



Application Notes for Configuring Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and DW Pro1, DW Pro2, DW Office Wireless Headsets with Avaya 96x1 Series IP 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 DW Pro1, DW Pro2, DW Office wireless headsets with Avaya 96x1 Series IP 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 when the user is away from their desk. The Sennheiser Communications A/S DW Pro1, DW Pro2, DW 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 IP 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 and end calls, and mute/un-mute calls directly from the headset including situations when the user is away from their desk.
- DW Pro1 – Monaural wireless headset.
- DW Pro 2 – Binaural wireless headset.
- DW Office – Monaural wireless headset.

2. General Test Approach and Test Results

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 deskphones or with a different generation of the same Avaya Deskphone.

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

The interoperability compliance test included feature and serviceability testing. The feature testing focused on placing calls to and from the Avaya 96x1 Series IP Deskphones with Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and DW Pro1, DW Pro2, DW 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 Communications A/S DW Pro1, DW Pro2, DW Office wireless headsets after restarting the Avaya 96x1 Series IP Deskphones.

Note: Testing was performed using Avaya IP Office 500 V2 R9.0 and Avaya one-X® H.323 9611G IP Deskphones, but results also apply to the Avaya one-X® H.323 9608, 9621G and 9641G Deskphone models on Avaya IP Office Server Edition and Avaya Aura® Communications Manager Platforms.

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 outgoing calls and alerting tone for incoming 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 Avaya 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:

- The headset signaling has to be enabled on the Avaya 96x1 Deskphones in order to be able to hear alerting tone (i.e., beeps) on the Sennheiser wireless headsets during incoming calls; this is accomplished by following the steps listed in **Section 6**.
- On the Avaya 9611G Deskphones the headset signaling is enabled by the **Switchhook & Alerting** setting described in **Section 6**, this setting will go back to **None** (default) if this setting is configured manually (using the key-pad on the Deskphone, as described in Section 6) and if the 9611G is powered down or re-booted for any reason. To avoid having to configure this setting manually each time Avaya recommends the use of the **46xxsettings.txt** file, as described in **Section 6**.

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 (Electronic Hook Switch) Adapter and DW Pro1, DW Pro2, DW Office wireless headsets with Avaya 9611G IP Deskphones. The configuration consisted of an Avaya IP Office 500 V2, an IP Office Digital expansion module and a mix of deskphones (IP, analog and Digital) for placing calls to and from the equipment under test.

