

D-Link[®] CORPORATION

D-Link[®]

DVG-2004S VoIP Gateway

Quick User Guide

Version 1.0

TABLE OF CONTENTS

1. INTRODUCTION	1
ABOUT THIS MANUAL.....	1
ABOUT REGISTERED TRADEMARKS.....	1
SAFETY RECOMMENDATIONS.....	1
1.1 FEATURE.....	2
1.2 UNPACKING LIST.....	3
1.3 G/W INTERFACE.....	4
2. INSTALLATION.....	6
2.1 INSTALLATION ENVIRONMENT.....	6
2.2 CONNECTION OF POWER SUPPLY CABLE AND GROUNDING CABLE.....	6
3. UTILITY CONFIGURATION.....	7
3.1 SETUP WITH VOIP-REMOTECONFIG.....	7
4. WEB CONFIGURATION.....	9
4.1 SET UP TA USING WEB BROWSER.....	9
4.2 MANAGEMENT.....	11
4.2.1 GENERAL SETTING.....	11
4.2.2 FIRMWARE UPDATE.....	12
4.2.3 LINE STATUS.....	13
4.3 USER SETTING.....	13
4.3.1 NETWORK SETTING.....	13
4.3.2 CALL SETTING.....	17
4.4 DIALING PLAN.....	19
4.4.1 GENERAL SETTING.....	19
4.4.2 LOCAL SETTING.....	20
4.4.3 URI PHONE BOOK.....	21
4.5 ADMINISTRATOR SETTING.....	23
4.5.1 SIP SETTING.....	23
4.5.2 VOICE SETTING.....	25
4.5.3 PORT SETTING.....	26
4.5.4 RESTORE SETTING.....	27
4.6 CALL LOG.....	28
4.6.1 EVENT LOG.....	28
4.6.2 CALL DETAIL RECORD.....	28
4.6.3 SYS LOG.....	29
4.7 SYSTEM REBOOT.....	29
5. TELNET.....	30

6. FEATURE SUMMARY 33
APPENDIX A TROUBLESHOOTING AND MAINTENANCE 34

1. Introduction

Thank you for selecting this VoIP Gateway (DVG-2004S). Please read through this manual before starting to enjoy the benefit of VoIP technology.

About this manual

Since this product provides software upgrade function, it is necessary to read through this manual before operating if the version updates.

About registered trademarks

The company name, brand name and pictures that are indicated in this manual are the trademarks or registered trademarks of each company.

Safety recommendations

Please follow these guidelines to ensure general safety.

Please use the required power only.

System: DC12V

Power supply adapter: Input AC 100~240V 50~60Hz, output DC12V, 1.25A

- To prevent the electrical danger to user and damage to this product, please do not disassemble the product.
- Please do not splash liquid over this product or soak in water. If this product gets wet, please unplug the power supply and do not use it. Please contact local dealer or customer support center.
- Please use UTP (Unshielded Twisted Pair) category 5 Ethernet cable for RJ-45 port.

1.1 Feature

VoIP Gateway (DVG-2004S and shorted to G/W) supports the following features.

■ Easy to setup.

There are three methods to setup G/W.

- Configure by RS232 console port
Please refer to 3.1 for more setup detail.
- Configure by Web
Please refer to 4.1 for more setup detail.
- Configure by Telnet
Please refer to 3.1 for more setup detail.

If the idle status continues more than for 5 minutes, it becomes timeout and logs out automatically.

■ Monitor ability

There are two methods to supervise the status of G/W.

- SYSLOG
The status of the system can be supervised through the system log function on a Web page.
- Line status
Since the state of each port is displayed by the line state function on a Web page, a circuit state can be supervised from Web.

1.2 Unpacking list

Please check enclosed product and its accessories before installation. (Please refer to the item number).
This is a pre-release version only and will be updated for official release.



VoIP Gateway (Model: DVG-2004S)



CD



Power Adaptor (12V DC)



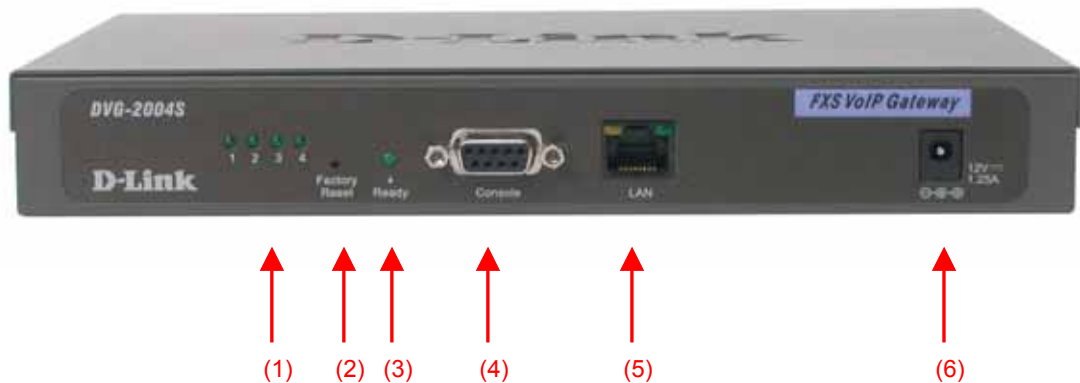
Ethernet Cable (1.6 metre)



RJ-11

1.3 G/W interface

G/W front view (Please refer to the following number).



