

Micronet[®]
Faster and Easier Networks



Model No.: SP911

Website: <http://www.micronet.com.tw>

Federal Communications Commission Statement

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:

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

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Introduction

Micronet SP911 Access Point is design to work with SP905 PCMCIA Adapter. Please insert SP905 into the back of SP911.

Package Content

SP911 Access Point x 1
 AC Power Adapter x 1
 Utility Disk or CD
 Quick Installation Guide x 1

Front panel of the Access Point:

The following table provides an overview of each LED activity:

LED	Activity	Description
PWR	Continuous Green	Power enabled
AP	Continuous Green	The Access Point is ready in service.
WLAN	Flashing Green	Off: No activity
		Flashing: RX/TX activity
LAN	Flashing Green	Off: No Ethernet traffic activity
		Flashing: traffic activity
LINK	Green	Off: no station connected to the Access Point
		On: with one or more stations connected to SP911

Table 1:LED of SP911 Front Panel

Back panel of the Access Point:

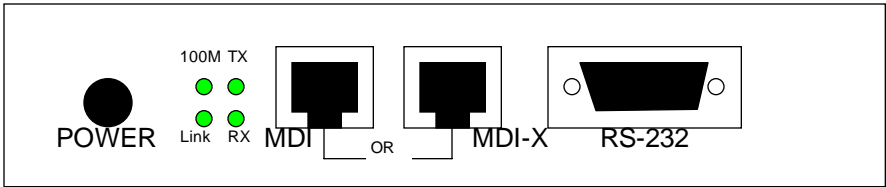


Figure 1:Back Panel of SP911

Power Socket

The power adapter plugs into the socket labeled "POWER".

Ethernet Ports

The Ethernet ports consist of RJ-45 MDI daisy-chain port (labeled "MDI") and RJ-45 MDI-X station port (labeled "MDI-X"). To connect the Access Point to a hub, use the MDI port; to connect the Access Point to a computer/station, use the MDI-X port. Both connection ports are used with straight-through UTP cable. Note that, these two RJ-45 ports cannot be used *at the same time*.

The four LEDs next to the Ethernet ports show the Ethernet physical link status. The 'Link' LED is a good indicator for checking the correctness of Ethernet cable connection.

RS232 Port (Console Port)

The RS232 port is for configuring the Access Point. Use a null-modem RS232 cable when you desire to configure the Access Point under console mode. See the section "Access Point Console" for detailed information.

Installing the Access Point

Take the following steps to set up your Access Point.

- **Site Selection**

Use the Site Survey and Access Points Browser utility (The tool bundles with SP905 PC card) to choose a proper placement for your Access Point. Typically, the best location to place your Access Point at your site is the center of your coverage area, with line of sight to all your mobile stations.

- **Connect the Ethernet Cable**

The SP911 can be connected to the 10/100M Ethernet network. Connect your UTP Ethernet cable to the RJ-45 connector of the Access Point. Specially note that, to connect the Access Point to a hub, use the MDI port; to connect the Access Point to a computer/station, use the MDI-X port.

- **Connect the Power Cable**

Connect the power adapter cable to the power socket of SP911 and turn on the power. **USE ONLY** the power adapter supplied with the Access Point. Otherwise, the product may be damaged.

Configuring the Access Point

SP911 Access Point is shipped with default parameters. Simply install the Access Point, power it on, and it is ready to work. Nevertheless, you can still modify the parameters depending on your needs. The SP911 can be configured either via the configuration utility (supplied), console mode connection, or anywhere through TCP/IP (Telnet) connection.

Access Point Manager

Installed on your Windows 95/98/NT/2000 desktop computer, the Windows-based utility “Access Point Manager” provides user-friendly interface, enabling you to make the configuration of all your Access Points on the network more easily than ever before. The following outlines the installations of the Access Point Manager utility.

1. Insert the utility disk into the floppy drive of your PC.
2. From the Start menu on the Windows desktop, choose Run.
3. In the Run dialog box, type a:\setup.exe, then click OK.
4. Follow the on-screen instructions to install the Access Point Manager.
5. Execute the Access Point Manager and it will browse all the Access Points available on the network.

6. Double click to open an Access Point's property dialog box to view/make the configuration as you desire.

Note: the default password to get access to the Access Point is "default".

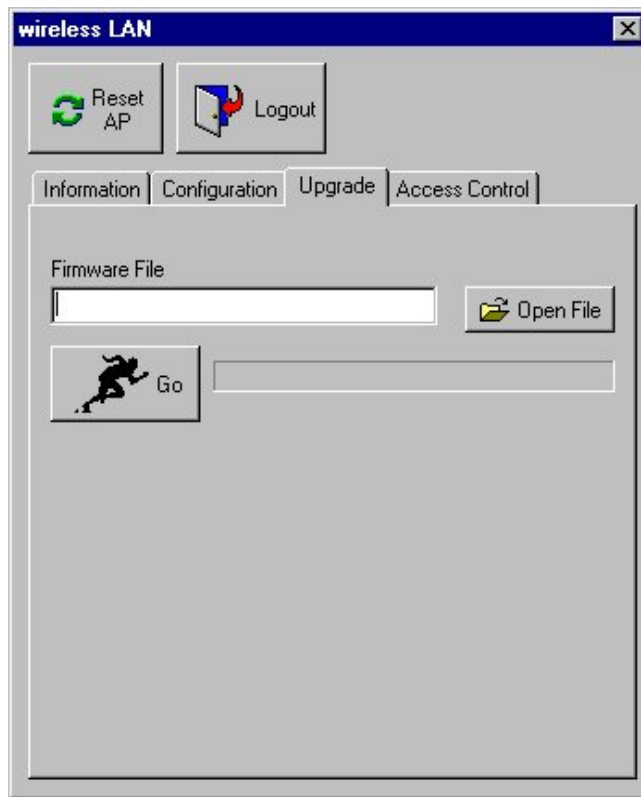


Figure 2: Access Point Manager

Access Point Console

The Access Point can be configured via the command prompt console with either the RS232 connection or the Telnet (TCP/IP) connection.

