# Yealink

**Yealink T21P E2 Multicasting with Algo 8180 SIP Audio Alerter and 8301 Paging Adapter & Scheduler Application Note**

# Table of Contents

# Introduction

Algo IP speakers and paging adapters support Yealink through RTP Multicast (Real Time Transport Protocol) for seamless integration with Yealink telephones for voice paging, emergency notification and bell scheduling applications required for public address (PA) announcements / alerts. Simultaneously page Yealink phones, Algo IP speakers, and legacy paging systems in this example for education.



Algo products are compliant with 3rd party SIP endpoints. The products are feature rich, supporting central provisioning and network supervision. Multicast support permits Algo endpoints to be scaled over any size building, campus or enterprise in education, healthcare, commercial office, manufacturing, utility / plant, transportation, distribution / warehouse, and retail sectors, to name a few.

Algo paging adapters support Yealink Multicast Paging and SIP registration to broadcast audio from voice paging, emergency notification alerting, and scheduled announcements / bells. Using a Line Level Audio Output, Algo paging adapters easily integrate most traditional analog amplifiers and speakers into a VoIP environment. Combined with the multicast capability, Algo paging adapters make it possible for audio to be simultaneously broadcast over legacy analog infrastructure, Yealink telephones and Algo IP speakers. There is no limitation to creating a hybrid paging system to achieve complete integration of analog and IP endpoints. Regardless of how future needs may change for any organization, business or enterprise, the Algo IP endpoints are flexible to accommodate most application requirements.

## Before You Begin

This guide covers the steps for using the Algo 8180 SIP Audio Alerter and 8301 Paging Adapter & Scheduler for Multicast with Yealink T21P E2.

Firmware used during testing:

- Yealink T21P E2 - 52.81.0.25

- Algo 8301 – 1.5.6

- Algo 8180 – 2.7.6

## Get Help

For more information about installing, configuring, and administering Yealink products, refer to Documents and Downloads at Yealink Support (*http://support.yealink.com/?language=en*). For technical questions about the Algo products, please contact Algo support: at 604-454-3792 or support@algosolutions.com.

## Setting up Multicast from Algo 8301 to 8180 and Yealink T21P E2 for Paging and Loud Ringing

Note: The Algo 8301 endpoint will be considered the Master, as sending the multicast. The Yealink phone and Algo 8180 will be Slaves, in receiving (i.e., listening) the multicast.

A similar configuration can be applied to all Yealink phone models except Yealink DECT phones, such as Yealink T23G, T46S, T58V.

The Yealink phone also can be configured as Master, as sending the multicast.

## Configuring Yealink Phone as Slave

1) To view the phone's IP address, press the **Menu** button on the phone, then **Status**

To configure the phone, open an empty web browser, enter the **device's IP address** in the address field, and press **Confirm** to enter
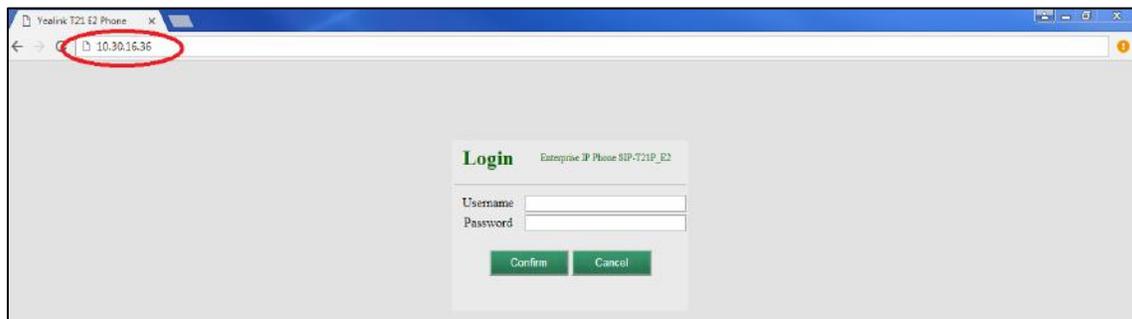


2) In the web interface enter the username and password to log in (default is **admin/admin**)

3) Click on **Account** tab. Enter the desired values in **Register Name**, **User Name**, **Password** and **SIP Server** fields. Contact your system administrator for more information. Click confirm at the bottom of the page to save the changes