LED display list

The LED lights show the status of TA where list on the front panel of G/W.

No.	Label	Color	Display	Status
(1)	FXS 1-4	Green	On	The phone line is active
(2)	Reset			Reset the G/W
(3)	Ready	Green	On	Power on
			Flash	System is rebooting
			Off	Power off
(4)	CONSOLE PORT			It is a RS-232 port for system managements. It connects with the serial port of a personal computer by the RS-232 cable
(5)	LAN (10/100M)	Amber	On	Network connected
			Flash	Packet is through this port
(6)	PWR			A power supply cable is inserted

TA rear view (Please refer to the following number).



Please refer to the following table that indicates the description of each port. Please connect the required cable/line according to this table

No.	Port	Description
(1)	Grounding cable	The plug of the grounding cable is carried out.
(2)	FXS 1 ~ 4	It connects with telephone RJ-11 analog line.

2. Installation

2.1 Installation environment

Please confirm the environment for installing G/W.

■ Power supply

The following conditions are fulfilled and it checks that the power supply of this equipment can use near the installation place.

- Voltage : Input AC 100~240V 50~60Hz, output DC12V, 1.25A
- Power supply frequency : 50Hz±2 Hz / 60 Hz±2 Hz

■ Grounding

It checks that the 1st-sort ground of 10Ω or less of grounding resistance which connects FG earth wire can use near the installation place.

■ Temperature, Humidity.

An installation place is an airy even place and it checks fulfilling the following environmental conditions of operation moreover. Temperature, humidity.

- Temperature range : -40°C ~ + 70°C
- Relative humidity : 10% ~ 90% (Non-condensing)

2.2 Connection of power supply cable and grounding cable

■ FG grounding cable is connected.

The tip of FG grounding cable is connected to FG terminal in this equipment back.

Another tip of FG grounding cable is connected to the 1st-sort ground.

■ A power supply cable is connected.

■ A plug is inserted in a power supply wall socket.

3. Utility Configuration

3.1 Setup with VoIP-Remoteconfig

Once you finish installing, a new icon is created on your desktop.



Double click this icon.



Click on the empty field and enter the MAC address (printed on the back of your TA). If you cannot find the MAC address, click "Search" to view all the available MAC addresses in the LAN. You will see the following window.



Device list: List all the devices installed in the LAN.

This window contains 3 buttons -

- Refresh: Refresh the information on the Device List.
- Config: Configure the device.

- Exit: Exit VoIP Device Remote Config.

After you click the Config button, you will see the following window.

VoIP Device Remote Config Version 1.00

MAC : 00D0E900FB75

DHCP Static IP PPPoE

IP Address : 192 . 168 . 2 . 21

Subnet Mask : 255 . 255 . 255 . 0

Default Gateway : 192 . 168 . 2 . 1

Remote Password :

Web Setting Default Setting Reboot Save

Return

Status : Idle

- There are 3 ways to setup the IP address: DHCP, PPPoE, and Static IP. Select your Network settings. These are the most common setup:

- For LAN, please choose Static IP
- For xDSL, please chose PPPoE
- For cable internet, please choose DHCP
- For other Network setup, please consult your Network Administrator.

Before you can save these settings, the TA will ask you to enter the password on the Remote Password field.

- Remote Password: Default password is "1234". After you enter the correct password, you may select "Default Setting", "Reboot" or "Save".
- Web Setting: Link user directly to the web setting interface.
- Default setting: Restore to factory default settings.
- Reboot: Restart the system.
- Save: Save any changes and restart the system.
- Status: Displays the device's current status (Idle, Rebooting etc).
- Return: Return to the "Device List" window.

4. WEB Configuration

4.1 Set up TA Using Web Browser

Load a web browser, i.e., Internet Explorer or Netscape Navigator.

In the URL field, type in the **ip address** followed by **:9999** and press ENTER.

(example: <http://210.80.83.197:9999>)

You may access the configuration menu as an Administrator or as a User.




Administrator mode

Administrator can access all the menus, including **Management**, **User Setting**, **Dial Plan**, **Administrator Setting** and **Call Log**.

