



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Wireless Series Headsets with Avaya 96x1 Series IP Deskphone – Issue 1.1

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 Wireless Series 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 when the user is away from their desk.

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 and SD Wireless Series 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 when the user is away from their desk.

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 when the user is away from their desk.
- SD Pro 2 – Binaural wireless headset.
- SD Office – Monaural wireless headset.

Although only the SD Office and Pro 2 were used in the compliance testing, Sennheiser Communications A/S declares that all functional and electrical characteristics related to interoperability with Avaya phones are identical for the product series DW Office/Pro 1/Pro 2, and SD Office/Pro 1/Pro 2. This includes the firmware which controls functionality and acoustical performance. This compliance testing therefore applies to both the DW and the SD series.

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 IP Deskphone with Sennheiser Communications A/S CEHS-AV 04 EHS adapter and SD Wireless Series headsets and verifying two-way audio. The call types included calls with voicemail, with local extensions, and with the PSTN.

The serviceability test focused on verifying usability of the Sennheiser Communications A/S SD Wireless Series headsets after restarting the Avaya 96x1 Series IP 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 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 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 good.
- 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.
- Toggling between handset, speakerphone, and headset.
- 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.
- Put the call on hold and retrieve it.

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

In addition to DevConnect Compliance Testing, Acoustic Testing of the SD Pro 1/Pro 2/Office and DW Pro 1/Pro 2/Office headsets using the CEHS-AV04 Adapter was completed by Avaya. The recommended headset profile for use with these headsets is profile #8. For a detailed list of recommended headsets, and directions on assigning a headset profile, see *Avaya 96XX Series IP Deskphone and H100 Video Collaboration Station Headsets Profiles*, available on support.avaya.com.

2.2. Test Results

Testing was completed successfully with following observation: During a call, the user should not unplug the pink cable at the base. This will disconnect the call.

2.3. Support

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

Website: www.sennheiser.com/service-support/

E-mail: support@senncom.com

3. Reference Configuration

Figure 1 illustrates the test configuration used to verify the Sennheiser Communications A/S CEHS-AV 04 EHS adapter and SD Wireless Series headsets with Avaya 96x1 Series IP Deskphone. The configuration consists of an Avaya S8300D Server running Avaya Aura® Communication Manager on Avaya G450 Media Gateway.