4) Navigate to the **Directory** tab and click on **Multicast IP** in the sidebar. Assign a listening IP address, port number, and label under **Multicast Listening**. The Algo devices Multicast setting must be configured with the same address and port number. Click confirm
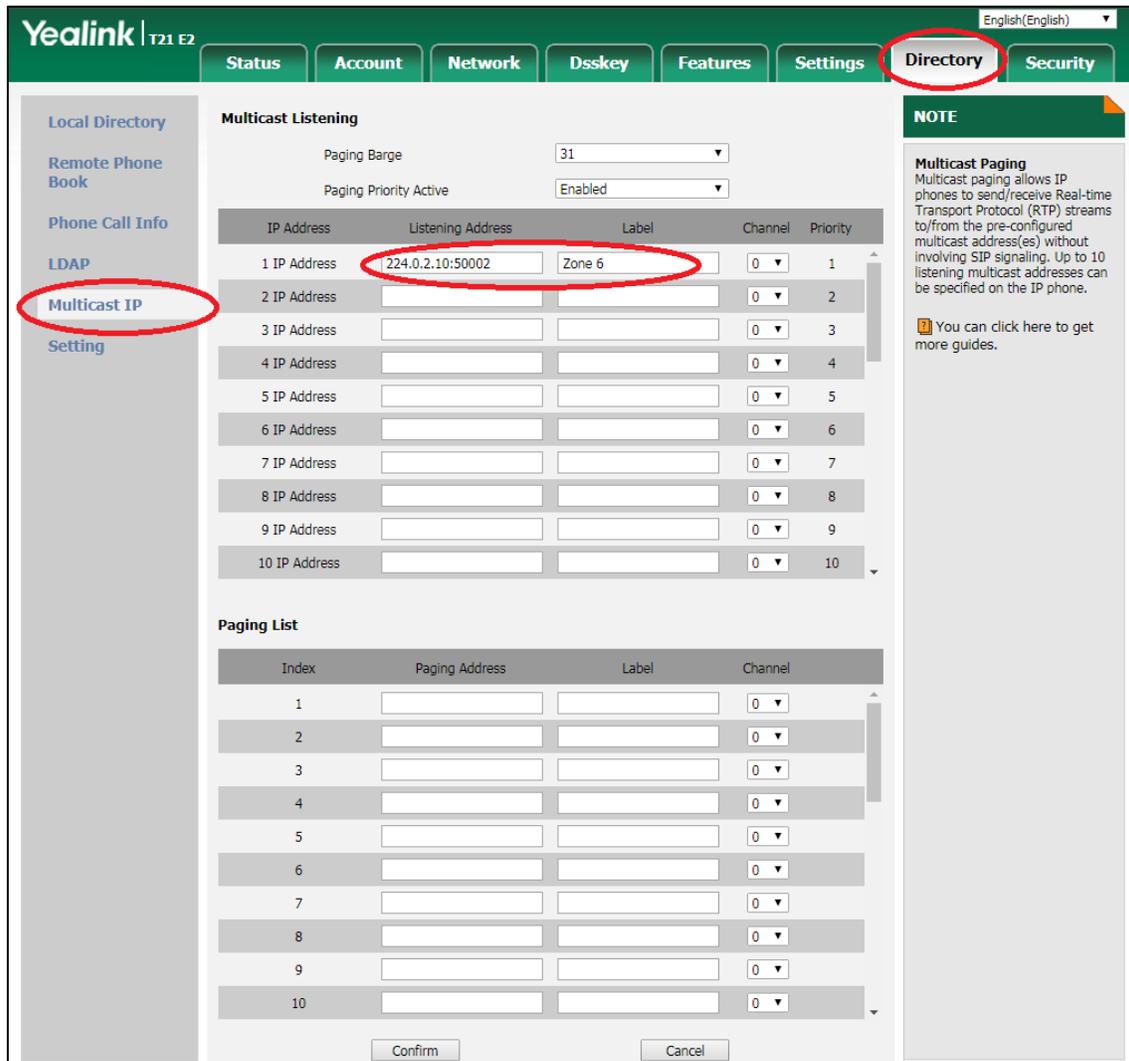
## Configuring Yealink Phone as Master

1) To view the phone's IP address, press the **Menu** button on the phone, then **Status**

2) To configure the phone, open an empty web browser, enter the **device's IP address** in the address field, and press Enter
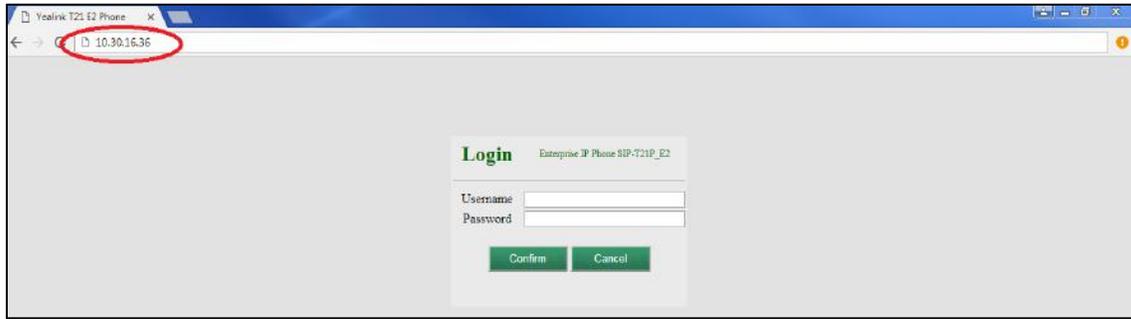
3) In the web interface enter the username and password to log in (default is **admin/admin**)

