

February 11, 2020

Configure MIVO-250 6.3 SP3 for use with Algo 8301 Paging Adapter-Bell Scheduler

Description: This document provides a reference to Mitel Authorized Solutions Providers for configuring the MIVO-250 to host the Algo 8301.

Environment: MiVO-250 6.3 SP3 (6.3.7.99), Algo 8301 Paging Adapter (1.7.6)

Version: 2

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Mitel Technical Configuration Notes – Configure MIVO-250 6.3 SP3 to use Algo 8301 paging adapter

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Overview


This document provides a reference to Mitel Authorized Solutions Providers for configuring the MiVO-250 to host the Algo 8301 Paging Adapter. The different devices can be configured in various configurations depending on your VoIP solution. This document covers a basic Algo 8301 Paging Adapter setup as Endpoint gateway with required options setup and explicitly excludes all Algo 8301 Paging Adapter setup as Trunk gateway testing.

Interop History

Version	Date	Reason
1	December, 2019	Algo 8301 Paging Adapter with MiVO-250 6.3 SP3 (9.0.3.15)

Interop Status

The Interop of the Algo 8301 Paging Adapter has been given a Certification status. This device will be included in the SIP CoE Reference Guide. The status Algo 8301 Paging Adapter achieved is:

	The most common certification which means the device/service has been tested and/or validated by the Mitel SIP CoE team. Product support will provide all necessary support related to the interop, but issues unique or specific to the 3rd party will be referred to the 3rd party as appropriate.
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Software & Hardware Setup

The test setup generated basic SIP calls between the Algo 8301 Paging Adapter and the MIVO-250.


Note: Although this testing was performed on the below tested variants, the scope of this testing can be extended to other product variants that work with the same firmware. The list of components for which this testing can be considered applicable is given in the “Additional Applicable Variants” column of the following table –

Manufacturer	Tested Variant	Software Version	Additional Applicable Variants
Mitel	MIVO-250 Platform	6.3 SP3 (Build 6.3.7.99)	NA
Mitel	68XX/69XX (SIP)	5.1.0.3069	NA
Algo	Algo 8301 Paging Adapter	1.7.6	8201,8180,8186,8188,8189,8190,8190S,8301,8373, 8180(G2), 8128, 8128(G2), 8028, 8028(G2) and 8138

Tested Features

Listed below is an overview of the features tested during the Interop test cycle and not a detailed view of the test cases. Please see the SIP Line Side Interoperability Test Plans for detailed test cases.

Feature	Feature Description	Issues
Basic Call	Making and receiving a call	<input checked="" type="checkbox"/>
Call Hold/Transfer/Forward/Conference	Putting a call on hold/transfer/forward/conference	<input checked="" type="checkbox"/>
TLS/SRTP	Basic incoming/outgoing call.	<input checked="" type="checkbox"/>
DTMF	Out of Band DTMF	<input checked="" type="checkbox"/>

- No issues found - Issues found, cannot recommend to use  - Issues found

Device Limitations

This is a list of problems or not supported features when the Algo 8301 Paging Adapter is connected to MIVO-250.

Feature	Problem Description
G722 Wideband codec	<p>MIVO-250 doesn't support wideband codecs. Testing was done using G711.</p> <p>Recommendation: None as the MiVO-250 does not support G722. Contact your Mitel account manager in order to request this feature.</p>
TLS/SRTP	<p>MIVO-250 doesn't support TLS/STRP.</p> <p>Recommendation: None as the MiVO-250 does not support TLS/SRTP. Contact your Mitel account manager in order to request this feature.</p>
Call transfer/forward/conference	<p>The Algo 8301 Paging adapter does not support transfer/forward and conference scenarios. Calls may be transferred to it and it can be bought into a conference.</p> <p>Recommendation: Contact Algo for further information.</p>
G729 Codec	<p>Algo 8301 does not support G729 codec.</p> <p>Recommendation: Contact Algo Support for further information on this feature.</p>
Resiliency	<p>MiVO-250 doesn't support resiliency.</p> <p>Recommendation: None as the MiVO-250 does not support resiliency. Contact your Mitel account manager in order to request this feature.</p>
Video	<p>Algo 8301 does not support Video.</p> <p>Recommendation: Contact Algo Support for further information to support this feature.</p>

Network Topology

This diagram shows how the testing network is configured for reference.



Figure 1 – Network Topology

The Algo 8301 Paging Adapter is configured as endpoint gateway where a persistent connection is created for each SIP user. Each device connected to has a separate SIP connection to the SIP server.

MiVO 250 - Configuration Notes

The following steps show how to program a MiVO 250 to connect with the Algo 8301 Paging Adapter.

