



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Pro1, SD Pro2, SD Office Wireless Headsets with Avaya 96x1 Series IP Deskphone – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate the Sennheiser Communications A/S CEHS-AV 04 EHS (Electronic Hook Switch) Adapter and SD Pro1, SD Pro2 and SD Office wireless headsets with Avaya 96x1 Series IP Deskphone. The Sennheiser Communications A/S CEHS-AV 04 EHS Adapter provides wireless headsets the ability to hear ring tones, answer and end calls, and mute/un-mute calls directly from the headset including situations where the user is away from their desk. The Sennheiser Communications A/S SD Pro1, SD Pro2, and SD Office wireless headsets were used to verify the functionality of the CEHS-AV 04 EHS Adapter.

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 Sennheiser Communications A/S CEHS-AV 04 EHS (Electronic Hook Switch) Adapter with Avaya 96x1 Series Digital Deskphones.

The following headsets and accessories were tested:

- CEHS-AV 04 EHS (Electronic Hook Switch) Adapter – Provides wireless headsets the ability to hear ring tones, answer/end calls, mute/un-mute calls directly from the headset including situations where the user is away from their desk.
- SD Pro1 – Monaural wireless headset.
- SD Pro 2 – Binaural wireless headset.
- SD Office – Monaural wireless headset.

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 the Avaya 96x1 Series Digital Deskphone with Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Pro1, SD Pro2 and SD Office wireless headsets and verifying two-way audio. The call types included calls to voicemail, to local extensions, and to the PSTN.

The serviceability testing focused on verifying the usability of the Sennheiser Communications A/S CEHS-AV 04 EHS, SD Pro1, SD Pro2 and SD Office wireless headsets after restarting the Avaya 96x1 Series Digital Deskphone.

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 members solution.

Avayas 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 telephones or with a different generation of the same Avaya telephone.

Since there is no industry standard for headset interfaces, different manufacturers utilize different 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 acceptable.
- Placing and receiving calls to and from internal extensions to verify two-way audio.
- Placing and receiving calls to and from the PSTN to verify two-way audio.
- Hearing ring back tone for incoming and outgoing calls.
- Answering and ending calls using the call control button on the headset.
- Using the volume control buttons on the headset to adjust the audio volume.
- Using the mute control button on the headset to mute and un-mute the audio.

For the serviceability testing, the 96x1 Series IP Deskphone was restarted to verify proper operation of the headset after the reboot was completed.

2.2. Test Results

Testing was completed successfully with the following observations/limitations.

- Avaya 96x1 Series IP H.323 Deskphones support the Electronic Hook Switch (EHS) feature starting with release 6.2.3. Therefore only 96x1 H.323 Deskphones were tested with Sennheiser CEHS AV04 Adapter and Sennheiser SD Series Wireless Headset. 96x1 SIP Deskphones do not support EHS at this time.
- The following is a list of 96x1 H.323 phone types that were tested and worked with Sennheiser headsets, supporting the Electronic Hook Switch feature.

	Sennheiser SD Office	Sennheiser SD Pro1	Sennheiser SD Pro2
Avaya 9608 IP	X	X	X
Avaya 9611 IP	X	X	X
Avaya 9621 IP	X	X	X
Avaya 9641 IP	X	X	X

2.3. Support

For support on the Sennheiser Communications A/S headset solution, contact Sennheiser Communications A/S technical support at:

Website: <http://en-de.sennheiser.com/service-support/>

3. Reference Configuration

Figure 1 illustrates the test configuration used to verify the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Pro1, SD Pro2 and SD Office wireless headsets with Avaya 96x1 Series IP H.323 Deskphone. For the Avaya 96x1 Series IP H.323 Deskphone the configuration consists of an Avaya S8800 Server running Avaya Aura® Communication Manager R6.3 with an Avaya G650 Media Gateway. An Avaya SIP phone was also deployed as part of the configuration for test purposes only to make / receive calls with the H.323 devices. The configuration of the SIP device and related equipment is beyond the scope of this document.

