Avaya Solution & Interoperability Test Lab

Application Notes for Konftel 300W and Avaya IP Office – Issue 1.0

Abstract

These Application Notes describe the compliance testing of Konftel 300W with Avaya IP Office. The Konftel 300W is a conference unit which communicates with IP Office via the Avaya R4 DECT base station. The compliance testing tested the major functions of the Konftel 300W product.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

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1. Introduction

These Application Notes describe the configuration steps required for Konftel 300W to successfully interoperate with IP Office via the Avaya R4 DECT base station. The Konftel 300W is a wireless DECT conference endpoint which can be attached to an external power source or run from its internal rechargeable battery. Placed within a conference room, the Konftel 300W enables all of the participants in the room to take part in a telephone conversation. Due to its wireless roaming abilities and internal power source, the 300W can be moved among conference rooms without reconnection or reconfiguration. The unit also performs echo cancellation to avoid feedback problems that might otherwise occur in a noisy environment. A "Conference" function key allows the easy establishment of recurring or ad hoc conferences. The Konftel 300W has a keypad/display, shown in the figure below, which serves as a telephone keypad, as well as providing access to additional functions.

Figure 1: Konftel 300W Keypad /Display

The 300W communicates with IP Office via one or more Avaya R4 DECT base stations, as dictated by the coverage requirements of the campus within which the 300W is used.

This document details the configuration used for the compliance testing of Konftel 300W with IP Office and the Avaya R4 DECT base station.

1.1. Interoperability Compliance Testing

The compliance testing included the following test scenarios:

- Registration / De-registration
- Roaming
- Basic call (local, external, priority call)
- Long calls
- Call waiting and call toggle
- Hold / retrieve
- Supervised / blind transfer
- ”Instant” conference
- “Automatic” conference
- DTMF
- Serviceability: automatic startup after power interruption

1.2. Support

Support from Avaya is available at http://support.avaya.com/.
Support for Konftel products is available at

- Web-based support: http://www.konftel.com/
- Email: info@konftel.com
- International help desk: +46 90706489
- North American help: +1 866-606-4728.

2. Reference Configuration

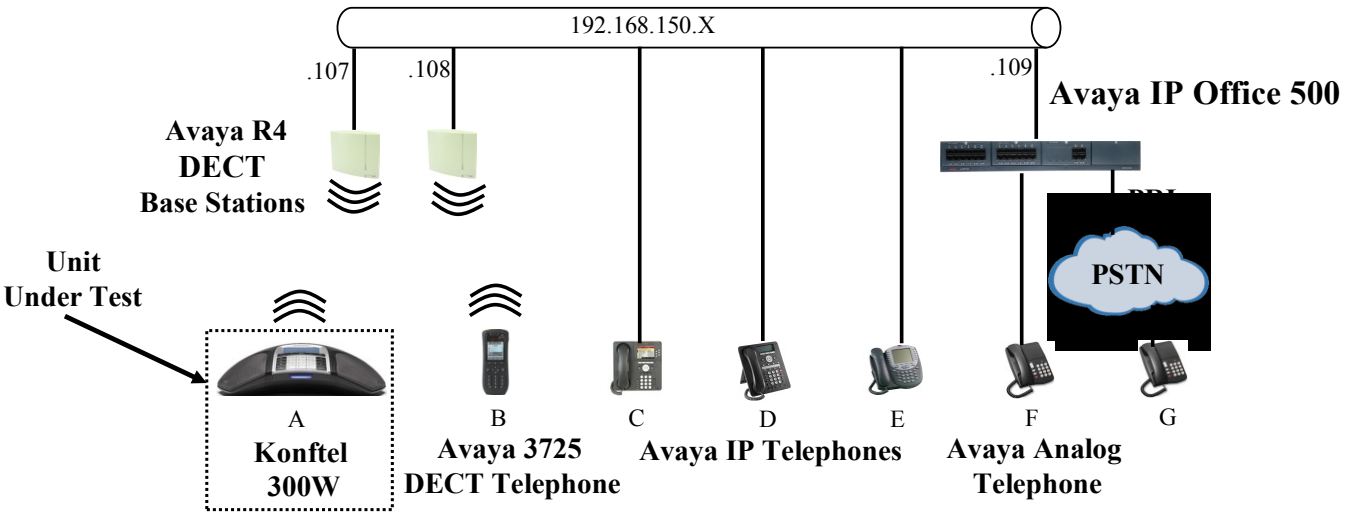

Figure 2: Reference Configuration

The Konftel 300W in the above diagram interfaces wirelessly to IP Office via the Avaya R4 DECT base stations.

The following table contains additional information about how each of the telephones contained in the above diagram are configured in IP Office:

Diagram	Ext	Endpoint
A	10302	Konftel 300W
B	10304	Avaya 3725 DECT Telephone
C	10172	Avaya 9620 IP Telephone
D	10062	Avaya 1608 IP Telephone
E	10202	Avaya 5610 IP Telephone
F	10001	Avaya 2500 Analog Telephone
G	06911111111	ISDN endpoint

Table 1: Extensions Used for Testing

3. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Software Component	Version
Avaya IP Office	6.0 (8)
Avaya 1608 IP Telephone	1.2.2
Avaya 9620 IP Telephone	3.1.1
Avaya 5610 IP Telephone	2.9.1
Avaya 3725 DECT Telephone	3.0.10
Avaya R4 DECT	Hardware: IPBS1-Y3/PB, IPBS: 3.2.8, Bootcode: 3.0.26
Konftel 300W	1.7b.XXXX

Table 2: Equipment and Version Validated

4. Configure Avaya IP Office

All configuration steps for Avaya IP Office were performed using the IP Office Manager program. This program presents the administrator with a hierarchy of icons for the various components which can be configured, as shown below.

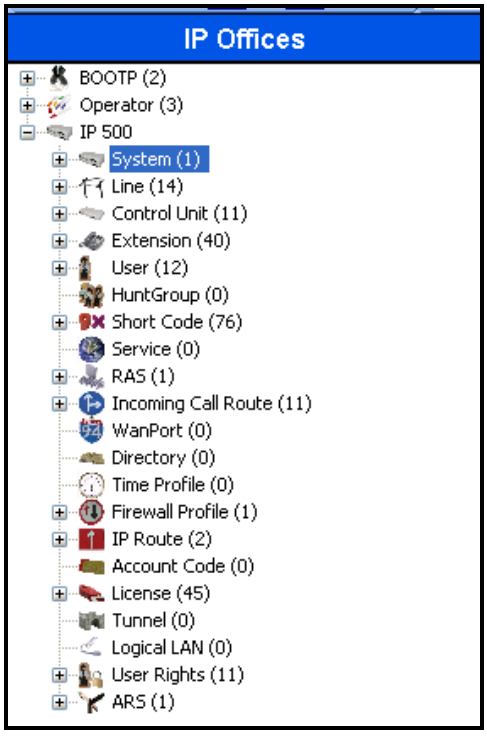

Figure 3: IP Office Manager Top Level Presentation

4.1. Licenses

IP Telephones and DECT R4 endpoints included in the configuration, including the Konftel 300W, each consume an **Avaya IP Endpoint** license, as described in reference Error! Reference source not found..

4.2. System

Select the "System" icon shown in **Figure 3** and enter the parameters shown in the following table.

Tab	Parameter	Usage
LAN1 LAN Settings	IP Address	Enter the IP address assigned to IP Office.
	IP Mask	Enter the network mask assigned to IP Office.

Table 3: IP Office System Parameters

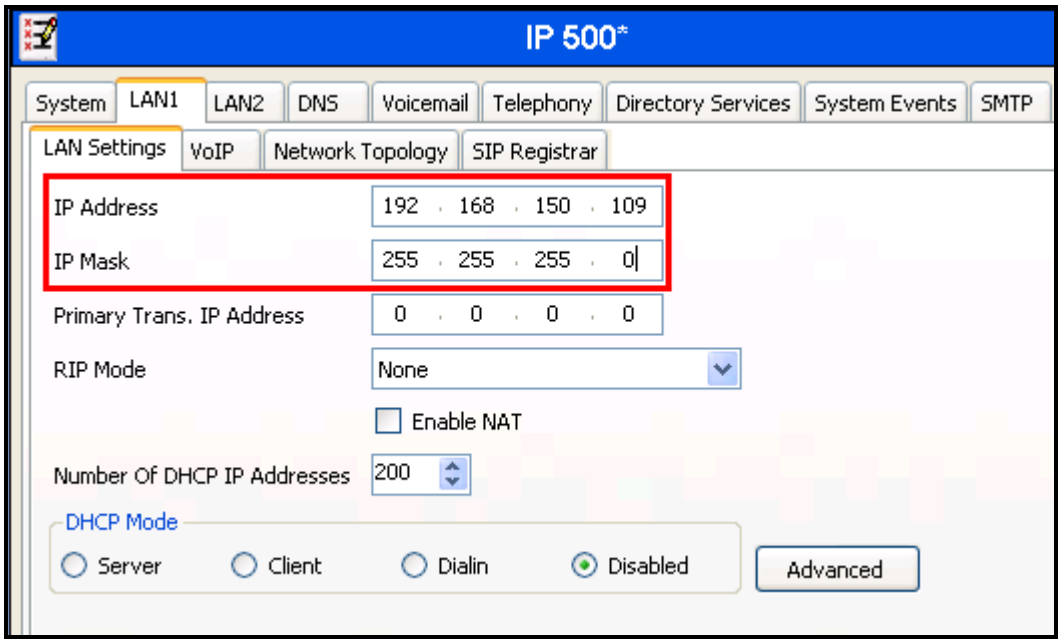

Figure 4: IP Office System: LAN1 Settings Tab

4.3. DECT Trunk

From the "Line" icon shown in **Figure 3**, add a new DECT line using the parameters for the "VoIP" tab shown in the following table.

Parameter	Usage
Gateway IP Address	Enter the IP address of the master Avaya R4 base station.
Allow Direct Media Path	Check this box.

Table 4: IP Office IP DECT Line Parameters

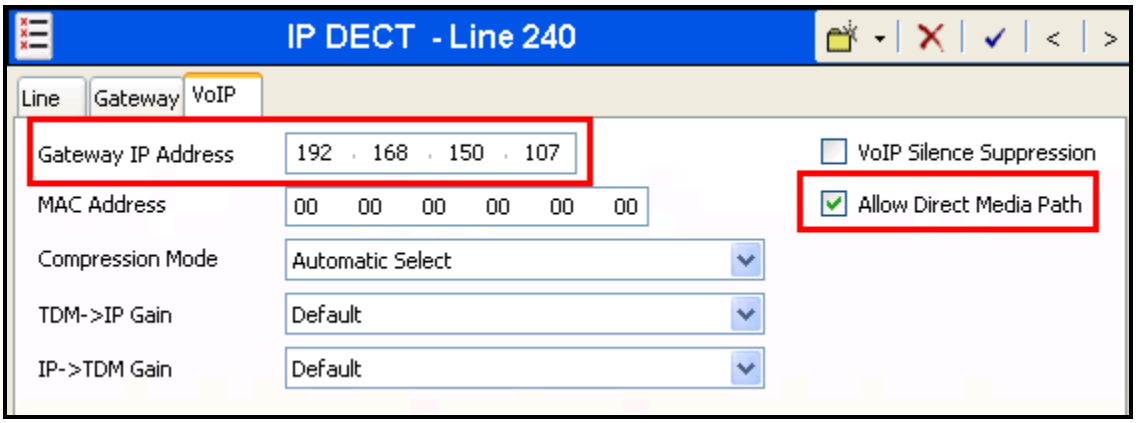

Figure 5: IP Office IP DECT Line: VoIP Tab

4.4. Mobile Endpoints

From the "Extensions" icon shown in **Figure 3**, create a DECT extension for the Konftel 300W, and enter the extension number in the "Base Extension" field.

