



## Verifying the Wireless Network Configuration on the Cisco Wireless IP Phone

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You can view the network configuration settings for the Cisco Wireless IP Phone 7920 by using the Network Configuration menu on the phone.

After you have added all the voice users to your wireless LAN (WLAN), Cisco recommends that you periodically perform a verification site survey of your radio signal strength and roaming capabilities. You can access the Site Survey utility from the Network Configuration menu.

The following sections provide details about verifying wireless network settings:

- [Displaying the Network Configuration Menu, page 6-2](#)
- [Verifying the Current Configuration Settings, page 6-3](#)
- [Viewing the Media Access Control Address, page 6-5](#)
- [Verifying Wireless Settings, page 6-6](#)
- [Performing a Site Survey Verification, page 6-7](#)

# Displaying the Network Configuration Menu

To display the Network Config menu on a Cisco Wireless IP Phone 7920, follow these steps:



## Note

You can control whether a Cisco Wireless IP Phone 7920 has access to the Network Config menu from the Cisco CallManager Administration Phone Configuration page. Use the Settings Access field in the Product Specific Configuration section of the phone configuration page. For more information, see the [“Product Specific Configuration Options”](#) section on page 7-2.

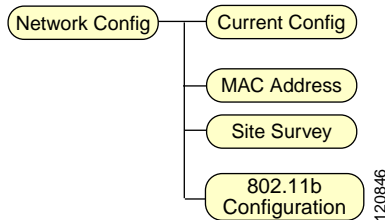
## Procedure

- Step 1** Press the **Menu** softkey.
- Step 2** Choose **Network Config**.

[Figure 6-1](#) shows the top level menu options for the Network Configuration menu.

To exit the Network Configuration Menu, press the **Back** softkey to return to the main screen.

**Figure 6-1** Options in the Network Configuration Menu



## Related Topic

- [Verifying the Current Configuration Settings, page 6-3](#)

# Verifying the Current Configuration Settings

On Cisco Wireless IP Phone 7920, you can view detailed information about the current network settings of the phone. You can use this information to troubleshoot problems or to change settings. The Network Configuration menu provides access to the network settings that are described in [Table 6-1](#).

**Table 6-1** Current Configuration Settings

Network Setting	Description	Usage Notes
DHCP Enable	Displays Yes or No to indicate whether Dynamic Host Configuration Protocol (DHCP) is being used to obtain an IP address for the phone.	See the <a href="#">“Modifying DHCP Settings”</a> section on page 5-4
DHCP Server	Displays IP address of the Dynamic Host Configuration Protocol (DHCP) server that the phone uses to obtain IP address.	See the <a href="#">“Modifying DHCP Settings”</a> section on page 5-4.
IP Address	Indicates the Internet Protocol (IP) address of the phone.	See the <a href="#">“Configuring Static Settings”</a> section on page 5-6.
Subnet Mask	Indicates the subnet mask used by the phone.	See the <a href="#">“Configuring Static Settings”</a> section on page 5-6.
Hostname	Displays the name assigned to the phone with this format <i>SEPmacaddress</i> .	Assigned by Cisco CallManager.
Primary Gateway	Displays the IP address for the default gateway used by the phone.	See the <a href="#">“Configuring Static Settings”</a> section on page 5-6.
Primary TFTP Server	Displays the IP address for the primary Trivial File Transfer Protocol (TFTP) server used by the phone to obtain configuration files.	See the <a href="#">“Configuring TFTP Option”</a> section on page 5-9.
Primary DNS Server Secondary DNS Server	Displays the IP address for the Domain Name System (DNS) server used by the phone to resolve the host name of the TFTP server, Cisco CallManager system and web server host names.	See the <a href="#">“Configuring Static Settings”</a> section on page 5-6.

Table 6-1 Current Configuration Settings (continued)

Network Setting	Description	Usage Notes
CallManager 1-5	<p>Cisco CallManager servers that are available for processing calls from this phone, in prioritized order. For an available server, an option will show the Cisco CallManager server IP address and one of the following states:</p> <ul style="list-style-type: none"> <li>• Active—Cisco CallManager server from which the phone is currently receiving call-processing services.</li> <li>• Standby—Cisco CallManager server to which the phone switches if the current server goes down.</li> <li>• None—No TCP connection to this Cisco CallManager server.</li> <li>• SRST—Survivable Remote Site Telephony router that assumes control of call processing if all other Cisco CallManager servers are unreachable.</li> </ul>	<p>Use Cisco CallManager Administration to modify.</p> <p>Configure the SRST router address in the Device Pool section in Cisco CallManager Administration.</p>

**Note**

The SRST Cisco CallManager always appears last in the list of servers, even if it is active.

