



Avaya Solution & Interoperability Test Lab

Application Notes for Plantronics APV-63 EHS Adapter and CS500 XD Series Wireless Headsets with Avaya 9400/9500 Series Digital Deskphones - Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate the Plantronics APV-63 Electronic Hook Switch (EHS) Adapter and CS500 XD Series Wireless Headsets with Avaya 9400/9500 Series Digital Deskphones. Plantronics APV-63 EHS provides Plantronics headsets the ability to hear ring tones, answer and end calls, and mute/un-mute calls directly from the headset when the user is away from their desk.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as the observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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.

1. Introduction

These Application Notes describe the configuration steps required to integrate the Plantronics APV-63 Electronic Hook Switch (EHS) Adapter and CS500 XD Series Wireless Headsets with Avaya 9400/9500 Series Digital Deskphones. Plantronics APV-63 EHS provides Plantronics headsets the ability to hear ring tones, answer and end calls, and mute/un-mute calls directly from the headset when the user is away from their desk.

Note: The Avaya 9400 Series Digital Deskphone is supported on Avaya Aura® Communication Manager and the Avaya 9500 Series Digital Deskphone is supported on Avaya IP Office.

2. General Test Approach and Test Results

The interoperability compliance test included feature and serviceability testing. The feature testing focused on placing calls to and from Avaya 9400/9500 Series Digital Deskphones with the Plantronics APV-63 EHS adapters and CS500 XD wireless headset and verifying two-way audio, call control from the headset. The call types included calls to voicemail, local extensions, and the PSTN.

The serviceability testing focused on verifying the usability of the Plantronics headsets after restarting Avaya 9400/9500 Series Digital Deskphones and re-connecting the APV-63 adapter to the headset port on the phone, removing the APV-63 cable from the headset, and restarting the CS500 XD headset.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

Avaya's formal testing and Declaration of Conformity is provided only on the headsets/handsets that carry the Avaya brand or logo. Avaya may conduct testing of non-Avaya headset/handset to determine interoperability with Avaya phones. However, Avaya does not conduct the testing of non-Avaya headsets/handsets for: Acoustic Pressure, Safety, Hearing Aid Compliance, EMC regulations, or any other tests to ensure conformity with safety, audio quality, long-term reliability or any regulation requirements. As a result, Avaya makes no representations whether a particular non-Avaya headset will work with Avaya's telephones or with a different generation of the same Avaya telephone.

Since there is no industry standard for handset interfaces, different manufacturers utilize different handset/headset interfaces with their telephones. Therefore, any claim made by a headset vendor that its product is compatible with Avaya telephones does not equate to a guarantee that the headset will provide adequate safety protection or audio quality.

2.1. Interoperability Compliance Testing

All test cases were performed manually. The following features were verified:

- Placing calls to the voicemail system. Voice messages were recorded and played back to verify that the playback volume and recording level were good.
- Placing calls to internal extensions to verify two-way audio.
- Placing calls to the PSTN to verify two-way audio.
- Incoming call alert notification.
- Hearing ring back tone for outgoing calls.
- Using the call control button on the Plantronics CS500 XD wireless headset.
- Using the volume control and mute buttons on the Plantronics CS500 XD wireless headset.
- Answering and terminating the call using Avaya 9400/9500 Series Digital Deskphones to verify status of call control is reflected on the Plantronics CS500 XD wireless headset.

For the serviceability testing, the Plantronics APV-63 adapter is reconnected to the headset port, and restart Avaya 9400/9500 digital phone to verify proper operation of the headset.

2.2. Test Results

All test cases passed with the following observation(s):

- When the far end hangs up the call, the headset button on the Avaya 9400/9500 Series Digital Deskphones does not go off; this causes the Plantronics CS500 XD headset to remain in active mode. The user needs to manually press the call control button on the headset to place the headset in inactive mode. This issue is under investigation by Avaya client team.
- When an incoming call comes to the 9500 digital phone with a Plantronics APV-63 EHS adapter and Plantronics CS500 XD headset, and the user presses the headset button on the 9500 phone to answer the call, the call is answered but the headset is not activated. The user needs to press the call control button on the headset to activate the headset and start conversation. If the user uses the call control button on the headset to answer the call, instead of using the headset button on the digital phone, the call is answered properly. This issue is under investigation by Avaya client team. This issue is not present on the 9400 digital phones
- Mute/un-mute status is not shared between the 9400/9500 Series Digital Deskphone and the Plantronics CS500 XD, and vice versa. If a user mutes on the headset the call will be muted and the mute indicator on the headset will be active, but the Deskphone will not show the call as muted. If the user un-mutes the call on the headset the call un-mutes and the mute indicator goes off. If a user mutes on the Deskphone, the call is muted and the mute indicator on the Deskphone will be active, but the headset will not show the call as muted. If the user un-mutes the call on the Deskphone the mute indicator goes off.

