User Manual

SIP-GW2

SIP Analog Telephone Adaptor

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1. Welcome

Thanks for your choice, SIP-GW2 is an all-in-one VoIP integrated access device that features super audio quality, rich functions. it is fully compatible with SIP industry standard and we hope you will enjoy all its capabilities.

2. Installation

SIP-GW2 Analog Telephone Adaptor is an all-in-one VoIP integrated device designed to be a total solution for networks providing VoIP services.

The SIP-GW2 VoIP functions are available via a regular analog telephone.

The following photo illustrates the port of a SIP-GW2.
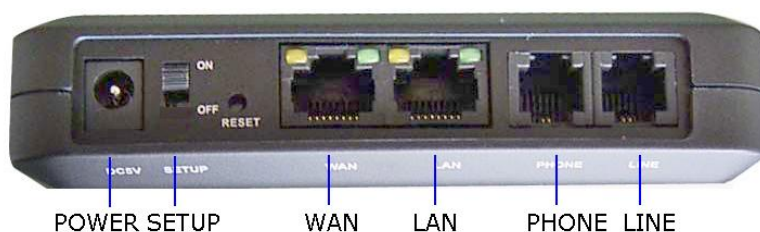
The following photo illustrates the LED of a SIP-GW2.

STATUS's LED		PSTN's LED		VoIP's LED	
Unregistered:	0.4s Flash	Call in:	0.4s Flash	Call in:	0.4s Flash
Registered:	Lighted	Offhook:	Lighted	Offhook:	Lighted
Register Fail:	0.2s Flash				

Interconnection Diagram of the SIP-GW2:
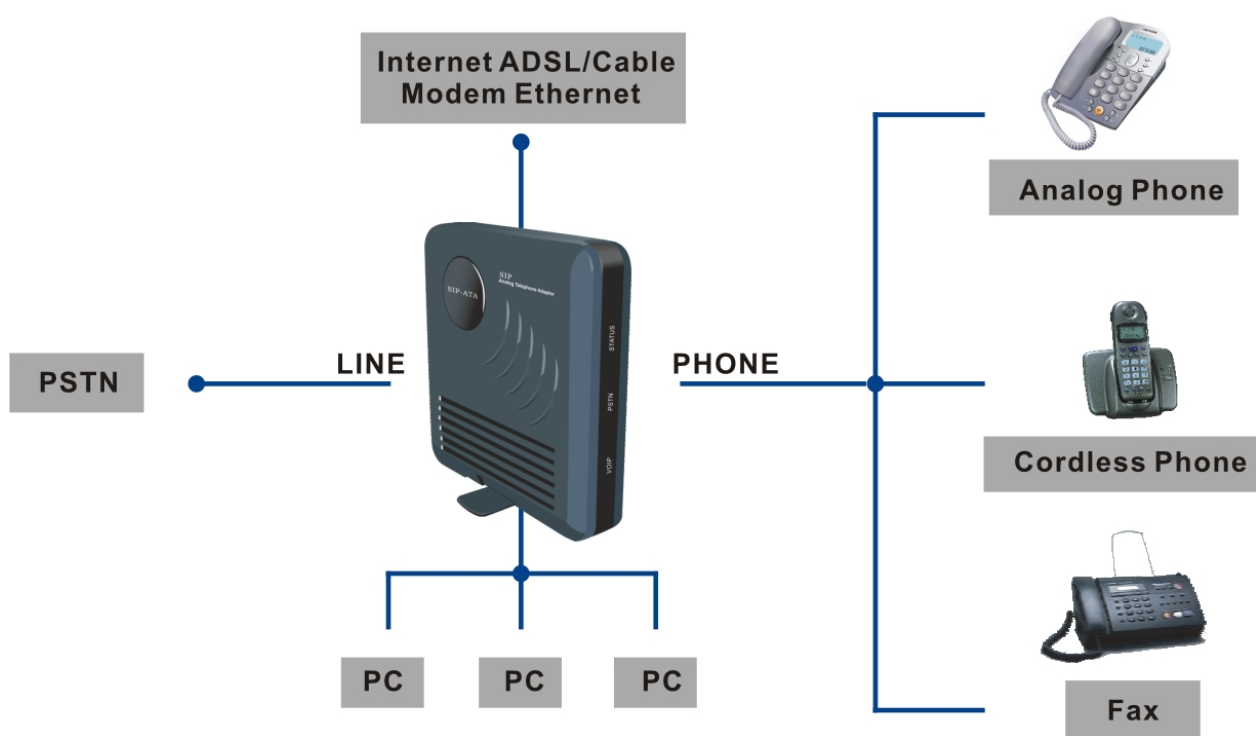
3. What is Included in the Package

The SIP-GW2 package contains:

1) One SIP-GW2
2) One universal power adaptor
3) One Ethernet cable
3) One PSTN cable

3.1 Safety Compliances

The SIP-GW2 is compliant with various safety standards including FCC/CE and C-tick. Its power adaptor is compliant with UL standard. The SIP-GW2 should only operate with the universal power adaptor provided in the package.