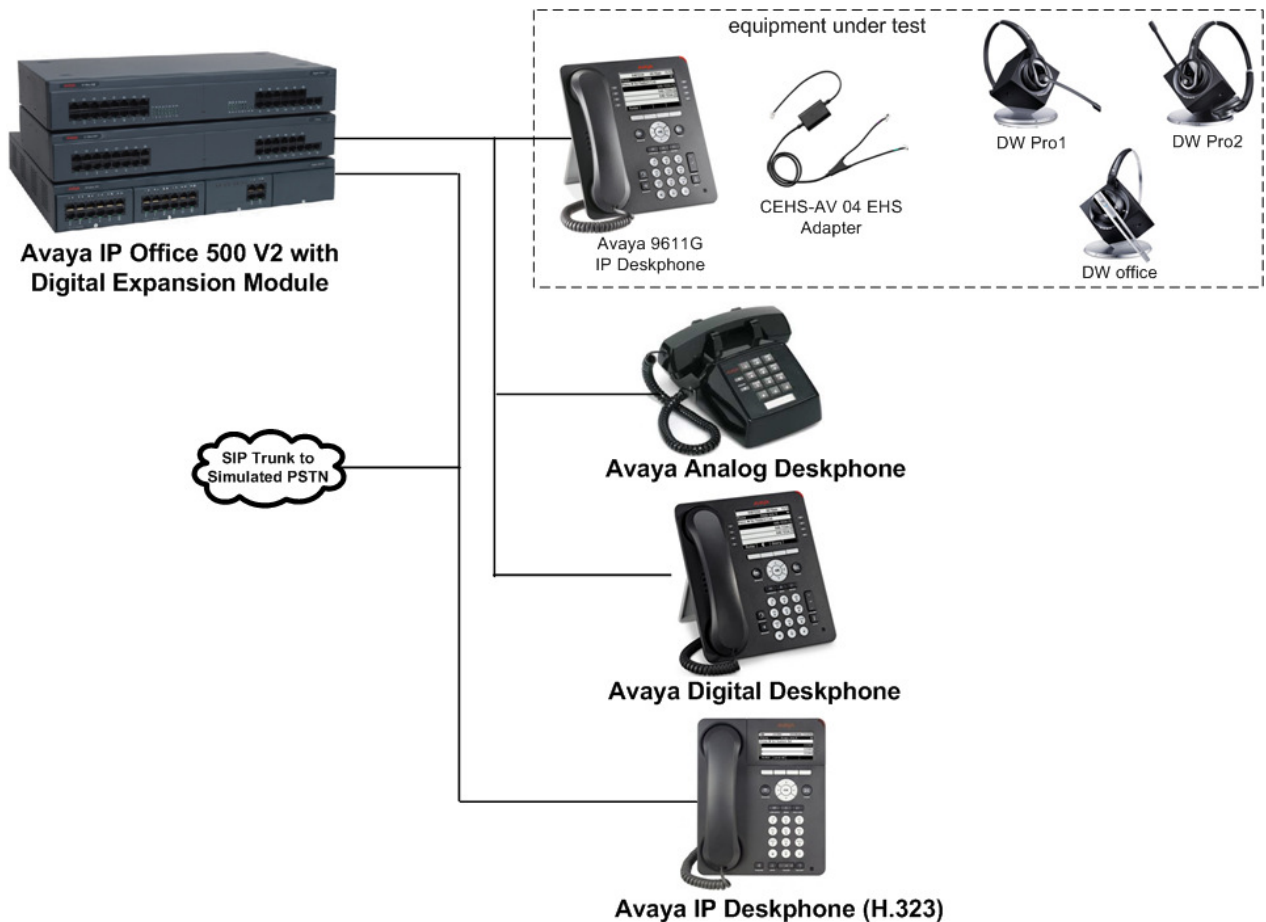


Figure 1: Avaya 9611G IP Deskphone with Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and DW Pro1, DW Pro2, DW Office Wireless Headsets.

4. Equipment and Software Validated

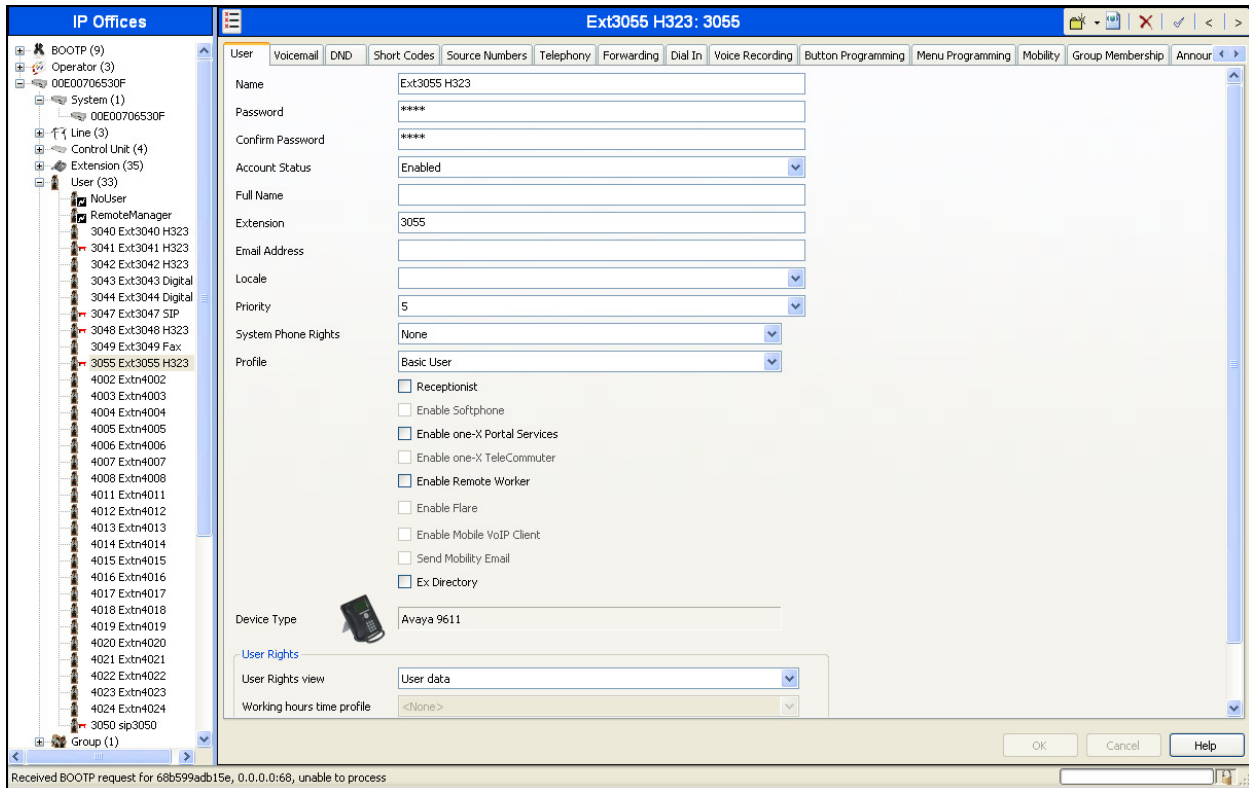
The following equipment and software were used for the sample configuration provided:

Equipment/Software	Release/Version
Avaya IP Office 500 V2	9.0.0.0 build 829
Avaya IP Office Digital Expansion Module	9.0.0.0 build 829
Avaya 9611G IP Deskphone (H.323)	6.3037
Avaya 9600 Series IP Deskphones (H.323)	Avaya one-X® Desk phone Edition Version S3.2
Avaya 9508 Digital Deskphone	0.45
Avaya Analog Deskphone.	N/A
Sennheiser Communications A/S CEHS-AV 04 EHS Adapter.	N/A
Sennheiser Communications A/S DW Pro1 Wireless Headset.	N/A
Sennheiser Communications A/S DW Pro2 Wireless Headset.	N/A
Sennheiser Communications A/S DW Office Wireless Headset.	N/A

5. Configure Avaya IP Office

These Application Notes assume that the Avaya 96x1 Series IP Deskphones are configured and operational in Avaya IP Office. There are no additional settings required on Avaya IP Office for the connection of the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and DW Pro1, DW Pro2, DW Office wireless headsets to the Avaya 96x1 Series IP Deskphones.

An example of a previously provisioned 9411G IP station in Avaya IP Office is illustrated below.



6. Configure the Avaya 96x1 IP Deskphones

The headset signaling has to be enabled on the Avaya 96x1 Deskphones in order to be able to hear alerting tone (i.e., beeps) on the Sennheiser wireless headsets during incoming calls.

The headset signaling can be enabled **manually** on the 96x1 Deskphones (using the key-pad on the Deskphone) or via the **46xxsettings.txt** file.

To enable the headset signaling on the Avaya 9611G Deskphones **manually** (using the key-pad on the Deskphone) do the following:

On Avaya 9611G Deskphones:

- Press the **Home** key.
- Press the **Options & Settings** key.
- Press the **Call Settings** key.
- Press the **Headset Signaling...** key.
- Press the **Switchhook & Alerting** key, then press the **Select** key.
- Press the **Back** key two times, and then press the **Exit** key.

To enable headset signaling on the Avaya 9611G Deskphones via the **46xxsettings.txt** file do the following:

Modify the **46xxsettings.txt** file (H.323 Only)

In the **46xxsettings.txt** file, the **HEADSETBIDIR** parameter needs to be set to “1” so that incoming call notification (i.e., beeps) is heard on the wireless headsets. Below is an example for setting this parameter.

```
## 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
##
```

To enable headset signaling on the Avaya one-X® H.323 9608, 9621G and 9641G Deskphone models refer to **Reference [3] in Section 12.**