(Default admin username: **admin** / Password: **admin**)

To access the adapter as an administrator, use **admin** for username and **admin** for password.

Management User Setting Dialing Plan Administrator Setting Call Log



D-Link
Building Networks for People

DVG-2004S VoIP Gateway

Firmware Version:
DVG-2004S - V. 01.00

MAC Address:
00.00.E9.00.FB.75

System Reboot

Management	
ID	admin
Password	***** <input type="button" value="Change"/>
Date/Time	
Date/Time Setup by	<input checked="" type="radio"/> NTP Time Server / <input type="radio"/> Manual Time Setting
NTP Server IP	220.130.168.51
Time Zone	(GMT+08:00) Beijing, Singapore, Taipei
Remote Monitor Server Setup	
Syslog Server IP	192.168.6.50
SNMP Server IP	0.0.0.0
SNMP Server Port	60000
SNMP Trap Interval	600 sec
FTP Firmware Upgrade	<input checked="" type="radio"/> Enable <input type="radio"/> Disable

User mode

You can access **Management**, **User Setting**, and **Dial Plan**.

(Default username: **user** / Password: **user**)

To access the adapter as user, use **user** for username and **user** for password.

Version Information and Reboot Function:

Firmware Version	Hardware version
MAC Address	Media Access Control Address of the terminal adapter
System Reboot	Reboot the terminal adapter.

4.2 Management

4.2.1 General Setting

Click on **Management** and select **General Setting**. The following window will display on the screen.

Management	
ID	admin
Password <input type="button" value="Change"/>
Date/Time	
Date/Time Setup by	<input checked="" type="radio"/> NTP Time Server / <input type="radio"/> Manual Time Setting
NTP Server IP	220.130.158.51
Time Zone	(GMT+08:00) Beijing, Singapore, Taipei <input type="button" value="v"/>
Remote Monitor Server Setup	
Syslog Server IP	192.168.6.50
SNMP Server IP	0.0.0.0
SNMP Server Port	60000
SNMP Trap Interval	600 sec
FTP Firmware Upgrade	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

ID and Password		
	ID	Login name (default is admin).
	Password	For security reasons please change the password (default is admin) often.
Date / Time Setup		
	NTP Time Server	Protocol used to help match your system clock with an accurate time source. For example atomic clock or a server.
	Manual Time Setting	Set up the time manually.
	NTP Server IP	NTP server IP address.

Time Zone		Choose your time zone. Default setting is 'GMT+09:00'Osaka, Tokyo, Seoul'.Please check the daylight saving box if your region has daylight saving.
Remote Monitor Server Setup		
	Syslog Server IP	System log server IP address.
	IPConfig Password	Remote password to modify Network Setting from " VoIP software ". Default password is "1234". You may obtain this software from your supplier.

NOTE: Only alphabet and numbers can be used.

Click [**Submit**] to confirm the change. Click [**Cancel**] to restore the previous value.

4.2.2 Firmware Update

Select **Firmware Update** from the **Management** menu.

NOTE: You must setup firmware update menu to enable the terminal adapter to automatically download and update firmware. Do not modify these settings unless you are the network administrator, the technician or the distributor.

TFTP Server IP	Server IP address in which the updated firmware can be downloaded.
Firmware Filename	TFTP firmware filename.

Mode	File Transmission mode.

Click [**Update**] to begin the firmware update process.

4.2.3 Line Status

Select **Line Status** from the **Management** menu.

Gateway Status				
FXS				
Port	1	2	3	4
Status	IDLE	IDLE	IDLE	IDLE
SIP Status				
Port	1	2	3	4
Status	NG	NG	NG	NG

[refresh status](#)

This window displays the Port and Loop Line Type (IDLE, NG and etc.)

Click **Refresh Status** to retrieve the terminal adapter status.

4.3 User Setting

4.3.1 Network Setting

Select **Network setting** from the **Management** menu.

There are 3 ways to setup the IP address: DHCP, PPPoE, and Static IP. Please select one of the following depending on your network setup. For example, if you use ADSL, please select PPPoE. For cable internet users, select DHCP. If your ISP provide you with all the WAN addresses, select static IP and enter the IP address provided.

DHCP (Dynamic Host Configuration Protocol)

When you select **DHCP**, IP address is obtained automatically from the DHCP server. The terminal adapter will not work properly if there is no DHCP server in your LAN.