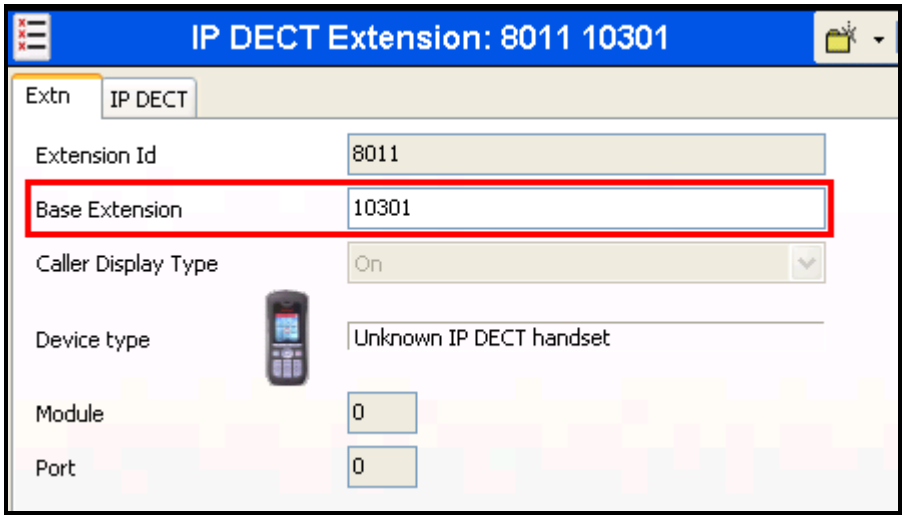

Figure 6: IP Office DECT Telephone Extension: Extn Tab

From the “User” icon shown in **Figure 3**, add a new user for the Konftel 300W, using the parameters shown in the following table.

Parameter	Usage
Name	Enter an appropriate name to be assigned to the user.
Extension	Enter the local extension to be assigned to the user.

Table 5: IP Office User Parameters

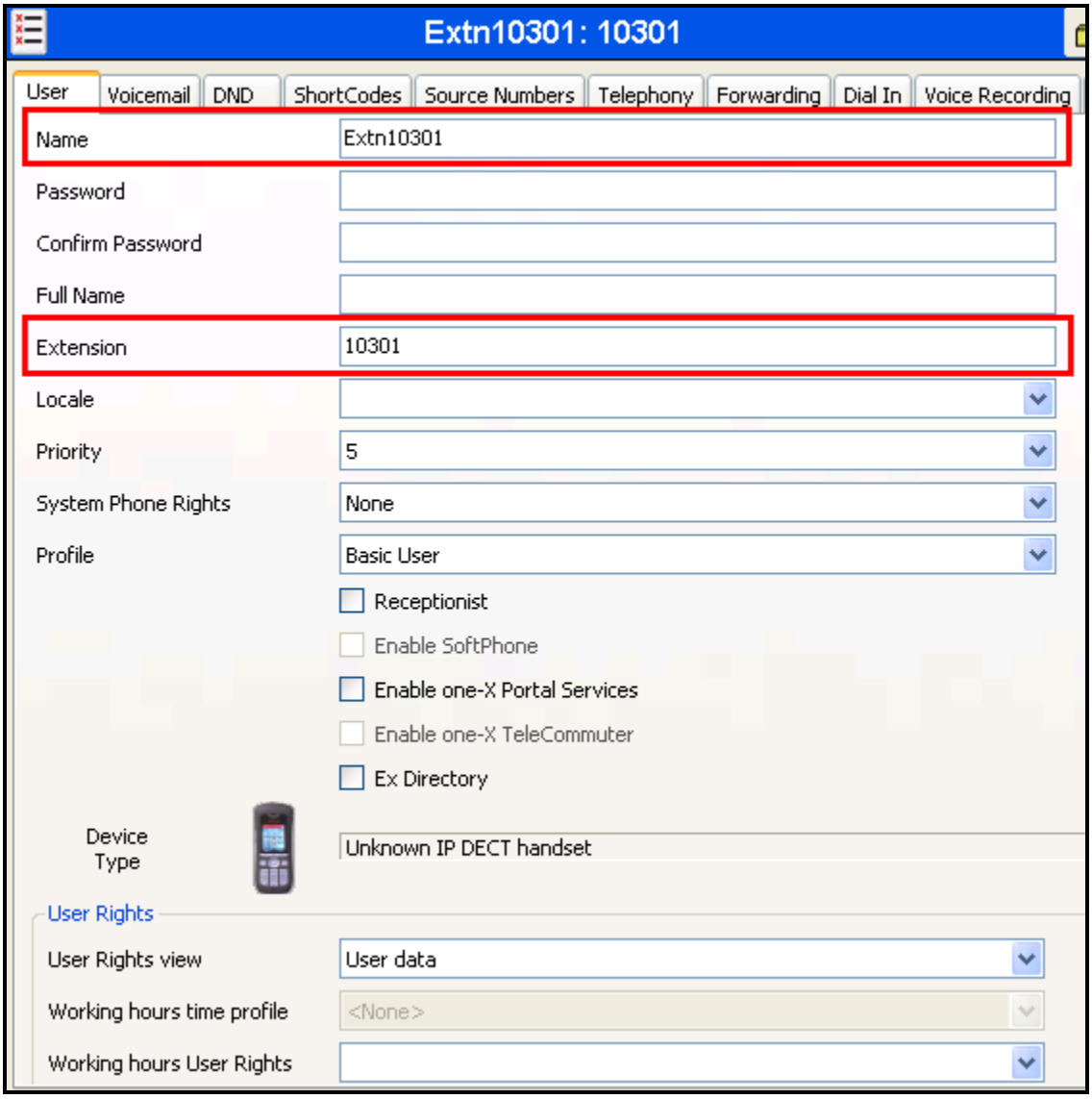

Figure 7: IP Office Local Telephone User: User Tab

4.5. Configure Shortcodes

From the "Short Code" icon shown in **Figure 3**, create the "Conference Add" short code shown below, if it does not already exist.

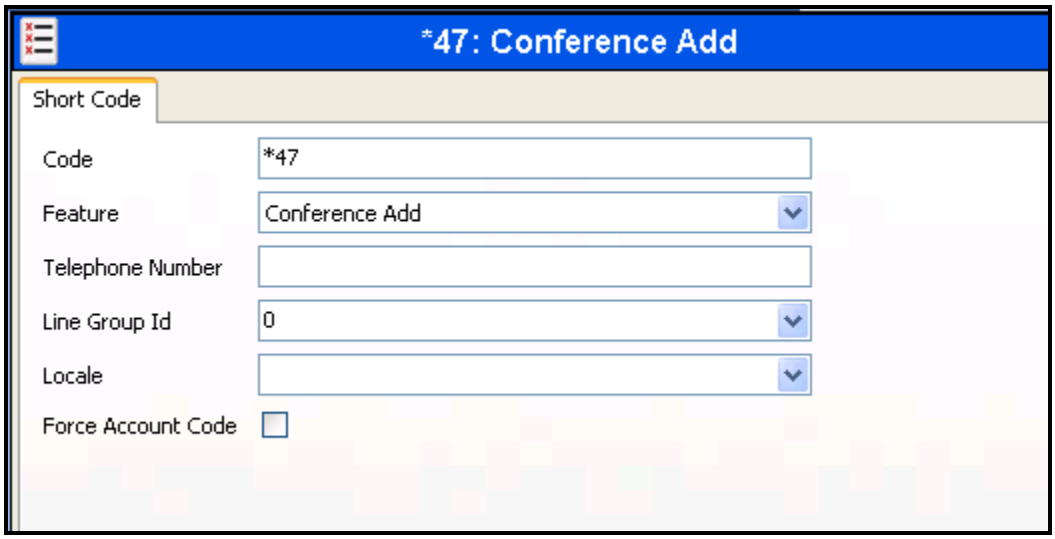

Figure 8: IP Office "Conference Add" Shortcode

5. Configure Avaya R4 Base Stations

In its un-configured state, the Avaya R4 base station is set to be a DHCP client. Thus, the MAC address of each base station to be included in the configuration should be entered into the DHCP server together with the IP address, network mask, and default gateway address which are to be assigned to that base station. The Avaya R4 base stations have an integrated HTTP server which allows the input of configuration parameters via a web browser.

Each Avaya R4 base station consists of two independent components:

- A PBX interface component which has a trunk interface to the PBX and an IP interface to one or more radio components.
- A radio component which interfaces to the wireless endpoints via DECT and via IP interface to a Master base station containing an active PBX interface component.

The unit which serves as Master has an active PBX interface component and can also have an active radio component. Any additional base stations, hereafter referred to as Slave base stations, can extend radio coverage. Each has an active radio component which communicates with the Master via IP, and an inactive PBX interface component.

5.1. Configure Master Base Station

Enter the URL of the master base station into a web browser and select the "System administration" control.

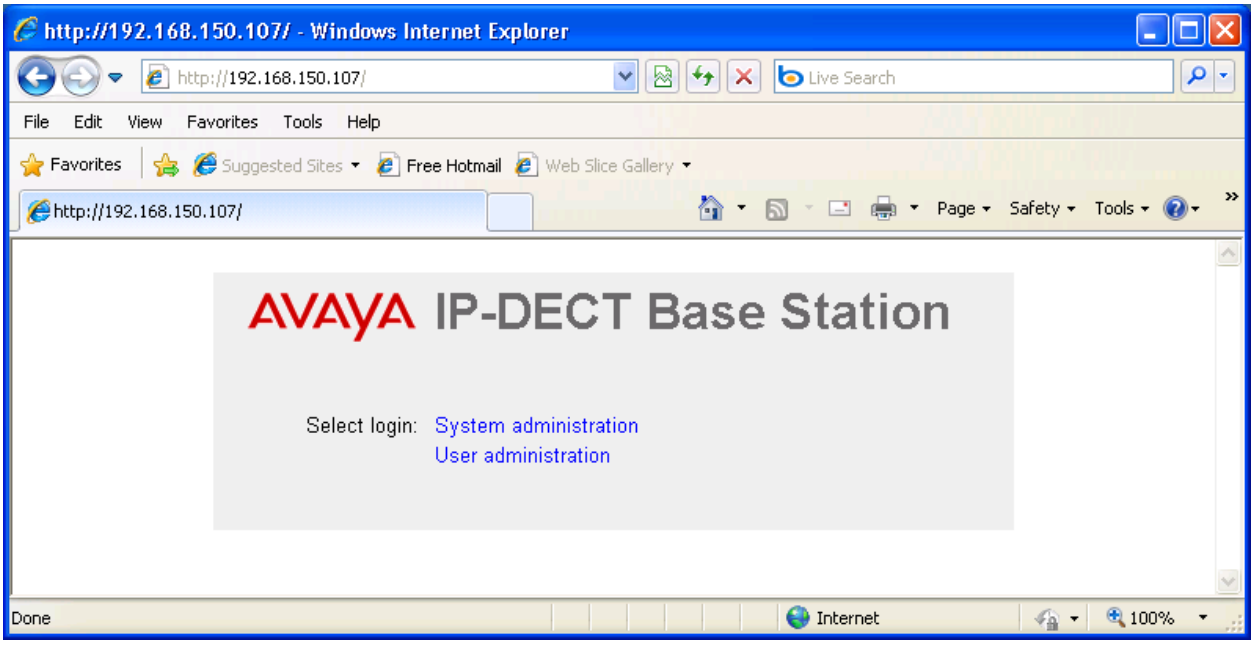

Figure 9: Master Base Selection

Enter the appropriate credentials and click “OK”. For the first-time login, the default password is “changeme”. After initial login, this should be changed to appropriate value, for security reasons.

