



Internet Bridge
INT-BRI

Technical:

Power: 5V Micro-USB

Connectivity: Ethernet, WiFi

Max. Controllers: Unlimited

Wireless Range: 10-15m indoors



INSTALLATION INSTRUCTIONS

INTRODUCTION

With the GEM Internet Bridge you can control your lights using a smartphone or tablet while at home or away. Each lighting controller can be renamed in the GEM app to reflect the room or zone that it operates. The app features sliders to adjust the brightness, and buttons to switch and return lighting to a preset level.

FEATURES

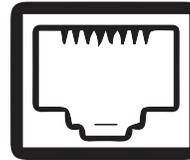
- Available on iOS and Android
- Add unlimited number of lighting controllers to app
- Simple setup; plug in and go
- Works through the internet without router/firewall changes
- Sliders to adjust brightness 0-100%
- ON/OFF buttons in app return brightness to preset level
- Encrypted; secure and private
- Stable & reliable linux based hardware and software

Internet Bridge uses Ethernet connection or WiFi (for advanced users) to communicate to app. Communication to lighting controllers uses built-in GEM Wireless Protocol, not WiFi. Controllers must be within range. To extend the GEM Wireless range use a GEM Repeater.

STEP 1 With the GEM Logo facing up, connect the Micro-USB cables to the Internet Bridge as shown.



STEP 2 Connect the Internet Bridge's Ethernet adapter port to a 'LAN' port on the back of your internet connected router using the patch cable supplied. Proceed to power up the Internet Bridge by plugging in the MicroUSB power supply. The Internet Bridge will take approx 90 seconds to boot.

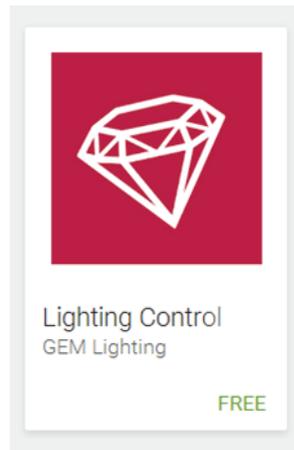


LAN

If your router does not have Ethernet ports but supports WiFi contact info@gemlighting.co.nz for alternative options.

STEP 3 Install the App on your mobile device

Search for 'gem lighting' in the iOS or Google play app store or by direct link from gemlighting.co.nz.

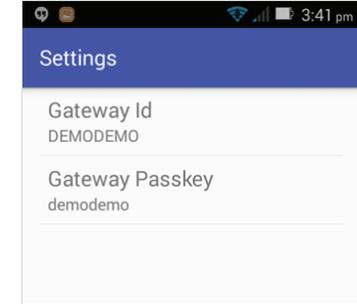


View in iTunes

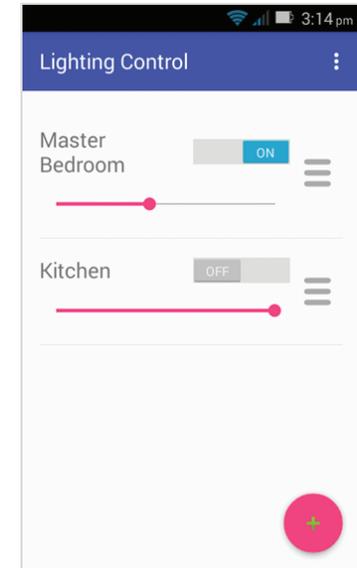
Free
Category: Utilities
Released: 09 May 2016
Version: 1.0
Size: 12.2 MB
Language: English
Seller: GEM Lighting Limited
© 2016 GEM Lighting
Rated 4+

STEP 4 Open up the settings/configuration tab on the app (Android shown)

Input the identifier and passkey labelled on the base of your Internet Bridge to pair the app to your bridge. Both are case sensitive.



STEP 5 On the main page of the GEM app you can start adding controllers using the '+'. Read the ID on the base of the Lighting Controllers and input along with the name you wish to give the string of lights. (e.g. 'Kitchen', 011ABC).