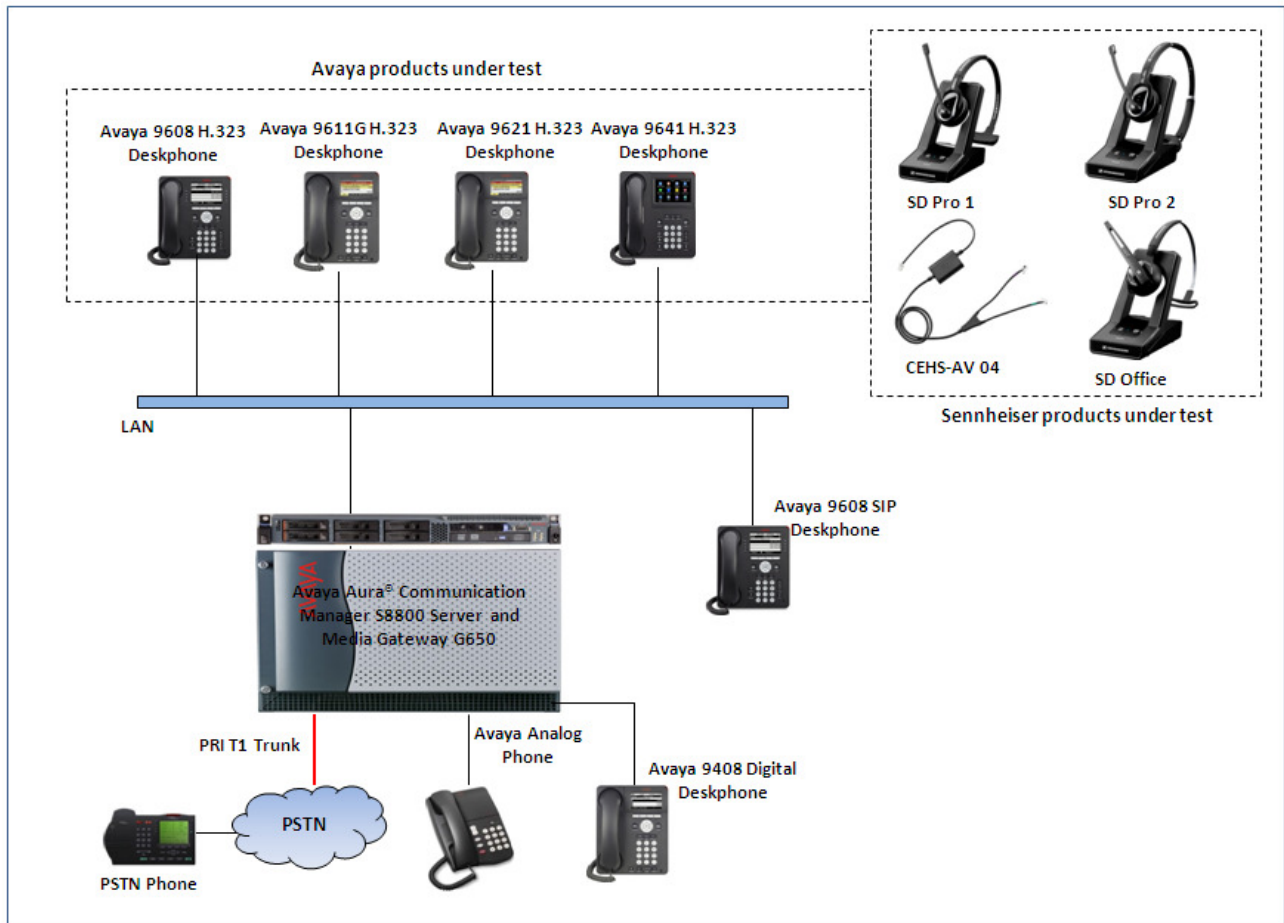


Figure 1: Test diagram for Avaya 96x1 Series IP Deskphone with Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Pro1, SD Pro2 and SD Office Wireless Headsets.

