>	0
<b>Web UI</b>	Settings > Configuration > Syslog > Syslog Prepend MAC

## Viewing the Syslog Messages on Your Syslog Server

You can view the syslog file in the desired folder on the syslog server. The location of the folder may differ from the syslog server. For more information, refer to the network resources.

The following figure shows a portion of the syslog:

```

Jun 02 08:42:17 10.2.20.160 local0.notice Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: APP <5+notice> [SIP] dtmf_payload :101
Jun 02 08:42:17 10.2.20.160 local0.notice Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: APP <5+notice> [SIP] version :0
Jun 02 08:42:17 10.2.20.160 local0.notice Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: APP <5+notice> [SIP] call_channels info
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] cb_nict_kill_transaction (id=88)
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] m=audio 7150 RTP/AVP 9 0 8 18 101
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] Allow: INVITE, ACK, CANCEL, OPTIONS, BYE, REGISTER, SUBSCRIBE, NOTIFY,
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] CSeq: 4 INVITE
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] Call-ID: ZWQ3MWM5ZDgwZDMyMmZjY2JkN2YyMzQ1NTJjNW15Nzg,
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] From: <sip:101@10.2.1.43:5060>;tag=4086693836
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] To: "102" <sip:102@10.2.1.43:5060>;tag=8d378436
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] Contact: <sip:102@10.2.1.43:5060>
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] Via: SIP/2.0/UDP 10.2.20.160:5060;branch=z9hG4bK2209216298
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000] SIP/2.0 200 OK
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000]
Jun 02 08:42:17 10.2.20.160 local0.notice Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <5+notice> [000] Message rcv: (from src=10.2.1.43:5060 len=808)
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: SIP <6+info > [SIP] match linename:101 host:10.2.1.43
Jun 02 08:42:17 10.2.20.160 local0.notice Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: NET <5+notice> [255] <<<<==== UDP socket 10.2.1.43:5060: read 808 bytes
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: SUA <6+info > [000] ****eCore event:(0x0010)ECORE_CALL_PROCEEDING ****
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000]
Jun 02 08:42:17 10.2.20.160 local0.info Jun 2 00:42:48 [00:15:65:74b1:50] sua [845]: DLG <6+info > [000]

```


## Resetting Phone and Configuration

Generally, some common issues may occur while using the IP phone. You can reset your phone to factory configurations after you have tried all troubleshooting suggestions, but still do not solve the problem. Resetting the phone to factory configurations clears the flash parameters, removes log files, user data, and cached data, and resets the administrator password to admin. All custom settings will be overwritten after resetting.

ways to reset the phone:

- **Reset local settings:** All configurations saved in the <MAC>-local.cfg file on the phone will be reset. Changes associated with non-static settings made via the web user interface and phone user interface are saved in the <MAC>-local.cfg file.
- **Reset non-static settings:** All non-static parameters will be reset. After resetting the non-static settings, the phone will perform auto provisioning immediately.
- **Reset static settings:** All static parameters will be reset.
- **Reset userdata & local config:** All the local cache data (for example, user data, history or directory) will be cleared. And all configurations saved in the <MAC>-local.cfg configuration file on the phone will be reset.
- **Reset to Factory:** All configurations on the phone will be reset.

You can reset the IP phone to default factory configurations. The default factory configurations are the settings that reside on the IP phone after it has left the factory. You can also reset the IP phone to custom factory configurations if required. The custom factory configurations are the settings defined by the user to keep some custom settings after resetting. You have to import the custom factory configuration files in advance.

**Note:** The **Reset local settings/Reset non-static settings/Reset static settings/Reset userdata & local config** option on the web user interface appears only if "static.auto\_provision.custom.protect" is set to 1. You can also long press the device key  on the W80DM/W80B for 20 seconds to reset the device to factory configurations.

### Topics

- [Resetting the IP phone to Default Factory Settings](#)
- [Resetting the IP phone to Custom Factory Settings](#)
- [Deleting the Custom Factory Settings Files](#)

## Resetting the IP phone to Default Factory Settings

### Procedure

1. Click **Settings > Upgrade**.
2. Click **Reset to Factory** in the **Reset to Factory** field.  
The web user interface prompts the message "Do you want to reset to factory?".
3. Click **OK** to confirm the resetting.  
The phone will be reset to factory successfully after startup.

**Note:** Reset of your phone may take a few minutes. Do not power off until the phone starts up successfully.

## Resetting the IP phone to Custom Factory Settings

After you enable the custom factory feature, you can import the custom factory configuration file, and then reset the IP phone to custom factory settings.

### Procedure

1. From the web user interface, click **Settings > Configuration**.
2. In the block, click **Browse** to locate the custom factory configuration file from your local system.
3. Click **Import**.
4. After the custom factory configuration file is imported successfully, you can reset the IP phone to custom factory settings.

**Topic**

[Custom Factory Configuration](#)

## Custom Factory Configuration

The following table lists the parameters you can use to configure a custom factory.

