MOCET
IG7600
Smart Telephone System

Administration Manual

Environment

The equipment you have purchased must not be disposed of with household waste. You should return these to your distributor if they are to replace or dispose of them in an approved recycling centre.

FCC Statement

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions in this manual, may cause interference to radio communications. This equipment has been tested and found to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against radio interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interference.

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WARNING!

1. Read these installation instructions carefully before connecting the equipment to its power adapter.
2. To reduce the risk of electric shock, do not remove the cover from the equipment or attempt to dismantle it. Opening or removing covers may expose you to dangerous voltage levels. Equally, incorrect reassembly could cause electric shock on re-use of the appliance.
3. Do not expose the equipment to fire, direct sunlight or excessive heat.
4. Do not expose the equipment to rain or moisture and do not allow it to come into contact with water.
5. Do not install the equipment in an environment likely to present a Threat of Impact.
6. You may clean the equipment using a fine damp cloth. Never use solvents (such as trichloroethylene or acetone), which may damage the equipment's plastic surface. Never spray the equipment with any cleaning product whatsoever.
7. The equipment is designed to work in temperatures from 0°C to 45°C (32°F to 104°F).
8. The equipment must be installed at least 1 meter from radio frequency equipment, such as TVs, radios, hi-fi or video equipment (which radiate electromagnetic fields).
9. Do not connect the LAN/WAN port to any network other than an Ethernet network.
10. Do not attempt to upgrade your equipment in an unstable power environment. This could cause unexpected damages.
11. Do not work on the system during lightning storms. Please disconnect all cables.
12. Children don't recognize the risks of electrical appliances. Therefore use or keep the equipment only under supervision of adults or out of the reach from children.
13. No repair can by performed by the end user, if you experience trouble with this equipment, for repair or warranty information, please contact your supplier.

Electrical Powering:

The IG7600 can be powered with correct power adaptor; the power adaptor must be 12V/1.5A. Any damage caused to the IG7600 as a result of using unsupported power adaptors will not be covered by the manufacturer's warranty.

Product Disposal Warning:

Ultimate disposal of this product, accessories, packing, especially the batteries should be handled carefully for recycle and nature protection in accordance with national laws and regulations.

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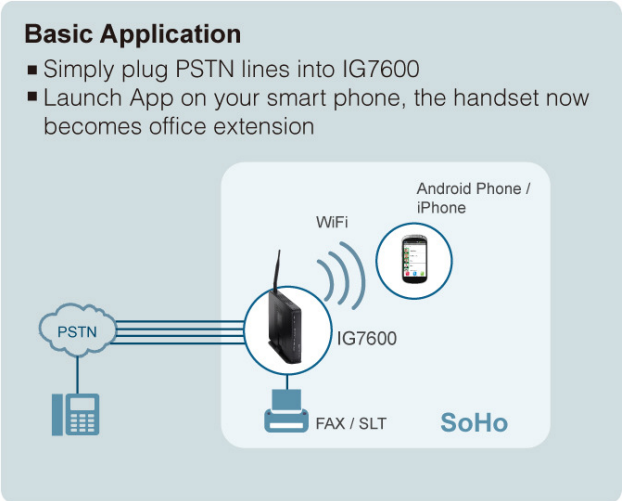
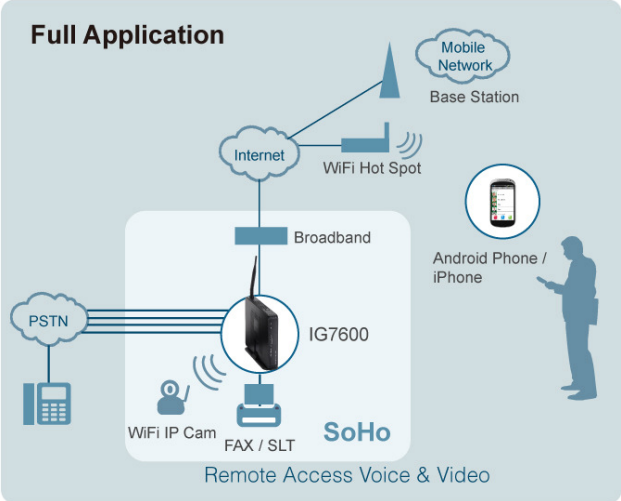
1. Introduction

MOCET IG7600 Smart Telephone System is the ultimate SME solution which has rich feature set of IP PBX telephone systems and IP networking systems. It has business essential PBX features such as an auto-attendant, voice mail, multi- line appearances, three way call conferencing, intercom, music on hold, call-forwarding and much more. The IG7600 system opens up access to the benefits of VoIP, including low cost long distance service, and one network for both voice and data.

