Extron Electronics
INTERFACING, SWITCHING AND CONTROL

DMP 128 Plus C V
DMP 128 Plus C V AT

RingCentral Configuration Guide

REVISION: **1.0.1**
DATE: **JULY 26, 2019**

Revision Log

Date	Version	Notes
June 26th 2018	1.0	First Release: Applies to Firmware **1.01.0010**
July 26th 2019	1.0.1	Added Appendix B

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1.0 Introduction

This document provides essential instructions for registering DMP 128 Plus C V (AT) VoIP lines as a RingCentral cloud-based SIP extension.

DMP 128 Plus C V / C V AT Firmware Version **1.02.0001-b001** or higher is required.

2.0 Configuring RingCentral for DMP 128 Plus C V (AT) VoIP Registration

Prior to proceeding with this guide, contact RingCentral in order to add or purchase SIP extensions for use with the DMP 128 Plus C V (AT). The DMP behaves as a **3rd party SIP device**. The following credentials are required for each line that is to be used on the system –

1) SIP Domain and Port Number
2) Outbound Proxy and Port Number
3) User Name
4) Password
5) Authorization ID

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 -

http://192.168.254.254/www/voip.html

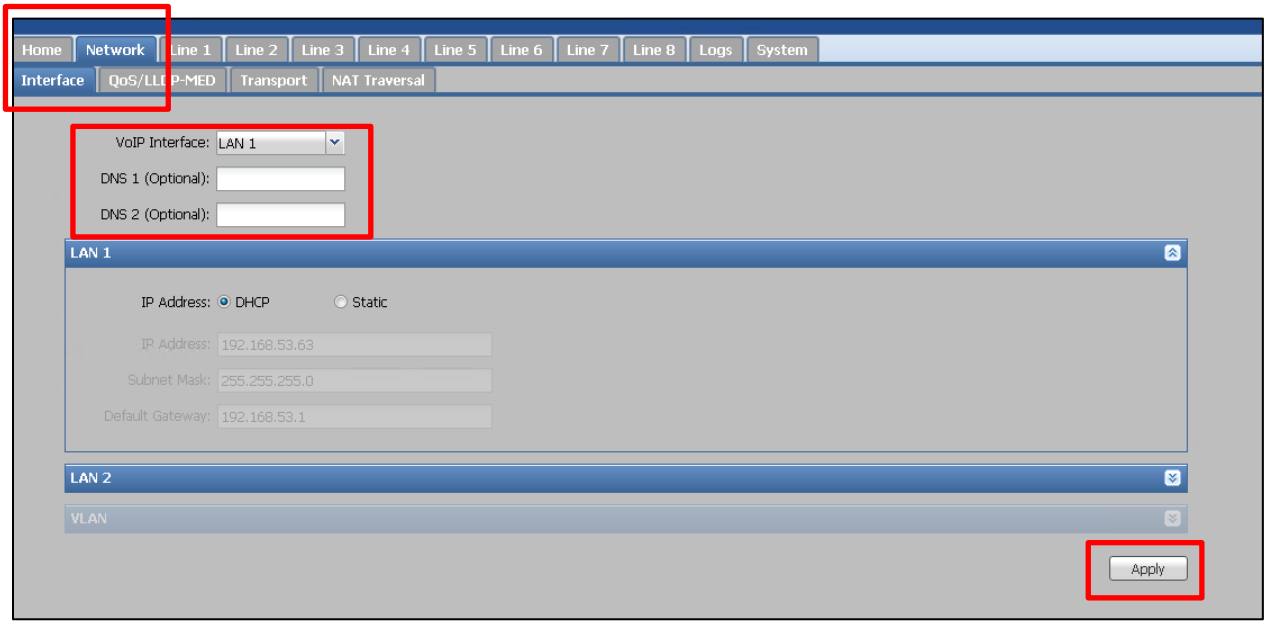
- where 192.168.254.254 in this example is the default IP address of the DMP 128 Plus device.

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

Click on the **Network** tab followed by **Interface** tab to set up 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.

