



Avaya Solution & Interoperability Test Lab

Application Notes for the GN Netcom GN 8120 USB Headset Adapter with Avaya IP Softphone – Issue 1.0

Abstract

These Application Notes describe a compliance-tested solution comprised of Avaya IP Softphone and the GN Netcom GN 8120 USB headset adapter. The GN 8120 USB headset adapter provides physical in-line control of basic Avaya IP Softphone call functions and incorporates digital signal processing to enhance audio quality. Any QD-equipped (Quick Disconnect) GN Netcom headset may be used with the GN 8120. The compliance testing verified that the physical buttons and LEDs on the GN 8120 are consistent with the associated call functions and states on Avaya IP Softphone. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe a compliance-tested solution comprised of Avaya IP Softphone and the GN Netcom GN 8120 USB headset adapter. The GN 8120 USB headset adapter provides physical in-line control of basic softphone call functions, such as off-hook/on-hook, hold, and mute, and incorporates digital signal processing to enhance audio quality. For integration with Avaya IP Softphone controls, a GN 8120 USB driver specific to Avaya IP Softphone, provided by GN Netcom, must be installed on the Windows PC/laptop on which the Avaya IP Softphone runs.

The GN 8120 connects to a USB port on one end and to any QD-equipped (Quick Disconnect) GN Netcom headset on the other end. During the compliance testing, GN 2125 NC headsets were used. The GN 8120 contains three call function buttons with associated call function LEDs and a volume rocker for adjusting the audio volume heard on the headset. The mapping between the three function buttons/LEDs and Avaya IP Softphone is generally as follows:

- Green button – on-hook/off-hook, answer/hangup call.
- Green button LED – indication of on-hook/off-hook, incoming call.
- White button – put call on and take call off hold.
- White button LED – indication of call on hold, voice message waiting.
- Red button – mute on/off.
- Red button LED – indication of mute on/off.
- Blue button – volume rocker.

When two buttons on the GN 8120 are pressed simultaneously, the “Customer User Defined Event” is invoked and causes the Avaya IP Softphone to dial a pre-defined number, i.e. voice mail or 911. The number is defined during installation of the GN 8120 USB driver.

Figure 1 shows a sample configuration consisting of an Avaya S8300 Media Server residing in an Avaya G350 Media Gateway, Avaya IP Softphones, Avaya 4600 Series IP Telephones, GN Netcom GN 8120 USB headset adapters, and GN Netcom GN 2125 NC headsets. Note that the solution described herein is also extensible to other Avaya Media Servers and Media Gateways. The Avaya IP Softphones and Telephones register with Avaya Communication Manager running on the Avaya S8300 Media Server.

