



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Series Wireless Headsets with Avaya 9400 Series Digital Deskphones – 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 9400 Series Digital Deskphones. 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.

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 Communications A/S CEHS-AV 04 EHS (Electronic Hook Switch) Adapter with Avaya 9400 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.

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 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 SD Pro1, SD Pro2 and 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 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 9400 Series Digital Deskphones were 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.
- When the far end disconnects the call, the LED of the headset button on the phone is still lit. The user has to manually press the headset button on the phone to turn the LED off. This is the default behavior of Avaya Digital Deskphones.
- During compliance test, when the user powered off the headset and powered it on again, pressing the headset button on the phone did not activate the headset. This issue was observed in the Belleville lab only, not in the Sennheiser lab. Issue is under investigation by the Avaya 9400 phone team.

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

Two configurations were tested, Avaya IP Office with 9500 Series Deskphones and Avaya Aura® Communication Manager with 9400 Series Deskphones.

Figure 1 illustrates the test configuration used to verify the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Pro1, SD pro2, SD Office wireless headsets with Avaya 9400 Series Digital Deskphones. The 9400 Series handsets were configured and managed via an Avaya S8300 Server running Communication Manager R6.3 with an Avaya G450 Media Gateway. Avaya SIP and H.323 phones were also deployed as part of the configuration for test purposes only to make / receive calls with the digital device. The configuration of the SIP and H.323 devices and related equipment is beyond the scope of this document.

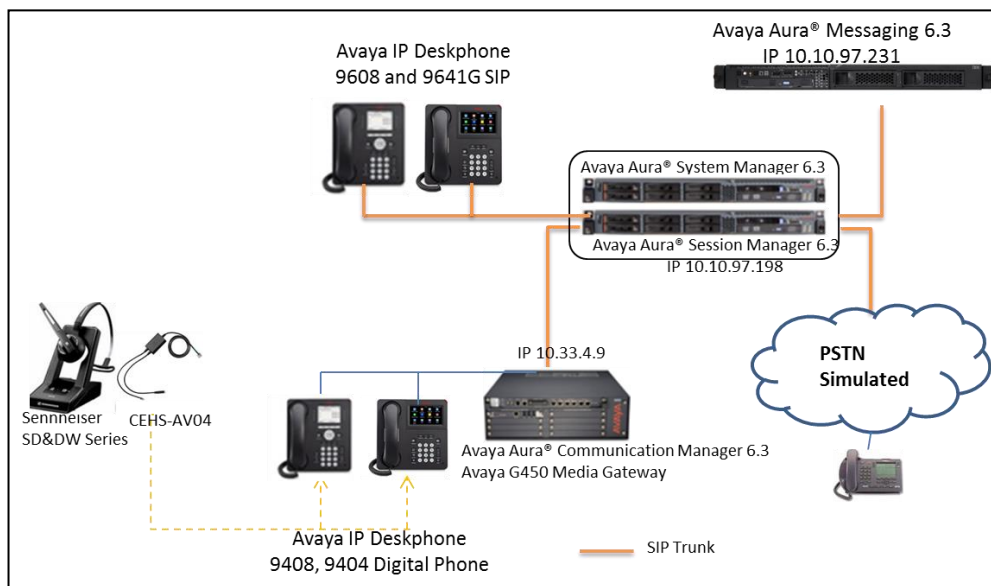


Figure 1: Test diagram for Avaya 9400 Series Digital Deskphone with Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and SD Pro1, SD Pro2 and SD Office Wireless Headsets.

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	6.3 SP4 (R016x.03.0.124.0 w/Patch 21291)
Avaya 9404 Digital Deskphone	R2.0 SP3 Release: 12 14/01/16
Avaya 9408 Digital Deskphone	R2.0 SP3 Release: 12 14/01/16
Sennheiser CEHS-AV04 Adapter	1.0 P/N 504589
Sennheiser SD Pro1/Pro2/Office Wireless Headset	114

5. Configure Stations for Avaya 9400 Series Digital Deskphones

5.1. Configure Avaya Aura® Communication Manager

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 activated on the 9400 Deskphones. This allows the user to hear the DTMF tones on the wireless headset. The 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 04 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 Communications Equipment to Avaya 9400 Series Digital Deskphone

