DAG Series User Manual V1.0

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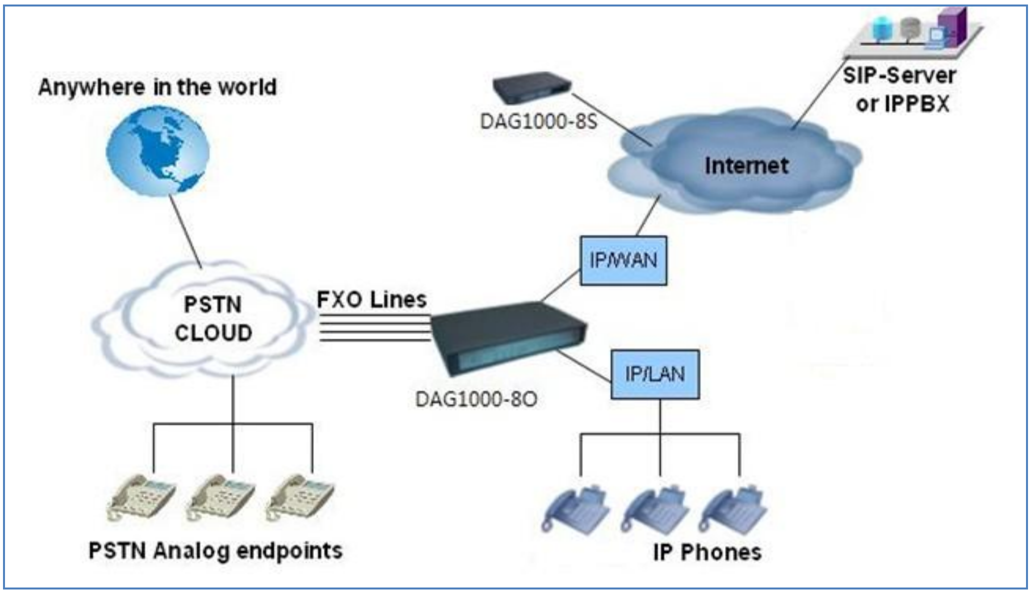
1. Equipment Introduction

1.1 Introduction

The DAG serial is a full feature voice and fax-over IP device that offers a high-level of integration including dual 10M/100Mbps network ports with integrated router, NAT, DHCP server, dual port FXS telephone gateway, market-leading sound quality, rich functionalities, and a compact and lightweight design. The DAG serial fully compatible with SIP industry standard and can interoperate with many other SIP compliant devices and software on the market. Moreover, it supports comprehensive voice codecs including G.711 (a/μ-law), G.723.1 and G.729AB. A typical network diagram shows the function of DAG serial as below.

Figure 1-1-1 Network Scenario



1.2 Equipment Structure

1.2.1 Front View

Figure 1-2-1 DAG Series Front View

Table 1-2-1 Description of DAG Front View

Interface	**Description**
PWR	Connecting to power adapter, DC12V.1A or 110~240VAC,50~60HZ,0.4A
WAN(RJ-45)	Connecting to internal LAN network or router
LAN(RJ-45)	Connecting to LAN port with an Ethernet cable to your PC
PHONE(RJ-11)	FXS ports should be connected to analog phones/fax machines
FXO	FXO ports should be connected to physical PSTN lines from a traditional PSTN PBX or PSTN Central Office

1.2.2 Rear View

Figure 1-2-2 DAG Series Rear View

Table 1-2 -2 Description of DAG Series Rear View

LED	**Color**	**Name**	**Status**	**Description**
POWER	Green	Power status indicator	Off	Power is off
			On	Power is on
RUN	Green	Register indicator	Fast blinking	Register
			Slow blinking	Unregister
WAN	Yellow	WAN status indicator	Off	Failed
			On	Normal
LAN	Yellow	LAN status indicator	Off	Failed
			On	Normal
FXS	Green	Indicate status of the respective FXS ports on the back	Off	Available
			On	Busy
FXO	Green	Indicate status of the respective FXO ports-phone on the back	Off	Available
			On	Busy

1.3 Connection to DAG serial

The DAG serial is easy to configure using the embedded GUI pages and the following five (5) steps.

Five easy steps to configure the DAG serial

1. Connecting a standard touch-tone analog telephone (or fax machine) to first FXS port
2. Connecting another standard touch-tone analog telephone (or fax machine) to second FXS port or connect PSTN line to line port(FXO)
3. Inserting the Ethernet cable into the WAN port of DAG serial and connecting the other end of the Ethernet cable to an uplink port (a router or a modem, etc.)
4. Connecting a PC to the LAN port of DAG serial
5. Inserting the power adapter into the DAG serial and connecting it to a wall outlet

1.4 Functions and Features

1.4.1 Protocol standard supported

- Standard SIP /MGCP protocol;
- Simple Traversal of UDP over NATs (STUN);
- IP Transport: RTP/RTCP
- Hypertext Transfer Protocol (HTTP);
- Dynamic Host Configuration Protocol (DHCP Server/Client);
- Domain Name System (DNS);
- ITU-T G.711A-Law/U-Law、G.723.1、G.729AB、G.168;

1.4.2 System function

- PLC,VAD,CNG
- DTMF mode: RFC 2833,SIP INFO and INBAND
- T.38/ Pass-Through FAX over IP
- HTTP/Telnet configuration
- Firmware upgrade by TFTP/Web
- QoS: Diffserve, TOS,802.1 P/Q VLAN tagging
- Caller ID, Call waiting, Call transfer, DND

1.4.3 Industrial standards supported

- Stationary use environment: EN 300 019: Class 3.1
- Storage environment: EN 300 019: Class 1.2
- Transportation environment: EN 300 019: Class 2.3
- Acoustic noise: EN 300 753
- CE EMC directive 2004/108/EC
- EN55022: 2006+A1:2007
- EN61000-3-2: 2006,
- EN61000-3-3: 1995+A1: 2001+A2: 2005
- EN55024: 1998+A1: 2001+A2: 2003
- Certifications: FCC, CE

1.4.4 General hardware specification

- Power supply: Output: 12VDC, Input 100~240 VAC/50HZ
- Temperature: 0~40℃(operational),-20~70℃(storage)
- Humidity: 10%~90%, no condensation
- Max power consumption: 6/8/10/15/30W
- Dimension(mm): DAG1000(1FXS):100*68*24, DAG1000(2FXS):160*110*30,

DAG1000(4FXS):195*133*35,DAG1000(4FXO/8FXS/8FXO):240*150*35,
DAG2000(16FXS/FXO):440*280*43

- Net weight: DAG1000(1FXS):0.1kg, DAG1000(2FXS):0.25kg, DAG1000(4FXO/8FXS/8FXO):1kg, DAG2000(16FXS/16FXO):3.05kg

2. Basic Operations

2.1 Phone Call

2.1.1 Phone or Extension Numbers

1. Dial the number directly and wait for 3 seconds (Default "*No dial timeout*");
2. Dial the number directly and press #.

Examples:

1. Dial an extension directly on the same proxy, (e.g. 8080), and then press the # or wait for 3 seconds.
2. Dial an outside number (e.g. (626) 666-8080), first enter the prefix number (usually 1+ or international code) followed by the phone number. Press # or wait for 3 seconds. Check with your VoIP service provider for further details on prefix numbers.

2.1.2 Direct IP Calls

Direct IP calling allows two parties, that is, a FXS Port with an analog phone and another VoIP Device, to talk to each other in an ad hoc fashion without a SIP proxy.

Elements necessary to completing a Direct IP Call:

1. Both DAG serial and other VoIP Device, have public IP addresses;
2. Both DAG serial and other VoIP Device are on the same LAN using private IP addresses;
3. Both DAG serial and other VoIP Device can be connected through a router using public or private IP addresses (with necessary port forwarding or DMZ).

1. Pick up the analog phone then dial "***47**"
2. Enter the target IP address.

Note: No dial tone will be played between step 1 and 2.

Examples:

If the target IP address is 192.168.0.160, the dialing convention is ***47,** then **192*168*0*160.** Followed by pressing the "#" key or wait 3 seconds. Destination port is 5060.

NOTE:

You cannot make direct IP calls between FXS0 to FXS1 since they are using same IP. It only supports the default destination port 5060. "*Disable direct IP-IP calling*" must be set to "No" in web configuration page. "*Call features enable*" must be set to "Yes" in web configuration page.

2.2 Call Hold

Place a call on hold by pressing the “flash” button on the analog phone (if the phone has that button).Press the “flash” button again to release the previously held Caller and resume conversation. If no “flash” button is available, use “hook flash” (toggle on-off hook quickly). You may drop a call using hook flash.

2.3 Call Waiting

Call waiting tone (3 short beeps) indicates an incoming call, if the call waiting feature is enabled. Toggle between incoming call and current call by pressing the “flash” button. First call is placed on hold. Press the “flash” button to toggle between two active calls.

2.4 Call Transfer

2.4.1 Blind Transfer

Assume that call Caller A and B are in conversation. A wants to Blind Transfer B to C: 1. Caller A presses **FLASH** on the analog phone to hear the dial tone. 2. Caller A dials ***87** then dials caller C’s number, and then # (or wait for 4 seconds) 3. Caller A will hear the confirm tone. Then, A can hang up.

NOTE: “*Call features enable*” must be set to “Yes” in web configuration page. Caller A can place a call on hold and wait for one of three situations:

1. A quick confirmation tone (similar to call waiting tone) followed by a dial-tone. This indicates the transfer is successful (transferee has received a 200 OK from transfer target). At this point, Caller A can either hand up or make another call.
2. A quick busy tone followed by a restored call (on supported platforms only). This means the transferee has received a 4xx response for the INVITE and we will try to recover the call. The busy tone is just to indicate to the transferor that the transfer has failed.
3. Continuous busy tone. The phone has timed out.

2.4.2 Attended Transfer

Assume that Caller A and B are in conversation. Caller A wants to *Attend Transfer* B to C:

1. Caller A presses **FLASH** on the analog phone for dial tone.
2. Caller A then dials Caller C’s number followed by # (or wait for 3 seconds).
3. If Caller C answers the call, Caller A and Caller C are in conversation. Then A can hang up to complete transfer.
4. If Caller C does not answer the call, Caller A can press “flash” to resume call with Caller B.

2.5 Call Features

The DAG serial supports all the traditional and advanced telephony features.

Table 5.DAG serial Call Feature Definitions

*47	Direct IP Calling. Dial "*47" + "IP address". No dial tone is played in the middle.
*50	Disable Call Waiting(for all subsequent calls)
*51	Enable Call Waiting(for all subsequent calls)
*72	Unconditional Call Forward: Dial "*72" and then the forwarding number followed by "#". Wait for dial tone and hang up. (dial tone indicates successful forward)
*73	Cancel Unconditional Call Forward: To cancel "Unconditional Call Forward", dial "*73", wait for dial tone, and then hang up.
*78	Enable Do Not Disturb(DND): When enabled all incoming calls are rejected
*79	Disable Do Not Disturb(DND): When disabled, incoming calls are accepted.
*87	Blind Transfer
*90	Busy Call Forward: Dial "*90" and then forwarding number followed by "#".Wait for dial tone then hang up.
*91	Cancel Busy Call Forward. To cancel "Busy Call Forward", dial "*91",wait for dial tone, and then hang up.
*92	No Answer Call Forward. Dial "*92" and then the forwarding number followed by "#". Wait for dial tone then hang up.
*93	Cancel No Answer Call Forward. Dial "*93", wait for dial tone, and then hang up.
*99	Cancel all call forward
*114#	Report phone No
*158#	Report IP Address
*111#	Reset
Flash/Hook	Toggles between active call and incoming call(call waiting tone). If not in conversation, flash/hook will switch to a new channel for a new call.