4) Click on **Account** tab. Enter the desired values in **Register Name**, **User Name**, **Password** and **SIP Server** fields. Contact your system administrator for more information. Click confirm at the bottom of the page to save the changes
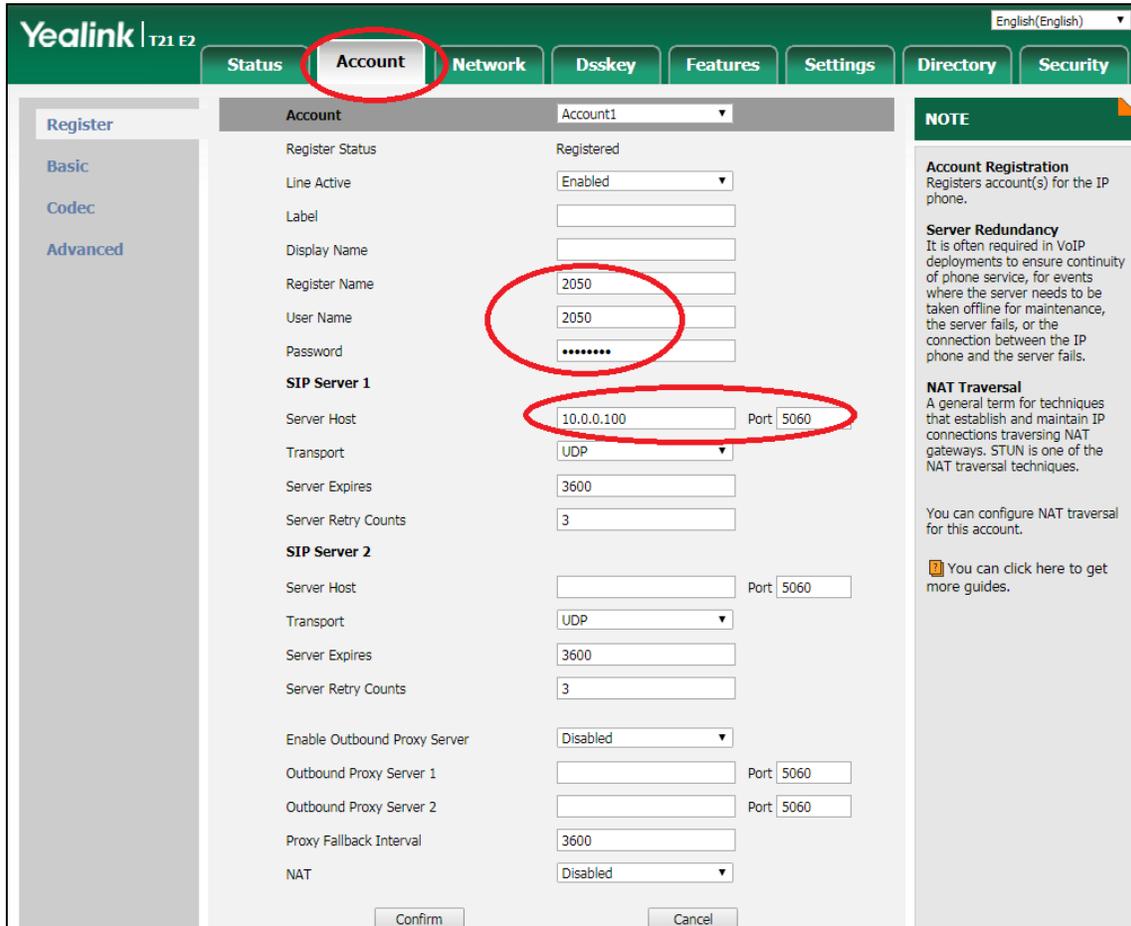


5) Navigate to the **Directory** tab and click on **Multicast IP** in the sidebar. Assign an IP address, port number, and label under **Paging List**. The Algo devices Multicast

setting must be configured with the same address and port number. Click confirm.