IP Address (DHCP / PPPoE / Static IP)	
<input checked="" type="radio"/> DHCP <input type="radio"/> PPPoE <input type="radio"/> Static IP	
DNS	
DNS Server	0.0.0.0 0.0.0.0
Domain Name	
Telnet	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
NAT	
NAT IP Address	192.168.100.200
DHCP SERVER	
DHCP Server	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
IP Pool from	16 to 128
Lease time	259200 (seconds)
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

DNS Server	Assigned DNS server IP address
Domain Name	The unique name that identifies the internet site
Telnet	Protocol for remote computing on the internet
NAT IP Address	<p>NAT (Network Address Translation) serves three purposes:</p> <ol style="list-style-type: none"> 1. Provides security by hiding internal IP addresses. Acts like firewall. 2. Enables a company to access internal IP addresses. Internal IP addresses that are only available within the company will not conflict with public IP. 3. Allows a company to combine multiple ISDN connections into a single internet connection.
DHCP Server	Enable/Disable DHCP server. Another method to enable DHCP is by entering ***886# from the phone keypad
IP Pool	Default IP range is: 16 ~ 128
Lease Time	Lease time from DHCP server. Default lease time is 259200 seconds (3 days).

Click [**Submit**] to confirm the change. Click [**Cancel**] to restore the previous value.

PPPoE (Point-to-Point Protocol Over Ethernet)

Select PPPoE if you use ADSL. PPPoE ID and password are provided by your ISP.

IP Address (DHCP / PPPoE / Static IP)	
<input type="radio"/> DHCP <input checked="" type="radio"/> PPPoE <input type="radio"/> Static IP	
PPPoE ID	84053940@hinet.ne
PPPoE Password	●●●●●●●●
DNS	
DNS Server	0.0.0.0 0.0.0.0
Domain Name	
Telnet	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
NAT	
NAT IP Address	192.168.100.200
DHCP SERVER	
DHCP Server	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
IP Pool from	16 to 128
Lease time	259200 (seconds)

DNS Server	Assigned DNS server IP address.
Domain Name	The unique name that identifies the internet site.
Telnet	Protocol for remote computing on the internet.
NAT IP Address	NAT (Network Address Translation) serves three purposes <ol style="list-style-type: none"> 1. Provides security by hiding internal IP addresses. Acts like a firewall. 2. Enables a company to access internal IP addresses. Internal IP addresses that are only available within the company will not conflict with public IP. 3. Allows a company to combine multiple ISDN connections into a single internet connection.
DHCP Server	Enable/Disable DHCP server. Another method to enable DHCP is by entering ***886# from the phone keypad.
IP Pool	Default IP range is: 16 ~ 128

Lease Time	Lease time from DHCP server. Default is 259200 seconds.
-------------------	---

Click **[Submit]** to confirm the change. Click **[Cancel]** to restore the previous value.

Static IP

Select static IP and enter the IP address provided if your ISP provide you with all the WAN addresses.

IP Address (DHCP / PPPoE / Static IP)	
<input type="radio"/> DHCP <input type="radio"/> PPPoE <input checked="" type="radio"/> Static IP	
IP Address	61.63.83.14
Router IP	61.63.83.254
Subnet Mask	255.255.254.0
DNS	
DNS Server	0.0.0.0
Domain Name	
Telnet	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
NAT	
NAT IP Address	192.168.0.200
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

DNS Server	Assigned DNS server IP address.
Domain Name	The unique name that identifies the internet site.
Telnet	Protocol for remote computing on the internet.
NAT IP Address	<p>NAT (Network Address Translation) serves three purposes:</p> <ol style="list-style-type: none"> 1. Provides security by hiding internal IP addresses. Acts like firewall. 2. Enables a company to access internal IP addresses. Internal IP addresses that are only available within the company will not conflict with public IP. 3. Allows a company to combine multiple ISDN connections into a single internet connection.
DHCP Server	Enable/Disable DHCP server. Another method to enable DHCP is entering ***886# from the phone keypad.

IP Pool	Default IP range is: 16 ~ 128
Lease Time	Legal use the given IP during that time. Default is 259200s.

Click [**Submit**] to confirm the change. Click [**Cancel**] to restore the previous value.

4.3.2 Call Setting

VoIP Call Setting	
Call Waiting	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Anonymous Call	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Anonymous Call Reject	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Call Forward	
Call Forward By	All Port One Setting <input type="button" value="v"/>
All Port one Setting	<input type="checkbox"/> No Answer <div style="display: flex; justify-content: space-between; align-items: center;"> Timer <input style="width: 80px; text-align: center;" type="text" value="20"/> sec (1 ~ 120) </div>
	<input type="checkbox"/> Busy <input style="width: 150px;" type="text"/>
	<input type="checkbox"/> Unconditional <input style="width: 150px;" type="text"/>

