



Application Notes for Configuring Sennheiser SD Series Headsets with Avaya 9400 Series Digital Deskphones using CEHS-AV 03 EHS Adapter – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate the Sennheiser CEHS-AV 03 EHS (Electronic Hook Switch) Adapter phone cable and SD Pro1, SD Pro2, SD Office wireless headsets with Avaya 9400 Series Digital Deskphones. The Sennheiser CEHS-AV 03 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 Sennheiser SD Pro1, SD Pro2, SD Office wireless headsets were used to verify the functionality of the CEHS-AV 03 EHS Adapter.

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 Sennheiser CEHS-AV 03 EHS (Electronic Hook Switch) Adapter phone cable with Avaya 9400 Series Digital Deskphones. Sennheiser designs and develops professional headsets for the Corporate, Financial, Health, Government, Educational, Industrial, Hotel & Hospitality and Contact Centre market sectors.

The following headsets and accessories were tested:

- CEHS-AV 03 EHS (Electronic Hook Switch) 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.
- SD Pro1 – Monaural wireless headset.
- SD Pro 2 – Binaural wireless headset.
- SD Office – Monaural wireless headset.

Although only the SD Office/Pro1/Pro2 was 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/Pro1/Pro2, and SD Office/Pro1/Pro2. 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 9400 Series Digital Deskphones with Sennheiser CEHS-AV 03 EHS Adapter and SD Pro1, SD Pro2, SD Office wireless headsets and verifying two-way audio. The call types included calls to voicemail, to and from local extensions, to and from the PSTN.

The serviceability testing focused on verifying the usability of the Sennheiser SD Pro1, SD Pro2, SD Office wireless headsets after restarting the Avaya 9400 Series Digital Deskphones.

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 9400 Series Digital 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.

- The recommendation for wireless headsets is to always use the call control button on the headset to answer, terminate or to place calls.
- Note that the user will hear a series of beeping tones instead of the normal incoming call alerting tones on the headset during incoming calls if the call control button on the headset or the telephone icon button on the base of the headset is active or enabled.
- Since the CEHS-AV 03 adapter uses ringer sensor to notify of a call to the wireless headset, ensure that the ringer volume on the deskphone is high enough for the ringer sensor to detect.
- Pressing the headset button on the deskphone first does NOT automatically activate the call control button on the headset. If the user prefers to use the headset button on the deskphone, instead of the call control button on the wireless headset, or the telephone icon button on the base of the headset to answer, terminate, or to place calls, the call control button on the headset has to be active or enabled. Once the call control button on the headset is activated (by pressing it), the headset button on the deskphone can be used to answer, terminate, or to place calls. Without it being enabled or active, the headset

will not receive dial-tone when attempting to place calls or audio when answering calls, if the headset button on the deskphone is used.

- When far end disconnects the call, the LED on the headset and headset base is still lit. User has to manually press the call control button on the headset or the headset base to turn the LED off.
- User is on a call using the headset and handset is undocked. Turn off the headset button on the deskphone to transfer the call from the headset to the handset. Call is transferred however the LED is lit on the headset base. User has to manually press the call control button on the headset base to turn the LED off.
- User is on the call using handset and the headset is inactivated, press headset button on the phone to transfer the call to headset, the call is transferred but the headset is not automatically activated, user need to press call control button on headset to activate it.

2.3. Support

Support from Avaya is available by visiting the website <http://support.avaya.com>. Support from Sennheiser is available at:

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

Phone: 1-877-736-6434

3. Reference Configuration

Figure 1 illustrates the test configuration used to verify the Sennheiser CEHS-AV 03 EHS (Electronic Hook Switch) Adapter and SD Pro1, SD Pro2, SD Office wireless headsets with Avaya 9400 Series Digital Deskphones. The configuration consists of an Avaya S8300 server running Communication Manager with an Avaya G450 Media Gateway and a mix of deskphones (IP and digital) for placing calls to and from the equipment under test.

