



MAG3000-FXS SERIES PRODUCTS

USER MANUAL

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Chapter 1 Visão Geral do Produto

1.1 Visão Geral do Produto

Os **Gateway MAG3000 Series**, formado por; **MAG3008 / MAG3016 e MAG3032**, foram fabricados para atender com qualidade a alta demanda de redes de ramais analógicos já instalados nas empresas.

É um adaptador de telefone analógico (ATA) que possui arquitetura em nível de telecom e trabalha na camada 3 multifuncional o que permite atender o mercado comercial, industrial e residencial.

Integra:

- a). Alta qualidade de tecnologia VoIP (protocolos SIP e IMS SIP);
- b). Roteador NAT;
- c). Firewall simples,
- d) .DHCP servidor etc.

É um dispositivo ideal para atender residências e rede de pequena empresa, estendendo os ramais de um PBX-IP Virtual ou Local, com total segurança e robustez necessária.

O MAG3000L-FXS foi fabricado para atender as mais diferentes demandas de do mercado. Pode ser instalado no modo de passagem, ou mesmo possibilita a entrega de DDR diretamente em cada porta o que permite ligar o telefone analógico em uma rede IP de maneira prática, rápida e robusta.

1.2 Recursos do Produto

Technical items	Descriptions		
Product model	MAG3008-FXS	MAG3016-FXS	MAG3032-FXS
WAN	1*WAN, RJ45 connector,10/100Mbps,Autoadaptive Ethernet interfaces, full/half duplex, AUTO-MDIX, according to IEEE802.3 / 802.3u / 802.3x		
LAN	1*LAN, RJ45 connector,10/100Mbps,AutoadaptiveEthernetinterfaces, full/half duplex, AUTO-MDIX, according to IEEE802.3 / 802.3u / 802.3x		

CONSOLE	IAD debug interface, connect with RJ45, input CLI command to connect terminal		
Voice interface	8FXS, RJ11 interface	16FXS, RJ11 interface	32FXS, RJ11 interface
Indicator	POW(power status) , SYS(system status) , POTS(port status)		
Power	Voltage:90~260V, AC		
Power consumption	≤25W	≤35W	
Net weight	About 3kg	About 3.3kg	
Dimension(Units: mm)	440×200×45 (L×W×H)		
Operating condition	-10℃~50℃,10%~90% (non-condensed)		
Storing condition	-10℃~50℃,10%~90% (non-condensed)		

1.3 Aparência do produto

A aparência dos modelos MAG3008 / MAG30016 / MAG3032 são vistas a seguir:

Figura 1-3-1 Visão frontal do MAG3008



Figura 1-3-2 Visão frontal do MAG3016



Figura 1-3-3 Visão frontal do MAG3032



1.3 Topologia de Rede

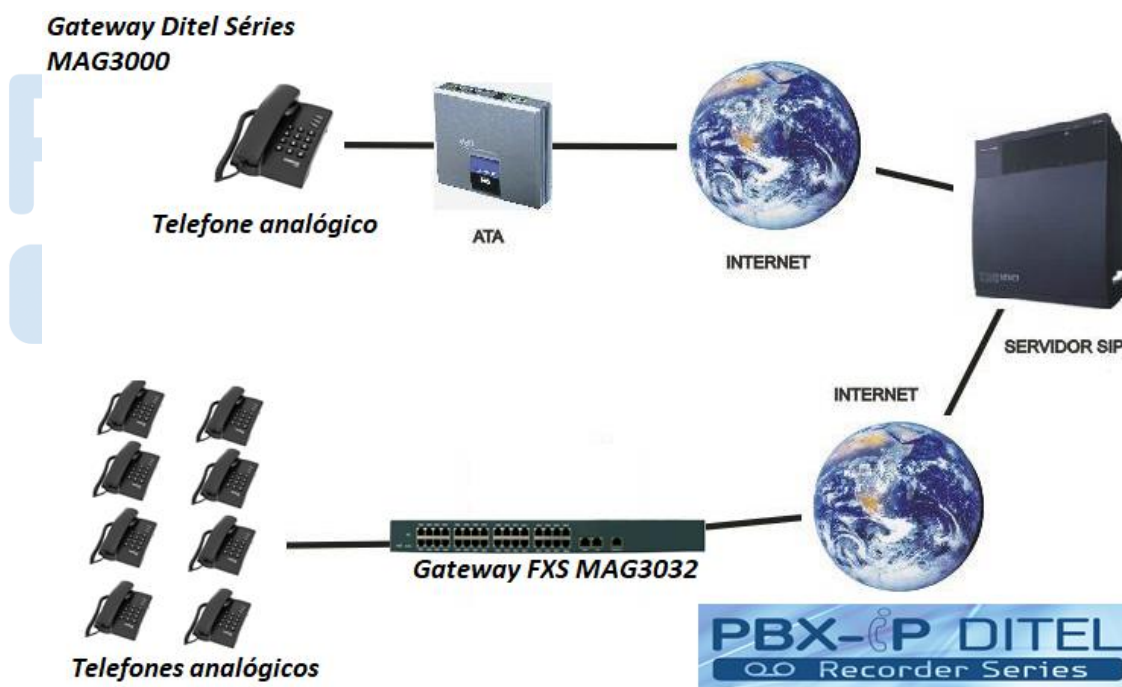


Tabela 1-3-1 Aplicação

- Uplink via WAN port para xDSL (Cable) Modem Proxy Server.
- Downlink via LAN port connect to user PC, switch and hub.
- According to the LAN environment, select corresponding DHCP, PPPoE or static IP to connect to the internet.
- FXS port can direct connect to telephone, fax and POS terminal.
- Support power survival function. When the device power supply is interrupted, the upper and lower port circuits connect directly.

Voice interface	FXS connect with telephone
Date interface	WAN and LAN, 2*10/100Mbps, Auto adaptive Ethernet interfaces.
Power interface	90~260V, AC power interface

Indicator panel

Indicator	Label	Color	Status	Meaning
power	PWR	green	ON	Power on
			OFF	Power off
system	SYS	green	blink	Working
			off	Power off or abnormal
			on	Abnormal
Voice	POTS	green	on	Telephone on from POTS

			off	Telephone hook from POTS
Network interface	LINK	green	On	WAN/LAN on LINK
			Off	WAN/LAN out of LINK
	ACT	Green	Blink	WAN/LAN data transfer
			off	WAN/LAN no data transfer
CONSOLE	TXD	Green	Blink	CONSOLE send data
			Off	No data transfer
	RXD	Green	Blink	CONSOLE receive data
			off	No data transfer

Chapter 2 Installation Preparation

2.1 Standard packing contents

When you receive our products, please check carefully one by one according to the below list. If something wrong like lack of or wrong parts, please contact with the supplier.

Contents	Quantity
MAG3000L-FXS	1 pcs
CONSOLE cable	1 pcs
Power wire	1 pcs
User manual	1 pcs

2.1.1 Warning

To avoid device damage caused by improper use and personal injury, please comply with following precautions:

- Don't install it on wet place, in which may cause problems with device.
- Put the device on a clean, flat, sturdy bench top.
- Make sure that supplied power voltage is the same as our device required.
- It is forbidden to open the device's panel without permission.
- Before clean up device, must be sure that power is off. Don't use liquid to clean the device.

2.1.2 Installation conditions

MAG3000L-FXS must be installed indoor, and also must satisfy the following items:

- Power supply, Internet cable and PC, the necessary part which composed of the basic issue for IAD to work properly must be prepared.
- Single phase three core power socket is required AC Socket. And be sure that the device power must connect to ground.
- Ensure large enough space for heat dissipation.
- Working temperature is -10°C~ 50°C, humidity of 10% to 90%;
- Workplace shall avoid the electromagnetic interference of nearby broadcasting station, radar transmitters and high frequency and high power device, etc.
- Connecting cable usually be installed indoor, if the cable is installed outdoor, surge protection measurement must be taken.

2.2 Device installation

This chapter describes two common installation methods. After device's install spot selected, you should just connect phone line, RJ45 cable and power cable.

2.2.1 Fixed in the cabinet

For multiport models MAG3000L-FXS device, users may need to be installed in a standard cabinet. If you need install instructions, follow steps below:

- 1) Firstly, clean up the space of the cabinet sub-frame, secondly put the original cable straighten in wire area on both left and right, thirdly adjust sub-frame pallet in a reasonable position, lastly adjust attached combination nut into the front of left and right sides, make accord with cabinet holes (four on each side).
- 2) With two persons together, push the sub frame and gently placed into the cabinet sub-frame pallet.

- 3) Combination mounting screws (M6×16 screws) with washer after positioning the attachment frame fastened together with sub-cabinet.

2.2.2 Fixed to the plane

Put the MAG3000L-FXS on a clean, flat, steady bench top. Then take out the 4 rubber rat from IAD's accessory, and stick them to theMAG3000L-FXS's related place on bottom, follow steps below:

- Ensure working place flat and stable.
- Keep certain space for all sides of the device for heat dissipation.
- Don't place anything on it.

2.3 Cable connection

2.3.1 Common connection

The downlink, through LAN use RJ45 cable to connect with user PC, switch or hub. Uplink through WAN use RJ45 cable to connect with Ethernet (such as ONU) or ADSL modem. RJ11 connect user telephone and IAD-X's FXS port.

- Before you pull the power button, make sure that all cable had been connected already.
- It is strong recommend that to use a neutral point power connector, which has a single-phase three-wire power or multi-purpose PC power socket. In this case, power has grounded outlet that assure operator's safety. Do not use extension cords for better.

2.3.2 Cascade Connection

This connection is used for IAD that opened master and slave mode. Firstly, make sure WAN port of the master device connected to Internet. Secondly, keeps slave device's WAN port connecting to master device's LAN port. If there is another slave device, connect this device's WAN port to the first slave device's LAN port.

For the purpose of cascade mode is that user allow to expand master device's number of voice ports. Enable this mode we should refer to the notes below for details:

- Currently a cascade group allows up to three devices together, i.e. 1 Master 2 Slave, 1 Master 1 slave mode.
- In cascade mode, just allowed only one device to make a role as master.
- If an device is setting as master in cascade mode, it means that it's LAN port access to LAN is prohibit.