2.6 Sending and Receiving Fax

DAG serial supports fax in two modes: 1) T.38 (Fax over IP) and 2) fax pass through.
T.38 is the preferred method because it is more reliable and works well in most network conditions. If the service provider supports T.38, please use this method by selecting T.38 as fax mode (default). If the service provider does not support T.38, pass-through mode may be used. If you have problems with sending or receiving Fax, toggle the Fax Tone Detection Mode setting.

3. Configuration Guide

3.1 Configure LAN Port's IP Address

Connect to the FXS port and then telephone set:

1. Dynamic IP address by DHCP：
   Offhook;
   Input "*150*2#";
   Onhook;
   If the equipment hint success, after 10 seconds, and restart the equipment. (Power-off then power-on)
2. Static IP address：
   Offhook;
   Input "*150*1#";
   Onhook;
   Then
   （1） Configure IP address：
   Offhook; input "*152*172*16*0*100# "; onhook.
   （2） Configure netmask：
   Offhook; input "*153*255*255*0*0# "; onhook.
   （3） Configure gateway IP address (next hop)：
   Offhook; input "*156*172*16*0*1# "; onhook.
   （4） if success, after 10 seconds, restart the equipment ;

3. Query the IP address of DAG1000 : Offhook, input "*158#"
4. If the DAG serial uses PPPoE method to get IP address，it need to configure by web browser.

NOTE: the telephone will play voice hint "Setting successfully" if the setting step is correct.

3.2 Access DAG Serial By Web Browser

DAG serial has an embedded Web server that will respond to HTTP GET/POST requests. It also has embedded HTML pages that allow users to configure the DAG serial through a web browser such as Microsoft's IE .

3.2.1 Login

The DAG serial GUI configuration can be accessed via LAN or WAN port:

From the LAN port

1. Offhook, input ***158#** and get an IP address. The default gateway IP address: 192.168.11.1.
2. Directly connect a computer to the LAN port.
3. Open a command window on the computer.
4. Type in "ipconfig /release", the IP address etc. becomes 0.
5. Type in "ipconfig /renew", the computer gets an IP address in 192.168.11.x segment by default

6. Open a web browser, input the default gateway IP address. http://192.168.11.1. You will see the login page of the device.

7. The default username is admin while the default password is admin too.

From the WAN port

The WAN port HTML configuration option is disabled by default from factory. To access the HTML configuration menu from the WAN port:

1. Access the Web from LAN port.
2. Set Work Mode to Route Mode.
3. Enable the “Remote Manage”.
4. Find the WAN IP address of the equipment .example:172.16.0.177 then restart the equipment.
5. Access the equipment Web Configuration page by the following URI via WAN port: http:// 172.16.0.177

3.3 Access DAG serial by Web Browser

The web page configuration includes the following:

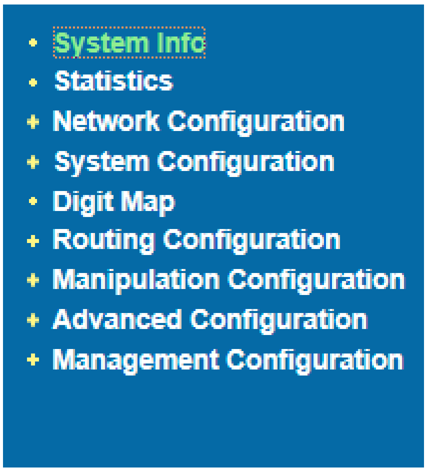


Figure 3-3-1 Navigation tree

Go through navigation tree, user can check, modify, and set the device configuration on the right of configuration interface.

Figure3-3-1 Configure Interface

3.3.1 System Information

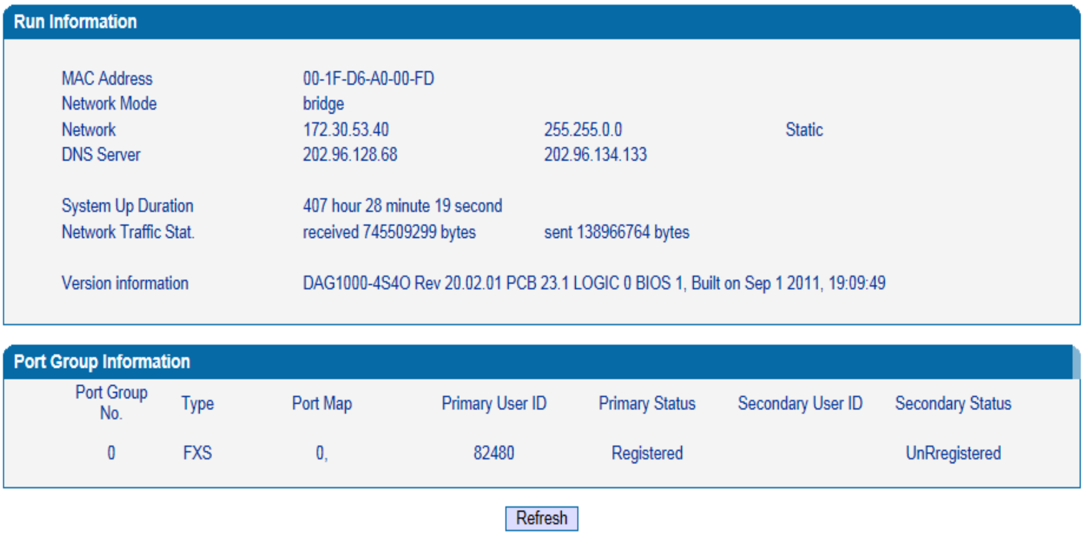


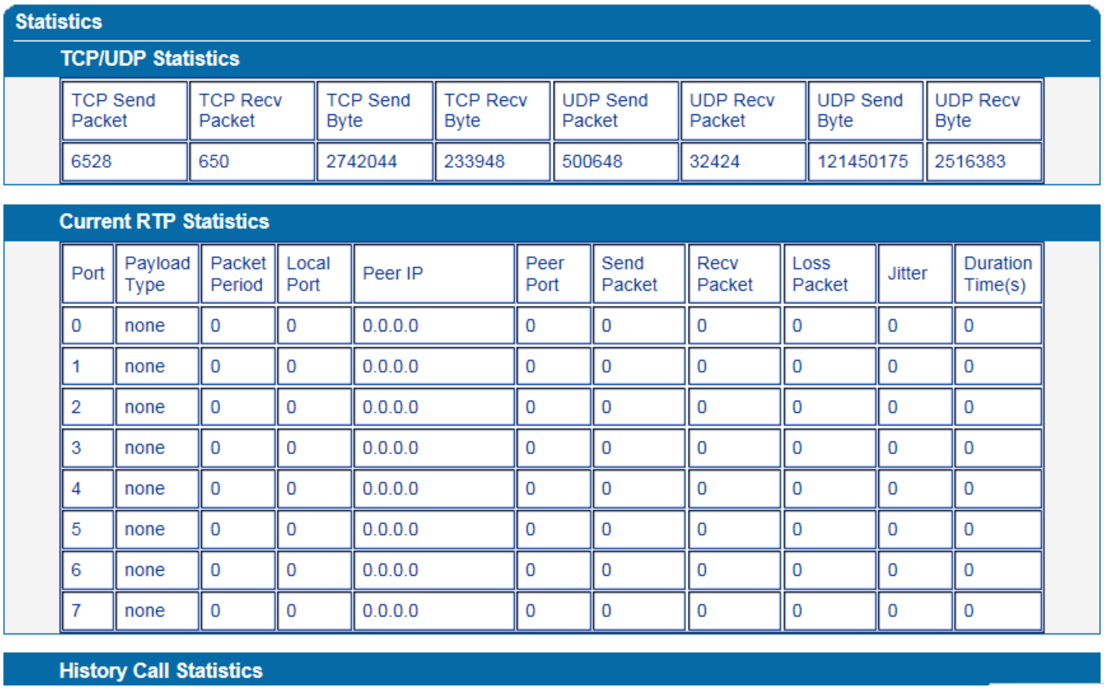
Figure 3-3-2 System Information

System information interface shows the run information and port group information.

Table 3-3-1 Description of System Information

MAC address	The device ID in HEX format. This is needed for ISP troubleshooting. Note there are separate MAC addresses for the WAN side and the LAN side.
Network Mode	Route mode or bridge mode, if it is bridge, WAN port display Network, and the WAN port as same as the LAN port
WAN port	Show WAN IP address of equipment,. DHCP mode: The equipment acquires its IP address from the first DHCP server it discovers from the LAN it is connected. Static IP mode: Configure the IP address, Subnet Mask, Default Router IP address, DNS Server 1 (primary), DNS Server 2 (secondary) fields. These fields are set to zero by default.
LAN port	Show LAN IP address of equipment. If network mode is bridge, LAN port will no display.
DNS Server	IP addresses of primary DNS server
System Up Duration	Time elapsed from device power on to now.
Network Traffic Statics	Total bytes of message received and sent by network port.
Version Information	Includes: product mode, software version, hardware version and built time etc.
Port Group Information	Show FXS / FXO port information

2.3.2 Statistics


Statistics

TCP/UDP Statistics

TCP Send Packet	TCP Recv Packet	TCP Send Byte	TCP Recv Byte	UDP Send Packet	UDP Recv Packet	UDP Send Byte	UDP Recv Byte
6528	650	2742044	233948	500648	32424	121450175	2516383

Current RTP Statistics

Port	Payload Type	Packet Period	Local Port	Peer IP	Peer Port	Send Packet	Recv Packet	Loss Packet	Jitter	Duration Time(s)
0	none	0	0	0.0.0.0	0	0	0	0	0	0
1	none	0	0	0.0.0.0	0	0	0	0	0	0
2	none	0	0	0.0.0.0	0	0	0	0	0	0
3	none	0	0	0.0.0.0	0	0	0	0	0	0
4	none	0	0	0.0.0.0	0	0	0	0	0	0
5	none	0	0	0.0.0.0	0	0	0	0	0	0
6	none	0	0	0.0.0.0	0	0	0	0	0	0
7	none	0	0	0.0.0.0	0	0	0	0	0	0

History Call Statistics

Figure3-3-3 Statistics

Statistics option includes three sets of statistics: TCP / UDP information, RTP messages and call history information. Check the user-friendly equipment failure.

3.3.3 Network Configuration

Network parameter includes: Local Network, VLAN Config, Qos Parameter, ARP Config.