2.3. Support

For technical support and information on Plantronics APV-63 EHS Adapter and CS500 XD Series Wireless Headsets, contact Plantronics Support at:

- Phone: 1-855-765-7878
1-831-426-5858 (International)
- Website: <http://www.plantronics.com/us/support/index.jsp>

3. Reference Configuration

Figure 1 illustrates the test configuration used to verify the Plantronics APV-63 EHS adapter and CS500 XD Series wireless headset with Avaya 9400/9500 Series Digital Deskphones. The configuration consists of System Manager, Session Manager, Communication Manager, Aura Messaging, IP Office Server Edition and Media Server appliances that were installed in virtual environment which is a VMware server. The testing used both Media Gateway G450 and Media Server to balance DSP resources that connect from/to endpoints in Communication Manager. The 9500 digital phone is connected to Avaya IP Office 500V2 expansion.

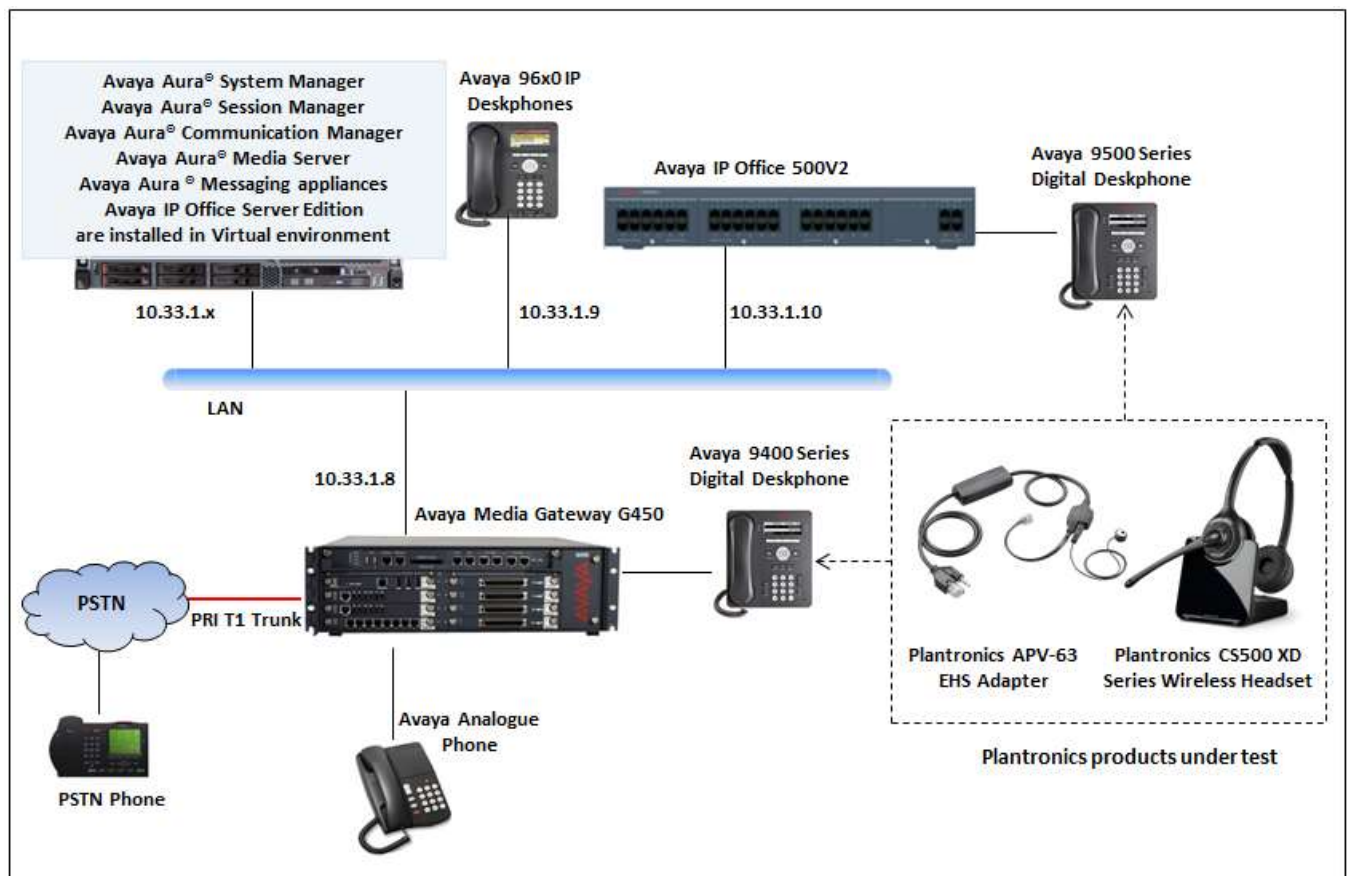


Figure 1: Avaya 9400 and 9500 Series Digital Deskphone with Plantronics APV-63 EHS Adapter and CS500 XD Series Wireless Headsets

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® System Manager in Virtual Environment	7.0.0.0.16266
Avaya Aura® Session Manager in Virtual Environment	7.0.0.0.700007
Avaya Aura® Communication Manager in Virtual Environment	7.0 (R017x.00.0.441.0) Patch 22477
Avaya Aura® Messaging in Virtual Environment	6.3.1
Avaya Aura® Media Server in Virtual Environment	7.7.0.236
Avaya IP Office Server Edition in Virtual Environment	9.1.4 Build 137
Avaya IP Office 500V2	9.1.4 Build 137
Avaya Media Gateway G450	37.19.0
Avaya 96x1 Series IP Deskphones	7.0 (SIP)