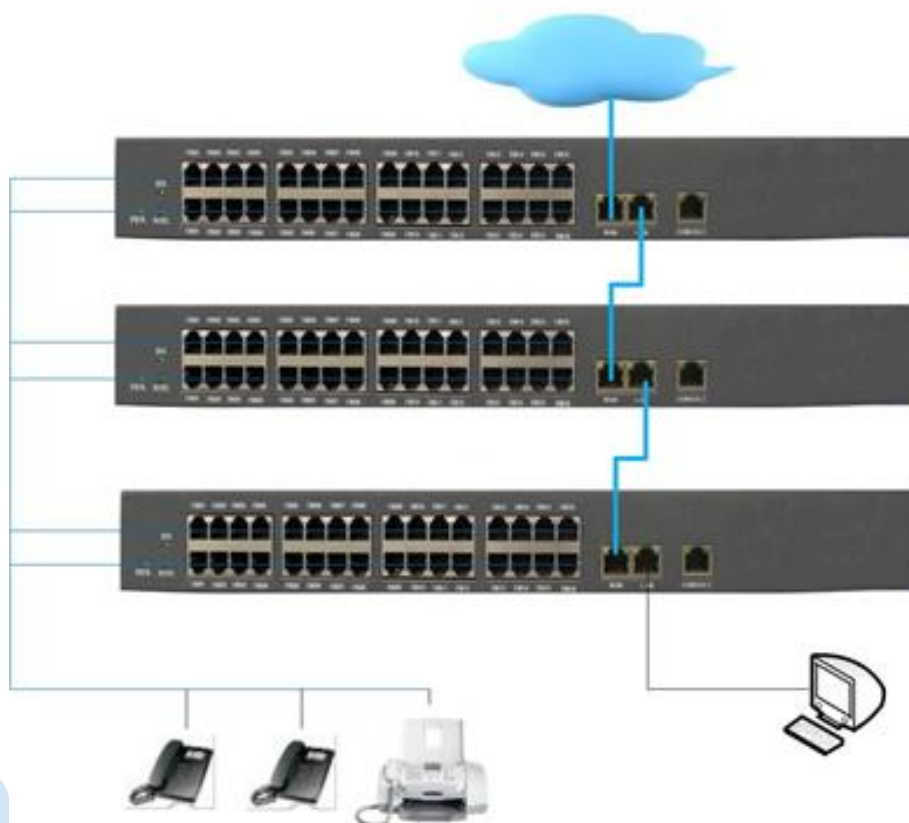


Figure 2-3-1 MAG30032-FXS Cascade connection

Note: IAD cascade mode of start and stop, See "4.1.1 WAN port configuration settings in cascade".

2.4 Installation check

In this step, we should check IAD-X device when power is on. But before this, you should ensure that all other things are done (such as cable connection, power connection). Then you can refer to the following steps:

- Keep device power on, and seeing the power indicator (PWR) whether is on or not. If so, it indicates that device's power is ready, otherwise please check the connection of the power plug or power adaptor.
- Seeing Ethernet port (WAN / LAN) led status. While port led is blinking, it indicates that network is ready. Otherwise, check network connection.
- Seeing Phone port status led. While device's (SYS) led is blinking, at the same time when you pick up the phone and the phone port led is on, that proves telephone port is ready, otherwise check the telephone connection.

Chapter 3 UI Introduce

After finishing the basic connection configuration, you can use its basic function. In order to satisfy individuation service requirements, this charter provide you parameter modification and individuation configuration description.

VOIP Gateway can be configured with your web browser. A web browser is included as a standard application in the following operating systems: Windows 2003/NT/XP/7/8/10/Me, MAC, Linux, etc. The product provides a very easy and user-friendly interface for configuration.

Note:



Web configuration interface may vary with different software versions are subject to change. Administrator-level and general user-level configuration interface display different, here an example of an administrator-level description.

3.1 Preparation

3.1.1 Factory parameters

The first time you use the IAD, you need to learn about these related default parameters:

Items name	Factory parameters
Username and Password	Administrator: -username: admin -password: psw.iad Operator: -username: ac_iad -password: access.iad
	WAN: -IP Address: 192.168.0.235

IP and Subnet Mask	–Subnet Mask: 192.168.0.235 LAN: –IP Address: 192.169.0.1 –Subnet Mask: 255.255.255.0
Local maintenance port	Baud rate: 9600 Web: 8008 HTTPS: 443 SSH: 22
Console	Baud rate: 9600
SIP	Server Port: 5060 Local SIP Port: 5060

Configuring Permissions difference administrator level and Operator-level users are as follows:

- The identity of administrator has a key to overwrite WEB configuration parameters.
- The identity of operator has restrict to a certain range to WEB configuration, such as: configuration items from "User Management", "Config Backup", "Default Settings ", "Device Information" and so on.

3.1.2 Login conditions

In order to visit web configuration, besides correct physical connection of network cable, you should pay attention to items below:

- Configure your PC's network setting and make sure PC and IAD are in the same network group (As IAD's IP: 192.169.0.1, and PC's IP should among 192.169.0.2-192.169.0.254), see details please refer to "3.1.1 Factory parameters".
- Please use IE 6.0+ or other popular browsers to access web configuration.

3.2 Login

The device is configured by the web interface. The following steps will enable you to login:

- 1) Conform "**Installation Preparation**" to install;

- 2) The device default IP is 192.169.0.1;
- 3) Open your web browser, type the device IP in address bar; Eg: **http://192.169.0.1:8008**
- 4) Entry of the username and password will be prompted. Enter the default login User Name , Password and Verification Code:

*Note: The default login User Name of administrator is “**admin**”, and the default login Password is “**psw.iad**”.*

Figure 3-2-1 Login

3.3 Status

This part shows the main information of product.

3.3.1 Device Info

This page shows the device basic information, such as model, hardware version, software version and software compile time.

Product Information	
Product Model	IAD 32FXS
Hardware Version	V1.1
Software Version	V2.0
Compile Time	2015-10-12 17:06:35

Figure 3-3-1 Product info

Running Information	
Current Time	1970-01-01 08:59:04
Running Time	0 Days 00 Hour 59 Min 05 Sec

Figure 3-3-2 Running info

3.3.2 POTS Info

This page shows port status for every port, such as phone number, activate status, register status, hook status, connect status and signal status.

No.	Type	Phone No.	Act St.	Reg St.	Hook St.	Conn St.	Sig St.
1	FXS		Inactive		OnHook	Idle	Idle
2	FXS		Inactive		OffHook	Idle	Idle
3	FXS		Inactive		OnHook	Idle	Idle
4	FXS		Inactive		OnHook	Idle	Idle
5	FXS		Inactive		OnHook	Idle	Idle
6	FXS		Inactive		OnHook	Idle	Idle
7	FXS		Inactive		OnHook	Idle	Idle
8	FXS		Inactive		OnHook	Idle	Idle
9	FXS		Inactive		OnHook	Idle	Idle
10	FXS		Inactive		OnHook	Idle	Idle
11	FXS		Inactive		OnHook	Idle	Idle
12	FXS		Inactive		OnHook	Idle	Idle
13	FXS		Inactive		OnHook	Idle	Idle
14	FXS		Inactive		OnHook	Idle	Idle
15	FXS		Inactive		OnHook	Idle	Idle
16	FXS		Inactive		OnHook	Idle	Idle

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Figure 3-3-3 POTS info

3.3.3 Network Info

This page shows WAN and LAN connection information you have configured.

3.3.3.1 WAN Information

WAN Information	
Physical Connect Status	DISCONNECTED
Connect Status	CONNECTED
MAC Address	3c:d1:6e:09:cb:9f
Connect Type	Static IP
IP Address	192.168.3.121
Mask	255.255.255.0
Default Gateway	192.168.0.1
DNS Relay	Disable
DNS1	0.0.0.0
DNS2	0.0.0.0

Figure 3-3-4 WAN info

3.3.3.2 LAN Information

LAN Information	
Physical Connect Status	CONNECTED
MAC Address	3c:d1:6e:09:cb:a0
IP Address	192.169.0.1
Mask	255.255.255.0

Figure 3-3-5 LAN info

3.4 Fast configuration

Select "Network Settings->WAN Settings", "Port Settings->Basic Settings" and "SIP Settings->Basic Settings" in navigation menu. You can achieve the purpose of quickly configure the IAD.

3.4.1 WAN configuration

This page allows you to configure WAN port basic settings. Basic settings include Network Type, DNS settings, SNTP settings and Expanding Function Settings.

WAN Settings

Type

DHCP PPPOE Static IP

IP Address: 192.168.0.235

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.1

DNS Settings

DNS Relay: Enable

DNS Auto Configure: Enable

DNS Type: UDP

DNS Refresh Interval: 300 (60~3600)Sec

DNS1: 0.0.0.0

DNS2: 0.0.0.0

SNTP Settings

SNTP Service: Enable

SNTP Primary Server:

SNTP Secondary Server:

Timezone: GMT+08:00

Expanding Function Settings

Device Mode: Single

Figure 3-4-1 Internet settings

3.4.2 SIP account configuration

This page provides the user with a number of phone numbers, authentication information, caller ID (FSK and DTMF), and so on.

Port	Type	Username	Index	Password	Auth. Name	Internal No.	CallerID	Lock
1	FXS		1				FSK	<input type="checkbox"/>
2	FXS		2				FSK	<input type="checkbox"/>
3	FXS		3				FSK	<input type="checkbox"/>
4	FXS		4				FSK	<input type="checkbox"/>
5	FXS		5				FSK	<input type="checkbox"/>
6	FXS		6				FSK	<input type="checkbox"/>
7	FXS		7				FSK	<input type="checkbox"/>
8	FXS		8				FSK	<input type="checkbox"/>
9	FXS		9				FSK	<input type="checkbox"/>
10	FXS		10				FSK	<input type="checkbox"/>
11	FXS		11				FSK	<input type="checkbox"/>
12	FXS		12				FSK	<input type="checkbox"/>
13	FXS		13				FSK	<input type="checkbox"/>
14	FXS		14				FSK	<input type="checkbox"/>
15	FXS		15				FSK	<input type="checkbox"/>
16	FXS		16				FSK	<input type="checkbox"/>

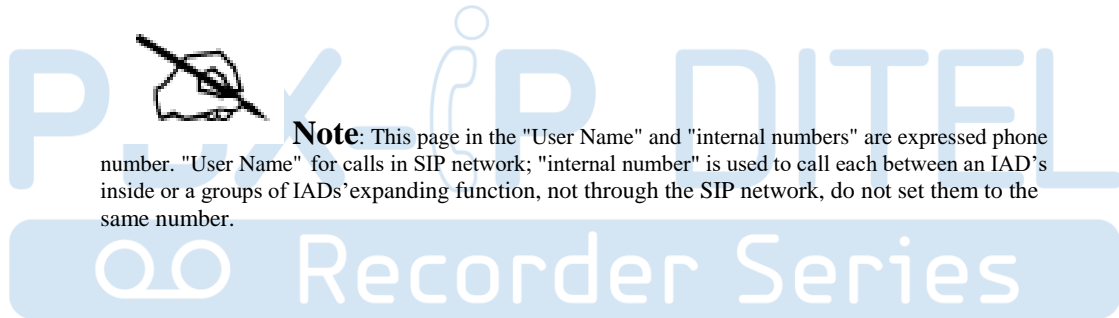
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Figure 3-4-2 Phone settings



Note: This page in the "User Name" and "internal numbers" are expressed phone number. "User Name" for calls in SIP network; "internal number" is used to call each between an IAD's inside or a groups of IADs' expanding function, not through the SIP network, do not set them to the same number.



3.4.3 SIP server configuration

IAD supports the primary and secondary SIP server.

SIP Public Parameter Settings	
NOTE: When SRV is enable, the primary or backup servers will be ignored. SRV domain is named with a prfix of _sip._udp.	
SRV Mode	<input type="checkbox"/> Enable
SRV Domain	<input type="text"/>
Primary Server Domain	<input type="text"/>
Primary Server IP	0.0.0.0
Primary Server Port	5060
Backup Server	<input type="checkbox"/> Enable
Backup Server Domain	<input type="text"/>
Backup Server IP	0.0.0.0
Backup Server Port	5060

Figure 3-4-3 SIP Public settings

SIP Local Settings		
Local Domain	<input type="text"/>	
Local SIP Port	<input type="text" value="5060"/>	(Option)
Registration Interval	<input type="text" value="600"/>	(Option) (60~3600Sec)

Figure 3-4-4 SIP Local settings

Chapter 4 Detailed configuration

This chapter will introduce how to configure device's VOIP simply through web, so that you can configure IAD quickly. This chapter includes the following contents.

