

Unit 6, 5 Stone Street Kaiapoi, Canterbury New Zealand +64 3 741 1339 www.gowifi.co.nz

EnGenius Mesh Network

Setup Guide

By Daniel Allin, Technician

(DipCN, MTCNA)

Go Wireless NZ Ltd

<u>Scenario:</u>

Configure a Mesh network with up to 4 EnGenius Mesh Access Points. There will be one gateway to the internet and clients will be able to seamlessly roam throughout the wireless network.



Step 1 (Optional):

Download and install the EnGenius Mesh Network Management Tools onto your computer.

http://www.engeniustech.com.sg/support (locate your Access Point model to find download and User Manual.

Step 2:

Connect your first mesh AP to your network and access the Website Configuration Menu. This device will be our Internet-Gateway AP:

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EnGenius W	reless Access Point/Client Bi	riage	
Access Point	Main		Home Reset
Accession			
	System Information		
Status	Device Name	M35	
• Main	Ethernet MAC Address	00:02:6f:71:11:b2	
Wireless Client List	Wireless MAC Address	00:02:6f:71:11:b3	
- System Log	Country	N/A	
System	Current Time	Sat Jan 1 12:21:35 NZST 2000	
System Properties	Firmware Version	2.1.2	
IP Settings	Management VLAN ID	Untagged	
 Spanning Tree Settings 			
	LAN Settings		
Wireless	IP Address	192.168.1.1	
Wireless Network	Subnet Mask	255.255.255.0	
WDS Link Settings	Default Gateway	0.0.0	
 Wireless Advanced Settings 	DHCP Client	Disabled	
Management	Current Wireless Settings		
Administration	Operation Mode	Access Point	
SNMP Settions	Wireless Mode	IEEE 802.11b/g Mixed	
NMS Address	Frequency/Channel	2.412GHz (Channel 01)	
Backup/Restore Settings	Profile Isolation	No	
 Firmware Upgrade 		1 EnGenius1/Open System/No Encryption/1	
• Time Settings	Profile Settings	2 N/A	
Diagnostics	(SSID/Security/VID)	3 N/A	
	Annual a New York and		
	Spanning Tree Protocol	Disabled	
	Distance	1 Km	

Step 3:

Select "System Properties" tab and change the device Operation Mode to "Mesh". You may change Device name here if desired also. Click "Apply".

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EnGenius	Wireless Access Point/C	lient Bridge	
Access Point	System Properties		Home Reset
Status	Device Name	M35 (1 to 32 characters)	
 Main Wireless Client List 	Country/Region	Please Select a Country Code -	
 System Log System System Properties IP Settings Spanning Tree Settings 	Operation Mode	Access Point Cleve Reide WDS Bridge Repeater A Rooter Cleve Rooter Use h	
Wireless • Wireless Metwork • Wireless MAC Filter • WDS Link Settings • Wireless Advanced Settings	Apply Cancel		

Step 4:

Select "Wireless Network" tab and select a channel for your mesh network. (You may wish to use a program like InSSIDer to locate the best channel for your network in your area).

Tick "Gateway" under the Mesh section. (If you wish to change the SSID and Security settings for the Mesh Network you may do so by clicking edit).

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Mesh	Wireless Network			Home Reset	=
Status	Wireless Mode	802.11b/g Mixed (2GHz/54Mbps) ·			
Main Wireless Client List	Channel / Frequency	Ch6-2437GHz •			
 System Log 		Mesh			
System	SSID	Security	Gateway	Edit	
System Properties IP Settings	EnGeniusMesh	Disabled	2	Edit	
Wireless		Access Point			
Wireless Network	S SID	Security		Enable Edit	
Wireless Advanced Settings	EnGeniust	Open System/No End	cryption	Z Edit	
	EnGenius2	Open System/No End	styption	Edit	
Management Administration SNMP Settings NMA Admiss BackupRestore Settings Firmware Upgrade Time Settings Log Diagnostics	Apply Cancel				

Step 5:

Under the Access Point section configure the EnGenius1 Wireless Network by click edit. Enter SSID you wish to broadcast to wireless clients and add a security key if desired.