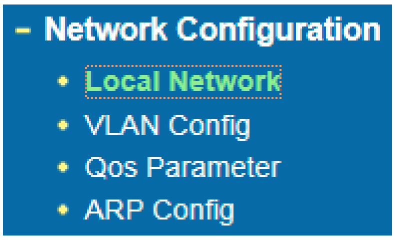


Figure 3-3-4 Network Configuration

1. Local Network

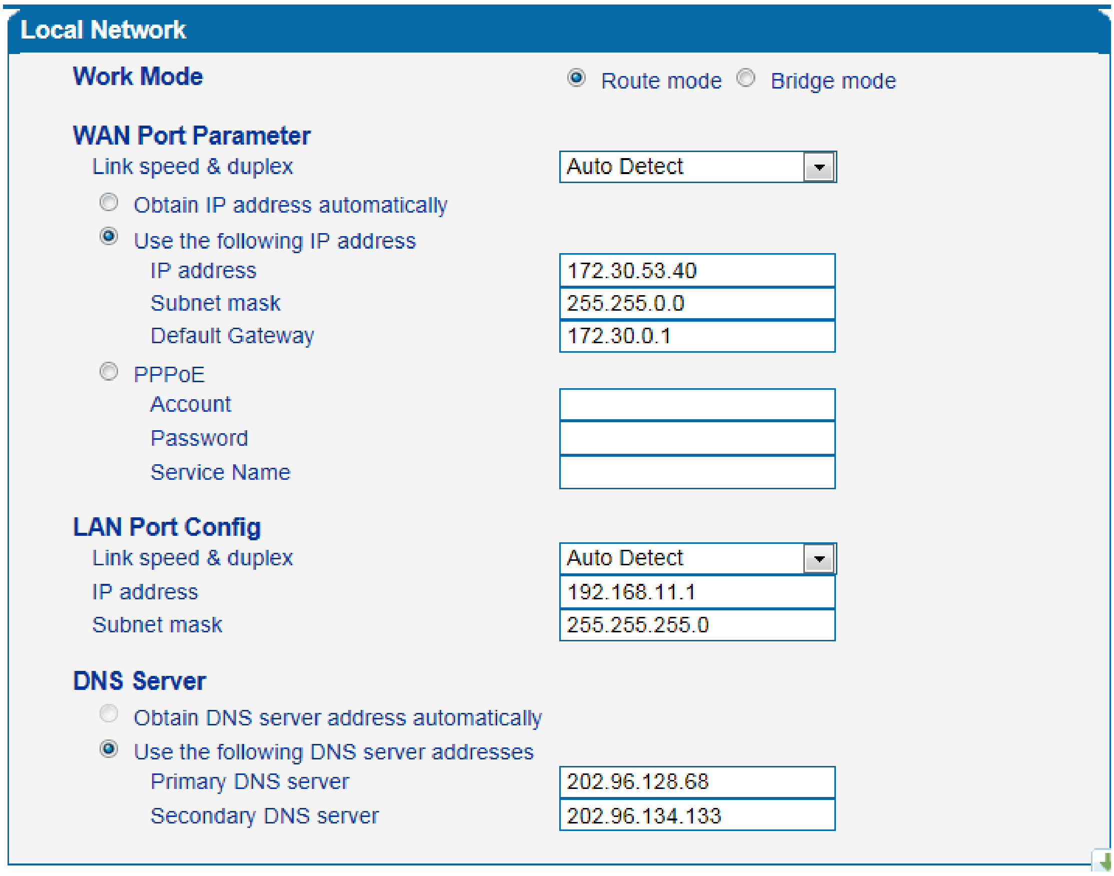


Figure 3-3-5 Local Network

Table 3-3-2 Description Local Network

Work Mode	This parameter controls whether the device is working in NAT router mode or Bridge mode.
WAN Port Parameter	This option specifies the WAN port's Ip address, and its Ethernet network work mode. **Link speed & duplex** This option specifies the Ethernet network's work mode. It have: Auto Detect,10Mbps/Half Duplex,10Mpbs/Full Duplex,100Mbps/Half Duplex, 100Mpbs/Full Duplex, There are three modes to operate the DAG serial WAN IP address, default option is Dynamically assigned via DHCP. **Dynamically assigned via DHCP**: All the field values for the Static IP mode are not used. The equipment acquires its IP address from the first DHCP server it discovers from the LAN it is connected. **Static IP mode:** Configure the IP address, Subnet Mask, Default Router IP address, DNS Server 1 (primary), DNS Server 2 (secondary) fields. These fields are set to zero by default. **Dynamically assigned via PPPoE :** Set the PPPoE account settings. The equipment will establish a PPPoE session if any of the PPPoE fields is set.

LAN Port Config	This option specifies the LAN port's ip address, and its Ethernet network work mode. **Link speed & duplex:** This option specifies the Ethernet network's work mode. It have: Auto Detect,10Mbps/Half Duplex,10Mpbs/Full Duplex,100Mbps/Half Duplex,100Mpbs/Full Duplex. **IP address:** Set LAN IP address, default value is 192.168.11.1 **Subnet mask:** Sets the LAN subnet mask. Default value is 255.255.255.0
DNS Server	This option specifies get the DNS server ways: Dynamically assigned via DNS(WAN IP address is DHCP IP) and set static DNS (WAN IP address is static IP).

2. VLAN Parameter Config

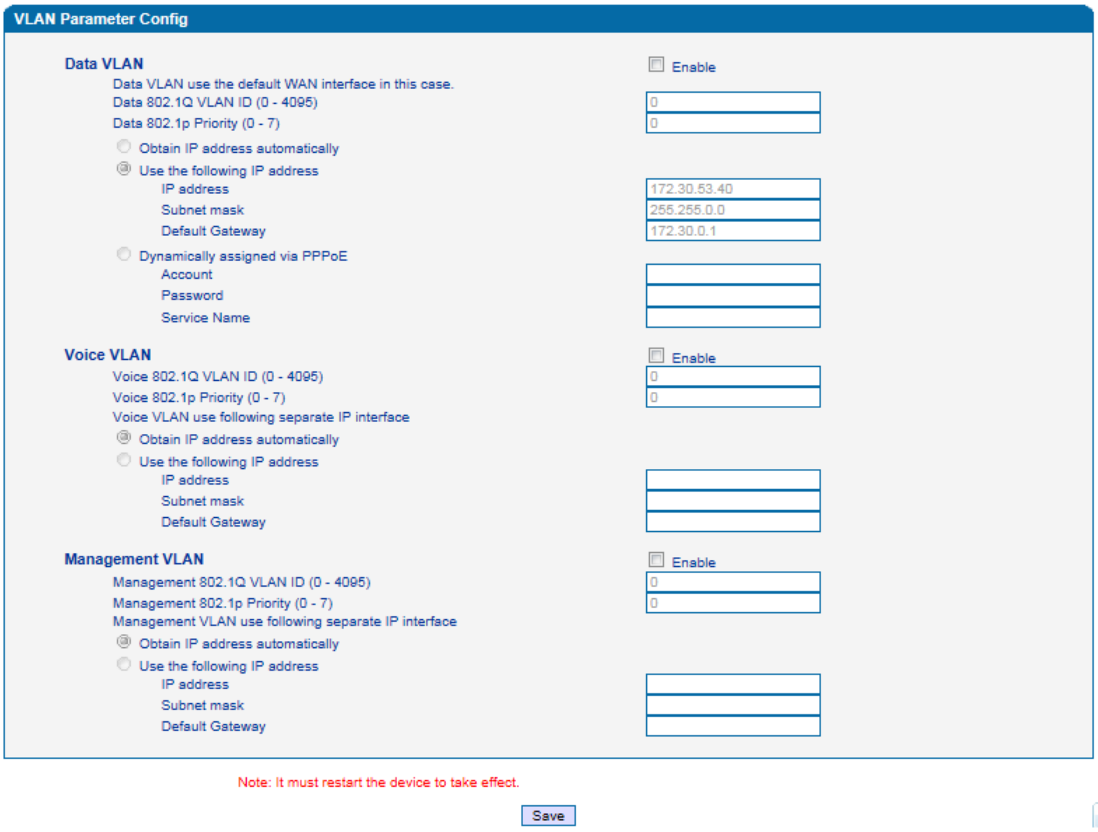


Figure 3-3-6 VLAN Parameter Config

When a network has a very wide range of applications, in order to artificially divided into different applications to different networks, to prevent them interfering with each other and to different networks with different bandwidth, customer can use the VLAN.

VLAN parameter configuration can configure three VLAN as follows.

（1） Data VLAN

Data VLAN use the default WAN interface in this case	Selecting “Enable” will configure Data VLAN.
Data 802.1Q VLAN ID(0-4095)	Fill out an ID to describe a D ata VLAN group.
Data 802.1p Priority(0-7)	802.1 protocol to control network traffic priority, Priority from 0-7.
Obtain IP address automatically	Select this to automatically obtain the IP of VLAN group
Use the following IP address	Fill in IP, Subnet mask and Default Gateway
Dynamically assigned via PPPoE	Select this when the Internet through PPPOE and complete account number and password

(2)Voice VLAN

Voice 802.1Q VLAN ID (0-4095)	Fill out an ID to describe a Voice VLAN group.
Voice 802.1p Priority(0-7)	802.1 protocol to control network traffic priority, Priority from 0-7.
Obtain IP address automatically	Select this to automatically obtain the IP of VLAN group
Use the following IP address	Fill in IP, Subnet mask and Default Gateway

(3)Management VLAN

Management 802.1Q VLAN ID (0-4095)	Fill out an ID to describe a Management VLAN group.
Management 802.1p Priority(0-7)	802.1 protocol to control network traffic priority, Priority from 0-7.
Obtain IP address automatically	Select this to automatically obtain the IP of VLAN group
Use the following IP address	Fill in IP, Subnet mask and Default Gateway

3. Qos Parameter

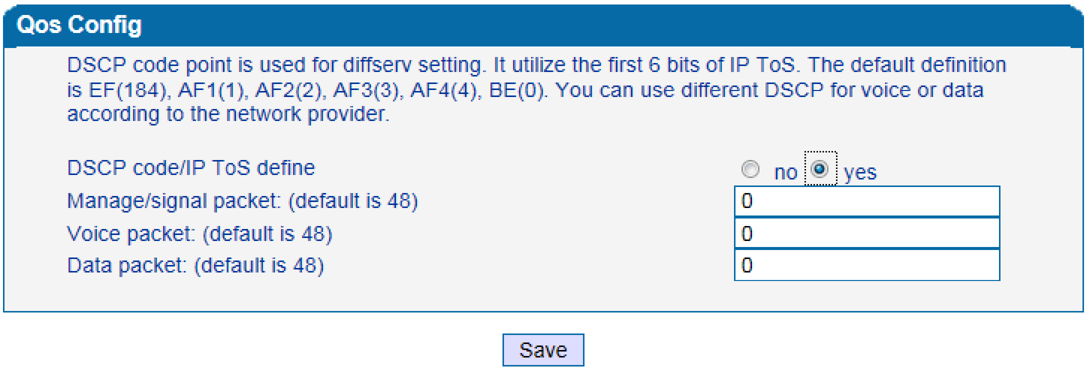


Figure 3-3-7 Qos Parameter

DSCP code point is used for diffserv setting. It utilizes the first 6 bits of IP ToS. You can use different DSCP for voice or data according to the network provider.

4. ARP Config

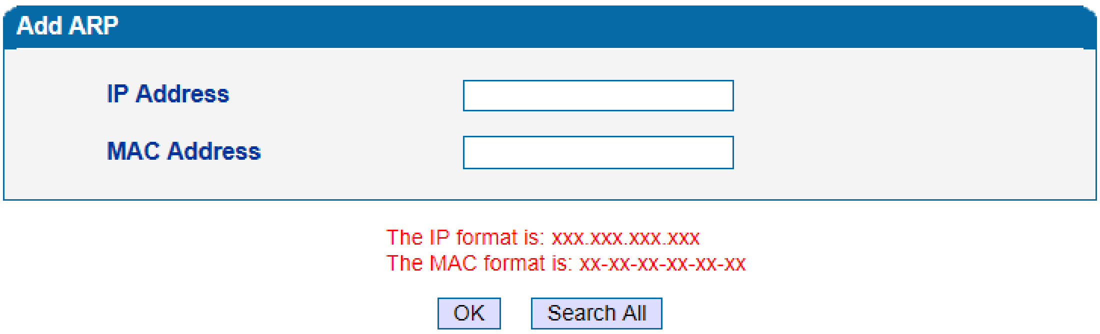


Figure 3-3-8 ARP Config

Manually add the address resolution.

3.3.4 System Configuration

System parameter includes 1) System Config 2) Service Config 3) SIP Config 4) Port Config 5) Fax Config.