- 📖 Network Settings
- 📖 Application
- 📖 Security
- 📖 Management

4.1 Network settings

4.1.1 WAN settings

After logging in through the web, select "Network Settings -> WAN port settings", IAD supports three network access methods: DHCP, PPPoE, static IP. Please fill out the parameters according to the actual situation. Click button "Save" to save configuration at last.

4.1.1.1 Network type

- 1) DHCP mode

WAN Settings

Type
 DHCP PPPOE Static IP

DNS Settings

DNS Relay Enable

DNS Auto Configure Enable

DNS Type

DNS Reflash Interval (60~3600)Sec

DNS1

DNS2

SNTP Settings

SNTP Service Enable

SNTP Primary Server

SNTP Secondary Server

Timezone

Expanding Function Settings

Device Mode

Figure 4-1-1 DHCP settings

2) PPPoE mode

Input Username and Password provide by ISP.

WAN Settings

Type
 DHCP PPPOE Static IP

Username

Password

MTU

Keepalive Sec

Figure 4-1-2 PPPoE settings

3) Static IP mode

WAN Settings

Type
 DHCP PPPOE Static IP

IP Address

Subnet Mask

Default Gateway

Figure 4-1-3 Static IP settings

Note: You can select the appropriate network type based on your network conditions from the three network types.

4.1.1.2 DNS Settings

DNS service is not enabled by default. If you want to enable DNS service, DNS needs to choose the type of transmission in accordance with, DNS refresh interval (default 300 seconds).

Figure 4-1-4 DNS service

DNS server address: Address the primary and secondary DNS servers, Please fill out the parameters according to the actual situation.

Figure 4-1-5 DNS settings

4.1.1.3 SNTP Settings

Synchronization Network Time Protocol, automatically synchronize the device time.

IAD default start time: 1970-01-01 08:00:00.

Figure 4-1-6 STNP settings

4.1.1.4 Expanding Function Settings

Device operating mode includes Single, Master, Slave. The default is Single mode. Before cascading, you must set the appropriate mode first. Currently each cascade group (including the Master mode device) cannot exceed three devices.

Figure 4-1-7 Expanding function settings

4.1.2 LAN settings

4.1.2.1 LAN IP

Figure 4-1-8 LAN port settings

Note: The LAN port and WAN port's IP network segment cannot be repeated.

4.1.2.2 LAN DHCP Service Settings

DHCP Settings	
DHCP Server	<input type="checkbox"/> Enable
IP Pool Start Address	192.169.0.2
IP Pool End Address	192.169.0.254
Lease Interval	7200
Default DNS	202.96.128.68
Default Gateway	192.169.0.1

Figure 4-1-9 LAN DHCP settings

4.1.3 VLAN settings

You can access the main configuration page by "Network Settings->VLAN Settings" in the menu bar.

VLAN Settings		
Port Isolation	<input checked="" type="checkbox"/> Enable	
NO	VLAN ID	Operations
Add		

Figure 4-1-10 VLAN settings

4.1.4 QoS settings

Select "Network Settings->QoS Settings" to reach the QoS configuration page.

Layer2 Setting	
Signalling VLAN Enable	<input type="checkbox"/> Enable
Signalling VLAN ID	0
Signalling VLAN Priority Level	0
Media VLAN Enable	<input type="checkbox"/> Enable
Media VLAN ID	0
Media VLAN Priority Level	0

Figure 4-1-11 Layer2 QoS settings

Figure 4-1-12 Layer3 QoS settings

Note:

Make sure the device supports VLAN before you enable Layer 2 QoS. Otherwise, it will cause problems of IP network, DNS resolution failure, SIP account registration failure.

4.1.5 NAT settings

Figure 4-1-13 NAT Settings

No.	Proto.	Local IP	Int. Port	Ex. Port	Operation
Add					

Figure 4-1-14 NAT Port mapping

4.2 Application

IAD currently has two main applications: voice and fax.

4.2.1 Voice Application

Select "Port Settings->Basic Settings" in menu bar, you can set voice-related parameters:

SIP registered account, registered user name and password, caller ID and so on.

1) Voice Basic settings

If the voice parameters to be configured with a regular increase, you can use the "Batch Config" function in the page.

Batch Config

Operate Type: Batch Add

Select Port: All

Base Port: 1

Count: 32

Step: 1

Username: 88880001 Increase Ignore

Index: 1 Increase Ignore

Password: ●●●●●● Increase Ignore

Auth. Name: 88880001 Increase Ignore

Internal No.: 801 Increase Ignore

CallerID: FSK Ignore

Lock: Lock Ignore

Ok Cancel

Figure 4-2-1 Batch configuration

Basic settings

Port	Type	Username	Index	Password	Auth. Name	Internal No.	CallerID	Lock
1	FXS	88880001	1	●●●●●●	88880001	801	FSK	<input type="checkbox"/>
2	FXS	88880002	2	●●●●●●	88880002	802	FSK	<input type="checkbox"/>
3	FXS	88880003	3	●●●●●●	88880003	803	FSK	<input type="checkbox"/>
4	FXS	88880004	4	●●●●●●	88880004	804	FSK	<input type="checkbox"/>
5	FXS	88880005	5	●●●●●●	88880005	805	FSK	<input type="checkbox"/>
6	FXS	88880006	6	●●●●●●	88880006	806	FSK	<input type="checkbox"/>
7	FXS	88880007	7	●●●●●●	88880007	807	FSK	<input type="checkbox"/>
8	FXS	88880008	8	●●●●●●	88880008	808	FSK	<input type="checkbox"/>
9	FXS	88880009	9	●●●●●●	88880009	809	FSK	<input type="checkbox"/>
10	FXS	88880010	10	●●●●●●	88880010	810	FSK	<input type="checkbox"/>
11	FXS	88880011	11	●●●●●●	88880011	811	FSK	<input type="checkbox"/>
12	FXS	88880012	12	●●●●●●	88880012	812	FSK	<input type="checkbox"/>
13	FXS	88880013	13	●●●●●●	88880013	813	FSK	<input type="checkbox"/>
14	FXS	88880014	14	●●●●●●	88880014	814	FSK	<input type="checkbox"/>
15	FXS	88880015	15	●●●●●●	88880015	815	FSK	<input type="checkbox"/>
16	FXS	88880016	16	●●●●●●	88880016	816	FSK	<input type="checkbox"/>

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Figure 4-2-2 Basic settings

Parameters	Illustration
Username	In fact, it's the phone number of user (port).
Password	SIP user password, it is necessary when user registers to softswitch.
Auth. Name	SIP user name, it is necessary when user registers to softswitch.

Internal No.	In a single device or group of device in a cascading, without network, all users can make internal call each other with internal number.
Caller ID	IAD support FSK and DTMF both formats: <ul style="list-style-type: none"> ➤ FSK: first ring and then have Caller ID. ➤ FSK1: first Caller ID then start ringing. ➤ DTMF: first ring and then have Caller ID. ➤ DTMF1: first Caller ID then start ringing.
Lock	Disable user port.

2) Voice advanced settings

Select "Port Settings->Voice And Fax Settings" in navigation menu.



Figure 4-2-3 Voice settings

Parameters	Illustration
Select Port	Select one or all port to configure.
Silence Compression	Identify and eliminate the long silent period from RTP, in order to save network resources.
Echo Cancellation	The parameter set the ITU-T coding standard of the voice. The coding technologies supported by this device are G.711 A law, G.711 U law,

	G.723.1 and G.729 A and so on. Users can choose one or several coding mode, but one of those modes must be chosen as the priority.
Flash	It is disabled by default.
Codec Priority	Set the size of RTP packages. The larger the value, the larger the RTP packages and better utilization of network bandwidth.
Packet Interval	Disable user port.
DTMF Mode	It is referred to the transfer mode of users pressing the button in the progress of talk. It can be set as four modes, In Brand, RFC2833, RFC2198 and INFO mode.

4.2.2 Fax application

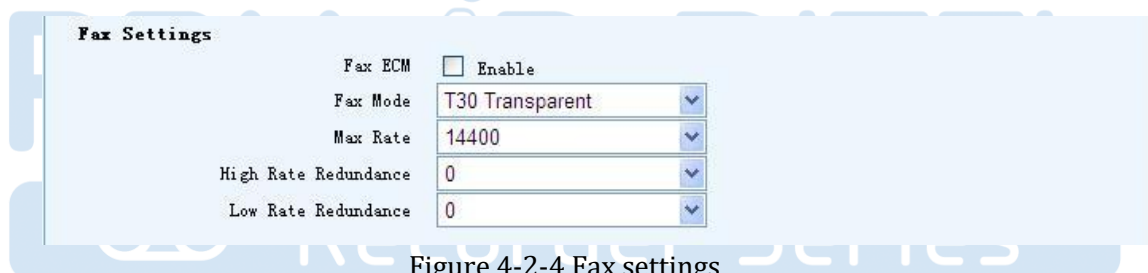


Figure 4-2-4 Fax settings

Parameters	Illustration
Fax ECM	
Fax Mode	This parameter is used for users to choose the mode of faxes, and the users can choose the T30 Transparent, T30 Bypass or T38 mode.
Max Rate	Fax maximum rate.
High Rate Redundance	
Low Rate Redundance	

Note: Fax service is based on port's application. Therefore, please select the correct port when configuring the fax application.

4.2.3 SIP services basic configuration

Select the menu bar "SIP Settings -> Basic Settings", you can set the IAD's SIP server.



Figure 4-2-5 SIP Public parameter settings



Figure 4-2-6 SIP Local settings

Parameters	Illustration
SRV Mode	SRV Mode has to be enable when DNS server is SRV.
SRV Domain	SRV Domain has to be input when DNS server is SRV, and SRV Domain is named with a prefix of <code>_sip._udp</code> .
Primary Server Domain	The domain address of primary softswitch.
Primary Server IP	The IP address of primary softswitch.
Primary Server Port	The port number of primary soft switch that used for SIP signal.
Backup Server	It is disabled by default.
Backup Server Domain	The domain address of secondary softswitch. If user registered to primary server failed, they would register to secondary softswitch.

Backup Server IP	The IP address of secondary softswitch.
Backup Server Port	Port number of secondary softswitch.
Local Domain	Local Domain is necessary if SRV Mode is Enable.
Local SIP Port	Port number of device used for SIP signal.
Registration Interval	How long willVOIP gateway send register message to softswitch again.

Note: Local Domain is generally the same with register server or leave this field blank.

4.2.4 SIP advanced settings

SIP Public Parameter Settings

NAT
 NAT STUN Enable NAT Keepalive Interval 5 Seconds

Heartbeat
 Heartbeat Switch Enable Heartbeat Interval 16 Seconds
 Heartbeat Threshold 3

Register
 Register Switch Mode By Option
 Switch To Backup SBC Enable Register Flow Limit 20 P/s
 Switch Back To Primary SBC Enable
 SBC Switching Switch

Session
 Session Renew Enable Session Renew Interval 360 Seconds
 Session Minimum Time 90 Seconds
 Register Authentication Enable SIP URI With User Param Enable
 PRACK Enable URI Format SIP
 Offline Interval 30 Seconds
 CallerID Mode "From" header
 Fax Bypass Parameter fax/modem
 Phone Number Format Normal
 User-Agent Value
 Blind Transfer Mode Normal
 Don't Support Reinvite Enable
 Proxy Authentication Mode General

Figure 4-2-7 SIP Advanced settings

Parameters	Illustration
NAT STUN	It is disabled by default.
NAT Keepalive Interval	5 Seconds. The valid range of parameters is 0-999999.
Heartbeat Switch	Heartbeat parameters is sent to softswitch or not. It is disabled by default.
Heartbeat Interval	How long will VOIP Gateway send heartbeat parameters to softswitch again. The valid range of parameters is 0-999999.
Heartbeat Threshold	3 times. The valid range of parameters is 1-255.
Register Switch Mode	This option is used for switching between primary and secondly server. There are Register mode and Option mode. By default, Register mode is effective.
Register Flow Limit	To limit the number of register packets. By default, only 20 register packets can be sent per second. The valid range is 1-100.
Switch To Backup SBC	It is enabled by default.
Switch Back To Primary SBC	It is enabled by default.
Session Update	It is disabled by default.
Session Update Interval	The time that session will update. It must be greater than session minimum time.
Session Minimum Time	The default value is 90s.
Register Authentication	It should be enabled if the softswitch uses SIP DIGIST for authentication.

