

Multicasting with Algo SIP Endpoints

Need Help?

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Introduction

Using multicast, any number and combination of Algo products can be activated simultaneously, including Algo speakers, paging adapters, and strobes.

Any Algo SIP endpoint speaker, paging adapter or strobe can be configured as either "Master" or "Slave" for multicasting purposes. Only the Master endpoint speaker is registered to the telephone system. Slave devices do not require registration. This minimizes the costs associated with additional endpoint extensions in a hosted environment, or SIP licensing which may be required with a premise-based telephone system.

This document provides detailed instructions for some example applications. These can be used as a template for creating endless other combinations.

Note: RTP is the Multicast Mode referenced throughout this guide, however, Polycom Group Page and Syn-Apps SA-Announce are also supported. For additional information on configuring other multicast modes please reference [Algo product user guides](#) and [Polycom Solutions Guides](#).

Example #1: Algo 8188 Master to 8188 Slave

This example shows how two or more 8188s can be paged simultaneously in order to cover a large area with voice paging.

1) Configure 8188 as Master

- a. Log into the web interface by typing the device's IP address in the browser. The address assigned by the DHCP server may be discovered by pressing the reset switch (RST next to the light) to hear it over the speaker. The IP address may also be discovered by downloading the Algo Locator Tool to find Algo devices on your network: www.algosolutions.com/locator. If the attempt to obtain an IP address from the DHCP server is unsuccessful it will default to 192.168.1.111 (contact your network administrator for assistance).
- b. Log in with the default password "algo".
- c. 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/or **Ring Extension**, **Authentication ID** and **Authentication Password** to register the 8188 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.

Status | **Basic Settings** | Additional Features | Advanced Settings | System | Logout

SIP Features Multicast

Saved
Setting changes have been saved and will be applied on the next call.

SIP Settings

SIP

This section allows the SIP server information & account credentials to be entered. This information should be obtained from your telephone system administrator or hosted account provider. After saving these settings, see the [Status](#) tab to confirm successful registration.

SIP Domain (Proxy Server)
Default port is 5060. To specify a different port, enter PROXY:PORT, e.g. my_proxy.com:5070, or 192.168.1.10:5080.

Ring/Alert Mode Monitor "Ring" event on registered SIP extension
 None

Page Extension

Authentication ID

Authentication Password

The device will auto-answer any inbound call received on this extension and provide a voice paging path (and multicast if configured).

- d. Navigate to **Basic Settings** -> **Multicast** and check the **"Master/Sender"** option in **Multicast Mode**. Make sure the **"Master Single Zone"** drop-down list is set to **Zone 1**. Hit **save**.

Status | **Basic Settings** | Additional Features | Advanced Settings | System | Logout

SIP Features **Multicast**

Multicast Settings

Multicast Mode None **Master/Sender** Slave/Receiver
Multicast Zone Definitions can be found in "Advanced Settings > Advanced Multicast".

Number of Zones Basic Zones Only Basic and Expanded Zones

Polycorn Group Paging/Push-to-Talk

Multicast Type Regular (RTP)
 Polycorn Group Page
 Polycorn Push-to-Talk
 Regular RTP + Polycorn Group Page
 Regular RTP + Polycorn Push-to-Talk
Regular mode uses RTP audio packets compatible with all Algo SIP endpoints, and most multicast-enabled phones.

Master/Sender Zone Settings

Zone Selection Mode DTMF Selectable Zone Single Zone
For additional capabilities allowing unique SIP extensions per zone, see "Additional Features > More Page Extensions".

Master Single Zone

Speaker Playback Zones Priority Call All Call Music
 Zone 1 Zone 2 Zone 3
 Zone 4 Zone 5 Zone 6
Allows master device to play audio for selected zones only. This is useful if using DTMF Selectable Zone mode (or More Page Extensions per zone) and wishing to make the Master unit a member of only certain zones.

- e. Advanced multicast configurations can be found under **Advanced Settings** -> **Advanced Multicast**. For typical setups, the default settings should be used.

2) Configure 2nd 8188 as Slave

- a. Repeat steps a. and b. as described above.
- b. There is no need to register this device with the SIP server, as it is only acting as a Slave listening to multicasts.
- c. Navigate to **Basic Settings** -> **Multicast** and check the “**Slave/Receiver**” option in **Multicast Mode**. Make sure **Zone 1** is selected on **Basic Slave Zones** setting. Hit **save**.