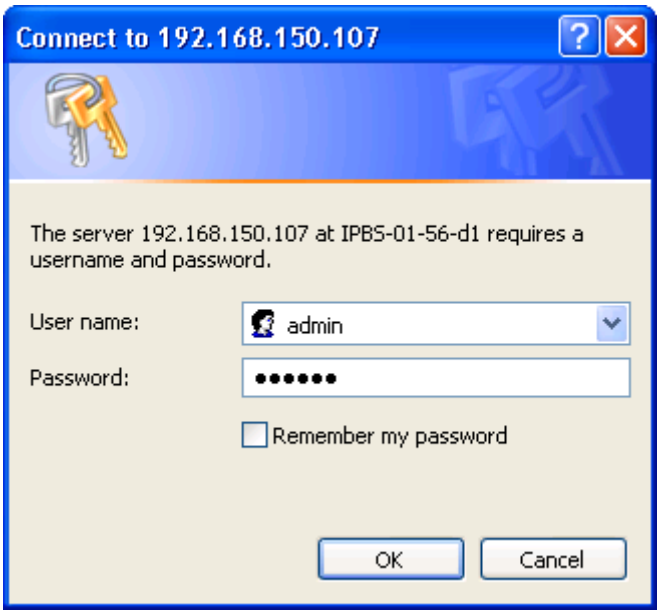

Figure 10: Master Base Station Login

The initial display shows the **General->Info** tab, which contains version/hardware identification information.

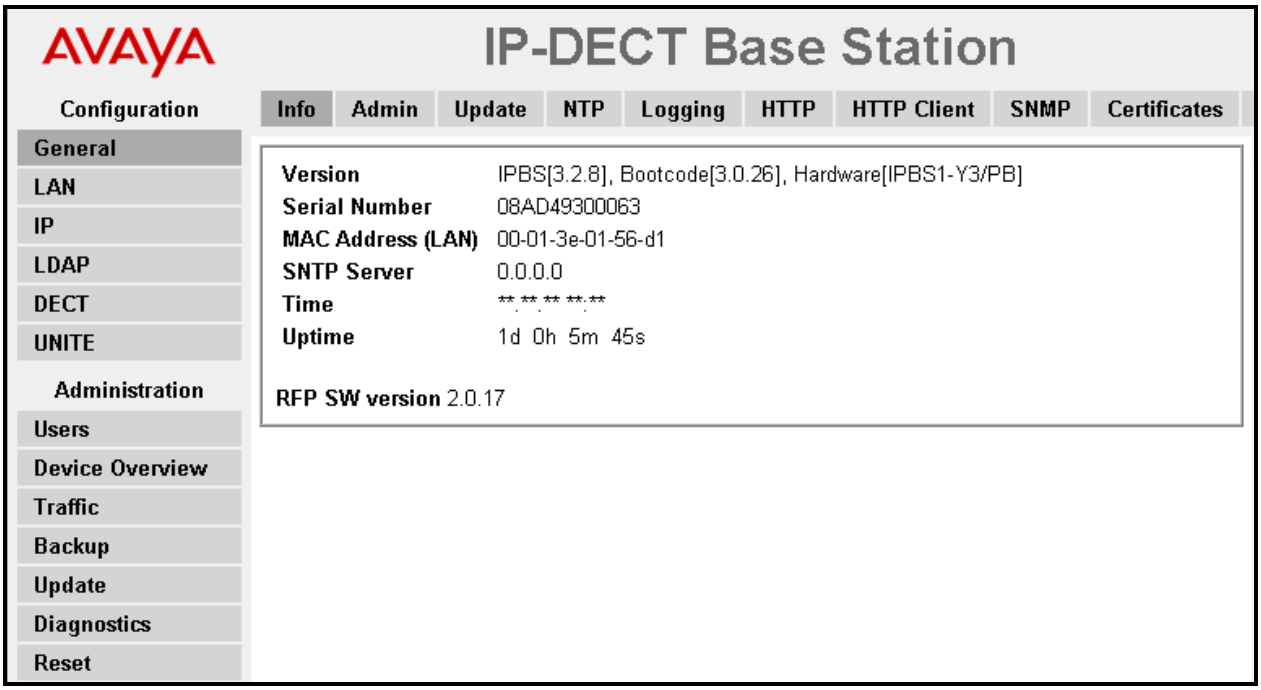

Figure 11: Master Base Station General -> Info Tab

Select the **LAN->IP** tab. Verify that the IP parameters assigned to the base station correspond to those which are configured in the DHCP reservation.

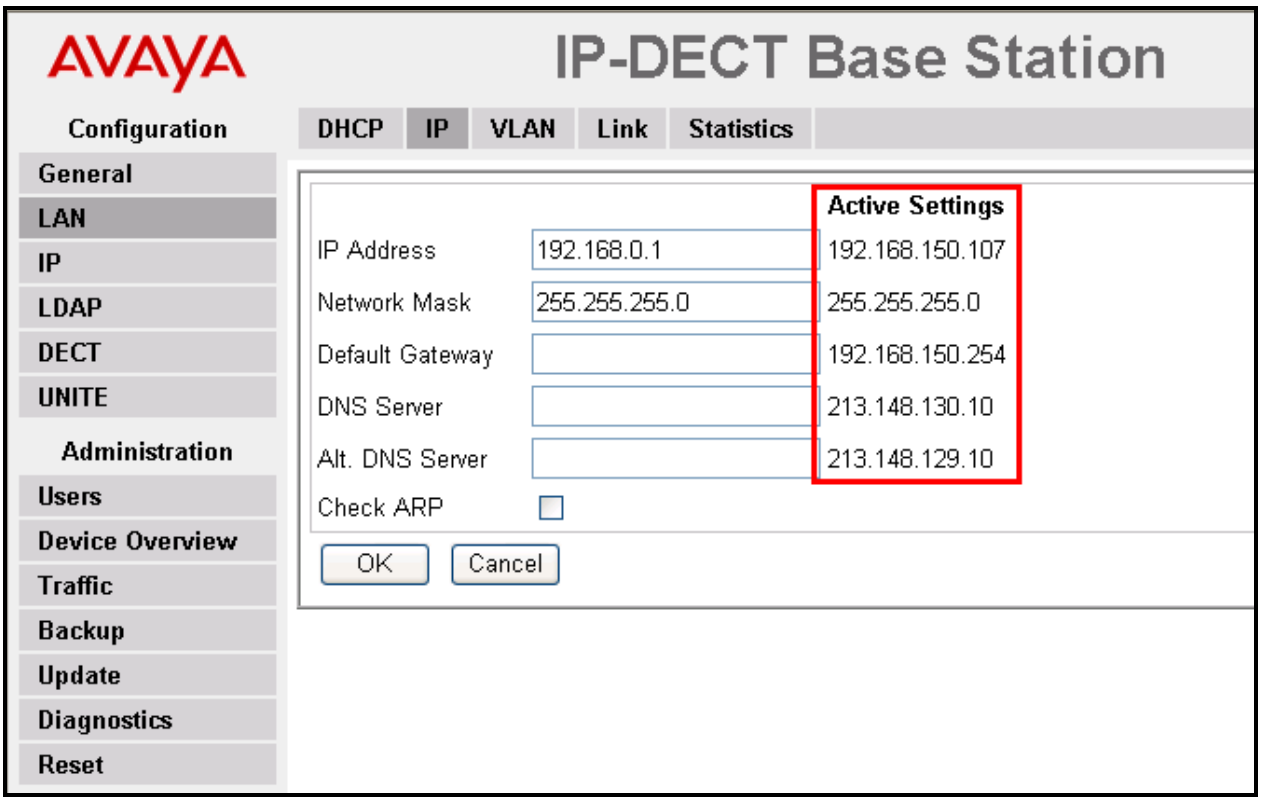

Figure 12: Master Base Station LAN -> IP Tab

Select the **General->Admin** tab. Enter the parameters shown in the following table and click "OK".

Parameter	Usage
Device Name	Enter an appropriate name to identify the master base station.
User Name	Enter "admin", the default administrator user name.
Password	Enter an appropriate password.

Table 6: Master Base Station General -> Admin Tab Parameters

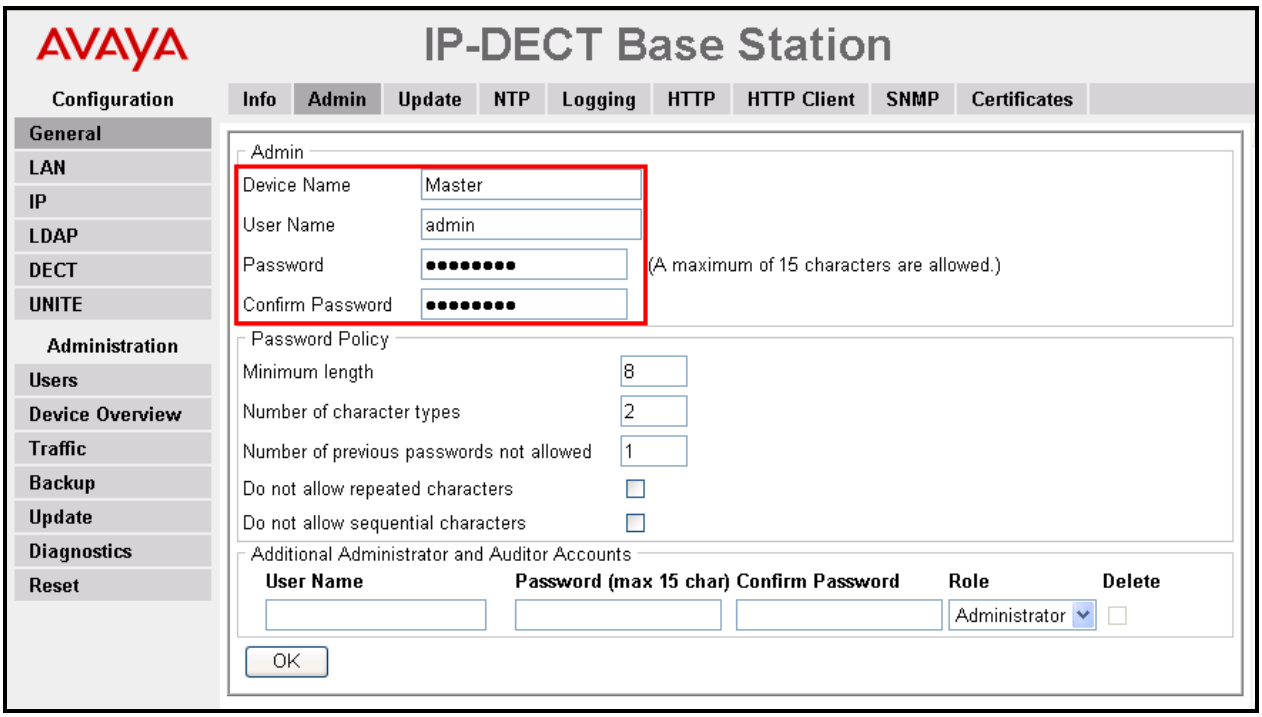

Figure 13: Master Base Station General -> Admin Tab

Select the **DECT->Master** tab. Enter the parameters shown in the following table and select "OK".

Parameter	Usage
Mode	Select "Active" from the drop-down menu.
PBX	Select "IPO" from the drop-down menu.
Protocol	Select "H.323/XMobile" from the drop-down menu.