SIP URI With User Param	<p>SIP header fields content attributes.</p> <p>Generally appear in the "From", "To" and "P-Preferred-Identity". If you enable it, "INVITE" header field "From" and "To" will carry "user = phone".</p>
PRACK	<p>SIP's extension header field, disabled by default.</p> <p>"ACK" temporary response message headers.</p>
URI Format	<p>Support both formats: SIP and TEL</p> <p>Generally appear in the From, To and P - Preferred - Identity.</p> <p>SIP: From: "88880009"<sip:88880009@192.168.3.216;user=phone>;</p> <p>TEL : From: <tel:88880009>;</p>
Offline Interval	<p>The interval that IAD initiate registration again after registration failed.</p> <p>Note: It is not a registered retransmission mechanism.</p>
CallerID Mode	<p>Specify the origin of call ID. There are two mode, "From" header and PPI (P-Preferred-Identity) header.</p>
Fax Bypass Parameter	<p>This fax parameter is the used for adapting requirements of different softswitch when consulting with opposite side.</p>
Phone Number Format	<p>"Normal" and "Escape Character".</p>
User-Agent Value	<p>By default, it is blank. But the value of this field in the SIP messages is the name of device, otherwise it's what you filled in.</p>
Blind Transfer Mode	<p>IAD supports two modes, Nrmal and Cancel->Refer.</p> <p>Normal: IAD will send SIP signal by INVITE form when hook flash in blind transfer.</p> <p>Cancel->Refer: IAD will send SIP signal by REFER when hook flash in blind transfer.</p>

Don't Support Reinvite	It is disabled by default. IAD will not send INVITE message when hook flash
Proxy Authentication Mode	The default is general.

Note:

"Option" mode is based on heartbeat function. So if you choose this mode, you must enable Heartbeat Switch. Under this mode, VOIP Gateway sends heartbeat packets both to the primary and secondary server simultaneously. IAD will try up to 3 times to send heartbeat until primary server responds. If the primary server responds, device will send registration request to it. If IAD tries three times continuously with no response of the primary server during heartbeat threshold time, it will switch to secondary server.

Once the primary server recovers normal and responds heartbeat messages, IAD will switch back to it again.

In "Register" mode, whether switch or not between primary and secondary server decided by response of registration or invite messages. Firstly, IAD sends registration messages to primary server. If the server doesn't respond up to 3 times continuously, IAD will switch to secondary server. Switching from secondary server to primary is the same mechanism. If IAD has registered soft switch, after 3 times no response of invite messages, IAD will switch to another server. In "Register" mode, primary and secondary server is parallel relationship, which means that only switch when the server got a breakdown.

4.2.5 SIP blacklist and whitelist

Selecting the menu bar "SIP Settings->Blacklist And Whitelist", go to SIP black list settings page. It is disabled by default.

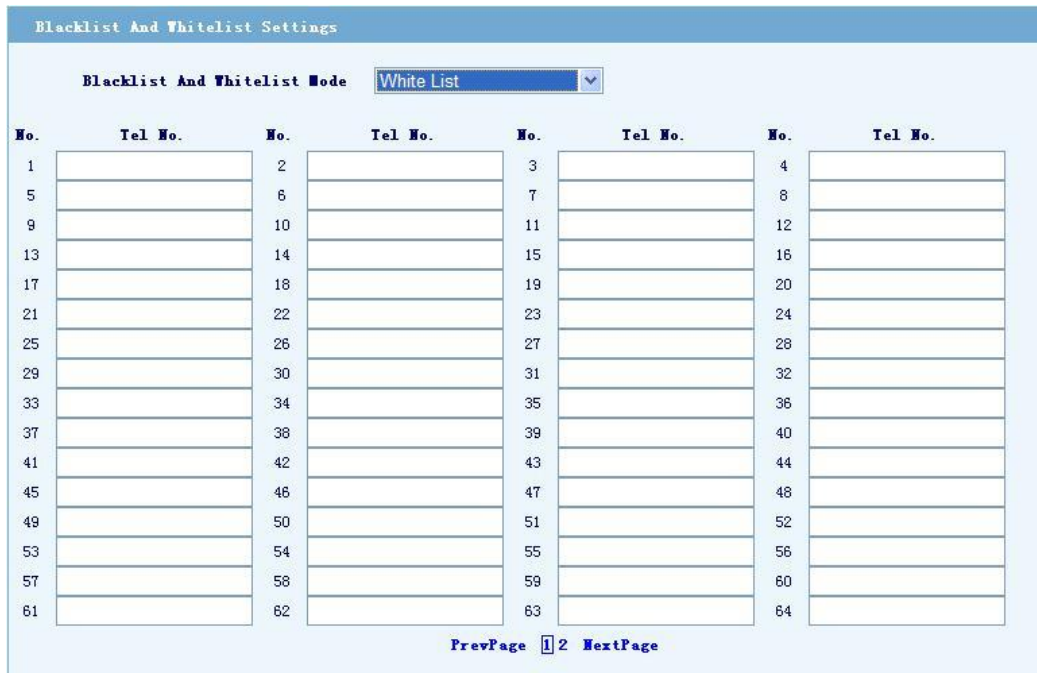


Figure 4-2-8 SIP whitelist settings

Note: SIP blacklist and whitelist function is to limit the number of SIP call out.

4.2.6 Call routing

Select "Call Routing->Digit Map" in menu bar, you can set dial plan rules.

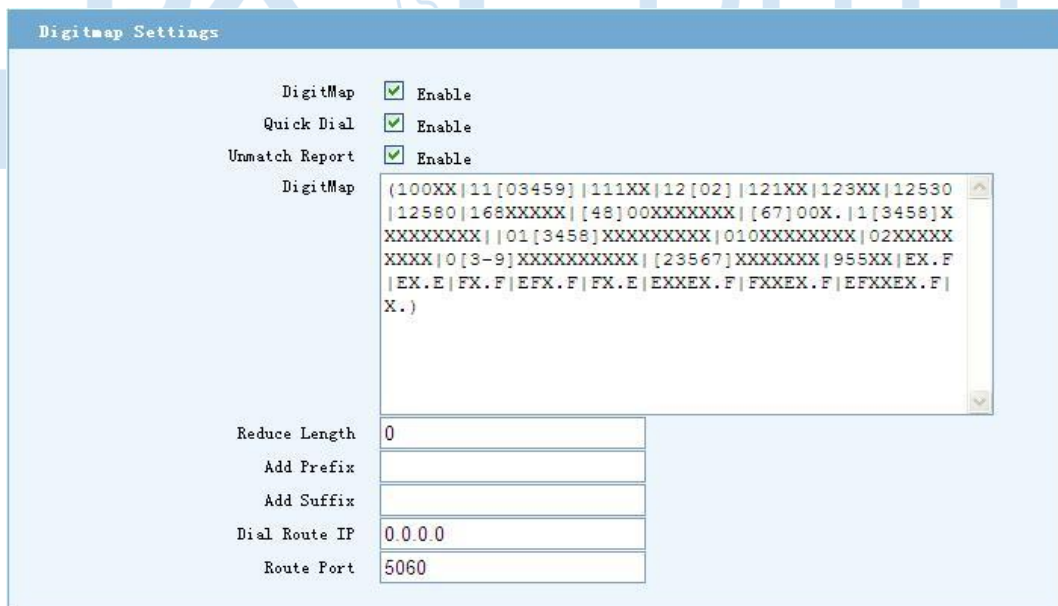


Figure 4-2-9 DigitMap

Parameters	Illustration
Digit Map	When there are multiple dialing rules, you can separate with the ' ', such as X. FXXXE. What's more, 'F' stands for '#' and 'E' stands for '*'.

Quick Dial	Port will make a call when receives #.
Reduce Length	Called number replacement rules.
Add Prefix	Called number replacement rules.
Add Suffix	Called number replacement rules.
Dial Route IP	It should be the IP address of the other side if the call is point to point.
Route Port	5060 by default.

4.2.6.1 Digit Map grammar

The interpretation and grammar of Dial plan follow the following rules:

0-9, E, or F	A DTMF digit is recognized as valid if it is one of the following: 0-9 or * or #
X	The letter "x" is used as a wildcard, designating any event corresponding to symbols in the range "0"- "9". The string may also contain explicit ranges and, more generally, explicit sets of symbols, designating alternative events any one of which satisfies that position of the dial plan.
•	The dot symbol "." stands for zero or more repetitions of the event selector (event, range of events, set of alternative events, or wildcard) that precedes it. As a consequence of the third timing rule above, inter-event timing while matching a terminal dot symbol uses the short timer by default.
[X-X]	Sub-range, starts with first number to last number. For example, [2-8] means a digit in the range 2 to 8.
S, L	"S" and "L" respectively indicate that the MG should use the short(S) timer or the long (L) timer for subsequent events, overriding the timing rules described above.

As an example, consider the following dial plan:

0	Local operator.
00	Long-distance operator.
xxxx	Local extension number (starts with 1-7).
8xxxxxxx	Local number.
#xxxxxxx	Off-site extension.
*xx	Star services.
91xxxxxxxxxx	Long-distance number.
9011 + up to 15 digits	International number.

Note:

- Digit Map is not case sensitive.
- '(' and ')' represents the start and end of digit map.
- In the "[]" inside cannot fill in the wildcard. For example, 'X' on behalf of 0-9, but [0-9] is true, and [X] is the wrong rule.

4.2.7 Global settings

4.2.7.1 DSP global settings

Select the menu bar of the "Global Settings->DSP Settings", you can set RFC2833 payload, RFC2198 payload, RTP port range, Flash Min and Flash Max limits of hook flash.