<b>Parameter</b>	static.features.custom_factory_config.enable	<y0000000000xx>.cfg
<b>Description</b>	It enables or disables the Custom Factory Configuration feature.	
<b>Permitted Values</b>	<p><b>0</b>-Disabled</p> <p><b>1</b>-Enabled, Import Factory Configuration item will be displayed on the IP phone's web user interface at the path <b>Settings &gt; Configuration</b>. You can import a custom factory configuration file or delete the user-defined factory configuration via the web user interface.</p>	
<b>Default</b>	0	
<b>Parameter</b>	static.custom_factory_configuration.url	<y0000000000xx>.cfg
<b>Description</b>	<p>It configures the access URL of the custom factory configuration files.</p> <p><b>Note:</b> It works only if "static.features.custom_factory_config.enable" is set to 1 (Enabled) and the file format of the custom factory configuration file must be *.bin.</p>	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Configuration > Import Factory	

## Deleting the Custom Factory Settings Files

You can delete the user-defined factory configurations via the web user interface.

**Procedure**

1. From the web user interface, click **Settings > Configuration**.
2. Click **Del/Delete** in the **Import Factory Config** field.  
The web user interface prompts you whether to delete the user-defined factory configuration.
3. Click **OK** to delete the custom factory configuration files.  
The imported custom factory file will be deleted. The phone will be reset to default factory settings after resetting.

## Packets Capture

You can capture packet in two ways: capturing the packets via the web user interface or using the Ethernet software. You can analyze the packet captured for troubleshooting purpose.

**Topic**

[Capturing the Packets via Web User Interface](#)

## Capturing the Packets via Web User Interface

For Yealink phones, you can export the packets file to the local system and analyze it.

Yealink devices support the following two modes for capturing the packets:

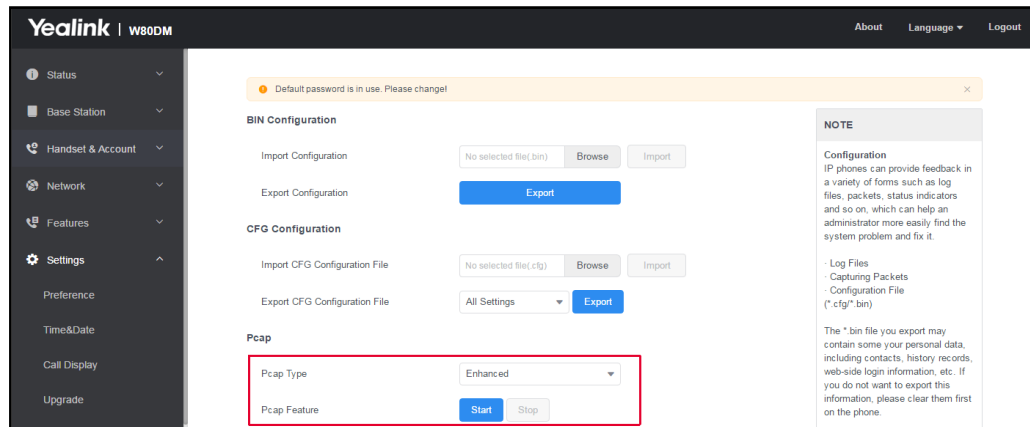
**Topics**

- [Capturing the Packets in Enhanced Way](#)
- [Capturing the Packets in Normal Way](#)

## Capturing the Packets in Enhanced Way

### Procedure

1. From the web user interface, navigate to **Settings > Configuration**.
2. Select **Enhanced** from the **Pcap Type** drop-down menu.
3. Click **Start** in the **Pcap Feature** field to start capturing signal traffic.
4. Reproduce the issue to get stack traces.
5. Click **Stop** in the **Pcap Feature** field to stop capturing.
6. Select a location for saving the packets file on your local system while capturing.



Note: The steps may differ for different web browsers.

## Capturing the Packets in Normal Way

### Procedure

1. From the web user interface, navigate to **Settings > Configuration**.
2. Select **Normal** from the **Pcap Type** drop-down menu.
3. Click **Start** in the **Pcap Feature** field to start capturing signal traffic.
4. Reproduce the issue to get stack traces.
5. Click **Stop** in the **Pcap Feature** field to stop capturing.
6. Click **Export** to open the file download window, and then save the file to your local system.

## Watch Dog

The IP phone provides a troubleshooting feature called “Watch Dog”, which helps you monitor the IP phone status and provides the ability to get stack traces from the last time the IP phone failed. If the Watch Dog feature is enabled, the phone will automatically reboot when it detects a fatal failure. This feature can be configured using the configuration files or via the web user interface.

### Topic

[Watch Dog Configuration](#)

## Watch Dog Configuration

The following table lists the parameter you can use to configure watch dog.

<b>Parameter</b>	static.watch_dog.enable	<y0000000000xx>.cfg
------------------	-------------------------	---------------------

<b>Description</b>	It enables or disables the Watch Dog feature.
<b>Permitted Values</b>	0-Disabled 1-Enabled, the phone will reboot automatically when the system crashed.
<b>Default</b>	1
<b>Web UI</b>	Settings > Preference > Watch Dog

## Analyzing Configuration Files

Wrong configurations may have an impact on phone use. You can export configuration file(s) to check the current configuration of the IP phone and troubleshoot if necessary. You can also import configuration files for a quick and easy configuration.

We recommend that you edit the exported CFG file instead of the BIN file to change the phone’s current settings. The config.bin file is an encrypted file. For more information on config.bin file, contact your Yealink reseller.