Note: you can modify 31 paging address in Paging List.
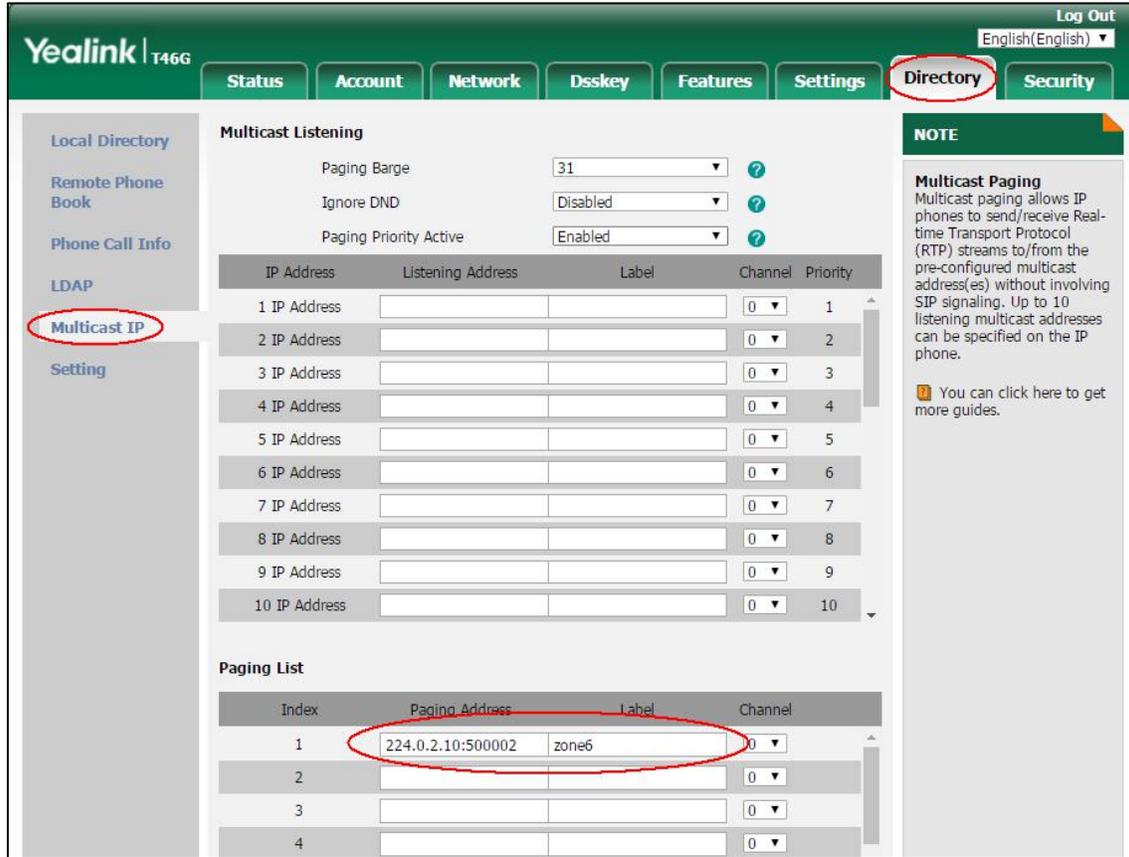