VoIP Call Setting	
Call Forward	
Call Forward By	<input type="text" value="One Port One Setting"/>
FXS 1	
<input type="checkbox"/> No Answer	<input type="text"/> Timer <input type="text" value="20"/> sec (1 ~ 120)
<input type="checkbox"/> Busy	<input type="text"/>
<input type="checkbox"/> Unconditional	<input type="text"/>
Call Waiting	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Anonymous Call	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Anonymous Call Reject	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
FXS 2	
<input type="checkbox"/> No Answer	<input type="text"/> Timer <input type="text" value="20"/> sec (1 ~ 120)
<input type="checkbox"/> Busy	<input type="text"/>
<input type="checkbox"/> Unconditional	<input type="text"/>
Call Waiting	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Anonymous Call	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Anonymous Call Reject	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

Call Waiting	Call waiting ensures that all important calls get to you. For example, if you are on the phone when another person tries to call you, an audible beep will inform you that someone is waiting on the other line. You can decide whether or not you want to put the current caller on hold and take the incoming call.
Anonymous Call	This is an optional service that lets you decide whether or not you want to block your phone number from displaying on the receiver's phone.
Anonymous Reject	Anonymous Caller Rejection is a service that rejects callers with anonymous name/phone number. However, you will still receive calls users with anonymous telephone number.
Call Forward	Call forward allows you to forward incoming calls to a pre-designated telephone number. It includes No Answer , Busy and Unconditional . Please enter IP address, URI or number registered with SIP server.

Incoming No Answer Timer	The time duration for the next action if no one answers the phone. The default is 20 seconds.
---------------------------------	---

Click [**Submit**] to confirm the change. Click [**Cancel**] to restore the previous value.

4.4 Dialing Plan

There are 4 options in this pull down menu, **General Setting**, **Local Setting**, **PSTN Setting**, and **URI Phone Book**.

4.4.1 General Setting

Select **General Setting** from the **Dialing Plan** menu. The following window will load.

LATT (Local Address Translation Table) / Dialing through SIP Server	
LATT	When you dial any number, TA will look for the number in Local Setting (Refer to sec. 4.4.2 Local Setting for details)
Dialing through SIP Server	SIP server will define all the calling rules. You can skip sec. 4.4.2 Local Setting and sec. 4.4.4 URI Phone Book .
Inter-digit Timeout	If no other number is being dialed within this interval, the terminal adapter will terminate the call.
First Digit timeout	If you pick up the phone without dialing any number within this period of time, the tone will change to busy tone.

Send Sign	Setting a button as a default send button. When this button is pressed, the number will dial immediately. Default button is # key in the phone pad.
Switch Key:	Setting a button or a set of buttons to switch between LATT mode and SIP server mode. Default button is ## key on the phone pad.
URI Phone Book:	URI (Uniform Resource Identifier Phone Book) lets you define a button or a set of buttons to link to a specific number defined in URI Phone Book (refer to sec. 4.4.4 for details about URI Phone Book). Default button set is *# key on the phone pad. You can enter from *#1 to *#10 dial key to call the recorded URI numbers.

Click **[Submit]** to confirm the change. Click **[Cancel]** to restore the previous value.

4.4.2 Local Setting

Select **Local Setting** from the **Dialing Plan** menu.

Min Example 54

Prefix: <input type="text"/>	Min Digit: <input type="text"/>	Max Digit: <input type="text"/>	Delete Digit: <input type="text"/>	<input type="button" value="Insert"/>	<input type="button" value="Delete"/>
Add Prefix: <input type="text"/>	Remote IP: <input type="text"/>	Remote PORT: <input type="text"/>	Memo: <input type="text"/>	<input type="button" value="Add"/>	<input type="button" value="Change"/>

Dialing Plan for Local							
Prefix	Min Digit	Max Digit	Delete Digit	Add Prefix	Remote IP	Remote PORT	MEMO

Local dialing plan allows users to dial out to a VoIP Device using a pre-defined number. Users do not have to change their dialing habit.

Prefix	Numbers defined in this field will be inserted at the beginning of the dialing pattern. Maximum input length is 6 digits.
---------------	---

Min Digit	Minimum digit user can key in.
Max Digit	Maximum digit user can key in.
Delete Digit	Number of digit defined in this field will be removed from the dialing pattern. For example, lets assume the phone number 81352109378 . If delete digit is 2 then the dialed number is 352109378 . First 2 digits are removed. Maximum delete digit is 3 digits.
Add Prefix	Numbers in this field are added at the beginning of the dialing pattern. For example, if 001 is in this field, the number dialed is 001 +the rest of the numbers. The input length is limited to 6 digits.
Remote IP	Remote side Gateway IP addresses.
Remote PORT	Remote side port number to use. The input length is limited to 5 digits.
Memo	Memo field for user to make remark. The input length is limited to 18 characters.
[Insert]	Insert a record where the current record is located (Current record is marked as different color).
[Add]	Add a new record to the bottom of the list.
[Delete]	Delete a record.
[Change]	Modify the value of the record in the LATT.