The controllers can now operated using your mobile device. Ensure that the Internet Bridge is within range of the controllers you wish to operate (10-15m indoors).

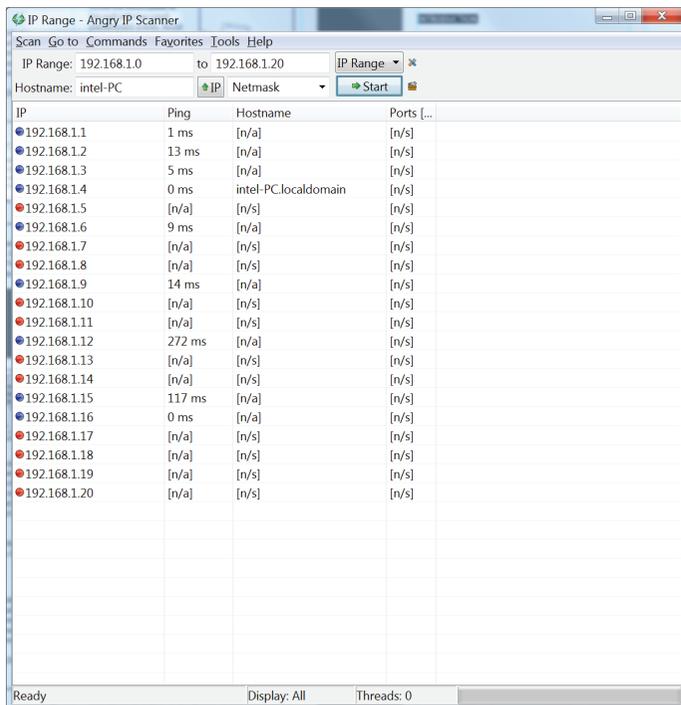
For WiFi setup (advanced) see overleaf.

WIFI/ADVANCED SETUP

STEP 6 Ensure the Internet Bridge is connected to your router by Ethernet cable and powered. The following instructions will attempt to load the SSID and passkey into the Internet Bridge so that it can connect using WiFi and no longer require the Ethernet connection. The benefit of this is that the Internet Bridge can then be placed in a more ideal location inside your home and still be internet connected.

STEP 7 Find your Internet Bridge's IP address

Your Internet Bridge's IP address should be discoverable on your network. There are a number of ways to find connected equipment on your network. A recommended method is using the free software, Angry IP Scanner (<http://angry-ip.org/download>).