6) Navigate to **Dsskey** tab, select one **Line Key** and choose Type as **Paging List**. You can fill any name for this key in table option, then confirm. After modify, press this key in Yealink phone then choose which paging address you want to call out.
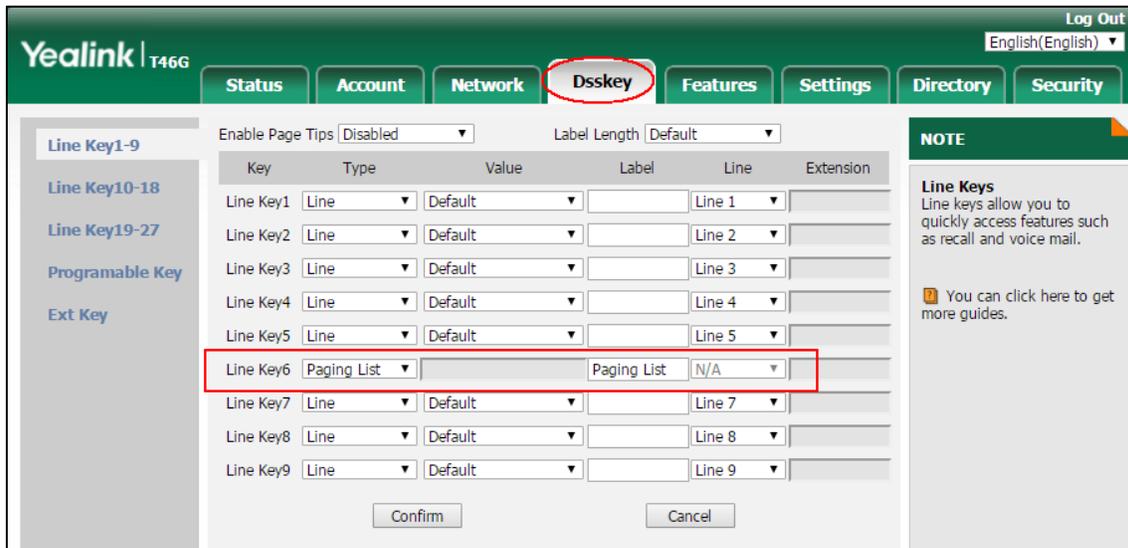
7) Yealink phone also support modify a line key to trigger one multicast paging address directly.
Under **Dsskey** table, select one **Line Key**, choose type as **Paging**, and fill IP address, port as Value.
Fill any name as Label. After modify, press this key in Yealink phone. The phone will trigger multicast paging to modified IP address and port as Master immediately.
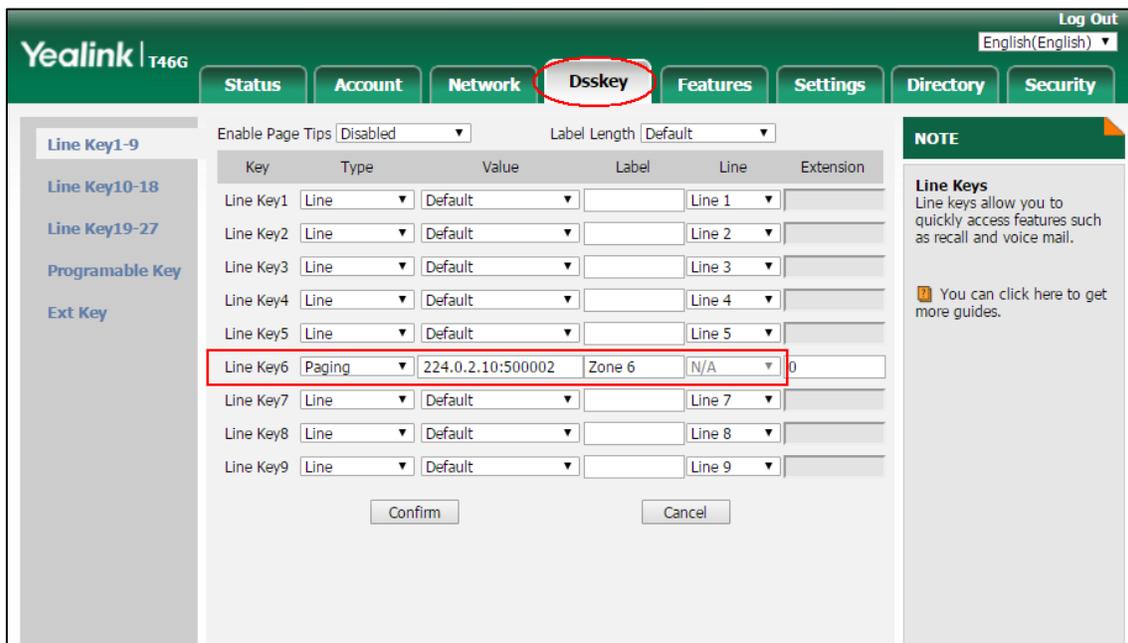
## Connecting the 8301 Paging Adapter

**Front Panel: Connecting to the Network**

Connect the 8301 to the network via an Ethernet cable at the front of the device. Ensure that a PoE port is used to provide power and that the 8301 is connected to the same subnet and VLAN as the Yealink phone.
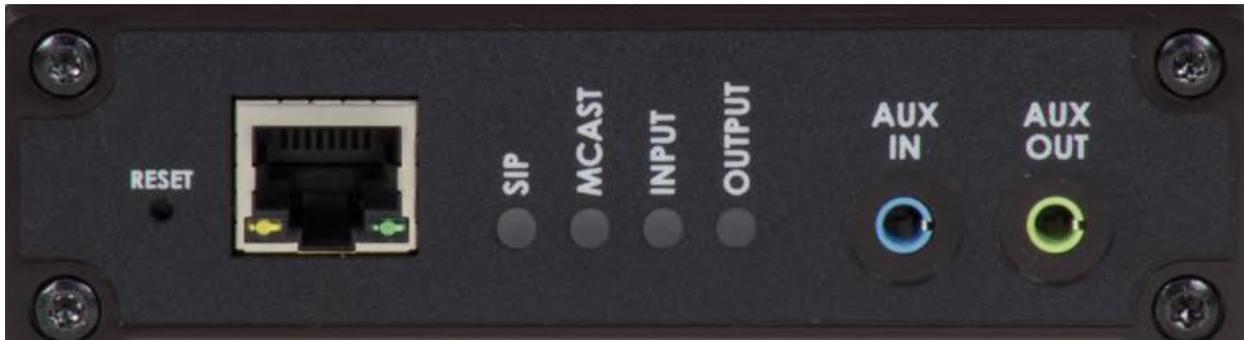