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• Main • Wireless Client List • System Log	Channel (Frequency	SSID Profile					
System • System Properties		Wireless Setting	A Wester M			Edit	
• IP Settings Wireless		Suppressed SSID	Go wireless NZ (1 to 32 characters)				
Wireless Network Wireless MAC Filter Wireless Advanced Settings		Station Separation	Enable Oisable		Enable	Edit	
Management		Security Mode	WPA-PSK -			Edit	
Administration SNMP Settings NMS Address	Apply Cancel	Encryption Passphrase	Auto mypassword (8 to 53 characters) or 154 Hexadecimal characters)				
Firmware Upgrade Time Software		Group Key Update Interval	3600 seconds(30~3600, 0: disabled)				
• Log		Group Key Update Timeout	1 seconds(1~300)				
- Liagnostics		Pairwise Key Update Timeout	1 seconds(1-300)				
		Save Cancel					
		Done	📦 Internet Protected Mode: On 🍕	• • • •			

Click Save, and then Apply Settings.

Step 6:

Under "IP Settings" give the Access Point a unique IP Address along with the subnet, gateway and primary dns addresses of your network or alternatively set the device to "Obtain an IP Address Automatically". (Giving your Mesh AP's static IP Addresses will help to locate them for further configuration should you need to – alternatively NMS software tool will locate and keep track of your devices for you).

Apply Settings.

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Mesh	IP Settings		Home Reset
Status • Main	IP Network Setting	Obtain an IP address automatically (DHCP) Specily an IP address	
Wireless Client List System Log	IP Address	192 168 1 200	
System	IP Subnet Mask	255 255 255 0	
System Properties IP Settings	Default Gateway	192 168 1 254	
Wireless	Secondary DNS		
Wireless MAC Filter Wireless Advanced Settings	Apply Cancel		
Management			
Administration SNMP Settings			
NMS Address Backup/Restore Settings			
Firmware Upgrade Time Settings			
Log Diagnostics			

Step 7:

If you wish to use the Mesh Network Management Software select the NMS Address tab, tick "Enable' and enter the IP Address (or hostname if your computer has an IP Address assigned by dhcp) of the computer that is running the EnGenius NMS Tools software.

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Step 8:

Configure the remaining mesh Access Points. Follow the same procedure and settings for configuring all future mesh devices - EXCEPT for these AP specific settings.

- 1. The Device Name is optional and can be unique to that AP.
- 2. Do not tick the "Gateway" option on future devices as they will not be a gateway AP as they will not be directly connected to the Internet like the first device.
- 3. If assigning static IP Addresses to your Mesh AP's make sure the IP Address is unique for each device!
- 4. Make sure all other settings are the same! (SSID, Security, Gateway, DNS, Subnet Mask NMS Address etc).

Step 9:

Click File > Create Map

Select "EZ Map" and enter map name.

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Step 10:

Select "Start Scan" button then move your devices around the map when they appear in the top left corner.

Click the Play button in the bottom right corner of the screen. This will show Client Properties and Signal Strength of all Mesh AP's and clients connected.

EG EnGenius Mesh Network Manager	en Tool	- 6 ×
Node Details	Ritzew Medi Mai	Client Properties
D Galdana	The Setting Map	192.168.1.118
Mode		a-EnGeniusMesh
System Name		192.168.1.64
Object ID	Start Scan	±-EnOaniusMesh
Description		€-9e%20Wireless%20NZ
Costact		192.168.1.119
Uptime		-EnGeniusMesh
		Client Signal Strength
	192 1681.119	192.168.1.118
		EnGeniusKesh
		00.02.6699.72.64 65 rsi
Neighbour Signal Strength	A	00.02.6#84.0o.55 53 mm
RSS value	192.198.1.54	192.168.1.54
14 01 02 03 54 18 08 07 58 18 13	192.169.5.118	EnGeniusMean
		00.02.6f7111163 69 mi
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