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Introduction



This Configuration Guide is written as general guide on how to configure the Yealink phone model SIP-T48S to work with PBXware 4.1.

Yealink T48S supported features:

- Multiple VoIP accounts
- Auto provision via TFTP/HTTP/HTTPS
- Call hold, mute, DND
- Call forward, call waiting, call transfer
- Redial, call return, auto answer
- 3-way conferencing
- Dial plan, XML Browser
- Codecs:G.722, G.711(A/u), Opus, G.729AB, G.723, G.726,iLBC
- XML/LDAP remote phonebook
- Call history:dialed/received/missed/forwarded
- Busy Lamp Field (BLF)
- Anonymous call, anonymous call rejection
- Hot-desking, music on hold
- Voice mail
- Call park, call pickup
- Intercom, paging
- Transport Layer Security (TLS)
- SRTP for voice

- Time and date synchronization using SNTP
- DTMF: In-band, Out-of-band (RFC2833) and SIP INFO
- IP assignment: static/DHCP/PPPoE

Video Tutorial

Video tutorial explaining Auto Provisioning setup for Yealink Phone on PBXware 4.

Video tutorial explaining Auto Provisioning setup for Yealink Phone on PBXware 5.

Requirements

Identifying phone model

To start and successfully complete registration of your Yealink phone you need to know which phone model you will setup.

From the back of each Yealink phone there are exact model information that you should check. Although different phone models can have exactly the same requirements and installation procedure, phone models can also have significantly different requirements and installation procedure, so that ignorance of your own model may result in the inability to successfully set up your phone.

Phone firmware

- Make sure that your phone is loaded with appropriate firmware version, **66.81.x.x**.
- To find out the firmware version of your Yealink phone model open a new browser window and enter your phone IP address in order to access the phone web administration interface login screen. Example: **http://192.168.1.22**.
- Login to phone web administration interface with your username and password. Please note, factory default login details are username: **admin** and password: **admin**.

DHCP server

Fully configured and operational DHCP server.

PBXware version

PBXware version **4.1.2.0**

In order to find out the PBXware version:

- Login to PBXware
- Navigate to **Settings: About**.

On the top of **About** page is a code similar to this one **PBXware Edition: Business, Release: 4.1.2.0 (387597b7), Running: 1.8.32.1-gc-b47edc45, PBXware Proxy v4.1.2 (62b7bcd), API: 4.1, libmemcached version: 1.0.14**, where Release denotes the exact version of your PBXware.

Installation

This chapter describes how to install and connect the phone to the electrical power and data network as well as how to apply factory settings.

The following topics are covered:

- Power adapter
- Power over Ethernet (PoE)
- Factory Settings

Power adapter

Connect the Network and Power

- Connect the DC plug on the power adapter to the DC port on the phone and connect the other end of the power adapter into an electrical power outlet.
- Connect the ethernet cable between the Internet port on the phone and the network port on a router or switch to access LAN.

NOTE: *If you are using Power over Ethernet (PoE), you don't need to connect the AC adapter. Make sure the Ethernet cable and router or switch is Power over Ethernet (PoE) compliant.*

Power over Ethernet (PoE)

Connect the Network (only)

Using a regular ethernet cable, your phone can be powered from a Power over Ethernet (PoE) compliant router or switch.

- Connect the Ethernet cable between the Internet port on the phone and an available port on the in-line power router or switch.

NOTE: *If you are using Power over Ethernet (PoE), you don't need to connect the AC adapter. Make sure the Ethernet cable and router or switch is Power over Ethernet (PoE) compliant.*

Find the phone IP address

Find out your Yealink phone IP Address.

- Press the **Menu** keysoft.
- Press the **Enter** keysoft to enter **1. Status**.

The IP address will be displayed on the top of display.

Reset to factory settings

This step is not required for brand new out-of-the-box phones, however, if the phone has been already used then it is a must.

- Open a new browser window and enter your phone IP address in order to access the phone web administration interface login screen. Example: **http://192.168.1.22**.
- Login to phone web administration interface with your username and password. Please note, factory default login details are username: **admin** and password: **admin**.
- Click on **Upgrade** tab.
- Click on **Reset** button in order to reset the phone to factory settings. Phone will be reset to the factory settings and reboot.
- Wait sometime prior for device to reboot.

NOTE: Do not unplug or remove power to the phone while it is updating firmware and configurations.

Registering phone

This chapter describes how to identify Yealink phone model, requirements that must be met and how to register the phone using manual configuration or auto provisioning.

