

MANGA Point User's Manual



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FCC NOTICE INFORMATION FOR THE USER

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1) Reorient or relocate the receiving antenna.
- 2) Increase the separation between the equipment and receiver.
- 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4) Consult the dealer or an experienced radio/TV technician for help.

The user may find the following publication prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems" (Stock Number 004-000-00345-4).

Available exclusively from the Superintendent of Documents, Government Printing Office, Washington, DC 20402 (telephone 202-512-1800).

FCC WARNING

1. FCC RF Radiation Exposure Statement: This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.
2. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
3. Changes or modifications not expressly approved by the party responsible for compliance to Part 15 of the FCC Rules could void the user's authority to operate the equipment.

CAUTION

- (1) Connections between peripherals of this equipment may be made with low voltage non-shielded computer data cables.
- (2) Network connections may consist of non-shielded CAT 5 cable.
- (3) Use only PepLink approved wall adapter to supply 9 VDC to system.
- (4) Indoor use only.

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1 INTRODUCTION

1.1 What is MANGA Point?

MANGA Point is a network device for one or more PCs on a LAN to simultaneously access secure wireless broadband Internet service. With integrated 4 Ethernet switching ports and user-friendly web-based network administration features, MANGA Point can connect 4 PCs to the Internet without installing any wireless LAN adapter or configuring tedious wireless network settings on the PCs. MANGA Point supports DHCP, NAT, DMZ and port forwarding functions. It can also be configured to filter incoming and outgoing traffic. So users could get online by just having to connect the PC and the MANGA Point with an Ethernet cable.

2 INSTALLATION

2.1 Connecting Your Computer and Your MANGA Point

For the initial configuration of your MANGA Point, connect your local computer LAN port to MANGA Point LAN port using straight-through Ethernet or crossover Ethernet cables.

2.2 Turning on Your MANGA Point

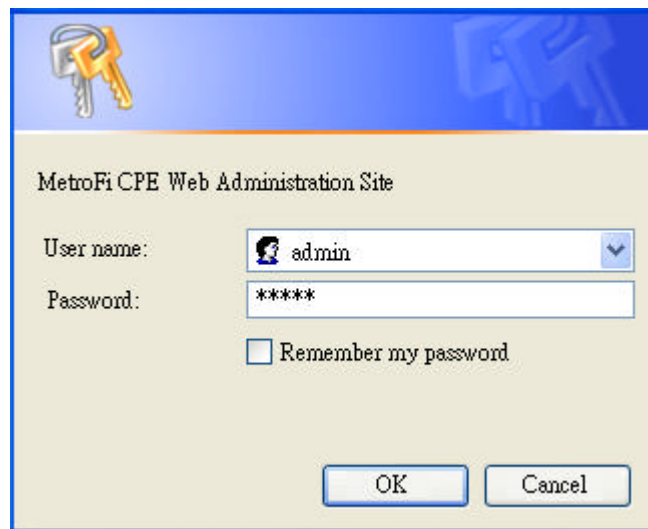
After you've made the connections, connect the power cable to a power supply and look at the front panel LED. The **LAN** LED turns on if it is properly connected.

2.3 Login to MANGA Point

1. Make sure your MANGA Point hardware is properly connected (refer to instructions in the hardware installation chapter 2.1).
2. Launch your web browser. You should be redirected to MANGA Point web administration page. If you are not being redirected to web administration page, enter “192.168.1.1” as the web site address.

IMPORTANT: Automatic redirect to web administration page only works if MANGA Point is not connected to Internet and **WAI redirection** is enabled.

3. A username and password prompt will appear. Enter “admin” as username and “admin” as password. Click **OK** to proceed to the main menu.







The image shows a login dialog box titled "MetroFi CPE Web Administration Site". It features a blue header with a key icon. The dialog contains the following fields and controls:

- User name:** A dropdown menu with "admin" selected.
- Password:** A text field containing "*****".
- Remember my password
- OK** and **Cancel** buttons at the bottom.