Network Requirements

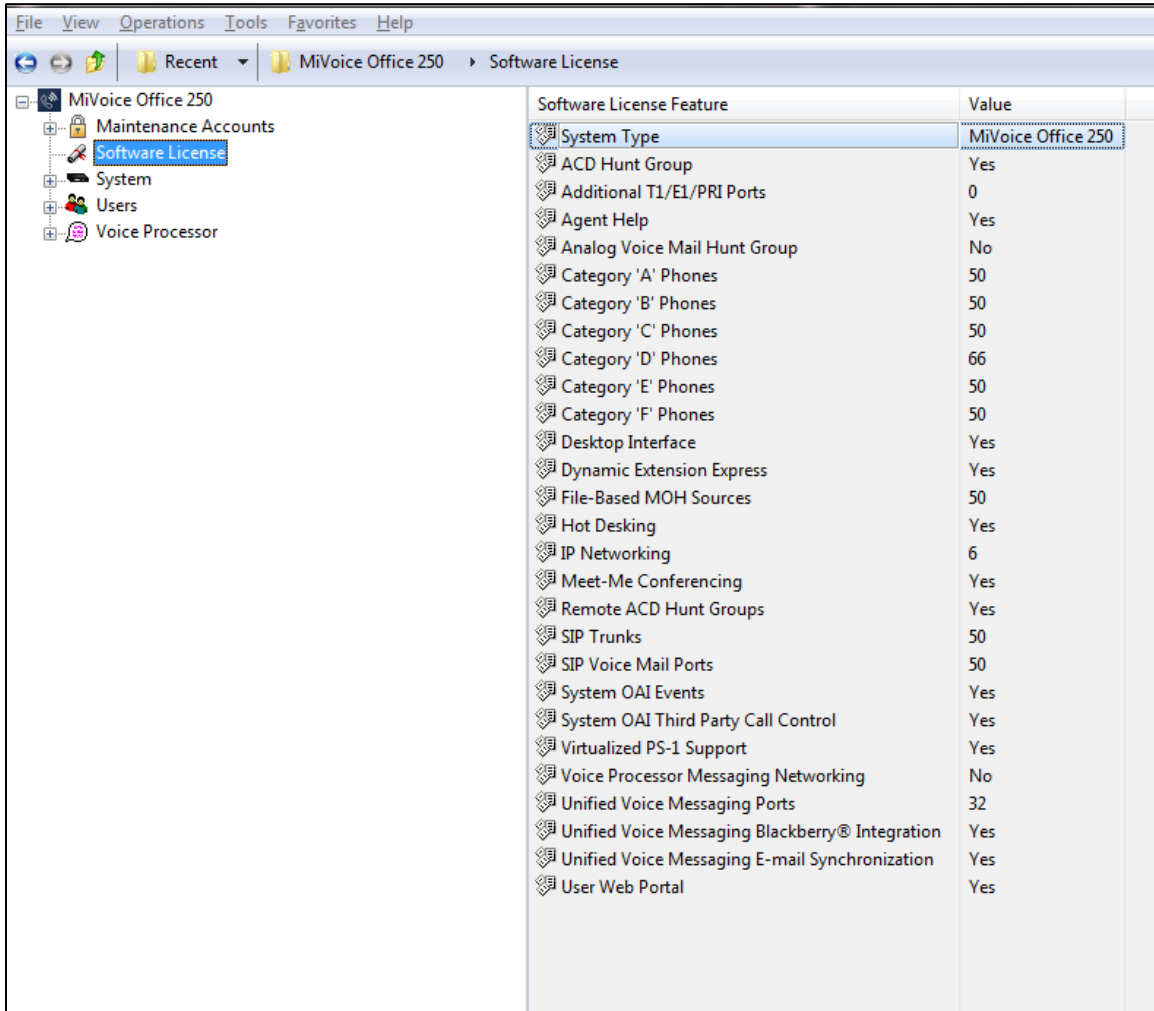
- There must be adequate bandwidth to support the voice over IP. As a guide, the Ethernet bandwidth is approx 85 Kb/s per G.711 voice session and 29 Kb/s per G.729 voice session (assumes 20ms packetization). As an example, for 20 simultaneous SIP sessions, the Ethernet bandwidth consumption will be approx 1.7 Mb/s for G.711 and 0.6Mb/s. Almost all Enterprise LAN networks can support this level of traffic without any special engineering. Please refer to the MiVO 250 Engineering guidelines for further information.
- For high quality voice, the network connectivity must support a voice-quality grade of service (packet loss <1%, jitter < 30ms, one-way delay < 80ms).

Assumptions for the MiVO 250 Programming

- The SIP signaling connection uses UDP on Port 5060.

Software License – SIP Licensing

Ensure that the MiVO 250 is equipped with enough Phones licenses for the connection of SIP end points. This can be verified within the Software License Feature section form.



Software License Feature	Value
System Type	MiVoice Office 250
ACD Hunt Group	Yes
Additional T1/E1/PRI Ports	0
Agent Help	Yes
Analog Voice Mail Hunt Group	No
Category 'A' Phones	50
Category 'B' Phones	50
Category 'C' Phones	50
Category 'D' Phones	66
Category 'E' Phones	50
Category 'F' Phones	50
Desktop Interface	Yes
Dynamic Extension Express	Yes
File-Based MOH Sources	50
Hot Desking	Yes
IP Networking	6
Meet-Me Conferencing	Yes
Remote ACD Hunt Groups	Yes
SIP Trunks	50
SIP Voice Mail Ports	50
System OAI Events	Yes
System OAI Third Party Call Control	Yes
Virtualized PS-1 Support	Yes
Voice Processor Messaging Networking	No
Unified Voice Messaging Ports	32
Unified Voice Messaging Blackberry® Integration	Yes
Unified Voice Messaging E-mail Synchronization	Yes
User Web Portal	Yes

Figure 2 – Software License

MiVO 250- Algo 8301 Paging Adapter Extension Configuration

Create an extension for the Algo 8301 Paging Adapter:

1. Select System > Devices and Feature Codes > **Phones**.
2. Right-click anywhere in the right pane, and then select **Create SIP Phone**. The Create SIP Phone Extension dialog box appears as per below.
3. Select a starting extension for the phones and the number of extensions.
4. Click **OK**. The system creates a new SIP Phone Group for each of the Algo 8301 Paging Adapter. The SIP Phone groups are created in a stand-alone configuration by default. The associated SIP Phone Group is displayed in **System > Devices and Feature Codes > SIP Peers > SIP Phone Groups**.

