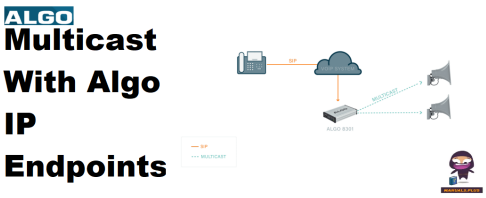

Multicast With Algo IP Endpoints User Guide

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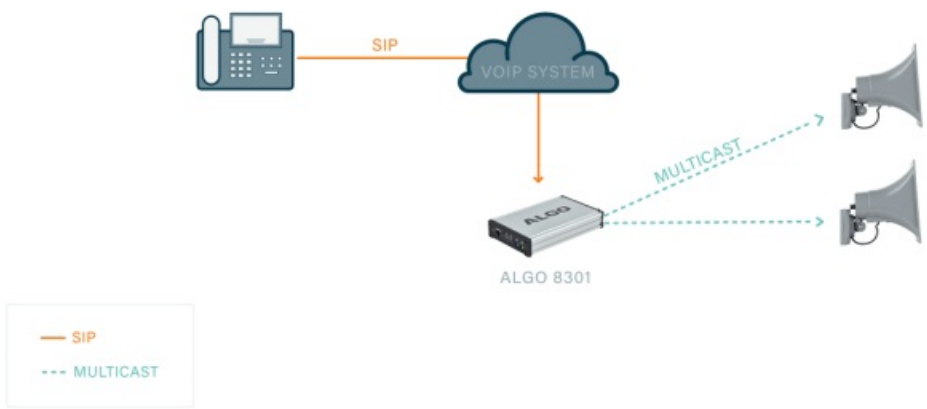


Specifications

- **Firmware Version**: 5.2

- **Manufacturer:** Algo Communication Products Ltd.
- **Address:** 4500 Beedie Street, Burnaby V5J 5L2, BC, Canada
- **Contact**: 1-604-454-3790
- **Website**: www.algosolutions.com

Product Usage Instructions

General

The Algo IP Endpoints support multicast functionality for broadcasting voice page announcements, ring events, emergency alerts, scheduled bells, and background music to multiple devices simultaneously. The system can be scaled to cover various environments without limitations on the number of endpoints.

Configuring Transmitter

1. Log into the web interface using the device's IP address.
2. Set the Sender Single Zone to the desired zone.
3. Configure the Speaker Playback Zone to play the announcement locally on selected zones.
4. Save the settings. For advanced configurations, refer to Advanced Settings – Advanced Multicast.

Note: Algo devices configured as Multicast Transmitters can send only one stream at a time to a single zone. Contact Algo support for applications requiring two simultaneous streams.

FAQ

- **Q:** How many endpoints can be configured for multicast in the Algo IP system?
- **A:** There is no limit to the number of endpoints that can be configured for multicast.
- **Q**: Do Receiver devices require SIP registration for multicast?
- **A:** No, Receivers do not require SIP registration, reducing costs associated with additional endpoint extensions.

GENERAL

Introduction

- Using RTP multicast, any number and combination of Algo IP Speakers, Intercoms, Visual Alerters, and other devices can activate simultaneously to broadcast a voice page announcement, ring event, emergency alert, scheduled bell, or
- background music, etc. There is no limit to the number and combination of IP endpoints that can be configured to receive a multicast.
- The Algo paging system can be easily scaled to cover any size room, building, campus, or enterprise environment.
- All Algo IP Speakers, Paging Adapters, and Visual Alerters can be configured for multicast, where the device is designated as a Transmitter or Receiver.
- Only the endpoint designated as the Transmitter is registered to the telephone system. Receivers do not require SIP registration.

- This minimizes the costs associated with additional endpoint extensions in a hosted / cloud environment, or SIP licensing, which may be required in a premise-based telephone system.

 **Note**

Network bandwidth is minimal in a multicast configuration as only one copy of the network packets (~64kb) is sent from the Transmitter regardless of how many Receiver endpoints are listening to a given IP multicast channel/zone.