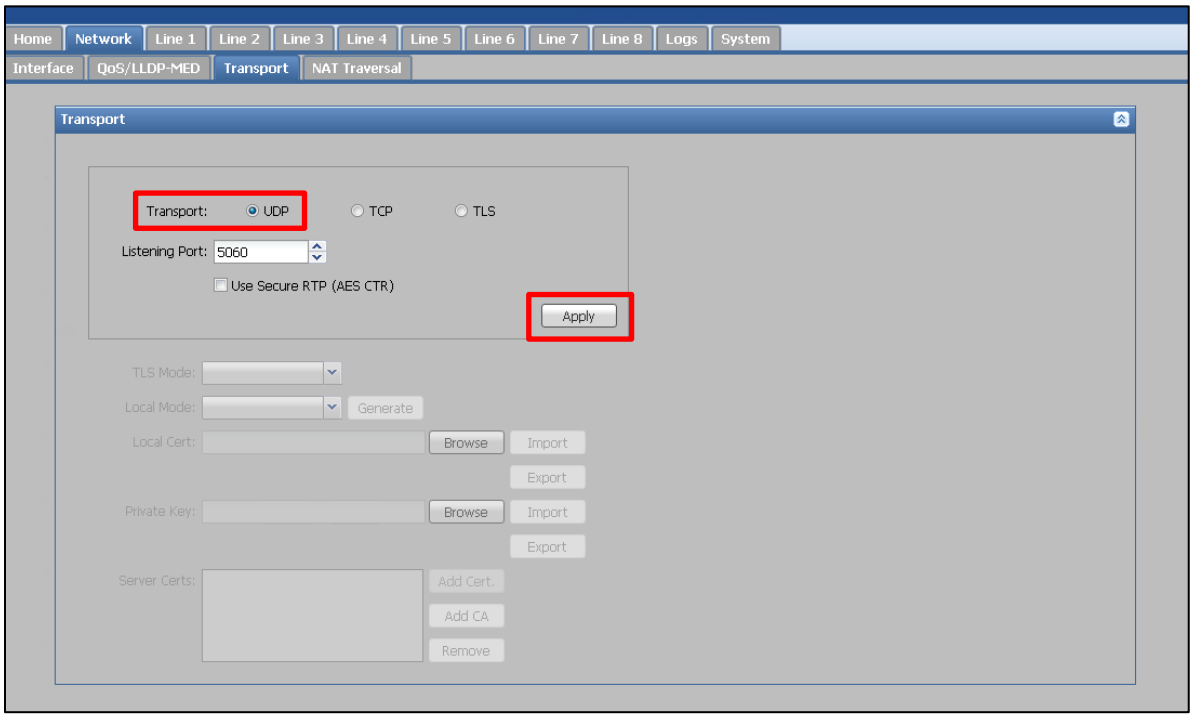
Click **Apply** after making any changes in order to restart the networking services on the device.



3.2 Transport Configuration

Click on the **Transport** tab to access signaling transport configuration. Check that the transport is set to UDP.

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**. Refer to the credentials provided by RingCentral (Section 2.0).

1) **User Name:** Set this to match the **User Name** from RingCentral.

2) **Authentication Name:** Set this to match the **Authorization ID**.

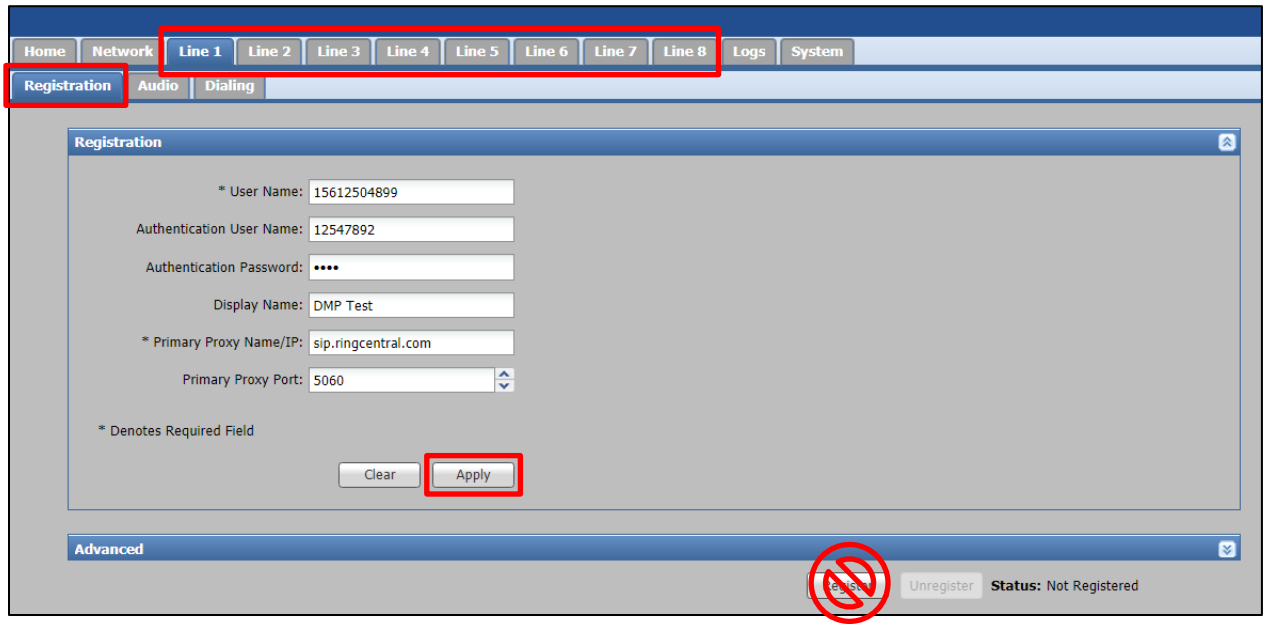
3) **Authentication Password:** Set to match the **Password**.

