

Table of Contents

Requirements	1
Web Management GUI	1
Link Setup tab.....	2
Status tab	5
System tab	7
Help	10
Contacting us.....	11

Requirements

The BAD BOY Unleashed rebroadcasts a Wi-Fi signal received by a BAD BOY Xtreme or Express thus allowing a standard Wi-Fi equipped laptop or other device to connect without the need for any cables. A BAD BOY Xtreme or Express is required. The cable used connecting Unleashed to an Xtreme or Express must supply the power via passive PoE (Power over Ethernet). Inserting a router or switch into the network circuit may block PoE and prevent Unleashed from powering up.

Web Management GUI

To access the Web Management GUI, open a browser and type 'http://192.168.100.2' (without the quotes) into the address bar. The Web Management GUI consists of a page with three tabs:

Link Setup contains the controls for a wireless network configuration, which define access point setup and security options.

Status displays current settings for the device and statistical network information.

System contains controls for administrator account management, interface language, configuration backup or restore and system maintenance.

To conveniently and easy access the Web Management GUI in the future, you can create a Favourites item within your browser.

Link Setup tab

The Link Setup tab contains everything needed by the operator to setup a wireless link from the Wi-Fi network to a wirelessly enabled computer or device. This includes wireless security. The default SSID is BadBoy.

The screenshot shows a web browser window titled "BAD BOY - Setup Link" with the address bar showing "http://192.168.100.2/wan.cgi". The page features the bitstorm logo and "BAD BOY Unleashed" branding. There are three tabs: "Link Setup" (selected), "Status", and "System". The main content area is divided into three sections:

- WIRELESS SETTINGS:** SSID: "Bad Boy", Channel: "1".
- WIRELESS SECURITY:** Security: "WPA-TKIP", Authentication Type: "Open" (selected), WEP Key Length: "64 bit", Key Type: "HEX", WEP Key: (empty), WPA Preshared Key: "password", Key Index: "1".
- ACCESS CONTROL LIST:** MAC ACL: "Enabled" (checkbox), Policy: "Allow", with "Remove" and "Add" buttons.

At the bottom, there is a "Help" link and a "Change" button. The footer contains "support@bitstorm.com" and "© Copyright 2009-2010 Bitstorm Inc".

Wireless Settings

SSID: Specify the SSID of this Unleashed which other wireless laptops and devices will connect to. It is strongly recommended to change the name to something unique so that it will be easily recognizable to your users. For example, a boat name. The default is **Bad Boy**.

Channel: Select a channel that the Unleashed should use to broadcast to users on. While the channel control dropdown list offers channels from 1 to 11, only channels 1, 6 and 11 are usable. This is due to the channel bandwidth required to support wireless G mode. For example, supporting wireless G, channel 6 will have a bandwidth requirement that overlaps from channels 4 through 9. The default is channel 1.

Wireless Security

This section enables you to set parameters that control whether users will associate to BAD BOY Unleashed.

Choose the security method according to the desired security policy requirement. All user data transferred between their laptop and BAD BOY Unleashed will be encrypted if wireless security methods are used.

The default security is **WPA-TKIP** and the default Preshared Key is 'password' (case sensitive and without the single quotes).

Security: BAD BOY Unleashed supports WEP, WPA, and WPA2 security options. Select the security mode of your wireless network:

WEP – enable WEP encryption. WEP (Wired Equivalent Privacy) is based on the IEEE 802.11 standard and uses the RC4 encryption algorithm. Enabling WEP allows you to increase security by encrypting data being transferred over your wireless network. WEP is the oldest security algorithm, and there are few applications that can decrypt the WEP key in less than 10 minutes. WPA™/WPA2™ security methods should be used when possible.

WPA – enable WPA™ security mode. Wi-Fi Protected Access - WPA™ (IEEE 802.11i/D3.0) and WPA2™ (IEEE 802.11i) with pre-shared key management protocol offers improved security methods as they are new protocols that were created under the 802.11i standard to address weaknesses in the WEP approach.

WPA™ and WPA2™ support the following ciphers for data encryption:

TKIP - Temporal Key Integrity Protocol which uses RC4 encryption algorithm.

CCMP (commonly known as AES) - Counter Mode with Cipher Block Chaining Message Authentication Code Protocol which uses the Advanced Encryption Standard (AES) algorithm.

WPA – enable WPA™ security mode.

WPA-TKIP – enable WPA™ security mode with TKIP support only.

WPA-AES – enable WPA™ security mode with AES support only.