Zones are created in the Algo paging system using a multicast IP address. Each multicast IP address configured in the Transmitter endpoint will stream audio to the specific group of Receiver devices configured. Receiver devices can be members of any number of multicast zones, including All Call. IP endpoints configured as Receivers require PoE and network connectivity to receive multicast, wired as a home run to a network PoE switch. No additional Algo hardware or software is required.

Basic Multicast Configuration – Single Zone

This example shows how two or more devices can be used simultaneously in order to cover a large area for All Call (single zone). Only the Transmitter device will require a SIP registration.

Part 1: Configuring the Transmitter

1. Log into the web interface by typing the device IP address into the web browser. For device-specific instructions to discover the IP address, check its respective User Guide. Use the Network Device Locator for getting the IP address of the device.
2. The Transmitter device will have to be configured according to one or more options below:
    1. Paging/ringing/emergency alerting with a SIP extension
    2. Input relay activation
    3. Analog input via the Aux-In or Line-In (only available in the 8301 SIP Paging Adapter & Scheduler)
3. Navigate to Basic Settings → Multicast and check the “Transmitter (Sender)” option in Multicast Mode. Configure the Sender Single Zone to the appropriate zone (Default Zone 1).

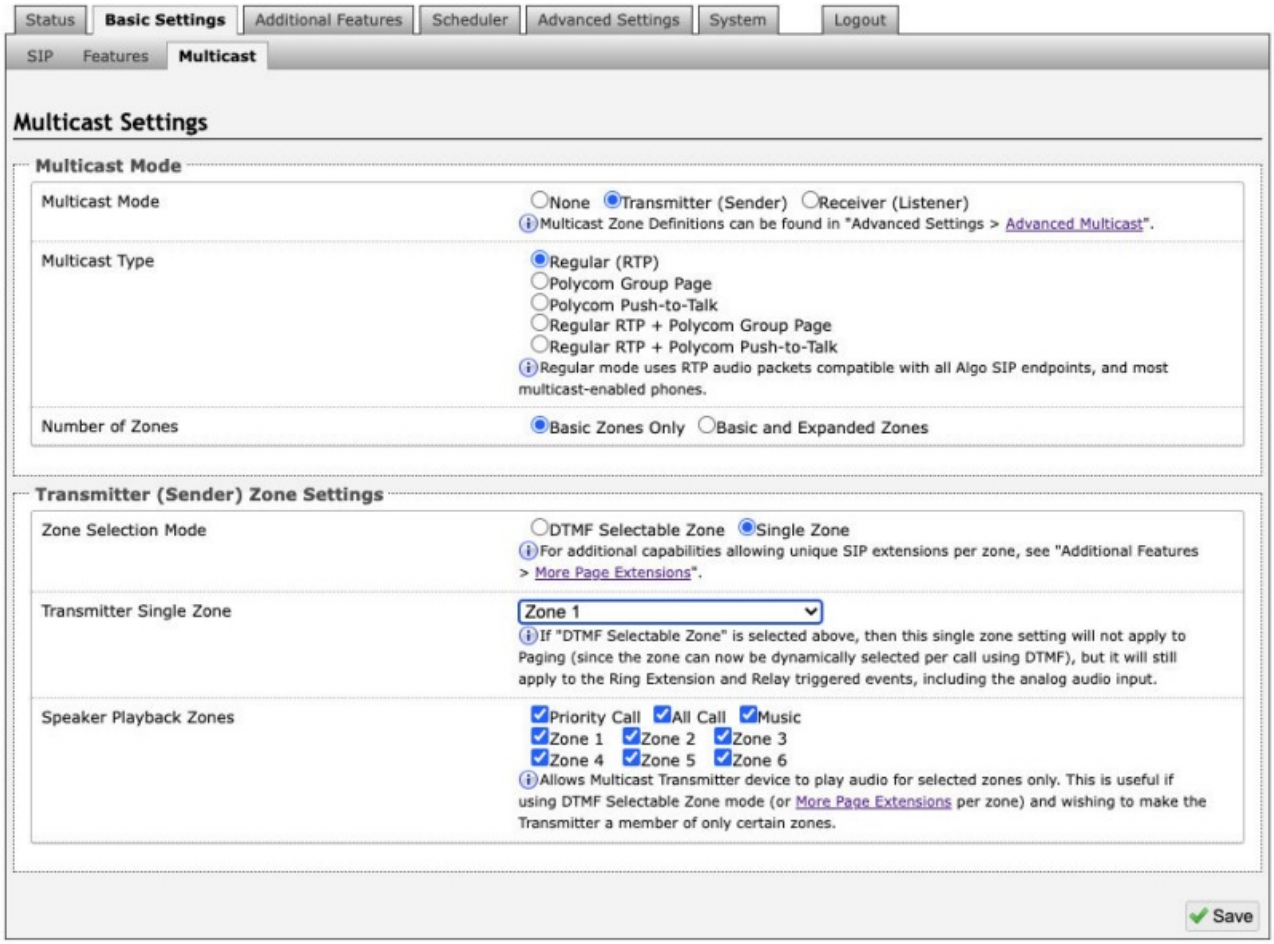


Figure 1: Multicast sender configuration

4. The “Speaker Playback Zone” setting allows the Transmitter device to play the announcement locally on the selected Zones.
5. Press Save.

Advanced multicast configurations are found under Advanced Settings → Advanced Multicast. For typical setups, Algo recommends using the default settings.

Note

Algo devices configured as Multicast Transmitters can send only one stream at a time to one single zone. If the application requires two simultaneous streams, please contact Algo support.

Part 2: Configuring the Receiver(s)

1. Navigate to Basic Settings → Multicast and check the “Receiver (Listener)” option in Multicast Mode.
2. Configure the Basic Receiver Zones to subscribe to the desired zones.