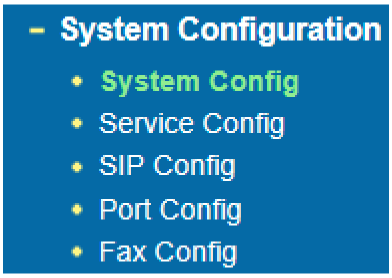


Figure 3-3-9 System Configuration

1. System Config

The page of system setting is mainly used to set some system parameters, including: 1)Provision Parameter; 2)NTP Parameter; 3)Time Zone

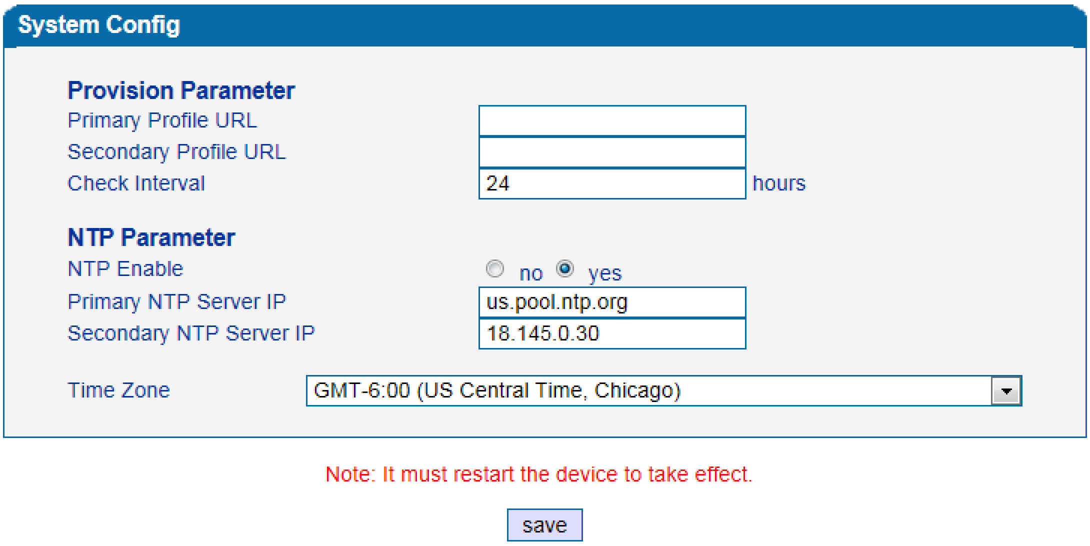


Figure 3-3-10 System Config

Table 3-3-3 System Config

Provision Parameter	Periodically, the server will automatically load the latest configuration and version
NTP Parameter	NTP server management system time. Select "NTP Enable" to "YES", you can configure the NTP server's IP and system time.

2. Service Config

In order to adapt to different environments, it is necessary to set some parameters in the service config page.

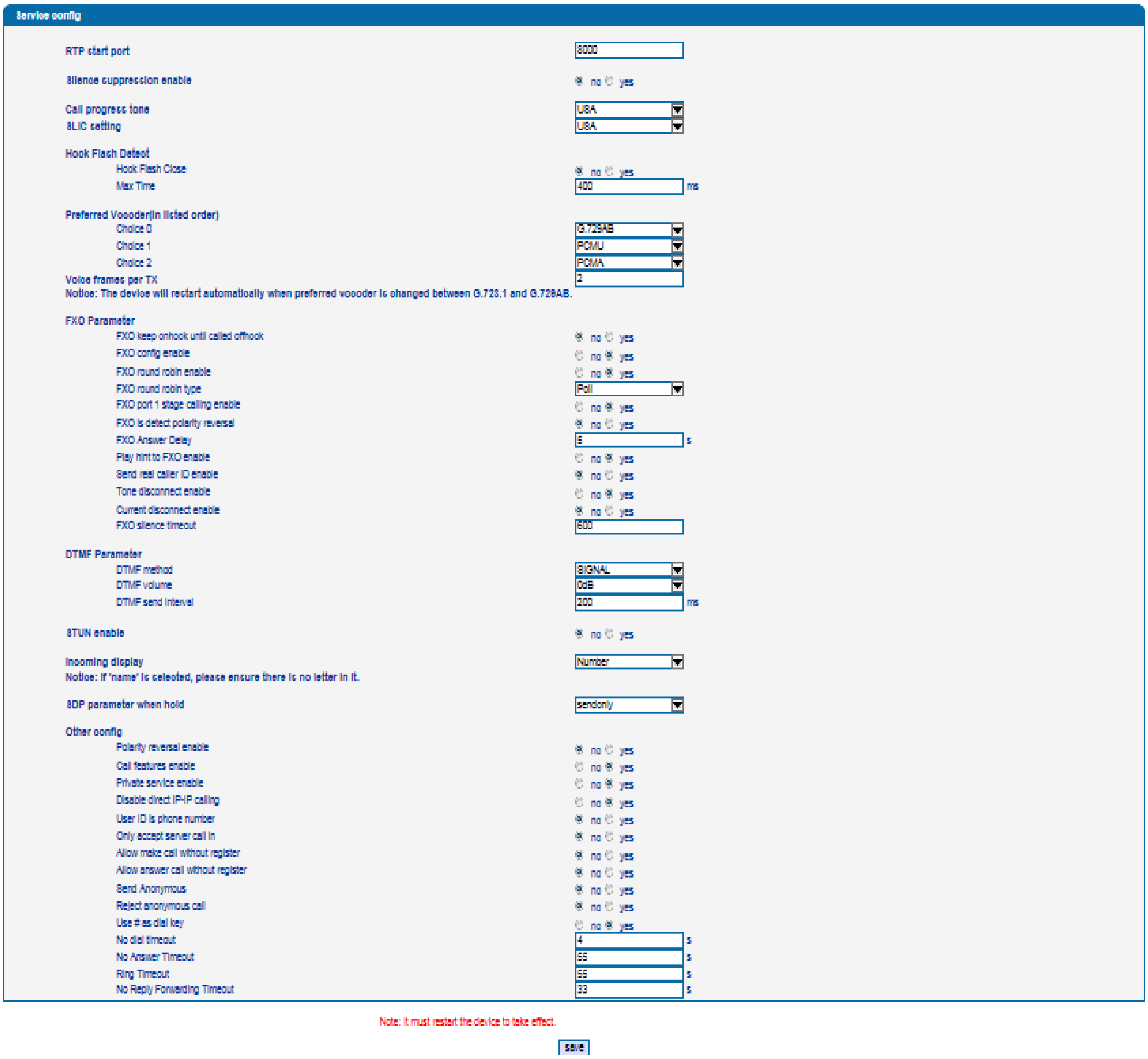


Figure 3-3-11 Service Config

Table 3-3-4 Service Config

RTP start port	Defines the local RTP-RTCP port for listening and transmission.
Silence Suppression	Endpoints sending audio as an RTP stream are not required to send packets during silent periods. The capability to stop sending RTP packets during silent periods is known as "Silence Suppression" or VAD (Voice Activity Detection).
Call Progress Tone	Configure ring or tone frequencies according to preference. By default tones are set to USA frequencies. Frequencies should be configured with known values to avoid uncomfortable high pitch sounds.
SLIC Setting	Dependent on standard phone type (and location).
Hook Flash Detect	Time period when the cradle is pressed (Hook Flash) to simulate FLASH. To prevent unwanted activation of the Flash/Hold and automatic phone ring-back, adjust this time value.
Preferred Vocoder	The equipment supports up to 4 different vocoder types including PCMU, PCMA, G.723.1, G.729AB.The user can configure vocoders in a preference list that will be included with the same preference order in SDP message. The first vocoder is entered by choosing the appropriate option in “Choice 0”. The last vocoder is entered by choosing the appropriate option in “Choice 3”.
FXO Parameter	Many FXO configuration parameters to configure the FXO port
DTMF	Flexible DTMF transmission method, user interface of in-audio, RFC2833/INBAND/SIGNAL.
SDP parameter when hold	When the call was hold ,the invitation of SDP the parameters can be carried inactive or sendonly.
STUN	IP address or port of the STUN server
Incoming display	Caller ID There are two options: the name and number
Polarity Reversal	Default is No. If set to Yes, polarity will be reversed upon call establishment and termination.
Send Flash Event	Default is NO. If set to yes, flash will be sent as DTMF event
Call Features	Default is Yes. (If Yes, call features using star codes will be supported locally)
Direct IP-IP Calling	Default is NO
Send Anonymous	Default is No. If this parameter is set to “Yes”, users ID will be sent as anonymous; essentially block the Caller ID from displaying.
Reject Anonymous Call	Default is NO. If set to yes, incoming calls with anonymous Caller ID will be rejected with 486 busy message.
No Dial Timeout	Default is 4 seconds

3. SIP Config

It is used to set the local SIP port, the SIP server address and port. If an outbound proxy is required, please fill in the IP address and port of the outbound proxy; otherwise, just keep the default settings.

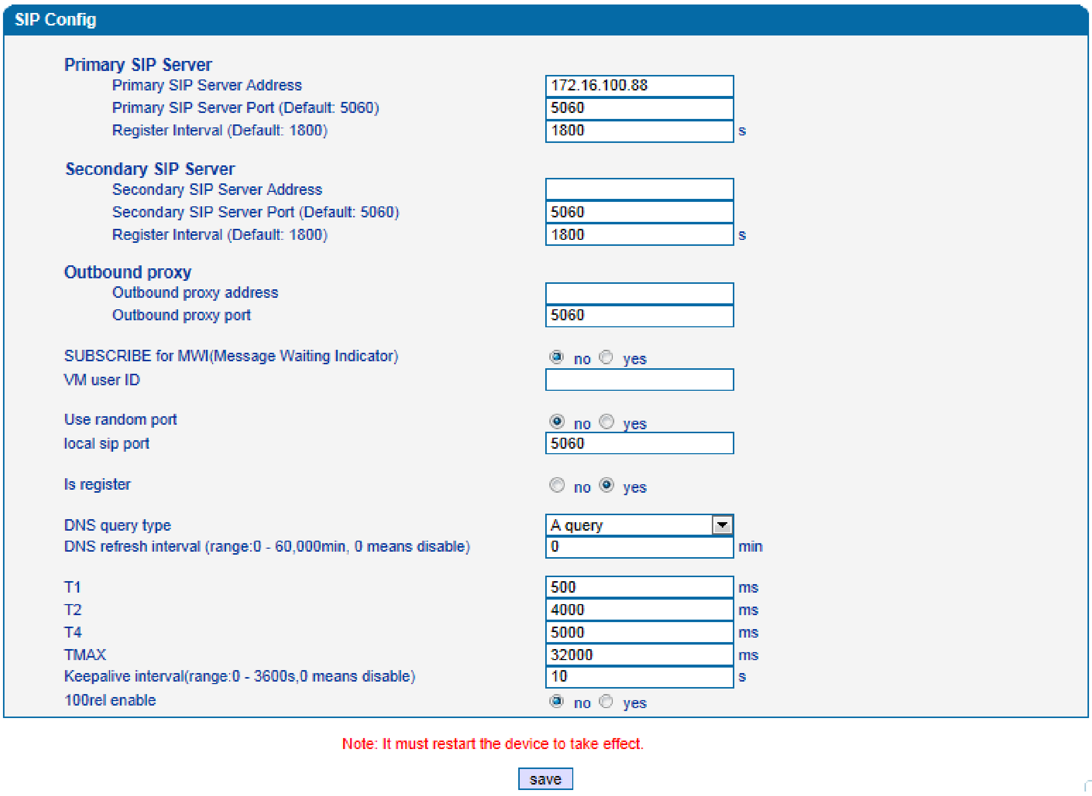


Figure 3-3-12 SIP Config

Table 3-3-5 SIP Config

Primary SIP Server	Fill the SIP Server IP address, Port(default:5060), Register Interval(default:1800s)
Secondary SIP Server	The SIP server as a backup
Outbound proxy	IP address or Domain name of Outbound Proxy, or Media Gateway, or Session Border Controller. Used by equipment for firewall or NAT penetration in different network environments. If symmetric NAT is detected, STUN will not work and only outbound proxy can correct the problem.
Subscribe for MWI	Default is No
VM user ID	Voice Mail user ID
Use random port	If selected “Yes”, the port number will be randomly generated
Local sip port	If “Use random port” option was set to “No”, this option will be used. Default is 5060.
Is register	Default is Yes, if it was set No, the stand will not register the SIP server, and the RUN LED will quick blinking (resisted status is Yes)
Keepalive interval	This parameter specifies how often the equipment sends a blank UDP packet to the SIP server in order to keep the “hole” on the NAT open. Default is 10 seconds.