WPA2 – enable WPA2™ security mode.

WPA2-TKIP – enable WPA2™ security mode with TKIP support only.

WPA2-AES – enable WPA2™ security mode with AES support only.

Authentication Type: field relates only to the WEP security option. One of the following authentication modes should be selected if WEP security method is used:

Open Authentication – BAD BOY is authenticated automatically by AP (selected by default).

Shared Authentication – BAD BOY is authenticated after the challenge, generated by AP.

WEP Key Length: 64-bit (selected by default) or 128-bit WEP Key length should be selected if WEP security method is used. The *128-bit* option will provide a bit higher level of wireless security.

Key Type: *HEX* (selected by default) or *ASCII* option specifies the character format for the WEP key if WEP security method is used.

WEP Key: WEP encryption key for the wireless traffic encryption and decryption should be specified if WEP security method is used:

For **64-bit** – specify WEP key as 10 HEX (0-9, A-F or a-f) characters (e.g. 00112233AA) or 5 ASCII characters.

For **128-bit** – specify WEP key as 26 HEX (0-9, A-F or a-f) characters (e.g. 00112233445566778899AABBCC) or 13 ASCII characters.

Key Index: allows specifying the Index of the WEP Key used. Four different WEP keys can be configured at the same time, but only one is used. Effective key is set with a choice of 1, 2, 3 or 4.

WPA Authentication: one of the following WPA™ key selection methods should be specified if WPA™ or WPA2™ security method is used:

PSK – WPA™ or WPA2™ with Pre-shared Key method (selected by default).

EAP – WPA™ or WPA2™ with EAP (Extensible Authentication Protocol) IEEE 802.1x authentication method. This method is commonly used in Enterprise networks. Note: BAD BOY Web Management GUI supports only EAP-TTLS authentication method.

WPA Pre-shared Key: the pass phrase for WPA™ or WPA2™ security method should be specified if the *Pre-shared Key* method is selected. The pre-shared key is an alpha-numeric password between 8 and 63 characters long.

WPA Identity: identification credential (also known as *identity*) used by the supplicant for EAP authentication.

WPA User Name: identification credential (also known as *anonymous identity*) used by the supplicant for EAP tunneled authentication (EAP-TTLS) in unencrypted form.

WPA User Password: password credential used by the supplicant for EAP authentication.

Click Change button to save the changes for this tab and then click Apply to activate them.

Status tab

The Status tab displays a summary of wireless access point settings and traffic statistics of all the interfaces. There are no data entry fields on this tab.

The screenshot shows the 'Status' tab of the BAD BOY Unleashed web interface. The browser window title is 'BAD BOY - Status' and the address bar shows 'http://192.168.100.2/constatus.cgi'. The page features a navigation menu with 'Link Setup', 'Status', and 'System' tabs. The 'Status' tab is selected. The main content area is divided into three sections: 'CURRENT SETTINGS', 'LAN STATISTICS', and 'WLAN STATISTICS'. The 'CURRENT SETTINGS' section includes fields for 'Access Point SSID' (Bad Boy), 'Security' (WPA), 'Channel' (1), 'IP Address' (192.168.100.2), 'WLAN MAC' (00:15:6D:DA:C3:B7), and 'LAN MAC' (00:15:6D:DB:C3:B7). A 'Clients' button is located below the WLAN MAC field. The 'LAN STATISTICS' section displays a table with columns for 'Bytes', 'Packets', and 'Errors' for both 'Received' and 'Transmitted' data. The 'WLAN STATISTICS' section also displays a table with columns for 'Bytes', 'Packets', and 'Errors' for both 'Received' and 'Transmitted' data. At the bottom of the page, there is a 'Help' link and a 'Refresh' button. The footer contains the text 'support@bitstorm.com' and '© Copyright 2009-2010 Bitstorm Inc'.

Current Settings

Access Point SSID: The Name of the 802.11 Service Set that was assigned to the Unleashed access point that other users will connect to. See Link Setup tab.

Security: Displays the name of the security method assigned to the Unleashed access point. Users will need to know security particulars so that they can connect. See Link Setup tab.

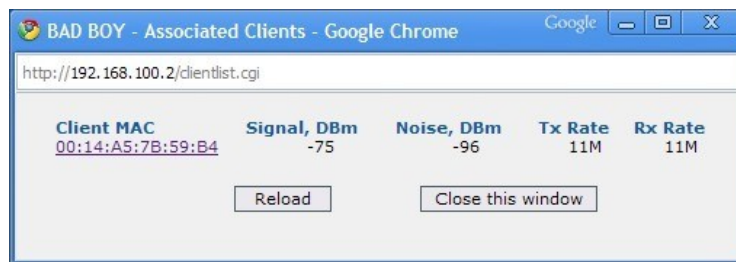
Channel: Displays the channel that the Unleashed is currently using. See Link Setup tab.