### Topics

- [Exporting CFG Configuration Files from Phone](#)
- [Importing CFG Configuration Files to Phone](#)
- [Exporting BIN Files from the Phone](#)
- [Importing BIN Files from the Phone](#)

## Exporting CFG Configuration Files from Phone

You can export the phone’s configuration file to local and make changes to the phone’s current feature settings. You can apply these changes to any phone by importing the configuration files via the web user interface.

You can export five types of CFG configuration files to the local system:

- **<MAC>-local.cfg**: It contains changes associated with non-static parameters made via the phone user interface and web user interface. It can be exported only if “static.auto\_provision.custom.protect” is set to 1 (Enabled).
- **<MAC>-all.cfg**: It contains all changes made via the phone user interface, web user interface and using configuration files.
- **<MAC>-static.cfg**: It contains all changes associated with static parameters (for example, network settings) made via the phone user interface, web user interface and using configuration files.
- **<MAC>-non-static.cfg**: It contains all changes associated with non-static parameters made via the phone user interface, web user interface and using configuration files.
- **<MAC>-config.cfg**: It contains changes associated with non-static parameters made using configuration files. It can be exported only if “static.auto\_provision.custom.protect” is set to 1 (Enabled).

### Procedure

1. Go to **Settings > Configuration**.
2. In the **Export or Import Configuration** block, click **Export** to open the file download window, and then save the file to your local system.

## Importing CFG Configuration Files to Phone

You can import the configuration files from local to the phones via the web user interface. The configuration files contain the changes for phone features and these changes will take effect after importing.

### Procedure

1. Go to **Settings > Configuration**.
2. In the **Import CFG Configuration File** block, click **Browse** to locate a CFG configuration file in your local system.
3. Click **Import** to import the configuration file.

**Topic**[Configuration Files Import URL Configuration](#)**Configuration Files Import URL Configuration**

The following table lists the parameters you can use to configure the configuration files import URL.

<b>Parameter</b>	static.custom_mac_cfg.url	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL of the custom MAC-Oriented CFG file.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	

**Exporting BIN Files from the Phone****Procedure**

1. From the web user interface, click **Settings > Configuration**.
2. In the **Export or Import Configuration** block, click **Export** to open the file download window, and then save the file to your local system.

**Importing BIN Files from the Phone****Procedure**

1. From the web user interface, click **Settings > Configuration**.
2. In the **Import Configuration** block, click **Browse** to locate a BIN configuration file from your local system.
3. Click **Import** to import the configuration file.

**Topic**[BIN Files Import URL Configuration](#)**BIN Files Import URL Configuration**

The following table lists the parameter you can use to configure the BIN files import URL.

<b>Parameter</b>	static.configuration.url <sup>[1]</sup>	<y0000000000xx>.cfg
<b>Description</b>	It configures the access URL for the custom configuration files. <b>Note:</b> The file format of the custom configuration file must be *.bin.	
<b>Permitted Values</b>	URL within 511 characters	
<b>Default</b>	Blank	
<b>Web UI</b>	Settings > Configuration > Export or Import Config	

<sup>[1]</sup>If you change this parameter, the phone will reboot to make the change take effect.

**Exporting All the Diagnostic Files**

Yealink phones support three types of diagnostic files (including Pcap trace, log files, and BIN configuration files) to help analyze your problem. You can export these files at a time and troubleshoot if necessary. The file format of the exported diagnostic file is \*.tar.

**Procedure:**

1. From the web user interface, navigate to **Settings > Configuration**.
2. Click **Start** in the **Export All Diagnostic Files** field to begin capturing signal traffic.  
The system log level will be automatically set to 6.
3. Reproduce the issue.
4. Click **Stop** in the **Export All Diagnostic Files** field to stop the capture.  
The system log level will be reset to 3.
5. Click **Export** to open the file download window, and then save the diagnostic file to your local system.  
A diagnostic file named **<MAC>-DiagnoseInfo.tar** is successfully exported to your local system.

**Note:** After exporting the diagnostic files, you can create a ticket to describe your problem at [ticket.yealink.com](https://ticket.yealink.com), and Yealink support team will help you locate the root cause.

## Device Status

Available information on device status includes:

- DM status (IPv4 status, firmware version, MAC address, machine ID and device certificate status, RFPI and network information).
- Handset status (handset model, hardware version, firmware version, IPUI code, SN code, and area).
- Line status
- Base Station Status (base station name, base status, MAC address, IPv4 address)

### Topic

[Viewing Device Status](#)

## Viewing Device Status

You can view device status via the handset user interface by navigating to **OK > Status**.

You can also view the device status via the web user interface.

### Procedure

1. Open a web browser on your computer.
2. Enter the IP address in the browser's address bar, and then press the **Enter** key.  
For example, "http://192.168.0.10".
3. Enter the user name (admin) and password (admin) in the login page.
4. Click **Login** to log in.  
The device status is displayed on the first page of the web user interface.

## Phone Reboot

You can reboot the IP phone remotely or locally.

### Topics

[Rebooting the IP Phone Remotely](#)

[Rebooting the Device via Web User Interface](#)

## Rebooting the IP Phone Remotely

You can reboot the phones remotely using a SIP NOTIFY message with "Event: check-sync" header. Whether the IP phone reboots or not depends on "sip.notify\_reboot\_enable". If the value is set to 1, or the value is set to 0 and the header of the SIP NOTIFY message contains an additional string "reboot=true", the phone will reboot immediately.