4. Equipment and Software Validated

The following equipment and software were used for the compliance test:

Equipment	Software
Avaya Aura® Communication Manager running on an Avaya S8800 Server	R6.3 – FP2 Build R016x.03.0.124.0 Patch 20553
Avaya Media Gateway G650 <ul style="list-style-type: none">▪ IP Server Interface TN2312BP▪ Digital Line TN2224	<ul style="list-style-type: none">▪ FW043▪ 000006
Avaya 9608 H.323 Deskphone	6.2.3.13
Avaya 9611G H.323 Deskphone	6.2.3.13
Avaya 9621G H.323 Deskphone	6.2.3.13
Avaya 9641G H.323 Deskphone	6.2.3.13
Avaya SIP 9608	6.2.2
Avaya DCP 9408	21
Avaya Analog Deskphone	N/A
Sennheiser CEHS-AV04 Adapter	1.0
Sennheiser SD Pro1 Wireless Headset	N/A
Sennheiser Headset SD Pro2	N/A
Sennheiser Headset SD Office	N/A

5. Configure Stations for Avaya 96x1 Series IP Deskphone

This section displays the station configuration for the Avaya 96x1 IP Deskphone. The configuration is performed via the System Access Terminal (SAT) on Avaya Aura® Communication Manager.

These Application Notes assume that the Avaya 96x1 Series IP Deskphone is configured and operational in Avaya Aura® Communication Manager. There are no additional settings required on Avaya Aura® Communication Manager for the connection of the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Pro1, SD Pro2 or SD Office wireless headsets to the Avaya 96x1 Series IP Deskphone. An example of a 96x1 Series IP Station provisioned in Avaya Aura® Communication Manager is illustrated below. For further details regarding the Communication Manager please refer to **Section 9 Reference [1]**

```
display station 53011                                     Page 1 of 5
                                                         STATION
Extension: 53011                                         Lock Messages? n      BCC: M
Type: 9611                                               Security Code: *      TN: 1
Port: S00046                                             Coverage Path 1: 1    COR: 1
Name: H.323, 53011                                       Coverage Path 2:      COS: 1
                                                         Hunt-to Station:      Tests? y

STATION OPTIONS
                                                         Time of Day Lock Table:
Loss Group: 19                                           Personalized Ringing Pattern: 1
                                                         Message Lamp Ext: 53011
Speakerphone: 2-way                                       Mute Button Enabled? y
Display Language: english                                 Expansion Module? n
Survivable GK Node Name:                                   Media Complex Ext:
Survivable COR: internal                                  IP SoftPhone? y
Survivable Trunk Dest? y                                   IP Video Softphone? y
                                                         Short/Prefixed Registration Allowed: default
                                                         Customizable Labels? y
```

However, the EHS feature needs to be enabled on the 96x1 H.323 IP Deskphone by setting the HEADSETBIDIR to 1 in the 46xxsettings.txt file. For further details regarding the 46xxsettings.txt file, please refer to **Section 9 Reference [2]**.

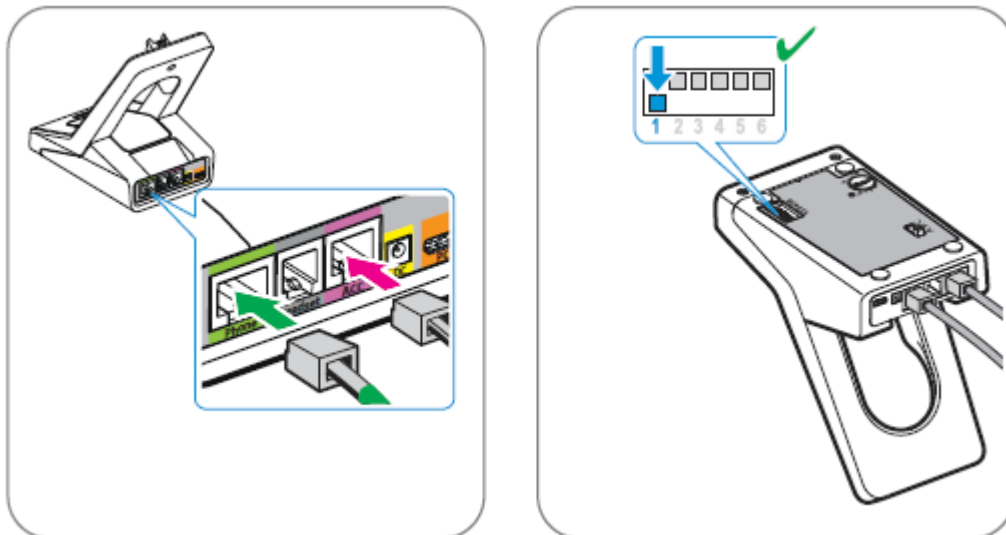
```
##### HEADSET SETTINGS (H.323 ONLY) #####
##
## HEADSETBIDIR specifies whether bidirectional signaling is supported on the headset interface.
## Value Operation
## 0 Disabled (default)
## 1 Enabled
## This parameter is supported by:
## 96x1 H.323 R6.2.1 and later
## Note that 96x1 H.323 R6.2 only supported generation of an alerting tone.
## SET HEADSETBIDIR 1
##
```