IP Address: Displays the IP address for the Unleashed. For the Unleashed, both the wireless and wired networks share the same address.

WLAN MAC: Displays the MAC address of the WLAN (Wireless) interface.

LAN MAC: Displays the MAC address of the LAN (Ethernet) interface.

Client: This button will open a pop-up page that displays the MAC address, signal, noise and Tx / Rx speeds for all currently connected wireless clients. Further detailed information will be available by clicking on a MAC address.



Statistics Reporting

LAN Statistics: Displays the detailed receive and transmit statistics (*Bytes*, *Packets*, *Errors*) of the LAN (Ethernet) interface. This statistics represents the total amount of data and packets transferred through the Ethernet interface in either direction.

Both unicast IP traffic (conversations between two hosts using HTTP, SMTP, SSH and other protocols) and broadcast traffic (addressing all hosts in a given network range with a single destination IP address) is accumulated.

As long as there is some network traffic being generated or passed through the LAN interface, Received and Transmitted *Bytes* and *Packets* count values will continue increasing. *Errors* value represents the total number of transmitted and received packets for which an error occurred in the link layer. High values of Errors may indicate network hardware faults or incorrect configuration.

WLAN Statistics: Displays the detailed receive and transmit statistics (*Bytes*, *Packets*, *Errors*) of the WLAN wireless interface.

The statistics represents the total amount of unicast and broadcast IP data transferred between devices through the WLAN wireless interface in either direction.

As long as there is some network traffic being generated or passed through the WLAN wireless interface, Received and Transmitted Bytes, Packets and Error count values will continue increasing.

The 'Refresh' button can be used to update the tab.

System tab

The System tab contains administrative options. This tab enables an operator to customize, reboot the device, reset it to factory defaults, select the display language, backup or update the configuration, update firmware and configure administrator's credentials.

The screenshot shows a web browser window titled "BAD BOY - System" with the URL "http://192.168.100.2/misc.cgi". The page features the bitstorm logo and "BAD BOY Unleashed" branding. A navigation bar includes "Link Setup", "Status", and "System" tabs, with "System" being the active tab. The main content area is divided into several sections:

- ADMINISTRATIVE ACCOUNT:** Includes fields for "Administrator Username" (pre-filled with "badboy"), "Current Password", "New Password", and "Verify New Password", along with a "Change" button.
- INTERFACE LANGUAGE:** Features a "Language" dropdown menu currently set to "English".
- CONFIGURATION MANAGEMENT:** Contains "Backup Configuration" with a "Download..." button, and "Upload Configuration" with "Choose File" and "Upload" buttons. The status "No file chosen" is displayed.
- FIRMWARE:** Shows the "Firmware Version" as "BB2_Series.U3.5.0.BadBoy.100215.1534" and an "Upgrade..." button.
- DEVICE MAINTENANCE:** Includes a "Help" link and buttons for "Reboot..." and "Reset to defaults...".

The footer of the page contains the email "support@bitstorm.com" and the copyright notice "© Copyright 2009-2010 Bitstorm Inc".

Administrative Account

In this section you can modify the administrator password to protect your device from unauthorized reconfiguration. The default administrator's password should be changed on the very first system setup:

Administrator Username: enter a new username. The Username will be case sensitive.

Current Password: required to authenticate a change to *Password* or *Administrator Username*.

Default administrator login credentials:

Username: **badboy**

Password: **badboy**

New Password: enter a new password to be used for administrator authentication. The new Password will be case sensitive.

Verify Password: re-entered the new password to verify its accuracy.

Click the 'Change' button to save the changes and 'Apply' to activate them.

Interface Language

BAD BOY Unleashed supports multiple languages in the Web Management Interface GUI.

Language: Change the look and feel of the Web Management GUI by renaming the labels of all the configuration settings and controls according to the translation for a particular language. The default language is English. The colours and the layout of all the web elements are not changed.

Configuration Management

Use the *Configuration Management* section controls to backup, restore or update the system configuration file:

Backup Configuration: click the 'Download' button to save the current system configuration to a file.

Upload Configuration: click the 'Browse' button to navigate to and select a previously saved configuration file or specify the full path to the configuration file location.

