

Sipura Technology, Inc.

SPA-2100 ATA with PC Router User Guide Supplement

January 2005 v1



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Please Note:

Design and specifications are subject to change without notice.

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This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in part 15 of the FCC rules. This product bears the CE Marking indicating compliance with the 89/336/EEC directive. Standards to which conformity is Declared: EN 61000-4-2:1995, EN 61000-4-3:1997, EN 61000-4-4:1995, EN 61000-4-5:1995, EN 61000-4-6:1996, EN61000-4-8:1994, EN 61000-4-11:1994, EN 61000-3-2:2001, EN 61000-3-3:1995 & EN 55022:1998 Class B Modifications to this product not authorized by Sipura Technology could void FCC approval, terminating end user authority to use this product.

For Indoor Use Only.

Read installation instructions before connecting to a power source. The electric plug and socket must be accessible at all times as this is the main method to disconnect power from the device.

Shock Hazard:

- Do not operate near water or similar fluid.
- Do not work with this device during periods of lightning activity.
- Do not touch wires at the end of cables or within sockets.

One Year Limited Hardware Warranty:

Sipura Technology provides a one (1) year limited hardware warranty. Sipura warrants to customer that this product will conform to its published specifications and will be free from defects in material and workmanship at the time of delivery and for a period of one year thereafter. Without limiting the foregoing, this warranty does not cover any defect resulting from (i) any design or specification supplied by an entity other than Sipura, (ii) non-observance of technical operating parameters (e.g., exceeding limiting values), or (iii) misuse, abuse, abnormal conditions or alteration by anyone other than Sipura.

Replacement, Repair, Refund:

After the receipt of an RMA (Return Materials Authorization) request, Sipura will attempt to refund, repair or replace the SPA. To receive an RMA number contact the party from whom you purchased the SPA.

SPA-2100 Installation:

Step 1: Network Installation Instructions

A. Please Check to Make Sure That You Have the Following Package Contents:

1. Sipura SPA-2100 Unit
2. Ethernet Cable
3. SPA-2100 Quickstart Guide
4. 5 Volt Power Adapter

B. You Will Also Need:

1. One or Two Analog Touch Tone Telephones (or Fax Machine
2. Access to Your Cable or DSL Modem and the Attached Ethernet Cable
3. Access to PC That Will Connect to the PC Port of the SPA-2100 with a web browser.

C. Connect the Networked Devices with Ethernet Cables:

1. Power down all the devices you will be networking: Cable/DSL Modem, PC, SPA-2100.
2. Connect an Ethernet cable from the Cable or DSL Modem to the "WAN" port of the SPA-2100.

Note: If you are connecting the SPA-2100 to a local area or home network, connect an Ethernet cable from the WAN port of the SPA-2100 to the PC port on your network switch/router.

Do not connect the SPA-2100 WAN Port to an Ethernet hub.

3. Connect an Ethernet cable from the PC Ethernet adapter port to the SPA-2100 PC port.

Note: You may also connect an Ethernet switch or hub to the SPA-2100 PC port.

Step 2: Telephone / Fax Installation and Power-UP

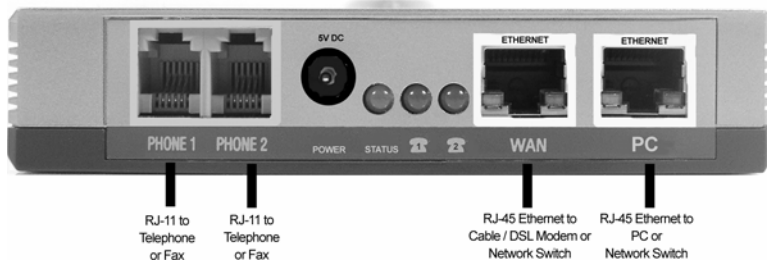
From the Rear of the SPA-2100:

- A. Insert a standard RJ-11 telephone cable into the SPA-2100 PHONE 1 port.
- B. Connect the other end of the cable to an analog telephone or fax machine.
- C. Insert a standard RJ-11 telephone cable into the SPA-2100 PHONE 2 port (Optional).
- D. Connect the other end of the cable to an analog telephone or fax machine.