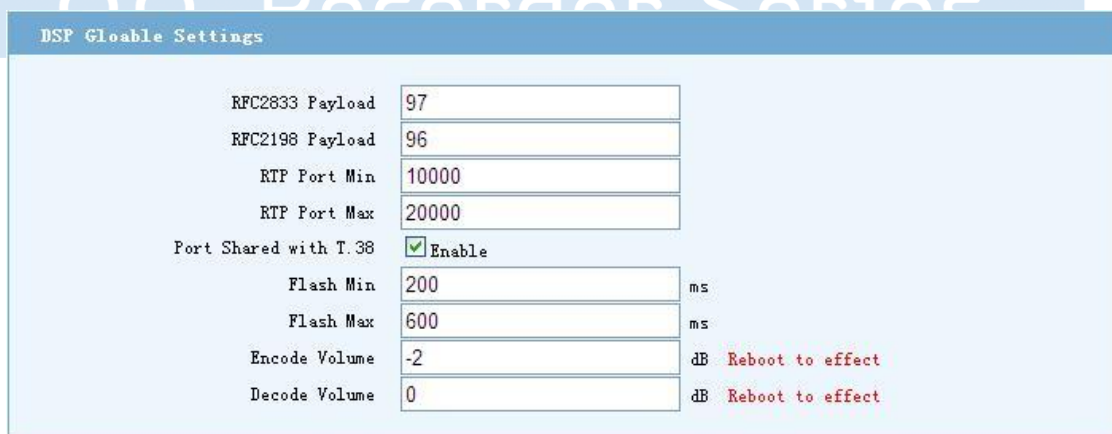


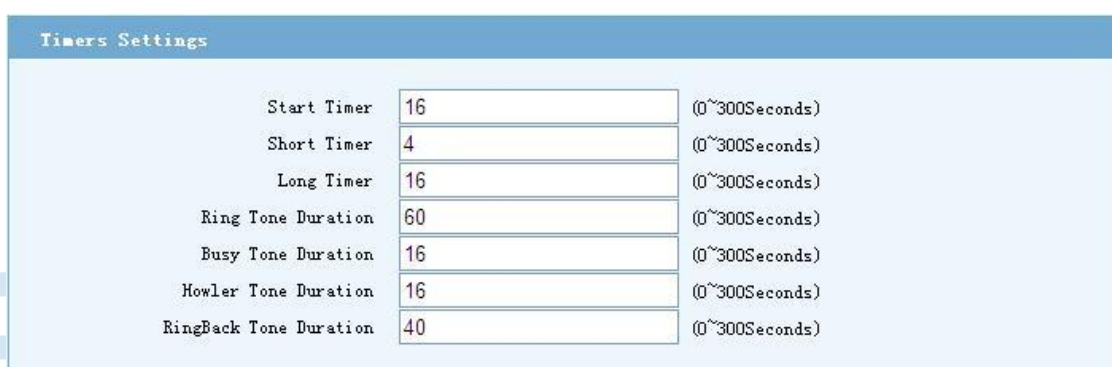
Figure 4-2-10 Global settings

Parameters	Illustration
RFC2833/RFC2198 Payload	The range of RFC2833/ RFC2198 Payload is from 96 to 127.
RTP Port Min/Max	The range of RTP Port Min/Max is from 1024 to 65535.

Port Shared with T.38	It is enabled by default.
Flash Min/Max	The range of Flash Min/Max is from 100 to 1000.
Encode/Decode Volume	-

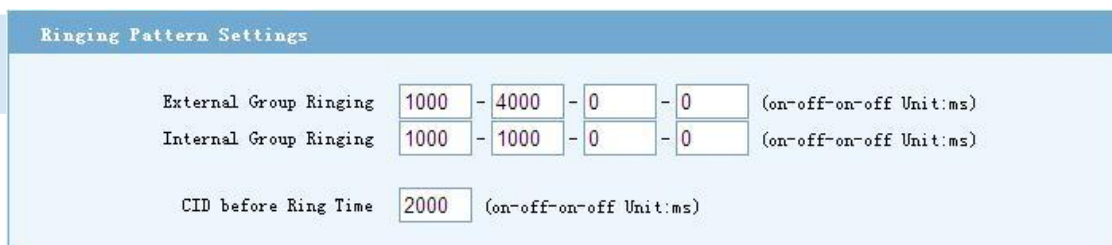
4.2.7.2 Timers and ringing pattern settings

Select the menu bar of the "Global Settings->Timers Settings", you can set off-hook not dialing timeout (Start Timer), Dial-up interval (Short Timer), Dial number matching Digit Map rule timeout (Long Timer), Ring Tone Duration, Busy Tone Duration, Howler Tone Duration, RingBack Tone Duration, Ringing Pattern Settings, International Call Setting.



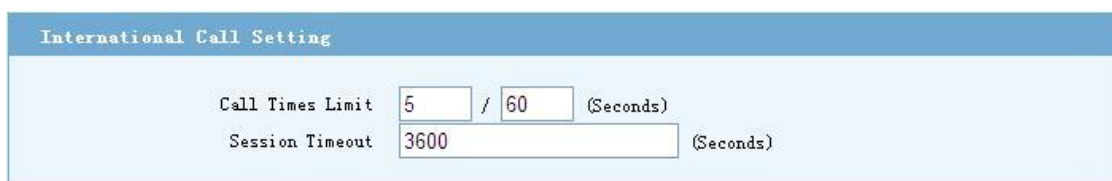
Timers Settings		
Start Timer	<input type="text" value="16"/>	(0~300Seconds)
Short Timer	<input type="text" value="4"/>	(0~300Seconds)
Long Timer	<input type="text" value="16"/>	(0~300Seconds)
Ring Tone Duration	<input type="text" value="60"/>	(0~300Seconds)
Busy Tone Duration	<input type="text" value="16"/>	(0~300Seconds)
Howler Tone Duration	<input type="text" value="16"/>	(0~300Seconds)
RingBack Tone Duration	<input type="text" value="40"/>	(0~300Seconds)

Figure 4-2-11 Timers Settings



Ringing Pattern Settings								
External Group Ringing	<input type="text" value="1000"/>	-	<input type="text" value="4000"/>	-	<input type="text" value="0"/>	-	<input type="text" value="0"/>	(on-off-on-off Unit:ms)
Internal Group Ringing	<input type="text" value="1000"/>	-	<input type="text" value="1000"/>	-	<input type="text" value="0"/>	-	<input type="text" value="0"/>	(on-off-on-off Unit:ms)
CID before Ring Time	<input type="text" value="2000"/>	(on-off-on-off Unit:ms)						

Figure 4-2-12 Ringing Pattern Settings



International Call Setting		
Call Times Limit	<input type="text" value="5"/>	/ <input type="text" value="60"/> (Seconds)
Session Timeout	<input type="text" value="3600"/>	(Seconds)

Figure 4-2-13 International Call Setting

Parameters	Illustration
Start Timer	Its default value is 16 s
Short Timer	Its default value is 4 s

Long Timer	Its default value is 16 s
Ring Tone Duration	Its default value is 60 s
Busy Tone Duration	Its default value is 16 s
Howler Tone Duration	Its default value is 16 s
RingBack Tone Duration	Its default value is 40 s
Ringing Pattern Settings	The ringing sequence (interval): External Group Ringing and Internal Group Ringing, External Group Ringing function is used by default.
International Call Setting	International outgoing call restrictions.

4.3 Security

Select the menu bar of the "Firewall Settings->White List", you can set the IP whitelist. It is disabled by default.



Figure 4-3-1 IP white list settings

Note:

When enable and set the whitelist IP address and save it, IP addresses that are not configured in whitelist will be denied access to IAD Web.

Through the menu bar of the "Firewall Settings->Port Settings", will be able to set the device's local maintenance port. It includes Web, Telnet, SSH access port.

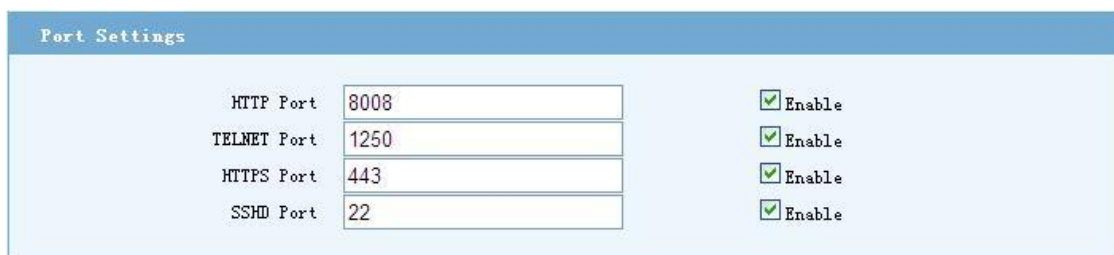


Figure 4-3-2 Port settings

Figure 4-3-3 SIP DDoS settings

Notes:

"SIP Servers Only" is enabled by default. IAD will refuse to receive illegal SIP messages that come from the device not specified.

If you need to make SIP and PSTN conversion, please disable this feature.

4.4 Management

4.4.1 User management

Select "System Maintenance->User Management" setting page, jump to the page of User manage.

There are two kinds of user, Administrator and Operator. The Administrator has all the permissions. It can add, modify and delete user. However, every level has to have one user at least. The Operator is invisible to some pages of IAD.

NO	User Name	User Level	State	Operations
1	admin	Administrator	Normal	Modify Delete
2	ac_iad	Operator	Normal	Modify Delete

Add User

Figure 4-4-1 User list

Notes:

Enter password wrong more than five times, current account will be locked, you will not login IAD anymore. If you remember the password, you need to login device with the correct password and unlock it through serial port (i.e. CONSOLE port). Otherwise, please contact the manufacturer.

Unlock command as follows: `#system>user unlock username`

4.4.2 Config backup

Select "System Maintenance->Config Backup" setting page, jump to the page of Config Backup.

IAD is allowed to download config file from local PC, and also allowed to upload config to local PC. If you want to download config from PC, you should click "Upload" button after you selected config file in your local PC by the "Browse" button. If you want to backup config of device, just click "Backup" button.

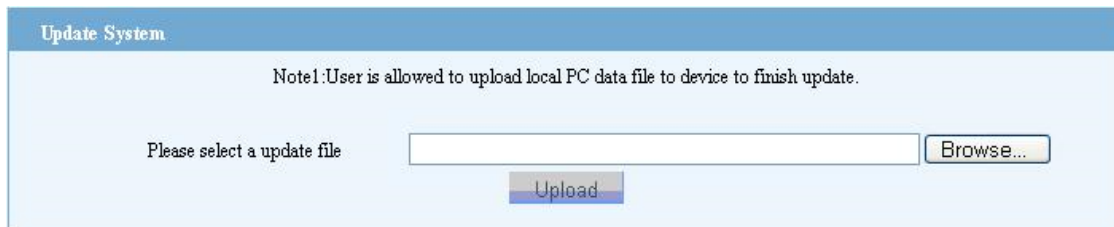


Figure 4-4-2 Import Configuration

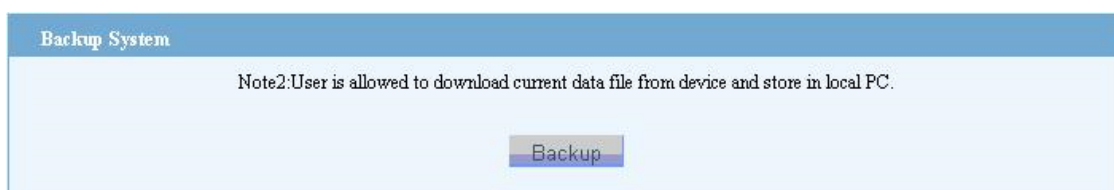


Figure 4-4-3 Export configuration

4.4.3 Reset

Select "System Maintenance->Default Settings" in the navigation menu, click on the "Submit" button, IAD will perform the restore factory settings.

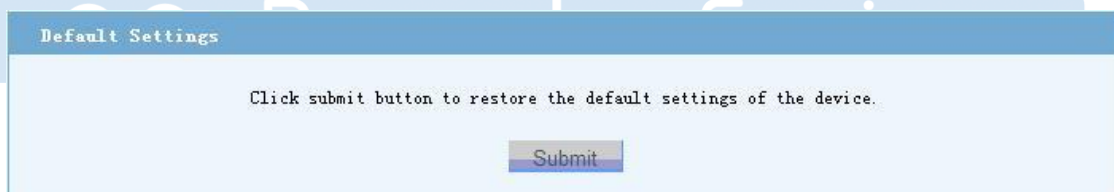


Figure 4-4-4 Factory reset

Notes:

Through the Web to restore factory Settings, IAD's gateway and IP will be retained.