Table 7: Master Base Station DECT -> Master Tab Parameters

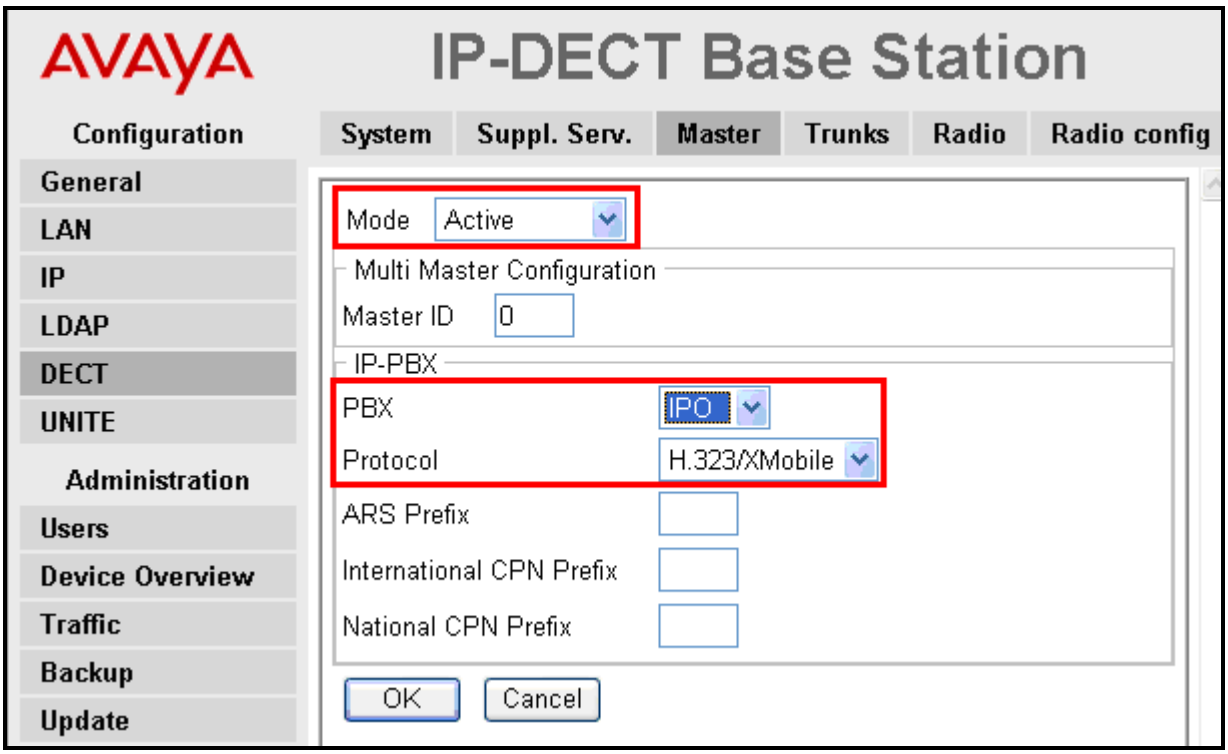

Figure 14: Master Base Station DECT -> Master Tab

Select the **DECT -> System** tab. Enter the parameters shown in the following table and select "OK".

Parameter	Usage
System Name	Enter an appropriate name to identify this base station.
Password / Confirm	Enter an appropriate password for this base station.
Subscriptions	Select "With System AC" from the drop-down menu.
Authentication Code	Enter an appropriate code to be used by endpoints for registration authentication.
Frequency	Select "Europe" from the drop-down menu.
Coder	Select "G711A" from the drop-down menu.
Frame (ms)	Select "20" from the drop-down menu.

Table 8: Master Base Station DECT -> System Tab Parameters

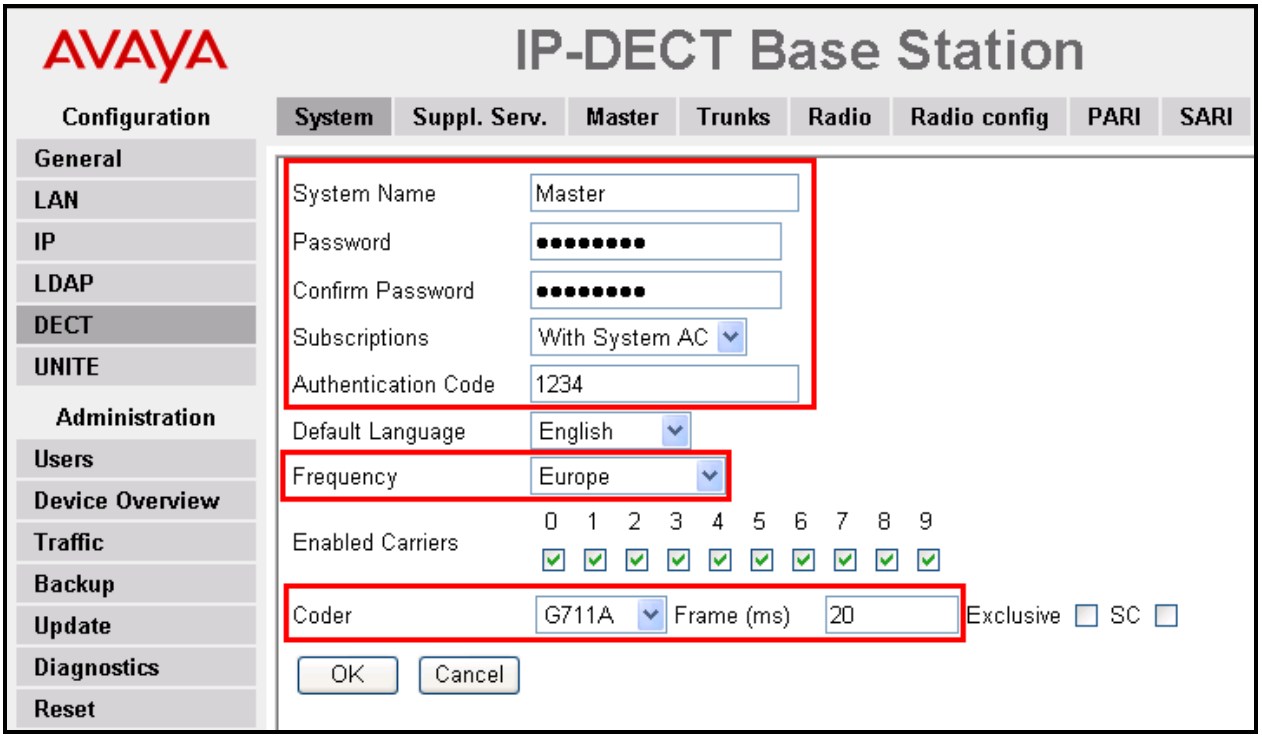

Figure 15: Master Base Station DECT -> System Tab

Select the **DECT->Trunks** tab. Enter the parameters shown in the following table and select "OK".

Parameter	Usage
Name	Enter an appropriate name to identify this trunk.
Local Port	Enter "1720".
CS IP Address	Enter the IP interface assigned to LAN1 interface in **Figure 4**.
CS Port	Enter "1720".

Table 9: Master Base Station DECT -> Trunks Tab Parameters

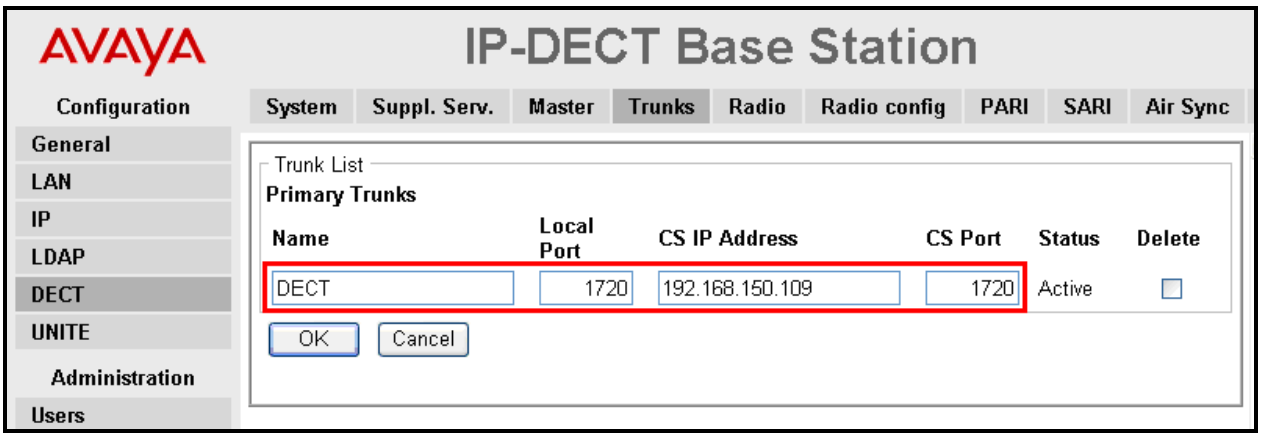

Figure 16: Master Base Station DECT -> Trunks Tab

Select the **DECT->Radio** tab. Enter the parameters shown in the following table and select "OK".

Parameter	Usage
Name	Enter the System Name assigned to this base station in **Figure 15**.
Password	Enter the password assigned to this base station in **Figure 15**.
Master IP Address	Enter the IP address assigned to this base station, as displayed by the "Active Settings" in **Figure 12**.

Table 10: Master Base Station DECT -> Radio Tab Parameters

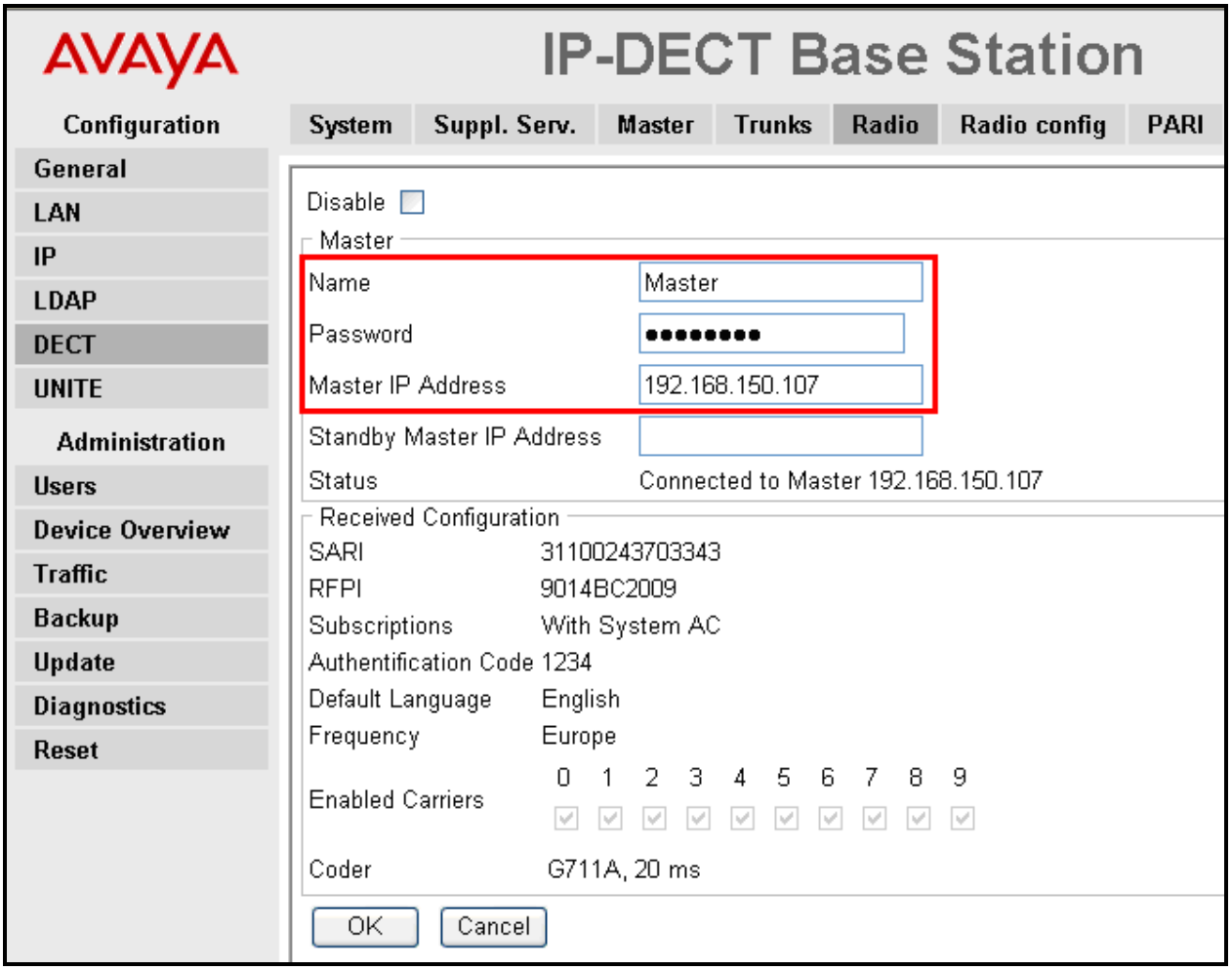

Figure 17: Master Base Station DECT -> Radio Tab

Select the **DECT->Air Sync** tab. Enter the parameters shown in the following table, select "OK".

Parameter	Usage
Sync Mode	Select "Master" from the drop-down menu.