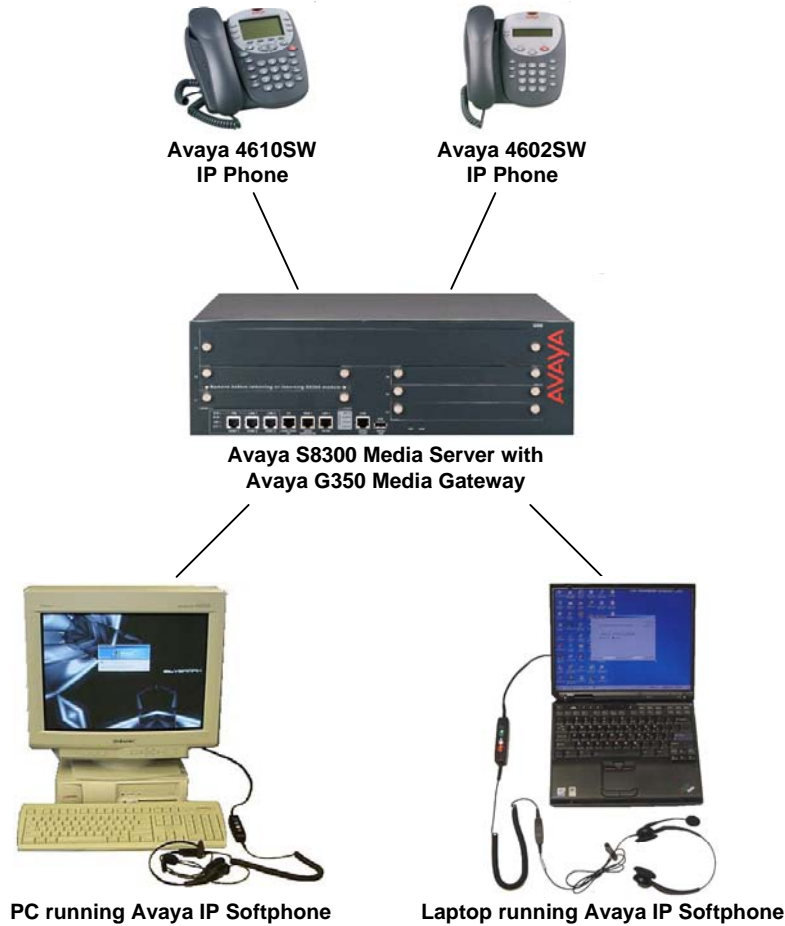


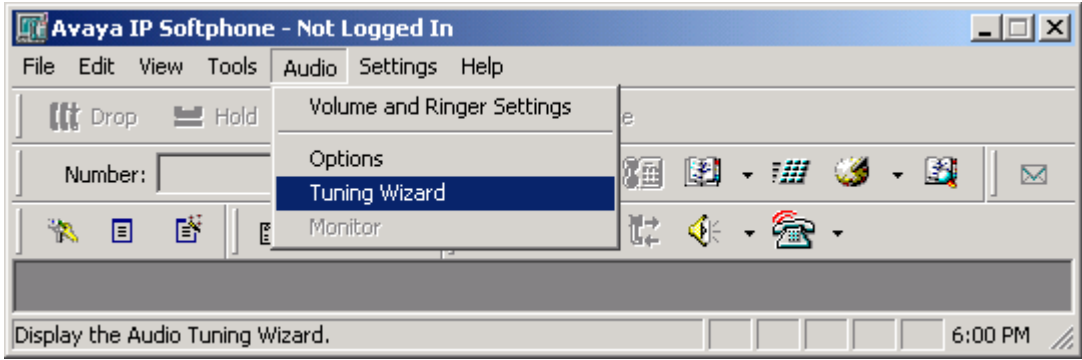
Figure 1: Sample configuration.