The screenshot shows the 'Multicast Settings' page in the Algo web interface. The 'Basic Settings' tab is active. The 'Multicast Mode' section has three radio buttons: 'None', 'Master/Sender', and 'Slave/Receiver', with 'Slave/Receiver' selected. Below it, a note states: 'Multicast Zone Definitions can be found in "Advanced Settings > Advanced Multicast"'. The 'Number of Zones' section has two radio buttons: 'Basic Zones Only' (selected) and 'Basic and Expanded Zones'. The 'RTP Extension Header' section has two radio buttons: 'Enabled' and 'Disabled' (selected). The 'Polycom Group Paging/ Push-to-Talk' section has three radio buttons: 'Regular (RTP)' (selected), 'Polycom Group Page', and 'Polycom Push-to-Talk'. A note below states: 'Regular mode uses RTP audio packets compatible with all Algo SIP endpoints, and most multicast-enabled phones.' The 'Slave/Receiver Zone Settings' section has a 'Basic Slave Zones' area with checkboxes for 'Priority Call', 'All Call', and 'Music'. Below these are checkboxes for 'Zone 1' through 'Zone 6', with 'Zone 1' checked. A 'Save' button is located at the bottom right of the page.

3) Test it! Make a call to the page extension setup in the 8188 Master device. Both, the Master and Slave devices should page simultaneously.

Note: any number of additional 8188 devices can also be configured as slaves, allowing the voice page to reach an entire building or even an entire campus.

Example #2: Algo 8301 Master to 8180 Slave & 8128 Slave

This example shows how an 8301 can be used as a master device, in order to page to a variety of different slaves. The 8301 master device can be stored in a secure location (e.g. a server room) to ensure that it cannot be tampered with.

1) Configure 8301 as Master

- a. Log into the web interface by typing the device’s IP address in the browser. The address assigned by the DHCP server may be discovered by pressing the reset switch to hear it

over the analog outputs (e.g. headset can be connected to the “aux out” port). The IP address may also be discovered by downloading the Algo Locator Tool to find Algo devices on your network: www.algosolutions.com/locator. If the attempt to obtain an IP address from the DHCP server is unsuccessful it will default to 192.168.1.111 (contact your network administrator for assistance).

- b. Log in with the default password “**algo**”.
- c. 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/or **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.

The screenshot shows the 'SIP Settings' configuration page. At the top, there are navigation tabs: 'Status', 'Basic Settings', 'Additional Features', 'Advanced Settings', 'System', and 'Logout'. Below these are sub-tabs: 'SIP', 'Features', and 'Multicast'. The 'SIP' sub-tab is selected. The main content area is titled 'SIP Settings' and contains the following fields and options:

- SIP**: A note explains that this section allows SIP server information and account credentials to be entered. A link to the 'Status' tab is provided for confirmation.
- SIP Domain (Proxy Server)**: A text input field containing '10.0.0.100'. A note below indicates the default port is 5060 and provides examples for specifying a different port.
- Ring/Alert Mode**: Radio buttons for 'Monitor "Ring" event on registered SIP extension' (selected) and 'None'.
- Ring Extension**: A text input field containing '2009'.
- Authentication ID**: A text input field containing '2009'.
- Authentication Password**: A password input field with masked characters '••••'.
- Page Extension**: A text input field containing '2010'.
- Authentication ID**: A text input field containing '2010'.
- Authentication Password**: A password input field with masked characters '••••'.

At the bottom right of the page, there is a 'Save' button with a green checkmark icon, which is circled in red.

- d. Navigate to **Basic Settings** -> **Multicast** and check the “**Master/Sender**” option in **Multicast Mode**. Make sure the “**Master Single Zone**” drop-down list is set to **Zone 1**. Hit **save**.