**Back Panel: Connecting an Amplifier to 8301**

The Line Out options on the back of 8301 (XLR and terminal block pins 3 & 4) is isolated and balanced and can be connected to a traditional amplifier's audio or page input.
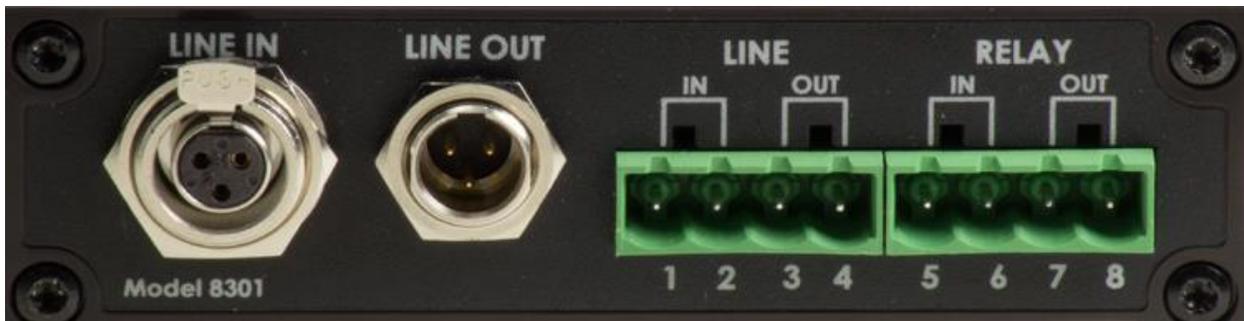
**Optional Accessories**



**Configuring Algo 8301 Paging Adapter & Scheduler as Master**

Note: The same SIP registration and multicast configuration steps apply to any of the other Algo IP speakers and paging adapters. Any of these devices can be configured as a multicast Master to send audio via the network to other Algo IP endpoints and Yealink phones configured to listen as a multicast Slave. These include: Algo 8180, 8188, 8189, 8186, 8373, 8128.

1) To configure the 8301, open an empty web browser, enter the **device's IP address** in the address field, and press Enter

2) To find the device's IP address, please refer to the user guide available at: *http://www.algosolutions.com/8301/guide*



3) In the web interface, enter the password to log in (default password is **algo**)

4) Click on **Basic Settings** tab and then **SIP** tab. Enter the SIP server name or IP address in the **SIP Domain** (Proxy Server) field. Enter a unique Page and **Ring Extension**, **Authentication ID** and **Authentication Password** to register the 8301 with the SIP Server. At the bottom of the screen click **Save**. Note: If Page only is required, then the Ring Extension fields can be left blank. On the Page Extension, the device will auto-answer. On the Ring Extension, the device will play a WAV file of your choice.
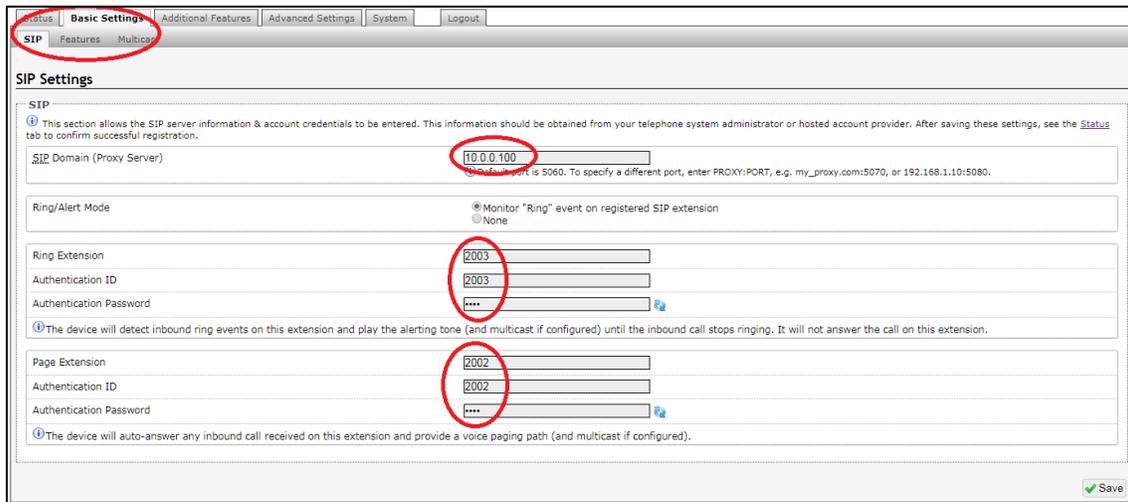
5) Navigate to **Basic Settings** tab, then **Multicast** tab. On Multicast Mode, select **Master/Sender**. Under **Master Single Zone**, pick the desired zone to multicast to. Ensure the slave devices are configures to listen to this zone. Save the changes
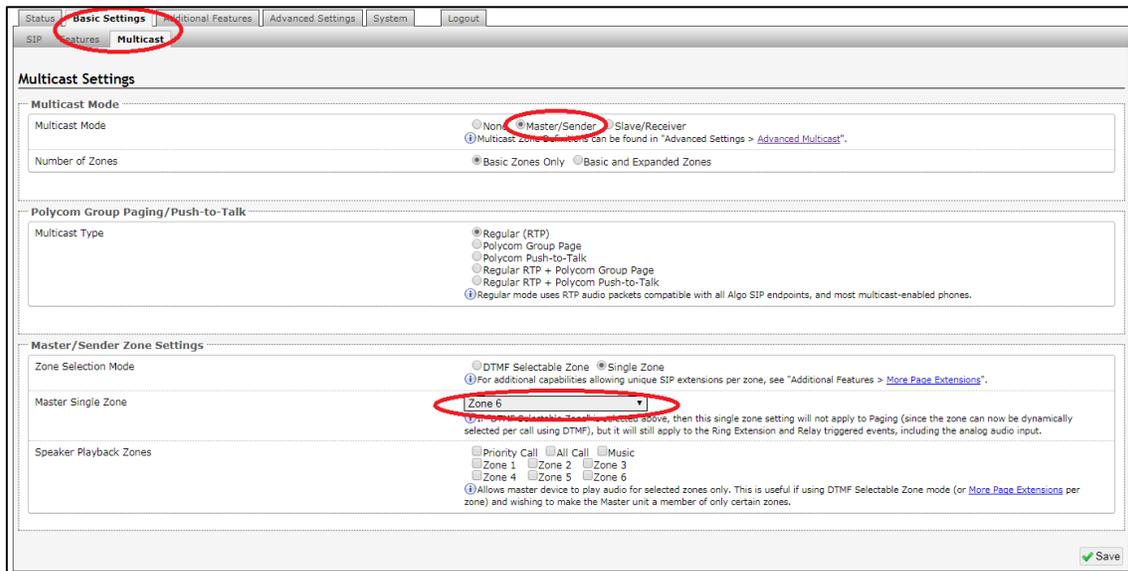


