

Colubris Technical Brief

WCB-200 Solution with Polycom HDXs

Revision 1.1

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1 Introduction

1.1 Overview

Polycom Arena Partner, Colubris Networks, offers a Wireless Client Bridge in addition to their award-winning Intelligent Wireless LAN solutions. The WCB200 Wireless Client Bridge extends secure wireless connectivity to the Polycom's suite of video and voice solutions including the SoundStation conference phones and HDX. The WCB200 used with the IP Phones enables Polycom customers to realize critical real-time communication by leveraging WLAN infrastructure thus eliminating the requirement for available Ethernet jacks.

In addition to the WCB200 solution, Colubris offers a full range of Wireless LAN products ensuring high quality voice and video support for Polycom's many voice and videoconferencing technologies. Colubris Intelligent Mobility System includes the MSC controllers and MAP access points. The CIMS solution provides QOS, superior roaming capabilities and maximum security. In addition to Polycom ARENA participation, Colubris is also Spectralink VIEW certified.



Colubris WCB200



Polycom HDX

Figure 1 – Colubris WCB200 and Polycom HDX

This document provides a sample configuration that shows how to setup a WLAN connection of the Polycom HDX using the WCB-200 to an existing 802.11 wireless network.

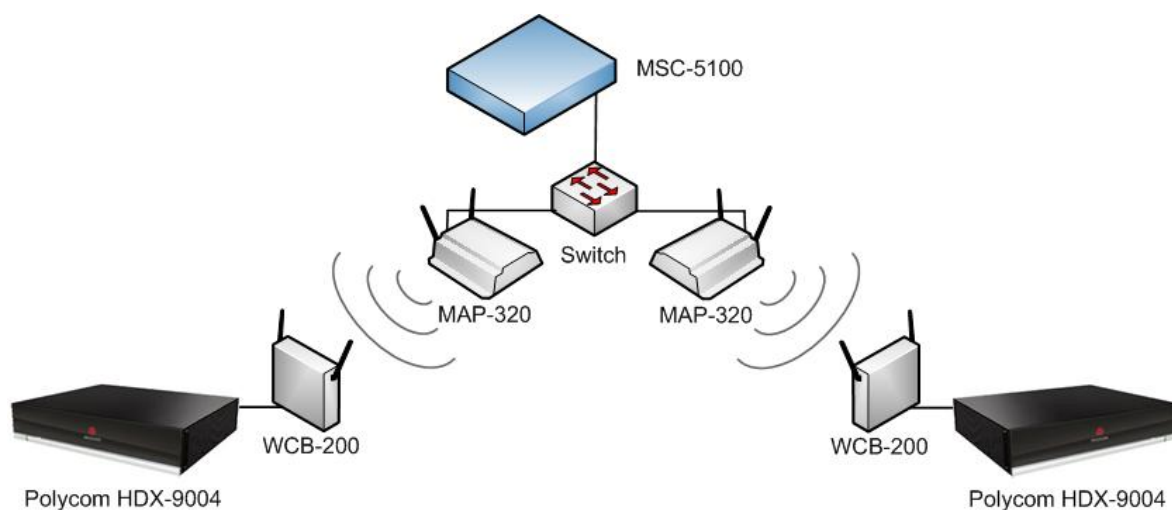


Figure 1 – Basic Wireless Network Design

2 WCB Configuration Guide

2.1 Hardware Overview

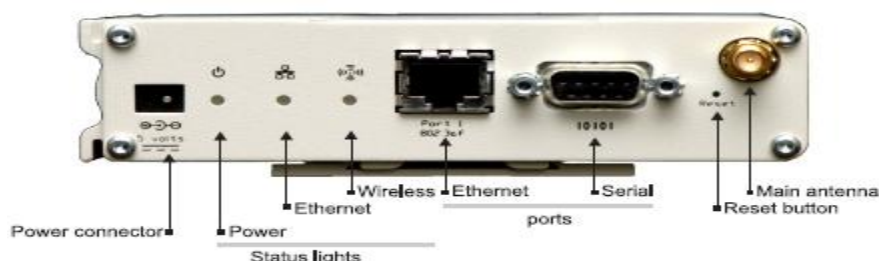


Figure 2 – WCB Hardware Detail

2.1.1 Antennas

The WCB-200 has a single radio with two antennas for diversity. The main antenna connector is located in the front panel and the Auxiliary antenna connector is located in the back panel. The antenna connectors are reverse polarity SMA jacks. Antennas or cable connectors must use RP-SMA plugs. Antennas can be mounted directly on the WCB-200 or an external antenna can be connected to the main antenna connector.