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

5) **Primary Proxy Name/IP:** Enter the **SIP Domain**

6) **Primary Proxy Port:** Specify the **SIP Domain Port Number**.

Once the above settings have been entered, click the **Apply** button to save to the device.
Do not attempt to register the line at this stage.



3.4 Outbound Proxy

NOTE:
The following steps must be carried out in order to set the **Outbound Proxy** and **Port Number** required for RingCentral registration.

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

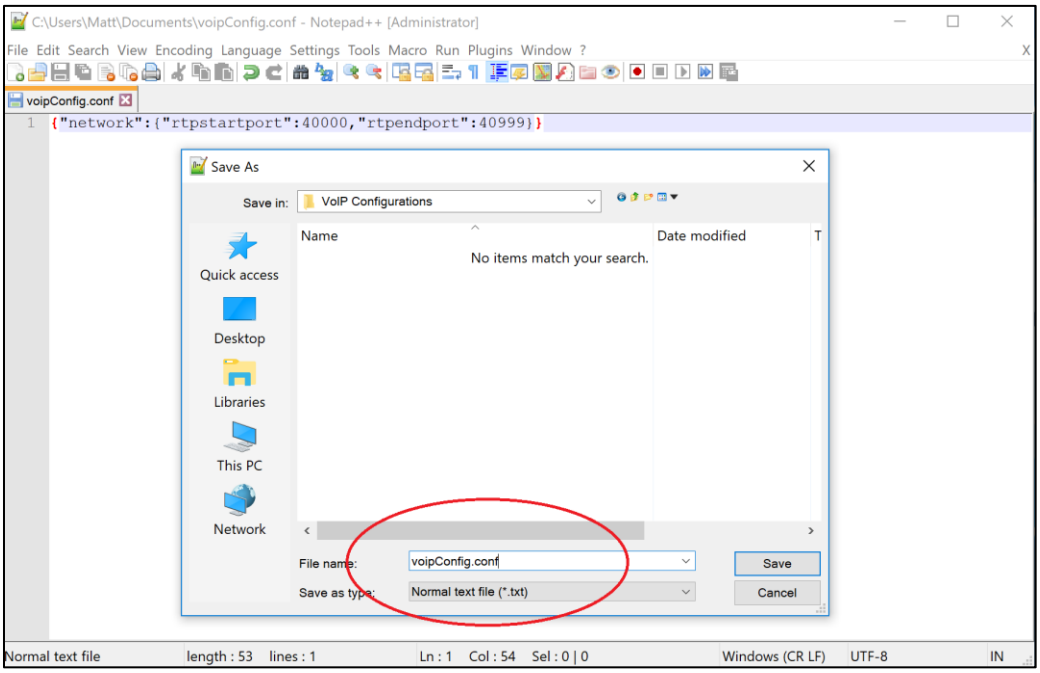
2. Enter the following text into the document, replacing the '1' in 'line1' with the required DMP line ID (1 – 8):

```
{"users":[{"id":"line1","outbound_proxy":"sip10.ringcentral.com",
"outbound_proxy_port":"5090"}]}
```

- Replace "sip10.ringcentral.com" with the **Outbound Proxy Address** provided by RingCentral (Section 2.0), if different.

- Change "5090" to the **Outbound Proxy Port** provided by RingCentral (Section 2.0), if different.