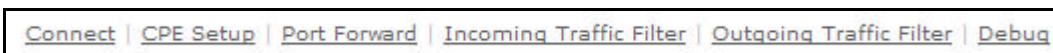
INSTALLATION

4. You should now see the connection status page. The three icons show the current connection status.



STATUS	DESCRIPTION
 Connecting to Radio	MANGA Point is searching for available wireless network (Access Point).
 Connecting to Network	MANGA Point is registering and authenticating to Radius server.
 Connecting to Internet	MANGA Point is obtaining an IP address from DHCP server.
 Connected to Internet	MANGA Point is connected to the Internet.

5. Navigating the main menu items:



Click on the item's name to configure the corresponding item.

3 CONFIGURATION

3.1 Connect

You will see a connect page which allows you to manually connect to radio, network and the Internet.

The screenshot shows the PeP link configuration interface. At the top, there is a navigation bar with links: [Connect](#), [CPE Setup](#), [Port Forward](#), [Incoming Traffic Filter](#), [Outgoing Traffic Filter](#), and [Debug](#). The main content area features the PeP link logo and a welcome message: "Welcome to your wireless service! To get started please enter your username and password, which has been shipped to you with this modem. Click on connect and wait for the modem establish connection." Below this, there are three input fields: "SSID:" with the value "MetroFi", "Username:" with "yourname" and "@yourdomain" (with an example "(e.g. JohnSmith@metrofi.com or JanisYoung@Earthlink.net)"), and "Password:" with masked characters "*****". A "Connect" button is located in the bottom right corner.

FIELD	DESCRIPTION
SSID	Access Point's SSID, default is "MetroFi". You can also configure SSID in "CPE Setup" page.
Username/Domain	Username and domain to login Radius server.
Password	Password to login Radius server.

IMPORTANT: If you are currently connected to the Internet, clicking the "Connect" button will disconnect the MANGA Point from Internet and Radio (Access Point).

The status page will show the connection status. If connection failed, you can click **Retry** button to re-connect again. You are not able to access the Internet from your computer unless the MANGA Point status is "Connected to Internet".

3.2 CPE Setup

LAN Interface – Configures IP address over the LAN interface.

LAN interface	IP Address:	<input type="text" value="192.168.1.1"/>
	Subnet mask:	<input type="text" value="255.255.255.0"/>

IP Address/Subnet Mask: Enter fixed IP address and its associated subnet mask. Default is 192.168.1.1/255.255.255.0.

DHCP Server – Allows you to enable or disable the DHCP function. DHCP server is enabled by default.

DHCP server	<input checked="" type="radio"/> Enable	
	Start IP address:	<input type="text" value="192.168.1.10"/>
	Stop IP address:	<input type="text" value="192.168.1.250"/>
	Subnet mask:	<input type="text" value="255.255.255.0"/>
	<input type="radio"/> Disable	

Start IP Address: Start of available range of IP addresses that can be assigned. Default is 192.168.1.10.

Stop IP Address: End of available range of IP addresses that can be assigned. Default is 192.168.1.250.

NAT outgoing traffic – Allows multiple users to access the Internet sharing a single IP address.

NAT outgoing traffic	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
	(Note: you are not able to access internet if NAT is disabled)

Enable/Disable: Enable or disable the NAT function. NAT server is enabled by default. You are not able to access Internet if NAT is disabled.

CONFIGURATION

DMZ – Allows a DMZ host acting as neutral zone between the private network and the outside network.

DMZ	<input type="radio"/> Enable DMZ IP address: <input type="text"/> <input checked="" type="radio"/> Disable
------------	--

Enable/Disable: Enable or disable the DMZ function. Default is disabled.

DMZ IP Address: This is an IP address of a LAN computer for which all incoming accesses to the MANGA Point's WAN IP address will be redirected to.

Wireless setup – Configures the wireless interface.