4. Port Config

This page is used to config the account and password of DAG serial, call transfer, call waiting and do-not-disturb service. Port 0 maps to FXS0, while Port n maps to FXS n.

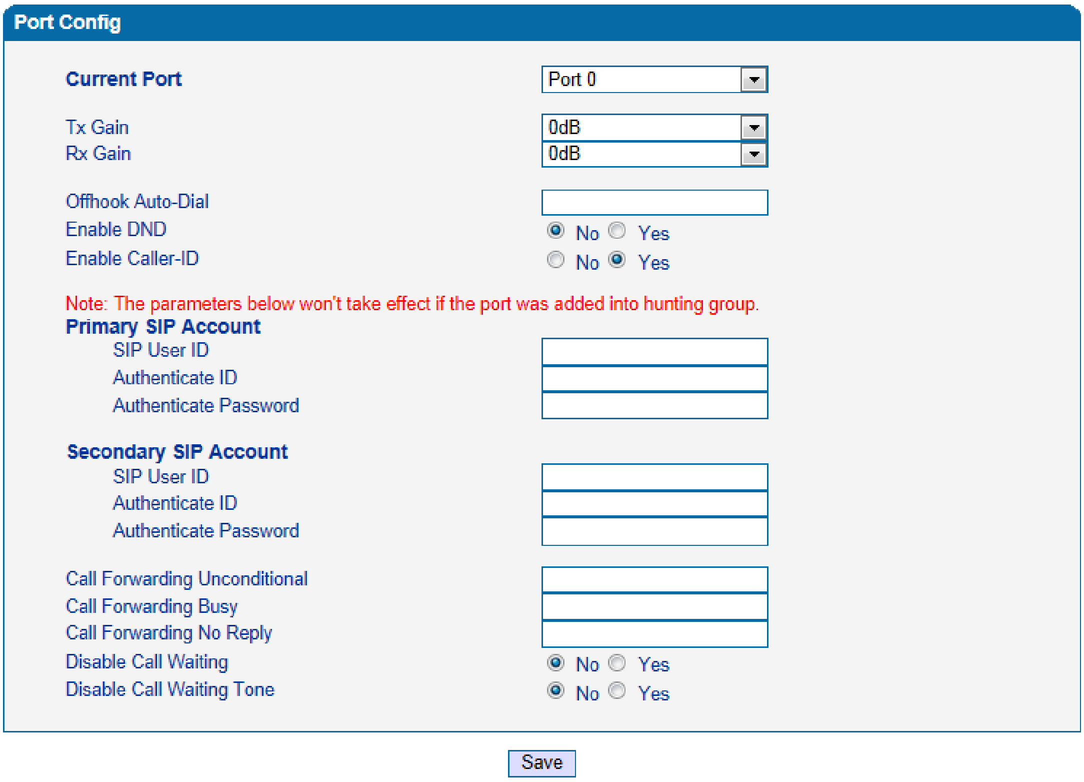


Figure 3-3-13 Port Config

Table 3-3-6 Port Config

Current Port	Select configure a SIP trunk port
TX/RX Gain	Handset volume adjustment. RX is for receiving volume, TX is for transmission volume. Default values are -6dB for both parameters. Loudest volume: +6dB Lowest volume: -6dB.
Offhook Auto-Dial	Fill in the number of offhook auto-dial
Enable DND	Default is No. When enabled all incoming calls are rejected.
Enable Caller-ID	Default is Yes
SIP User ID	SIP count number
Authenticate ID	SIP user name which registers to soft switch/SIP server
Authenticate password	SIP password which registers to soft switch/SIP server
Call Forwarding Unconditional	All incoming calls are transferred appointed phone.
Call Forwarding Busy	Call will transfer appointed phone when Busy.
Call Forwarding No Reply	Call will transfer appointed phone when nobody answer the call.
Disable Call Waiting	Default is No. User can use * code to use this feature per call basis.
Disable Call Waiting Tone	Default is No. Indicates an incoming call， default is 2 short beeps.

5. Fax Config

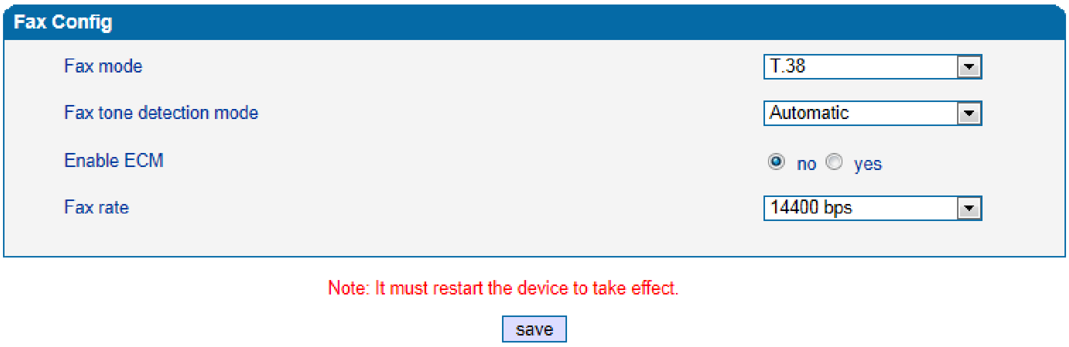


Figure 3-3-14 Fax Config

Table 3-3-7 Fax Config

Fax mode	T.38 (Auto Detect) FoIP by default, or Pass-Through
Fax tone detection mode	Default is Automatic. There are callee and caller two options
ECM	Error Correction Mode
Fax rate	The equipment support most 14400bps least 2400bps fax rate. The default value is 14400bps.

3.3.5 Digit Map

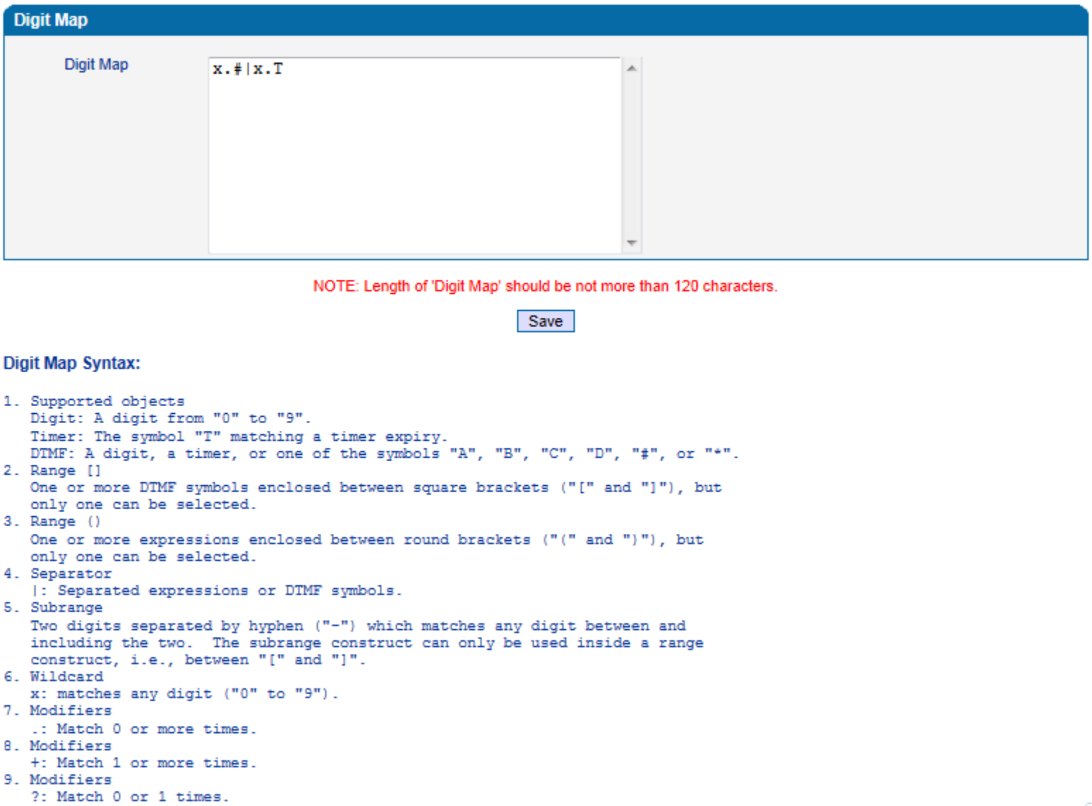


Figure 3-3-15 Digit Map

In the "digit map" set dial rules and dialing rules can’t exceed 120 characters in length.

3.3.6 Routing Configuration

1. Routing Parameter

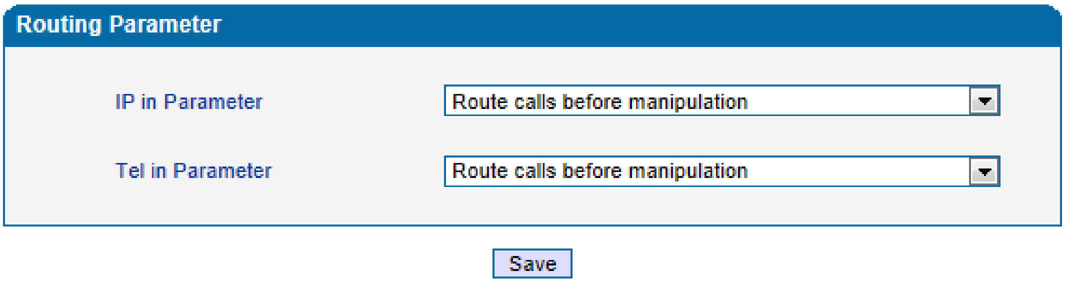


Figure 3-3-16 Routing Parameter

This option determines the following routing of call take effect before or after manipulation.

2. IP in Routing

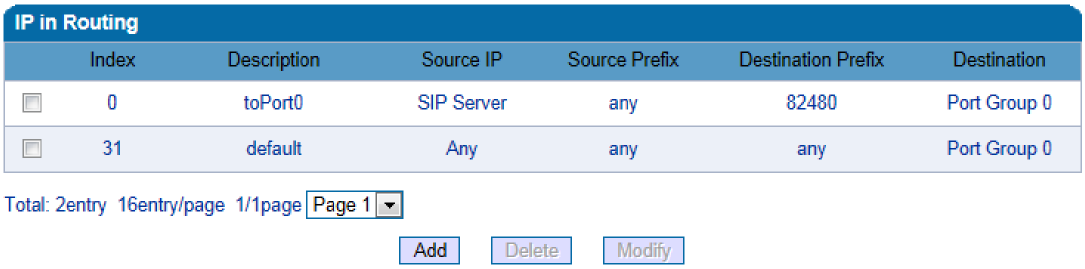


Figure 3-3-17 IP in Routing

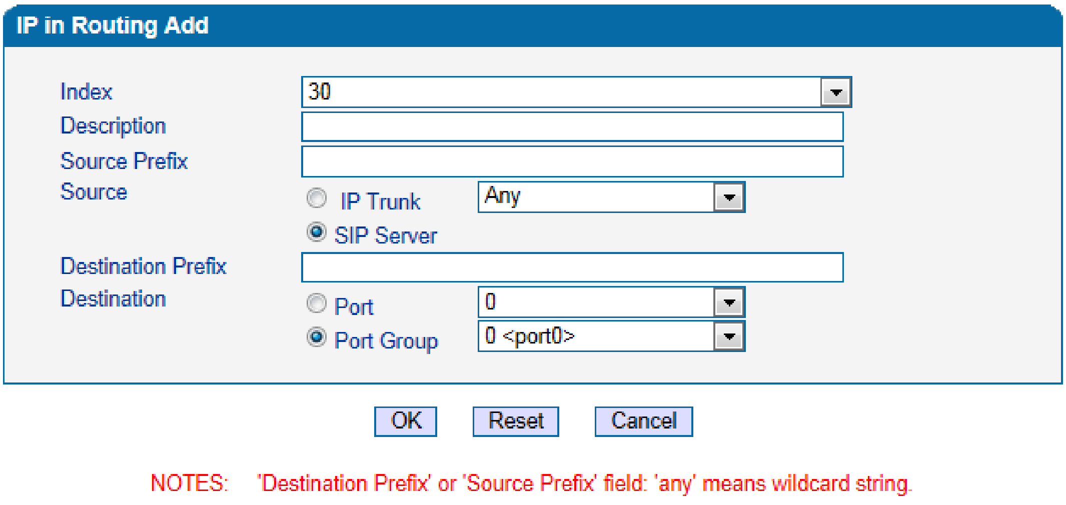


Figure 3-3-18 IP in Routing Add

Table 3-3-8 IP in Routing Add

Index	Routing priority :1-30
Description	Description the routing
Source Prefix	Source number Prefix
Source	IP Trunk/SIP Server, any means wildcard string
Destination Prefix	Destination number Prefix
Destination	Select a single port or port group