Note: Do not connect RJ-11 telephone cable from the SPA-2100 to the wall jack to prevent any chance of connection to the circuit switched telco network.

You may now insert the plug end of the power adapter into a live power outlet which will power up the SPA-2100. At this time, you may now power on the Cable / DSL modem and the PC connected to the SPA-2100 LAN port.

SPA-2100: Rear Side Network Connections



Step 3: PC Configuration

Configure the PC That Will Connect to the Internet Through the SPA-2100:

- A. Open the "Local Area Connection" settings menu of the PC.
 - Windows XP: "Start - Settings - Control Panel - Network Connections".
 - Windows 2000: "Start - Settings - Control Panel - Network and Dial-up Connections".
 - Windows 95, 98, Millenium: "Start - Settings - Control Panel - Network".
- B. Select "Local Area Connection". An "Item List" will be visible in the window. Select the Internet Protocol (TCP/IP) line item applicable for the Ethernet adapter used to connect to the SPA-2100.

Note: Do not choose a TCP/IP setting associated with AOL, VPN, PPPoE or DUN. If there is no TCP/IP entry, refer to the PC Ethernet adapter installation documentation to install TCP/IP on the PC.

- C. Select the "Properties" button.
- D. Select the IP Address configuration tab and select "Obtain and IP address automatically"
- E. Select "OK" on the TCP/IP Properties screen and select "OK" on the "Network" screen,
- F. Restart the PC.

Step 4: Network and Service Configuration Settings

Preconfiguration of network and service settings may have been provided by the service provider or network administrator who supplied this unit. Depending on the configuration policy, end user access to local configuration settings may be restricted or inaccessible. If end user configuration is allowed, some of the key network and service configuration setting instructions are described in the following sections pertaining to router configuration and voice service configuration.

To locally configure the SPA-2100, the user should have the following information from their service provider (ISP) or network administrator:

1. IP Address, Sub-Net and Gateway Addresses or DHCP or PPPoE Information
If PPPoE, the User Name and Password will be required.
2. SIP Proxy Address and Registration Information
3. SIP Service Subscriber Information, e.g. User ID, Password

Open a web browser and enter **192.168.0.1/admin/advanced** into the Address field and press the **Enter** key.

With the **Router** menu active, select the **WAN** tab to expose the WAN configuration page of the SPA-2100. Follow the instructions below depending on the method by which the SPA-2100 will connect to the Internet.

1. DHCP - Obtain an IP Address Automatically:

If the ISP connects you via a dynamic IP address or DHCP, perform these steps:

- A. Select **DHCP** as the **Connection Type** in the Internet Connection Settings area of the web page.
- B. Select the **Submit All Changes** button to save the setting.
- C. If you use a cable modem, you may need to configure **MAC Address Spoofing** (see below).

2. Static IP Address Configuration:

If the ISP connects you via a fixed or static IP address, perform these steps:

- A. Select **Static IP** as the **Connection Type** in the Internet Connection Settings area of the web page.
- B. Enter the IP address in the **Static IP** field.
- C. Enter the subnet mask in the **NetMask** field.
- D. Enter the default gateway address in the **Gateway** field.
- E. Enter the DNS server address(es) in the **Primary** and (optional) **Secondary DNS** field.
- F. Select the **Submit All Changes** button to save the settings.

3. PPPoE Configuration:

If the ISP (DSL Provider) connects you via PPPoE or if you are required to enter a user name and password to connect to the Internet perform these steps:

- A. Select **PPPoE** as the **Connection Type** in the Internet Connection Settings area of the web page.
- B. Enter the user name in the **PPPoE Login Name** field.
- C. Enter the password in the **PPPoE Login Password** field.
- F. Select the **Submit All Changes** button to save the settings.