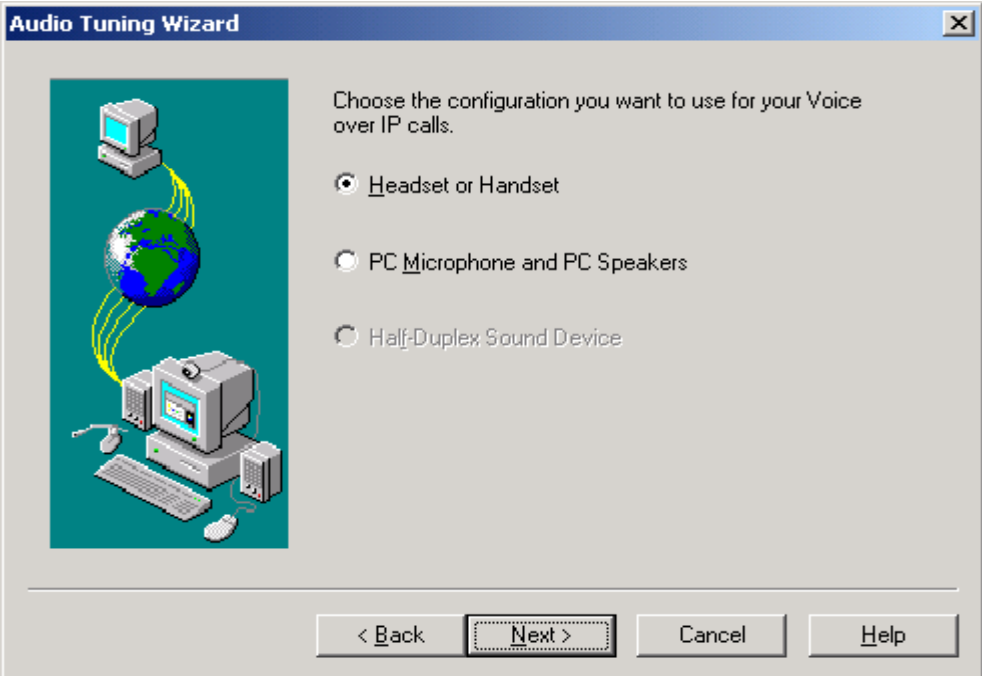
2. Equipment and Software Validated

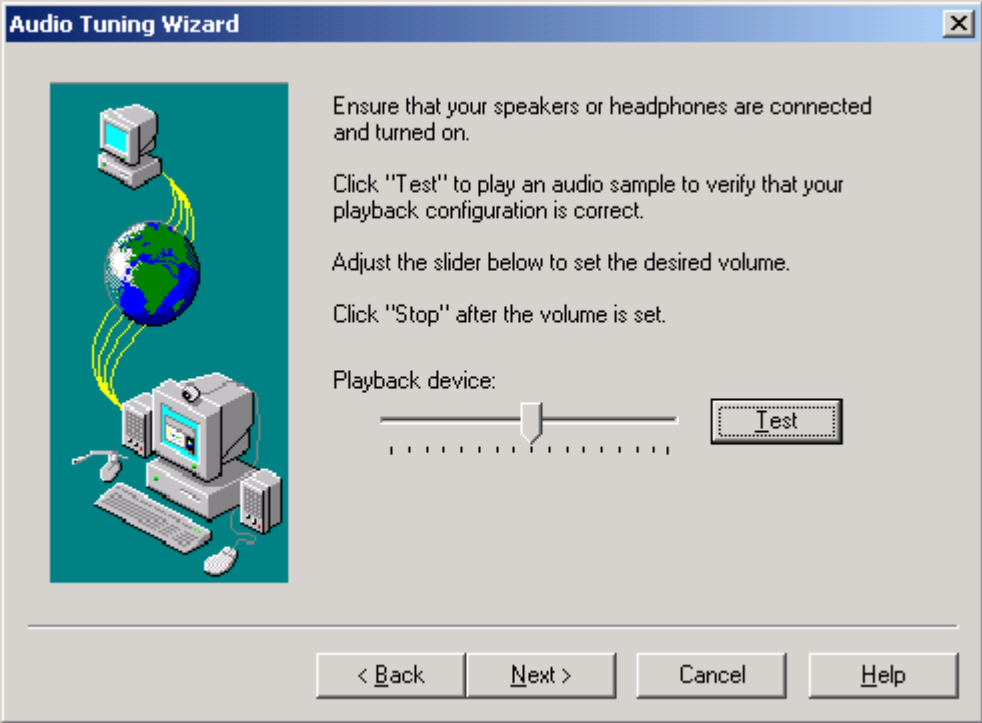
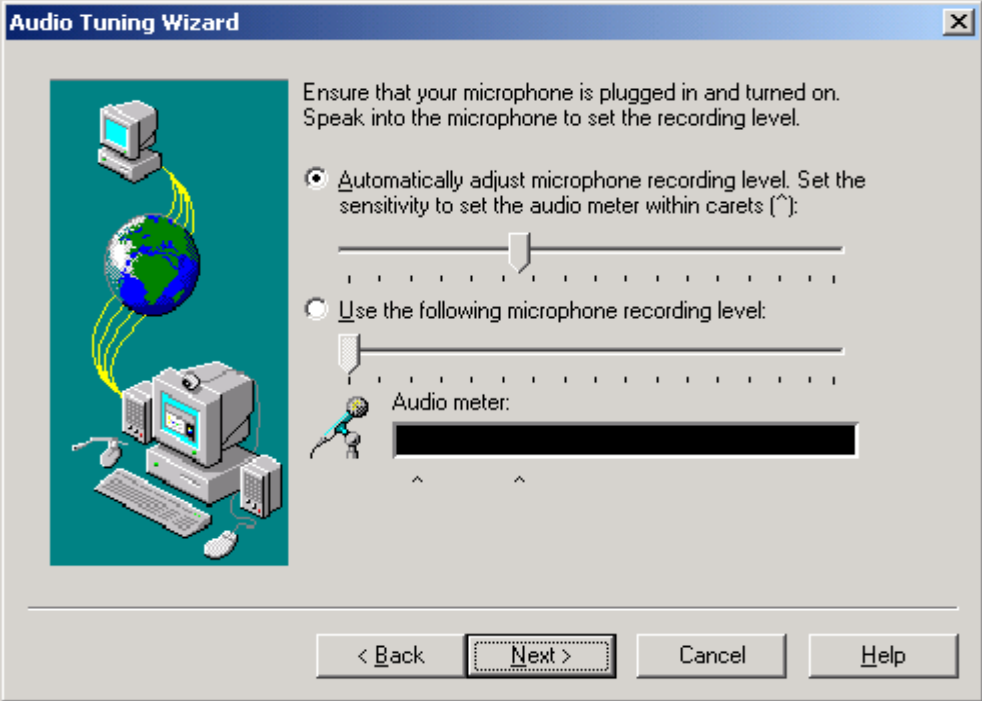
The following equipment and software/firmware were used for the sample configuration provided:

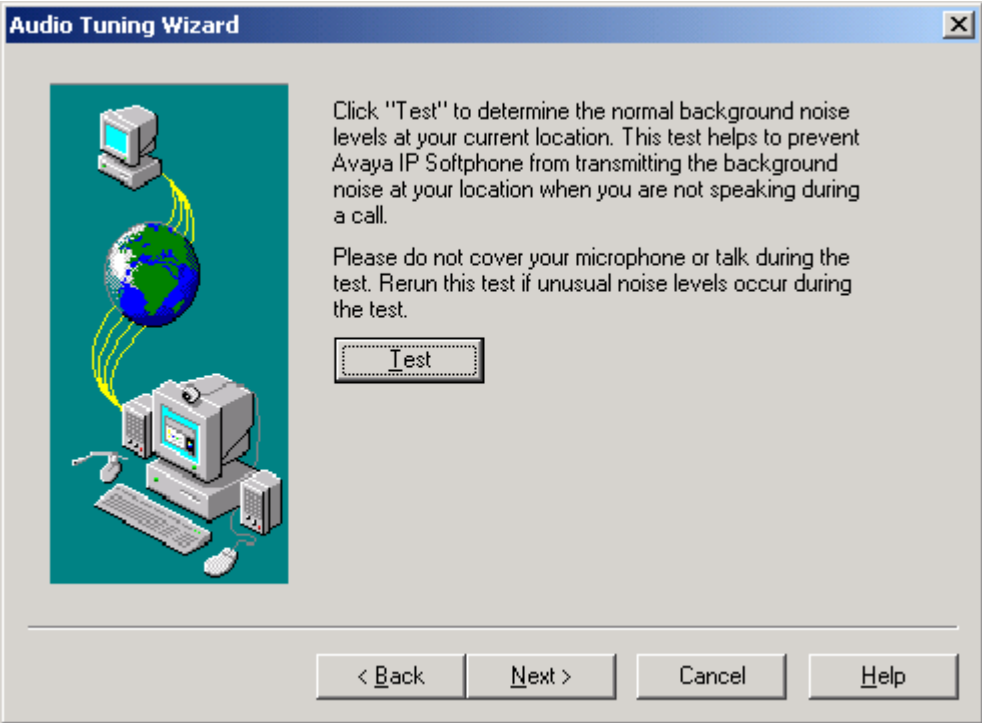
Equipment	Software/Firmware
Avaya S8300 Media Server	2.1 (R012x.01.0.411.7)
Avaya G350 Media Gateway	22.15.0 (Media Gateway Processor)
Avaya IP Softphone	5.1 Service Pack 1
Avaya 4602SW IP Telephone	1.8.2
Avaya 4610SW IP Telephone	2.1.1
GN Netcom GN 8120 USB Headset Adapter with USB driver	1.0
Desktop PC	Windows XP SP1
Laptop PC	Windows 2000 Professional SP4

3. Configure Avaya IP Softphone

Step	Description
1.	<p>Using the System Access Terminal (SAT) for Avaya Communication Manager, enter the command add station n, where n is a valid extension under the dial plan in Avaya Communication Manager, to add an extension for the Avaya IP Softphone. Ensure that IP SoftPhone is set to “y”.</p> <pre> add station 53000 Page 1 of 4 STATION Extension: 53000 Lock Messages? n BCC: 0 Type: 4620 Security Code: 12345 TN: 1 Port: IP Coverage Path 1: COR: 1 Name: STA-53000 Coverage Path 2: COS: 1 Hunt-to Station: STATION OPTIONS Loss Group: 19 Personalized Ringing Pattern: 1 Message Lamp Ext: 53000 Speakerphone: 2-way Mute Button Enabled? y Display Language: english Expansion Module? n Survivable GK Node Name: Media Complex Ext: IP SoftPhone? y </pre>
2.	Connect the GN 8120 USB headset adapter to a USB port on the PC.
3.	Start the Avaya IP Softphone application.
4.	<p>Select “Tuning Wizard” from the Audio menu.</p> 

Step	Description
5.	<p>Select “USB Audio Device” (or alternatively “GN 8120 USB” depending on the operating system), for Select a primary playback device and Select a recording device, and click on Next.</p> 
6.	<p>Select the “Headset or Handset” radio button and click on Next.</p> 

Step	Description
7.	<p>Click on Test and verify that audio can be heard on the headset. Click on Next.</p> 
8.	<p>Set the microphone recording level as desired and click on Next.</p> 

Step	Description
9.	<p>Click on Test. After the test completes, click on Next.</p> 
10.	Click on Finish to complete the Audio Tuning Wizard.
11.	Log in the Avaya IP Softphone to Avaya Communication Manager with a valid extension and password.