Click **[Submit]** to confirm the change. Click **[Cancel]** to restore the previous value

4.4.3 URI Phone Book

Select **URI Phone Book** from the **Dialing Plan** menu.

User can pre-define the other TA's URI. You may use URI Phone Book to add, edit and save the URI records.

Max Records: 10

URI Phone Book	
Index	URI
1	4444@192.168.2.22
2	3333@192.168.2.22
3	2222@192.168.2.22
4	1111@192.168.2.22
5	
6	
7	
8	
9	
10	

Click **[Submit]** to confirm the change. Click **[Cancel]** to restore the previous value.

4.5 Administrator Setting

4.5.1 SIP Setting

Select **SIP Setting** from the **Administrator Setting** menu.

SIP Setting	
Login Name	1 <input type="text"/> 2 <input type="text"/> 3 <input type="text"/> 4 <input type="text"/>
Password	1 <input type="text"/> 2 <input type="text"/> 3 <input type="text"/> 4 <input type="text"/>
Port No.	5060 <input type="text"/>
Outbound Proxy	<input type="text"/>
Outbound Proxy Port No.	5060 <input type="text"/>
Register Server IP Address	<input type="text"/>
Register Server Port No.	0 <input type="text"/>
Backup Proxy	<input type="text"/>
Backup Proxy Port	0 <input type="text"/>
Register Expires	3600 <input type="text"/> sec (default: 3600sec)
Start Media Port	start: 41000 <input type="text"/>
Session timer	180 <input type="text"/> sec
SessionType	Reinvite <input type="button" value="v"/>
Session Refresher	None <input type="button" value="v"/>
Pre-Ack	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
UDP Timeout	1500 <input type="text"/> msec
UDP Retry time	3 <input type="text"/>
UPnP	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
STUN Server IP Address	<input type="text"/>

Display Name	Name displayed on the LCD for the caller.
Request URI	URI displayed on the LCD for the caller.
Login Name	User name to log in the SIP server.
Password	User password to log in to the SIP server.
Port No.	SIP port number of TA.
Register Server IP Address	SIP Register Server IP address.
Register Server IP Address Port	Port number of SIP Register Server.
Outbound Proxy	Outbound Proxy server IP address.
Outbound Proxy Port	Port number of Outbound Proxy Server.
Backup Proxy	Backup Proxy Server IP address.
Backup Proxy Port	Port number of Backup Proxy Server.
Register Expires	Timer for registration.
Start Media Port	Port number for initial of sending RTP packet.
Session Timer	The time interval in which the phone periodically refresh SIP sessions by sending repeated INVITE or Update request, depending on session type.
Session Type	Select Re-invite or Update for this function.
Session Refresher	Select UAC (User agent client) or UAS (User agent server) for this function.
Pre-Ack	Ensure the correct signal transmission. Select enable or disable.

UDP Timeout	Timeout time of an INVITE request (it is set as 100 - 3000 msec).
UDP Retry Time	The number of times to send INVITE requests (Available interval is 0 - 6 times).
UPnP	Universal Plug and Play. Enable or disable this function.
STUN IP Address	Simple Traversal of UDP through NATs (Network Address Translation). Enter the Stun IP Address.

4.5.2 Voice Setting

Select **Voice Setting** from the **Administrator Setting** menu.

Default Codec	Default voice codec.
G.729A, G.711 uLaw, G.711 aLaw	A RTP packet is sent out every specified time cycle.
DTMF Method	Please choose Out Band, In Band (default) or SIP Info for DTMF method.
VAD	Enable / disable Voice Activity Detector.

CNG	Enable / disable Comfort Noise Generator.
Jitter Buffer Size	The size of the buffer which absorbs the attainment delay fluctuation of a RTP packet specified time (ms).
TOS Field	Service type.
G.168 Echo Cancellation	Enable / Disable G.168 echo cancellation.

Click **[Submit]** to confirm the change. Click **[Cancel]** to restore the previous value.

4.5.3 Port Setting

Select **Port Setting** from the **Administrator Setting** menu.

Setting the phone number assigned to each channel, such as FXS and FXO.

