



# Configuring the Proxicast Wi-Fi Client Bridge+Access Point for the LAN-Cell 2

## Tech Note LCTN0020

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## This Tech Note applies to LAN-Cell models:

LAN-Cell 2:  
LC2-411

Proxicast Wi-Fi Client Bridge + Access Point:  
BWAP608H

Minimum LAN-Cell Firmware Revision: N/A

Minimum Proxicast Wi-Fi Client Bridge/AP Firmware Revision: v1.1

## Document Revision History:

Date	Comments
Feb. 12, 2010	First release

## Introduction

The Proxicast Wi-Fi Client Bridge + Access Point (CB+AP) is a stand-alone high-powered 802.11 b+g Wi-Fi access point and client bridge device that can be seamlessly connected to the LAN-Cell 2 3G cellular router.

The CB+AP is commonly used to connect the LAN-Cell 2 to existing Wi-Fi (WLAN) networks via its wired Ethernet WAN port. This configuration allows the LAN-Cell 2 to automatically switch between local 802.11 networks and wide-area 3G cellular networks in mobile applications such as buses, trains and emergency response vehicles. In Access Point mode, the CB+AP can also be used in conjunction with the LAN-Cell 2's built-in 802.11 access point to extend the Wi-Fi coverage area that is served by the LAN-Cell's WAN connections.

This TechNote presents an example of configuring the CB+AP as a Wi-Fi client bridge that will be connected to the wired Ethernet WAN port of a LAN-Cell 2 router (Figure 1).

This Technote is for illustration purposes only.

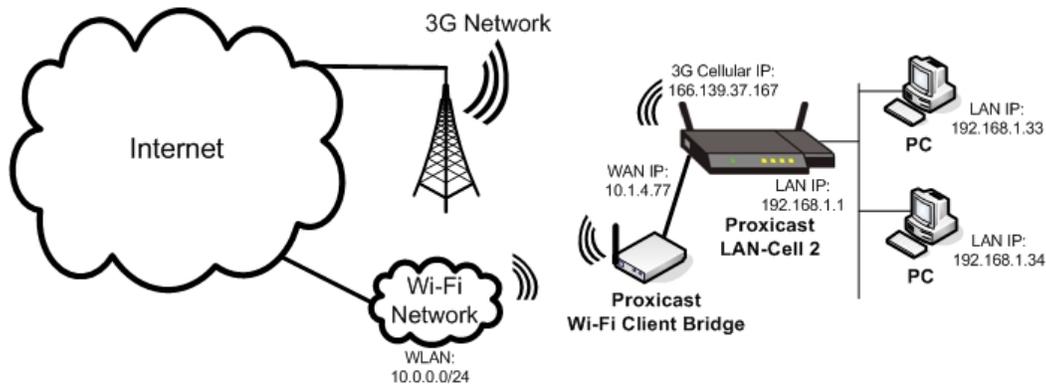


Figure 1: LAN-Cell 2 with Wi-Fi Client Bridge

## Usage Notes

- The CB+AP will be in “bridge mode”. Once configured as described below, the CB+AP’s web configuration utility cannot be accessed from the WAN or LAN-Cell directly. Any configuration changes after enabling bridge (client) mode will require a direct Ethernet cable attachment to the CB+AP.
- The network on the LAN side of the LAN-Cell and the target Wi-Fi network must be on different subnets. Take care when planning the IP network numbering scheme on both the LAN and Wi-Fi networks.
- Allow 30 seconds after power on or reset for the CB+AP to fully boot up and become operational.
- The “Client/AP” switch on the rear of the CB+AP is non-functional with the current firmware revision.
- It is normal for the **Status** LED to blink during operation.
- See the [LAN-Cell Users Guide](#) for more detailed information on configuring the LAN-Cell 2 for use with wired WAN and 3G connections.
- See the *CB+AP User Manual* on the CD which accompanies the product for a detailed explanation of each of the CB+AP’s configuration screens and device capabilities.