4. MAC Address Clone Configuration:

If the ISP requires that a specific PC MAC address be used with their service to connect to the Internet perform these steps:

- A. In the MAC Clone Settings section of the web page, set **Enable MAC Clone** to **YES**.
- B. Enter the MAC Address of the PC in the **MAC Address Spoofing** field.
- C. Select the **Submit All Changes** button to save the setting.

DHCP Setup

SIPURA technology, inc. *Sipura Phone Adapter Configuration*

Router: VOICE
Status: Wan Setup | Lan Setup | Application

Internet Connection Settings
Connection Type: **DHCP**

Static IP Settings
Static IP: _____ NetMask: _____
Gateway: _____

PPPoE Settings
PPPoE Login Name: _____ PPPoE Login Password: _____
PPPoE Service Name(Optional): _____

Optional Settings
HostName: _____ Domain: _____
Primary DNS: _____ Secondary DNS: _____
DNS Server Order: **Manual** DNS Query Mode: **Parallel**
Primary NTP Server: _____ Secondary NTP Server: _____

MAC Clone Settings
Enable MAC Clone: **no** Cloned MAC Address: Enter MAC Addr. Here

QoS Settings
QoS QoS: **none** Upload Speed(Kbps): 128

Static IP Address Setup

SIPURA technology, inc. *Sipura Phone Adapter Configuration*

Router: VOICE
Status: Wan Setup | Lan Setup | Application

Internet Connection Settings
Connection Type: **Static IP**

Static IP Settings
Static IP: Enter Static IP Here NetMask: Enter Net Mask Here
Gateway: Enter GW IP Here

PPPoE Settings
PPPoE Login Name: _____ PPPoE Login Password: _____
PPPoE Service Name(Optional): _____

Optional Settings
HostName: _____ Domain: _____
Primary DNS: _____ Secondary DNS: _____
DNS Server Order: **Manual** DNS Query Mode: **Parallel**
Primary NTP Server: _____ Secondary NTP Server: _____

MAC Clone Settings
Enable MAC Clone: **no** Cloned MAC Address: _____

QoS Settings
QoS QoS: **none** Upload Speed(Kbps): 128

PPPoE Setup

SIPURA technology, inc. *Sipura Phone Adapter Configuration*

Router: VOICE
Status: Wan Setup | Lan Setup | Application

Internet Connection Settings
Connection Type: **PPPoE**

Static IP Settings
Static IP: _____ NetMask: _____
Gateway: _____

PPPoE Settings
PPPoE Login Name: Enter User Name Here PPPoE Login Password: Enter PW Here
PPPoE Service Name(Optional): _____

Optional Settings
HostName: _____ Domain: _____
Primary DNS: _____ Secondary DNS: _____
DNS Server Order: **Manual** DNS Query Mode: **Parallel**
Primary NTP Server: _____ Secondary NTP Server: _____

MAC Clone Settings
Enable MAC Clone: **no** Cloned MAC Address: _____

QoS Settings
QoS QoS: **none** Upload Speed(Kbps): 128

Router Configuration Parameters:

WAN Setup:

Internet Connection Settings:

The SPA-2100 supports three types of Internet connections: DHCP, Static IP and PPPoE (PPP over Ethernet).

Parameter Name	Description	Type	Default
Connection Type	Select the type of your Internet Connection. Options: DHCP/Static IP/PPPOE.	Choice	DHCP

Static IP Settings:

Parameter Name	Description	Type	Default
Static IP	IP address used by the SPA-2100 when Internet Connection Type is "Static IP".	IP	0.0.0.0
Netmask	Network mask used by the SPA-2100 when Internet Connection Type is "Static IP".	IP	0.0.0.0
Gateway	Gateway used by the SPA-2100 when Internet Connection Type is "Static IP".	IP	0.0.0.0

Note: These settings only take effect if Internet Connection Type is "Static IP".

