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Avaya Solution & Interoperability Test Lab

Application Notes for Jabra LINK 850 Audio Processor with Avaya 9400 and 9500 Series Digital Deskphones – Issue 1.0

Abstract

These Application Notes describe a compliance-tested configuration comprised of the Jabra LINK 850 Audio Processor with Avaya 9400 and 9500 Series Digital Deskphones.

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 compliance test and configuration steps required for the Jabra LINK 850 Audio Processor to interoperate with Avaya 9400 and 9500 Series Digital Deskphones.

The Jabra LINK 850 is a professional grade audio processor/amplifier designed to enhance the benefits associated with headset usage in the contact center and office environments. It features Digital Signal Processing (DSP) technology to optimize the quality of the audio signal. Other features include noise cancellation, line quieting, peak level protection and dynamic volume control.

During the compliance tests, Jabra GN2120 corded headsets were used to execute the tests and verify the functionality of the Jabra LINK 850. The Jabra GN2120 is a monaural, noise cancelling headset equipped with Quick Disconnect.

2. General Test Approach and Test Results

The interoperability compliance test included functionality and serviceability testing. The functionality testing focused on placing and receiving calls to and from the Avaya telephones using the Jabra LINK 850 Audio Processor and Jabra GN2120 headset, and verifying talk path in both directions. The type of calls made included calls to voicemail, calls to and from internal extensions and the PSTN.

The serviceability testing focused on verifying that active calls were preserved after temporarily interrupting the connection from the audio processor to the Avaya deskphones and to the headset. The usability of the Jabra solution was also verified after restarting the Avaya 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 handset interfaces, different manufacturers utilize different handset/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

The following functionality was verified:
- Placing calls to the voicemail system. Voice messages were recorded and played back to verify the playback volume and recording level.
- Placing and receiving calls to and from internal extensions to verify two way audio path and acceptable quality.
- Placing and receiving calls to and from the simulated PSTN to verify two way audio path and acceptable quality.
- Answering and ending calls using the Headset button on the telephone.
- Using the volume control buttons on the Jabra LINK 850 and the Avaya deskphone to adjust the volume on the headset speakers.
- Using the mute control button on the Jabra LINK 850 and the Avaya deskphone to mute and un-mute the transmitted audio.

The serviceability testing verified that active calls were preserved after the following conditions:
- The headset Quick Disconnect cord was unplugged and plugged to the Jabra LINK 850.
- The Jabra LINK 850 was unplugged and plugged to the Headset port of the Avaya telephones.

The usability of the Jabra audio processor and headset solution was also verified after a restart of the Avaya 9400 and 9500 telephones.

## 2.2. Test Results

All compliance test cases passed successfully.

2.3. Support

For technical support and additional information on the Jabra products described in this solution, visit Jabra Support at:

http://www.jabra.com/support

3. Reference Configuration

Figure 1 illustrates the test configuration used to verify the Jabra solution. Avaya Aura® Communication Manager and Avaya Aura® Communication Manager Messaging are installed on the HP ProLiant DL360 Server. An Avaya G450 Media Gateway provides the VoIP resources for the connectivity of Avaya IP Telephones and the SIP trunk to the simulated PSTN used during the compliance tests. A media module MM712 is installed on the G450 Gateway to provide connectivity for the 9400 Series Digital Deskphones. An Avaya IP Office 500 V2 with a Digital Expansion Module DCPx16 is installed to support the 9508 Digital Deskphones. The Jabra LINK 850 is connected to the Headset port of the 9408 or 9508 telephones. The GN2120 headsets used for the compliance test connect to the Jabra LINK 850 using a Quick Disconnect cord. A PC provides power to the Jabra LINK 850 using the included USB cord.
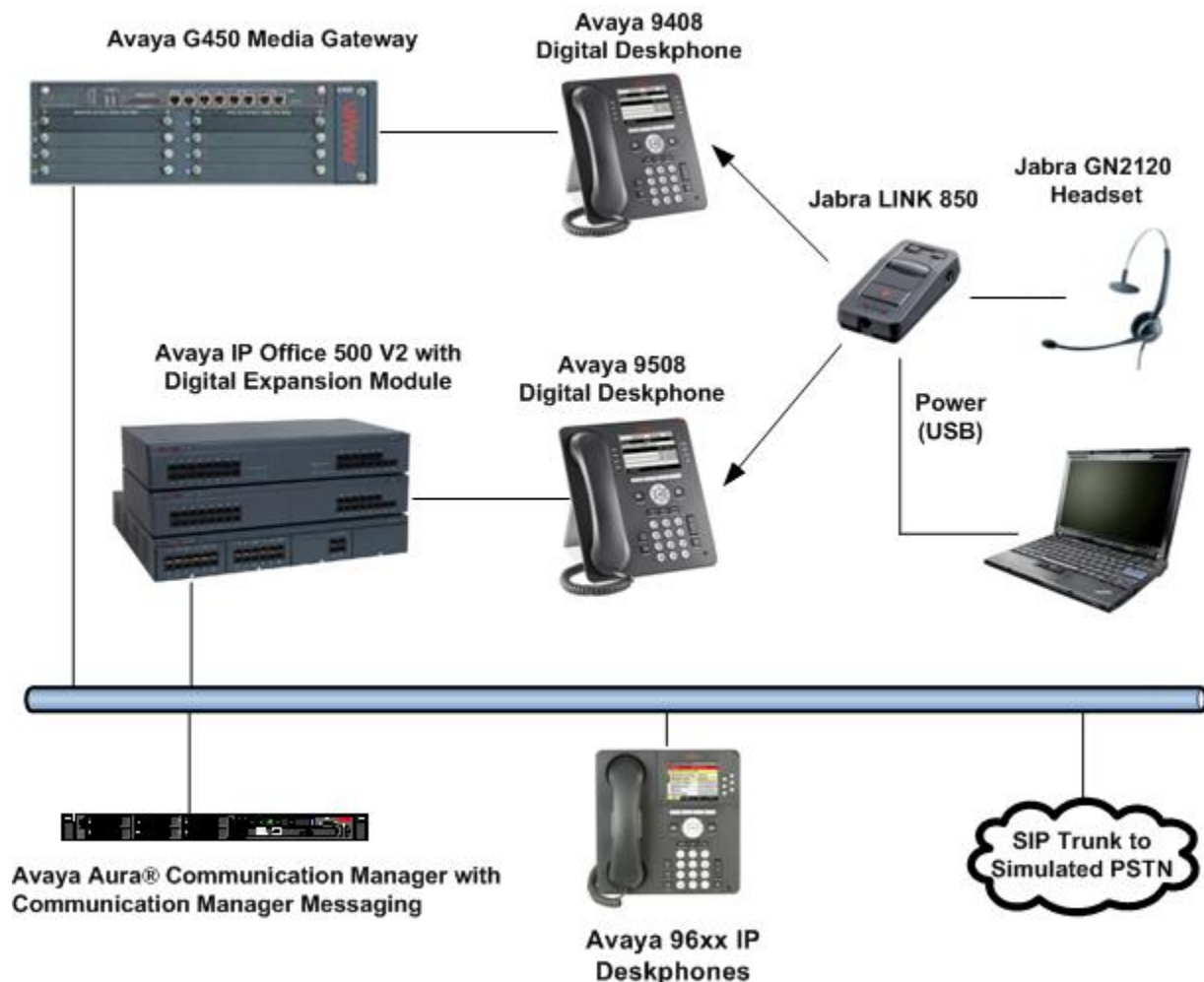
Figure 1: Test Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Communication Manager, Communication Manager Messaging on the HP ProLiant DL360 Server	6.2 SP 2 (R016x.02.0.823.0)
Avaya G450 Media Gateway	31.22.0
Avaya MM712 Media Module	14
Avaya IP Office 500 v2	8.1.43
Avaya IP Office Voicemail Pro	8.1.0810.0
Avaya IP Office Digital Expansion Module DCPx16	10.1 (43)
Avaya 9600 Series IP Deskphones (H.323)	Avaya one-X® Deskphone Edition Version 3.104
Avaya 9408 Digital Telephone	2.0
Avaya 9508 Digital Telephone	0.39
Jabra LINK 850	1.7.0
Jabra GN2120 Headset	N/A

5. Configure Avaya Stations

These Application Notes assume that Avaya Aura® Communication Manager and Avaya IP Office are configured and operational, and the appropriate endpoints have already been configured; refer to [1] and [2] for additional endpoint configuration if needed. There are no specific settings required to be configured on the respective stations forms for the connection of the Jabra LINK 850 to the Avaya telephones.

# 6. Configure the Jabra LINK 850 Audio Processor

The Jabra LINK 850 works as the interface between the headset and the Avaya deskphone. The following sections describe the steps to connect and configure the Jabra LINK 850 to work with the Jabra GN2120 headset and Avaya 9400 and 9500 Digital Deskphones.

6.1. Settings and Connections

The Jabra LINK 850 can be powered up by connecting the supplied USB cable to the USB port of a computer, or by ordering the optional AC power supply from Jabra. During the compliance test, the Jabra LINK 850 was powered from a PC using the USB cord.

All cables shown in the figure below are supplied by Jabra and are shipped as part of the content of the Jabra LINK 850 box.