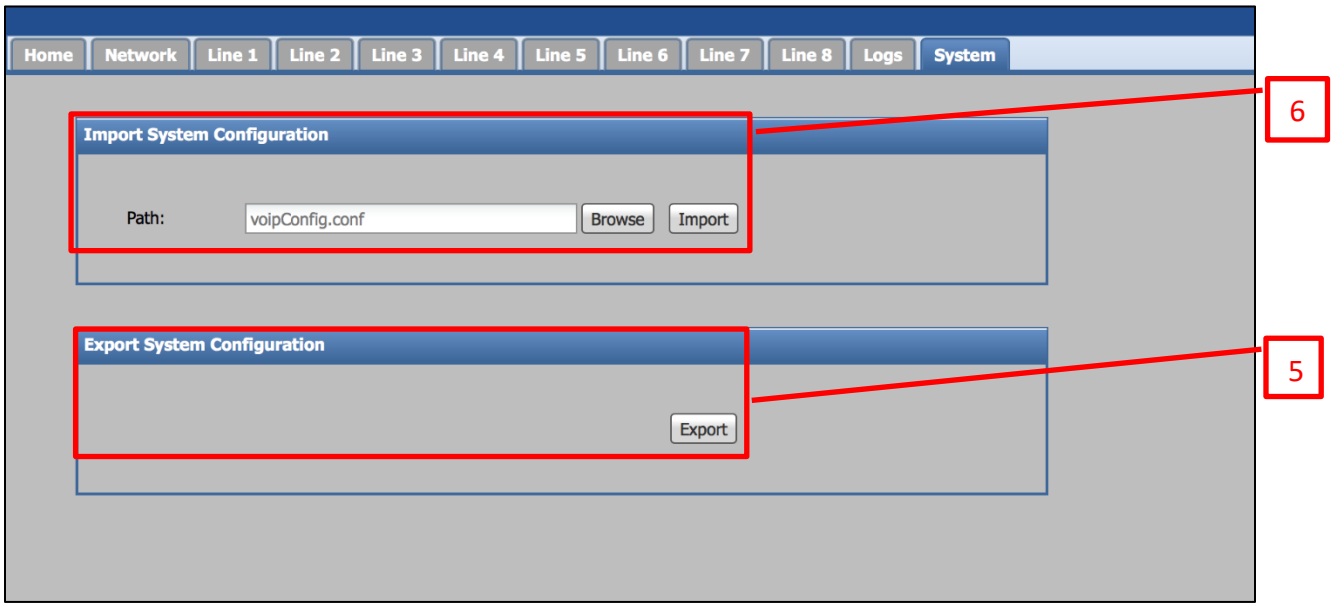
3. Save the file as **voipConfig.conf**.



4. Navigate to the DMP VoIP configuration webpage and click on the **System** tab.

5. Under **Export System Configuration**, click the **Export** button 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.



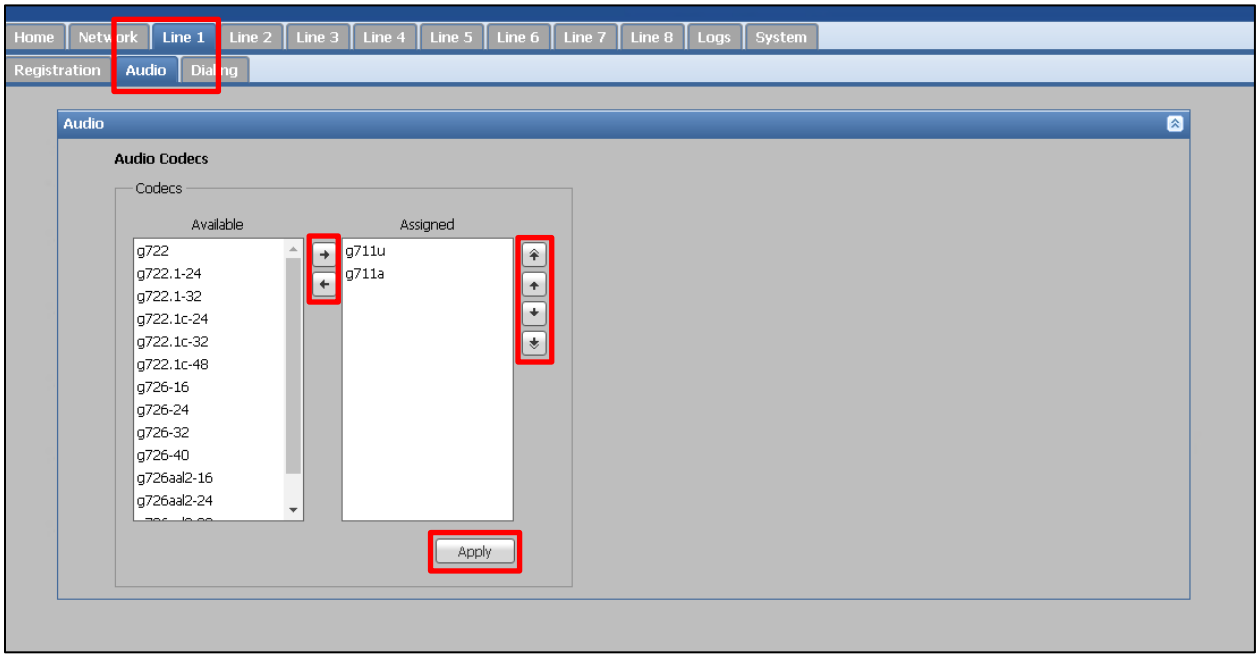
7. Click the **Import** button to update the DMP with the new outbound proxy settings. A notification will appear once the settings have applied successfully.