PPPoE Settings:

Parameter Name	Description	Type	Default
PPPoE Login Name	PPPoE login name (provided by your Internet Service Provider).	Str128	
PPPoE Login Password	Corresponding PPPoE login password (provided by your Internet Service Provider).	Str128	
PPPoE Service Name	PPPoE Service Name (optional, check with your Internet service provider)	Str128	

Note: These settings only take effect if Internet Connect Type is "PPPOE".

MAC Clone Settings:

Parameter Name	Description	Type	Default
Enable MAC Clone	Enable/Disable MAC Cloning	Bool	No
Cloned MAC Address	The MAC address to be cloned	MACAddr	

Remote Management:

Remote Management allows you to configure the SPA-2100 through the web interface via the WAN port. By default, this function is disabled and must be enabled by the Administrator of the SPA-2100.

Parameter Name	Description	Type	Default
Enable WAN Web Server	Enable/Disable WAN port web server	Bool	No
WAN Web Server Port	WAN port web server port	Uns16	80

QoS Settings:

QoS enables the prioritization of voice communication when upload traffic causes the available upstream bandwidth to become congested.

Parameter Name	Description	Type	Default
QOS QDisc	Select QoS method. "NONE" means no QoS is used "CBQ" and "TBF" are two different methods to do QoS	Choice	NONE
Maximum Uplink Speed	The total maximum upload speed of your Internet connection	Uns16	128Kbps

VLAN Settings:

VLAN (801.Q) settings enable you to use SPA-2100 in the Virtual LAN environment.

Parameter Name	Description	Type	Default
Enable VLAN	Enable/Disable VLAN	Bool	No
VLAN ID	The VLAN ID used by the SPA-2100 Valid values are 1 to 7.	Uns8	1

LAN Setup:

LAN Network Settings:

Parameter Name	Description	Type	Default
LAN IP Address	The IP address used by the LAN (PC) port	IP	192.168.0.1
LAN IP Mask	The network mask used by the LAN port	Choice	255.255.255.0
Enable DHCP Server	Enable/Disable the embedded DHCP server running on the SPA-2100	Bool	yes
DHCP Lease Time	The DHCP lease time used by the SPA-2100 to distribute IP address to the clients	Uns16	24 hours
DHCP Client Starting IP address	The starting IP address of the DHCP client IP address range	IP	192.168.0.2
Number of Client IP Address	Maximum number of IP addresses that can be distributed to clients	Uns8	50

Static DHCP Lease Settings:

Static DHCP Leases enable the SPA-2100 to always assign the same IP address to a specified device. There are a total of ten entries. Each entry has the same three properties described below:

Property Name	Description	Type	Default
Enable	Enable/Disable	Bool	No
Host MAC Address	The MAC address of the specified device	MACAddr	
Host IP Address	The IP address assigned to the specified device	IP	

Important Note:

The assigned "Host IP Address" CANNOT be in the configured IP address range used for the DHCP clients. See: "DHCP Client Starting IP address" and "Number of Client IP Address" in LAN Network Settings above.

Application:

Port Forwarding Settings:

There are twenty (20) port forwarding entries. Each entry can define a port range to be forwarded to a server host. Each port forwarding entry has six properties described below:

Property Name	Description	Type	Default
Enable	Enable/Disable this port forwarding entry	Bool	No
Service Name	Name used to identify this entry (optional)	Str128	
Starting Port	The starting port of the forwarded port range	Uns16	
Ending Port	The ending port of the forwarded port range	Uns16	
Protocol	The protocol (TCP/UDP/Both) applied in the port forwarding	Choice	TCP
Server IP Address	The target host that the traffic is forwarded	IP	0

DMZ Settings:

Parameter Name	Description	Type	Default
Enable DMZ	Enable/Disable DMZ settings	Bool	No
DMZ Host IP	The DMZ server IP address	IP	0

System Reserved Ports Range:

Parameter Name	Description	Type	Default
Starting Port	The starting port of the system reserved port range	Uns16	50000
Num of Ports Reserved	Total ports reserved by the system	Choice	256

Note:

The "Starting Port" has a fixed base of 10000. For example, by default it is set to 50000, thus the system reserved ports range will be [60000, 60256].