The following topics are covered:

- Manual configuration
- Auto provisioning

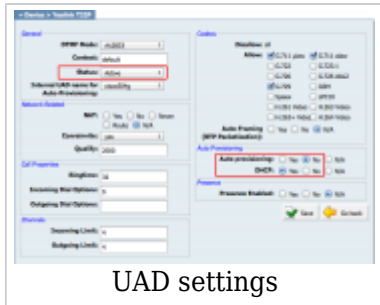
Manual configuration

This chapter describes how to set UAD settings, create PBXware extension and register the phone.

The following topics are covered:

- UAD settings
- Creating extension
- Registering phone

UAD Settings



UAD settings

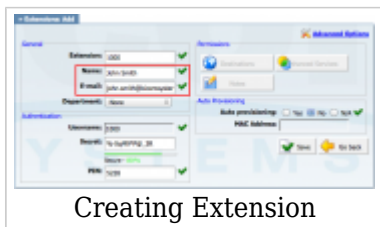
Login to PBXware web administration interface

- Open a new browser window and enter the IP address in order to access the PBXware web administration login screen. Example: **http://192.168.1.10**.
- Login to PBXware with your e-mail address and password.

UAD settings

- Navigate to **Settings:UAD**.
- Make sure Yealink UAD is enabled. To check the UAD status click on the **edit** icon corresponding to your Yealink phone.
- Make sure **Status** is set to **Active**, **Auto provisioning** is set to **No**, and **DHCP** is set to **Yes**.
- Click on the **Save** button to save changes.

Creating extension



Creating Extension

Add Extension

- Navigate to **Extensions**. Click on **Add Extension**.
- The standard options window will be shown below.
- Select Yealink phone model from the **UAD** select box.
- Select Location: **Local** or **Remote**.

Local is for all extensions registered on the LAN and **Remote** is for all extensions registered from remote networks, WAN, Internet etc.

- Click on the **Next step** button.

Extension values

Enter values into the required field text boxes.

REQUIRED FIELDS:

- **Name**

Enter a name for the extension being created. Example: **John Smith**.

- **E-mail**

Enter the e-mail address associated with this extension. This e-mail address will receive all system notification messages. Example: **john.smith@bicomsystems.com**

- **Department**

Department to which extension will belong to. Example: **Sales**.

- Click on the **Save** button.

Registering Phone

This chapter describes how to register Yealink phone using **Hostname or IP Address**, or **DNS SRV**.

The following topics are covered:

- Hostname or IP Address
- DNS SRV

Hostname or IP Address

Login to phone web administration interface

- Open a new browser window and enter your phone IP address in order to access the phone web administration interface login screen. Example: `http://192.168.1.22`
- Login to phone web administration interface with your username and password. Please note, factory default login details are username: **admin** and password: **admin**.
- Click on **Account**.
- Enter or set the following details into the respective fields.

REQUIRED FIELDS:

- **Account Active**

Make sure the **On** radio box is selected.

- **Register Name**

PBXware extension number. Example: **1003**

- **User Name**

Usually the same number as the **Phone Number**.

- **Password**

The Secret of the extension as received in the e-mail associated with this extension.

Example: **_%Z4M3*Ts9y7**. A password is generated automatically for each newly created extension.

- **Sip Server**

Enter the Hostname or IP Address of the PBXware.

- Example for Hostname: **voip.bicomsystems.com**

- Example for IP Address: **192.168.1.10**

- Click on the **Confirm** button.
- You'll have to wait sometime prior for the device to reboot. If everything is done as above described, you should have successfully registered your phone to PBXware. Dial *123 to verify registration.

DNS SRV

This chapter describes how to use a **DNS SRV** record which specifies the location of the PBXware. **NOTE:** *Your DNS Server needs to be configured correctly for this to work. Bicom Systems can provide service to set up this for you.*

Login to phone web administration interface

- Open a new browser window and enter your phone IP address in order to access the phone web administration interface login screen. Example: <http://192.168.1.22>
- Login to phone web administration interface with your username and password. Please note, factory default login details are username: **admin** and password: **admin**.
- Click on **Account**.
- Enter or set the following details into the respective fields.

REQUIRED FIELDS:

- **Account Active**

Make sure the **On** radio box is selected.

- **Register Name**

PBXware extension number. Example: **1003**

- **User Name**

Usually the same number as the **Phone Number**.

- **Password**

The Secret of the extension as received in the e-mail associated with this extension.