Wireless setup	SSID: <input type="text" value="MetroFi"/> (MetroFi)
	CTS/RTS threshold: <input type="text" value="2347"/> (2347)
	Fragmentation threshold: <input type="text" value="2346"/> (min. 256, default: 2346)
	Level A signal strength: <input type="text" value="-40"/> dBm(-40) PER: <input type="text" value="2"/> %(2)
	Level B signal strength: <input type="text" value="-50"/> dBm(-50) PER: <input type="text" value="5"/> %(5)
	Level C signal strength: <input type="text" value="-60"/> dBm(-60) PER: <input type="text" value="8"/> %(8)
	Min. link speed: <input type="text" value="1"/> Mbps(1)

SSID: SSID of the access point, default is "MetroFi".

CTS/RTS threshold: Threshold (measured in byte) to enable CTS/RTS handshaking flow control, default is 2347.

Fragmentation threshold: Threshold (measured in byte) to split an IP packet in a burst of smaller fragments, default is 2346.

Level A signal strength: Lower limit of level A's signal strength (measured in dBm), default is -40.

Level A PER: Lower limit of level A's packet error rate (measured in percentage), default is 2.

CONFIGURATION

Level B signal strength: Lower limit of level B's signal strength (measured in dBm), default is -50.

Level B PER: Lower limit of level B's packet error rate (measured in percentage), default is 5.

Level C signal strength: Lower limit of level C's signal strength (measured in dBm), default is -60.

Level C PER: Lower limit of level C's packet error rate (measured in percentage), default is 8.

Min. link speed: Minimum link speed (measured in Mbit/sec), default is 1.

WAI Redirection – To configure whether to redirect all web accesses to the web administration page. The user will be redirected to web administration page for any URL if MANGA Point is not connected to Internet.

WAI redirection	<input checked="" type="radio"/> Enable <input type="radio"/> Disable (Note: you need to reboot CPE for this change to take effect)
------------------------	--

Enable/Disable: Enable or disable the WAI Redirection function.

Restore factory default – Restores all settings to factory default values, then reboots MANGA Point.

Reboot CPE – To power cycle the CPE.

3.3 Port Forward

Port forward can be used to set up public services on your network. When a user from the Internet makes certain request on your network, the MANGA Point can forward the request to specific computer which handles the request.

The screenshot shows the PeP link configuration interface for Port Forward. It features a breadcrumb trail: [Connect](#) | [CPE Setup](#) | [Port Forward](#) | [Incoming Traffic Filter](#) | [Outgoing Traffic Filter](#). The main configuration area is divided into three columns: 'Service port range', 'Protocol', and 'IP Address'. The first row is populated with '21 ~ 21' in the port range, 'TCP' (checked) in the protocol, and '192.168.1.20' in the IP address. Below this are seven empty rows for additional configurations. To the right, a 'Well-known ports (commonly used ports)' sidebar lists the following ports and protocols: 7 (Echo), 21 (FTP), 23 (TELNET), 25 (SMTP), 53 (DNS), 79 (finger), 80 (HTTP), 110 (POP3), 119 (NNTP), 161 (SNMP), and 162 (SNMP Trap).

Service port range: Port range used by the service that will be forwarded.

Protocol: Protocol type used by the service that will be forwarded.

IP Address: Internal IP address, where the packets are forwarded to.

To add a server using forwarding:

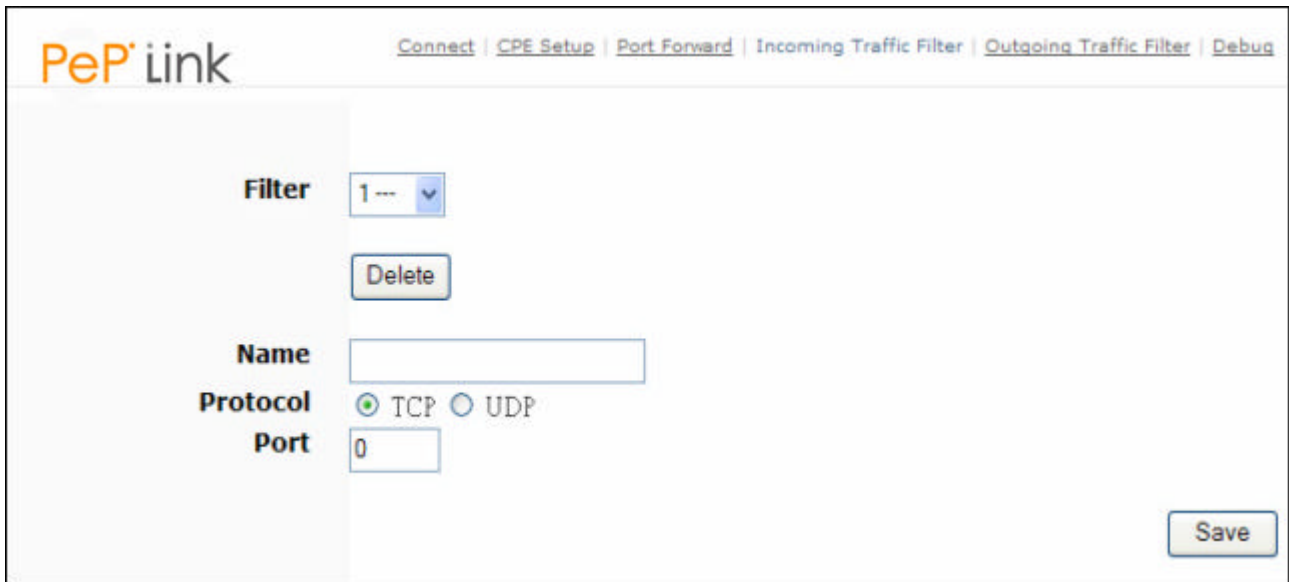
1. Enter the range of port numbers and select the protocol used by the service.
2. Enter the IP address of the internal server.
3. Click **Save** button to commit the setting.

To delete a port forward entry:

1. Enter 0 as the port range numbers for the entry.

3.4 Incoming Traffic Filter

Configure the MANGA Point to block specific external traffic from Internet to internal network. You can set up different filters based on the network protocol and port number.



PeP link

Connect | CPE Setup | Port Forward | Incoming Traffic Filter | Outgoing Traffic Filter | Debug

Filter 1 ▾

Delete

Name

Protocol TCP UDP

Port 0

Save

To modify the filter setting:

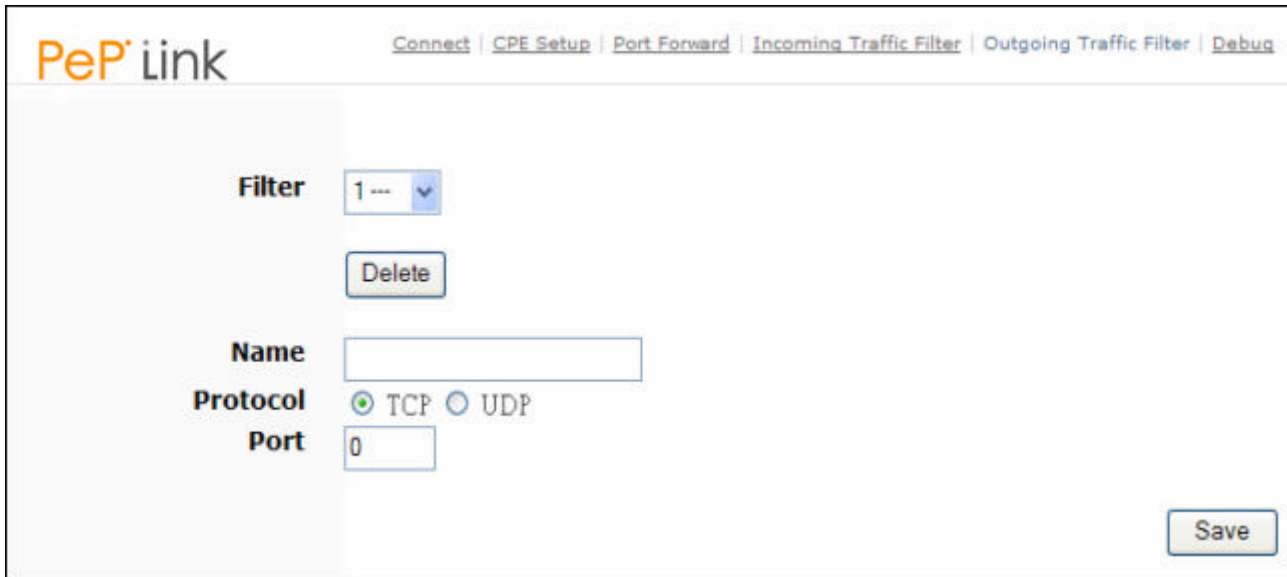
1. Select a filter entry using the **Filter** box.
2. Enter the name of filter rule in the **Name** field.
3. Select the protocol, either **TCP** or **UDP**.
4. Enter the port number in **Port** field.
5. Click **Save** button to save the settings.

