DMP 128 Plus C V
DMP 128 Plus C V AT

Avaya IP Office Configuration Guide

REVISION: 1.1
DATE: SEPTEMBER 1ST 2017
## Revision Log

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 6th 2017</td>
<td>1.0</td>
<td>First Release: Applies to Firmware <strong>1.01.0004.002</strong></td>
</tr>
<tr>
<td>Sep. 1st 2017</td>
<td>1.1</td>
<td>Corrected error in system import procedure. Applies to Firmware <strong>1.01.0004.002</strong></td>
</tr>
</tbody>
</table>
## Table of Contents

1.0 Introduction .................................................................................................................................................. 4

2.0 Configuring IP Office for DMP 128 Plus C V (AT) VoIP Registration ................................................. 5
   2.1 Verify 3rd Party Endpoint Licensing ........................................................................................................ 5
   2.2 Verify IP Office LAN IP Address .................................................................................................................. 6
   2.3 Enable the SIP Registrar and Verify Domain Name .................................................................................... 7
   2.4 Adding SIP Extensions .................................................................................................................................. 8
   2.5 Administer SIP Users .................................................................................................................................. 10

3.0 Configuring DMP 128 Plus C V (AT) VoIP Lines .................................................................................. 12
   3.1 Network Interface Configuration .................................................................................................................. 12
   3.2 Transport Configuration ............................................................................................................................... 13
   3.3 Line Registration ......................................................................................................................................... 14
   3.4 Codecs ....................................................................................................................................................... 15
   3.5 Dialing ........................................................................................................................................................ 16
   3.6 System Overview ........................................................................................................................................ 17
   3.7 Troubleshooting .......................................................................................................................................... 17

Appendix A: RTP Port Range ............................................................................................................................... 18

Appendix B: Invite Handling Mode .................................................................................................................... 20
1.0 Introduction

This document provides a reference for registering DMP 128 Plus C V (AT) VoIP lines to an Avaya IP Office system (Version 9.0 - 10.0).

DMP 128 Plus C V / C V AT Firmware Version 1.01.0004-002.
2.0 Configuring IP Office for DMP 128 Plus C V (AT) VoIP Registration

- All IP Office configuration within this document requires administrative access to Avaya IP Office Manager software.

- VoIP functionality within the DMP 128 Plus is built around the Session Initiation Protocol (SIP) signaling system, as defined in RFC 3261. The IP Office platform must be licensed to allow the addition of third-party SIP endpoints before any line registration can take place (see Section 2.1).

- If multiple codec types are assigned to the DMP 128 Plus for IP Office Extensions, the user may experience call drop-outs when re-establishing calls following On-Hold events. If this occurs, please refer to Appendix B for details on how to correct the problem.

2.1 Verify 3rd Party Endpoint Licensing

Determine the LAN IP address of the IP Office system by carrying out the following steps.

1) Access the Avaya IP Office Manager Software.

2) From the left pane, click on License and 3rd Part IP Endpoints.
3) Verify that the available number of 3\textsuperscript{rd} Party Endpoints (\textit{Instances}) meets or exceeds the number of desired lines on the DMP 128 Plus (taking into account all other 3\textsuperscript{rd} Party Endpoints currently in use on the system).

2.2 Verify IP Office LAN IP Address

Confirm the LAN interface IP address currently in use for the IP Office system.

1) From the left pane, click on \textbf{System}, followed by LAN1 or LAN2, depending on the current configuration, followed by the \textbf{LAN Settings} sub-tab (LAN1 is the active interface in the following screenshots).

2) Make a note of the \textbf{IP Address}.
2.3 Enable the SIP Registrar and Verify Domain Name

1) From the appropriate LAN tab (per Section 2.2), click on the VoIP sub-tab.

2) Check the SIP Registrar Enable checkbox, if not already activated.

3) Make a note of the SIP Domain Name. If a domain name is not used, the IP Address of the LAN interface will be shown.

4) Make a note of the transport type (TCP, UDP, or TLS).
2.4 Adding SIP Extensions

1) From the left pane, right-click on Extension and select New followed by SIP Extension from the pop-up list.

2) Enter the desired line extension digits in the Base Extension field.

3) Un-check the Force Authorization checkbox.

![Image of DMP 128 Plus C V / C V AT – Avaya IP Office](image-url)
4) Click on the **VoIP** tab to reveal the following set of options.

5) **Un-check** the **VoIP Silence Suppression** checkbox.

6) Choose the desired codecs using the **Codec Selection** panels.

7) Repeat steps 1 – 6 for each VoIP line required on the DMP 128 Plus.
2.5 Administer SIP Users

1) From the left pane, right-click on User followed by New from the pop-up list. Enter a desired value for Name field. Set the Extension to the match the Base Extension number created in Section 2.4 (b).
2) Select the **Telephony** tab followed by the **Call Settings** sub-tab. Un-check the **Call Waiting On** checkbox.

3) Select the **Supervisor Settings** sub-tab and enter a **Login Code**. This will be used by the DMP 128 Plus as a password when registering to the system.
3.0 Configuring DMP 128 Plus C V (AT) VoIP Lines

VoIP configuration of the DMP 128 Plus is handled exclusively through a web interface, served from the device itself. The VoIP landing page is accessed through an address of the format -


- where 192.168.254.254 in this example is the default IP address of the DMP 128 Plus device.