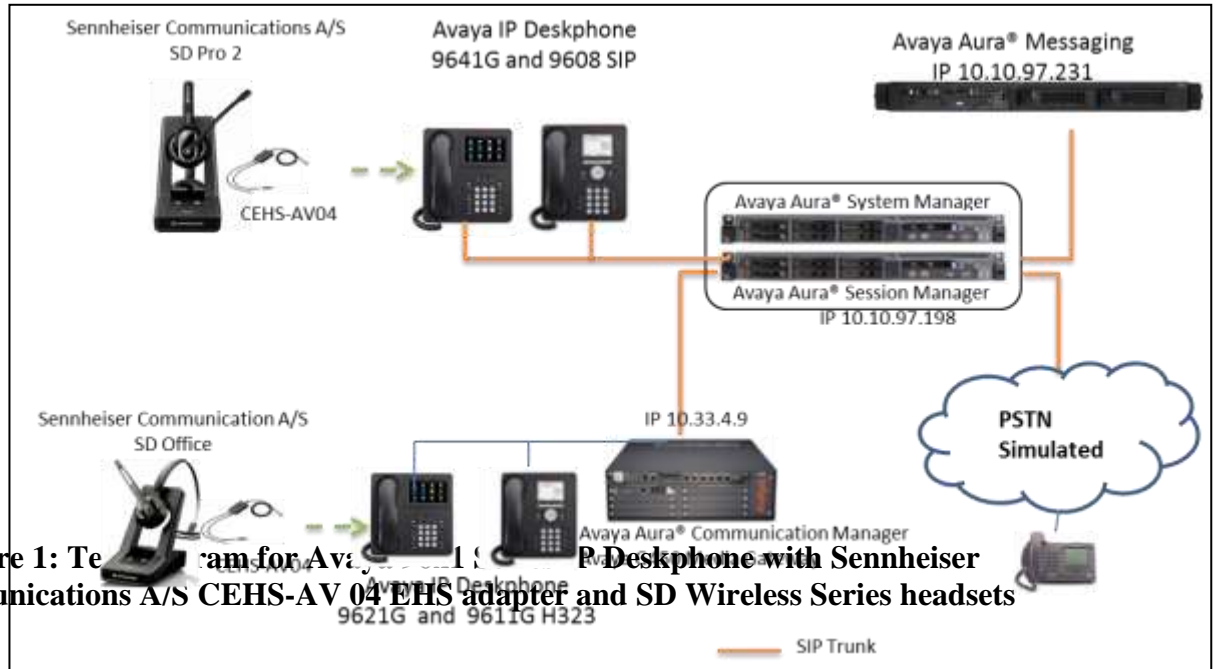


Figure 1: Test Configuration for Avaya IP Deskphone with Sennheiser Communications A/S CEHS-AV 04 EHS adapter and SD Wireless Series headsets

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 S8300D Server with a G450 Media Gateway	6.3 SP4 (R016x.03.0.124.0 w/Patch 21291)
Avaya Aura® Messaging	6.3
Avaya Aura® Session Manager	6.3 (6.3.5.0.635005)
Avaya Aura® System Manager	6.3.5 Build No. – 6.3.0.8.5682-6.3.8.2826 Software Update Revision No: 6.3.5.5.2017
Avaya H.323 9621G and 9611G	6.4014
Avaya SIP 9641G and 9608	6.4.0.33
Sennheiser Communications A/S CEHS-AV 04	P/N 504589
Sennheiser Communications A/S SD Pro 2 Wireless	114
Sennheiser Communications A/S SD Office Wireless	114

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 Communication Manager.

These Application Notes assume that the Avaya 96x1 Series IP Deskphone is configured and operational in Communication Manager. There are no additional settings required on Communication Manager for connection of the Sennheiser Communications A/S CEHS-AV 04 EHS adapter and SD Wireless Series headsets to the Avaya 96x1 Series IP Deskphone. An example of a 96x1 Series IP Deskphone provisioned in Communication Manager is illustrated below.

```
display station 53011                                     Page 1 of 5
                                                         STATION
Extension: 53011                                         Lock Messages? n          BCC: M
Type: 9621                                               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? n
Survivable Trunk Dest? y                                  IP Video Softphone? n
                                                         Short/Prefixed Registration Allowed: default
                                                         Customizable Labels? y
```

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.

```
##### HEADSET SETTINGS (H.323 ONLY) #####
##
## HEADSETBIDIR specifies whether bidirectional signaling
## on the headset interface will be enabled or disabled.
## Value Operation
## 0 Disabled (default)
## 1 Switchhook and alerting signaling are both enabled
## 2 Only switchhook signaling is enabled
## This parameter is supported by:
## 96x1 H.323 R6.3 and later (values 0-2)
## 96x1 H.323 R6.2.1 and later (values 0-1)
## Note that 96x1 H.323 R6.2 only supported signaling for alerting.
SET HEADSETBIDIR 1
```

Alternatively, the switchhook and alerting options can be enabled through the 96x1 phone menu. Press the **MENU** button on the phone and then navigate to **Options & Settings → Call Settings → Headset Signaling...** Select the **Switchhook & Alerting** option.

5.1. Configure a Station for Avaya 96x1 Series SIP Telephone

The SIP station was configured automatically through System Manager. Use the **display station** command to view the station for the 9641G IP telephone. The **Station Type** was set to *9641SIP* and a descriptive **Name** was also provided. Use the default values for the other fields on **Page 1**.