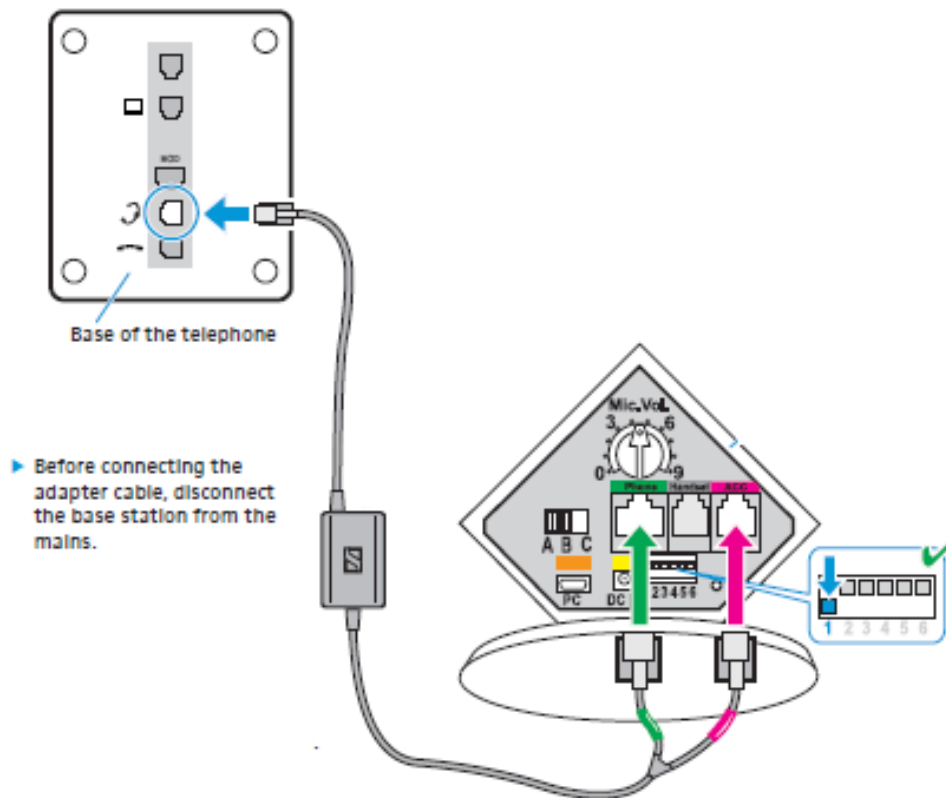
Note: On the Avaya 9611G Deskphones the **Switchhook & Alerting** setting will go back to **None** (default) if this setting is configured manually (using the key-pad on the Deskphone, as described above) and if the 9611G is powered down or re-booted for any reason. To avoid having to configure this setting manually each time Avaya recommends the use of the **46xxsettings.txt** file, as described above.

7. Connect the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and DW Pro1, DW Pro2, DW Office Wireless Headsets 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 DW Pro1, DW Pro2 and DW Office wireless headsets to the Avaya 96x1 Series IP Deskphones. The Sennheiser Communications A/S CEHS-AV 04 EHS Adapter provides DW Pro1, DW Pro2 and DW 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.