6) Click on **Advanced Settings** tab and then **Advanced Multicast**. Assign a listening address and port number to the Master Single Zone setup on the previous step. Make sure the IP and port number matches with the Multicast address configured on the Yealink phone. Save the changes
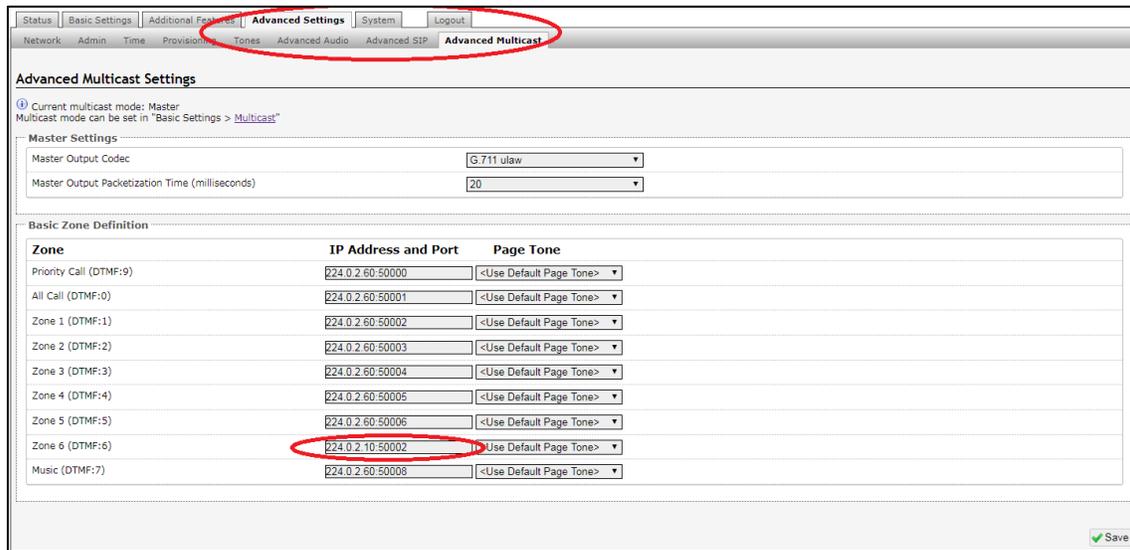
## Configuring Algo 8180 SIP Audio Alerter as Slave

Note: Any Algo IP speaker and paging adapter can be configured in a similar way as a Slave to receive a multicast. These include: Algo 8188, 8189, 8186, 8301, 8373, 8128.