4.4.4 Reboot

Select "System Maintenance->Device Reboot" in the menu bar, You can reboot the device remotely.



Figure 4-4-5 Reboot

Notes:

Through the Web to reboot device, unsaved data will be lost. It will take about 1 minute to restart.

4.4.5 System log

Select "System Maintenance->System Log" in the navigation menu, you can view the log information depending on the module type, you can also Clear, Refresh or Download (export) the log files.

The screenshot shows the 'sys log' interface. At the top, there are two dropdown menus: 'choice:' with 'loglevel' set to 'all' and 'module' set to 'all module'. Below this is a scrollable area containing 20 log entries. At the bottom, there are navigation buttons: 'FirstPage', 'PrevPage', 'NextPage', 'LastPage', 'GOTO', a text input field, and '(1 - 46)'.

```

[1] [1970-1-1 08:00:58.168] [ALARM] [CFGMMNG] Device start up(Soft Restart)
[2] [1970-1-1 08:00:41.360] [INFO] [CFGMMNG] WAN Connected
[3] [1970-1-1 08:00:59.901] [ALARM] [CFGMMNG] Device reboot
[4] [1970-1-1 08:00:58.165] [ALARM] [CFGMMNG] Device start up(Cold Start)
[5] [1970-1-1 08:00:41.360] [INFO] [CFGMMNG] WAN Connected
[6] [1970-1-1 08:00:58.233] [ALARM] [CFGMMNG] Device start up(Cold Start)
[7] [1970-1-1 08:00:41.350] [INFO] [CFGMMNG] WAN Connected
[8] [1970-1-1 08:00:58.268] [ALARM] [CFGMMNG] Device start up(Cold Start)
[9] [1970-1-1 08:00:41.360] [INFO] [CFGMMNG] WAN Connected
[10] [1970-1-1 08:00:59.277] [ALARM] [CFGMMNG] Device start up(Cold Start)
[11] [1970-1-1 08:00:41.420] [INFO] [CFGMMNG] WAN Connected
[12] [1970-1-1 08:00:58.165] [ALARM] [CFGMMNG] Device start up(Cold Start)
[13] [1970-1-1 08:00:41.350] [INFO] [CFGMMNG] WAN Connected
[14] [1970-1-1 13:52:58.970] [CTRL] [WEB] Config taken effect
[15] [1970-1-1 08:00:58.319] [ALARM] [CFGMMNG] Device start up(Soft Restart)
[16] [1970-1-1 08:00:41.360] [INFO] [CFGMMNG] WAN Connected
[17] [1970-1-1 11:08:11.291] [ALARM] [CFGMMNG] Device reboot
[18] [1970-1-1 08:02:34.640] [ALARM] [CFGMMNG] IP conflict clear
[19] [1970-1-1 08:02:09.661] [INFO] [CFGMMNG] WAN Connected
[20] [1970-1-1 08:02:09.428] [CTRL] [CLI] Config taken effect

```

Figure 4-4-6 System log

4.4.6 Device information

Select "System Maintenance->Device Information" in the navigation menu, you can add a personalized name for your device as required.

The screenshot shows the 'DEVICE Settings' interface. The 'Device Name' field is highlighted, containing the text 'XX company co., LTD'.

Figure 4-4-7 Information settings

The device name is set, you can select "Device Status->System Information" in the navigation menu to view it.

Product Information	
Device Name	XX company co., LTD
Product Model	IAD 16FXS16FXO
Hardware Version	V1.2
Software Version	V2.0
Compile Time	2015-10-12 17:06:35

Figure 4-4-8 View information

Chapter 5 Examples

5.1 FXS business

Select "User Port Settings -> Advanced Business Setup" setting page, so you can jump to the main configuration page.

Figure 5-1-1 Advanced business configuration

OO Recorder Series

Parameters	Illustration
Select Port	Select a port number or all ports to be configured.
Caller Display Restrict	It's default "disable".
Call wait	Between "Enable" and "Disable", you could choose one of them.
No disturb	When you selected enable, it means that called port was forbidden.
Call Hold mode	These four modes are Standard, Disable, SSCC, SIP INFO, default chose "Standard".
Callout Constraint	For the purpose to control call out number's prefix (etc: +8652-88888888, +8652 is number's prefix), you can filter it here.

Ringback Media	IAD-X support local ringback tones, if you need, you can enable it.
Hotline mode	Hotline mode is disabled by default.
State Subscribe	Specify subscriber, not enabled by default.
Reg Subs User	Specify subscriber, default is empty.
Dialog Subs User	Specify subscriber, default is empty.
Message Tx	Designate a message transmitting user, not enabled by default.
Message destination	Default is empty.

5.1.1 Multi-party conference

IAD-X make enabled multi-party conferencing service as default

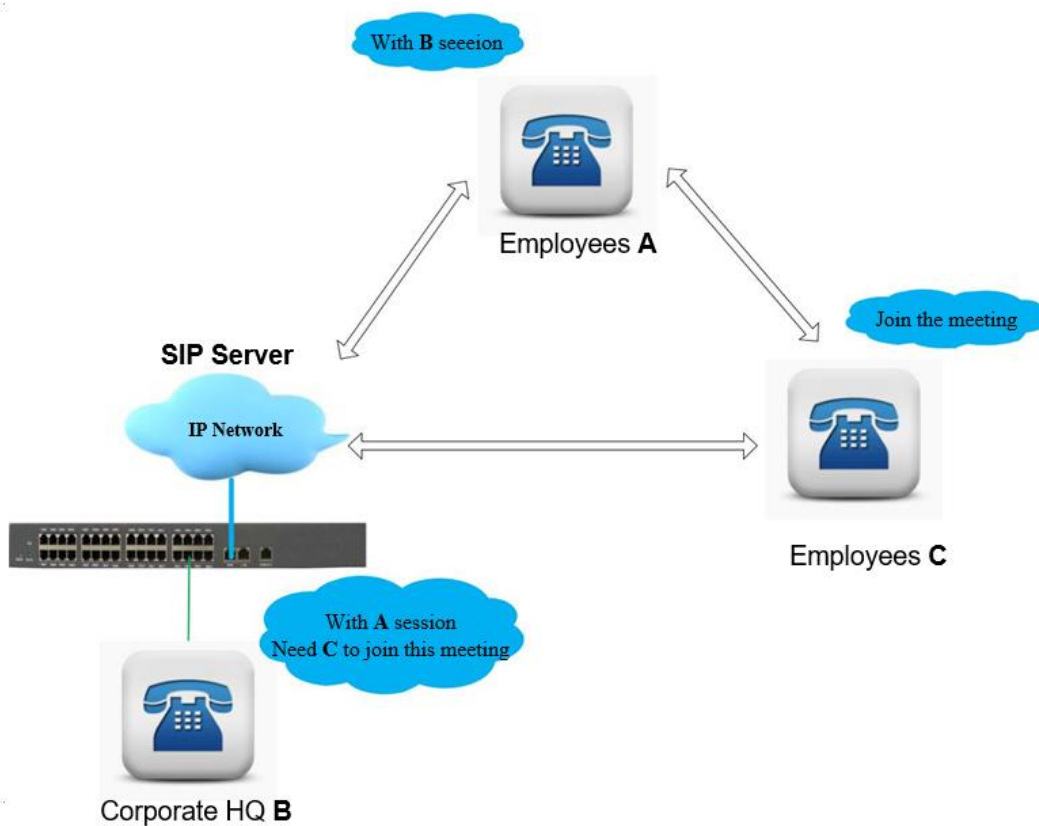


Figure 5-1-2 Multi-party conferencing

IAD's multi-party conferencing's procedure show as follows:

- 1) **B** Dial to **A**, then **A** off hook, so a session established between **A** and **B**.
- 2) **B** hook flash, now **B** can hear a dial tone and **A** is keeping, when **B** dial phone numbers **C**, a session established between **B** and **C**.
- 3) **B** hook flash, now **B** can hear a dial tone, **A** and **C** keeping together, let **B** continue to do the follow things:
 - **Bdial1**: established a call between **B** and **A**.
 - **Bdial2**: established a call between **B** and **C**.
 - **Bdial3**: established a call among **A**, **B** and **C**.

5.1.2 Consulting and blind transfer business

IAD-X make enabled consult transfer and blind transfer business as default. Following PIC will show a business instance that A and C connect to the same IAD.

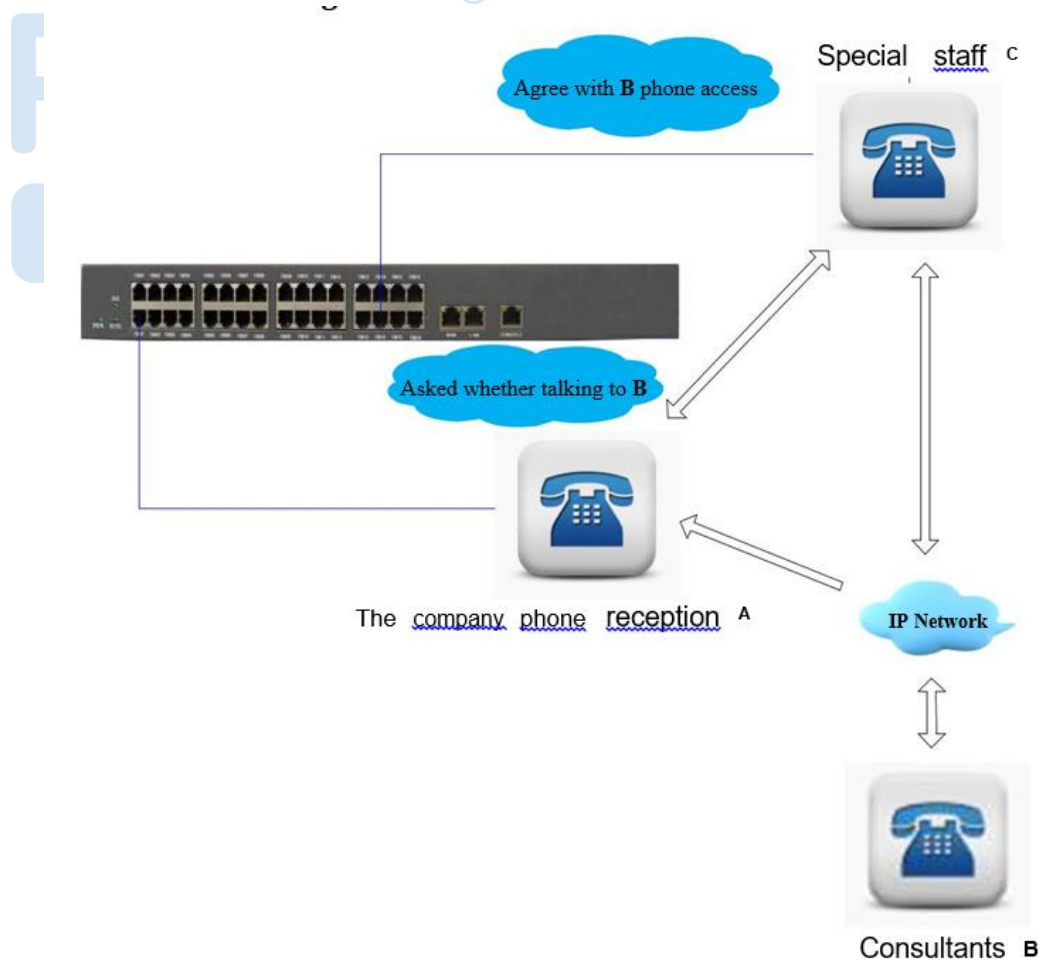
5.1.2.1 Consulting transfer business

Figure 5-1-3 Multi-party conferencing

IAD's consulting transfer service steps are as follows:

- 1) **B** Dial to **A**, then **A** off hook, so a session established between **A** and **B**.
- 2) **A** hook flash, now **A** can hear a dial tone and **B** is keeping, **A** continue to dial phone numbers **C**, a session established between **A** and **C**.
- 3) When **A** on hook, a session established between **B** and **C**.