2.1.1 Ports

The WCB-200 has a single 10/100 Mbps Ethernet Port with an RJ-45 connector and a serial port with a db-9 connector.

2.1.2 Reset button

1. Press and quickly release the button to reset the WCB-200.
2. To reset to factory default settings, press and hold the reset button until the status lights flash three times, then release.

2.2 Initial configuration

This section walks you through the steps needed to configure the WCB-200 and establish a connection through the WCB-200 to the wireless network. The WCB-200 is managed via its web-based management tool using at least Microsoft Internet Explorer 7.0 or Mozilla Firefox 2.0.

2.2.1 Configure your computer

1. Connect the LAN port on your computer to the port on the WCB-200.
Note: A crossover cable may be needed when connecting to older 10BaseT-only interfaces.
2. Configure your computer to use a static IP address in the range **192.168.1.2 - .254**.
3. Connect the power supply or an 802.3af PoE injector to power on the WCB-200.

2.2.2 Perform these initial login tasks

1. In your computer web browser, open page: <https://192.168.1.1>.
2. You are prompted to accept a security certificate. At the security certificate prompt, select **Continue to this website** (IE); or select **Accept this certificate temporarily for this session** and **OK** (Firefox).
3. On the Login page, specify **admin** for both the **Username** and **Password** and then select **Login**.
4. On the License Agreement page, read the agreement. The setup cannot continue until you accept the **License Agreement**.
5. On the registration page, select **Register Later**.
6. If presented with a **Country** prompt, choose the country in which this product will be used and select **Save**.
7. At the password prompt, specify the new password and select **Save**. The management tool home page opens.

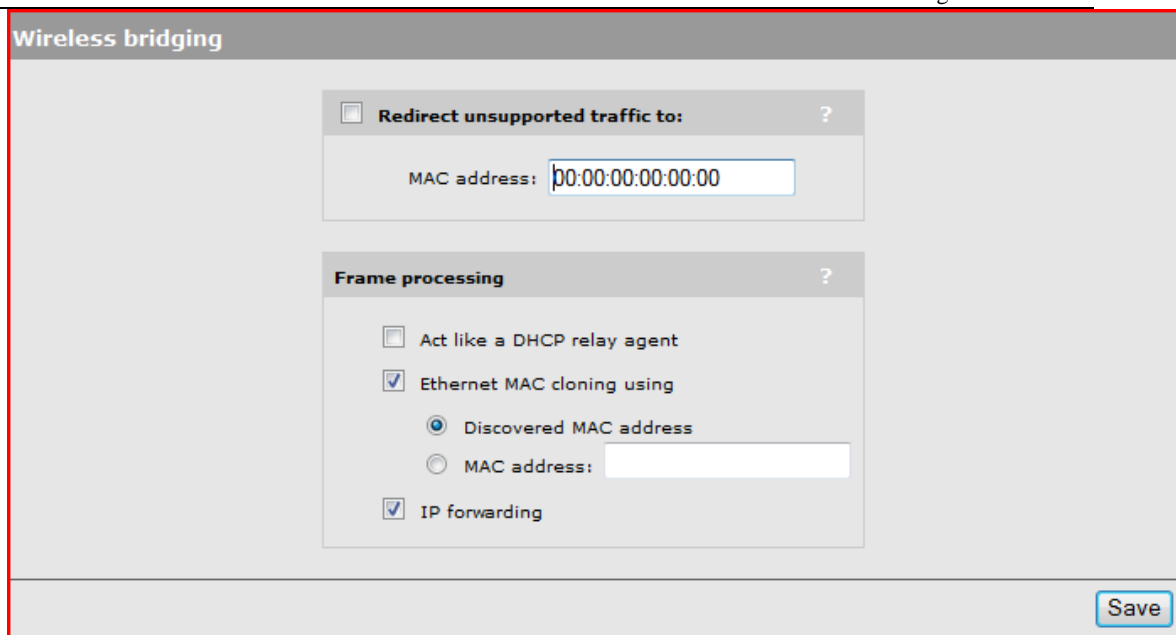
2.2.3 Configure the network interface

Note: WCB-200 can use a unique MAC address for its wireless interface or it can clone the MAC address of the Polycom HDX to which it will be connected. MAC cloning feature enables remote devices to access the HDX by its MAC address. This is useful for tracking, security and management tasks. In this document, we will configure the WCB-200 with MAC Cloning enabled.