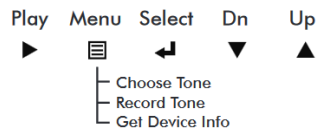
The screenshot shows the 'Multicast Settings' page in the Algo web interface. The 'Basic Settings' and 'Multicast' tabs are circled in red. The 'Multicast Mode' section has three radio buttons: 'Non-Master/Receiver', 'Master/Sender' (selected and circled in red), and 'Slave/Receiver'. Below this, there is a note: 'Multicast Zone Definitions can be found in "Advanced Settings > Advanced Multicast"'. The 'Number of Zones' section has two radio buttons: 'Basic Zones Only' (selected) and 'Basic and Expanded Zones'. The 'Polycom Group Paging/Push-to-Talk' section has a 'Multicast Type' dropdown with several options: 'Regular (RTP)' (selected), 'Polycom Group Page', 'Polycom Push-to-Talk', 'Regular RTP + Polycom Group Page', and 'Regular RTP + Polycom Push-to-Talk'. A note below states: 'Regular mode uses RTP audio packets compatible with all Algo SIP endpoints, and most multicast-enabled phones.' The 'Master/Sender Zone Settings' section has a 'Zone Selection Mode' dropdown with 'DTMF Selectable Zone' and 'Single Zone' (selected). A note below states: 'For additional capabilities allowing unique SIP extensions per zone, see "Additional Features > More Page Extensions"'. The 'Master Single Zone' dropdown is set to 'Zone 1' and circled in red. A note below states: 'If "DTMF Selectable Zone" is selected above, then this single zone setting will not apply to Paging (since the zone can now be dynamically selected per call using DTMF), but it will still apply to the Ring Extension and Relay triggered events, including the analog audio input.' The 'Speaker Playback Zones' section has several checkboxes: 'Priority Call', 'All Call', 'Music', 'Zone 1', 'Zone 2', 'Zone 3', 'Zone 4', and 'Zone 5'. A note below states: 'Allows master device to play audio for selected zones only. This is useful if using DTMF Selectable Zone mode (or More Page Extensions per zone) and wishing to make the Master unit a member of only certain zones.' A green 'Save' button is circled in red at the bottom right.

- e. Advanced multicast configurations can be found under **Advanced Settings** -> **Advanced Multicast**. For typical setups, the default settings should be used.

2) Configure 8180 as Slave

- a. Use the web interface tool to setup the 8180 by entering the device’s IP address into a browser. To find it, press the Menu button until the option for “get device info” is reached. Then press select to hear address.

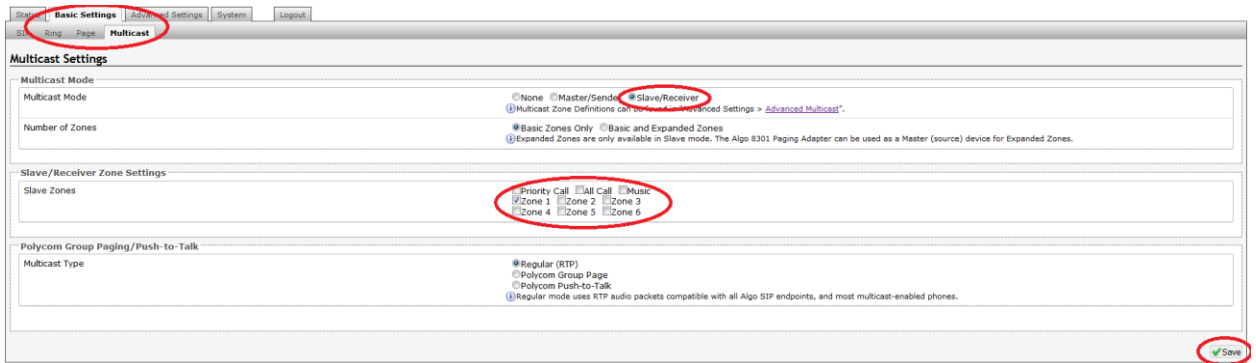
Program Buttons



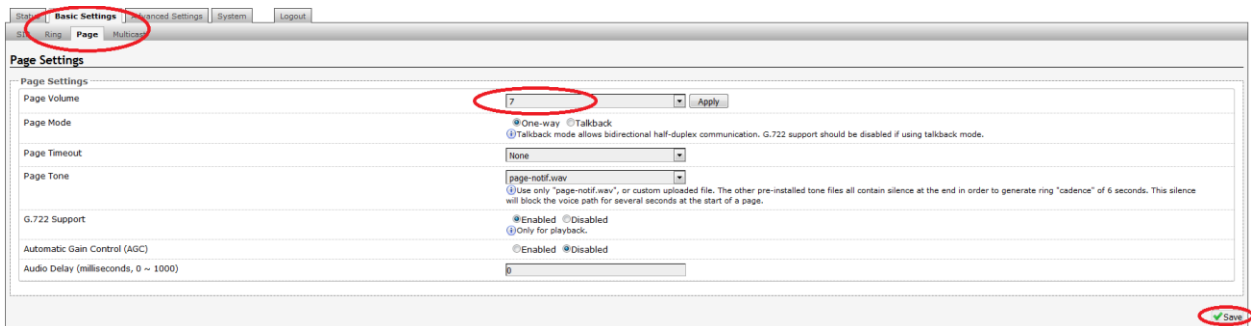
Alternatively use the Algo Locator Tool to find devices on your network: www.algosolutions.com/locator. If the attempt to obtain an IP address from the DHCP server is unsuccessful it will default to 192.168.1.111 (contact your network administrator for assistance).