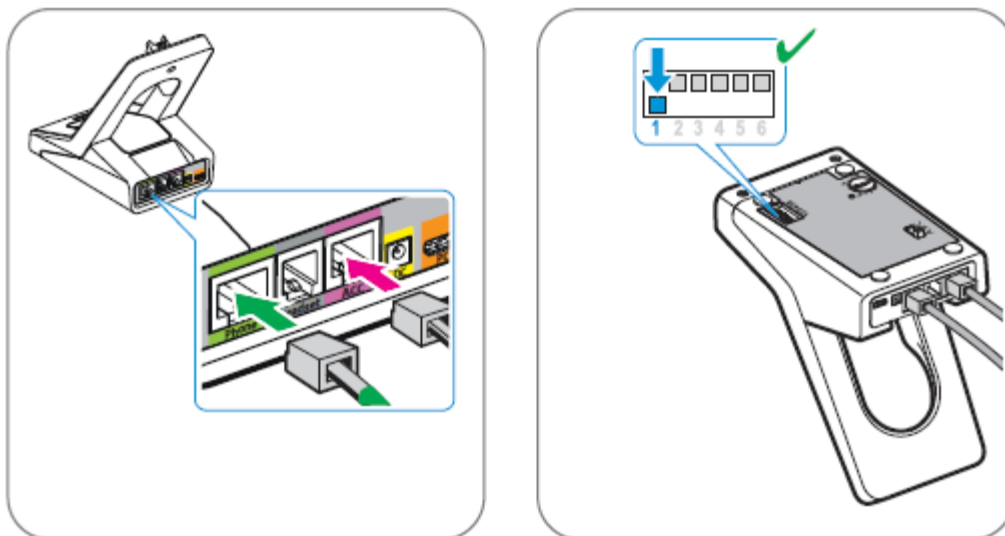
During the compliance testing the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter was used to connect the SD Pro1, SD Pro2 and SD Office wireless headsets to the Avaya 9400 Series Digital Deskphones. The Sennheiser Communications A/S CEHS-AV 04 EHS Adapter provides SD Pro1, SD Pro2, SD Office wireless 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 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.

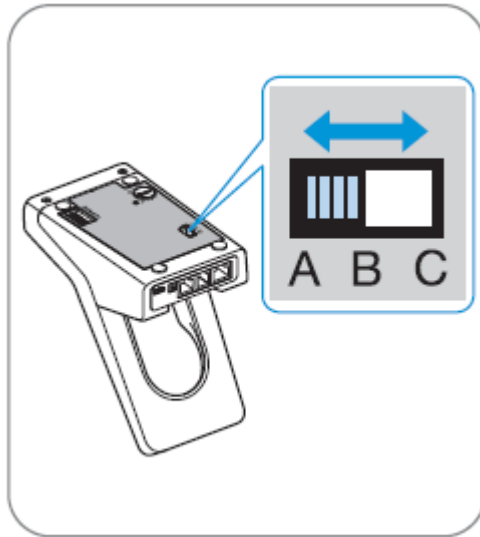
Left figure: Plug the Green and Pink end of CEHS-AV 04 adapter into the SD Wireless base.

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

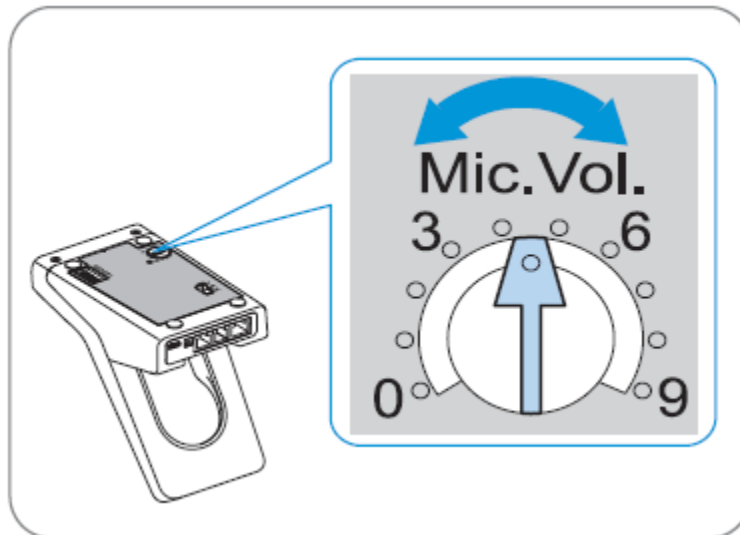


6.2. Configure Sennheiser Communications A/S SD Pro1, SD Pro2 and SD Office Wireless Headsets

To ensure the 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 and adjust the “Mic. Vol.” Dial on the back of the headset base whilst speaking until the desired microphone level sensitivity is reached.