The NOTIFY message is formed as shown:

```
NOTIFY sip:<user>@<dsthost> SIP/2.0
```

To: sip:<user>@<dsthost>  
 From: sip:sipsak@<srchost>  
 CSeq: 10 NOTIFY  
 Call-ID: 1234@<srchost>  
 Event: check-sync;reboot=true

**Topic**

[Notify Reboot Configuration](#)

## Notify Reboot Configuration

The following table lists the parameter you can use to configure notify reboot.

<b>Parameter</b>	sip.notify_reboot_enable	<y0000000000xx>.cfg
<b>Description</b>	It configures the IP phone behavior when receiving a SIP NOTIFY message which contains the header "Event: check-sync".	
<b>Permitted Values</b>	<p><b>0</b>-The phone will reboot only if the SIP NOTIFY message contains an additional string "reboot=true".</p> <p><b>1</b>-The phone will reboot.</p> <p><b>2</b>-The phone will ignore the SIP NOTIFY message.</p>	
<b>Default</b>	1	

## Rebooting the Device via Web User Interface

You can reboot your IP phone via the web user interface.

**Procedure**

1. Click **Settings > Upgrade**.
2. Click **Reboot**.

The device begins rebooting. Any reboot of the device may take a few minutes.



# Troubleshooting Solutions

This section describes solutions to common issues that may occur while using the device. Upon encountering a case not listed in this section, contact your Yealink reseller for further support.

## Topics

- [IP Address Issues](#)
- [Time and Date Issues](#)
- [Phone Book Issues](#)
- [Audio Issues](#)
- [Firmware and Upgrading Issues](#)
- [System Log Issues](#)
- [Password Issues](#)
- [Power and Startup Issues](#)
- [Other Issues](#)
- [Base Issue](#)
- [Handset Issues](#)
- [Register Issue](#)
- [Display Issue](#)
- [Upgrade Issue](#)

## IP Address Issues

### The device does not get an IP address

Do one of the following:

If your device connects to the wired network:

- Ensure that the Ethernet cable is plugged into the Internet port on the IP phone and the Ethernet cable is not loose.
- Ensure that the Ethernet cable is not damaged.
- Ensure that the IP address and related network parameters are set correctly.
- Ensure that your network switch or hub is operational.

## Time and Date Issues

### Display time and date incorrectly

Check if the IP phone is configured to obtain the time and date from the NTP server automatically. If your phone is unable to access the NTP server, configure the time and date manually.

## Phone Book Issues

### Difference between a remote phone book and a local phone book

A remote phone book is placed on a server, while a local phone book is placed on the IP phone flash. A remote phone book can be used by everyone that can access the server, while a local phone book can only be used on a specific phone. A remote phone book is always used as a central phone book for a company; each employee can load it to obtain real-time data from the same server.

## Audio Issues

### Increasing or decreasing the volume

Press the volume key to increase or decrease the ringer volume when the IP phone is idle or ringing, or to adjust the volume of the engaged audio device (speakerphone or headset) when there is an active call in progress.

### Get poor sound quality during a call

If you have poor sound quality/acoustics like intermittent voice, low volume, echo or other noises, the possible reasons could be:

- Users are seated too far out of recommended microphone range and sound faint, or are seated too close to sensitive microphones and cause echo.
- Intermittent voice is mainly caused by packet loss, due to network congestion, and jitter, due to message recombination of transmission or receiving equipment (for example, timeout handling, retransmission mechanism, buffer underrun).
- Noisy equipment, such as a computer or a fan, may cause voice interference. Turn off any noisy equipment.
- Line issues can also cause this problem; disconnect the old line and redial the call to ensure another line may provide a better connection.

### There is no sound when the other party picks up the call

If the caller and receiver cannot hear anything - there is no sound at all when the other party picks up the call, the possible reason could be: the phone cannot send the real-time transport protocol (RTP) streams, in which audio data is transmitted, to the connected call.

Try to disable the 180 ring workaround feature.

#### Related Topic

[Early Media](#)

### Play the local ringback tone instead of media when placing a long-distance number without plus 0

Ensure that the 180 ring workaround feature is disabled.

#### Related Topic

[Early Media](#)

## Firmware and Upgrading Issues

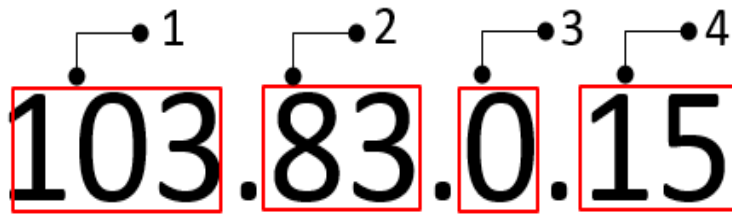
### Fail to upgrade the phone firmware

Do one of the following:

- Ensure that the target firmware is not the same as the current firmware.
- Ensure that the target firmware is applicable to the IP phone model.
- Ensure that the current or the target firmware is not protected.
- Ensure that the power is on and the network is available in the process of upgrading.
- Ensure that the web browser is not closed or refreshed when upgrading firmware via the web user interface.