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

```
display station 46010                                     Page 1 of 6
                                                         STATION
Extension: 46010                                         Lock Messages? n          BCC: 0
  Type: 9641SIP                                         Security Code:           TN: 1
  Port: IP                                             Coverage Path 1: 50      COR: 1
  Name: SD,CEHS04                                       Coverage Path 2:         COS: 1
                                                         Hunt-to Station:
STATION OPTIONS
                                                         Time of Day Lock Table:
  Loss Group: 19                                         Message Lamp Ext: 46010
Display Language: english
  Survivable COR: internal
Survivable Trunk Dest? y                                IP SoftPhone? n
                                                         IP Video? n
```

6. Configure Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Wireless Series Headset

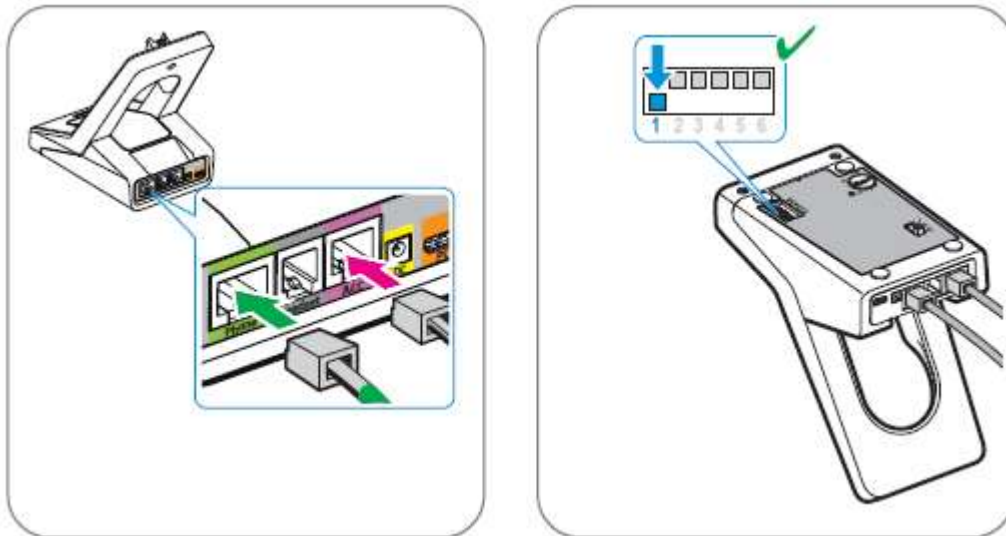
This section describes steps to configure Sennheiser Communications A/S CEHS-AV 04 and SD Wireless Series to works with Avaya 96x1 Series IP Deskphone.

6.1. Cable Connections

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

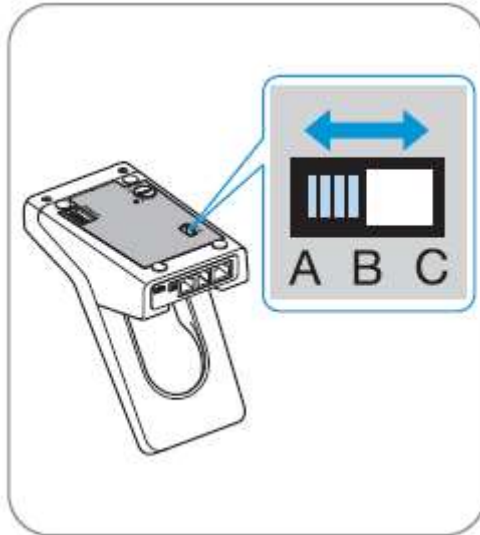
Left figure: Plug the Green and Pink end of CEHS-AV 04 adapter into the SD Wireless headset.

Right figure: Set switch 1 to the Fast Link DHSG standard position as shown in figure below to control call via SD Wireless headset.