> Warning: Please do not attempt to use a different power adaptor. Using other power adaptor may damage the SIP-GW2 and will void the manufacturer warranty.

> Caution: Changes or modifications to this product not expressly approved by Sedna, or operation of this product in any way other than as detailed by this User Manual, could void your manufacturer warranty.

4. Product Overview

4.1 Key Features

1) Two 100Mbps fast Ethernet are compatible with all other 10Mbps Ethernet environments.
2) Can make/receive VoIP and PSTN call.
3) Supports SIP 2.0(RFC 3261), TCP/UDP/IP, RTP/RTCP, HTTP, ICMP, ARP/RARP, DNS, DHCP (both client and server), NTP, PPPoE, STUN, TFTP, etc.
4) Built-in router, NAT, gateway, LAN pass and DMZ port forwarding.
5) Can use with other SIP soft phone and terminal unit.
6) Use Arm9 CPU to manage net work and use powerful digital signal processing (DSP) to deal with audio, advanced adaptive jitter control and packet loss concealment technology to ensure super audio quality.
7) Support various voice codes including G.711U, G.711A, G.729A.
8) Support Caller ID/Name display or block.
9) Support call waiting and call forwarding.
10) Support in-band and out-of-band DTMF transfer.
11) Dial plans, dial tone, busy tone, ring back tone, alert tone can be set flexible.
12) Support silence suppression, VAD (Voice Activity Detection), CNG (Comfort Noise Generation), line echo cancellation (G.168), and AGC (Automatic Gain Control).
13) Support standard encryption and authentication (DIGEST using MD5 and MD5-sess).
14) Support for layer 2 (802.1Q VLAN, 802.1p) and layer 3 QoS (ToS, DiffServ, MPLS).
15) Support automated NAT traversal without manual manipulation of firewall/NAT.
16) Support firmware upgrade via TFTP, FTP and HTTP.
17) Compact, lightweight Universal Power adapter.

4.2 Hardware Specification

Model	SIP-GW2
LAN interface	1XRJ45 10/100M Base-T
WAN interface	1XRJ45 10/100M Base-T
FXS telephone port	1×FXS
FXO PSTN port	1×FXO
LED	Status, PSTN, VoIP
Universal Switching Power Adaptor	Input: 100-240VAC 50-60 Hz Output: +5VDC, 1200mA
Dimension	130mm (W) 88mm (D) 30mm (H)
Weight	0.6lbs (0.3kg)
Temperature	32 - 130℉ 0 – 45℃
Humidity	10% - 95%

5. Basic Operations

Note:

1) When SIP-GW2 is out of power, the RJ11 line jack will act as a pass through jack. The user will be able to use the same analog phone for PSTN calls.

2) When SIP-GW2 doesn't register service, and SETUP switch is off, the RJ 11 line jack will act as a pass through jack. The user will be able to use the same analog phone for PSTN calls.

3) When SIP-GW2 registered service, the VoIP line jack will act as a pass through jack. The user will be able to use the same analog phone for VoIP calls.

5.1 Make Phone Calls

5.1.1 Make VoIP Calls

Note: You can make a VoIP call only when LED "STATUS" is lighted.

Pick up the analog phone, LED "VoIP" light.

There are currently two methods to call out:

a) Dial the numbers directly and wait for 4 (general) seconds.

b) Dial the numbers directly, and press #

Other functions available during the call are call-hold, call-wait, call-transfer, and call-forward (section 5.3).

5.1.2 Make PSTN Calls

Note: You can make a PSTN call only when PSTN line is connected.

Pick up the analog phone, if LED "VoIP" light, Press "**" or "#" to switch to PSTN line.

LED "PSTN" light, and get a PSTN line dial tone, dial the numbers directly.

5.2 Answer Phone Calls

5.2.1 Answer VoIP Calls

When somebody call in from VoIP, LED "VoIP" flashed, the analog phone show the caller ID.

Pick up the analog phone, LED "VoIP" light, you are in conversation.

Other functions available during the call are call-hold, call-wait, call-transfer, and call-forward (section 5.3).

5.2.2 Answer PSTN Calls

When somebody call in from PSTN, LED "PSTN" flashed, the analog phone show the caller ID.

Pick up the analog phone, LED "PSTN" light, you are in conversation.

5.3 Other functions

5.3.1 Call Return

When STATUS is ready (LED "STATUS" light), pick up the analog phone, press "*69" to call out the latest call-in numbers.