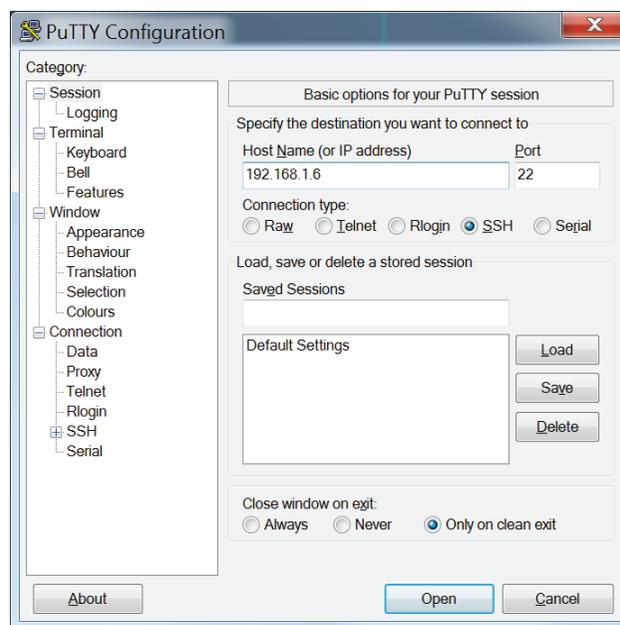


IP	Ping	Hostname	Ports [...]
192.168.1.1	1 ms	[n/a]	[n/s]
192.168.1.2	13 ms	[n/a]	[n/s]
192.168.1.3	5 ms	[n/a]	[n/s]
192.168.1.4	0 ms	intel-PC.localdomain	[n/s]
192.168.1.5	[n/a]	[n/a]	[n/s]
192.168.1.6	9 ms	[n/a]	[n/s]
192.168.1.7	[n/a]	[n/a]	[n/s]
192.168.1.8	[n/a]	[n/a]	[n/s]
192.168.1.9	14 ms	[n/a]	[n/s]
192.168.1.10	[n/a]	[n/a]	[n/s]
192.168.1.11	[n/a]	[n/a]	[n/s]
192.168.1.12	272 ms	[n/a]	[n/s]
192.168.1.13	[n/a]	[n/a]	[n/s]
192.168.1.14	[n/a]	[n/s]	[n/s]
192.168.1.15	117 ms	[n/a]	[n/s]
192.168.1.16	0 ms	[n/a]	[n/s]
192.168.1.17	[n/a]	[n/a]	[n/s]
192.168.1.18	[n/a]	[n/a]	[n/s]
192.168.1.19	[n/a]	[n/s]	[n/s]
192.168.1.20	[n/a]	[n/s]	[n/s]

You may not be able to identify the Internet Bridge by its IP address immediately. This is not a problem - we will try connecting to the IP addresses that are 'alive' (denoted by blue dot) until we find the bridge.

STEP 8 Connect to the Internet Bridge using SSH

Connect to the bridge using PuTTY (www.putty.org) or any other SSH client.



Try connecting to the possible IP addresses until you're prompted for a login. If the connection is refused or times out it is likely that a connection was attempted to another device other than the Internet Bridge. When prompted use the login: **chip**, password: **chip**.



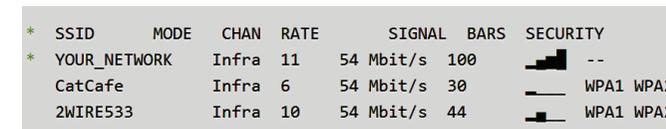
The Internet Bridge runs a Linux operating system. Familiarity with a Linux terminal and commands is recommended.

STEP 9 WiFi Setup

After logging in, in the terminal type:

```
nmcli device wifi list
```

Press enter; The output will list available access points:



* SSID	MODE	CHAN	RATE	SIGNAL	BARS	SECURITY
* YOUR_NETWORK	Infra	11	54 Mbit/s	100	█	--
CatCafe	Infra	6	54 Mbit/s	30	██	WPA1 WPA2
2WIRE533	Infra	10	54 Mbit/s	44	███	WPA1 WPA2

You can connect to password protected or open access points.

No Password

To connect to an open network with no password:

```
sudo nmcli device wifi connect "YOUR_NETWORK_SSID" ifname wlan0
```

These commands will respond with information about the connection. A successful connection looks like:

```
Connection with UUID  
'xxxxxxxx-yyyy-zzzz-xxxx-yyyyyyyyyyyy' created and  
activated on device 'wlan0'
```

Password Protected

To connect to a password protected network, use this command inserting your own network name and password:

```
sudo nmcli device wifi connect "YOUR_NETWORK_SSID"  
password "UR_NETWORK_PASSWORD" ifname wlan0
```

These commands will respond with information about the connection. A successful connection looks like:

```
Connection with UUID  
'xxxxxxxx-yyyy-zzzz-xxxx-yyyyyyyyyyyy' created and  
activated on device 'wlan0'
```

Hidden SSID and Password Protected

To connect to a hidden and password-protected network:

```
sudo nmcli device wifi connect "YOUR_NETWORK_SSID"  
password "UR_NETWORK_PASSWORD" ifname wlan0 hidden yes
```

Setup is complete, the wireless settings will be retained through power cycling of the device. The Ethernet cable can now be disconnected and the Internet Bridge moved (within WiFi range of router). Any future changes in the router may require reconfiguration of the Internet Bridge.