6. Connect the Sennheiser Equipment to Avaya 96x1 Series IP Deskphone

During the compliance testing the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter was used to connect the SD Pro1, SD Pro2 and SD Office wireless headsets to the Avaya 96x1 Series IP Deskphone. The Sennheiser Communications A/S CEHS-AV 04 EHS Adapter provides SD Pro1, SD Pro2 and SD Office wireless headsets with the functionality to hear ring tones, answer and end calls, and mute/un-mute calls directly from the wireless headset including situations when the user is away from their desk.

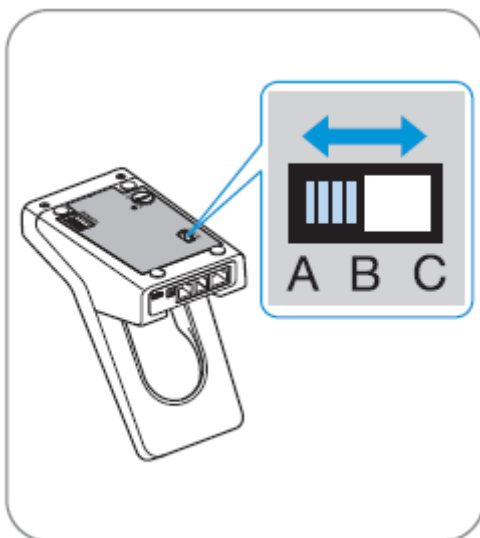
6.1. Cable Connections

To connect the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter to the SD Pro1, SD Pro2, SD office wireless headsets and to the Avaya 96x1 Series IP Deskphone, refer to the diagram below.

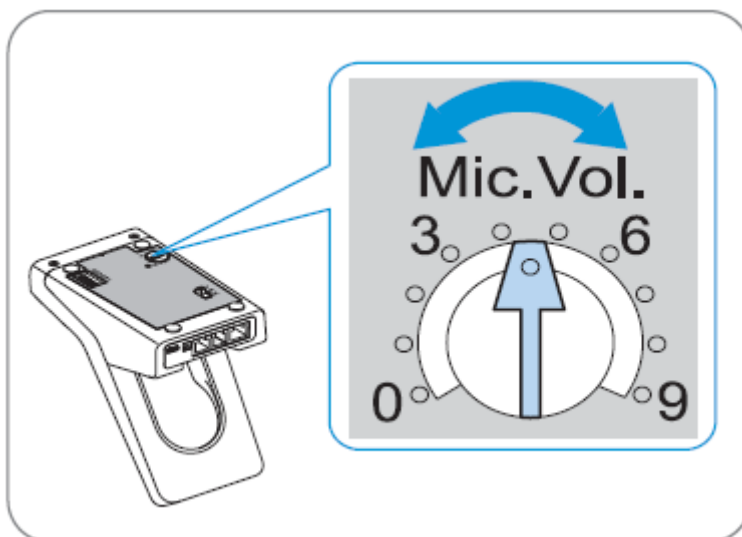


6.2. Configure Sennheiser Communications SD Pro1, SD Pro2 and SD Office Wireless Headsets

To ensure correct wiring connection between the headset base and the deskphone: Set the switch on the back of the headset base to position “A”.