8. Return to the **Line - Registration** tab and click **Register** to complete the registration process.

3.5 Codecs

The availability and priority 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. Codec assignment and priority can be set per line.

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

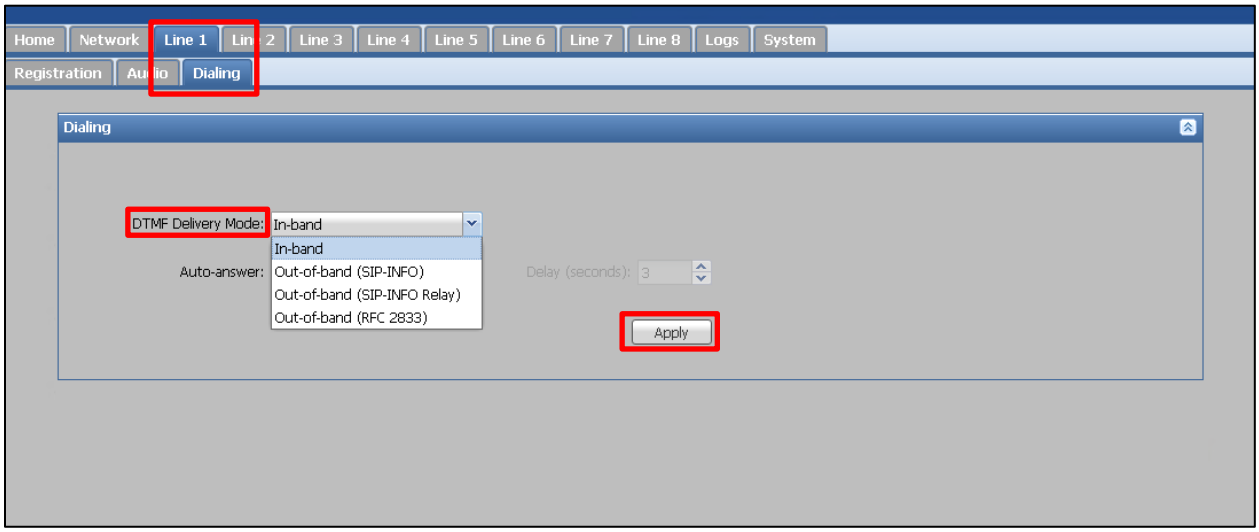


3.6 Dialing

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

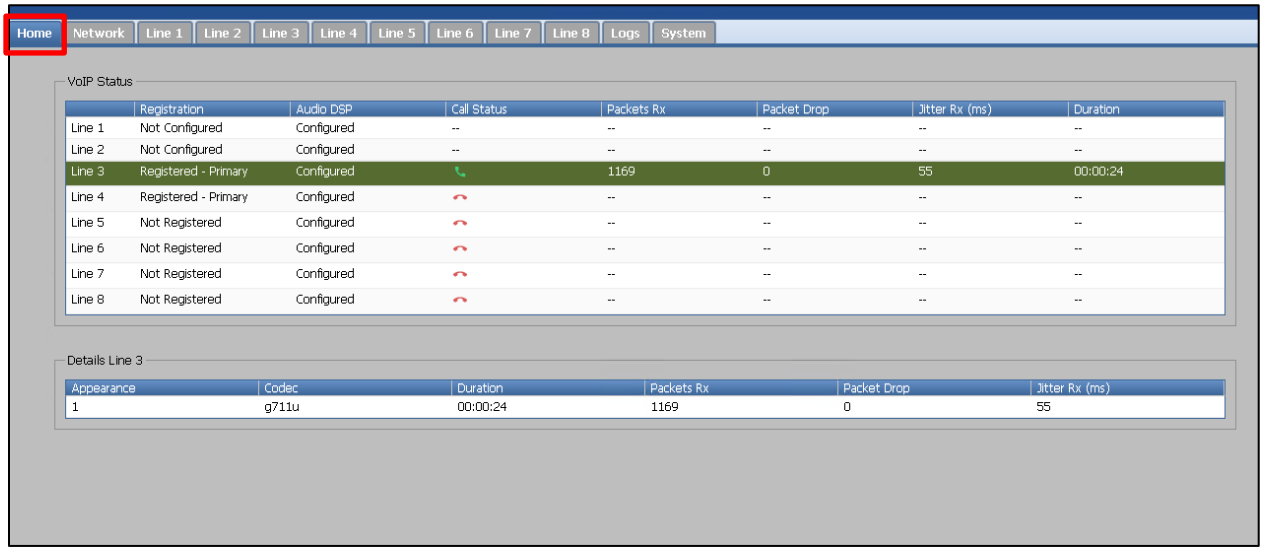
- Out of Band – SIP INFO
- Out of Band – SIP INFO (RELAY)
- Out of Band – RFC 2833

Click **Apply** after selecting the desired DTMF signaling method for the line. This can be set per line.



3.7 System Overview