2.2.3.1 Configure MAC Cloning

This configuration requires the completion of the next two steps. The WCB will clone the MAC address of the Polycom HDX and, as such, will not have a unique IP or MAC address for administrative purposes.

1. Select **Wireless>Bridging**. Unselect **Act like a DHCP relay agent**, and select **Ethernet MAC cloning**, **Management traffic interception**, and **Management Tool** as indicated below and then select **Save**. See **Figure 5**.



Wireless bridging

☐ Redirect unsupported traffic to: ?

MAC address:

Frame processing ?

☐ Act like a DHCP relay agent

☒ Ethernet MAC cloning using

☒ Discovered MAC address

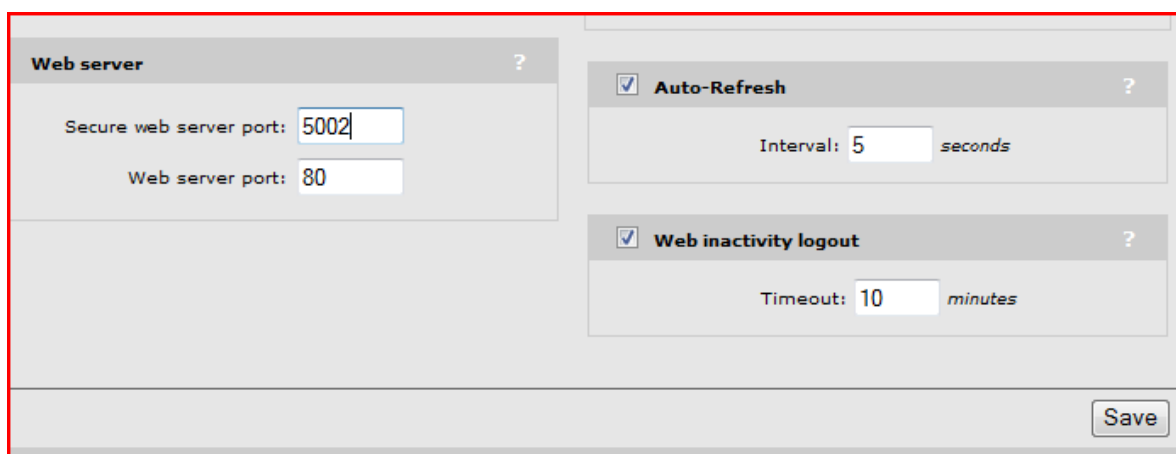
☐ MAC address:

☒ IP forwarding

Figure 3 – WCB Bridging Settings Page

Note: Because the wirelessly enabled Polycom HDX may utilize port 443 for management, it is necessary to enable a unique, non-standard https port on the WCB-200 in order for it to retain its remote management functionality.

2. Select **Management>Management Tool** and assign an unused port to **Web Server>Secure web server port** (e.g. 5002) and select **Save**. The device will then reboot to a management tool IP address of <https://192.168.1.1:5002>, and you must log in again.



Web server ?

Secure web server port:

Web server port:

☒ **Auto-Refresh** ?

Interval: seconds

☒ **Web inactivity logout** ?

Timeout: minutes

Figure 4 – WCB Web Management Page

2.2.4 Configure the wireless network

2.2.4.1 Configure WCB Radio

Settings in the radio page are very important as they will define the wireless roaming behavior of the WCB-200. WCB-200 wireless roaming may be triggered when the current AP goes down or when the wireless signal becomes weaker.

In a typical wireless deployment, as depicted in Figure 1, Colubris Networks recommends that WCB radio is configured with the following settings in order to make roaming as seamless as possible.

- Set the wireless mode 802.11a (less interference)
- Restrict the number of channels where WCB-200 operates depending on the number of neighbor AP's. The fewer the number of channels the less time WCB will spend to scan for another AP and roaming will occur faster.
- Set the "Minimum RSSI threshold" to 14 dBm. When RSSI reaches 14 dBm, WCB will initiate a wireless scan to find another AP with better signal.
- Set the "scan channel delay" to double the value of the Access Point beacon. This setting is used only when Active Scanning in the Station Profile (see section 2.2.4.2) is disabled. Note: For Colubris AP the beacon interval is 100.
- Set the "fast scan channel delay" to 20 ms.
- Leave the rest of the radio settings to their default values.

Radio configuration

☒ **Radio**
?