Up to 8 lines may be configured. Note that each line intended for use will require a unique Extension to be specified as part of the IP Office configuration process.

3.1 Network Interface Configuration

Clicking on the **Network** followed by **Interface** tabs allows changes to be made to the desired network interface on the DMP 128 Plus; either LAN1 or LAN2 may be used for VoIP. VLAN tagging is available on either interface if required. Up to two DNS entries may be manually specified.

Click **Apply** after making any changes in order to restart the networking services on the device.
3.2 Transport Configuration

Click on the **Transport** tab to access signaling transport configuration. Set the transport to either UDP or TCP as per the IP Office Manager VoIP configuration in Section 2.3. The default transport type for the DMP is UDP. **Note:** At the time of writing, TLS may be used only on Line 1 (a future firmware update will address this issue).

In the event that changes need to be made, click **Apply** to commit any adjustments to the device.
3.3 Line Registration

Click on the first line tab to be configured as part of the system, e.g. **Line 1**.

1) **Extension**: Set this to match the Base Extension specified in Section 2.4.

2) **Display Name**: Optional. Specify an identifier for the line if required.

3) **Password**: Set to match the **Login Code** as specified in Section 2.5.

4) **Primary Proxy Name/IP**: Specify either the IP address or domain name of the IP Office server as noted in Section 2.2 and/or 2.3.

5) **Primary Proxy Port**: Specify the port number as required. The default is 5060.

Once the above settings have been entered, click the **Apply** button to save to the device.

Click the **Register** button to initiate registration to IP Office. If successful, the registration status to the right of the Register/Unregister buttons will indicate **Registered – Primary**.

![Registration Screen](image-url)
3.4 Codecs

The availability and ordering of codecs may be changed from within the Audio tab. Codecs will only be available for use within phone calls if they are moved from the Available to the Assigned column. By default, G.711u and G.711a are assigned to the system.

Click the Apply button to commit any changes to the device.

Note: If call drop-outs following On/Off-Hold events are noted when multiple codecs are assigned to the DMP 128 Plus, refer to Appendix B.
3.5 Dialing

Use the **Dialing** tab to select the desired DTMF signaling method for the IP Office system. The default DMP 128 mode is In-Band. Other available options are as follows:

- Out of Band – SIP INFO
- Out of Band – SIP INFO (RELAY)
- Out of Band – RFC 2833

Click **Apply** after selecting the desired DTMF signaling method for the line.
3.6 System Overview

Once all required lines have been registered to IP Office, use the Home tab to view a summary of the system, as required. In the example below, one of two registered lines is currently in an active call. Appearance-specific (caller-specific) details for active calls can be accessed by clicking on the corresponding Line entry.

3.7 Troubleshooting

In the event of failure to register, review the following:

- Check that the credentials specified as part of the IP Office setup are correctly entered into the registration fields for each line.

- Check network interface settings, including DNS fields (particularly if a proxy domain name is being used rather than an IP address).

- Click on the Logs tab to inbound and outbound SIP transactions. The absence of inbound transactions indicates a network routing problem. Registration-specific problems may be indicated by corresponding SIP responses such as 403 – Forbidden.

- Refer to Appendix B if call drop-outs are noted following On/Off-hold events.
Appendix A: RTP Port Range

The default port range for VoIP RTP traffic on the DMP is 50000 – 50999. To change this range, the following steps must be carried out.

1. Create a new blank text file using a suitable basic text editor.

2. Enter the following text into the document (in this example, the port range is being changed to 40000-40999; replace these values with the desired range) -

   ```json
   {"network":{"rtpstartport":40000,"rtpendport":40999}}
   ```

3. Save the file as `voipConfig.conf`. 
4. Navigate to the DMP VoIP configuration webpage and click on the **System** tab.

5. Recommended: Under **Export System Configuration**, click the **Export** button in order to back up the current VoIP configuration to disk. The file will be saved in the default web browser download directory.

6. Under **Import System Configuration**, click the **Browse** button to locate the `voipConfig.conf` file created in steps 1 to 3.

7. Click the **Import** button to update the DMP with the new RTP Port Range settings. A notification will appear once the settings have applied successfully.
Appendix B: Invite Handling Mode

Users may experience call drop-outs under certain circumstances when using multiple codec types on the DMP 128 Plus with some Avaya IP Office systems, specifically during On/Off-Hold events. Advanced settings on the DMP 128 Plus allow the call invite handling mode to be adjusted if required, in order to address such issues.

To change the mode from the factory default, the following steps must be carried out.

1. Create a new blank text file using a suitable basic text editor
2. Enter the following text into the document -
   
   ```json
   {"network":{"single_codec_mode":"loose"}}
   ```
3. Save the file as voipConfig.conf.
4. Navigate to the DMP VoIP configuration webpage and click on the **System** tab.

5. Recommended: Under **Export System Configuration**, click the **Export** button in order to back up the current VoIP configuration to disk. The file will be saved in the default web browser download directory.

6. Under **Import System Configuration**, click the **Browse** button to locate the **voipConfig.conf** file created in steps 1 to 3.

Click the **Import** button to update the DMP with the new settings. A notification will appear once the settings have applied successfully.

7. To change the invite handling mode back to factory default settings, repeat Steps 1-6, the following custom text in the configuration file –

```json
{"network":{"single_codec_mode":"inactive"}}
```