To adjust the microphone sensitivity: Make a call, adjust the Mic. Vol. Dial on the back of the headset base whilst speaking until the desired microphone level sensitivity is reached.



6.3. To Answer, End, Place Calls, Mute and adjust the volume on the Headsets

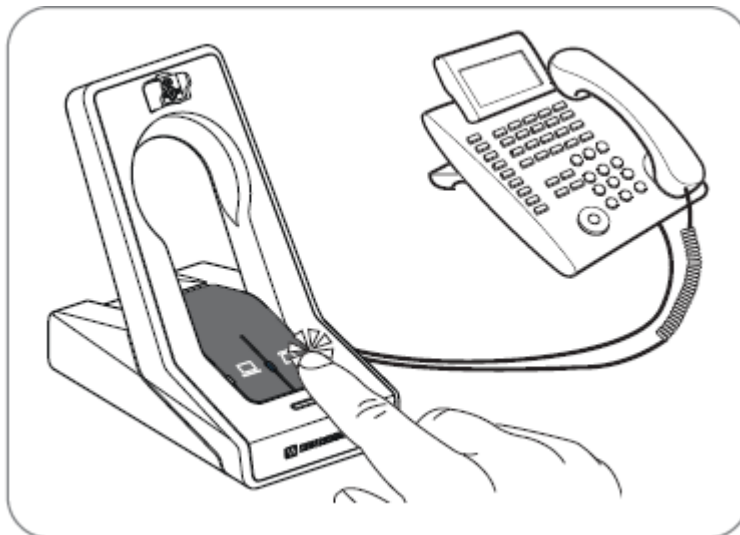
To Answer, End, Place calls, Mute/Un-Mute and adjust the Volume on the Sennheiser Communications A/S SD Pro1 and SD Pro2 wireless headsets follow the instructions below.

Although the instructions shown below only illustrate the use of the call control buttons on the SD Office wireless headset, the call control buttons on the SD Pro1 and the SD Pro2 wireless headsets are similar.

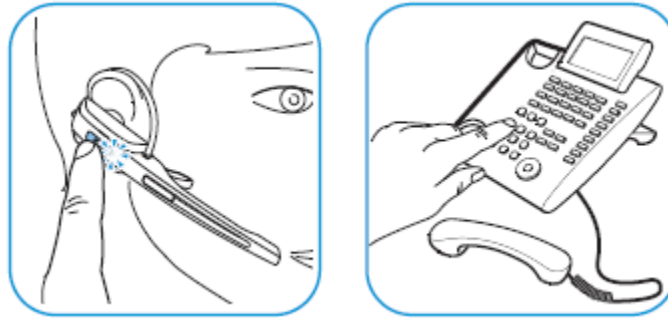
To Answer a Call: Press the call control button on the headset.



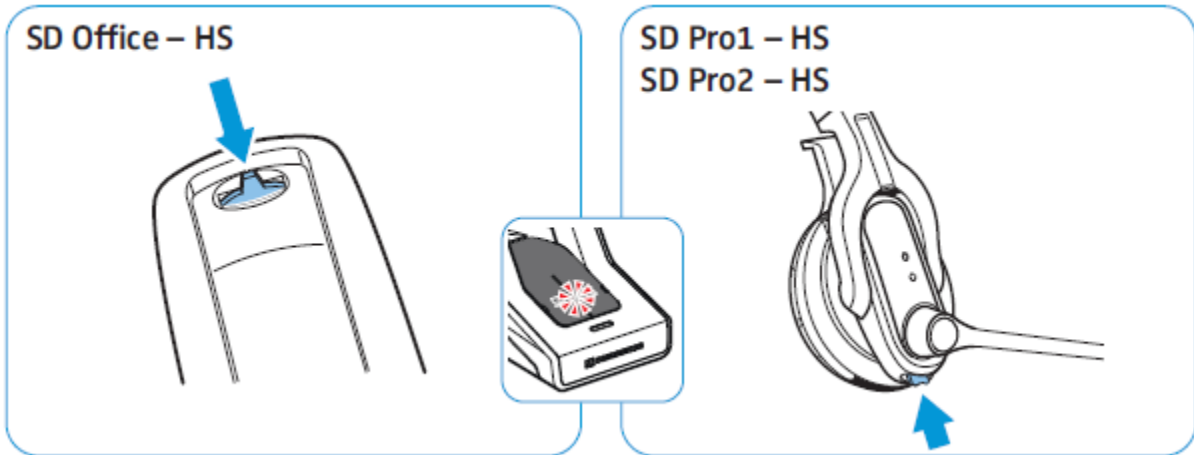
Alternatively, press the telephone icon button on the base of the headset.