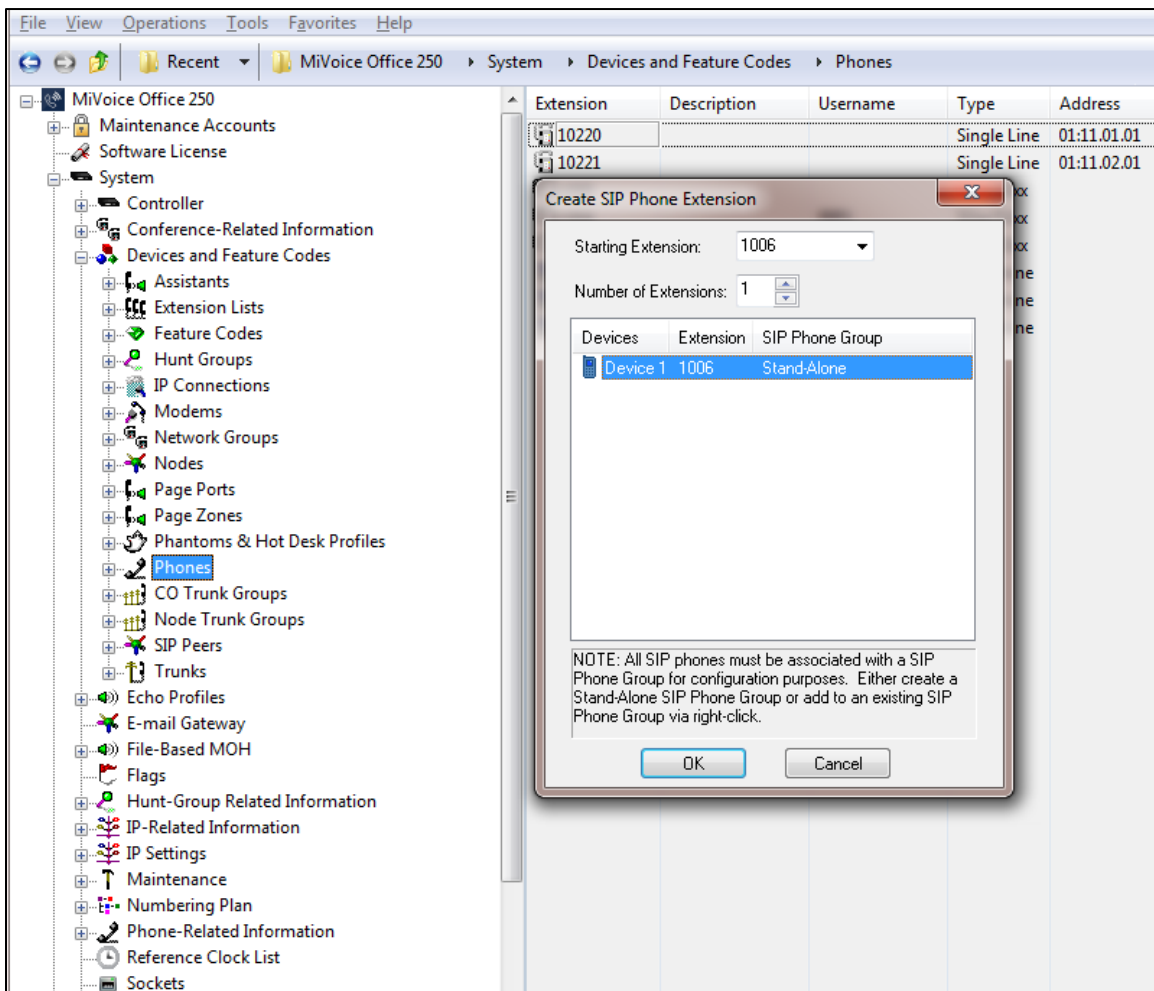


Figure 3 – Create SIP Extension

The Algo 8301 Paging Adapter was configured as displayed below under the System > Devices and Feature Codes > Phones

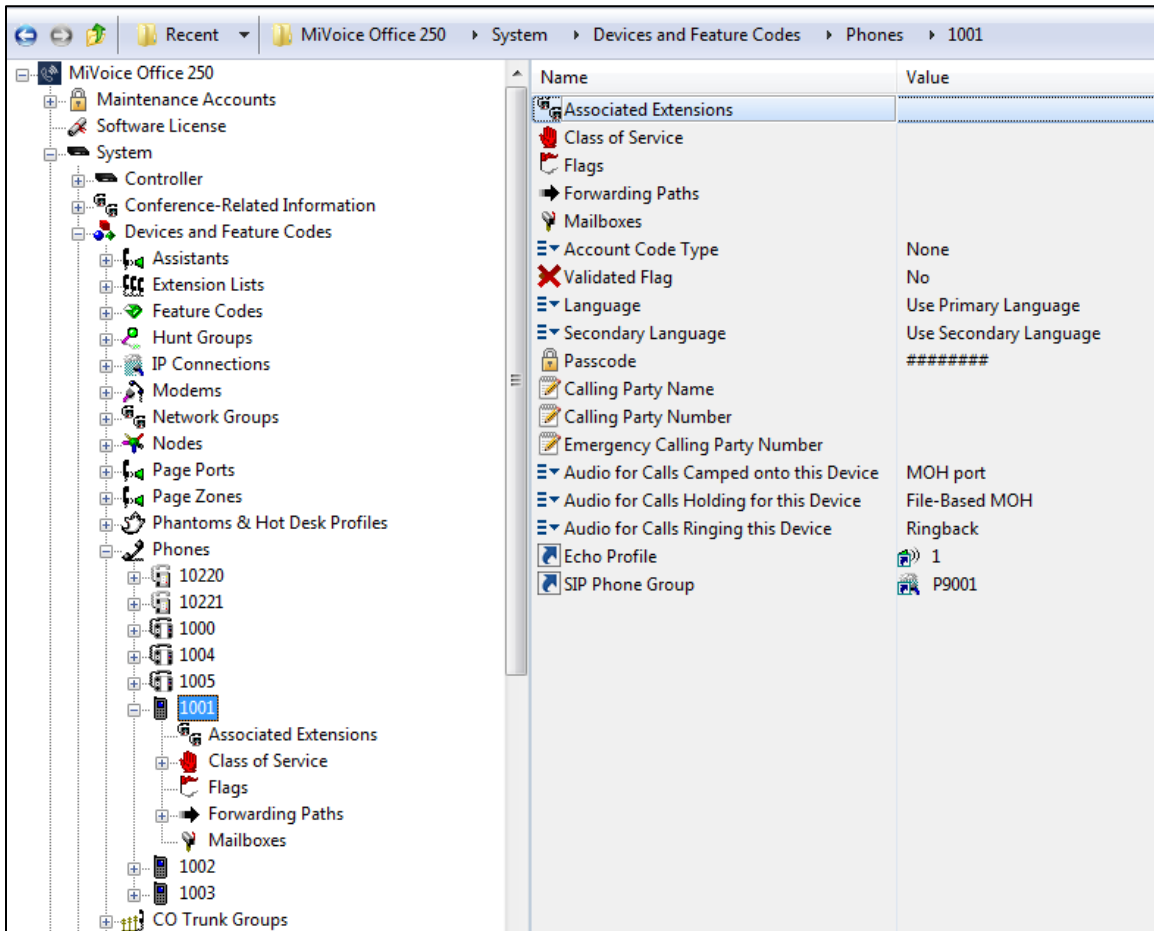


Figure 4 – Algo 8301 Paging Adapter Configuration

SIP Peers > Phone Groups

The Algo 8301 Paging Adapter can register with the MiVO 250 and act as local extensions in the system. To support this feature, DB Programming uses “SIP Phone Groups.” A SIP Phone Group contains a common set of properties for registration that can be shared with either a “stand-alone” SIP Phone Group or multiple SIP Phone Group. From the menu, select System > Devices and Feature Codes > SIP Peers > SIP Phone Groups > [extension SIP Phone Group] > Configuration as per Figure 5.