## Configuring the Proxicast Wi-Fi Client Bridge/AP

1. Power on the CB+AP and wait 30 seconds for it to fully boot up.
2. Connect an Ethernet cable from a PC to the LAN port of the CB+AP.
3. The CB+AP's default IP address is 192.168.1.1. Enter <http://192.168.1.1> in a web browser to access the web configuration screens. Note: if the PC is set to receive DHCP address assignments, the CB+AP should assign a compatible IP address; otherwise, change the computer's IP address to 192.168.1.2.
4. Log in to the CB+AP. The default username is "admin". The default password is "admin". See Figure 2.



Figure 2: Logging in to the CB+AP

5. The CB+AP will display the Setup Wizard Screen (Figure 3). Click **Next** to begin the wizard.

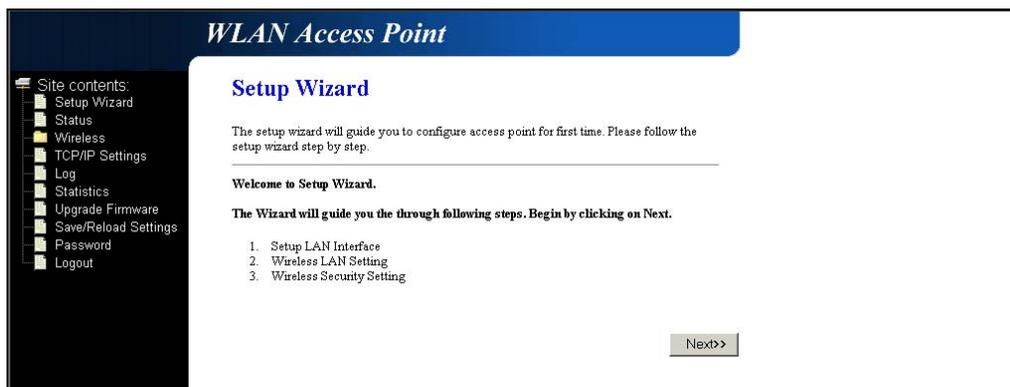


Figure 3: Setup Wizard Screen

- The first step sets the CB+AP's LAN IP Address (see Figure 4). Since the CB+AP will be used as a bridge, the LAN IP Address will not be used except during stand-alone configuration. Accept the default IP Address and click **Next**.

The screenshot shows the 'WLAN Access Point' configuration interface. On the left is a navigation menu with options: Site contents, Setup Wizard, Status, Wireless, TCP/IP Settings, Log, Statistics, Upgrade Firmware, Save/Reload Settings, Password, and Logout. The main content area is titled '1. LAN Interface Setup'. Below the title is a descriptive paragraph: 'This page is used to configure the parameters for local area network which connects to the LAN port of your Access Point. Here you may change the setting for IP address, subnet mask, DHCP, etc.'. There are two input fields: 'IP Address' with the value '192.168.1.1' and 'Subnet Mask' with the value '255.255.255.0'. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Next>>'.

Figure 4: IP Address Screen

- Step 2 of the Setup Wizard configures the basic wireless (Wi-Fi) settings (Figure 5). Select “client” from the **Mode** drop-down box. Note that the **Band** will revert to “B-only”. Change the band to match the type of 802.11 network type to which the CB+AP will be connecting.

For the **SSID** value, enter the SSID of the target 802.11 network that the CB+AP should attempt to associate with. If the LAN-Cell 2's internal 802.11 access point is enabled, do not enter the LAN-Cell's SSID in this field. This will create an address conflict and routing loop.