Card 0_ [FXS]			
Phone No. 1	<input type="text" value="1"/>	<input type="checkbox"/>	Disable
Phone No. 2	<input type="text" value="2"/>	<input type="checkbox"/>	Disable
Phone No. 3	<input type="text" value="3"/>	<input type="checkbox"/>	Disable
Phone No. 4	<input type="text" value="4"/>	<input type="checkbox"/>	Disable
Loop Service type		Dial-in Digits	
Analog Line <input type="button" value="v"/>		4 <input type="button" value="v"/>	
FXS Setting :			
FXS Reverse		<input checked="" type="radio"/> Enable <input type="radio"/> Disable	
Tone Setting		Taiwan <input type="button" value="v"/>	
Seize the Line Detect	On Hook Detect	Off Hook Detect	Hook Flash Detect
<input type="text" value="100"/> ms	<input type="text" value="500"/> ms	<input type="text" value="150"/> ms	<input type="text" value="375"/> ms
Caller ID		FSK-US <input type="button" value="v"/>	
Voice TX Gain (-48db ~ 24db)		<input type="text" value="0"/>	Default : 0 db
Voice RX Gain (-48db ~ 24db)		<input type="text" value="-10"/>	Default : -10 db

● Card 0_ [FXS]	The number assigned to FXS channel
● Disable	If this check box is turned ON, dispatch/arrival will become invalid
● Loop Service Line Type	There is an option, like an analog, a number display, being dial-in, modem being dial-in, and it is intact (intact : state where

	the port belonging to this group is not used with FXO and FXS, either).
Dial-In Direct Digits	DID set as PBX is set up by 0-4. If 0 is chosen, it will be set as 4. Usually, a setup of PBX is followed

<ul style="list-style-type: none"> ● FXS Reverse 	<ul style="list-style-type: none"> ● A specific signal indicating the status of the conversation. ●
<ul style="list-style-type: none"> ● Tone Setting 	<ul style="list-style-type: none"> ● Adjust the tone frequency according to each country. ●
<ul style="list-style-type: none"> ● Line Detect 	<ul style="list-style-type: none"> ● On Hook Detect, Off Hook Detect, Hook Flash Detect: On Hook, Off Hook, and Hook timing setting. Line detect basically detects the current phone status. ●
<ul style="list-style-type: none"> ● Caller ID 	<ul style="list-style-type: none"> ● Setup by area code. ●
<ul style="list-style-type: none"> ● Voice TX Gain (-48db ~ 24db) 	<ul style="list-style-type: none"> ● Sets a specific sound intensity for transmitting sound. ● ●
<ul style="list-style-type: none"> ● Voice RX Gain (-48db ~ 24db) 	<ul style="list-style-type: none"> ● Sets a specific sound intensity for receiving sound.

Click [**Submit**] to confirm the change. Click [**Cancel**] to restore the previous value.

4.5.4 Restore Setting

Select **Restore Setting** from the **Administrator Setting** menu.

When you select “**Restore**” you will see the following display:



To restore all the parameters back to factory default setting, click “**Default Setting?**”. However dialing plan and IP address will remain the same.



4.6 Call Log

Call log keeps a list of your calls. There are four submenus: **Even Log**, **Call Detail Record** and **Sys Log**.

4.6.1 Event Log

Select **Event Log** from the **Call Log** menu.

Event Log	
No	Content
000	send_register: len(399)
001	MREG Retry 1753288 1769288
002	sipx_seq [4] = 1717992317
003	CSEQ - ID 4, seq (1717992318)
004	send_register: len(399)
005	http_rcv(658): GET /rst.htm HTTP/1.
006	sipx_mreg_timeout: id(0)
007	sipx_mreg_timeout: id(1)
008	sipx_mreg_timeout: id(2)
009	sipx_mreg_timeout: id(3)
010	http_rcv(658): GET /ctl.htm HTTP/1.
011	CSEQ - ID 4, seq (1717992302)
012	send_register: len(399)
013	sipx_mreg_timeout: id(0)

The status of the call can be checked from Event Log.

4.6.2 Call Detail Record

Select **Call Detail Record** from the **Call Log** menu.

When you click the **[Call Detail Record]** you will see the following widow:

CDR (CALL DETAIL RECORD - CDR)									
No	Call/Rev	Phone No	Call Time	Answer Time	Disconnect Time	Disconnect Reason	Durance time	Remote IP	FXS Port
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0
0	---		0	0	0	0	0	----	0

4.6.3 Sys Log

Select **Sys Log** from the **Call Log** menu.

Syslog
<0> 192.168.2.21 uplink ok
<0> 192.168.2.21 uplink fail
<0> 192.168.2.21 network fail

All the operations performed by the terminal adapter are listed on SysLog.

4.7 System Reboot

Reboot the system if you update any information. Please click the hyperlink character **System Reboot** on the bottom left of the menu to reboot.



5. Telnet

Telnet configuration is designed for advanced users, Network Administrators or System Engineers. Any improper use will affect the performance of the terminal adapter.

TA reserves port 4748 for telnet use only.