Once all required lines have been registered to RingCentral, use the **Home** tab to view a summary of the system, as required. In the example below, one of two registered lines (line 3) is currently in an active call. Appearance-specific (caller-specific) details for active calls can be accessed by clicking on the corresponding Line entry.



3.8 Troubleshooting

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

- Check that the credentials provided by RingCentral are correctly entered into the registration fields for each line.
- Check network interface settings, including DNS fields.
- 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*.

Appendix A: RTP Port Range

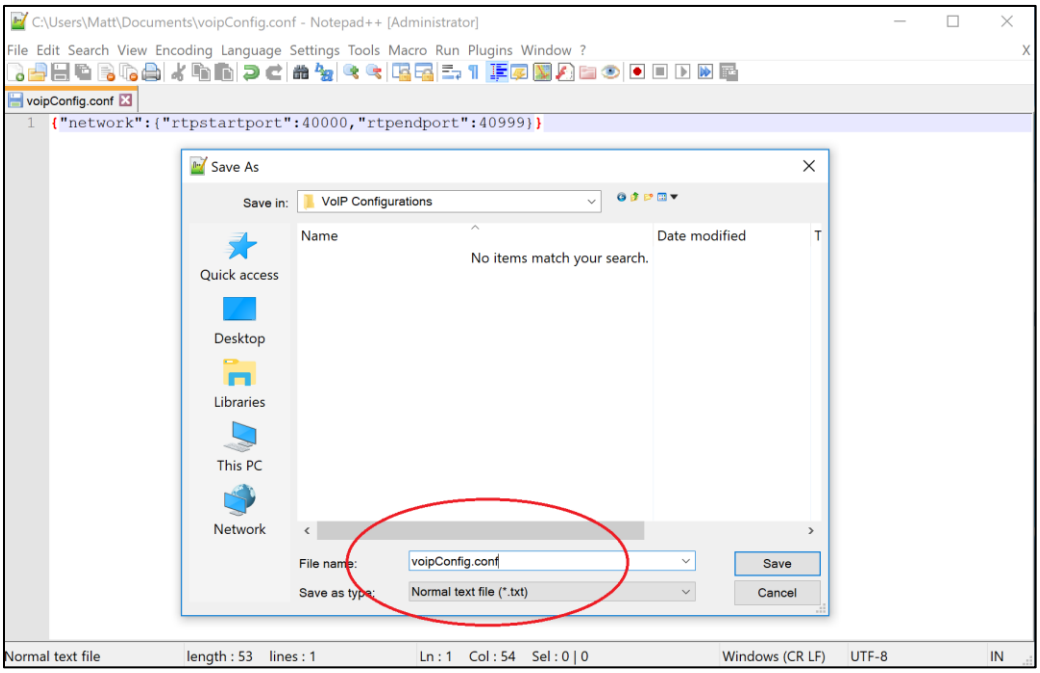
The default port range for VoIP RTP traffic on the DMP is **50000 – 50999**. To change this range, the following steps must be carried out.