The screenshot displays the configuration interface for a SIP Phone Group in the MiVoice Office 250 system. The left-hand pane shows a hierarchical tree structure with the following path selected: MiVoice Office 250 > System > Devices and Feature Codes > SIP Peers > SIP Phone Groups > P9001 > Configuration. The right-hand pane shows a list of configuration parameters and their values:

Name	Value
Authentication	
MWI	
NAT Settings	
Registrations	
IP Address	255.255.255.255
Port Number	5060
Fully Qualified Domain Name	
Call Configuration	1
Camp-Ons Allowed	No
Operating State	In-Service
Maximum Number of Calls	4
Call Failure Threshold	0
Static Binding	No
Use Peer Address In From Header	No
Use Registered Username	No
Disable Domain Validation	No
Supports Display Updates	Yes
Supports Ad Hoc Conferencing	Yes
DTMF Decoding Payload	101

Figure 5 – SIP Phone Groups

Authentication

The Algo 8301 Paging Adapter group was configured to use In Bound Authentication. From the menu, select System > Devices and Feature Codes >SIP Peers > SIP Phone Groups > [extension SIP Phone Group] > Configuration > Authentication as per Figure 6

For a SIP Peer, incoming calls and SIP requests from the SIP peer are authenticated by the MiVO 250. Same User name and password has to be configured in Algo 8301 Paging Adapter web configuration for successful Registration.

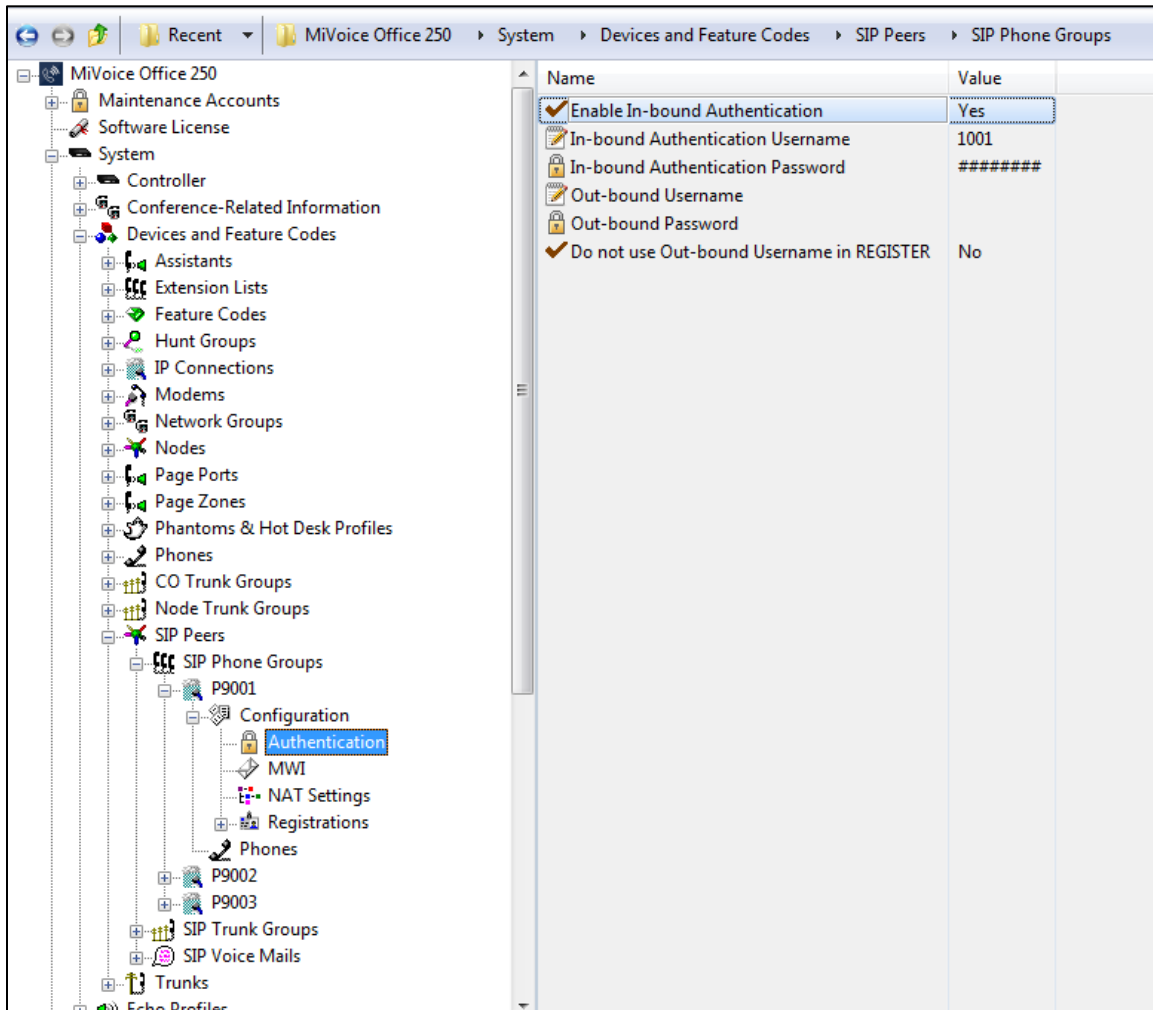


Figure 6 – SIP Phone Groups Authentication Parameters

MWI

Enable Message Waiting Indicator (MWI). From the menu, select System > Devices and Feature Codes > SIP Peers > SIP Phone Groups > [extension SIP Phone Group] > MWI as per Figure 7.