System Reserved Ports Range defines the random TCP/UDP ports used by the application running on the SPA-2100. **These ports and other system reserved ports CANNOT be used by Port Forwarding and/or DMZ service.**

For example, 5060 is reserved if line 1 of the SPA-2100 is enabled.

IVR Interface:

IVR Action	IVR Menu	Parameter(s)	Notes
Activate IVR Menu	****	None	Ignore SIT or other tones until you hear, "Sipura configuration menu. Please enter option followed by the pound key or hang-up to exit."
Check WAN IP Address	110	None	IVR will announce the IP address of the WAN port
Check WAN Network Mask	120	None	IVR will announce the network mask of the WAN port
Check WAN Gateway	130	None	IVR will announce the gateway of the WAN port
Check MAC Address	140	None	IVR will announce MAC address of the SPA-2100
Check Firmware Version	150	None	IVR will announce the firmware version running on SPA-2100
Check Primary DNS Server IP Address	160	None	IVR will announce the primary DNS server IP address
Check WAN Port Web Server Port	170	None	IVR will announce the WAN port web server port
Check LAN IP Address	210	None	IVR will announce the IP address of the LAN port
Check WAN Internet Connection Type	100	None	IVR will announce the WAN Internet Connection Type
Set WAN Internet Connection Type (see "Wan Setup" -> "Internet Connection Settings")	101	Enter 0 to use DHCP Enter 1 to use Static IP Enter 3 to use PPPoE	
Set Static IP address (WAN Port)	111	Enter IP address using numbers on the telephone keypad. Use the * (star) key when enter a decimal point	WAN Internet Connection Type must be set to "Static IP", otherwise you will hear "Invalid Option" when you try to use this option
Set WAN Network Mask	121	Enter network mask using numbers on the telephone keypad. Use the * (star) key when enter a decimal point	WAN Internet Connection Type must be set to "Static IP", otherwise you will hear "Invalid Option" when you try to use this option
Set WAN Gateway	131	Enter IP address using numbers on the telephone keypad. Use the * (star) key when entering a decimal point.	WAN Internet Connection Type must be set to "Static IP", otherwise you will hear "Invalid Option" when you try to use this option
Set Primary DNS Server IP Address	161	Enter IP address using numbers on the telephone keypad. Use the * (star) key when entering a decimal point.	
Enable/Disable Wan Port Web Server	7932	Enter 1 to enable Enter 0 to disable	

Reboot the SPA-2100	732668	None	The unit will reboot after you hang-up the phone
Factory Reset	73738	Enter 1 to confirm Enter * (star) to cancel	SPA will prompt for confirm, if you confirmed to do factory reset, you will hear "Option Successful," hang-up, Unit will reboot and all configuration parameters will be reset to factory default values
User Factory Reset	877778	Enter 1 to confirm Enter * (start) to cancel	SPA will prompt for confirm, if you confirmed to do user factory reset, you will hear "Option Successful," hang-up, Unit will reboot and all user writable parameters will be reset to factory default values

SPA-2100 Voice Service Configuration and Settings:

Please see the SPA ATA User Guide for information about the voice service configuration and settings. The SPA ATA User Guide can be found on the Sipura Technology web site.

<http://www.sipura.com/support>

Support:

Service providers may contact Sipura Technology and receive direct support by sending e-mail to support@sipura.com.

All other customers, including users who have purchased their SPA-2100(s) from Sipura dealers and subscribers of VoIP services using the SPA-2100 as CPE, should contact the entity from whom you bought/received the SPA-2100 ATA.

Thank you for your support.
Sipura Technology, Inc.