5.1.2.2 Blind transfer business

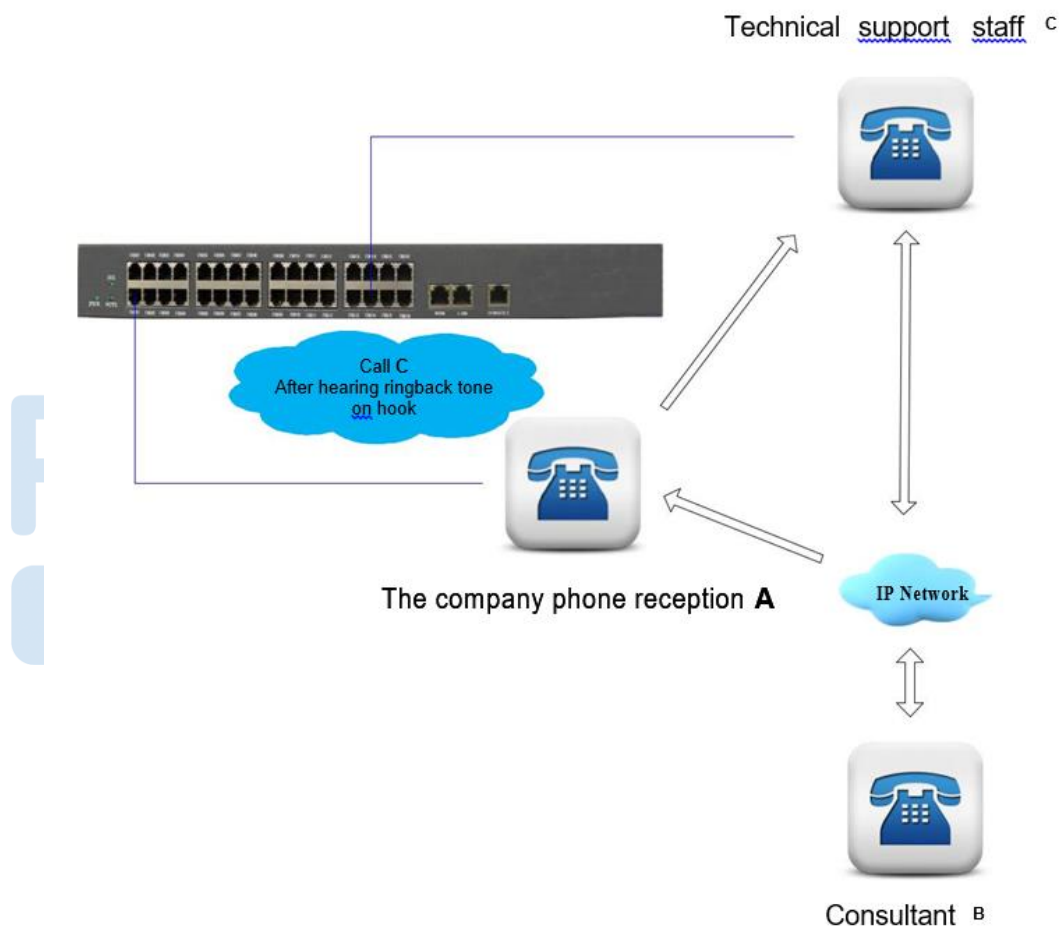


Figure 5-1-4 Blind transfer business

IAD's blind transfer business, the call processes are as follows:

- 1) **B** Dial to **A**, then **A** off hook, so a session established between **A** and **B**.
- 2) **A** hook flash, now **A** can hear dialing tone and **B** is keeping, **A** continue to dial phone **C**, when **A** heard a ringback tone, then on hook.
- 3) If **C** off hook, a session establish between **B** and **C**. Otherwise, **B** would first heard a ringback tone and then a busy tone for a period of time, after that vanished, all session is ending.

5.1.3 Call waiting service

IAD-X in the call waiting service is not enabled by default. To enable this service, go to the "Port Settings->Advanced Settings" configuration page to enable the corresponding port "Call Wait" function.

IAD in call waiting service steps is as follows (refer to "Figure 5-1:Multi-party conferencing"

USER MANUAL steps,example below

B is configured call waiting service):

- 1) **A** Dial to **B**, then **B** off hook, so a session established between **A** and **B**.
- 2) **C** Dial **B**, during the call, **B** will hear the call waiting tone.
- 3) **B** on hook flash, now **B** heard dialing tone at which time both **A** and **C** are keeping.

B continue to do things as follows:

- **B** dial 0: stop **C**.
- **B** dial 2: connect with **C**.

Notes:

For the port,which configured call waiting service.when user hook flash, then press number "2",established a session between one user of them,twice press number "2",established a session between another user of them.Press number "0" means to stop another user,and keeping current session.

5.1.4 Ringing group

Select "Port Settings->Ringing Group Settings" setting page, you can jump to the page for the ringing group.

Figure 5-1-5 Ringing group settings

Notes:

- By dividing the Ring Group, achieve much incoming extension parallel ringing, divided up to 16 groups.
- It is strongly suggest that one device's group member isn't over 16 users.

5.1.5 Point to Point function

IAD-X's P to P function that make business between two IAD-X without of SIP server comes true. If the IAD can be allocate a unique IP, that allows remote call between two IAD via Internet.

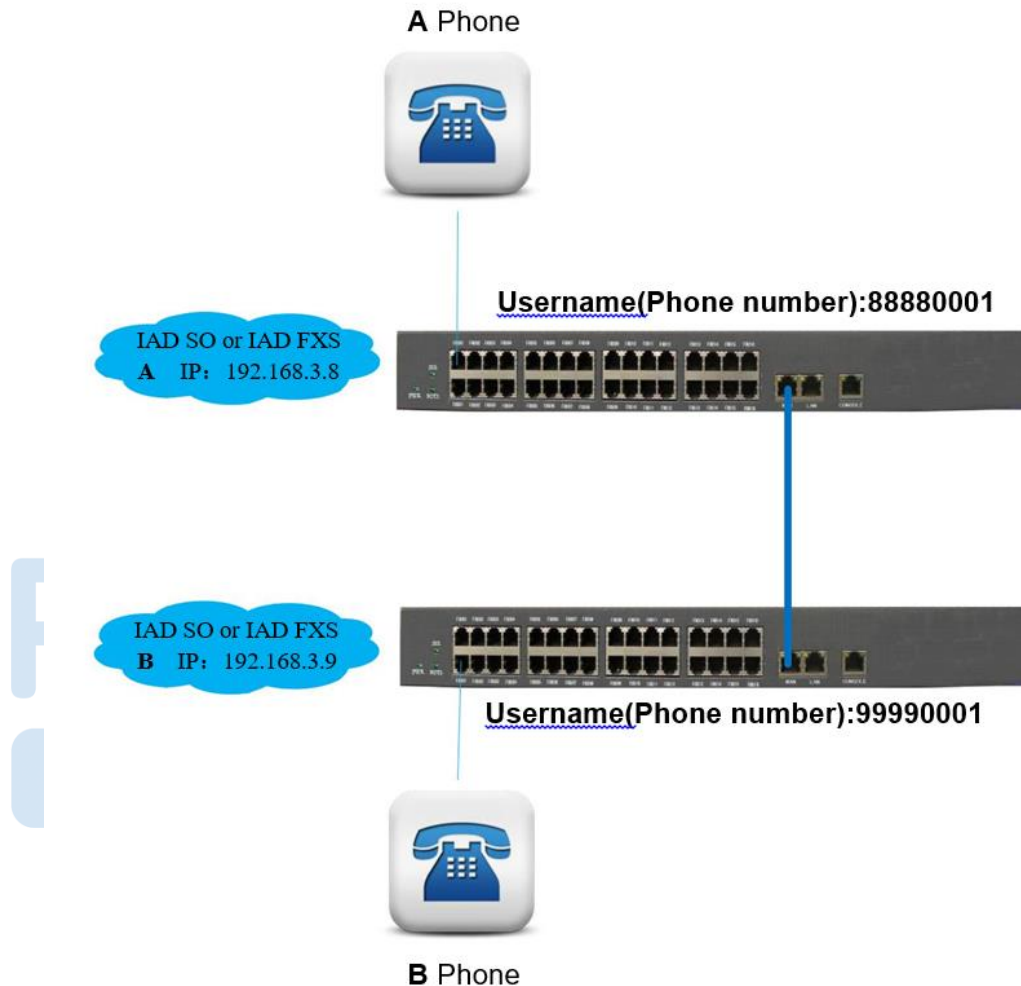


Figure 5-1-6 Point to Point function

Follow the steps:

- 1) Find out "4.2.6 Call routing" setting page, in "Dial Route IP" and "Route Port" input opposite IAD-X's IP address and port number. Such as "Figure 4-2.6: Digit Map", "dial routing", device **B** input device **A**'s IP and port number, on the other hand, device **A** input device **B**'s IP and port number.
- 2) Select "Device Status->Ports Status" menu by navigation, where could inquire registration status. When all ports successfully registered, we could see "registered" displayed on the Web page. It is showed that we could make IAD-X's P to P business. Otherwise, please check WAN port's configuration parameters and network.

5.2 System update

Select "System Maintenance->Software Update" setting page, then you'll locate to upgrade position. During upgrade, keeping power on, and don't press restart button. After upgrade is complete, the device will automatically restart.

Figure 5-2-1 System update

Warning: If done incorrectly, it can cause irreversible damage. Please take caution.

Chapter 6 FAQ

6.1 CLI maintenance tools

CLI is a command-line terminal maintenance tool. In order to solve problems efficiently, you should have a certain understanding about the following details.

The following procedure parameters are "factory default ". More parameter information, refer to "3.1.1 Factory parameters". When dealing with the issue, you should according to the actual configuration parameters.

6.1.1 Telnet login

We can make configuration on command-line terminal, manage device in-band.

When configurate IAD's technical parameter, we could use "telnet" to login. (First, ensure that device's power is on, LAN port default IP is 192.169.0.1, subnet mask is 255.255.255.0) We can make configuration from command terminal, manage device in-band.

IAD gateway allowed telnet to login WEB configuration by LAN or WAN port. However, due to the WAN port IP address might be dynamically obtained through DHCP and PPPoE, which is not easy for "telnet" to access, so it is strongly recommended that keep the LAN port to connect "telnet". "telnet" login process can be performed as follows:

Prepare a direct or a cross network cable.

Keep network cable connect PC and IAD's LAN port. If the LAN port LINK led is on, it means that PC and device has been properly connected.

Modify/Add the PC IP address 192.169.0.X (X is an integer greater than 2 and less than 254) mask of 255.255.255.0.