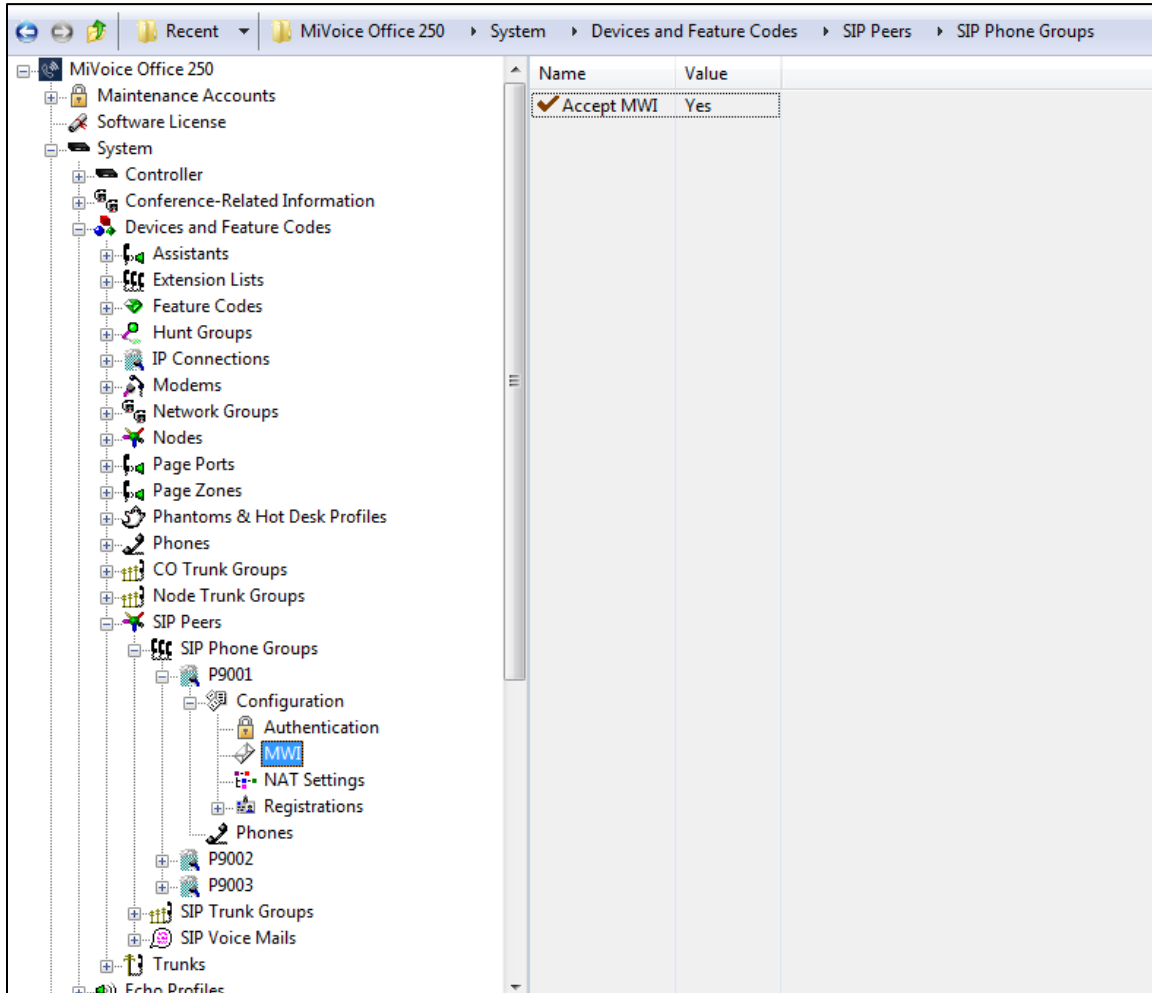


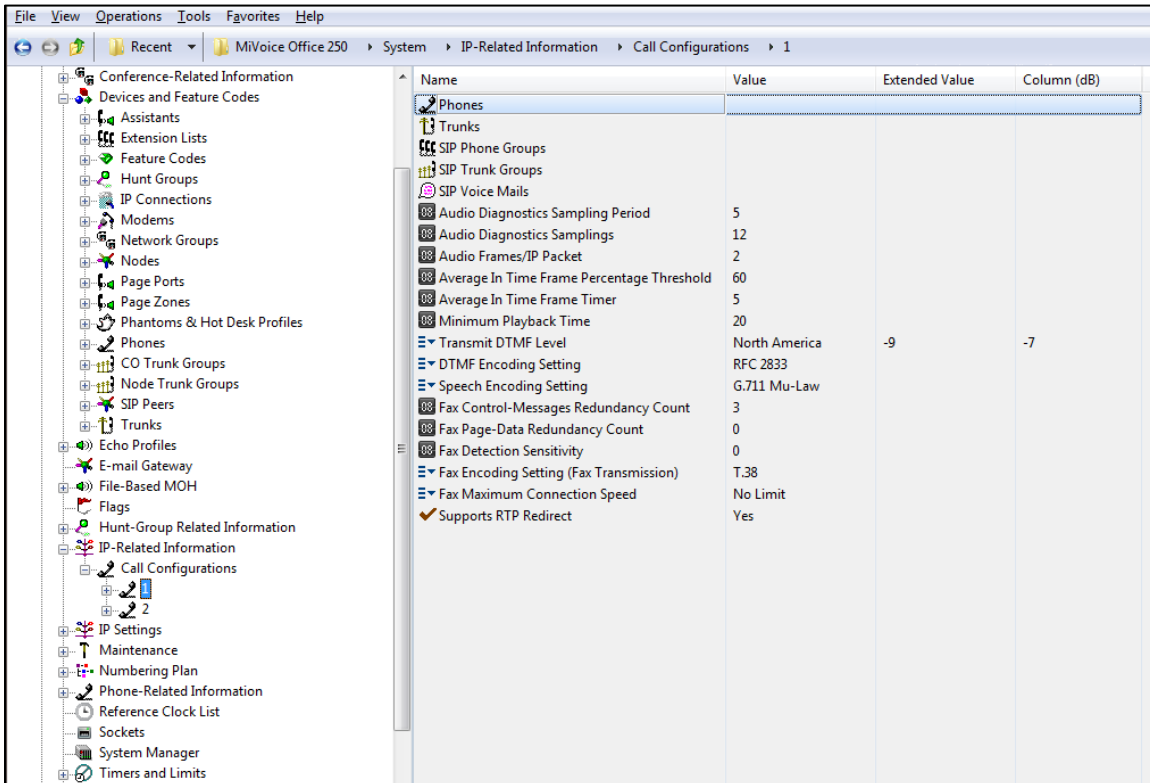
Figure 7 – SIP Phone Groups MWI Parameter

Registration and NAT Settings:

Keep this as Default

Call Configuration

Clicking **Call Configuration** on SIP Phone Groups takes you to the Call Configuration folder. From menu select System > IP-Related Information > Call Configurations > [call configuration number]. When you create a SIP Peer without using a template, by default the new SIP Peer is added to Call Configuration 1 <Local> as per Figure 10.