### Verifying the firmware version

Go to **OK > Status > Base/Handset** when the handset is idle to check the firmware version.



	Item	Description
1	103	Firmware ID. The firmware ID for each device is 103.
2	83	Major version. <b>Note:</b> The larger it is, the newer the major version is.
3	0	A fixed number.
4	15	Minor version. <b>Note:</b> With the same major version, the larger it is, the newer the minor version is.

## The IP phone does not update the configurations

Do one of the following:

- Ensure that the configuration is set correctly.
- Reboot the phone. Some configurations require a reboot to take effect.
- Ensure that the configuration is applicable to the IP phone model.
- The configuration may depend on support from a server.

## System Log Issues

### Fail to export the system log to a provisioning server (FTP/TFTP server)

Do one of the following:

- Ensure that the FTP/TFTP server is downloaded and installed on your local system.
- Ensure that you have configured the FTP/TFTP server address correctly via the web user interface on your IP phone.
- Reboot the phone. The configurations require a reboot to take effect.

### Fail to export the system log to a syslog server

Do one of the following:

- Ensure that the syslog server can save the syslog files exported from the IP phone.
- Ensure that you have configured the syslog server address correctly via the web user interface on your IP phone.
- Reboot the phone. The configurations require a reboot to take effect.

## Password Issues

### Restore the administrator password

Factory reset can restore the original password. All custom settings will be overwritten after reset.

## Related Topic

[Resetting the IP phone to Default Factory Settings](#)

## The web screen displays "Default password is in use. Please change!"

The web screen prompts "Default password is in use. Please change!" message when the default password is in use. Click the warning message to change the password.

## Power and Startup Issues

### Both PoE cable and power adapter is connected to the phone

The phones use the PoE preferentially.

### The power LED indicator has no lights

If no lights appear on the IP phone when it is powered up, do one of the following:

- Reboot your device.
- Replace the power adapter.

## Other Issues

### The difference among user name, register name, and display name

Both user name and register name are defined by the server. User name identifies the account, while register name matched with a password is for authentication purposes. The display name is the caller ID that will be displayed on the callee's phone screen. Server configurations may override the local ones.

### On code and off code

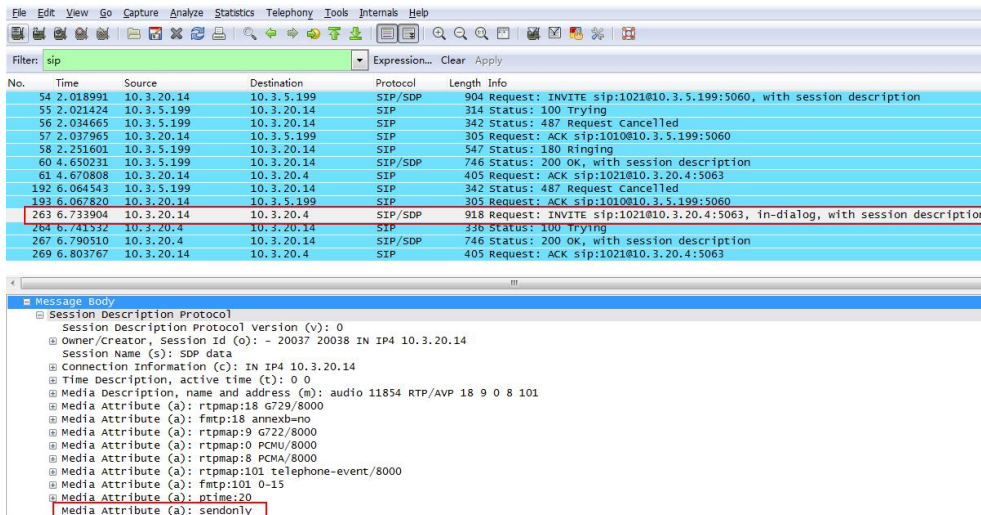
They are codes that the IP phone sends to the server when a certain action takes place. On code is used to activate a feature on the server side, while off code is used to deactivate a feature on the server side.

For example, if you set the Always Forward on code to be \*78 (may vary on different servers), and the target number to be 201. When you enable Always Forward on the IP phone, the phone sends \*78201 to the server, and then the server will enable Always Forward feature on the server side, hence being able to get the right status of the extension.

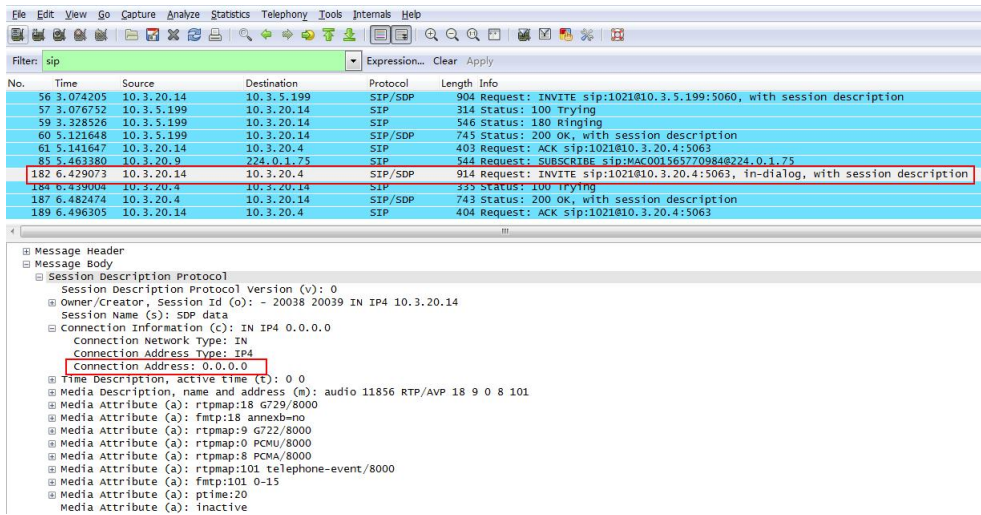
For anonymous call/anonymous call rejection feature, the phone will send either the on code or off code to the server according to the value of Send Anonymous Code/Send Rejection Code.