At command prompt type in <telnet IP address> : 4649. For example, **telnet 63.81.83.173:4649** then press **[Enter]**. System will ask user to input username and password (default username and password is **admin**)

These are available commands for Telnet configuration:

config {<adm> <net> <dialplan> <sip> <voice> <tel> <mis>}	
quit	Quit the shell
reboot	Reboot the system
show	Show the setup info. Same as “?”
write	Write the data which have been modified
xdef	Restore to default values manufacturer
portstatus	Port status log
logout	Shell logout

For network administrator configuration:

config adm	
exit	Exit to previous folder
name	Gateway name
pw	Password for gateway
sntp	Setup SNTP IP
tz	Time zone configuration
ver	Firmware Version
uyear	Set year
umonth	Set month
uday	Set day
uhour	Set hour
uminute	Set minute
usecond	Set seconds
tscheck	Time server check
syslog	System log server
snmp	SNMP server

snmppp	SNMP server port
snmpti	SNMP trap interval

For network configuration:

config net	
dhcp	Setup HDCP
dns	DNS Server IP
domain	Domain Name
ipconfig	Config IP, Subnet, Router
mac	MAC address
pppoe	Config PPPoE

For dial plan configuration:

dp	Dial plan base info configuration
dpl	Dial plan Local setup
dpr	Dial plan Remote setup
dpp	Dial plan PSTN setup

For sip configuration:

sip	SIP display name
sipn	SIP login name
spipw	SIP password
sippo	SIP port
sipsvr	SIP server
sipsvrpo	SIP server port
udpto	UDP time out
udprt	UDP retry time
stun	Stun server
sipf	SIP request_URI

For voice configuration:

codec	Setup default codec
g711a	G.711_alaw packet size
g711u	G.711_ulaw packet size
g729a	G729a packet size
jbuf	Jitter buffer size
silence	Setup send silence
tos	Setup tos value into IP header

vadcng	Setup VAD & CNG
echo	Echo cancellation

For telephone configuration:

telno	Setup telephone number
gainrxv	The voice gain of rx
gaintxv	The voice gain of tx
fxogainrxv	The FXO voice gain of rx (This is for FXO port use ONLY)
fxogaintxv	The FXO voice gain of tx (This is for FXO port use ONLY)

For other configuration:

ctl	Call trace log
ping	To verify that the HOST is still active

For best G/W performance, we strongly recommend users to use web UI to do the configuration. Telnet command is for experienced system users.

6. Feature Summary

Item	Specification
Protocol	IETF SIP (RFC 3261)
Supplementary service	Call Hold, Call Transfer, Call Waiting, Call Forward, In Band DTMF
Codec	8K of G.729a 64K PCM,G.711aLaw/G.711uLaw 5.3K/6.3K of G.723.1(optional)
Network Interface	10/100BaseT x 1
Phone Interface (FXS)	RJ-11 x 4
Voice Quality	VAD (Voice Activity Detection) CNG (Comfort Noise Generation) AEC (Acoustic Echo Cancellation) G.168
QoS	ToS field identify
Tone	DTMF / CPT (Call Progress Tone) generation Ring tone Ring back tone Dial tone Busy tone
Caller ID	For FSK, DTMF& Bell core
IP Assign	Static IP/DHCP/PPPoE
TCP/IP	IP/TCP/UDP/DHCP/RTP/RTCP/ICMP/HTTP/NTP/TFTP/DNS
Configuration	Console Telnet Web browser
Upgrade	Firmware upgrade through network by TFTP.
Power	Input AC 100-240V AC, 50/60 Hz Output 12V DC,1.25A
Operation Temp.	0° C to 40° C
Humidity	10% to 90 % (Non-condensing)

Appendix A Troubleshooting and Maintenance

Troubleshooting

Please follow the setup direction described in 1st section after you purchase the terminal adaptor. If your G/W still does not work, follow the instructions provided below to troubleshooting.

Step 1 – Unplug the power and wait for 3 seconds before reconnecting the power.

Step 2 – After the power is turned on, start checking if all the cable connections are in place. Make sure your TA WAN port is connected to your XDSL/Cable.

Step 3 – Try to ping your G/W's IP address described in section 3.2. You will be able to determine whether the problem is from the network problem or terminal adaptor.

Step 4 – If it is network problem, please contact your ISP or your network administrator and have them resolve this.

Step 5 – If problems still exist, please contact your authorized G/W distributor. Before you contact them, please have your module and series number ready, so the issue can be resolved faster.

Maintenance

We strongly recommend users to operate the terminal adaptor under a safe environment. These are few tips that you can do to maintain your G/W:

- Do not block the airflow entrance of the G/W to avoid the potential over heating problem.
- Do not put heavy objects on top of the G/W.
- Periodically clean up the dust near the G/W operation area. Do not use a wet material to clean up the G/W.
- If you are not using the connectors (2 RJ11 and 2 RJ 45). Please seal them up to avoid getting dust into the G/W.

<p>This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p>
--