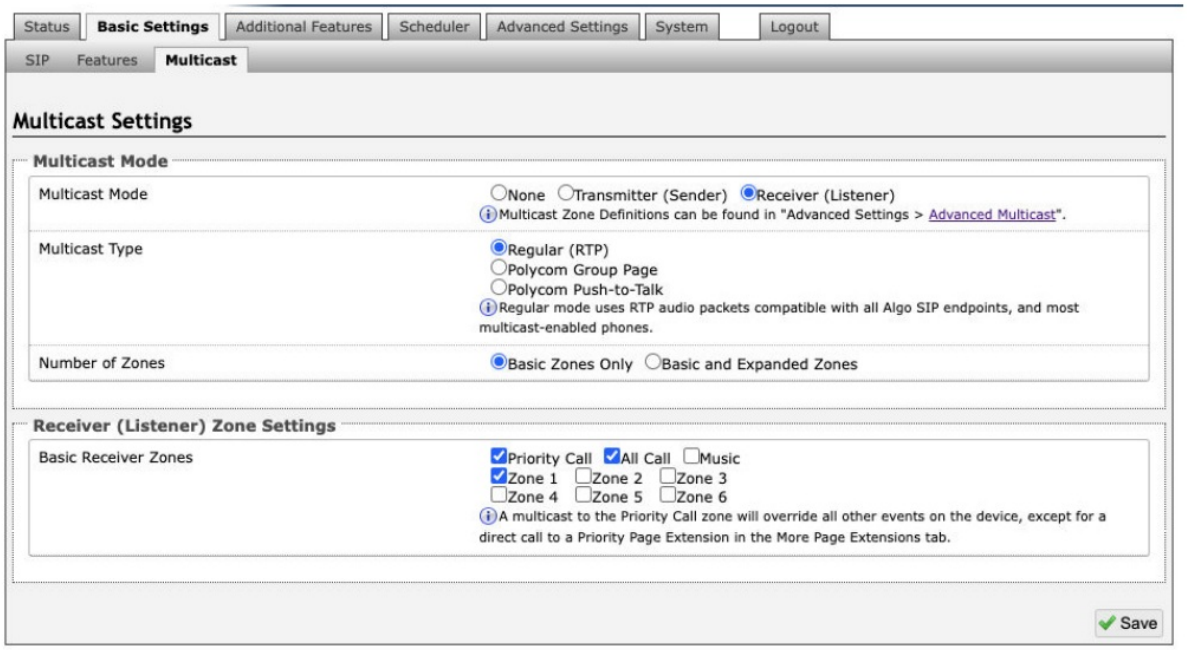


Figure 2: Multicast receiver configuration

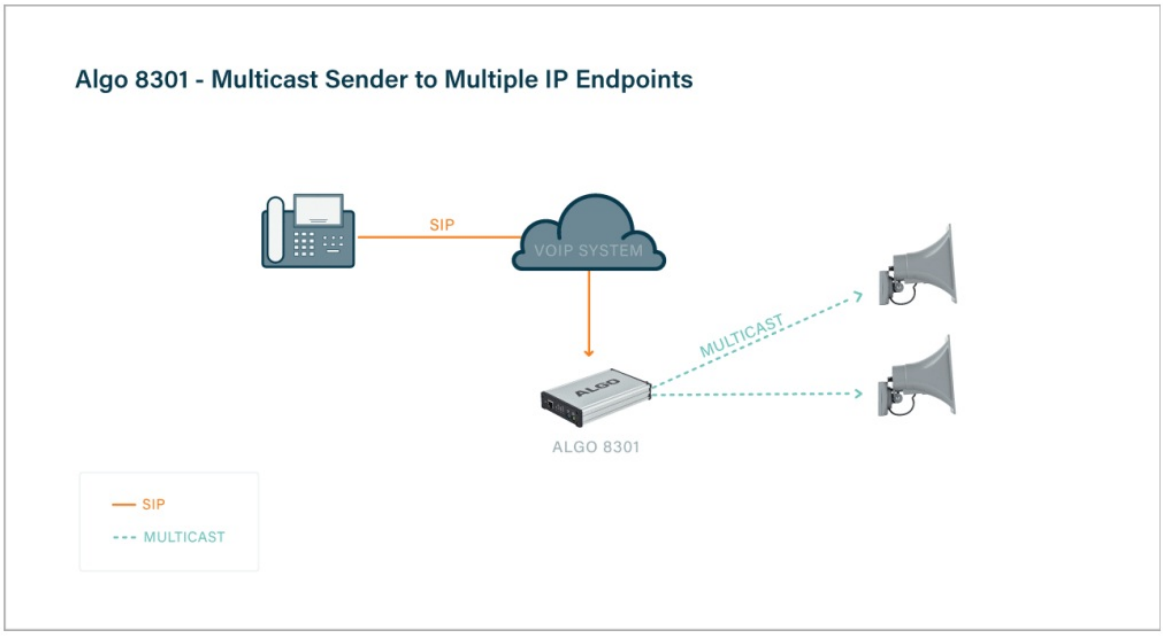
3. . Press Save.

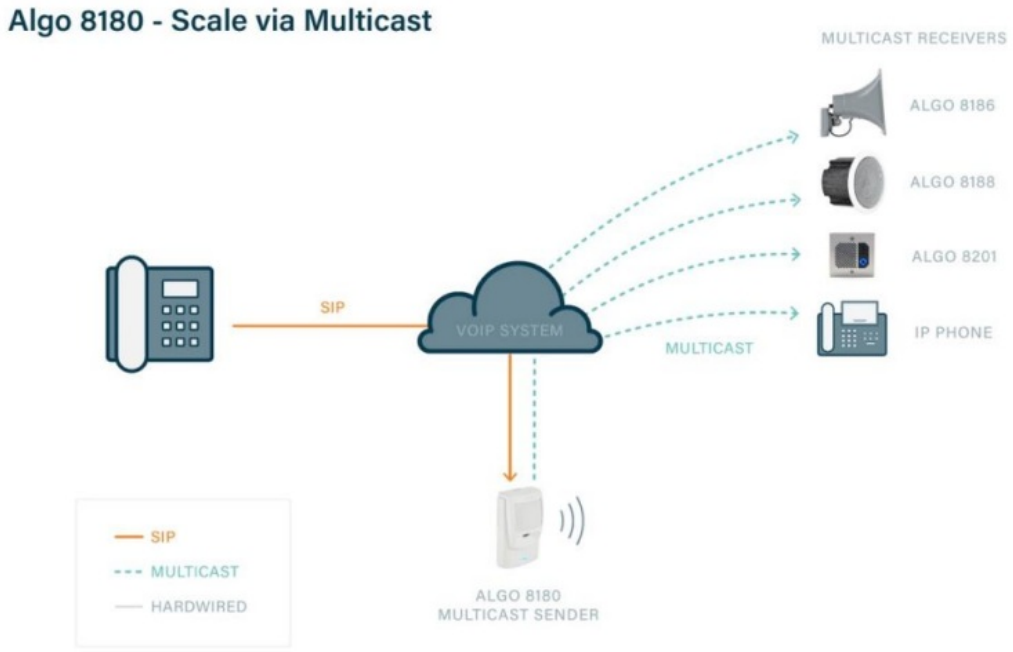
   Test to confirm all devices are working as expected. Please follow the troubleshooting section if there are any issues or contact Algo support.