- **RS232 (serial) Connection:** First-time users or users desiring to make changes in the default IP address need to use any terminal emulation program with a RS232 (serial) connection (e.g., Telix, ProCOMM, or Windows 95/98/NT/2000's HyperTerminal). Use a null-modem cable to configure the port settings: 57600 bps, 8 data bits, no parity, no flow control. An Access Point console will pop up when the connection has been established.
- **Telnet (TCP/IP) Connection:** Assign an IP address for your Access Point through RS-232 connection first and then telnet to the Access Point anywhere to get access to the Access Point

console, then you will be able to make the configuration via the TCP/IP connection.

Note: the default password to get access to the Access Point is "default".

The following are the commands provided for configuring the Access Point. In loader mode, i.e., no valid firmware in the Access Point, only the commands with an asterisk (*) are provided.

Note: [xxx] stands for optional arguments.

*info**

Display some basic information of the Access Point, for example, firmware version, frequency domain, etc.

passwd

Change the password of the Access Point.

ping ip_addr [num_pings] [data_size]

Ping (ICMP echo) to an *ip_addr* host with optional *num_pings* times with optional data size in a length of *data_size*.

save

Save your new configuration.

auth mode | add | del | list | clear | save |

The 'auth' command contains sub-commands that allow you to manage the access control (MAC address filter) of the Access Point. The access control table consists of a list for you to control the access of any stations or repeaters. The sub-commands are listed below:

mode open | allow: set the access control mode. The definition of each mode is indicated as follows:

- *open*: open to public (default)
- *allow*: only allow access of the authorized stations/repeaters.

add mac_addr:

add an address into the access control table

del mac_addr |index:

remove an address, or index an address from the access control table

set

List the configuration information.

set default

Restore the default setting of the Access Point except for IP addresses. Take a note that a 'save' command is required for changes to take effect.

set apname | channel | essid | rts_threshold | frag_threshold | ip_address | ip_netmask | ip_gateway

To change settings, type "set xxx (parameter) xxxx (value)". For example, set channel 7 command will set the channel to number 7; set essid "Your Network" command will set the ESSID as *Your Network*. Remember that, a 'save' command is required for changes to take effect.

Parameter	Description	Default Value
apname	A textual name for the identification of SP911.	apXXXXXX (where XXXXXX is the last six octets of SP911's MAC add.)
channel	The radio channel number.	1
essid	The ESS ID (a.k.a., SSID) of the Access Point.	My Network
rts_threshold	The threshold (bytes) for enabling RTS/CTS handshake. Data with its frame size larger than this value will perform the RTS/CTS handshake. Range of value: 0~2432.	2432
frag_threshold	The threshold (bytes) for the fragmentation boundary. Data will be transmitted in fragments which its size does not exceed this value. Range of value: 256~2432.	2432
ip_address	The IP address of SP911.	192.168.1.1
ip_netmask	The subnet mask address of SP911.	255.255.255.0
ip_gateway	The default gateway address of SP911.	192.168.1.254

Table 2: Parameter of Set command

list [start/end]:

display the content of the access control mode and the address list. The optional arguments, start and end, can be affixed to select the range of items to be listed.

clear:

clear all the addresses in the access control table.

*cls**

Clear the console screen.

*exit**

Exit the console.

*help**

Print a help screen.

*rz**

Receive a firmware file by the Zmodem protocol. The console will enter Zmodem receiving mode and then use the "file upload" function of your terminal emulation program to upload a new firmware file (ap.img) to the Access Point. Upon completion, always remember to type the 'reset' command for running the Access Point with the new firmware.

*reset**

Issue a reset signal. The Access Point will be reset if user confirms.

Trouble Shooting for SP911

If you have trouble using the SP911 Access Point, the starting point to troubleshoot the problem with your Access Point is looking at the LED activity of the Access Point, then checking the configuration parameter settings of both the Access Point. The following is “LED Error Table” that can assist you in diagnosing and solving operational problems.

PWR	AP	WLAN	LAN	LINK	Description/Action
Continuous Green	Continuous Green	Flash Green	Flash Green	Steady Green	Normal operation where flickering indicates interface activity. No action required.
	On	Off	Off	-	Normal operation, indicates no LAN activity. No action required.
Off	Off	Off	Off	Off	Power failure. Check the power cord. Check the power supply.
Continuous Green	Off	Off	Off	Off	Invalid loader firmware or the micro-controller is dead.
	Blink Green	-	-	-	Invalid Access Point firmware. Upgrade the firmware via the console mode.
	Blink Green	Blink Green	-	-	initialization failure
	Blink Green	-	Blink Green	-	Ethernet initialization failure

Table 3:LED Error Table of SP911

Technical Support

You can find the most recent software and user documentation on our Web site.
<http://www.micronet.com.tw>

If you have difficulty resolving the problem while installing or using the SP911, please contact us at:
support@micronet.com.tw

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