### The difference between RFC 2543 Hold enabled and disabled

Capturing packets after you enable the RFC 2543 Hold feature. SDP media direction attributes (such as a=sendonly) per RFC 2543 is used in the INVITE message when placing a call on hold.



Capturing packets after you disable the RFC 2543 Hold feature. SDP media connection address c=0.0.0.0 per RFC 3264 is used in the INVITE message when placing a call on hold.



## How does the DM configuration changes take effect when the handset is in the call?

As there are multiple users in the DECT IP multi-cell system, you may need to know how does the DM configuration changes take effect when some users are in the call.

Provisioning Method	Modified Items	Results
Web User Interface	Base station name	The configuration change takes effect immediately, but the call on the handset will not be affected.
	Base-related configurations	<ul style="list-style-type: none"> <li>Modify cluster, sync level, active status, or network parameters.</li> <li>Reboot the base.</li> <li>Delete the base.</li> </ul> <p><b>Note:</b> If the modified base has a synchronization base with a lower level, all base with lower level are influenced.</p>
	Account-	<ul style="list-style-type: none"> <li>SIP server template</li> </ul> <p>The configurations are saved and take</p>

Provisioning Method	Modified Items		Results
	related configurations	• SIP server, server port, user name, register name and so on	effect after the call is ended.
	Other configurations		The configuration takes effect immediately.
Central Provisioning	Any configuration		The device performs auto provisioning after the is ended. <b>Note:</b> If the call lasts for one hour, the provisioning automatically quits.

## Base Issue

### Why doesn't the power indicator on the base station light up?

Plug the supplied power adapter to the base station, if the power indicator doesn't light up, it should be a hardware problem. Please contact your vendor or the local distributor and send the problem description for help. If you cannot get a support from them, please send a mail which includes problem description, test result, your country and phone's SN to [Support@yealink.com](mailto:Support@yealink.com).

### Why doesn't the network indicator on the base station slowly flash?

It means that the base station cannot get an IP address. Try connecting the base station to another switch port, if the network indicator still slowly flashes, please try a reset.

## Handset Issues

### How to check which area the handset is used for?

Go to **OK > Status > Handset > Area**.

## Register Issue

### Why cannot the handset be registered to the base station?

If the network works normally, you can check the compatibility between the base station and the handset. There are 2 sets of base stations, complied with the FCC and CE standard respectively. You can check it from the back of the base station. There are also 2 sets of handsets, American version/European version area respectively.

The handset in the American version is compatible with FCC standard base station.

The handset in the European version is compatible with CE standard base station.

## Display Issue

### Why does the handset prompt the message "Not Subscribed"?

Check the registration status of your handset. If your handset is not registered to the base station, register it manually.

### Why does the handset prompt the message "Not in Range" or "Out Of Range"?

- Ensure that the base station is properly plugged into a functional AC outlet.
- Ensure that the handset is not too far from the base station.

## Why does the handset prompt the message “Network unavailable”?

- Ensure that the Ethernet cable is plugged into the Internet port on the base station and the Ethernet cable is not loose.
- Ensure that the switch or hub in your network is operational.

## Why does the handset display “No Service”?

The LCD screen prompts “No Service” message when there is no available SIP account on the DECT IP phone.

Do one of the following:

- Ensure that an account is actively registered on the handset at the path **OK > Status > Line Status**.
- Ensure that the SIP account parameters have been configured correctly.

## Upgrade Issue

### Why doesn't the DECT IP phone upgrade firmware successfully?

Do one of the following:

- Ensure that the target firmware version is not the same as the current one.
- Ensure that the target firmware is applicable to the DECT IP phone model.
- Ensure that the current or the target firmware is not protected.
- Ensure that the power is on and the network is available in the process of upgrading.
- Ensure that the web browser is not closed or refreshed when upgrading firmware via the web user interface.
- For handset, ensure the handset battery should not less than 40% and is connected to the base station.