The screenshot shows the configuration interface for MiVoice Office 250. The left pane displays a tree view of configuration categories, with 'Call Configurations' expanded under 'IP-Related Information'. The right pane shows a list of settings for 'Call Configuration 1 <Local>'. The settings are organized into a table with columns for Name, Value, Extended Value, and Column (dB).

Name	Value	Extended Value	Column (dB)
Phones			
Trunks			
SIP Phone Groups			
SIP Trunk Groups			
SIP Voice Mails			
Audio Diagnostics Sampling Period	5		
Audio Diagnostics Samplings	12		
Audio Frames/IP Packet	2		
Average In Time Frame Percentage Threshold	60		
Average In Time Frame Timer	5		
Minimum Playback Time	20		
Transmit DTMF Level	North America	-9	-7
DTMF Encoding Setting	RFC 2833		
Speech Encoding Setting	G.711 Mu-Law		
Fax Control-Messages Redundancy Count	3		
Fax Page-Data Redundancy Count	0		
Fax Detection Sensitivity	0		
Fax Encoding Setting (Fax Transmission)	T.38		
Fax Maximum Connection Speed	No Limit		
Supports RTP Redirect	Yes		

Figure 8 – Call Configuration

Music on Hold (MOH) Configuration

Enable MOH: From menu select System > Devices and Feature Codes > Phones > Local folder [extension] and click on the VALUE section of “Audio for Calls Holding for this Device” and select “File-Based MOH”. Select “File-Based MOH”, press Next, then select New Extended Value and Finish (Figure 23).

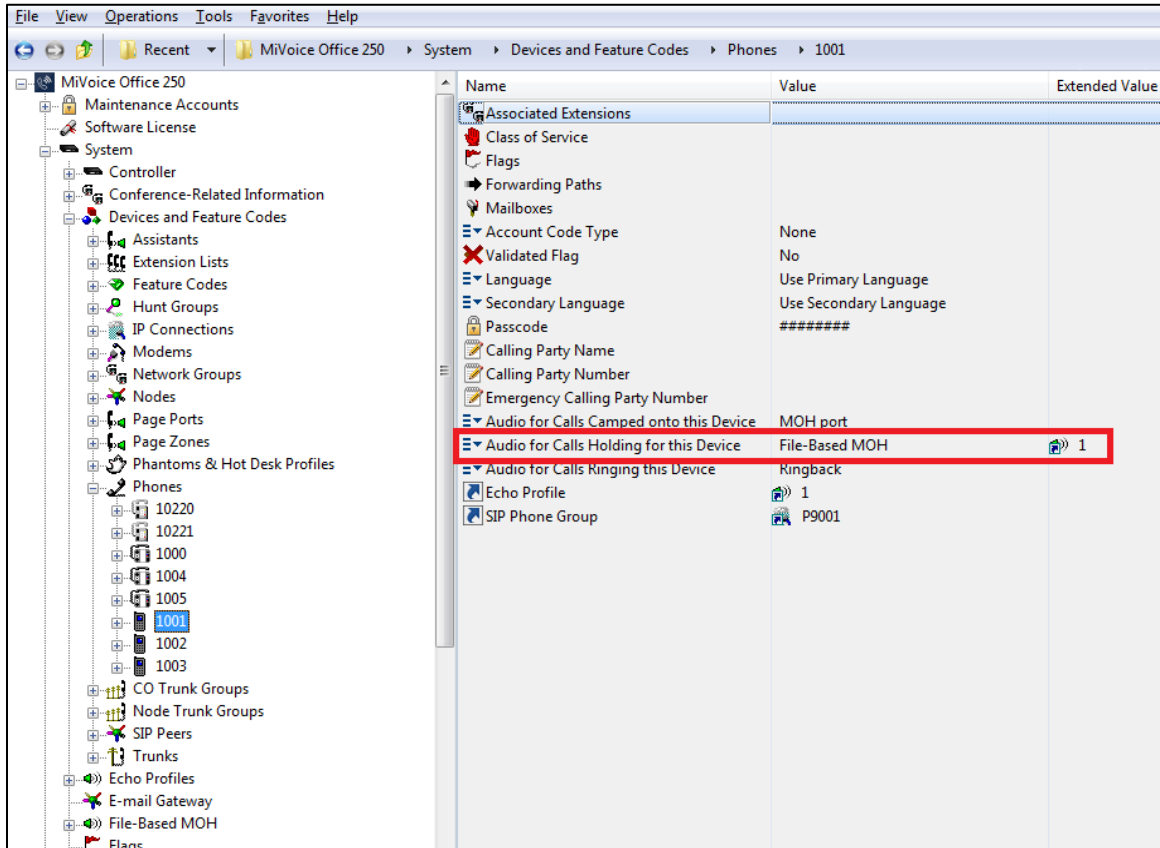


Figure 9 – File-Based MOH

Algo 8301 Paging Adapter Configuration Notes

Algo 8301 Paging Adapter Software Setup Notes

This section outlines the basic instruction on how to program Algo 8301 Paging Adapter to interconnect with MIV)-250. This is by no means a comprehensive guideline. We assume that Algo 8301 Paging Adapter has been upgraded to the latest software release as found in <http://www.algosolutions.com/support/firmware.html>. Please note that your phone must have been upgraded to current software release.

Home Page Login

Access the 8301 Paging Adapter & Scheduler web page by entering the IP address into a browser (Chrome, IE, Firefox etc) and login using the default password **algo**.