Wireless mode: 802.11a

Currently: **Channel 6, 2.437GHz**

Channel 157, 5.785GHz

Channel 161, 5.805GHz

Channel 165, 5.825GHz

☐ Restrict channels to:

☐ RTS threshold: bytes

Antenna selection: Diversity (both antennas)

☐ Fast roaming threshold: 12 dB

☐ Fast roaming delta threshold: 14 dB

Fast roaming threshold count: 1

☒ Minimum RSSI threshold: 14 dB

Scan channel delay: 200 msec

Fast scan channel delay: 20 msec

☐ Roaming persistence: 400 msec

Transmit power control

☒ Maximum available output power

20
dBm =
100
% of max output power

Figure 5 – WCB-200 Radio Settings

2.2.4.2 Add a wireless station profile

1. Select **Wireless > Station Profiles** and click the **Colubris Networks** link. The **Add/Edit Stations profile** page opens.

Note: It should be noted that the setup detailed in this section is based upon simple setup with most of the default settings unchanged.

It is of a paramount importance that your wireless network is configured with a strong wire-

less security policy. Then, the WCB-200 station profile will need to be configured according to this wireless network policy.

2. Select **General > Enabled**.

3. Change the **WLAN name (SSID)** to match that of the wireless network to which you want to connect.

4. Under **Wireless security**, select the **Authentication type** and **Encryption type** that are required by the wireless network to which you want to connect.

5. Enable **Active Scanning**

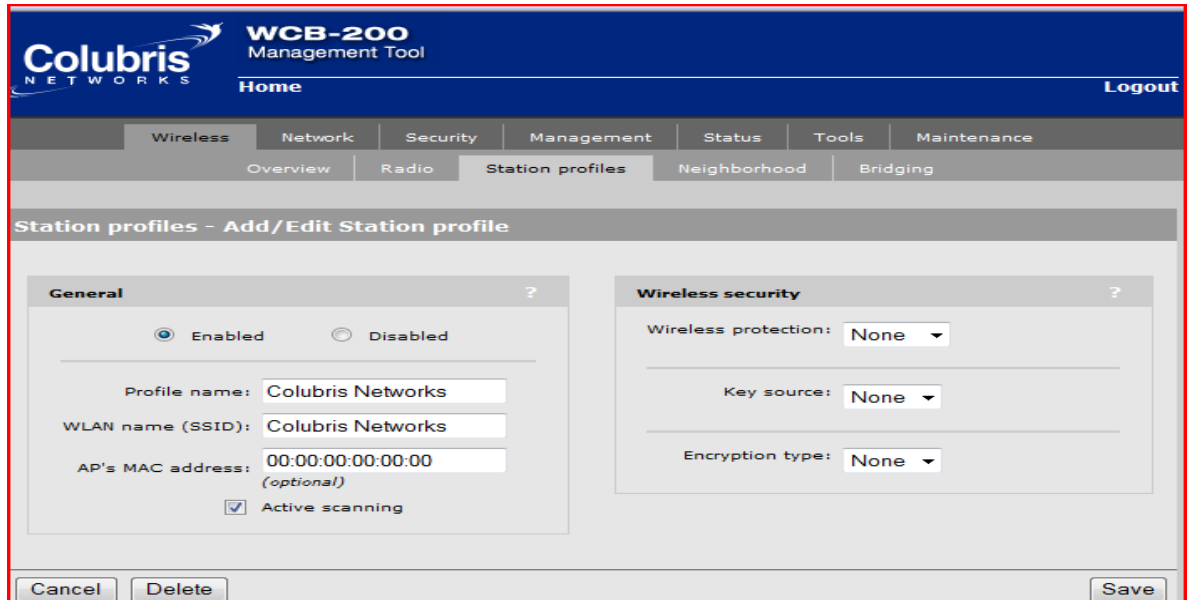


Figure 8 – WCB Station Profiles Page

6. Click **Save**. The WCB-200 should automatically establish a connection with the wireless network and is now ready for operation. By default, the WCB-200 will obtain its IP address from your network DHCP server.

2.2.5 Connecting the WCB-200 to a Polycom Device

1. Connect the configured WCB to the LAN port of the Polycom HDX using a crossover Ethernet cable.

2.2.6 Accessing the Polycom device

1. Connect your computer to the same network as the WCB-200.

2. Look in the DHCP server log or status for the MAC address of the networked Polycom device and take note of the corresponding IP address.

4. Launch the Polycom HDX management tool, using: **https://<IP address discovered in previous step**.