4. Install the GN Netcom GN 8120 USB Driver

Install the GN 8120 USB driver per the instructions provided in [1] and the GN 8120 documentation.

5. Interoperability Compliance Testing

The interoperability testing focused on verifying the integration of the GN 8120 USB headset adapter with Avaya IP Softphone.

5.1. General Test Approach

The general approach was to exercise basic call functions on the Avaya IP Softphone and GN 8120 USB headset adapter. The main objectives were to verify that:

- The function buttons on the GN 8120 correctly correspond to Avaya IP Softphone functions.
- The function button LEDs on the GN 8120 are consistent with Avaya IP Softphone call states.
- The function buttons on the GN 8120 and the associated buttons/actions on Avaya IP Softphone can be used interchangeably, i.e. place a call with Avaya IP Softphone and hang the call up by pressing the Green button on the GN 8120.
- Pressing two buttons on the GN 8120 simultaneously causes Avaya IP Softphone to dial a pre-defined number, even when Windows is locked.
- The volume control rocker on the GN 8120 works properly.
- Basic calls, transferred calls, and conferences may be established with good voice quality with the integrated Avaya IP Softphone/GN 8120 solution.
- The integrated solution works properly after disconnects and resets.

5.2. Test Results

The behavior of the function buttons and LEDs on the GN 8120 headset adapter were consistent with Avaya IP Softphone call functions and states throughout various call scenarios. The two-button simultaneous press feature was successfully invoked when there was no active call, when there was an active call, and when Windows was locked.

The following minor observations were made during the testing:

1. If Avaya IP Softphone is logged off and logged back in, then the GN 8120 will not be able to control Avaya IP Softphone functions. The workaround is to close and restart the Avaya IP Softphone application.
2. If a call is active on the Avaya IP Softphone and a second call comes in, but is not answered, then the Green button LED on the GN 8120 goes off even though the first call is still active.
3. If the Avaya IP Softphone application is not closed before the PC/laptop is rebooted, then the GN 8120 may not be able to control Avaya IP Softphone functions the next time the Avaya IP Softphone application is started. The user should then close and restart the Avaya IP Softphone application.

6. Verification Steps

The following steps may be used to verify the configuration:

- From the PC or laptop on which Avaya IP Softphone runs, ping IP interfaces (Avaya S8500 Media Server, Avaya G350 Media Server, other PCs and laptops, etc.) and verify connectivity.
- Verify that Avaya IP Softphone is registered with Avaya Communication Manager (use the SAT command **status station n**, where **n** is the extension of the Avaya IP Softphone).
- Press the Green button on the GN 8120. Verify that the Green button's LED changes to steady green, Avaya IP Softphone goes off-hook, and dial-tone is heard on the headset.

- Place calls to and from Avaya IP Softphone. Verify good voice quality and consistency of the GN 8120 function buttons and LEDs with Avaya IP Softphone functions and states.

7. Support

For technical support on GN Netcom products, consult the support pages at <http://www.gnnetcom.com/US/EN/MainMenu/Support/Product+Support.htm> or contact GN Netcom support at:

- Help desk: 1-800-826-4656 ext. 2894 (between 8:00 AM – 8:00 PM EST)
- E-mail: <http://www.gnnetcom.com/US/EN/Misc/QuickHelp.htm>

8. Conclusion

These Application Notes describe a compliance-tested solution comprised of Avaya IP Softphone and the GN Netcom GN 8120 USB headset adapter. The compliance testing verified that the physical buttons and LEDs on the GN 8120 are consistent with the associated call functions and states on the Avaya IP Softphone.

9. Additional References

[1] GN 8120 USB User Guide

Product documentation for Avaya products may be found at <http://support.avaya.com>.

Product documentation for GN Netcom products may be found at <http://www.gnnetcom.com/US/EN/MainMenu/Products/View+All+Products.htm>.

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