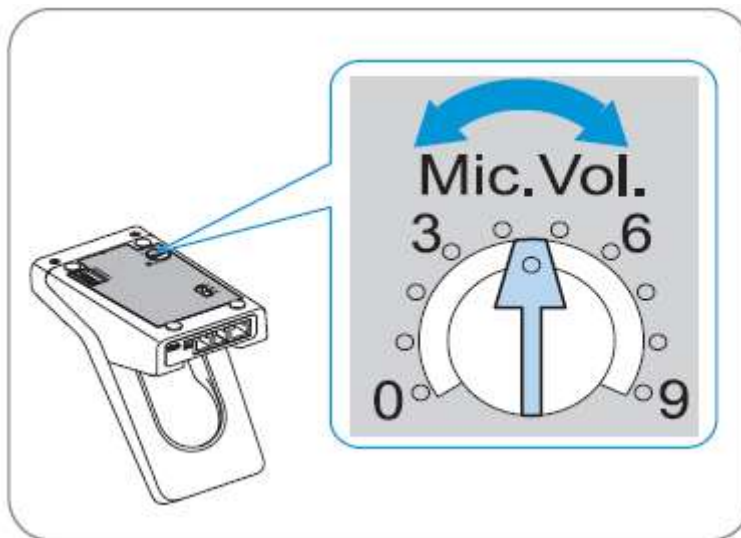


6.2. Configure SD Wireless Series Headsets

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 while speaking until the desired microphone level sensitivity is reached.



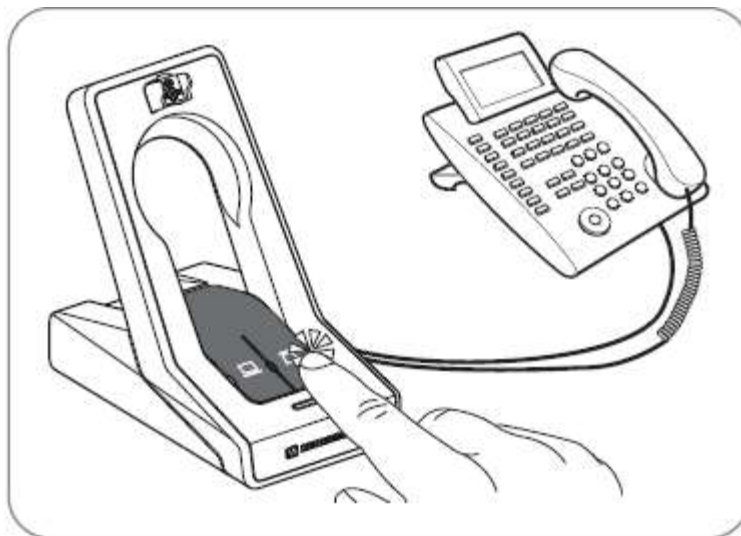
6.3. Call Control and Volume Adjustment

To answer, end, place calls, mute/un-mute and adjust the volume on the Sennheiser Communications A/S SD Wireless Series headsets follow the instructions below.

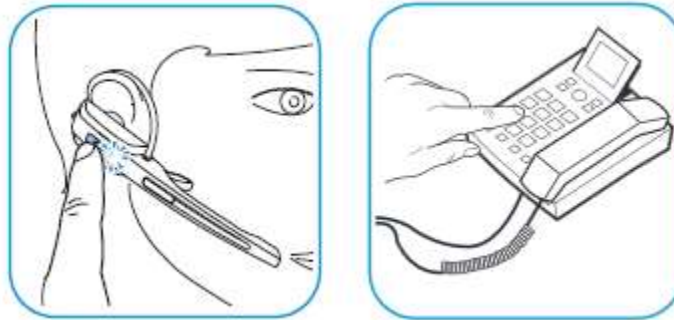
To Answer a Call: Press the call control button on the headset.



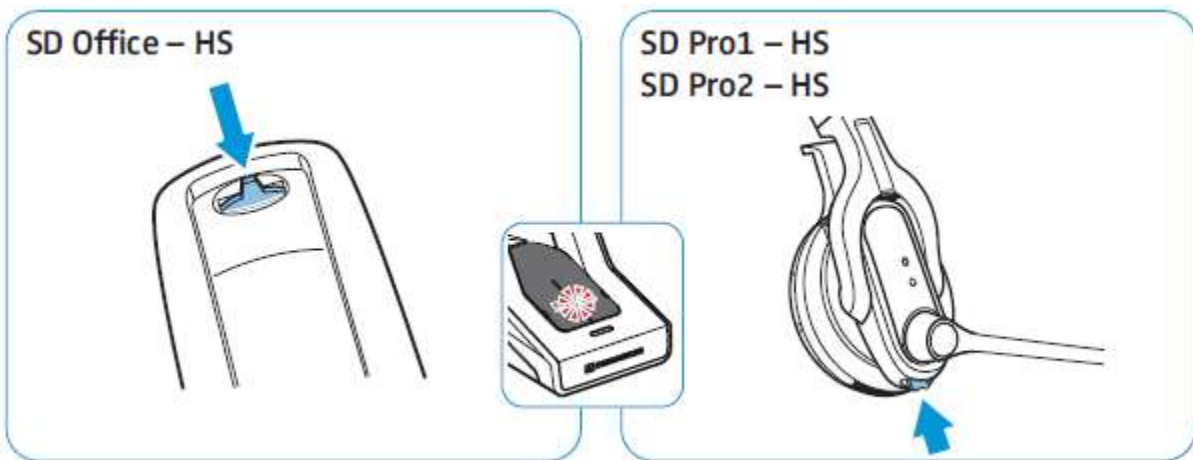
Alternatively, press the telephone icon button on the base of the headset.