Table 11: Master Base Station DECT -> Air Sync Tab Parameters

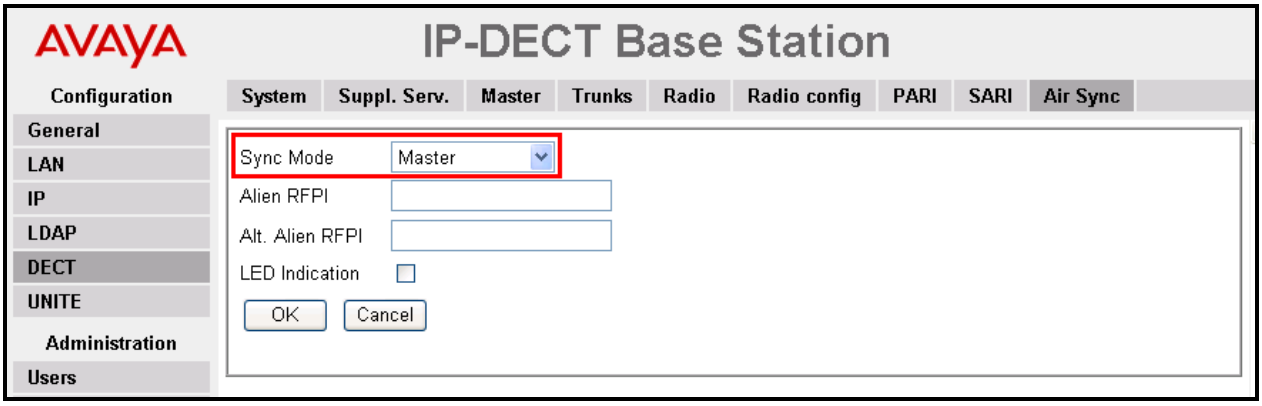

Figure 18: Master Base Station DECT -> Air Sync Tab

Select the **Reset->Idle-Reset** tab. Click “OK”.

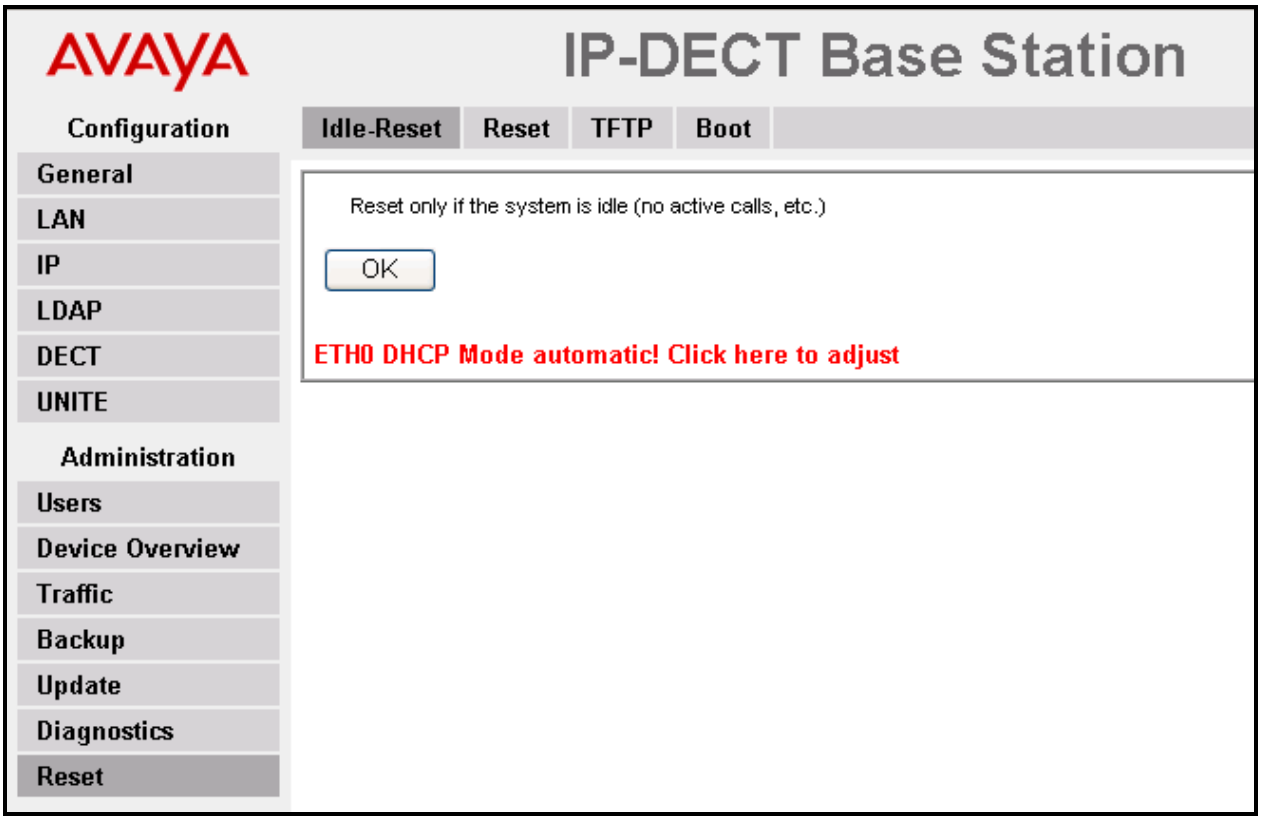

Figure 19: Master Base Station Reset -> Idle-Reset Tab

5.2. Configure Slave Base Station

Enter the URL of the slave base station into a web browser and select the "System Administration" control.

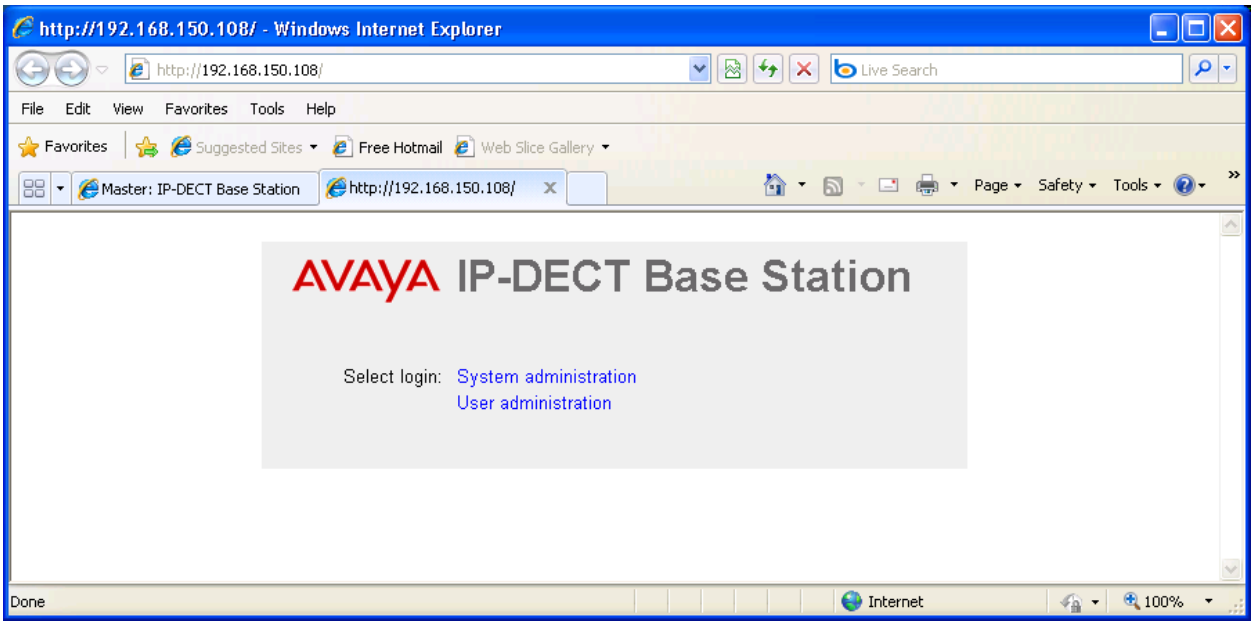

Figure 20: Slave Base Selection

Enter the appropriate credentials and click "OK". For the first-time login, the default password is "changeme".

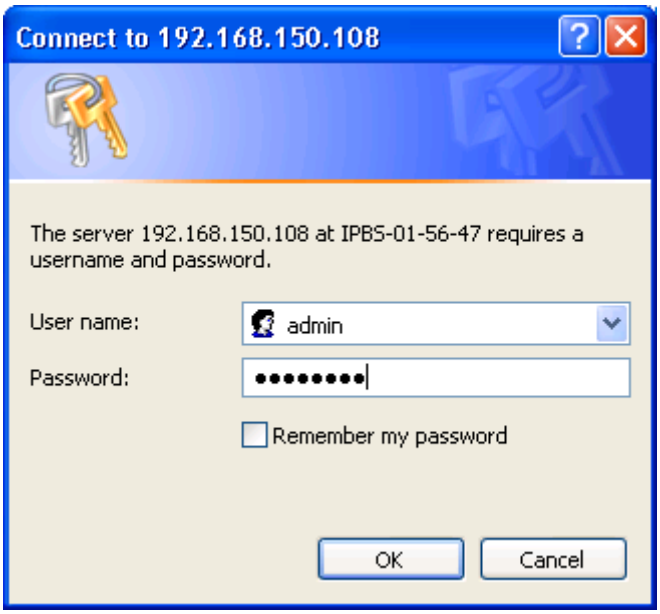

Figure 21: Slave Base Station Login

The initial display shows the **General->Info** tab, which contains version/hardware identification information.

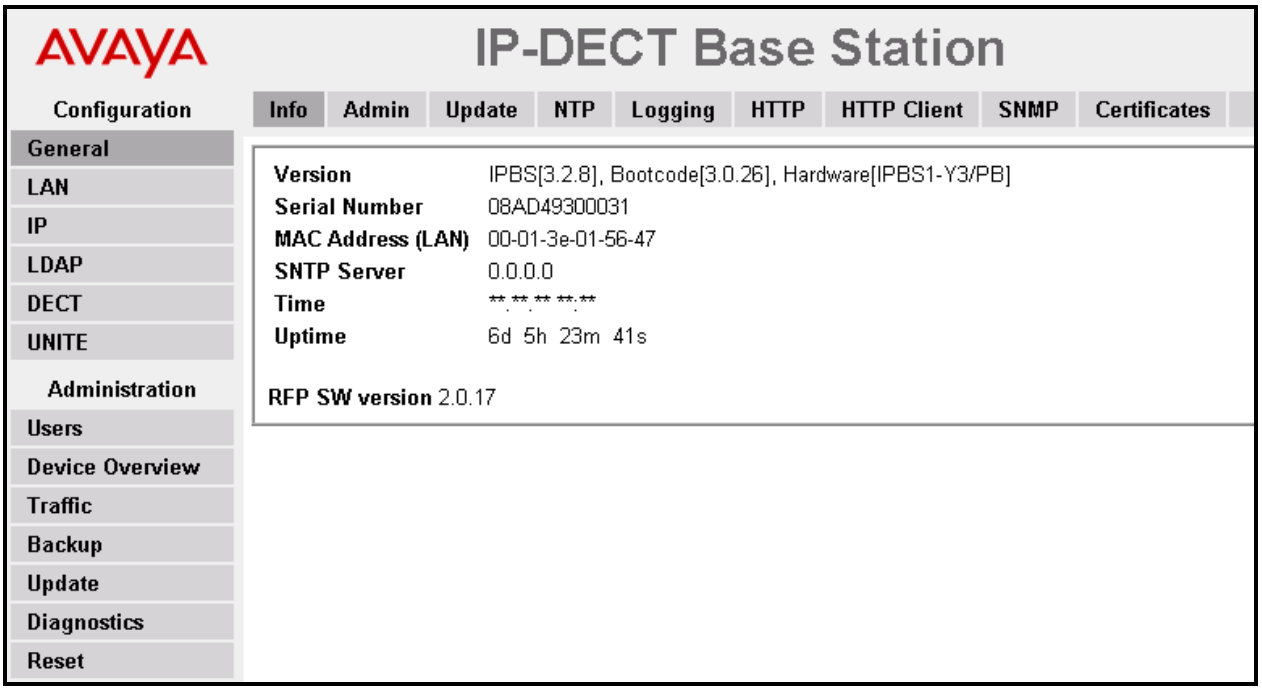

Figure 22: Slave Base Station General -> Info Tab

Select the **LAN->IP** tab. Verify that the IP parameters assigned to the base station correspond to those which are configured in the DHCP reservation. select the **General->Admin** tab.