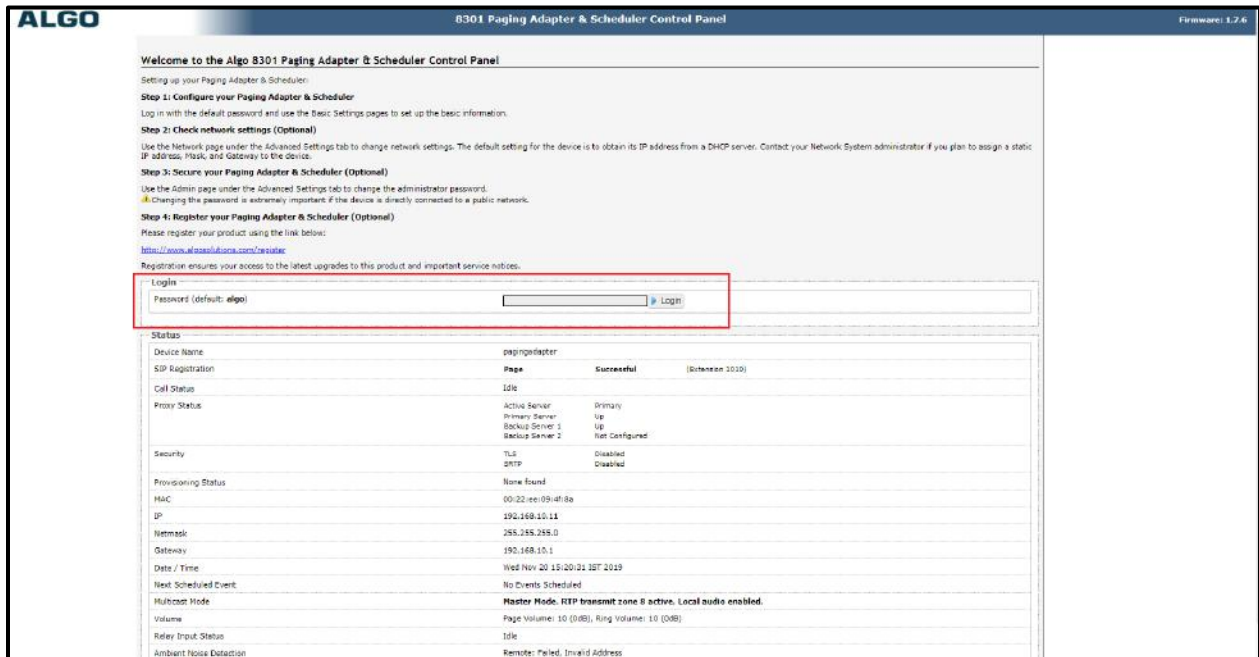
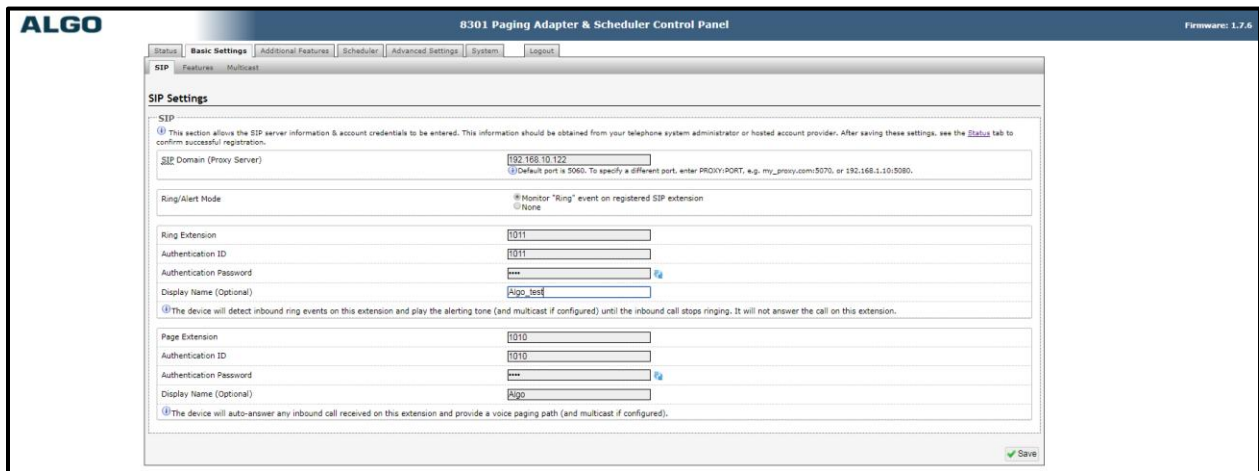


Figure 10 – Algo 8301 Paging Adapter Home page login

Configuration details

The 8301 Paging Adapter & Scheduler can be registered as a third-party SIP extension with a hosted or enterprise Communications Server supporting 3rd party SIP endpoints. To register the adapter with the SIP server, use the **Basic Settings > SIP** tab in the web interface to enter the Communication Server IP address, extension, username, and password.

This information will be available from the IT Administrator. If VLAN is used, navigate to the Advanced Settings > Network tab to set VLAN options. (Note, once the adapter is using VLAN you will need to be on the same VLAN to access the web interface.) Navigate to the Status tab and ensure the extension(s) are successfully registered. The adapter may now be accessed by dialling its assigned extension from a telephone, device, or client. The adapter will auto-answer, play the default WAV pre-announce tone, and allow voice paging until disconnected.



The screenshot displays the '8301 Paging Adapter & Scheduler Control Panel' web interface. The top navigation bar includes 'Status', 'Basic Settings', 'Additional Features', 'Scheduler', 'Advanced Settings', 'System', and 'Logout'. The 'Basic Settings' tab is active, and the 'SIP' sub-tab is selected. The 'SIP Settings' section contains the following fields and options:

- SIP**: A note states, '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.'
- Domain (Proxy Server)**: Text input field containing '192.168.10.122'. A note below reads: '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**: Radio buttons for 'Monitor "Ring" event on registered SIP extension' (selected) and 'None'.
- Ring Extension**: Text input field containing '0211'.
- Authentication ID**: Text input field containing '0211'.
- Authentication Password**: Text input field containing '***' with a strength indicator 'fg'.
- Display Name (Optional)**: Text input field containing 'Algo_test'.
- A note: 'The device will detect inbound ring events on this extension and play the alerting tone (and multicast if configured) until the inbound call stops ringing. It will not answer the call on this extension.'
- Page Extension**: Text input field containing '0210'.
- Authentication ID**: Text input field containing '0210'.
- Authentication Password**: Text input field containing '***' with a strength indicator 'fg'.
- Display Name (Optional)**: Text input field containing 'Algo'.
- A note: 'The device will auto-answer any inbound call received on this extension and provide a voice paging path (and multicast if configured).'