Advanced Multicast Configuration – Multiple Zones

There are two ways to configure a Transmitter device for voice paging with multiple Zones:

1. Registering a SIP extension per multicast zone:
    1. Navigate to Additional Features → More Page Extensions
    2. Enable the desired zones and enter the SIP credentials to register it
2. DTMF Selectable Zones: Once the Page Extension is dialed, the user is able to use DTMF tones to select a single Zone numbered 1-50 (using the telephone keypad).
    1. Navigate to Basic Settings → Multicast
    2. Change the Zone Selection Mode to DTMF Selectable Zone





Multicasting Scheduled Events with the Algo 8301

The 8301 can be used as a scheduler to alert of events such as the start of the day, lunch, breaks between classes, etc. These events can then be sent to specific zones via multicast.

1. Create a schedule by navigating to Scheduler → Schedules.

   Note

   The 8301 will have to be set as the Transmitter to be able to multicast the scheduled event.
2. Select which zone you want each event to be played to.
3. Navigate to Scheduler → Calendar and apply the schedule to each day and month the schedule applies.

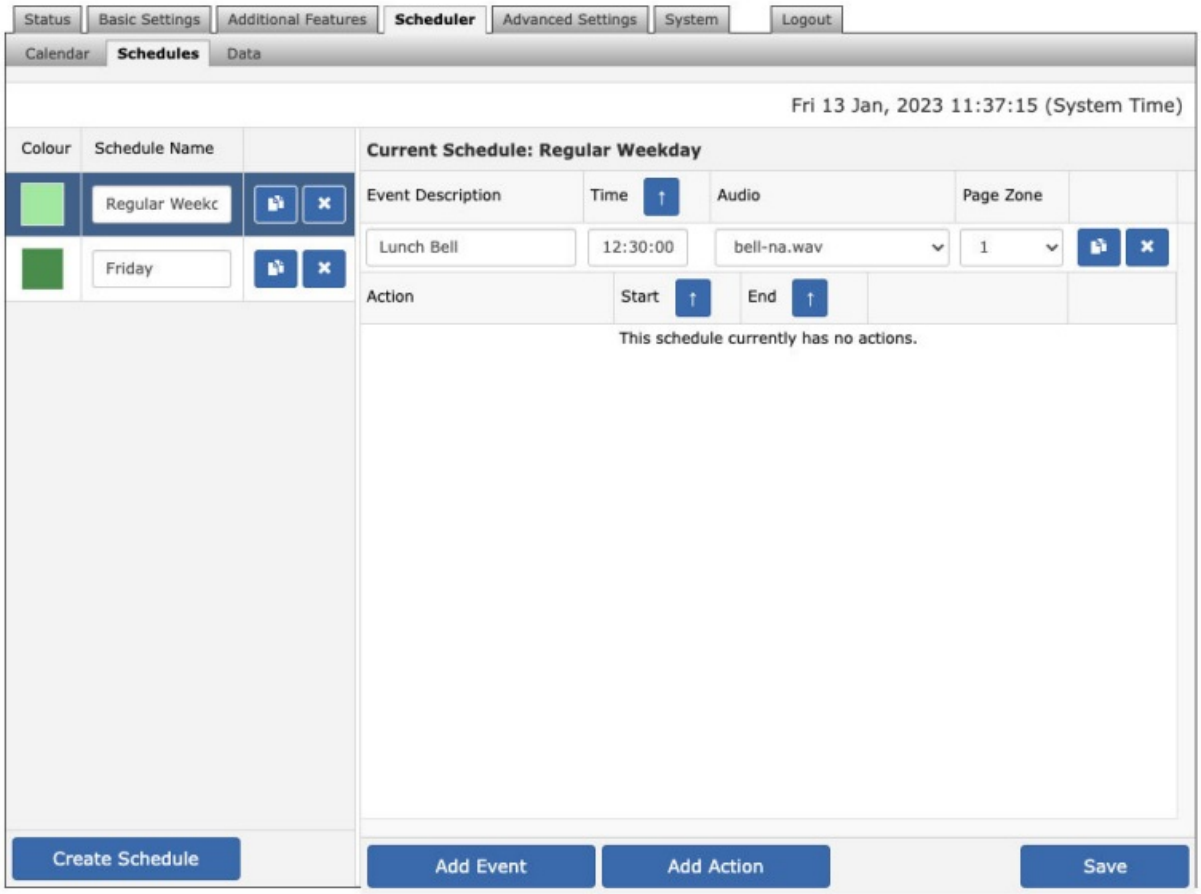


Figure 4: Schedules in the 8301 Scheduler

Audio Streaming from Audio Input via Multicast

Primarily used to play background music, this feature will multicast the input audio to the Sender Single Zone (located under Basic Settings → Multicast), as well as stream audio to the Line Out and Aux Out (if applicable).

1. Navigate to Additional Features → Input/Output tab and enable Audio Always On.
2. The input port and volume can be configured in the same tab.
3. In the Basic Settings → Multicast tab, select the Master Single Zone.

Note
A call to the page extension, alert extension, or scheduled event will interrupt the audio.

Custom Multicast Zone Address
Custom Multicast IP addresses and port numbers can be set for each one. To update the default addresses, navigate to Advanced Settings → Advanced Multicast. Make sure the address is within the range below and verify the transmitter and receiver(s) zone definitions match.

- Multicast IP addresses range: from 224.0.0.0 to 239.255.255.255
- Port numbers range: from 1 to 65535 Default Multicast IP addresses: 224.0.2.60 port numbers 50000 – 50008

Note
Make sure that the multicast IP address and port number do not conflict with other services and devices on the same network.