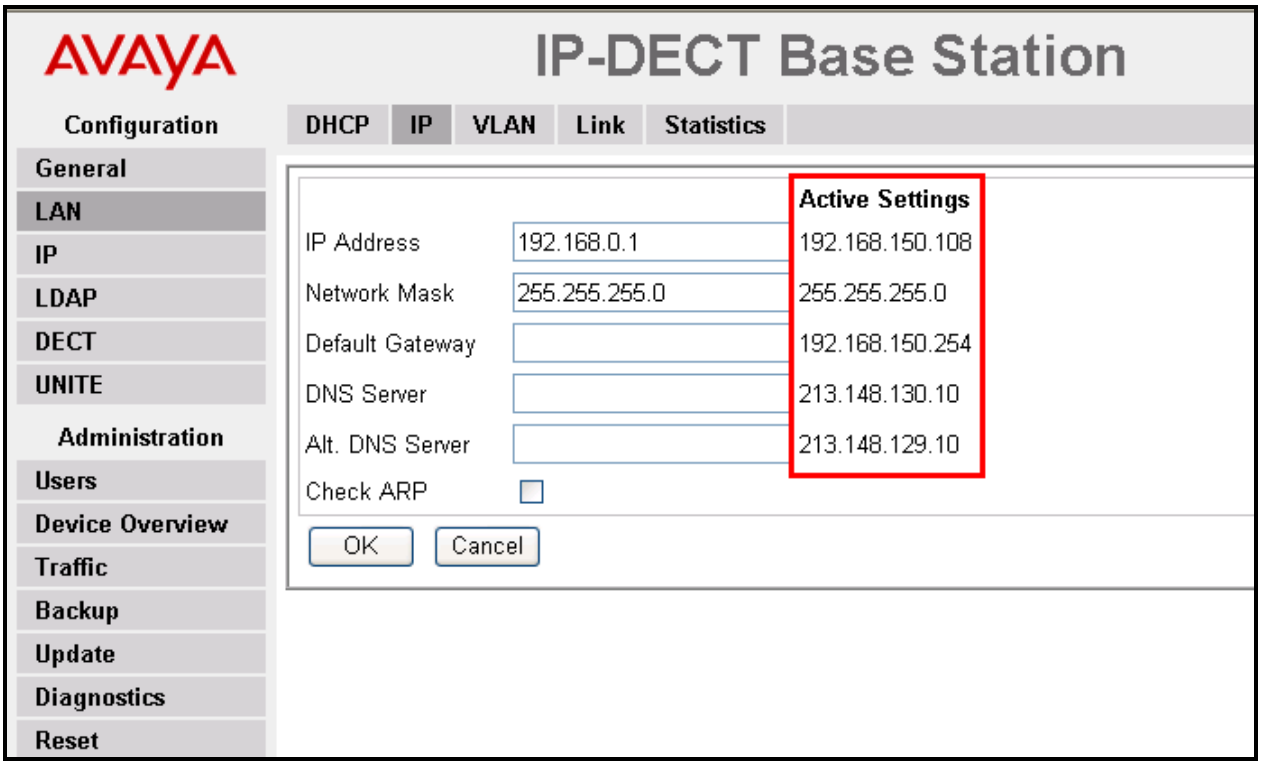

Figure 23: Slave Base Station LAN -> IP Tab

Select the **General->Admin** tab. Enter the parameters shown in the following table and click "OK".

Parameter	Usage
Device Name	Enter an appropriate name to identify the slave base station.
User Name	Enter "admin", the default administrator user name.
Password	Enter an appropriate password.

Table 12: Slave Base Station General -> Admin Tab Parameters

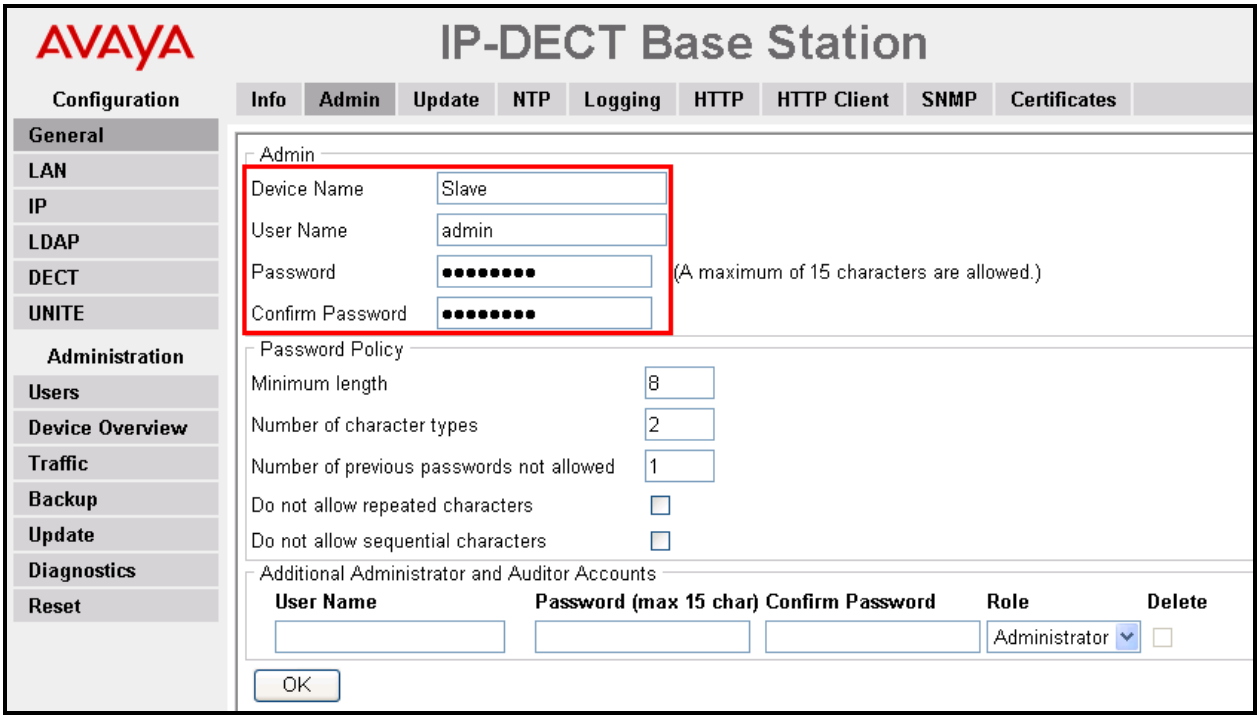

Figure 24: Slave Base Station General -> Admin Tab

Select the **DECT->Master** tab. Enter the parameters shown in the following table and select "OK".

Parameter	Usage
Mode	Select "Off" from the drop-down menu.

Table 13: Slave Base Station DECT -> Master Tab Parameters

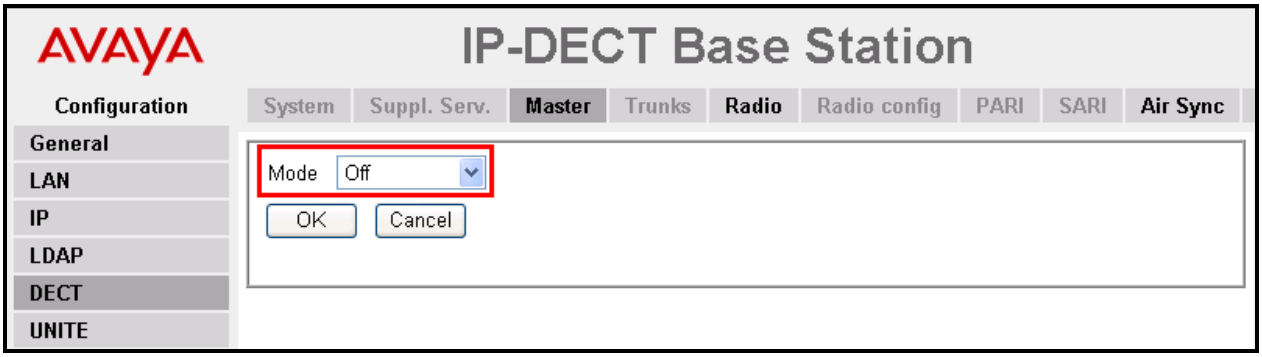

Figure 25: Slave Base Station DECT -> Master Tab

Select the **DECT -> System** tab. Enter the parameters shown in the following table and select "OK".

Parameter	Usage
Name	Enter the System Name assigned to the master base station in **Figure 15**.
Password	Enter the password assigned to the master base station in **Figure 15**.
Master IP Address	Enter the IP address assigned to the master base station, as displayed by the "Active Settings" in **Figure 12**.

Table 14: Slave Base Station DECT -> Radio Tab Parameters

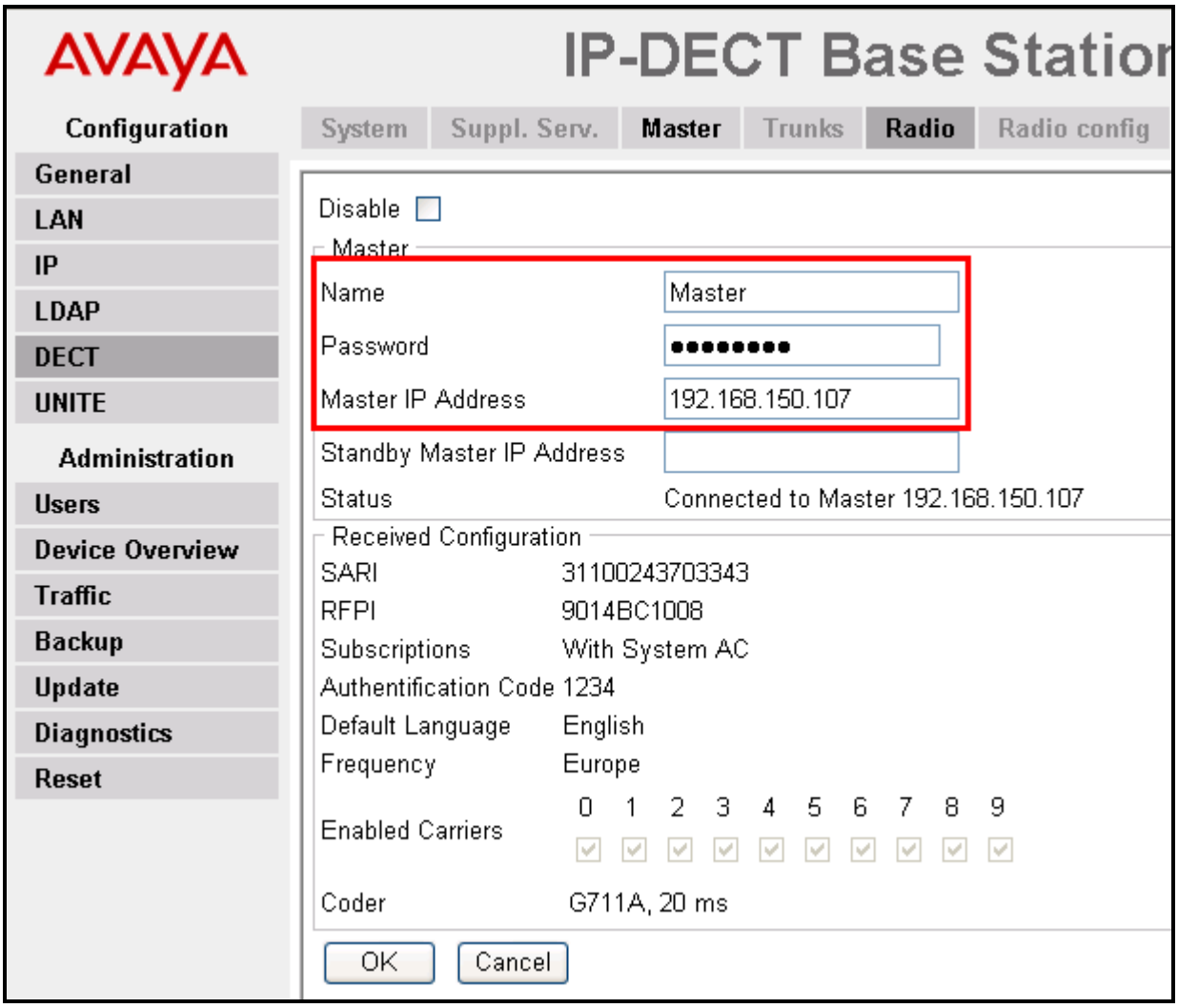

Figure 26: Slave Base Station DECT -> Radio Tab

Select the **DECT ->Air-Sync** tab. Enter the parameters shown in the following table, select "OK".