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) -

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

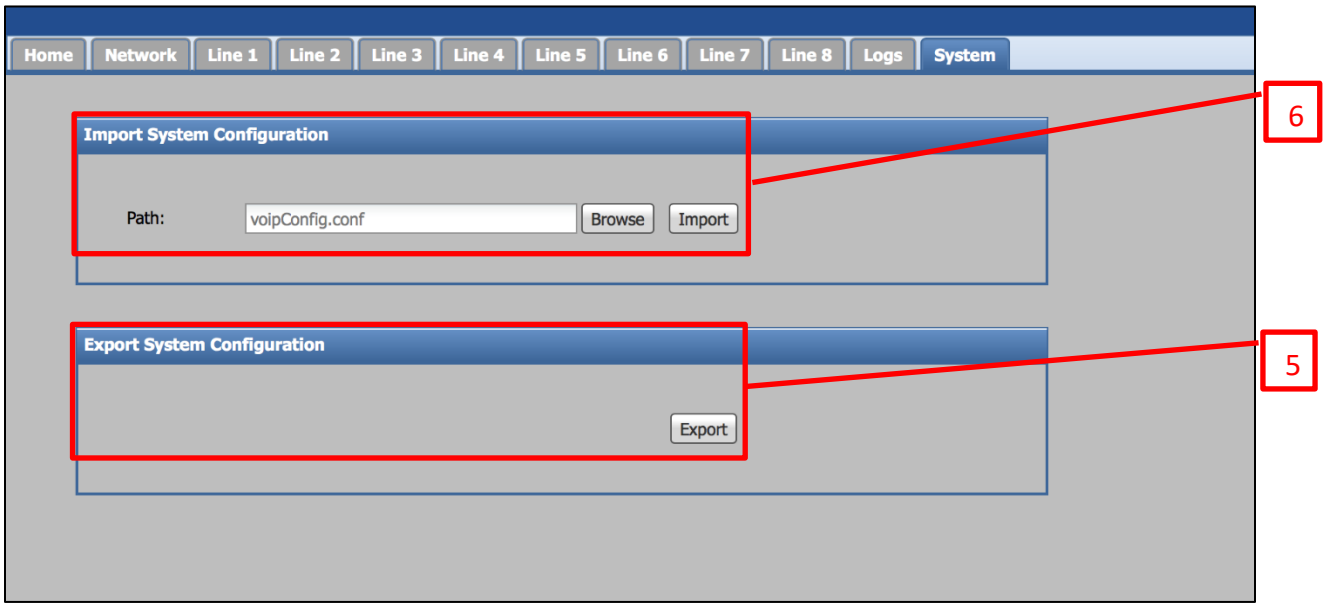
3. Save the file as **voipConfig.conf**.



4. Navigate to the DMP VoIP configuration webpage and click on the **System** tab.

5. Under **Export System Configuration**, click the **Export** button 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: Automatic Line Re-Registration

Some call managers and networks go into maintenance windows which do not allow VoIP endpoints to register or maintain their registration. To help resolve this issue the Automatic Line Re-Registration function can be configured to re-register a line if line registration is unexpectedly lost. This function causes the VoIP interface to re-attempt a line re-registration if the first automatic re-registration attempt fails.

In order to use this feature, the line must first be registered to the call manager.
Note: When enabled, this function will attempt re-registration once the SIP timer has expired. By default the SIP timer is set to 3600 seconds (60 mins). By default, the Automatic Line Re-Registration feature is disabled, with the "registration_fail_retry_count" set to zero (0).