3. Tel in Routing

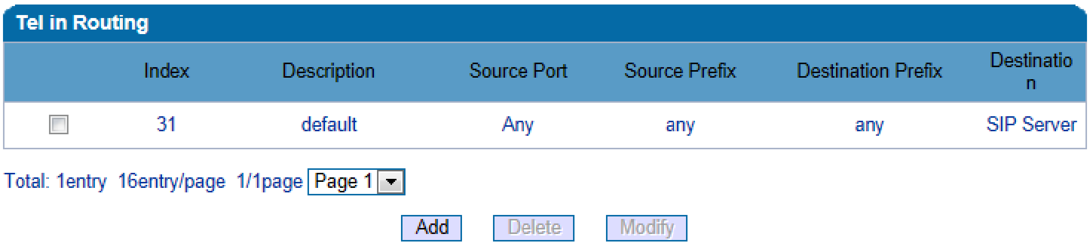


Figure 3-3-19 Tel in Routing

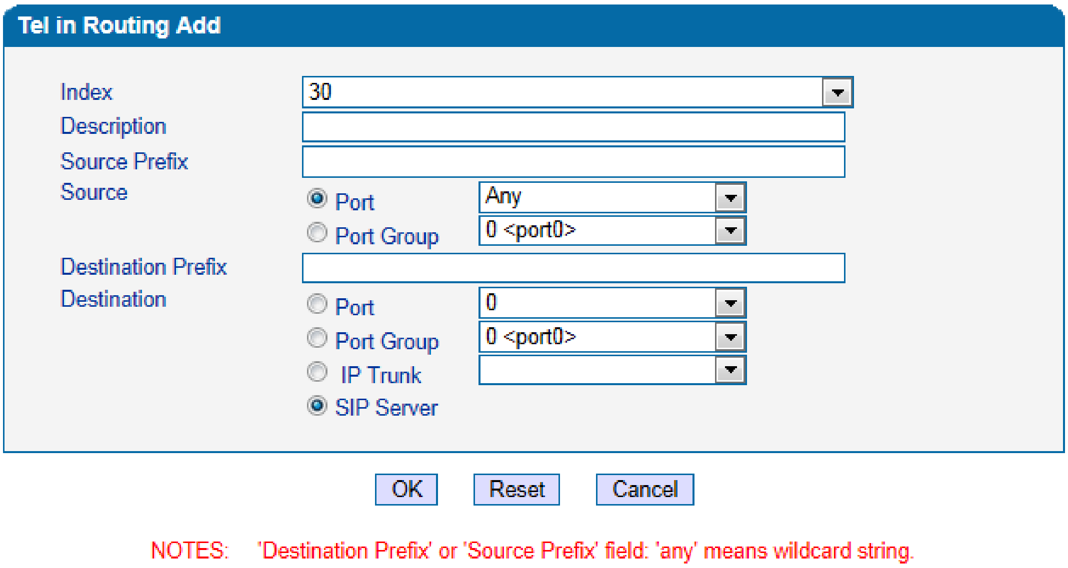


Figure 3-3-20 Tel in Routing Add

Table 3-3-9 Tel in Routing Add

Index	Routing priority :1-30
Description	Description the routing
Source Prefix	Source number Prefix
Source	Select a single port or port group
Destination Prefix	Destination number Prefix
Destination	Select a single port or port group, IP Trunk/SIP Server

3.3.7 Manipulation Configuration

1. IP in Destination Numbers

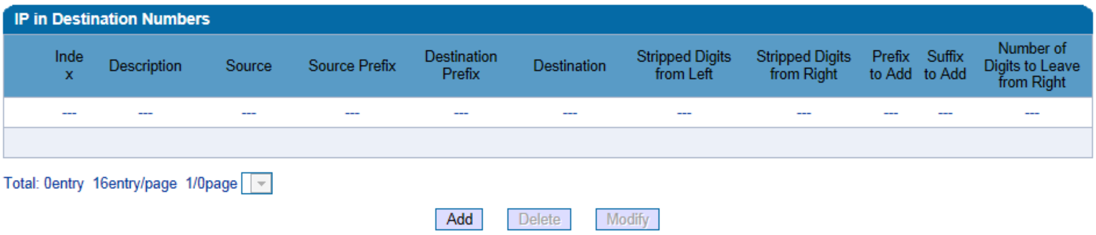


Figure 3-3-21 IP in Destination Numbers

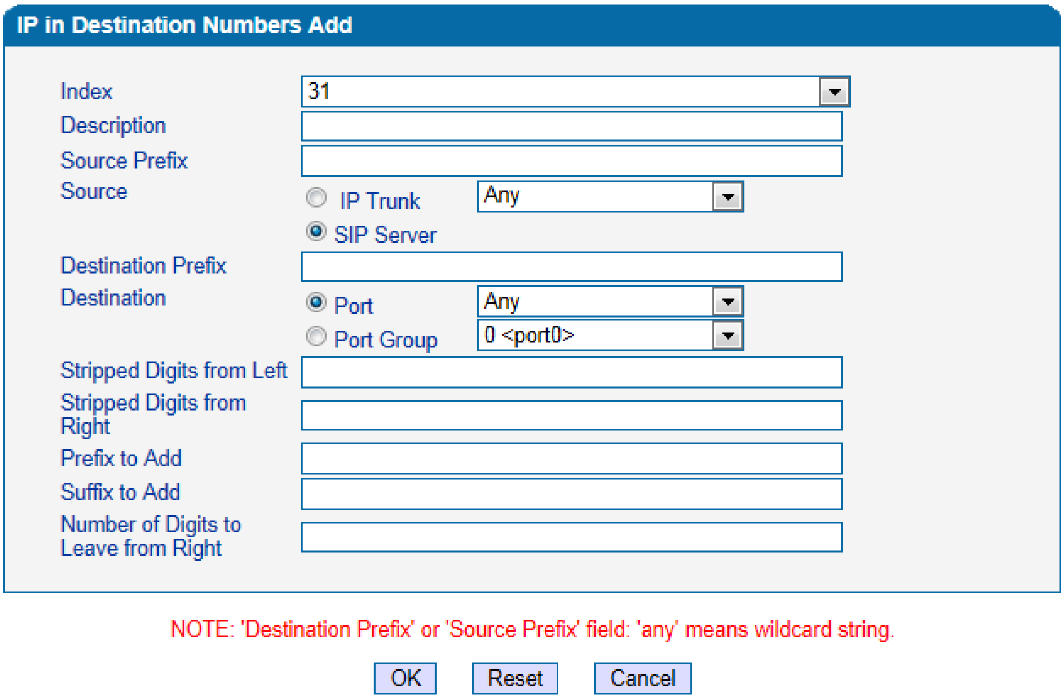


Figure 3-3-22 IP in Destination Numbers Add

Table 3-3-10 IP in Destination Numbers Add

Index	Routing priority :1-30
Description	Description the routing
Source Prefix	Source number Prefix
Source	IP Trunk/SIP Server, any means wildcard string
Destination Prefix	Destination number Prefix
Destination	Select a single port or port group
Stripped Digits from Left	Remove the called number digits from the left
Stripped Digits from Right	Remove the called number digits from the right
Prefix to Add	Add a number prefix
Suffix to Add	Add a number suffix
Number of Digits to Leave from Right	Starting from the right to retain the called number digits

2. Tel in Source Numbers

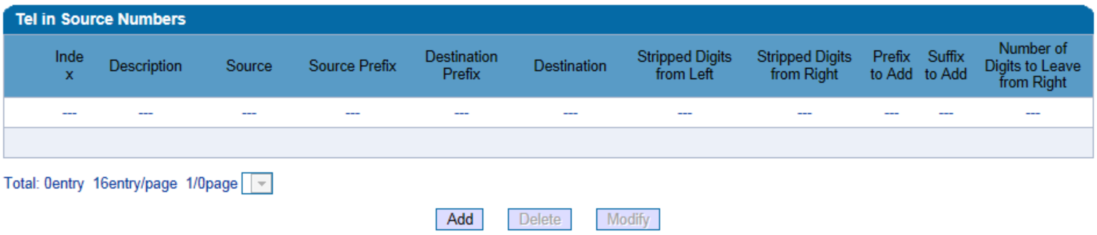


Figure 3-3-23 Tel in Source Numbers

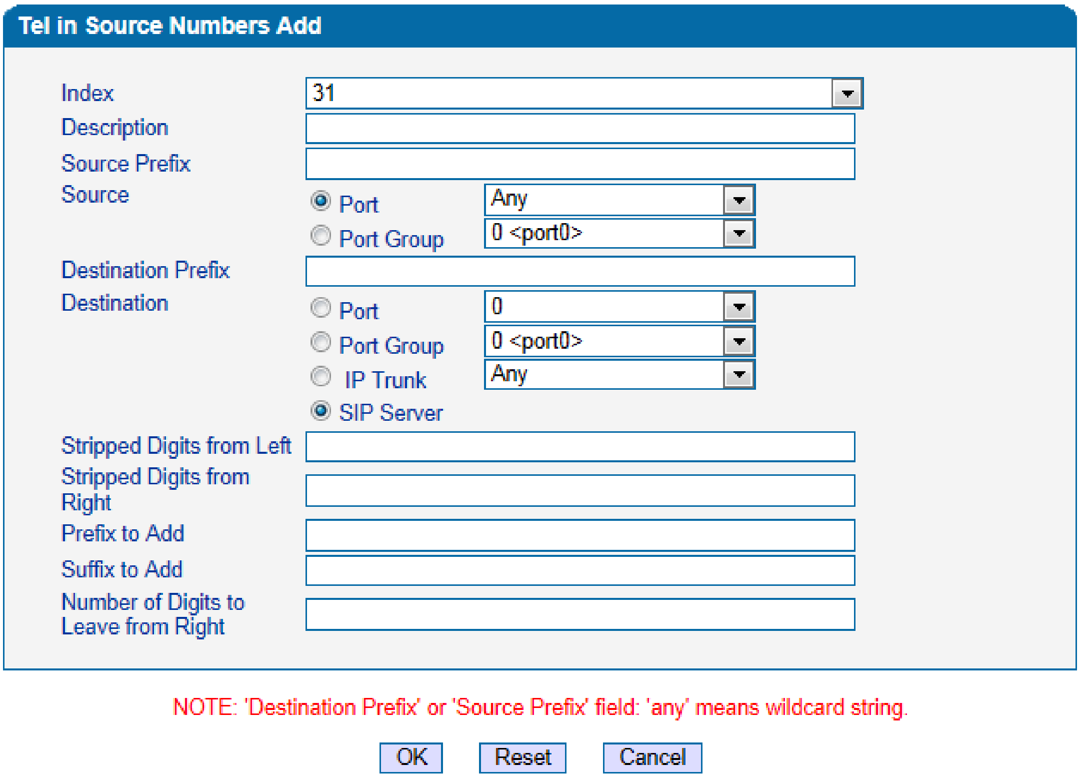


Figure 3-3-24 Tel in Source Numbers Add

Configuration parameters are the same with “IP in Source Numbers Add”.