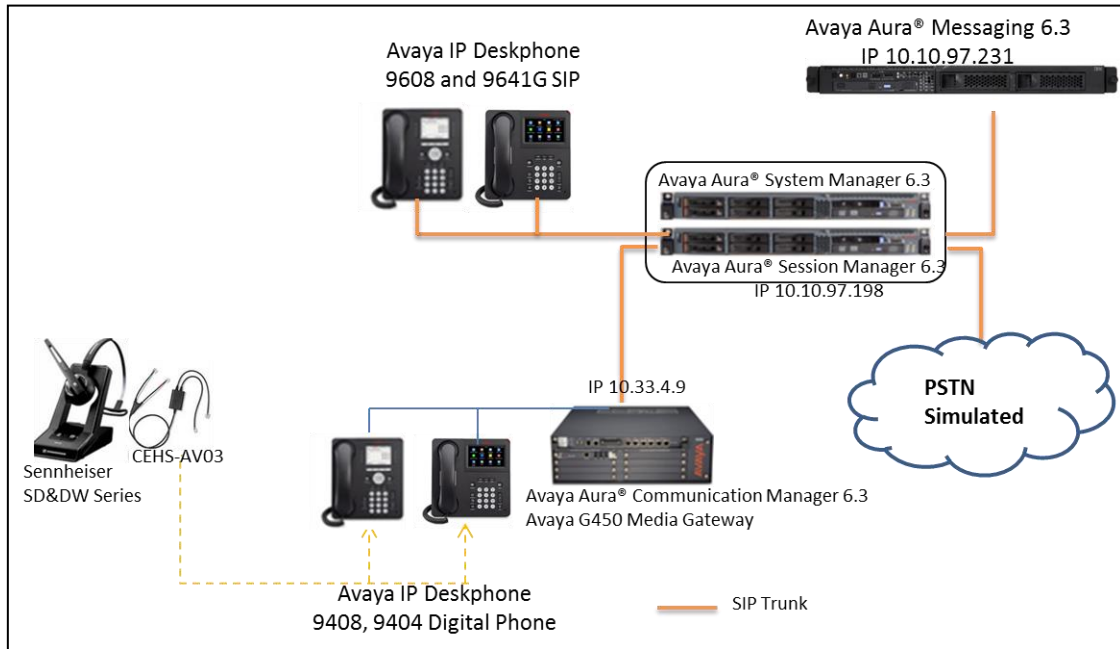


Figure 1: Avaya 9400 Series Digital Deskphone with Sennheiser CEHS-AV 03 EHS Adapter and SD Pro1, SD Pro2, SD Office Wireless Headsets.

4. Equipment and Software Validated

The following equipment and software was used for the compliance test.

Equipment/Software	Release/Version
Avaya Aura® Communication Manager running on Avaya S8300 Server and G450 Media Gateway	6.3 SP4
Avaya Aura® System Manager running on Avaya S8800 Server	6.3
Avaya Aura® Session Manager running on Avaya S8800 Server	6.3
Avaya Aura® Messaging running on Avaya S8800 Server	6.3
Avaya 9408/9404 Digital Deskphone	R2.0 SP3 Release: 12 14/01/16
Sennheiser SD series headsets <ul style="list-style-type: none">• SD Office• SD Pro1• SD Pro2	114
Sennheiser CEHS-AV 03 EHS Adapter	P/N 504536

5. Configure Avaya Aura® Communication Manager

It is assumed that a fully functioning Communication Manager is in place with the necessary licensing. For further information on the configuration of Communication Manager please see **Section 9** of these Application Notes.

5.1. Configuring 9400 Series Digital Deskphones

These Application Notes assume that the Avaya 9400 Series Digital Deskphones are configured and operational in Communication Manager. To make and answer calls using a wireless headset, the Remote Headset option must be turned on 9400 Deskphones. This allows user to hear the DTMF tones on wireless headset. User can use the wireless headset button or the **Headset** button on the telephone to make and answer calls using the headset. Press the **Home** button on the phone and then navigate to **Advance Options → Audio... → Remote Headset** select **On** option. Navigate to **Call Settings → Audio Path** select **Headset** option.