## Appendix

### RFC and Internet Draft Support

The following RFC's and Internet drafts are supported:

- RFC 1321—The MD5 Message-Digest Algorithm
- RFC 1889—RTP Media control
- RFC 2112—Multipart MIME
- RFC 2327—SDP: Session Description Protocol
- RFC 2387—The MIME Multipart/Related Content-type
- RFC 2543—SIP: Session Initiation Protocol
- RFC 2617—Http Authentication: Basic and Digest access authentication
- RFC 2782—A DNS RR for specifying the location of services (DNS SRV)
- RFC 2806—URLs for Telephone Calls
- RFC 2833—RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals
- RFC 2915—The Naming Authority Pointer (NAPTR) DNS Resource Record
- RFC 2976—The SIP INFO Method
- RFC 3087—Control of Service Context using SIP Request-URI
- RFC 3261—SIP: Session Initiation Protocol (replacement for RFC 2543)
- RFC 3262—Reliability of Provisional Responses in the Session Initiation Protocol (SIP)
- RFC 3263—Session Initiation Protocol (SIP): Locating SIP Servers
- RFC 3264—An Offer/Answer Model with the Session Description Protocol (SDP)
- RFC 3265—Session Initiation Protocol (SIP) - Specific Event Notification
- RFC 3310—HTTP Digest Authentication Using Authentication and Key Agreement (AKA)
- RFC 3311—The Session Initiation Protocol (SIP) UPDATE Method
- RFC 3312—Integration of Resource Management and SIP
- RFC 3313—Private SIP Extensions for Media Authorization
- RFC 3323—A Privacy Mechanism for the Session Initiation Protocol (SIP)
- RFC 3324—Requirements for Network Asserted Identity
- RFC 3325—SIP Asserted Identity
- RFC 3326—The Reason Header Field for the Session Initiation Protocol (SIP)
- RFC 3361—DHCP-for-IPv4 Option for SIP Servers
- RFC 3372—SIP for Telephones (SIP-T): Context and Architectures
- RFC 3398—ISUP to SIP Mapping
- RFC 3420—Internet Media Type message/sipfrag
- RFC 3428—Session Initiation Protocol (SIP) Extension for Instant Messaging
- RFC 3455—Private Header (P-Header) Extensions to the SIP for the 3GPP
- RFC 3486—Compressing the Session Initiation Protocol (SIP)
- RFC 3489—STUN - Simple Traversal of User Datagram Protocol (UDP) Through Network Address Translators (NATs)
- RFC 3515—The Session Initiation Protocol (SIP) Refer Method
- RFC 3550—RTP: Transport Protocol for Real-Time Applications
- RFC 3555—MIME Type Registration of RTP Payload Formats
- RFC 3581—An Extension to the SIP for Symmetric Response Routing
- RFC 3608—SIP Extension Header Field for Service Route Discovery During Registration
- RFC 3611—RTP Control Protocol Extended Reports (RTCP XR)
- RFC 3665—Session Initiation Protocol (SIP) Basic Call Flow Examples