**Related Topics**

- [Viewing the Current Configuration, page 6-5](#)
- [Modifying DHCP Settings, page 5-4](#)
- [Configuring Static Settings, page 5-6](#)
- [Configuring TFTP Option, page 5-9](#)

## Viewing the Current Configuration

To view the current network settings for a Cisco Wireless IP Phone 7920, follow these steps:

### Procedure

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- Step 1** Choose **Menu** > **Network Config** > **Current Config**.
  - Step 2** Press **Select** to view the list of network settings.  
See [Table 6-1](#) for descriptions and references for these settings.
  - Step 3** To return to the Network Config screen, press **Back**.
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### Related Topics

- [Verifying the Current Configuration Settings, page 6-3](#)
- [Modifying DHCP Settings, page 5-4](#)
- [Configuring Static Settings, page 5-6](#)
- [Performing a Site Survey Verification, page 6-7](#)

## Viewing the Media Access Control Address

Every phone has a unique Media Access Control (MAC) address that is assigned to the device when it is manufactured. The MAC address appears on the back of the phone under the battery or you can use the menu to view it.

### Procedure

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- Step 1** Choose **Menu** > **Network Config** > **MAC Address**.
  - Step 2** Press **Select** to view the MAC address for the phone.
  - Step 3** Press **Back** to return to the Static Settings options.
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To configure the wireless network settings in the 802.11b menu, refer to the [“Configuring Wireless Settings for the Profile” section on page 5-10](#)

#### Related Topics

- [Viewing the Current Configuration, page 6-5](#)

## Verifying Wireless Settings

The 802.11b submenu displays settings that the phone is using to authenticate with an access point. These settings include the SSIDs, authentication and encryption data.

On Cisco Wireless IP Phone 7920, you can view information about the current wireless network settings of the phone to troubleshoot problems.

To view the wireless settings, follow these steps:

#### Procedure

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- Step 1** Choose **Menu > Network Config > 802.11b Configuration**.
- Step 2** Scroll to the desired 802.11b Configuration setting and press **Select**.  
See [Table 6-2](#) for the description of the setting.
- Step 3** Press **Back** to return to the 802.11b Configuration menu options.
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**Table 6-2 802.11b Configuration Network Settings**

Network Setting	Description	References
Associated AP MAC	MAC address for the access point to which the phone is currently associated.	Received from the access point
Associated AP SSID	SSID for the access point to which the phone is currently associated.	Received from the access point
Network Type	Only Infrastructure Mode is used in the network.	

**Table 6-2 802.11b Configuration Network Settings (continued)**

Network Setting	Description	References
Current User Profile	Name of the user profile that the phone is currently using.	See the <a href="#">“Configuring User Profiles”</a> section on page 4-29.
Current Network Profile	Name of the network profile that the phone is currently using.	See the <a href="#">“Configuring a Network Profile”</a> section on page 4-18.
Key Management Used	Type of authentication key management that the phone is using. Available options include the following: <ul style="list-style-type: none"> <li>• WPA</li> <li>• CCKM</li> <li>• WPA Pre-shared Key (WPA-PSK)</li> <li>• None</li> </ul>	See the <a href="#">“Choosing Authentication and Encryption Methods”</a> section on page 2-15.
Cipher Used	Type of cipher used for encryption. Available options include the following: <ul style="list-style-type: none"> <li>• Unicast: WEP 40, WEP 128, TKIP, None</li> <li>• Multicast: WEP 40, WEP 128, TKIP, None</li> </ul>	See the <a href="#">“Choosing Authentication and Encryption Methods”</a> section on page 2-15.

**Related Topics**

- [Verifying Wireless Settings, page 6-6](#)
- [Configuring Network Profile Settings, page 5-3](#)
- [Configuring Wireless Settings for the Profile, page 5-10](#)

## Performing a Site Survey Verification

After the initial deployment of wireless phones in the WLAN, it is a good practice to perform site surveys at regular intervals to verify that the APs are providing adequate coverage and that wireless phones can roam from one AP to another with no audio problems.

You should use the wireless phones and the Aironet Client Utility (ACU) to verify that the signal range and transmission power meet the recommendations for an optimal wireless voice environment. See the [“Requirements for an Optimal Wireless Voice Environment”](#) section on page 6-10.

Use the following topics for information about performing the site survey.

- [Site Survey Verification](#), page 6-8
- [Using the Cisco Wireless IP Phone 7920 Site Survey Utility](#), page 6-9
- [Requirements for an Optimal Wireless Voice Environment](#), page 6-10

## Site Survey Verification

For more detailed information about performing a site survey verification, refer to the “Wireless IP Telephony Verification” section in the [Cisco Wireless IP Phone 7920 Design and Deployment Guide](#).