- Set the **Deskphone headset/handset** switch to the 📞 (headset) position.
- Set the **Target phone** switch on the base of the Jabra LINK 850 to the ☎ (telephone) position.
- Plug the USB cable into the **USB port** on the Jabra LINK 850. Connect the other end of the USB cable into any available USB port on the PC. The **Mute indicator** will flash red three times to indicate power is present on the Jabra LINK 850.
- Connect one end of the modular Telephone cable into the **Telephone port** on the Jabra LINK 850. Connect the other end of the telephone cable into the Headset port on the Avaya deskphone.
- Connect the modular end of the QD cable to the **QD port** on the Jabra LINK 850. Connect the Quick Disconnect end of the QD cable to the headset cord.
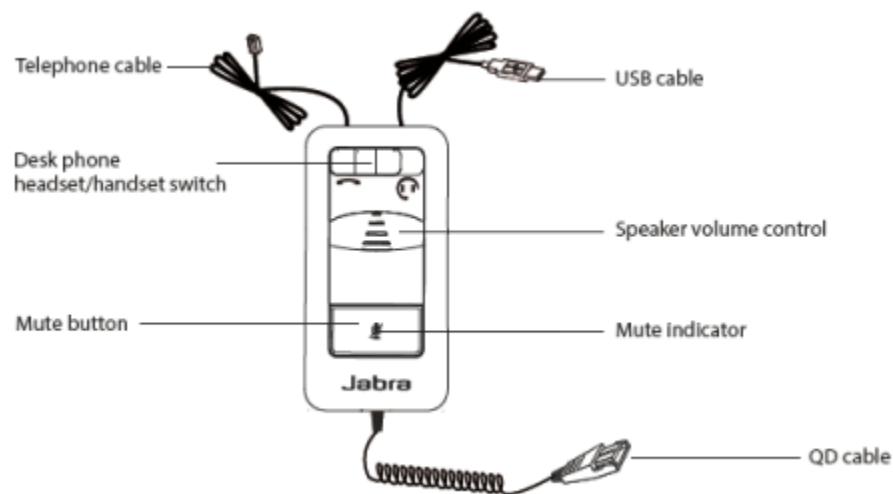
Figure 2: Jabra LINK 850 Top View
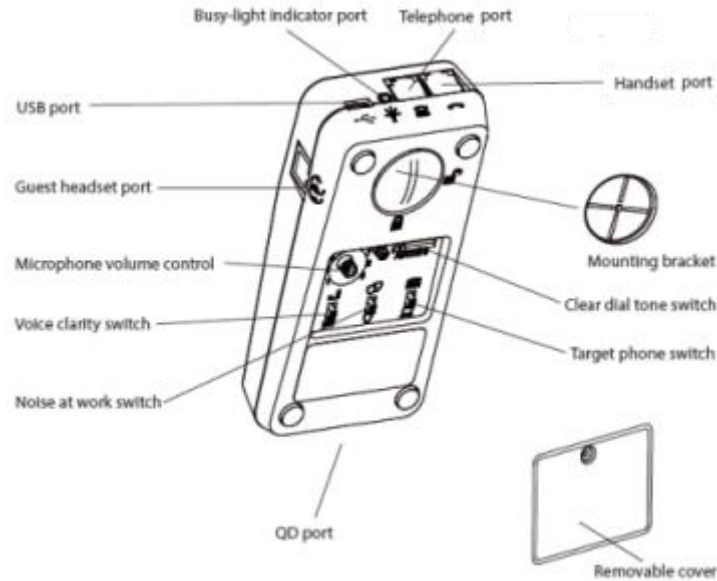
Figure 3: Jabra LINK 850 Bottom View

For more information and a complete description on the Jabra LINK 850 controls, switches and ports see [5].

6.2. Configure Audio

Before using the Jabra LINK 850 for the first time, a clear dial tone should be set to configure the audio processor to function correctly with the specific Avaya deskphone type used. Additionally, it is also important to set the microphone volume for optimal sound quality.

- Press the Headset button on the Avaya deskphone.
- Locate the **Clear dial tone switch** on the base of the Jabra LINK 850. While listening to dial tone on the headset, slide the switch from A to G to determine the best switch position. The dial tone should be strong, clear and undistorted.
- Make a test call to another extension.
- Adjust the **Microphone volume control** on the base of the Jabra LINK 850 until an appropriate speaking volume is perceived by the listener on the test extension.
- When the optimal microphone volume has been determined, end the call by pressing the Headset button on the Avaya deskphone.

7. Verification Steps

This section provides the steps that can be performed to verify proper installation of the Jabra LINK 850 with the Avaya 9400 and 9500 Series Digital Deskphones:

1. Press the Headset button on the Avaya 9400 or 9500 deskphone. Verify that dial tone is heard on the headset.
2. Place a call to another extension.
3. Verify two-way talk path between the headset and the called extension.
4. Press the Mute button on the Jabra LINK 850 and verify the call can be muted/ unmuted.
5. Verify the volume can be adjusted by the Speaker volume control on the Jabra LINK 850.
6. Disconnect the call from the headset pressing the Headset button. Verify that the call is properly disconnected.

8. Conclusion

These Application Notes describe the testing conducted to integrate the Jabra LINK 850 Audio Processor with Avaya 9400 and 9500 Series Digital Deskphones. All test cases were completed successfully.

9. Additional References

This section references the Avaya and Jabra documentation that is 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 6.2, Issue 7.0, July 2012, Document Number 03-300509.
http://downloads.avaya.com/css/P8/documents/100156867

[2] *IP Office 8.1 IP500/IP500V2 Installation,* Document Number 15-601042, October 2012
http://downloads.avaya.com/css/P8/documents/100162521

Documentation and information for the Jabra products described in these Application Notes can be found at http://www.jabra.com/Support

[3] *Jabra LINK 850 Quick Start Guide.*

[4] *Jabra LINK 850 User Manual.*

[5] *Jabra LINK 850 Audio Processor Datasheet*.

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