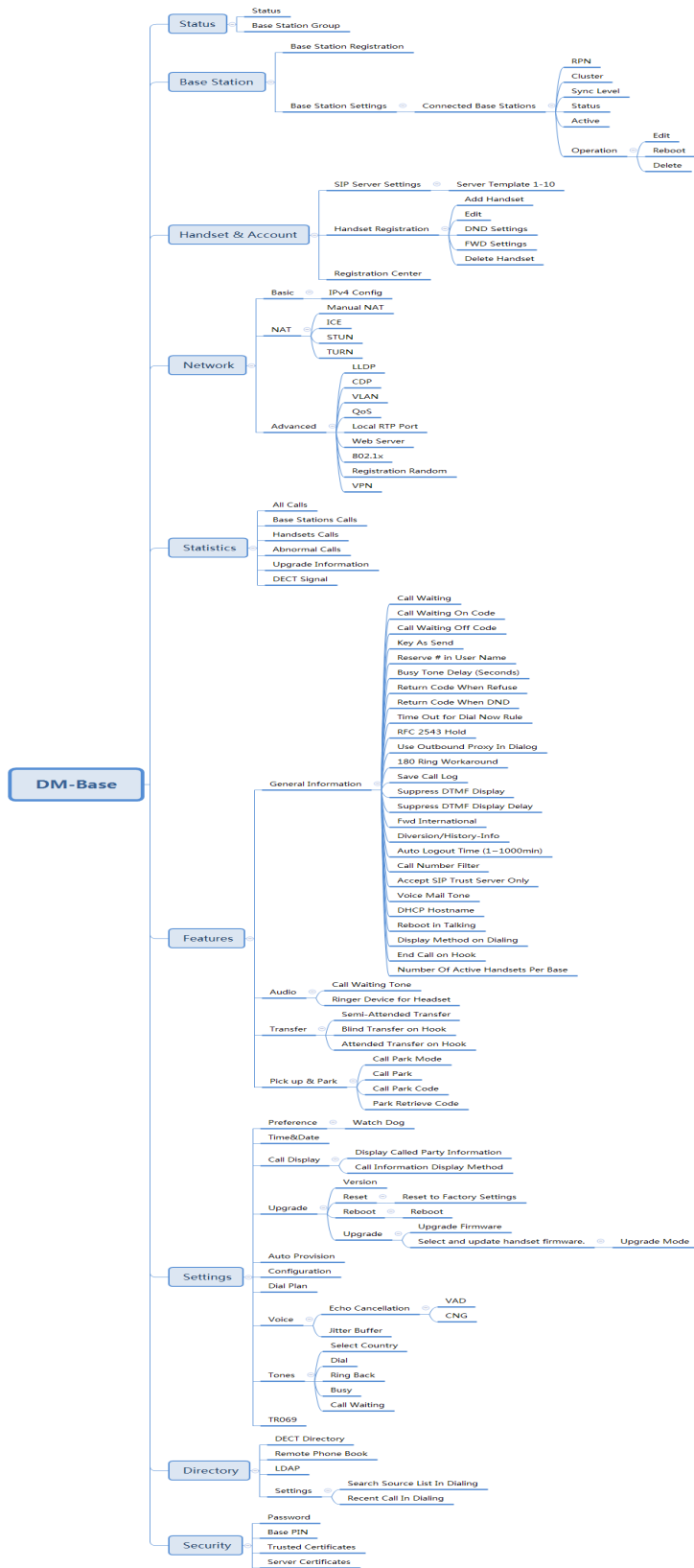


- RFC 3666—SIP Public Switched Telephone Network (PSTN) Call Flows.
- RFC 3680—SIP Event Package for Registrations
- RFC 3702—Authentication, Authorization, and Accounting Requirements for the SIP
- RFC 3711—The Secure Real-time Transport Protocol (SRTP)
- RFC 3725—Best Current Practices for Third Party Call Control (3pcc) in the Session Initiation Protocol (SIP)
- RFC 3842—A Message Summary and Message Waiting Indication Event Package for the Session Initiation Protocol (SIP)
- RFC 3856—A Presence Event Package for Session Initiation Protocol (SIP)
- RFC 3863—Presence Information Data Format
- RFC 3890—A Transport Independent Bandwidth Modifier for the SDP
- RFC 3891—The Session Initiation Protocol (SIP) “Replaces” Header
- RFC 3892—The Session Initiation Protocol (SIP) Referred-By Mechanism
- RFC 3959—The Early Session Disposition Type for SIP
- RFC 3960—Early Media and Ringing Tone Generation in SIP
- RFC 3966—The tel URI for telephone number
- RFC 3968—IANA Registry for SIP Header Field
- RFC 3969—IANA Registry for SIP URI
- RFC 4028—Session Timers in the Session Initiation Protocol (SIP)
- RFC 4083—3GPP Release 5 Requirements on SIP
- RFC 4235—An INVITE-Initiated Dialog Event Package for the Session Initiation Protocol (SIP)
- RFC 4244—An Extension to the SIP for Request History Information
- RFC 4317—Session Description Protocol (SDP) Offer/Answer Examples
- RFC 4353—A Framework for Conferencing with the SIP
- RFC 4458—SIP URIs for Applications such as Voicemail and Interactive Voice Response (IVR)
- RFC 4475—Session Initiation Protocol (SIP) Torture
- RFC 4485—Guidelines for Authors of Extensions to the SIP
- RFC 4504—SIP Telephony Device Requirements and Configuration
- RFC 4566—SDP: Session Description Protocol.
- RFC 4568—Session Description Protocol (SDP) Security Descriptions for Media Streams
- RFC 4575—A SIP Event Package for Conference State
- RFC 4579—SIP Call Control - Conferencing for User Agents
- RFC 4583—Session Description Protocol (SDP) Format for Binary Floor Control Protocol (BFCP) Streams
- RFC 4662—A SIP Event Notification Extension for Resource Lists
- RFC 4730—Event Package for KPML
- RFC 5009—P-Early-Media Header
- RFC 5079—Rejecting Anonymous Requests in SIP
- RFC 5359—Session Initiation Protocol Service Examples
- RFC 5589—Session Initiation Protocol (SIP) Call Control – Transfer
- RFC 5630—The Use of the SIPS URI Scheme in SIP
- RFC 5806—Diversion Indication in SIP
- RFC 6026—Correct Transaction Handling for 2xx Responses to SIP INVITE Requests
- RFC 6141—Re-INVITE and Target-Refresh Request Handling in SIP
- draft-ietf-sip-cc-transfer-05.txt—SIP Call Control - Transfer
- draft-anil-sipping-bla-02.txt—Implementing Bridged Line Appearances (BLA) Using Session Initiation Protocol (SIP)
- draft-anil-sipping-bla-03.txt—Implementing Bridged Line Appearances (BLA) Using Session Initiation Protocol (SIP)
- draft-ietf-sip-privacy-00.txt—SIP Extensions for Caller Identity and Privacy, November

- draft-ietf-sip-privacy-04.txt—SIP Extensions for Network-Asserted Caller Identity and Privacy within Trusted Networks
- draft-levy-sip-diversion-08.txt—Diversion Indication in SIP
- draft-ietf-sipping-cc-conferencing-03.txt—SIP Call Control - Conferencing for User Agents
- draft-ietf-sipping-cc-conferencing-05.txt—Connection Reuse in the Session Initiation Protocol (SIP)
- draft-ietf-sipping-rtcp-summary-02.txt—Session Initiation Protocol Package for Voice Quality Reporting Event
- draft-ietf-sip-connect-reuse-06.txt—Connection Reuse in the Session Initiation Protocol (SIP)
- draft-ietf-bliss-shared-appearances-15.txt—Shared Appearances of a Session Initiation Protocol (SIP) Address of Record (AOR)

To find the applicable Request for Comments (RFC) document, go to <http://www.ietf.org/rfc.html> and enter the RFC number.

# W80DM Menu Structure Overview



## W80B Menu Structure Overview