3.Tel in Destination Numbers

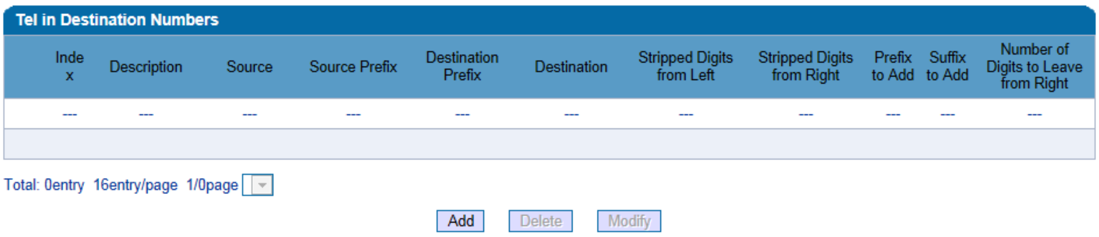


Figure 3-3-25 Tel in Destination Numbers

Configuration parameters are the same with “IP in Source Numbers Add”.

3.3.8 Advanced Configuration

1. Port Group

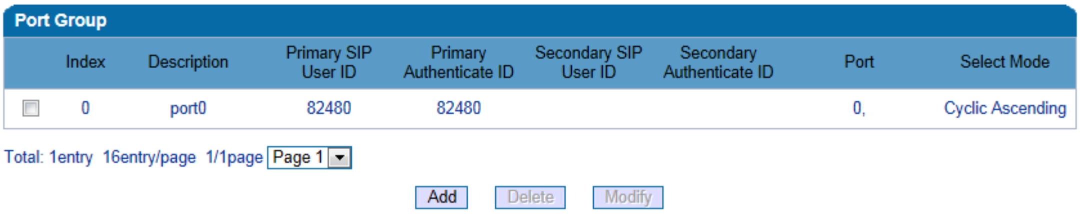


Figure 3-3-26 Port Group

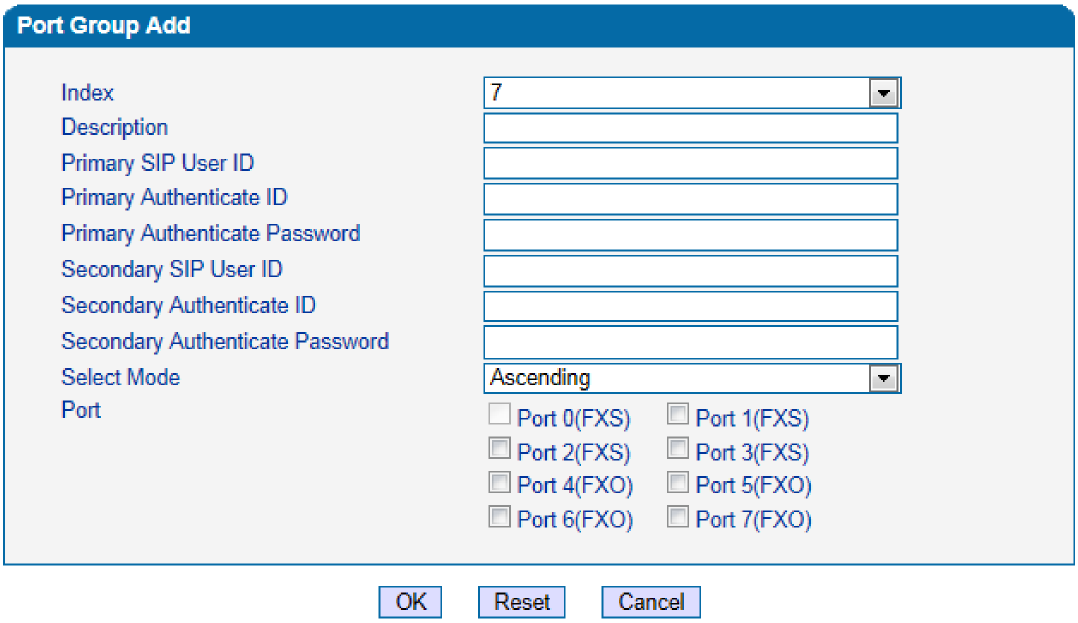


Figure 3-3-27 Port Group Add

Table 3-3-11 Port Group Add

Index	Priority of the port group :1-7, 1 is highest priority value.
Description	Descript the port group
Primary/Secondary SIP User ID	SIP count number
Primary/Secondary Authenticate ID	SIP user name which registers to soft switch/SIP server
Primary/Secondary Authenticate Password	SIP password which registers to soft switch/SIP server
Select Mode	There four options: Ascending, Cyclic Ascending, Descending, Cyclic Descending
Port	Port0-port7, By checking the different ports to form a port group

2. IP Trunk

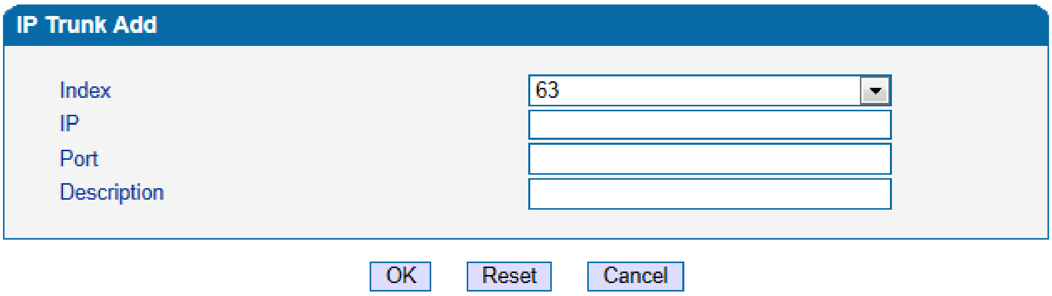


Figure 3-3-28 IP Trunk Add

Table 3-3-12 IP Trunk Add

Index	64 Priority values from 0-63
IP	Set port IP
Port	Set port number
Description	The description of IP trunk

3.3.9 Management Configuration

1. Firmware Upload

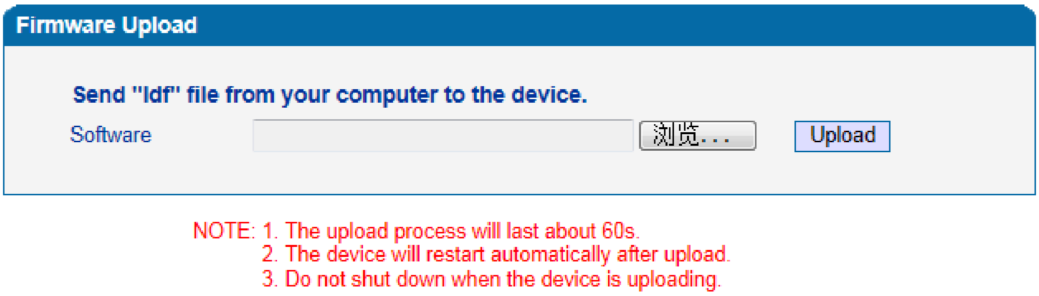


Figure 3-3-29 Firmware Upload

Table 3-3-13 Firmware Upload Add

Software	Click "Browse" to select the firmware , and then click "Upload".

2. Config Backup

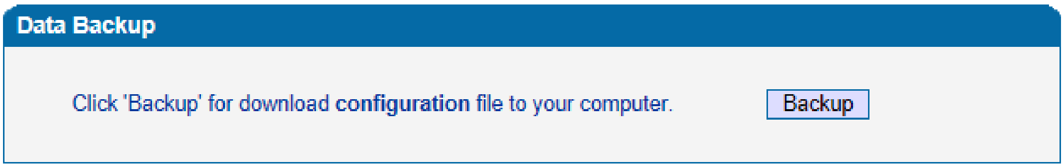


Figure 3-3-30 Data Backup

Click the Backup, and save the configuration file in your PC.

3. Config Restore

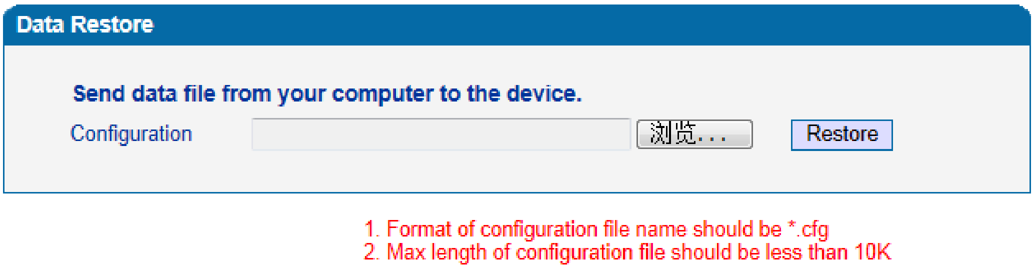


Figure 3-3-31 Data Restore

Click "Browse" to select the Configuration file, and then click "Restore".

4.System Log

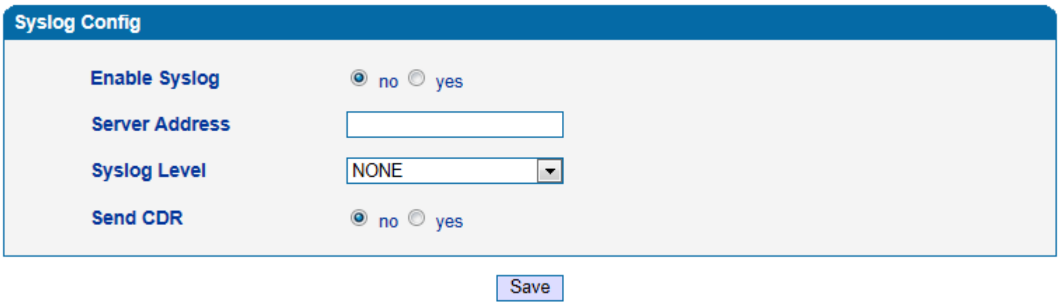


Figure 3-3-32 Syslog Config

Table 3-3-14 Syslog Config

Enable Syslog	Default is No
Server Address	Storage system log server address
Syslog Level	At present only two options(None and Debug) are available
Send CDR	Default is No

5. Ping Test

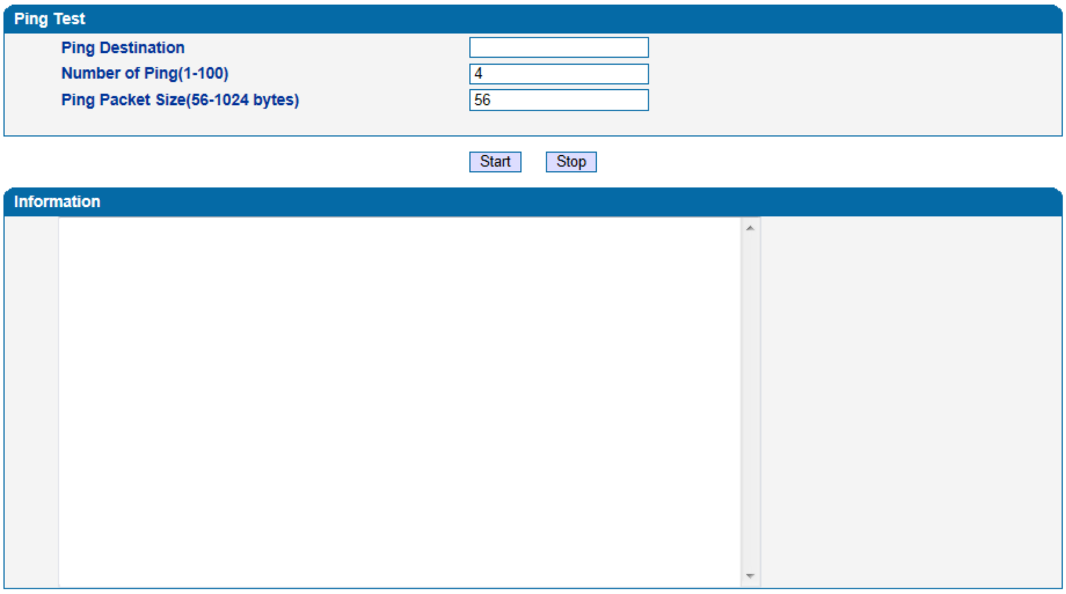


Figure 3-3-33 Ping Test

Table 3-3-15 Ping Test

Ping Destination	Destination IP address
Number of Ping(1-100)	Number of ICMP packets
Ping Packet Size(56-1024 bytes)	Length of Packet