When you perform a site survey verification and encounter problems, see the [Chapter 9, “Troubleshooting the Cisco Wireless IP Phone 7920”](#) for assistance with finding the cause of the problem.

To perform a site survey verification, use the following checklist:

### Site Survey Verification Checklist

- Check that Cisco Wireless IP Phones associate with all APs in the WLAN.
- Check that Cisco Wireless IP Phones authenticate with all APs in the WLAN.
- Check that Cisco Wireless IP Phones register with Cisco CallManager.
- Check that Cisco Wireless IP Phones can make stationary phone calls with good quality audio.
- Check that Cisco Wireless IP Phones can make roaming phone calls with good quality audio and no disconnections.
- Perform a load test by having multiple Cisco Wireless IP Phones place calls, especially in areas designated for high density use.
- Have users provide feedback when using their Cisco Wireless IP Phones.

**Related Topics**

- [Using the Cisco Wireless IP Phone 7920 Site Survey Utility, page 6-9](#)
- [Requirements for an Optimal Wireless Voice Environment, page 6-10](#)
- [Cisco Wireless IP Phone 7920 Design and Deployment Guide](#)

## Using the Cisco Wireless IP Phone 7920 Site Survey Utility

The Cisco Wireless IP Phone 7920 includes a site survey utility within the Network Config menu that provides information about the access points currently within in range of the phone.

To use the site survey utility, follow these steps:

**Procedure**

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- Step 1** Configure the Cisco Wireless IP Phone 7920 with the same SSID and encryption/authentication settings as the APs.
- Step 2** Power on the phone so that it associates with the WLAN.
- Step 3** Choose **Menu > Network Config > Site Survey**.

The phone displays a list of access points within range that have the same SSID and security settings as the phone. See the following sample site survey list.

```
1 (A) , abcd...39,0
6 (C) , abcd...51,0*
11 (A) , abcd...32,0
```

The display provides the following information about the APs:

AP Channel	Channel State	SSID	RSSI	Channel Utilization	Connect AP
1	Active (A)	abcd1234	39	0	
6	Connected (C)	abcd1234	51	0	*
11	Active (A)	abcd1234	32	0	

- Step 4** To see more information about an AP, scroll to the desired line and press **Detail**. The following information appears for the specific AP.

```
SSID: abcd1234
Channel:6 (C)
RSSI:51 CU:0
MAC:000a11b22c33444 (C)
```




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**Note** The display shows complete SSID and the MAC address. When two or more APs are on the same connected channel, the (C) next to the MAC address indicates to which AP the phone is connected.

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- Step 5** To verify the ability to roam between APs, walk through all areas where phones are used and take readings. Approach areas from different directions to assure successful roaming conditions.
- Step 6** Adjust AP and antenna placement and AP power settings to meet the ideal wireless voice environment as described in [Requirements for an Optimal Wireless Voice Environment, page 6-10](#).
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In addition to the Cisco Wireless IP Phone 7920 site survey utility, you can also use the Cisco Aironet Client Utility Site Survey Utility from a laptop PC. Refer to the section on “Performing a Site Survey” in the [Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide](#) for your system.

#### Related Topic

- [Site Survey Verification, page 6-8](#)

## Requirements for an Optimal Wireless Voice Environment

When you perform a post-installation site survey, use the following guidelines to verify that you have adequate access point coverage for roaming Cisco Wireless IP Phones. These guidelines can help you deploy wireless voice communications successfully in your WLAN.

**Note**

For more detailed information about the wireless voice requirements, refer to the [\*Cisco Wireless IP Phone 7920 Design and Deployment Guide\*](#)

- Minimum of two access points on non-overlapping channels appear in the 7920 Site Survey utility at all times.
- No more than one AP per overlapping channel with a radio signal strength indicator (RSSI) less than 35.
- Two of the APs, including the connected (C) AP must have an RSSI of greater than 35. Two APs insure that phones can roam easily and that a backup AP is available when one AP is busy or unavailable.
- The available link speed must be at 11 Mbps at all times.
- AP coverage should overlap by 20 percent.
- The packet error rate (PER) should be no higher than one percent.
- The minimum signal to noise ratio (SNR) should be 25 db.
- The transmit power should be the same for both the AP and phones.
- All APs must have diversity antennas and must use the diversity setting.
- In a high traffic area such as a conference room, use additional APs to balance the load.

**Related Topics**

- [Site Survey Verification, page 6-8](#)
- [Understanding the Wireless LAN, page 2-1](#)
- [Interacting with the Cisco Aironet Access Point, page 2-8](#)
- [Voice Quality in a Wireless Network, page 2-12](#)

■ Performing a Site Survey Verification