Parameter	Usage
Sync Mode	Select "Backup-Master" from the drop-down menu.

Table 15: Slave Base Station DECT -> Air Sync Tab Parameters

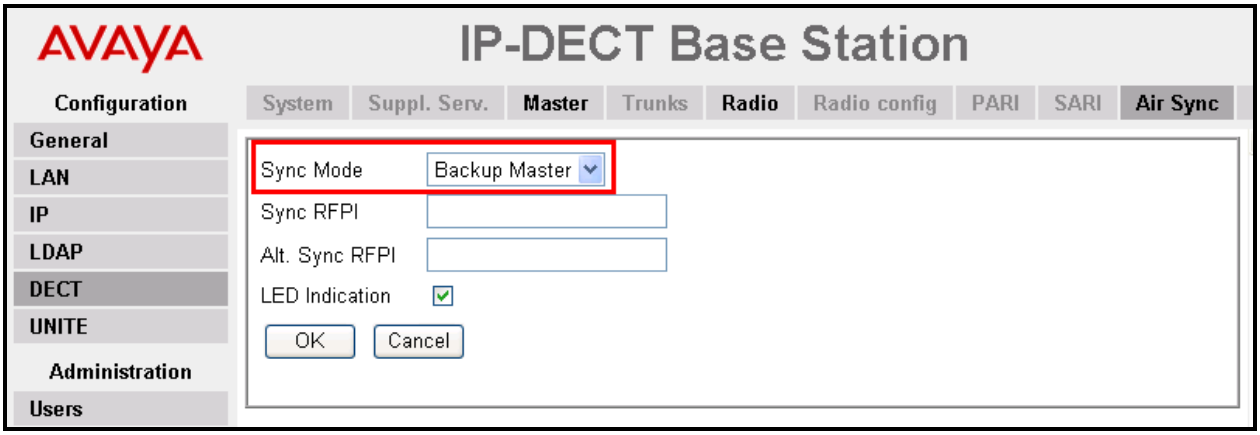

Figure 27: Slave Base Station DECT -> Air Sync Tab

Select the **Reset->Idle-Reset** tab. Click "OK".

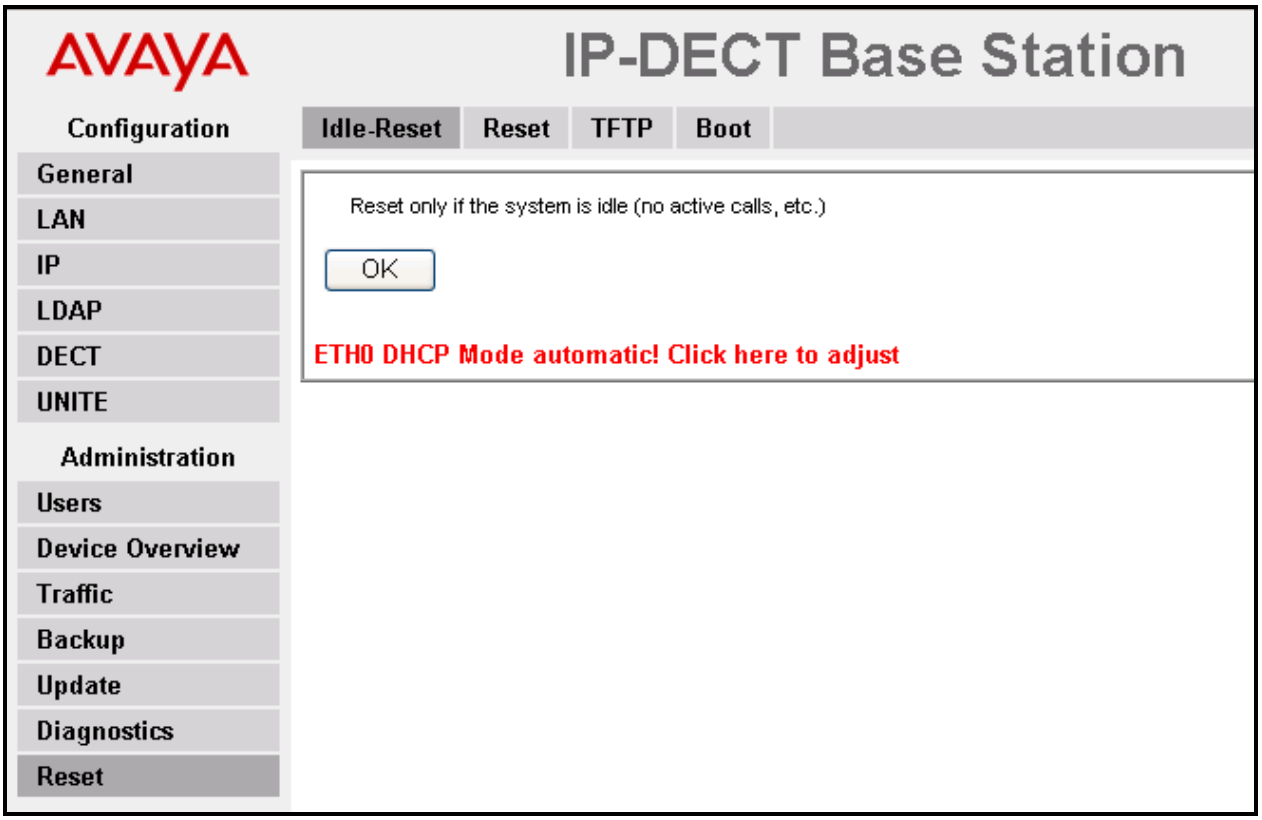

Figure 28: Slave Base Station Reset -> Idle-Reset Tab

6. Configure Konftel 300W

6.1. Registration

The Konftel 300W can be registered with an Avaya R4 base station via the "Menu" key shown in **Figure 1**. The initial depression of this key initiates menu mode, which provides access to the top level of the menu tree shown in the figure below. The "up arrow" and "down arrow" keys provide navigation at a given menu level, and the "OK" key descends into a menu branch. Depression of the "Menu" key while within the menu tree cancels menu mode.

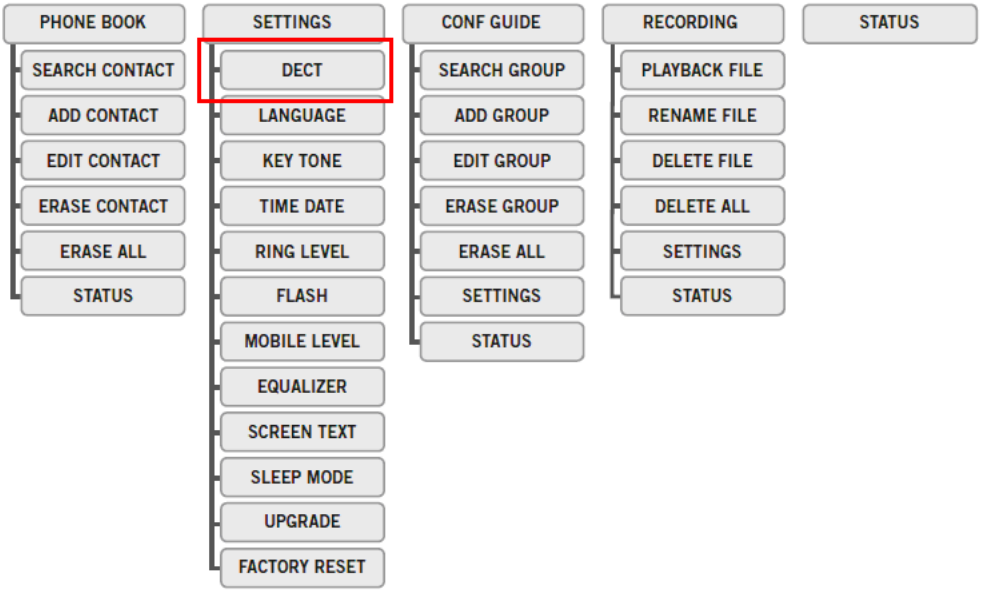

Figure 29: Konftel 300W Menu Hierarchy

To register the 300W with an Avaya R4 base station, use the following key sequence:

- Press the "Menu" key.
- Push the "down" key to navigate to "SETTINGS".
- Push the "OK" key to select "SETTINGS".
- Push the "OK" key to select "DECT".
- Push the "down" key to navigate to "REGISTER".
- Push the "OK" key to select "REGISTER".
- When prompted, enter the "Authentication Code" which was configured in **Figure 15**.
- Push the "MENU" key to exit the menu.

After the initial registration attempt, the Master base station will create an entry in its "Anonymous" user table. Note this entry and then click "Delete".

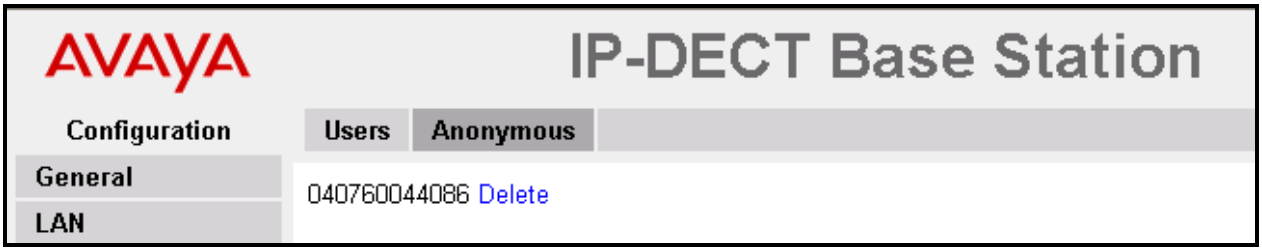

Figure 30: Master Base Station Users -> Anonymous Tab

Navigate to the Users -> Users tab and click "new".

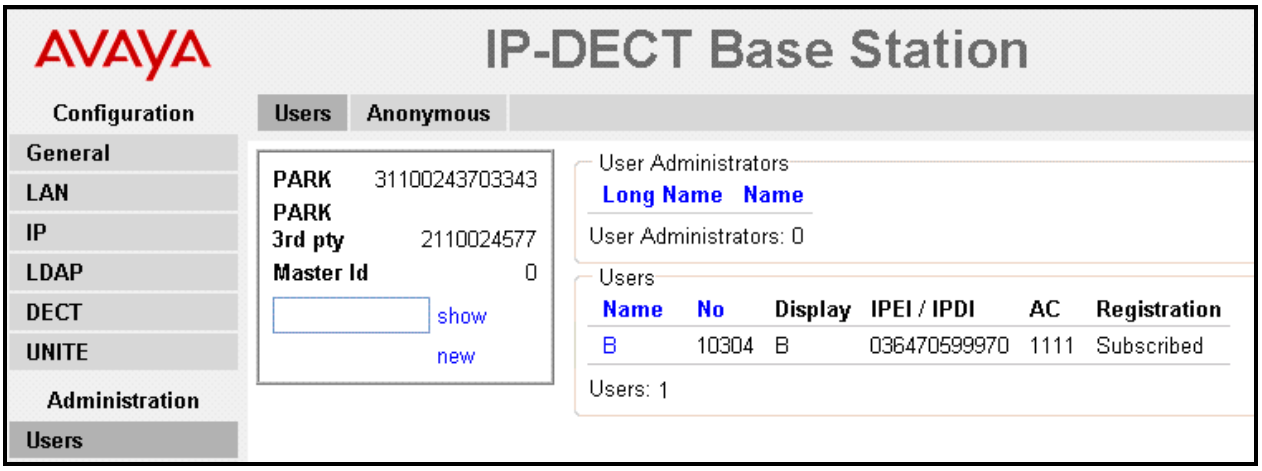

Figure 31: Master Base Station Users -> Users Tab

Enter the parameters show in the following table, click “OK”, and reset the Master base station.