- b. Log in with the default password “**algo**”

- c. There is no need to register this device with the SIP server, as it is only acting as a Slave listening to multicasts.
- d. Navigate to **Basic Settings** -> **Multicast** and check the “**Slave/Receiver**” option in **Multicast Mode**. Make sure **Zone 1** is selected on “**Slave Zones**” setting. Hit **save**.



- e. Both, page and ring volume can be set up on each slave unit. To do so, navigate to **Basic Settings** -> **Page** tab, update **Page Volume** option accordingly.



- f. Advanced multicast configurations can be found under **Advanced Settings** -> **Advanced Multicast**. For typical setups, the default settings should be used.

3) Configure 8128 as Slave

- a. Use the web interface tool to setup the 8128 by entering the device’s IP address into a browser. The IP address may be discovered by downloading the Algo Locator Tool to find Algo devices on your network: www.algosolutions.com/locator. If the attempt to obtain an IP address from the DHCP server is unsuccessful it will default to 192.168.1.111 (contact your network administrator for assistance).
- b. Log in with the default password “**algo**”.

- c. There is no need to register this device with the SIP server, as it is only acting as a Slave listening to multicasts.
- d. Navigate to **Basic Settings** -> **Multicast** and check the **“Slave/Receiver”** option in **Multicast Mode**. Make sure **Zone 1** is selected on **“Slave Zones”** setting. Hit **save**.

The screenshot shows the 'Multicast Settings' page in the ALGO web interface. The 'Basic Settings' tab is active. The 'Multicast Mode' section has three radio buttons: 'None', 'Master/Sender', and 'Slave/Receiver', with 'Slave/Receiver' selected. The 'Multicast Slave/Receiver Settings' section has a 'Slave Zones' area with checkboxes for 'High Priority', 'All Stations', 'Zone 1', 'Zone 2', 'Zone 3', 'Zone 4', 'Zone 5', 'Zone 6', and 'Low Priority'. 'Zone 1' is checked. Below this is a 'Zone Definition' table with columns for zone names and their corresponding IP addresses.

Zone Name	IP Address
High Priority	224.0.0.252
All Stations	224.0.0.251
Zone 1	224.0.0.250
Zone 2	224.0.0.249
Zone 3	224.0.0.248
Zone 4	224.0.0.247
Zone 5	224.0.0.246
Zone 6	224.0.0.245
Low Priority	224.0.0.244

- 4) Test it! Make a call to the ring and/or page extension setup in the 8301 Master device. The 8180 should ring or page and simultaneously the 8128 LED should strobe/pulse (depending on configuration).

Troubleshooting Basic Multicast Issues

Configuration Problems

The most common issues that may cause a problem with Multicasting between Master and Slaves are described below. Make sure the following settings match your device's configuration (dependant on Multicast Mode setup).

- Multicast Mode (located in Basic Settings -> Multicast)
 - Master = Master/Sender
 - Slave = Slave/Receiver
- Multicast Type (located in Basic Settings -> Multicast)
 - Master = Regular/RTP
 - Slave = Regular/RTP

- Zone Number (located in Basic Settings -> Multicast)
 - Ensure the Zone # that is selected on the Master is also ticked on the Slave. A proper configuration will ensure the Slave is listening to the Zone where the Multicast packets are being sent.
- Zone Definitions (located in Advanced Settings -> Advanced Multicast)
 - Ensure the IP Address and Port # matches, on both the Master & Slave, for the zone that is being used.

Network Related Problems

If the configuration on the Master and Slave devices is correct, any remaining problem should be related to the network. Below are some issues to be aware of:

- Ensure all devices in the Multicast Zone have IP addresses on the same subnet;
- Assure all devices are in the same VLAN;
- Confirm all devices are reachable by pinging them;
- Make sure the network switches have Multicast enabled.