6. Tracert Test

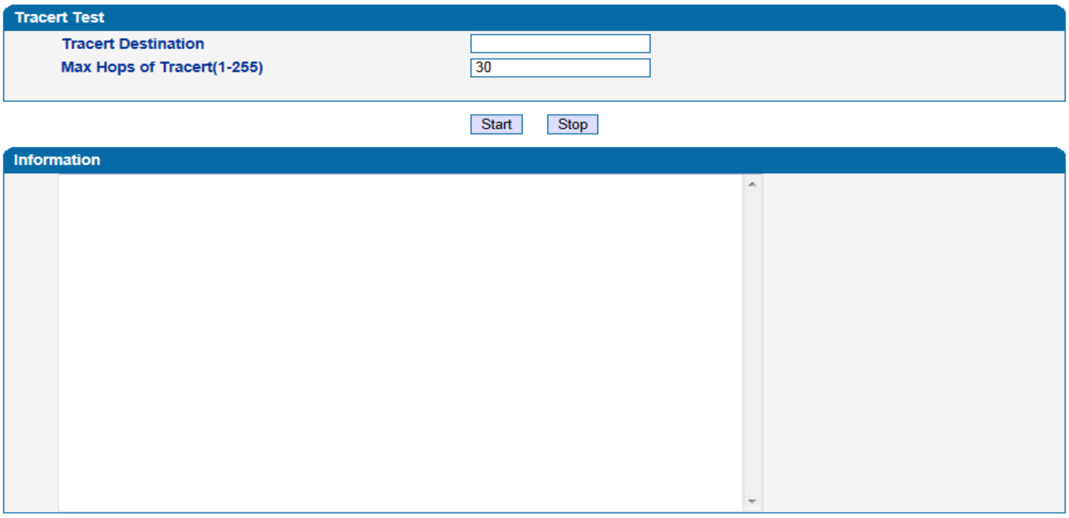


Figure 3-3-34 Tracert Test

Fill “Tracert Destination IP” and “Max hops of tracert(1-255)”, then click “start”, tracking information will be displayed in the space below.

7. Login Password

Modify login user name and password to avoid unauthorized access to your DAG serial . The default username is admin while the default password is admin too.

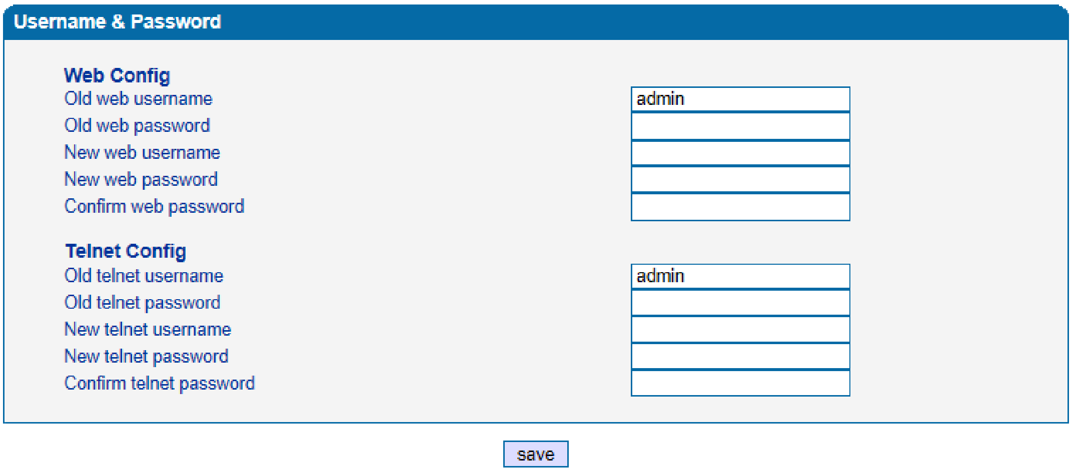


Figure 3-3-35 Login Password

8. Factory Reset

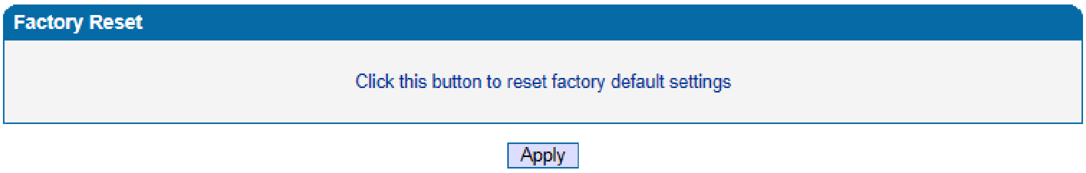


Figure 3-3-36 Factory Reset

Click “Apply” to restore the factory settings.

9. Restar

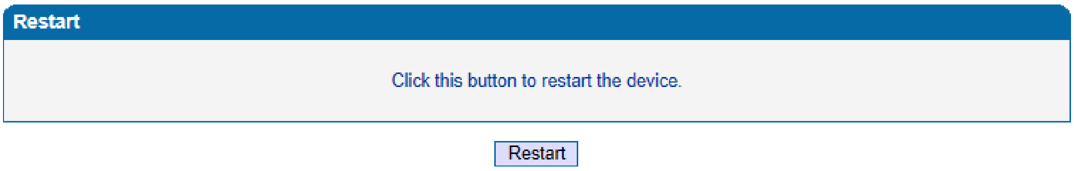


Figure 3-3-37 Restar

Click the “Save” button in the Configuration page to save the changes to the equipment configuration. The following screen confirms that the changes are saved. If the changes need restart, reboot or power cycle the equipment to make the changes take effect.

4. FAQ

4.1 How to get the IP address if I have modified the default IP or forgot it ?

Customers have two ways to get the IP address.
1) Press the RST button, then customer can retain the default IP of LAN port.
2) Analog telephone by dialing "*", re-set the IP address, refer to 3.1.

4.2 Device have been connected to network physically, but the network cannot be connected or network communication is not normal

1) Make sure the network cable is ok or not , can through view the device WAN port or LAN port indicator light to determine the work states of physical connection;
2) Make sure the connected network devices (router, switch or hub) support 10M/100M adaptive. Else, connecting the Equipment directly to PC and landing WEB , then in the "local connection" Selecting the correct Ethernet Work Mode;
3) Check the Network Configuration, if the Configuration is incorrect, please re-Configuration. If customers are using DHCP mode, so check whether DHCP Server work properly;
4) Check whether there is a LAN port conflict with the existing IP address.

4.3 Equipment can’t register

If the Run LED flashes slowly ,it means unregistered.
1) Check the network connection is working (see above section), whether the Configuration is correct;
2) Check whether the LAN firewall setting is inappropriate (such whether limit the network Communication); If it is, there are two ways to try to resolve:
(1) Ask network administrators to open limitation with the equipment’s network communications (it is a special equipment, not afraid of virus attacks); (2) Try to enable the equipment tunnel (Through the WEB for Configuration, Also, please NOTE, open the tunnel will impact voice quality, Please do not enable the tunnel as far as possible, reference WEB Configuration Interface Description section);
4) Check whether the Local Network to the SIP PROXY platform network environment is relatively poor or not, and if so, please check Local Network or contact the service provider;
5) If go through those steps, the device still be in trouble, please contact the equipment provider;

4.4 When calling out, the callee’s phone shows wrong caller ID

1) Ask the callee checks whether the device is failure or device battery power is low
2) Make sure the callee has been subscribed called User ID display service

3) If only part of the caller User ID with this problem, please contact the telecom carrier.

4.5 When calling in, the caller always hears a busy tone

Make sure enable DND(Do-not-Disturb) in system

4.6 Sudden interruption during a call

1) make sure whether is human error caused the problem
2) Make sure with the account balance or lack of disruption caused the call disconnected
3) Make sure whether there is interference with the fax tone or equipment busy tone, these interference may lead to calls dropped
4) Make sure whether the LAN equipment such as gateway or router fails, user can try to restart the gateway or router please download tutorials from our official website .

5. Glossary

ADSL Asymmetric Digital Subscriber Line: Modems attached to twisted pair copper wiring that transmit from 1.5 Mbps to 9 Mbps downstream (to the subscriber) and from 16 kbps to 800 kbps upstream, depending on line distance.

AGC Automatic Gain Control is an electronic system found in many types of devices. Its purpose is to control the gain of a system in order to maintain some measure of performance over a changing range of real world conditions.

ARP Address Resolution Protocol is a protocol used by the Internet Protocol (IP) [RFC826], specifically IPv4, to map IP network addresses to the hardware addresses used by a data link protocol. The protocol operates below the network layer as a part of the interface between the OSI network and OSI link layer. It is used when IPv4 is used over Ethernet

CODEC Abbreviation for Coder-Decoder. It's an analog-to-digital (A/D) and digital-to-analog (D/A) converter for translating the signals from the outside world to digital, and back again.

CNG Comfort Noise Generator, generate artificial background noise used in radio and wireless communications to fill the silent time in a transmission resulting from voice activity detection.

DATAGRAM A data packet carrying its own address information so it can be independently routed from its source to the destination computer

DECIMATE To discard portions of a signal in order to reduce the amount of information to be encoded or compressed. Lossy compression algorithms ordinarily decimate while sub-sampling.

DNS Short for ***D**omain **N**ame **S**ystem* (or ***S**ervice* or ***S**erver*), an Internet service that translates *domain names* into IP addresses

DSP Digital Signal Processor. A specialized CPU used for digital signal processing. Allywll products all have DSP chips built inside.

DTMF Dual Tone Multi Frequency. The standard tone-pairs used on telephone terminals for dialing using in-band signaling. The standards define 16 tone-pairs (0-9, #, * and A-F) although most terminals support only 12 of them (0-9, * and #).

FXO Foreign exchange Office. An FXS device can be an analog phone, answering machine, fax, or anything that handles a call from the telephone company like AT&T. They should also operate the same way when connected to an FXS interface. • An FXS interface will accept calls from FXS or PSTN interfaces. All countries and regions have their own standards. • FXS is complimentary to FXS (and the PSTN).

FXS Foreign exchange Station. An FXS device has hardware to generate the ring signal to the FXS extension (usually an analog phone). • An FXS device will allow any FXS device to operate as if it were connected to the phone company. This makes your PBX the POTS+PSTN for the phone. • The FXS Interface connects to FXS devices (by an FXS interface, of course).

DHCP The *Dynamic Host Configuration Protocol* (DHCP) is an Internet protocol for automating the configuration of computers that use TCP/IP. DHCP can be used to automatically assign IP addresses, to deliver TCP/IP stack configuration parameters such as the subnet mask and default router, and to provide other configuration information such as the addresses for printer, time and news servers.

ECHO CANCELLATION Echo Cancellation is used in telephony to describe the process of removing echo from a voice communication in order to improve voice quality on a telephone call.

In addition to improving quality, this process improves bandwidth savings achieved through silence suppression by preventing echo from traveling across a network. There are two types of echo of relevance in telephony: acoustic echo and hybrid echo. Speech compression techniques and digital processing delay often contribute to echo generation in telephone networks.

H.323 A suite of standards for multimedia conferences on traditional packet-switched networks.

HTTP Hyper Text Transfer Protocol; the World Wide Web protocol that performs the request and retrieve functions of a server

IP Internet Protocol. A packet-based protocol for delivering data across networks

IP-PBX IP-based Private Branch Exchange