A 'Save' button is located at the bottom right of the configuration area.

Figure 11 – SIP Settings

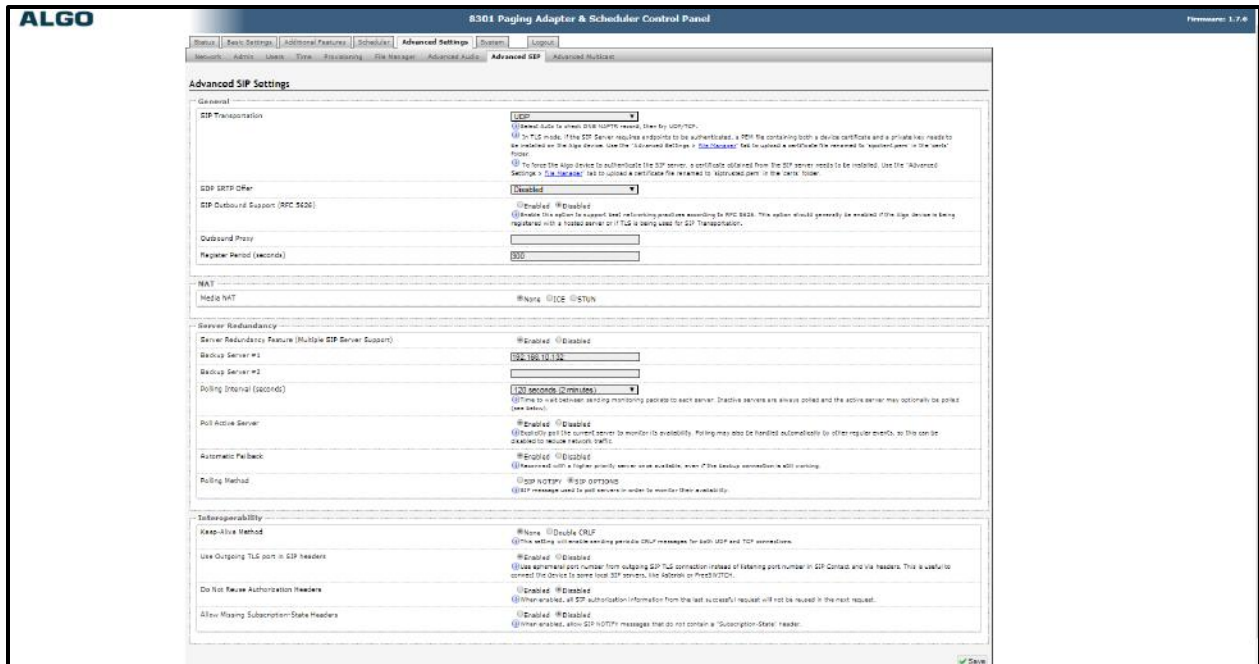


Figure 12 – Advanced SIP Settings

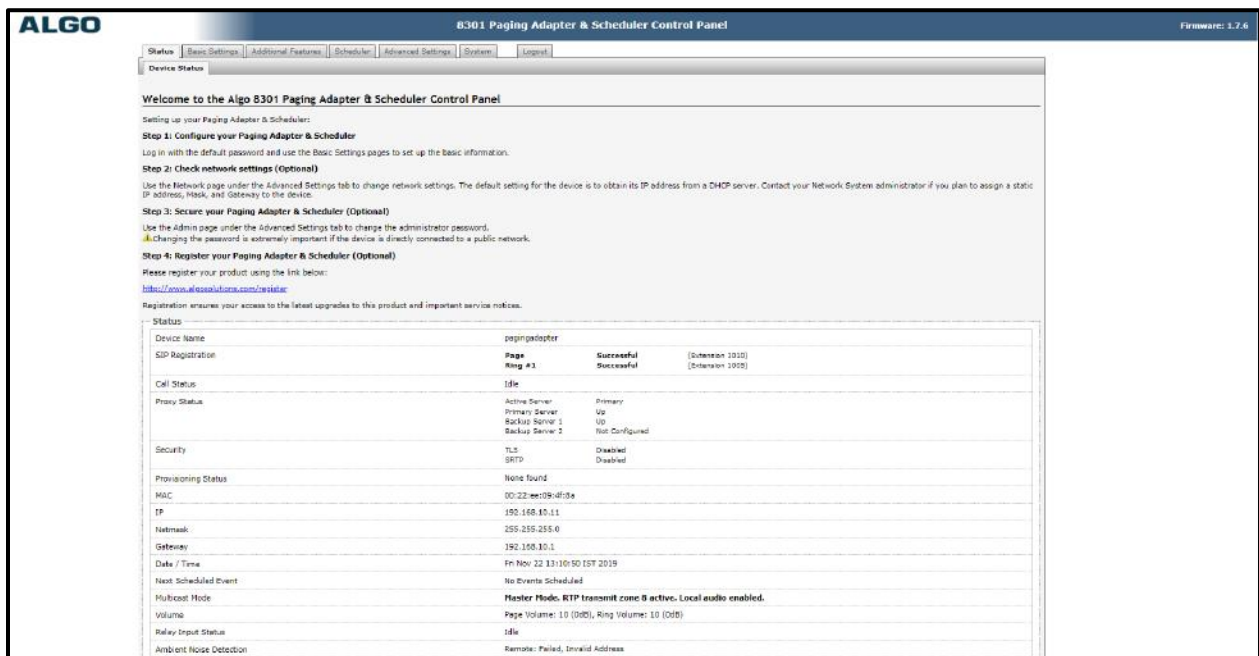


Figure 13 – Device status

Glossary

MiVoice-250	MiVO-250
MiNET Interface	MiNET
Mitel Solutions Alliance	MSA
Knowledge Management System	KMS
Class of Service	COS
Automatic Route Selection	ARS