5.3.2 Call Hold

When you are in conversation (LED "VoIP" light), presses FLASH on the analog phone, or Hook Flash, this call will be hold. Then if you want to return this conversation, presses FLASH on the analog phone, or Hook Flash again; if you want to end this conversation, hang up the analog phone.

5.3.3 Call Waiting

When you are in conversation (LED "VoIP" light), somebody call in, you will get the prompt tone. There are currently two methods to answer this new call:

a) Presses FLASH on the analog phone, or Hook Flash to answer this new call, and hold the previous conversation. Then you can press FLASH on the analog phone, or Hook Flash to switch between these two conversations.

b) Hang up to end the previous conversation, the analog phone will ring, off-hook to answer this call.

Disable call waiting temporarily

When STATUS is ready (LED "STATUS" light), pick up the analog phone, press "*70" to temporary disable call waiting, don't hang up, you will get the dial tone, then you can make a call without call-waiting function.

5.3.4 Blind Transfer

Assume that party A and B are in conversation. A wants to Blind Transfer B to C:

1. A presses FLASH on the analog phone, or Hook Flash to get a dial tone.
2. Then A dials *90 then dials C's number, and then #(or wait for 4 seconds)
3. Then A can hang up.

Note: When Blind Transfer failed, by pressing FLASH on the analog phone, or Hook Flash again will restore conversation between A and B.

5.3.5 Call Forwarding

*72 -- Enable Unconditional Call forwarding
*73 -- Disable Unconditional Call Forwarding

To enable "Unconditional Call Forward", dial "*72" and get the dial tone. Then dial the forward number and hang up.

To disable "Unconditional Call Forward", dial "*73" and get the dial tone, then hang up.

*74 -- Enable On Busy Call Forwarding
*76 -- Disable On Busy Call Forwarding

To enable "On Busy Call Forward", dial "*74" and get the dial tone. Then dial the forward number and hang up.

To disable "On Busy Call Forward", dial "*76" and get the dial tone, then hang up.

*75 -- Enable No Answer Call Forwarding
*77 -- Disable No Answer Call Forwarding

To enable "On Busy Call Forward", dial "*75" and get the dial tone. Then dial the forward number and hang up.

To disable "On Busy Call Forward", dial "*76" and get the dial tone, then hang up.

5.3.6 3-Way Conference Call

Assume that call party A and B are in conversation. A wants to invite C into this conversation:

1. A presses FLASH on the analog phone, or Hook Flash to get a dial tone.
2. Then A dials *83 then dials C's number, and then #(or wait for 4 seconds)
3. C off-hook, A and B and C are in conversation.

<div style="border: 1px solid black; padding: 10px; text-align: center; color: red;">
3-way conference is disabled in this version
</div>

6. Configuration Guide

6.1 Get Familiar with Key Pad and Tone Prompt

Note:
1) Tone A: short "Du" mean "Please Continue".
2) Tone B: Blong "Du" mean "Finish successful".
3) Tone C: short "Du…Du…Du…" mean "Error! Please hang up".

6.1.1 Reboot
##00 – Pick up the analog phone, press "*#*#00" and press # to reboot. If you finish setup and want to activate these parameters, you need reboot.

6.1.2 Startup DHCP from WAN
##011 – Pick up the analog phone, press "*#*#01" and press "1#" to startup DHCP for WAN, then you needn't to set up IP Address/Subnet Mask/Gateway/DNS for WAN.

##012 – Pick up the analog phone, press "*#*#01" and press "2#" to close DHCP for WAN, WAN will use static IP, then you need to set up IP Address/ Subnet Mask/ Gateway/ DNS for WAN.

6.1.3 Setup IP Address for WAN
##02 – Pick up the analog phone, press "*#*#02", and input IP address, press # to end, for example: "192*168*0*55#", then hang up.

6.1.4 Setup Subnet Mask for WAN
##03 – Pick up the analog phone, press "*#*#03", and input Subnet Mask, press # to end, for example: "255*255*255*0#", then hang up.

6.1.5 Setup Gateway for WAN
##04 – Pick up the analog phone, press "*#*#04", and input Gateway, press # to end, for example: "192*168*0*1#", then hang up.

6.1.6 Setup DNS for WAN
##05 – Pick up the analog phone, press "*#*#05", and input DNS IP Address, press # to end, for example: "202*101*103*55#", then hang up.

6.1.7 Setup IP Address for LAN
##06 – Pick up the analog phone, press "*#*#06", and input IP address, press # to end, for example: "10*0*0*55#", then hang up.

6.1.8 Setup Subnet Mask for LAN
##07 – Pick up the analog phone, press "*#*#07", and input Subnet Mask, press

to end, for example: "255*0*0*0#", then hang up.