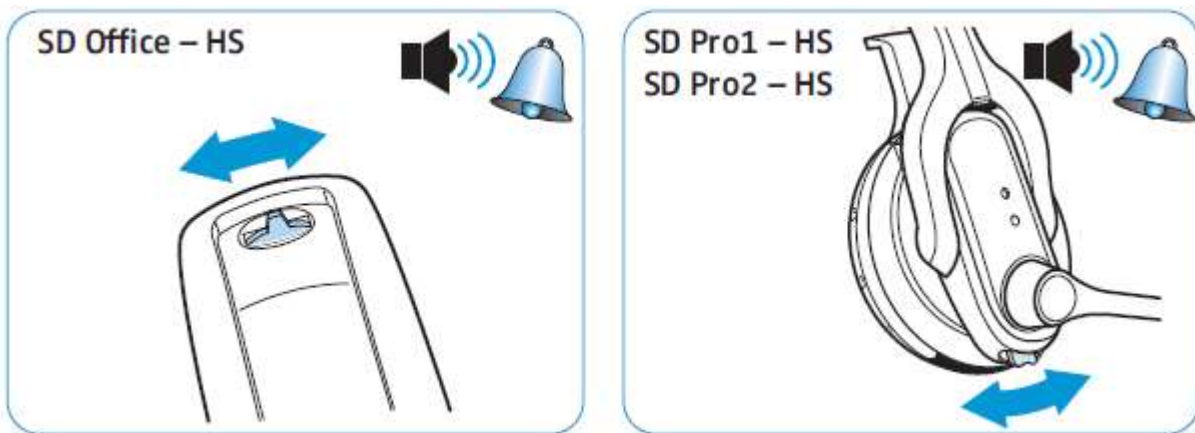
To Place a Call: Press the call control button on the headset to get dial tone and dial the number.



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 Series Quick Guides included with the headsets. For link to on-line documentation refer to **Section 9**.

7. Verification

Verify that the Sennheiser Communications A/S CEHS-AV 04 EHS adapter and the SD Wireless Series headset have 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 Wireless Series headsets with Avaya 96x1 Series IP Deskphone. Testing was completed successfully with an observation as listed in **Section** Error! Reference source not found..

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 9, October 2013, Document Number 03-300509.
- [2] *Administering Avaya 9601/9608/9608G/9611G/9621G/9641G Deskphones SIP*, Release 6.3.1, Issue 3, January 2014, Document Number 16-601944.
- [3] *Installing and Maintaining Avaya Deskphone SIP 9601/9608/9608G/9611G/9621G/9641G Deskphones*, Release 6.3.1, Issue 4, January 2014, Document Number 16-603504.
- [4] *Administering Avaya IP Deskphone H.323 9608, 9608G, 9611G, 9621G, and 9641G*, Release 6.3.1, Issue 17, January 2014, Document Number 16-300698.
- [5] *Installing and Maintaining Avaya IP Deskphone H.323 9608, 9608G, 9611G, 9621G, and 9641G*, Release 6.3.1, Issue 9, January 2014, Document Number 16-603603.

The SD and DW Series product documentation is available with the headsets. Additionally, information and documentation can be found at www.sennheiser.com

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