Avaya 96x0 Series IP Deskphones	3.25 (H323)
Avaya 9400 Series Deskphones	Release 2.0 SP4 (R15)
Avaya 9500 Series Deskphones	Release 0.55
Analog phone	N/A
Plantronics APV-63 Adapter	Part# 38734-11
Plantronics CS500 XD Wireless Headset	Part# 84691-01

5. Configure Avaya Aura® Communication Manager

This section assumes the Avaya Aura systems are already installed and configured, this section describes the station configuration for the Avaya 9400 Series Digital Deskphone. Configuration is performed via the System Access Terminal (SAT) on Communication Manager.

5.1. Configure a Station for Avaya 9400 Series Digital Deskphone

Use the **add station** command to create a station for the 9400 digital deskphone. Set the **Type** field to the station type to be emulated. In this example, *9408* was used. Set the **Port** field to the appropriate slot location of the digital board and port.

Note: To enable Auto-Answer on the digital telephone set the **Auto Answer** field on **Page 2** (not shown) to the appropriate value, such as *all*.

add station 3311		Page	1 of	5
STATION				
Extension: 3311	Lock Messages? n	BCC:	0	
Type: 9408	Security Code:	TN:	1	
Port: 002V302	Coverage Path 1:	COR:	1	
Name: DCP 9408	Coverage Path 2:	COS:	1	
	Hunt-to Station:			
STATION OPTIONS				
	Time of Day Lock Table:			
Loss Group: 2	Personalized Ringing Pattern:	1		
	Message Lamp Ext:	3311		
Speakerphone: 2-way	Mute Button Enabled?	y		
Display Language: english	Button Modules:	0		
Survivable COR: internal				
Survivable Trunk Dest? y	IP SoftPhone?	n		
	Remote Office Phone?	n		
	IP Video?	n		
	Customizable Labels?	y		