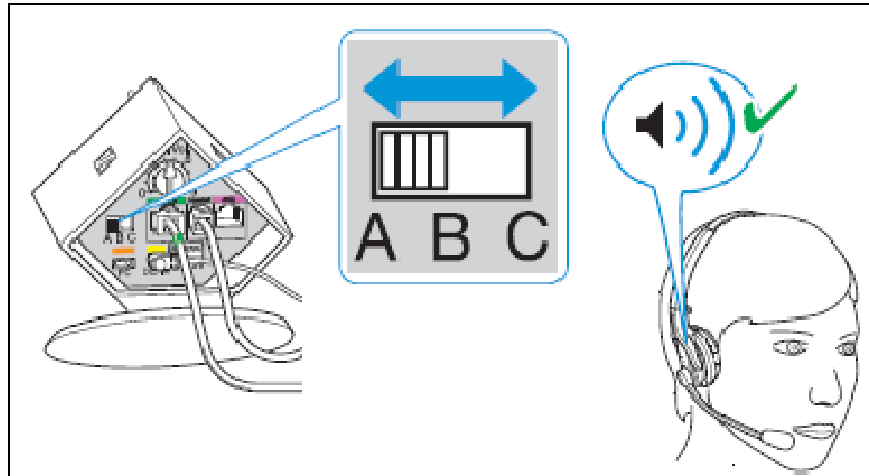
7.1. Cable connections

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

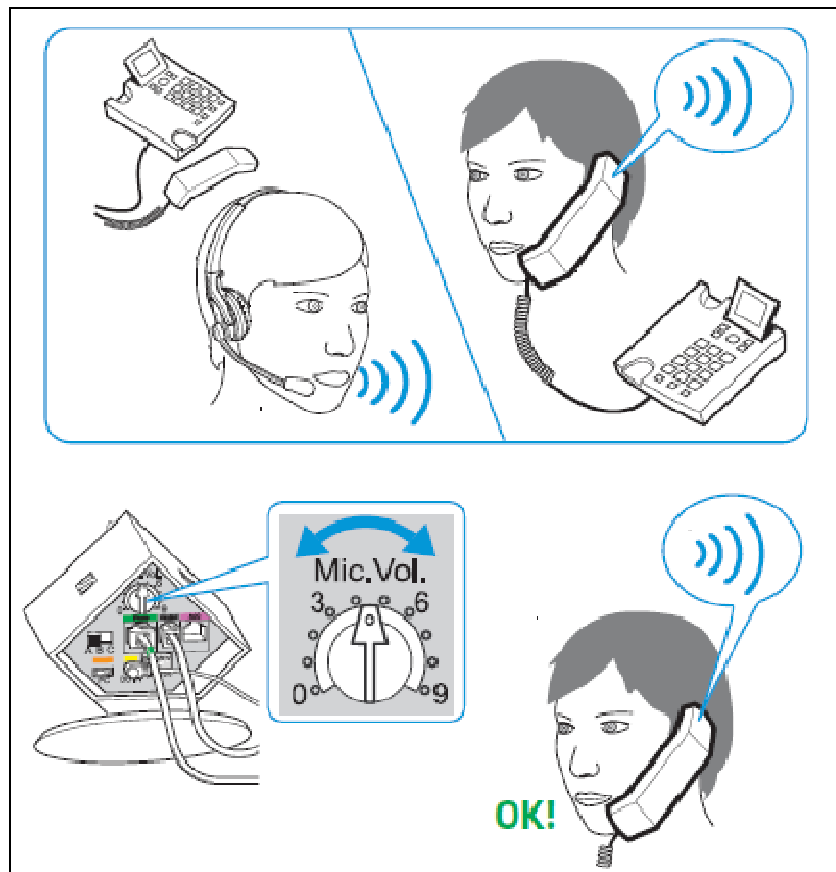


8. Configure Sennheiser Communications A/S DW Pro1, DW Pro2, DW Office Wireless Headsets

To adjust the dial tone of the telephone: Set the switch on the back of the headset base to position “A”.



To adjust the microphone sensitivity for outgoing calls: 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.



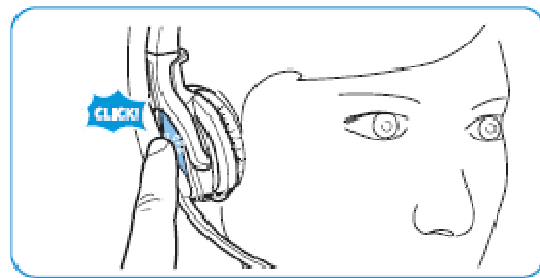
Note: For more information on headset settings refer to the Sennheiser Communications A/S DW Pro1/DW Pro2, DW Office Quick Guides included with the headsets. For the link to on-line documentation refer to **Section 12**.

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

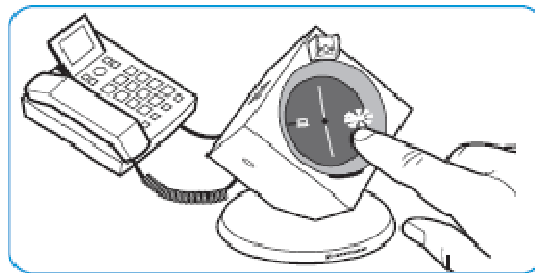
To Answer, End, Place calls, Mute/Un-Mute and adjust the Volume on the Sennheiser Communications A/S DW Pro1, DW Pro2, DW Office wireless headsets follow the instructions below.