Activating the 'Upload' button will transfer the new configuration file to the device. The settings of the new configuration will be visible in the *Link Setup* and *System* tabs of the Web Management GUI.

A new configuration will be effective after the 'Apply' button is activated and system reboot cycle is completed. Previous system configuration is deleted after the 'Apply' button is activated. It is highly recommended to backup the system configuration before uploading a new configuration.

Firmware Version

Use this section to review the current firmware version and update the device with a new version. The device firmware update is compatible with all configuration settings. System configurations are preserved while the device is updated with a new firmware version.

Firmware version: Displays the version of the current firmware of the BAD BOY system.

Upgrade: Button opens the Firmware Upload window if activated.

Current Firmware: Displays the version of the BAD BOY firmware which is currently operating.

Firmware File: Activate 'Browse' button to navigate to and select the new firmware file. The full path to the new firmware file location can be specified there. New firmware file is transferred to the system after 'Upload' button is activated.

Upload: Button will cause the selected file to be transferred to the device. Once there, it will be checked and any messages will be displayed.

Upgrade: Button should be clicked in order to proceed with firmware upgrade. Please be patient, as the firmware upgrade routine can take 3-7 minutes. BAD BOY Unleashed will be inaccessible until the firmware upgrade routine is completed.

Close this window: Closes the firmware upgrade window if activated. This action only closes the progress display. It will not cancel the firmware upgrade process once started.

CAUTION: Do not switch off, do not reboot and do not disconnect the device from the power supply during the firmware upgrade process as these actions can render the device inoperable!

It is highly recommended to backup the system configuration before uploading new firmware.

Notes:

- All current wireless users will be disconnected during the firmware upgrade process. Connection should be restored automatically after completion but users may need to re-establish connection manually.
- During the firmware upgrade process, the LAN LED will blink and the signal strength LEDs will step up and down in sequence until complete.
- The entire process can take several minutes.
- If the update was performed while connected wirelessly, the connection to Unleashed will be lost during the firmware upgrade process. Re-establish connection only after upgrade is complete.

Device Maintenance

The buttons in this section are dedicated for device rebooting and resetting maintenance.

Reboot: Activate 'Reboot' in order to initiate a full reboot cycle of the device. The effect of Reboot is the same as the hardware reboot which is similar to the power off - power on cycle. The system configuration is not modified after the reboot cycle completes. Any non-applied changes will be lost.

Reset to Defaults: Activate 'Reset to Defaults' in order to initiate a device reset to factory default values. Reset initiates the system *Reboot* process (similar to the power off - power on cycle). The current system configuration will be deleted and the default system configuration (all system settings, no exceptions) will be reset to factory default values.

After the *Reset to Defaults* routine is completed, the BAD BOY Unleashed system will return to the IP configuration (192.168.100.1 / 255.255.255.0). If other settings need to be retained, it is highly recommended to backup the system configuration before the *Reset to Defaults* is initiated.

Help

The Link Setup, Status and System tabs have a Help link located in the lower left of each tab. When clicked, a movable popup window appears that provides information on the various fields and features for the current tab.

The screenshot shows a web browser window titled "BAD BOY - Status" with the URL "http://192.168.100.2/constatus.cgi". The page features the Bitstorm logo in the top left and "BAD BOY Unleashed" branding in the top right. There are three tabs: "Link Setup", "Status", and "System". The "Status" tab is active, displaying "CURRENT SETTINGS" and "LAN and WLAN Statistics". A "BAD BOY Help" popup window is open over the statistics section, providing details for the "Status tab", "Current Settings", and "LAN and WLAN Statistics".

CURRENT SETTINGS

Access Point SSID:	Bad Boy
Security:	WPA
IP Address:	192.168.100.2
WLAN MAC:	00:15:6D:EA:39:52

LAN STATISTICS

	Bytes	Packets	Errors
Received:	123587		
Transmitted:	358215	1067	0

WLAN STATISTICS

	Bytes	Packets	Errors
Received:	23569	361	0
Transmitted:	23699	260	0

[Help](#)

BAD BOY Help

Status tab
There are no input entry fields on this tab.

Current Settings
Setting information for this access point is displayed in this section.

LAN and WLAN Statistics
Information regarding bytes, packets and errors sent and received are shown. The 'Refresh' button can be pressed at anytime to update the LAN and WLAN statistics with the most current counts.

http://192.168.100.2/constatus.cgi# © Copyright 2009-2010 Bitstorm Inc

Bitstorm contact information is available by clicking on the Bitstorm logo in the upper left.

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