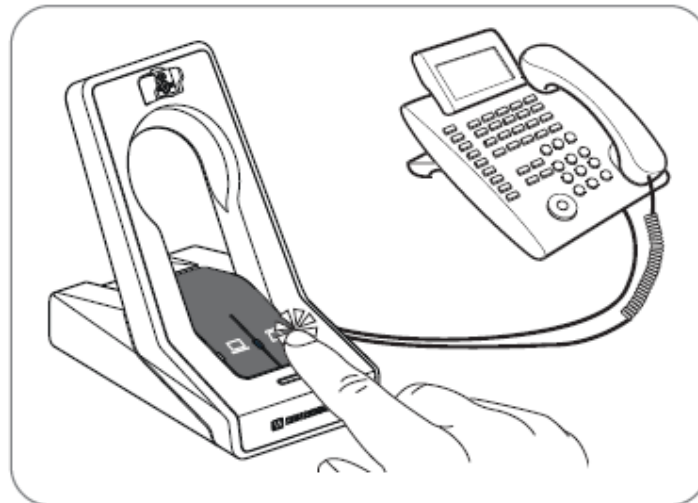
6.3. To Answer, End, Place Calls, Mute and adjust the volume on the Headsets

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.

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

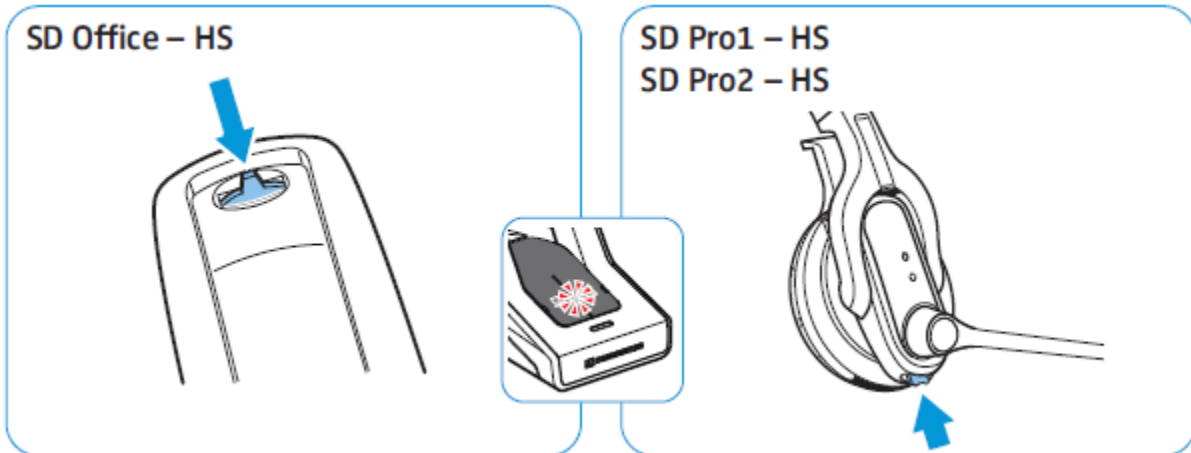


Alternatively, press the telephone icon button on the base of the headset.

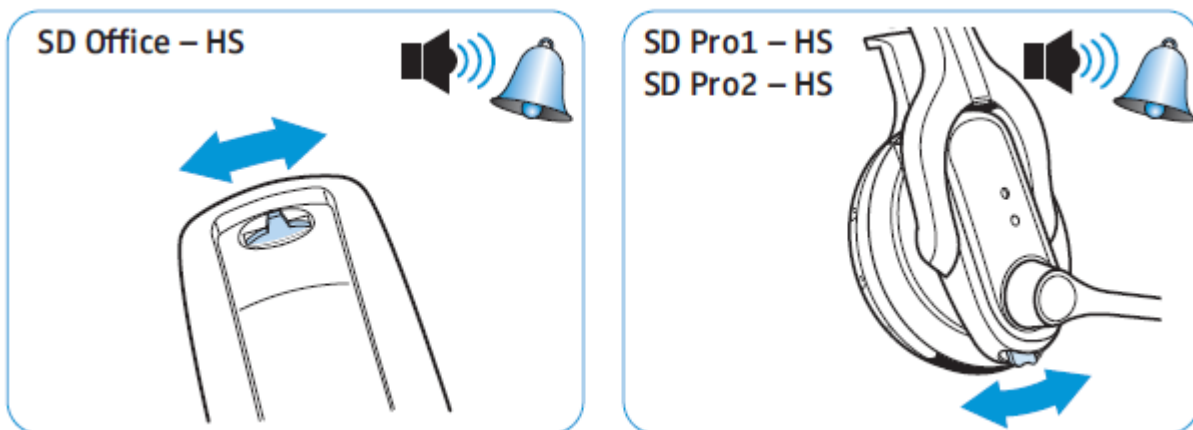


To Place a Call: Press the call control button on the headset to get dial tone and dial the number.

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 and SD Office Quick Guides included with the headsets. For the 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 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.

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, 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 the Avaya and Sennheiser Communications A/S documents 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, Document Number 03-300509.
2. Avaya 9400 Series Digital Deskphone for Avaya Aura® Communication Manager Installation and Maintenance Guide, Document Number 16-603533.

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 04
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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