Open a command line window on PC. (From the windows menu<start>, <Run>, where you can input "cmd" command or "command", then click "OK" to open cmd.exe.

Input the following command in the command line window: telnet 192.169.0.1 1250 refer to the following picture:

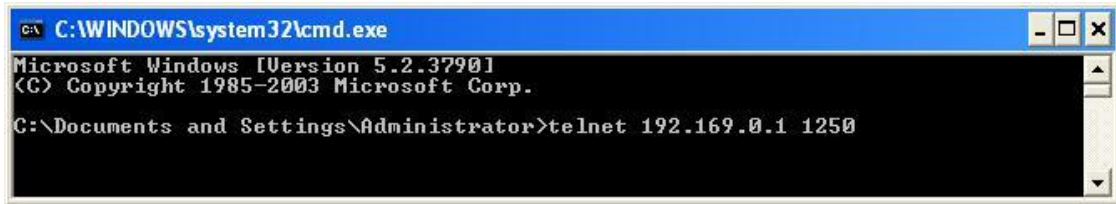


Figure 6-1-1 IAD Telnet login

- 1) Press enter, Telnet into the device's login screen, as shown below:

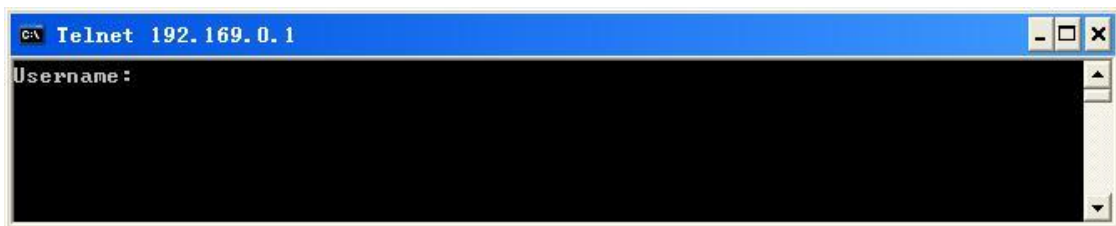


Figure 6-1-2 IAD Telnet login

- 2) Input correct user name and password to enter, the system default username is "admin", the default password is "psw.iad".



Figure 6-1-3 IAD Telnet login

6.1.2 Serial port login

IAD can be used to configure the device via CONSOLE port. Use one end of the serial cable to the IAD-X's CONSOLE port, and the other end connected to any serial port on computer. Then operator computer as follows: (Open a windows "start" menu, as this steps: "start->All Programs->Accessories->Communications->HyperTerminal"), then click "HyperTerminal. exe". If you can't find out the application, please install application from the PC's "control panel". With other help, please reference to Windows help.

- 1) Start HyperTerminal, there will be a "Connection Description" dialog box, required to enter a name and select an icon for the connection, show as below.

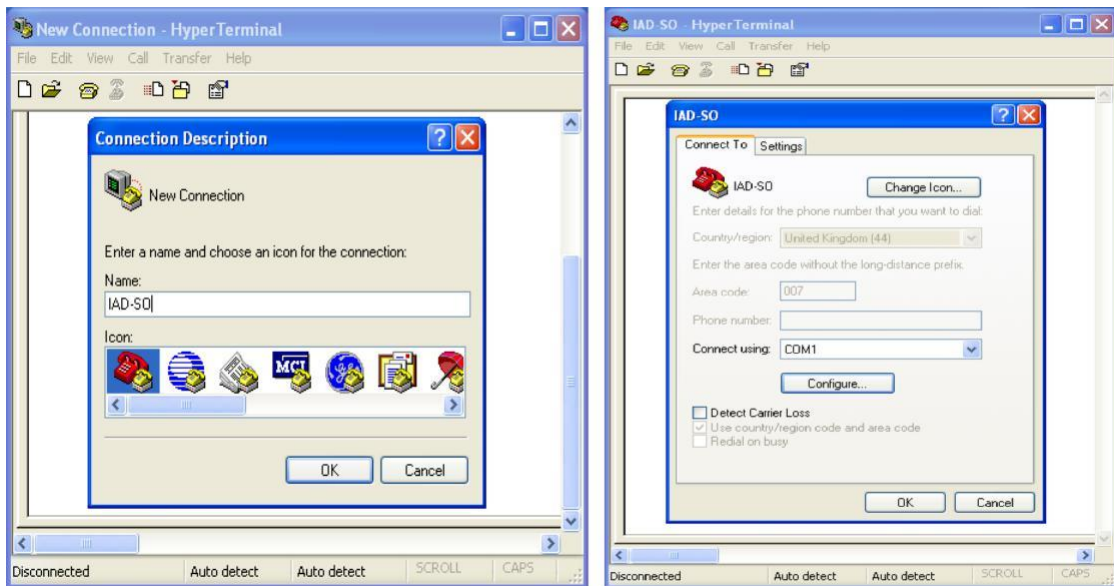
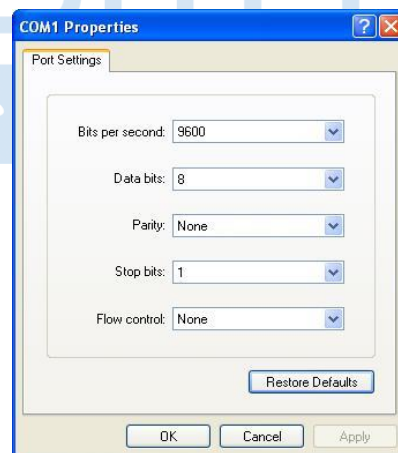


Figure 6-1-4 HyperTerminal configuration

- 2) Input a connection name, press the Enter key or use the mouse to click "OK" you can enter to the next step. Then there will be a "connected" dialog. In the "Connect using" pull down menu, your selected port must be accordance with the port actually connected to the PC. As show in picture below.

- 3) Press Enter or click on the "OK" button, enter the next step, set port's other attributions. Port attributions should be set as follows:

- Bits per second: **9600**
- Data bits: **8**
- Parity: **None**
- Stop bits: **1**
- Flow control: **None**



Press Enter key or use mouse to click "OK"

- 4) If the device has been started (device automatically starts when power is on), you can see the user login message.

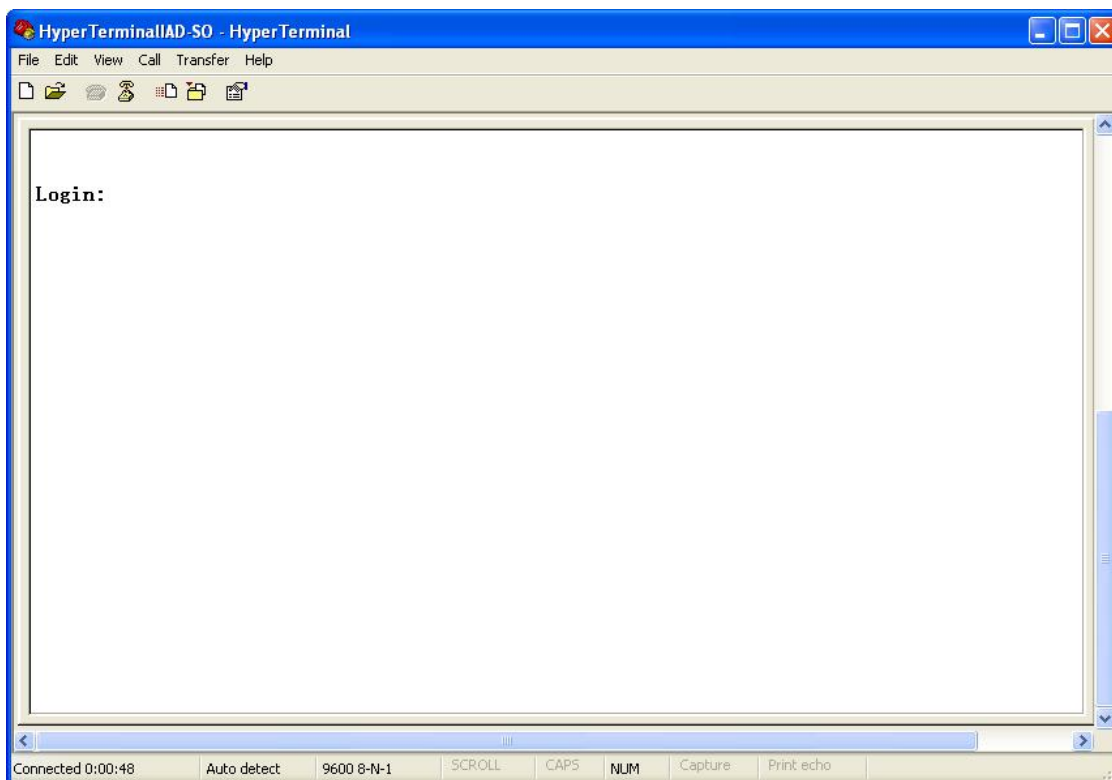


Figure 6-1-6 Serial login

- 5) According to information on command screen, input correct login user name and password, then you can login.

If this is your first time to login, please use the default account. System default username is "admin", default password is "psw.iad". About the details of the command, please refer to the instructions on back.

Notes:

IAD CLI command maintenance tools, which in addition to support Telnet, Serial, also support the SHH. Due to SHH function usage is similar to Telnet, Serial. It's not to repeat here.

6.1.3 CLI instruction use

1) **Instruction**

Instruction function	CLI instruction	Application
Reboot device	reboot	Serial/Telnet
Load default settings	load df1	Serial/Telnet
Username unlock	user unlock "username"	Serial
System upgrade	download program tftp "server IP" upgrade	Serial/Telnet

Debug open	debug call debug "level" debug start	Serial/Telnet
Debug close	Ctrl-C to quit	Serial/Telnet

2) Instruction examples

Instruction function	Instruction examples
Reboot device	#reboot<CR>
Load default settings	#system<CR> #system> load df1<CR>
Username unlock	#system<CR> #system> user unlock admin<CR>
System upgrade	#system<CR> #system> download program 192.168.3.30 MAG3000L.img<CR>
Debug open	#system<CR> #system> debug call 3<CR> #system> debug start<CR>
Debug close	Keyboard enter "Ctrl + C" to quit

6.1.4 Troubleshooting

Problem type	Possible reasons	Solutions
All led is off	1) No power or power adapter failure.	1) Change power or replace power adapter.
Ethernet port led can't work	1) Not connected network or cable damage. 2) Cable type error. 3) Cable length is out of range.	1) Check cable or replace another one. 2) Ethernet cable must be a direct or cross network cable.
Can't access to Web	1) PC and IAD devices are not on the same network. 2) Cable error. 3) IP conflict or circuit loop. 4) Wrong port access.	1) Check whether the PC is in 192.169.0.X / 24 network group. 2) Change cable. 3) PC connected directly to the device's LAN port. 4) Change correct access port. (IAD's default port for access WEB http is "8008", and https is 443).
Can't make a call	1) Telephone or telephone line failure. 2) IAD phone port fault. 3) SIP registers failure. 4) Dialing rules are not	1) Replace telephone or cable. 2) Change another IAD phone port. 3) Check the SIP user registration status.

	configured correctly.	4) Check the dialing rules configured correctly.
Stop after work for a period of time	<ol style="list-style-type: none"> 1) Power abnormal. 2) Device over heat. 	<ol style="list-style-type: none"> 1) Check power connection and voltage. 2) Check circumstance and air outlet.