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

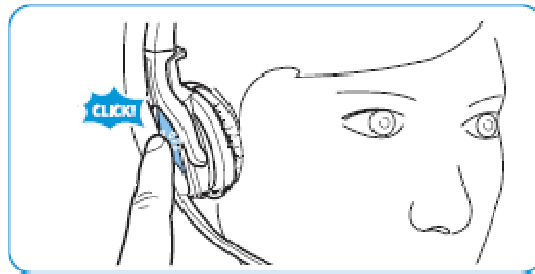
To Answer a Call: Press the call control button on the headset.



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



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

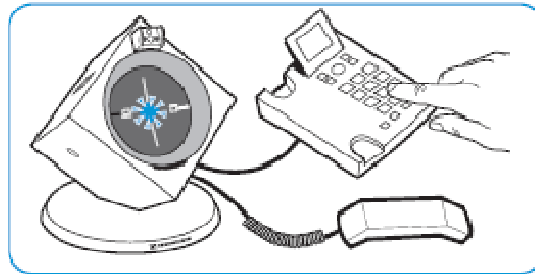
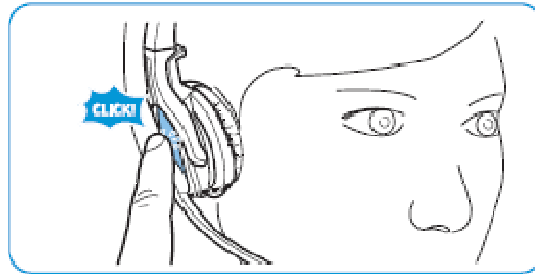


Alternatively, press the telephone icon button on the base of the headset.

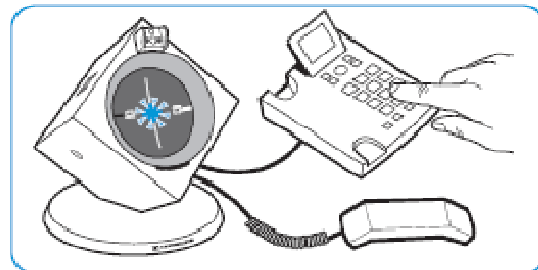


To Place a Call:

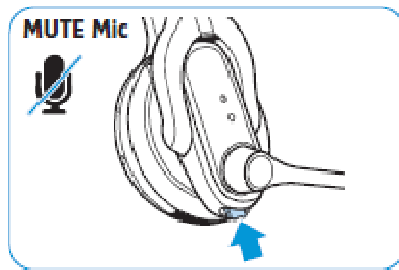
Press the call control button on the headset to get dial tone and dial the number.



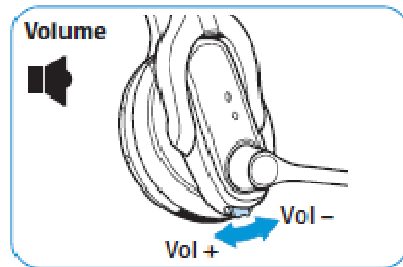
Alternatively, press the telephone icon button on the base of the headset and dial the number.



To Mute: Press the MUTE Mic button on the headset.



To adjust the volume: Use the volume control button on the headset



Note: For more information on how to use the headsets refer to the Sennheiser Communications A/S DW Pro1/DW Pro2, DW Office Quick Guides included with the headsets. For the link to on-line documentation refer to **Section 12**.

10. Verification Steps

Verify that the Sennheiser Communications A/S CEHS-AV 04 EHS Adapter and the DW Pro1, DW Pro2 or DW 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.

11. Conclusion

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

12. 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] IP Office Manager Release 9.0, Document Number 15-601011, Issue 9.01, Monday, September 09, 2013.
- [2] IP Office 9.0 H.323 Telephone Installation, Document Number 15-601046 Issue 18b, August 19, 2013.
- [3] Avaya one-X® Deskphone H.323 9608, 9611G, 9621G, and 9641G Administrator Guide, Document Number 16-300698 Issue 10, February 2012.

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

- [4] Guide for CEHS-AV 04
- [5] DW Pro1 Quick guide.
- [6] DW Pro1 User manual.
- [7] DW Pro2 Quick guide.
- [8] DW Pro2 User manual.
- [9] DW Office Quick guide.
- [10] DW Office user manual

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