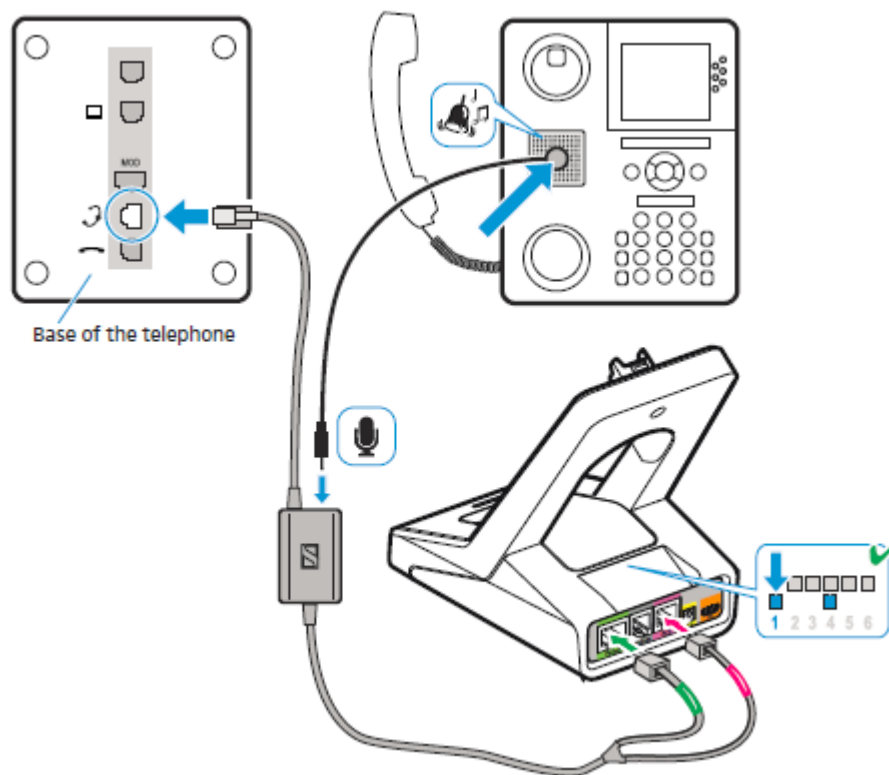
There are no additional settings required for the connection of the Sennheiser CEHS-AV 03 EHS Adapter and SD Pro1, SD Pro2, SD Office wireless headsets to the Avaya 9400 Series Digital Deskphones. For further information on how to configure these Avaya Digital Deskphones refer to **Section 9** of these Application Notes.

6. Connect the Sennheiser CEHS-AV 03 EHS Adapter and SD Pro1, SD Pro2, SD Office Wireless Headsets to Avaya 9400 Series Digital Deskphone

During the compliance testing the Sennheiser CEHS-AV 03 EHS Adapter was used to connect the SD Pro1, SD Pro2 and SD Office wireless headsets to the Avaya 9400 Series Digital Deskphones. The Sennheiser CEHS-AV 03 EHS Adapter provides SD Pro1, SD Pro2 and SD Office wireless headsets the ability 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 CEHS-AV 03 EHS Adapter to the SD Pro1, SD Pro2, SD Office wireless headsets and to the Avaya 9400 Series Digital Deskphone, refer to the diagram below. During compliance test DIP switch 1 (DHSG standard) and 4 (Auto Link) are ON.



7. Verification Steps

Verify that the Sennheiser CEHS-AV 03 EHS Adapter and the SD Pro1, SD Pro2 or SD Office wireless headset has been connected to the Avaya 9400 Series Digital 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. Also ensure that the mute button and volume control on the headsets work as intended.

8. Conclusion

These Application Notes describe the configuration steps required to integrate the Sennheiser CEHS-AV 03 EHS Adapter and the SD Pro1, SD Pro2, SD Office wireless headsets with Avaya 9400 Series Digital Deskphones. Testing was completed successfully with observations noted in **Section 2.2**.

9. Additional References

This section references documentation relevant to these Application Notes. Product documentation for Avaya products may be found at <http://support.avaya.com>

- [1] *Administering Avaya Aura® Communication Manager*, Document Number 03-300509.
- [2] *Avaya Aura® Communication Manager Feature Description and Implementation*, Document Number 555-245-205.
- [3] *Avaya 9400 Series Digital Deskphone for Avaya Aura® Communication Manager Installation and Maintenance Guide*, Document Number 16-603533.
- [4] *Avaya 9400 Series Digital Deskphone User Guide for Avaya Aura® Communication Manager*, Document Number 16-603535

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

- [1] Quick guide for CEHS-AV 03
- [2] SD Pro1 Quick guide.
- [3] SD Pro1 User manual.
- [4] SD Pro2 Quick guide.
- [5] SD Pro2 User manual.
- [6] SD Office Quick guide.
- [7] SD Office User manual.

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