Example: **%Z4M3*Ts9y7**. A password is generated automatically for each newly created extension.

- **Sip Server**

In the **Sip Server** field enter the Hostname.

- Example for the Hostname: **bicomsystems.com**

- Make sure you replace Hostname from this example with your PBXware Hostname.
- Make sure DNS server is configured to automatically route registration request to a PBXware which is actually under another domain name, example: **newbicomsystems.com**.

- **Transport**

Select **DNS SRV** from the drop down menu.

- Click on the **Confirm** button.
- You'll have to wait sometime prior for the device to reboot. If everything is done as above described, you should have successfully registered your phone to PBXware. Dial *123 to verify registration.

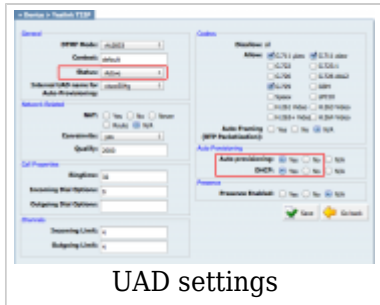
Auto Provisioning

This chapter describes how to set UAD settings, create PBXware extension and register the phone using DHCP or Static IP address.

The following topics are covered:

- UAD Settings
- Creating Extension
- Registering Phone

UAD Settings



UAD settings

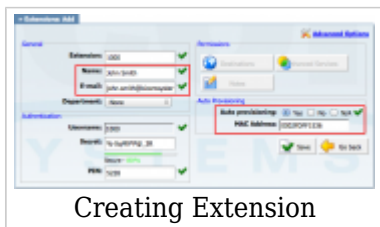
Login to PBXware web administration interface.

- Open a new browser window and enter the IP address in order to access the PBXware web administration login screen. Example: **http://192.168.1.10**.
- Login to PBXware with your e-mail address and password.

UAD settings.

- Navigate to **Settings:UAD**.
- Make sure Yealink UAD is enabled. To check the UAD status click on the **edit** icon corresponding to your Yealink phone.
- Make sure **Status** is set to **Active**, **Auto provisioning** is set to **Yes**, and **DHCP** is set to **Yes**.
- Click on the **Save** button to save changes.

Creating Extension



Creating Extension

Add Extension

- Navigate to **Extensions**. Click on **Add Extension**.
- The standard options window will be shown below.
- Select Yealink phone model from the **UAD** select box.
- Select Location: **Local** or **Remote**.

Local is for all extensions registered on the LAN and **Remote** is for all extensions registered from remote networks, WAN, Internet etc.

- Click on the **Next step** button.

Extension values

Enter values into the required field text boxes.

REQUIRED FIELDS:

- **Name**

Enter a name for the extension being created. Example: **John Smith**.

- **E-mail**

Enter the e-mail address associated with this extension. This e-mail address will receive all system notification messages. Example: **john.smith@bicomsystems.com**

- **Auto Provisioning**

Set to **Yes**.

- **MAC Address**

Enter Yealink phone MAC address. Example: **001565FF1536**. MAC address can be found at the back of the phone.

- Click on the **Save** button.

Registering Phone

This chapter describes how to register Yealink phone using **DHCP, TFTP, HTTP & HTTPS** or **DNS SRV**.

The following topics are covered:

- DHCP
- TFTP or HTTP & HTTPS
- DNS SRV

DHCP

Configure DHCP

- Make sure your DHCP router is configured to use **option 66** to automatically instruct phones with the URL for auto provisioning. For more information refer to your router documentation or contact your network administrator.

Phone first boot or user initiated reboot

- Auto provisioning process will start during phone first boot or after reboot process has been initiated by user. DHCP server will instruct the phone where from to pickup appropriate configuration file. If everything is done as above described, you should have successfully registered your phone to PBXware. Dial ***123** to verify registration.

TFTP or HTTP & HTTPS

- Open a new browser window and enter your phone IP address, e.g. **http://192.168.1.22**.
- Enter **username** and **password** and press **Confirm** button. **NOTE:** Factory default login details are username: **admin** and password: **admin**.
- Click on **Settings** tab.
- Click on **Auto Provision** link in the left hand navigation menu.
- Choose what **server type** you intend to use: **HTTP**, **HTTPS** and **Trivial FTP**. **NOTE:** Our recommendation is to use the **HTTP**.

If you choose to use **server type HTTP** or **HTTPS** enter **http://** or **https://** followed by **Hostname** or **IP Address**, followed then by **/prov**.