To delete a filter:

1. Select a filter entry using the **Filter** box.
2. Click **Delete** button.

3.5 Outgoing Traffic Filter

Configure the MANGA Point device to block specific external traffic from internal network to Internet. You can set up different filters based on the network protocol and port number.



The screenshot shows the PeP link configuration interface for an Outgoing Traffic Filter. The breadcrumb navigation at the top includes: [Connect](#) | [CPE Setup](#) | [Port Forward](#) | [Incoming Traffic Filter](#) | [Outgoing Traffic Filter](#) | [Debug](#). The main configuration area contains the following fields and controls:

- Filter:** A dropdown menu currently showing '1'.
- Delete:** A button to remove the selected filter.
- Name:** An empty text input field.
- Protocol:** Radio buttons for TCP and UDP.
- Port:** A text input field containing the value '0'.
- Save:** A button to save the configuration.

To modify the filter setting:

1. Select a filter entry using the **Filter** box.
2. Enter the name of filter rule in the **Name** field.
3. Select the protocol, either **TCP** or **UDP**.
4. Enter the port number in **Port** field.
5. Click **Save** button to save the settings.

To delete a filter:

1. Select a filter entry using the **Filter** box.
2. Click **Delete** button.

3.6 Specification

Technical Specification

- Standard

IEEE 802.3 and 802.3u 10Based-T and 100Based-TX

IEEE 802.11g standard compliant

IEEE 802.11x standard compliant

- Media Access Protocol:

IEEE 802.11g and IEEE 802.11b

- Data Rate:

54Mbps/48Mbps/36Mbps/24Mbps/11Mbps/5.5Mbps/2Mbps/1Mbps

- Modulation Technique

OFDM/DSSS, BPQSK, QPSK/CCK

Hardware Specification

- Four port 10/100Base-T RJ-45 Ethernet switch
- Reset button
- Antenna: Two 2dBi omni detachable Reverse SMA Antenna
- Power Requirements: 9VDC, 1.4 Amp

Physical Specification

- Dimensions: 243(L) x 159 (D) x 32 (H) mm
- Weight: 590g

Operating Environment

- Temperature: 0 ~ 50?
- Humidity: 20 ~ 95%
- Kensington Lock Interface

4 TROUBLESHOOTING

This chapter provides possible solutions to potential problems regarding the installation and configuration of MANGA Point.

1. None of the LEDs are on when you turn on the MANGA Point

Check the power cable between the AC adapter and the MANGA Point. If the error persists, you may have a hardware problem. In this case, contact your dealer for further inspection.

2. Can't connect to the MANGA Point from the LAN

Check the Ethernet cable type and connection between your computer and the MANGA Point. Refer to instructions in the hardware installation chapter 2.1.

3. Can't browse through the MANGA Point from the LAN

Check the TCP/IP settings on the client side. Verify that the IP addresses and subnet masks of the MANGA Point and the computer on the LAN are on the same subnet.

4. Connection failed in the connection status page

The WAN IP address is provided when the login authentication is successful. Make sure that you have entered the correct SSD, User Name and Password in the connect page.