Adjusting TTL for Multicast Traffic
Algo IP endpoints configured as Multicast Transmitters use a TTL (time to Live) of 1. This can be modified to allow more hops in order to prevent packets from being dropped. To adjust this setting, navigate to Advanced Settings → Advanced Multicast and adjust the Multicast TTL setting as required.

Configuration problems
Make sure the following settings match the configuration of your device (this is dependent on the Multicast Mode setup).

- Multicast Mode (Basic Settings → Multicast)
  - Sender = Transmitter
  - Receiver = Listener
- Multicast Type (Basic Settings → Multicast)
  - Sender = Regular / RTP
  - Receiver = Regular / RTP
- Zone Number (Basic Settings → Multicast)
  - Ensure the Zone # selected on the Sender is also ticked under the speaker playback zone on the Receiver. To have the page play on the Sender device, select the same zone for the Sender device itself.
  - A proper configuration will ensure the Receiver is listening to the Zone to which the Multicast packets are being sent.
- Zone Definitions (Advanced Settings → Advanced Multicast)
  - Ensure the IP Address and Port # matches, on both the Sender and Receiver, for the zone being used.

Network Related Problems
If the configuration on the Sender and Receiver(s) devices is correct, any remaining problem should be related to the local network. Below are some items to be aware of:

- Ensure all devices in the Multicast Zone have IP addresses valid on the same subnet (if applicable).
- Ensure all devices are in the same VLAN (if applicable).
- Confirm all devices are reachable by paging them.
- Make sure the network switches have Multicast enabled.

Information Notices

 **Note**
A note indicates useful updates, information, and instructions that should be followed

Disclaimer

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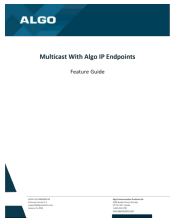
- For additional information or technical assistance in North America, please contact Algo's support team:

CONTACT

- Algo Technical Support
- 1-**604-454-3792**
- **support@algosolutions.com**

Documents / Resources

	**ALGO Multicast With Algo IP Endpoints** [pdf] User Guide AL055-UG-FM000000-R0, 8301 Scheduler, Multicast With Algo IP Endpoints, Algo IP Endpoints , IP Endpoints, Endpoints

References

- **Home - Algo Communication Products Ltd.**
- **Home - Algo Communication Products Ltd.**
- **User Manual**