6.1.9 Restore to User's default Settings

##08# – Pick up the analog phone, press "*#*#08", and press # to end, then hang-up.

6.1.10 Save User Settings

##98# – Pick up the analog phone, press "*#*#98", and press # to end, then hang-up.

6.2 Configuring SIP-GW2 with Web Browser

SIP-GW2 ATA has an embedded Web server that will respond to HTTP GET/POST requests. It also has embedded HTML pages that allow a user to configure through a Web browser such as Microsoft's IE and AOL's Netscape.

6.2.1 Access the Web Configuration Menu

The SIP-GW2 HTML configuration menu can be accessed via LAN or WAN port. From the LAN port, use the default LAN port IP address:

http://10.0.0.2

The WAN port is set to obtain IP address automatically from factory

6.2.2 End User Configuration

Once this request is entered and sent from a Web browser, the SIP-GW2 will respond with a login screen, Input user ID and password, default is

User ID: user
Password: 123456

After the correct password is entered in the login screen, the embedded Web server inside the SIP-GW2 will respond with the Configuration Menu screen which is explained in details below.

1) WAN Port Settings
   SIP-GW2 will access internet by WAN Port. If you place SIP-GW2 behind DSL modem, you need to input PPP user ID and password, and SIP-GW2 can act as a router for other PC internet access.

If you place SIP-GW2 behind router, you needn't to input PPP user ID and password, but you need to input WAN port properties, it is same way to settings for your pc's internet protocol (TCP/IP) properties. If you select "Obtain an IP address automatically", this is enough, so other information is not needed.

Step 1:

WAN Port Connection Mode Selection:

　　　○ Behind DSL Modem

　　　◉ Behind Router

　　　　WAN Port Properties:　< Currently IP Address 192.168.0.41 >

　　　　◉ Obtain an IP address automatically

　　　　○ Use the following IP address

　　　　　　[Submit]　[Next >>]

If you select input IP address manually, you need to input "IP address", "Subnet mask", "Default gateway", and "Prefer DNS server" (if your service provider provide proxy address by IP address, but not domain name, then you needn't to input DNS server).

Step 1:

WAN Port Connection Mode Selection:

○ Behind DSL Modem

◉ Behind Router

WAN Port Properties: < Currently IP Address 192.168.0.41 >

○ Obtain an IP address automatically

◉ Use the following IP address

IP address: 192.168.0.41

Subnet mask: 255.255.255.0

Default gateway: 192.168.0.1

Prefered DNS server: 202.101.103.54

[Submit]   [Next >>]

Press "Submit" button to save your settings in memory and "Next" to go to next step settings, or only press "Next" button to discard this page's settings and go to next step settings.

2) LAN Port Settings
The SIP-GW2 provides one LAN Port for next PC, and PC can access internet by SIP-GW2. If you hope the next PC have the same subnet with LAN port, select "Act as a Gateway for PC", if you hope the next PC have the same subnet with WAN port, select "Act as a Bridge for PC". You can change LAN port IP address manually, but it should be different subnet from WAN port. DHCP server for LAN port is always valid.

Step 2:

LAN Port Connection Mode Selection:

      ◉ Act as a Gateway for PC

      ○ Act as a Bridge for PC

LAN Port Properties: < Currently IP Address 10.0.0.3 >

     Use the following IP address

      IP address: 10.0.0.3

      Subnet mask: 255.0.0.0

    [<< Previous] [Submit] [Next >>]

Press "Submit" button to save your settings in memory, "Next" to go to next step settings, "Previous" to go to previous step settings.

3) Service Provider Settings
   You should input service provider properties, include "Proxy Address", "User ID" and "Password", you can get these information from your service provider. And this page also show you the current service register status, it maybe "UNREGISTERED", "REGISTERING……", "REGISTERED", or "REGISTRATION FAILED", etc.

Step 3:

Service Provider Properties: < Currently Status is REGISTERED >

    Use the following Service Provider

      Proxy Address :   ngn.cnc-gd.com

      User ID :   02028890002

      Password :   ****

    [<< Previous] [Submit] [Next >>]

Press "Submit" button to save your settings in memory, "Next" to go to next step settings, "Previous" to go to previous step settings.

4) Save Settings and Reboot

Step 4:

    Save settings and reboot

    [<< Previous] [Finish >>]

Press "Finish" button to save your settings, and SIP-GW2 will reboot to activate your settings, "Previous" to go to previous step settings.

If you press "Finish" button, the page will show below:

Your settings are being saved and the device being rebooted.

Save-reboot in progress, please wait...

Reboot maybe need 30 seconds, When reboot finish, the page will show below:

Your settings are being saved and the device being rebooted.

Done.

Now your settings have been saved and activated.