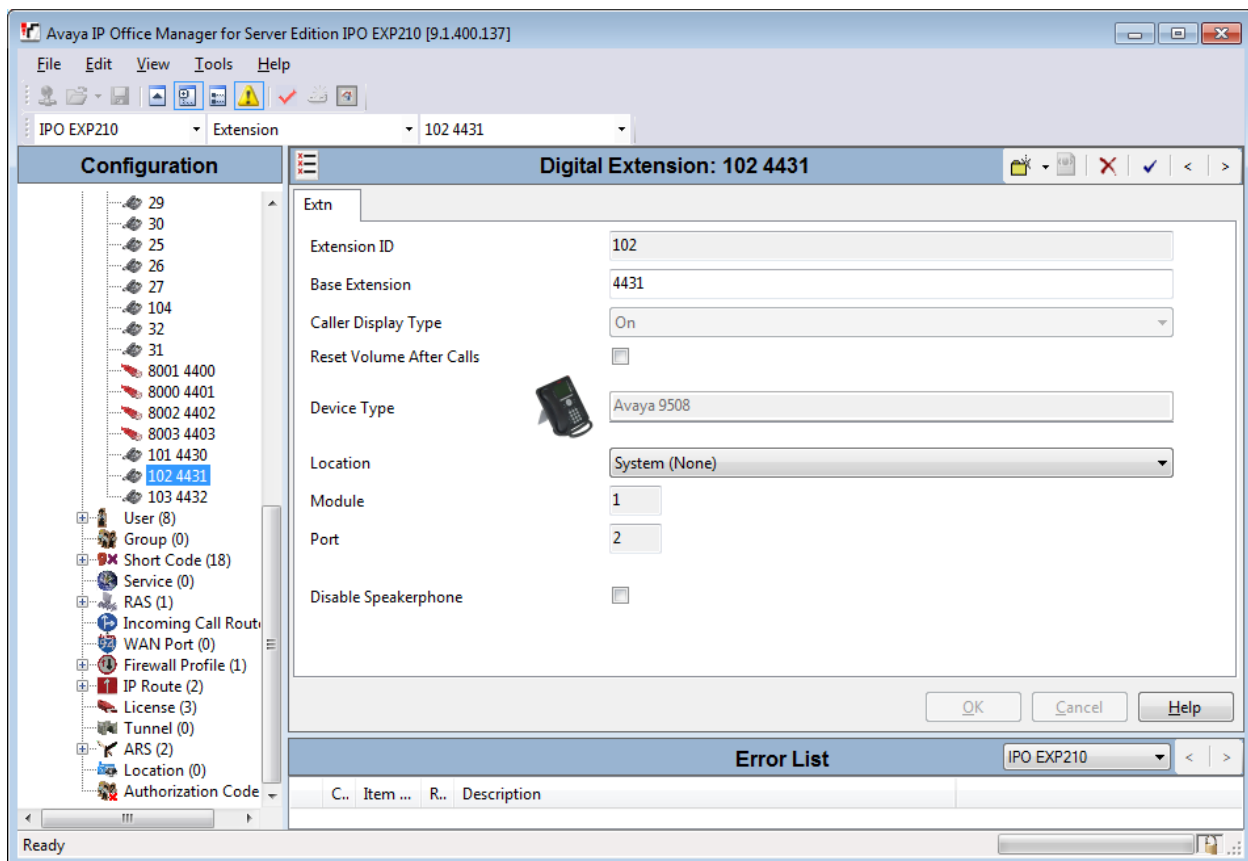
6. Configure Avaya IP Office

This section assumes Avaya IP Office system is already in place, the IP Office system used for the compliance test consisted of a Server Edition installed in Virtual Environment and a 500V2 expansion connected to the Server Edition via IP network. The 9500 Series Digital Deskphone was connected to the 500V2 expansion. This section displays the extension and user configuration using the Avaya IP Office Manager application.

From a PC running the Avaya IP Office Manager application, select **Start → Programs → IP Office → Manager** to launch the Manager application. Select the proper IP Office system and log in with the appropriate credentials (not shown).

6.1. Extension Configuration

From the configuration tree in the left pane, select the appropriate **Extension** for the digital station to view the configuration, which is shown below. In this example, extension 4431 was used.



6.2. User Configuration

From the configuration tree in the left pane, select the appropriate **User** for the digital station to view the configuration, which is shown below. In this example, extension 4431 was used.