To set up Automatic Line Re-Registration, the following steps must be carried out. **Requires FW 1.02.0001-b001 or later.**

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

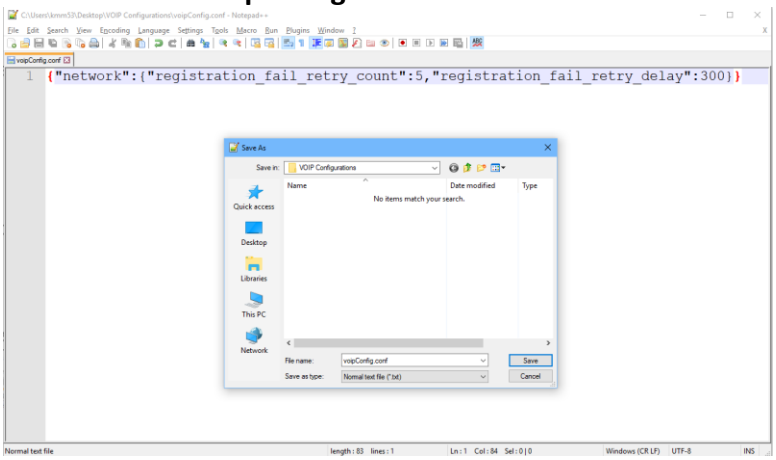
2. Enter the following text into the document –

```
{"network":{"registration_fail_retry_count":5,"registration_fail_retry_delay":300}}
```

   a. "registration_fail_retry_count":5
   This is the number of attempts a Line will make to re-register
      i. Example above is set to five (5) reconnections attempts
      ii. If this is set to zero (0), the feature is disabled
      iii. Valid Range of values: 0 - 99

   b. "registration_fail_retry_delay":300
   Amount time between registration attempts in seconds
      i. Example above is set to 300 seconds (5 mins) between reconnections attempts
      ii. Valid Range of values: 120 - 3600

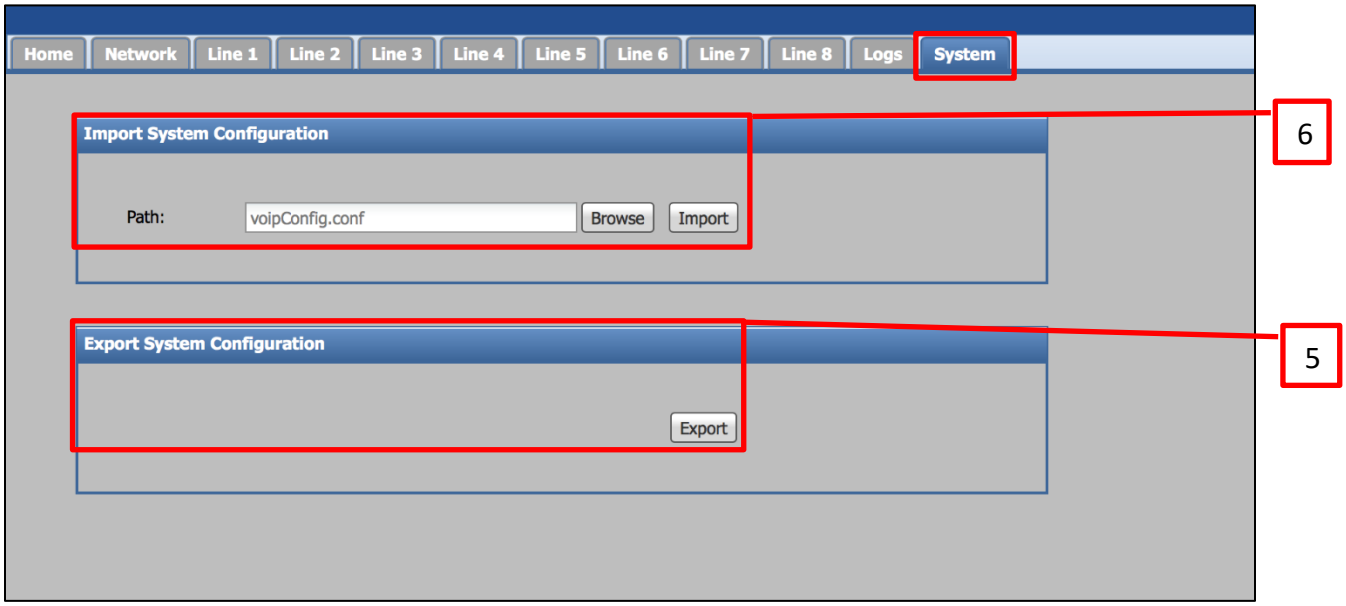
3. Save the file as **voipConfig.conf**.



4. Navigate to the DMP VoIP configuration webpage and click on the **System** tab.

5. 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.

To disable to Auto-Reregistration mode, send the following string using the same method:

```
{"network":{"registration_fail_retry_count":0,"registration_fail_retry_delay":200}}
```