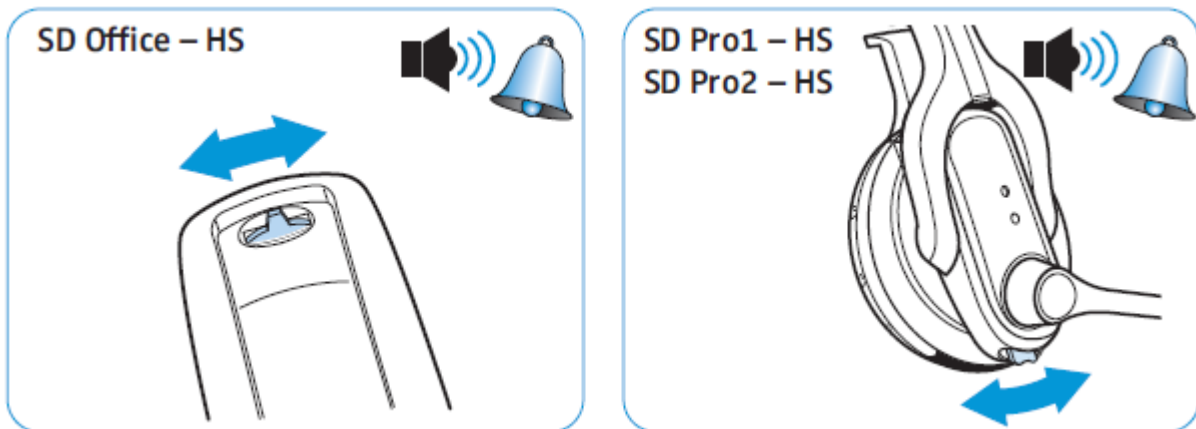
To Place a Call: Press the call control button on the headset to get dial tone and dial the number.



To Mute: Press the Audio button on the headset. When the microphone is muted, the Link LED on the base station flashes red. To Un-mute, press the Audio button again and the beep is heard in the headset to indicate that the mute is canceled.



To adjust the volume: move the Audio button as shown in the screenshot. When the minimum or maximum volume is reached, a double beep will be heard in the headset.



For more information on how to use the headsets refer to the Sennheiser Communications A/S SD Pro1, SD Pro2, SD Office Quick Guides included with the headsets. For the link to on-line documentation refer to **Section 9 References [3-9]**.

7. Verification

Verify that the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and the SD Pro1, SD Pro2 or SD Office wireless headset has been connected to the Avaya 96x1 Series IP Deskphone. Once the adapter and headset are connected to the deskphone, verify that incoming and outgoing calls can be established with two-way audio to the headset and that the headset can get dial tone and end an active call.

8. Conclusion

These Application Notes describe the configuration steps required to integrate the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and the SD Pro1, SD Pro2 and SD Office wireless headsets with Avaya 96x1 Series IP Deskphone. Testing was completed successfully with observations noted in **Section 2.2**.

9. Additional References

This section references the Avaya and Sennheiser Communications A/S 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 6.3, Issue 6.0, May 2013, Document Number 03-300509.

[2] Administering Avaya IP Deskphone H.323 9608, 9611G, 9621G, and 9641G, Release 6.2 SP4, Issue 14, Date May 2013, Document Number 16-300698.

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The following Sennheiser Communications A/S documentation can be found at <http://en-de.sennheiser.com/service-support/services/download-area/>

[3] Quick guide for CEHS-AV 04

[4] SD Pro1 Quick guide.

[5] SD Pro1 User manual.

[6] SD Pro2 Quick guide.

[7] SD Pro2 User manual.

[8] SD Office Quick guide.

[9] SD Office User manual.

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