Parameter	Usage
Long Name	Enter an appropriate to identify the Konftel 300W.
Number	Enter the extension from **Table 1** to be assigned to the Konftel 300W.
IPEI / IPDI	Enter the code from **Figure 30**.

Table 16: Master Base Station New User Parameters

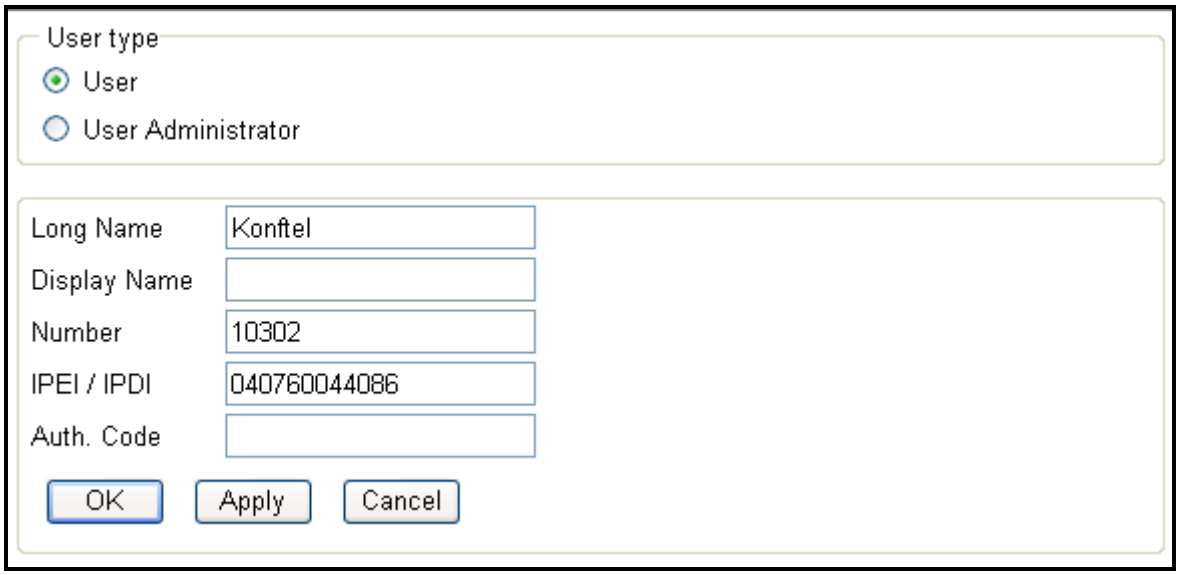

Figure 32: Master Base Station New User Screen

Repeat the Konftel 300W registration procedure. The Konftel 300W should now register with the Master base station.

6.2. Configure Conference Guide

Depress the “MENU” key and navigate to “CONF GUIDE” -> “SETTINGS”. Configure the settings values as shown in the following table, using the procedure described in **[6].**

Parameter	Value
ENQUIRY	Enter “F”, using the off-hook key.
CONFERENCE	Enter “F*47”, where “*47” is the “Conference Add” shortcode which is configured in **Figure 8**.
RETURN	Enter “F”, using the off-hook key.

Table 17: Konftel 300W Conference Guide Settings

6.3. Create Conference Groups

To create conference groups for the Konftel 300W, depress the "MENU" key and navigate to "CONF GUIDE". Create a conference and add the telephone numbers of each of the conference participants.

7. General Test Approach and Test Results

The compliance testing of Konftel 300W interoperating with IP Office was performed manually. The tests were functional in nature, and no performance testing was done. The following issues were encountered during testing:

1. It is not possible to un-register the Konftel 300W from the DECT base station using the "De-register" function: the Konftel 300W responds with "NOT SUPPORTED" when this feature is selected. This was deemed to be a minor problem.

With the exception of the above-described problem, all tests which were performed produced the expected result. **Section 1.1** contains a list of tests which were performed.

8. Verification Steps

8.1. Verify Avaya IP Office Configuration

Execute the IP Office System Status program and verify that the "Current State" of the Konftel 300W is shown as "Idle".

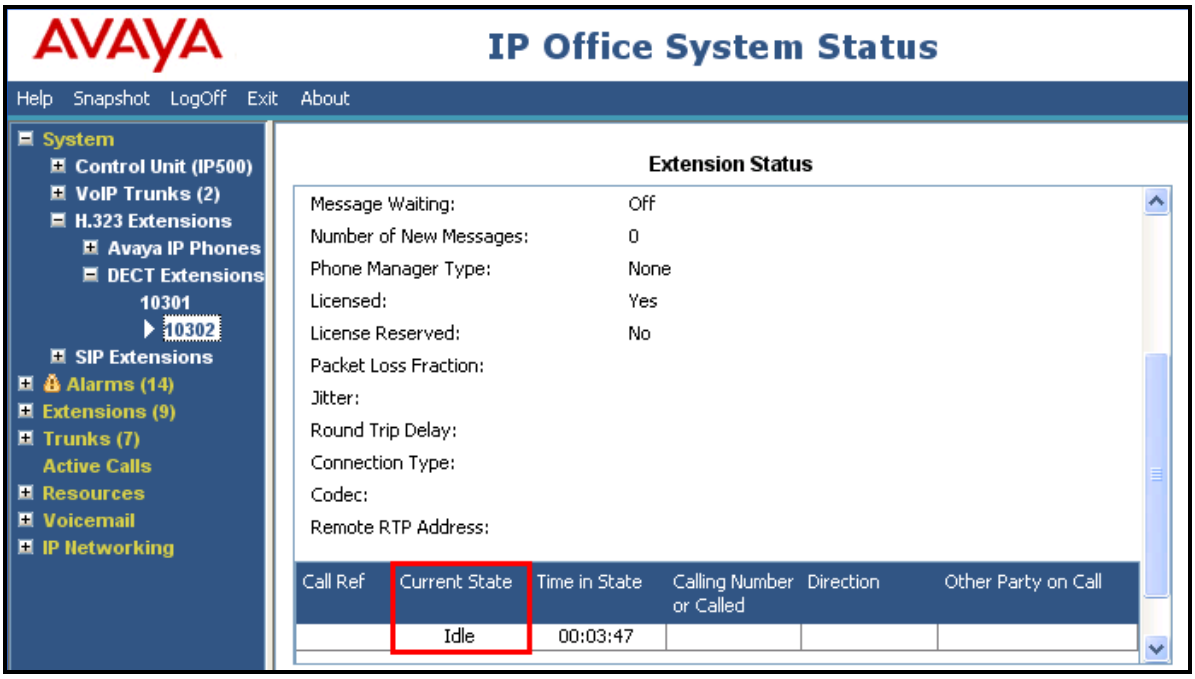

Figure 33: DECT Extension Status

8.2. Verify Avaya R5 Master Base Station Configuration

From the Avaya R4 DECT base station, the **Device Overview** -> **Radios** tab should show registrations for the both the Master and Slave base stations.

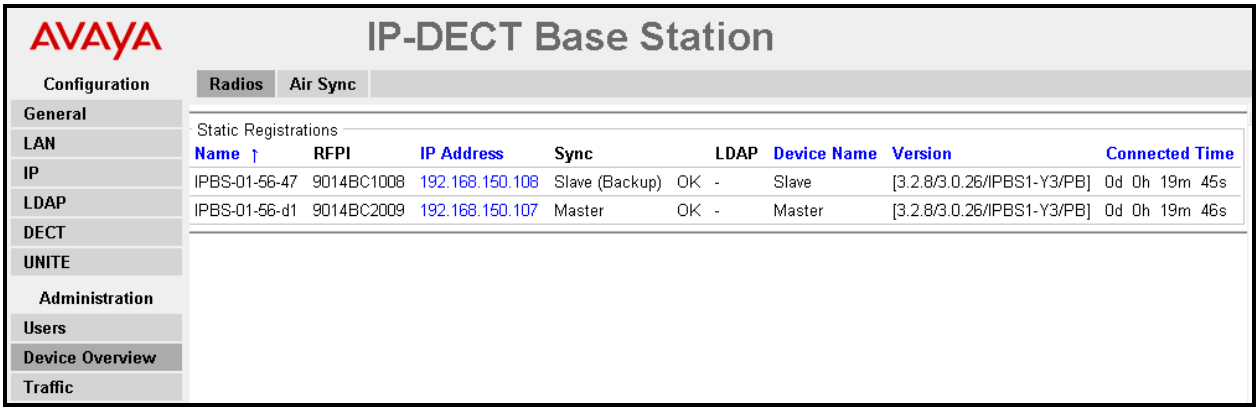

Figure 34: Master Base Station Radio Status

8.3. Verify Konftel 300W Configuration

To verify that the Konftel 300W is registered with one of the Avaya R4 base stations:

- Press the "Menu" key.
- Push the "down" key repeatedly to navigate to "STATUS".
- Push the "OK" key to select "STATUS".
- Push the "down" key repeatedly to navigate to "IPEI/PARK"
- Verify that the first seven digits of the PARK are identical to the first seven digits of master base station SARI.

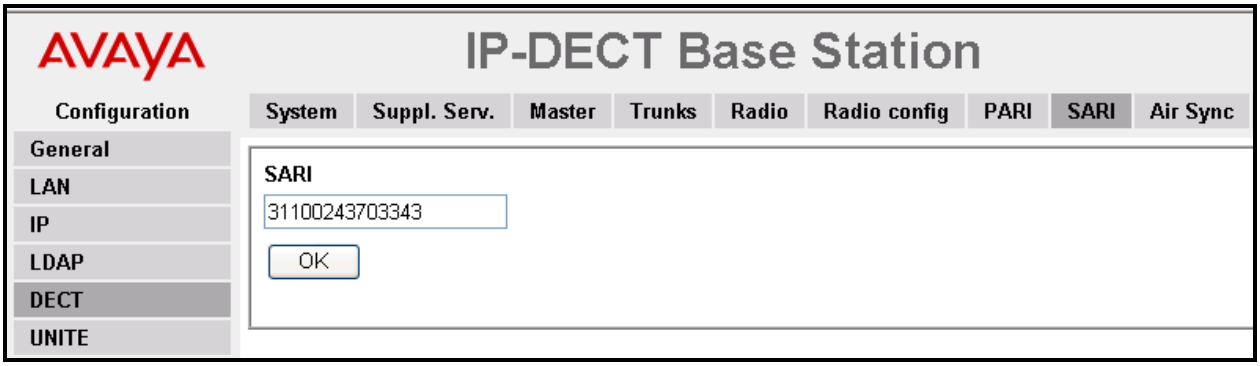

Figure 35: Master Base Station SARI

9. Conclusion

These Application Notes contain instructions for configuring a solution with Avaya IP Office, the Konftel 300W, and the Avaya R4 base stations. A list of instructions is provided to enable the user to verify that the various components have been correctly configured.

10. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at http://support.avaya.com. Konftel product documentation is available at http://www.konftel.se/.

[1] *IP Office Installation*, May 2010, Document Number 15-601042.
[2] *Avaya Office 6.0 Manager 8.0,* May 2010, Document Number 15-601011
[3] *Avaya DECT R4 Installation and Administration Manual,* August 2009, Document Number 21-603363.
[4] *Avaya IP Office Release 6 H323 IP Telephone Installation*, March 2010, 15-601046
[5] *Konftel 300W Quick Reference Guide*, Document Number 110090-61-001, Rev 1b
[6] *The Konftel 300W Users Guide*, Document Number 110104-61-001, Rev 2e

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.