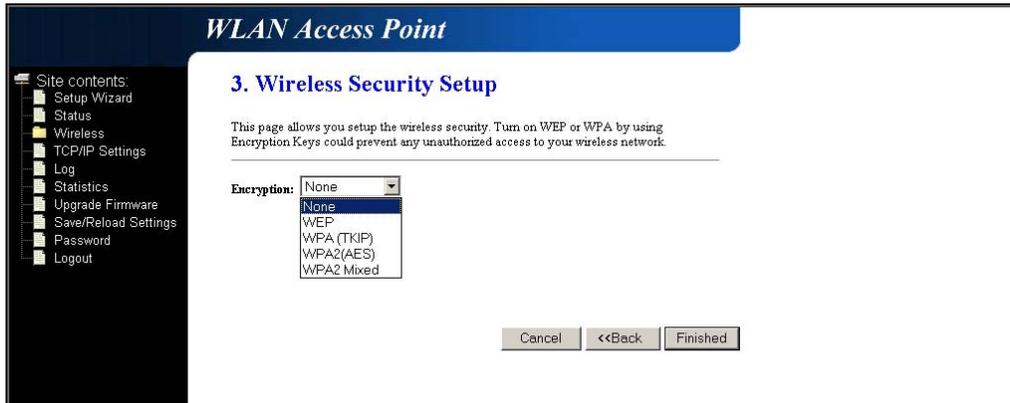
If an SSID value is entered, the CB+AP will only associate with access points that match this SSID. If the SSID value is blank, the CB+AP will associate with the best available 802.11 network within range regardless of the network's SSID.

Configure the SSID value and click **Next**.

The screenshot shows the 'WLAN Access Point' configuration interface. On the left is a navigation menu with options: Site contents, Setup Wizard, Status, Wireless, TCP/IP Settings, Log, Statistics, Upgrade Firmware, Save/Reload Settings, Password, and Logout. The main content area is titled '2. Wireless Basic Settings'. Below the title is a descriptive paragraph: 'This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point.'. There are several input fields: 'Band' set to '2.4 GHz (B+G)', 'Mode' set to 'Client', 'Network Type' set to 'Infrastructure', and 'SSID' set to 'Target-WLAN-SSID'. There is also a 'Channel Number' field set to '1' and an unchecked checkbox labeled 'Enable Mac Clone (Single Ethernet Client)'. At the bottom right are three buttons: 'Cancel', '<<Back', and 'Next>>'.

Figure 5: Basic Wi-Fi Settings Screen

8. If associating a client to the target Wi-Fi network requires WEP, WPA or WPA2 security parameters, select the appropriate **Encryption** type and provide the required security information (Figure 6). Click **Finished** to complete the Setup Wizard.



**Figure 6: Wireless Security Screen**

9. After completing the Setup Wizard, the CB+AP will confirm that the new settings have been saved and then the device will reboot.
10. Remove the configuration PC's Ethernet cable from the CB+AP's LAN port and connect an Ethernet cable directly between the LAN-Cell 2's Ethernet WAN port and the CB+AP's LAN port. A straight or cross-over Ethernet cable can be used.
11. Once the CB+AP restarts in "client" mode, it will immediately attempt to associate with the designated SSID. Assuming that the target 802.11 network contains a DHCP server, the LAN-Cell 2 will receive an IP address from the 802.11 network on its Ethernet WAN port. If the target 802.11 network uses static IP addresses, the static IP address reserved for the LAN-Cell must be configured on the LAN-Cell's WAN page.
12. If the same configuration PC is used for the CB+AP and the LAN-Cell 2, the PC's IP address may need to be released and renewed when moving the Ethernet cable between devices.
13. There are no other required configuration settings on the LAN-Cell 2 for using the CB+AP. Configure the LAN-Cell for any application requirements (e.g. firewall, port forwarding, VPN, etc.) Be sure to set the "route priority" of the WAN port to a smaller number than the Cellular port so that the LAN-Cell will prefer the Wi-Fi client bridge as its primary connection. Treat the CB+AP as any other WAN connection with respect to fail-over, load-balancing, WAN continuity checking, firewall rules, port-forwarding, etc.

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