The screenshot displays the Avaya IP Office Manager for Server Edition IPO EXP210 [9.1.400.137] interface. The left pane shows a configuration tree with the following structure:

- 29
- 30
- 25
- 26
- 27
- 104
- 32
- 31
- 8001 4400
- 8000 4401
- 8002 4402
- 8003 4403
- 101 4430
- 102 4431
- 103 4432
- User (8)
 - NoUser
 - 4431 Extn 4431 (selected)
 - 4432 Extn 4432
 - 4400 Extn 4400
 - 4401 Extn 4401
 - 4402 Extn 4402
 - 4403 Extn 4403
 - 4430 Extn 4430
- Group (0)
- Short Code (18)
- Service (0)
- RAS (1)
- Incoming Call Route

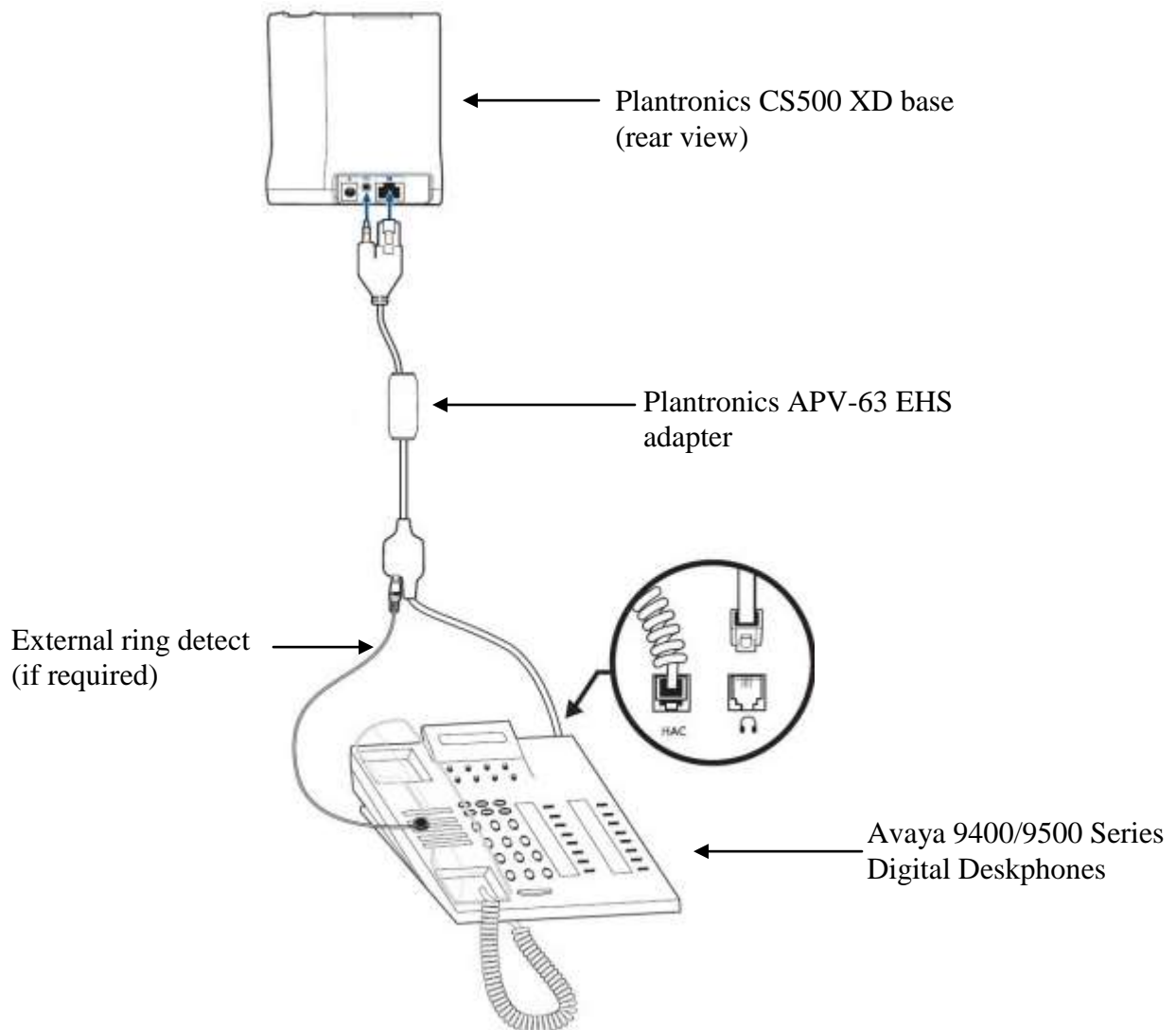
The right pane shows the configuration for **Extn 4431: 4431**. The configuration fields are as follows:

User	Voicemail	DND	Short Codes	Source Numbers	Telephony	Forwarding	Dial In	Voice Recording	Button P
Name	Extn 4431								
Password	••••••••								
Confirm Password	••••••••								
Conference PIN									
Confirm Conference PIN									
Account Status	Enabled								
Full Name	DCP 9508								
Extension	4431								
Email Address									
Locale									
Priority	5								
System Phone Rights	None								
Profile	Basic User								
<input type="checkbox"/> Receptionist									

At the bottom of the right pane, there are buttons for **OK**, **Cancel**, and **Help**.

7. Configure Plantronics APV-63 EHS Adapter and CS500 XD Series Wireless Headset

To connect the CS500 XD wireless headset to the Avaya 9400/9500 Series Digital Deskphone, use the APV-63 EHS adapter to connect the wireless base of the headset to the headset port of the 9404/9508 Series Digital Deskphone. An external ring detect cable provided by Plantronics, is required to hear incoming call notifications (i.e., beeps) through the headset. Connect the adhesive end of the cable to the speakerphone grill of the telephone and the other end to the mic port of the EHS adapter. All other default settings on the CS500 XD wireless headset were used.



To answer, end, or place a call using the Plantronics CS500 XD headset follow the instructions below.

- **To Answer a Call:** Press the call control button on the headset to answer an incoming call. This would automatically activate the headset button on the digital deskphone. Alternatively, if the headset button on the digital deskphone is pressed first, then press the call control button on the headset, if it isn't already activated, to answer an incoming call.

Note that pressing the headset button on the 9500 digital deskphone does not automatically activate the call control button on the headset. If auto-answer is enabled and the headset button on the digital deskphone and the call control button on the headset are activated, subsequent incoming calls will be answered automatically and a two-way audio path will be established to the headset.

- **To End a Call:** Press the call control button on the headset to terminate a call. This automatically deactivates the headset button on the digital deskphone. Alternatively, if the call is terminated by pressing the headset button on the digital deskphone, the call control button on the headset is also deactivated.
- **To Place a Call:** Press the call control button on the headset to get dial tone and dial the number. This would automatically activate the headset button on the digital deskphone. Alternatively, if the headset button on the digital deskphone is pressed first, the call control button on the headset is also activated.

8. Verification Steps

These typical steps below are used to verify the inter-working between Plantronics APV-63 EHS Adapter and CS500 XD Series Wireless Headset with Avaya 9400/9500 Series Digital Deskphone.

1. From Avaya 9400/9500 Series Digital Deskphones with Plantronics headset place a local call to another station.
2. Verify the ring back tone is heard through the Plantronics headset and the green light used to indicate status of call on the base keeps flashing.
3. Answer the call on the other station, verify two-way speech path with clear audio between the Avaya 9400/9500 Series Digital Deskphones and the other station.
4. During the call, adjust the volume up and down and mute/un-mute from Plantronics CS500 XD wireless headset, verify the volume adjusted successfully and status mute/un-mute reflected properly on the base.
5. End the call by pressing the call control button on the Plantronics headset, verify the call is terminated and the headset is idle.

9. Conclusion

These Application Notes describe the configuration steps required to integrate the Plantronics APV-63 EHS Adapter and CS500 XD Series Wireless Headsets with Avaya 9400/9500 Series Digital Deskphones. All test cases were completed successfully with observations noted in **Section 0**.

10. Additional References

This section references the Avaya and Plantronics documentation that are relevant to these Application Notes.

The following Avaya product documentation can be found at <http://support.avaya.com>.

- [1] Administering Avaya Aura® Communication Manager, Release 7.0, Issue 1, August 2015, Document Number 03-300509.*
- [2] Avaya Aura® Communication Manager Feature Description and Implementation, Release 7.9, June 2015*
- [3] Administering IP Office Manager, Release 9.1, Issue 10.31, November 2015.*

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