1) To configure the 8180, open an empty web browser, enter the **device's IP address** in the address field, and press Enter
2) To find the device's IP address, please refer to the user guide available at: *http://www.algosolutions.com/8180/guide*
3) In the web interface, enter the password to log in (default password is **algo**)
4) Slave devices do not need to a separate SIP server registration, unless there is a need to ring/page them independently and in multicast. Leave the SIP Domain, Extension, Authentication ID and Authentication Password blank
5) Navigate to **Basic Settings**, **Multicast** tab. On Multicast Mode, select **Slave/Receiver**. Under **Master Single Zone**, pick the desired zone to multicast to. It should be the same zone configured in the master device. Click **Save**
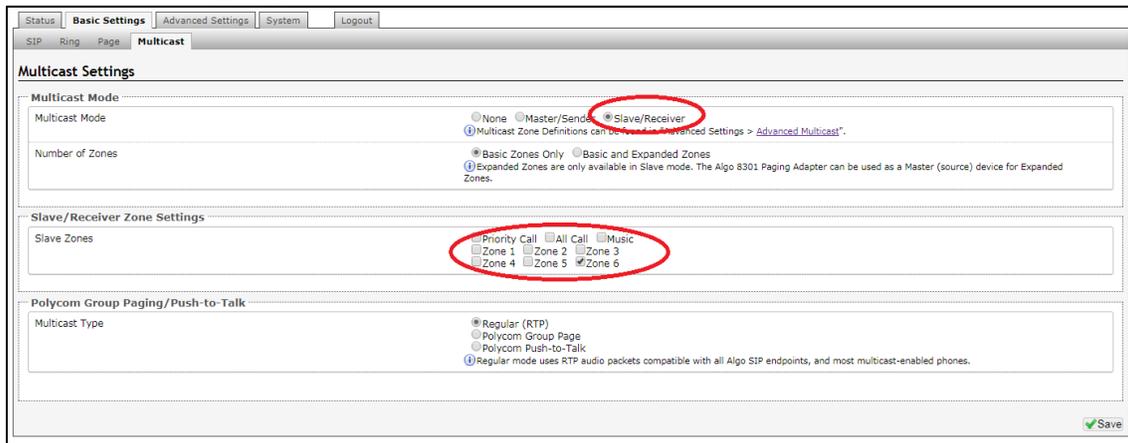
6) Click on **Advanced Settings** tab and then **Advanced Multicast**. Assign a listening address and port number to the Master Single Zone setup on the previous step. Make sure the IP and port number matches with the Multicast address configured on the Yealink phone. **Save** the changes
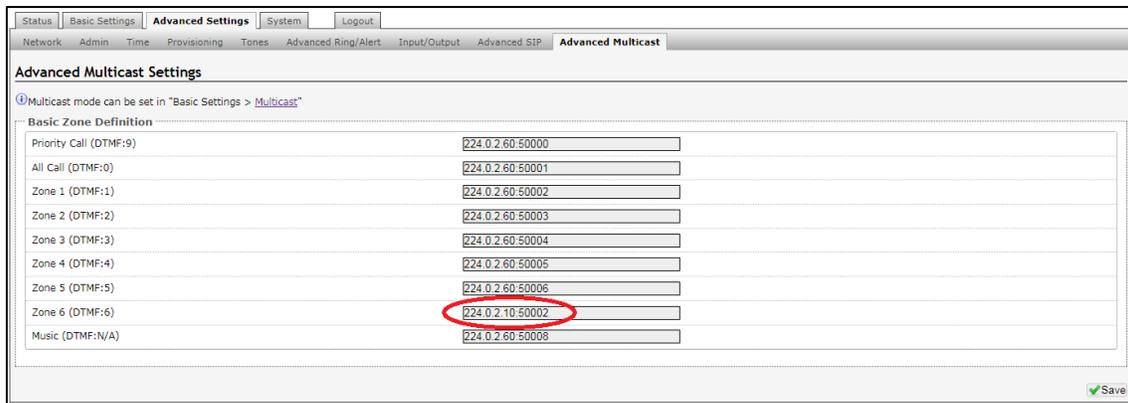


# Troubleshoot Issues

Use the following list as a guide to resolving issues, problems, or common difficulties you may encounter while deploying this solution.

**The speakers are not receiving a page.**
Double check that the Multicast settings in the web configurations are the same for the phone as well as the speakers.

Ensure speaker and Yealink phones connected to the same subnet and VLAN. In some network environment, paging audio packets can't transmit via different subnet and VLAN.

**The 8301 does not power on.**
When connecting the Ethernet cable, make sure that a PoE port is used to provide power.

**About Yealink**

Yealink (Stock Code: 300628) is a global leading unified communication (UC) terminal solution provider that primarily offers video conferencing systems and voice communication solutions. Founded in 2001, Yealink leverages its independent research and development and innovation to pursue its core mission: "Easy collaboration, high productivity." The company's high-quality UC terminal solutions enhance the work efficiency and competitive advantages of its customers in over 100 countries. Yealink is the world's second-largest SIP phone provider and is number one in the China market.

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