Example for Hostname using HTTP: **http://abc.bicomsystems.com/prov**

Example for Hostname using HTTPS: **https://abc.bicomsystems.com/prov**

Example for IP Address using HTTP: **http://192.168.1.10/prov**

Example for IP Address USING HTTPS: **https://192.168.1.10/prov**

- Enter **Auto Provisioning** username and password into **User Name** and **Password** fields.

If you choose to use **server type TFTP** enter **tftp://** followed by **Hostname** or **IP Address**

- Login to PBXware with your e-mail address and password.
- Navigate to **Settings ---> Servers**. Click on the server corresponding **edit** button. **NOTE: On MT, navigate to Settings ---> Tenants ---> Master Tenant.**
- In **Auto Provisioning group**, make sure **Use DNS SRV when possible:** is set to **Yes**. If it is set to **No** or **N/A**, set to **Yes** and click on the **Save** button. **NOTE: You must re-save all your extensions configured for Auto Provisioning.**

Login to phone web administration interface

If there is no DHCP in your network, you can still auto provision your Yealink phone. Please refer to your Yealink phone model User Guide for instruction about setting static IP address. After you configure your Yealink phone to use a static IP address, continue with the following steps.

- Open a new browser window and enter your phone IP address in order to access the phone web administration interface login screen. Example: **http://192.168.1.22**
- Login to phone web administration interface with your username and password. Please note, factory default login details are username: **admin** and password: **admin**.
- Click on **Upgrade** tab.
- Click **Advanced** tab.
- **URL**

In the **URL** field enter the Hostname.

- Example for the Hostname: **bicomsystems.com**

- Make sure you replace Hostname from this example with your PBXware Hostname.
- Make sure DNS server is configured to automatically route registration request to a PBXware which is actually under another domain name, example: **newbicomsystems.com**.
- Check New Config

Select **Power on + Repeatedly**.

- Click on the **Confirm** button.

You'll have to wait sometime prior for the device to save changes.

- Click on the **Auto Provision** button to run auto provisioning process, then you'll be asked to confirm action. To continue click on **OK** button.
- Auto provisioning process will start during phone reboot process, phone will pickup appropriate configuration file from PBXware. If everything is done as above described, you should have successfully registered your phone to PBXware. Dial ***123** to verify registration.

Configure BLF

This chapter describes how to configure BLF (Busy Lamp Field) for Yealink T48S.

The following topics are covered:

- Extension Settings
- Phone Settings

Extension Settings

Login to PBXware web administration interface.

- Open a new browser window and enter the IP address in order to access the PBXware web administration login page. Example: **http://192.168.1.10**.
- Login to PBXware with your e-mail address and password.

Edit extension.

- On the **Extensions** page click on the **edit** icon corresponding to your extension.
- Click on **Advanced Options** button.
- Navigate down to the **Auto Provisioning** and **Presence** group of settings.
- Make sure **Auto Provisioning** is set to **Yes**.
- Make sure **Presence** is set to "Yes".
- Click on the **Save** button to save changes.
- Click on **Enhanced** services.
- Click on **Directory / BLF List** check box and click on **Save** button in order to enable this feature.
- Click on Directory / BLF List **Edit** button.
- Enter user extension number and click on the **BLF** check box.
- Click on **Save** button.

Phone Settings

Login to phone web administration interface.

- Open a new browser window and enter your phone IP address in order to access the phone web administration interface login screen. Example: **http://192.168.1.22**.
- Login to phone web administration interface with your username and password. Please note, factory default login details are username: **admin** and password: **admin**.
- Click on **Phone**.
- Click on **DSS Keys**.

- Configure 1 to 10 DSS Keys from the list.

Type: Select **BLF**.

Value: Enter user extension. Example: **1005**

- Click on **Confirm** button to save changes.

Additional Configuration Template

If You want to include some additional UAD configuration for Yealink T48S, just add fields to **User Agent General Auto Provisioning Template** in **Settings -> UAD -> Yealink T48S** menu, or add them directly to the extension in **UAD Auto Provisioning Template** section.

Dynamic Auto Provisioning

Model	Firmware	Basic	Time/Date	HTTP Directory	Directory/BLF	UAD General Template	UAD Template (Per extension)	Preffered Codec	DHCP settings	HTTP Provisioning	HTTPS Provisioning
Yealink T48S	66.81.0.70	✓	★	✓	✓	✓	✓	✓	✗	✓	✓

🟩 ---> Fully functional

🟡 ---> Needs manual adjustment

🔴 ---> Not Functional

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