The IG7600 is so easy to configure that a fully working system can be set up in minutes. Plug and Play feature allows IP phone, iPhone or Android phone with M54 App to be automatically detected and registered when they are connected. The IG7600 is easy to be managed and configured by integrated web server.

The IG7600 system should work with MOCET IP Phones IP2061/M22/M62 and take advantages of powerful business features such as plug & play, all paging/group paging, multi-line appearances, etc….The IG7600 has one FXS port to support traditional analog devices such as telephone, answering machine, FAX machine.





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1.1 Interfaces

- WAN Interface: one 10/100/1000 Base-T Ethernet port
- LAN Interface: one 10/100 Base-T Ethernent port
- CO Interface: 4 FXO (Loop Start, for PSTN)
- Analog Device Interface: 1 FXS (for analog Telephone or FAX)
- Built-in 802.11b/g/n WiFi access point
- Auto-Pairing button

1.2 Terminals

- 1 Analog Terminal (Analog Telephone or FAX)
  49 IP Stations (IP-Phone; Max. 16 M54 App for iPhone/ Android Phone)

1.3 Accessary

- Wi-Fi Repeater

Basically, the Administration is required to do the following things:

(1) To understand the architecture, resources, and devices of whole environment which will be involved with the VoIP communications.

(2) To build a common setting file for most users.

(3) To configure each phone and install them into the network.

(4) To configure each interfaces and install them into IG7600.

(5) And to solve the problems that users encounter during operation.

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2. Getting to Know the IG7600

2.1 Front Panel

The front panel contains several LEDs that indicate the status of the IG7600.

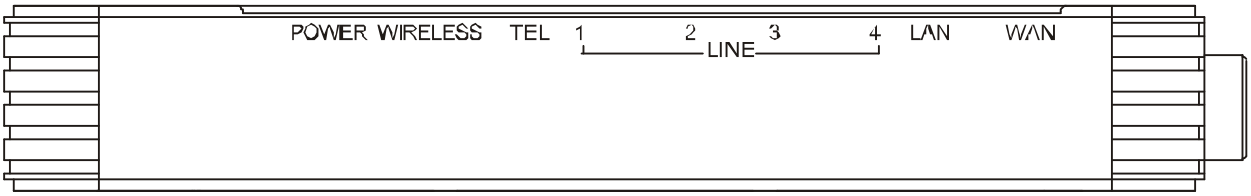

Figure 2-1. Front Panel of IG7600

LED Name	Color	Status	Description
POWER	Red/Blue	Red Flashing	Application Restarting
		Red On	Firmware updating
		Blue Flashing	System booting up
		Blue On	System initialized and running
		Off	Power off
WIRELESS	Blue	On	Wireless LAN is active
		Off	Wireless LAN is idle
LINE (1-4)	Blue	Off	PSTN Line is idle
		On	PSTN Line is active
TEL	Blue	Off	Phone is idle
		On	Phone is active
LAN	Blue	On	LAN is connected
		Off	LAN is not connected
		Flashing	LAN activity present (traffic in either direction)
WAN	Red/Blue	Blue On	WAN is connected and IP is obtained
		Red On	WAN is not connected or no IP assigned
		Flashing	WAN activity present (traffic in either direction)

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2.2 Rear Panel

The rear panel contains the ports for the IG7600's data and power connections.

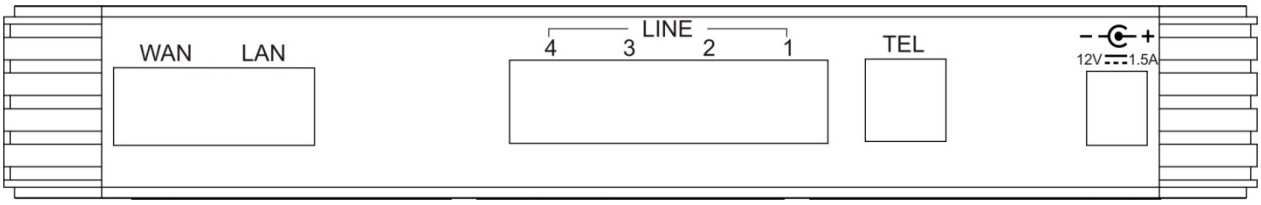

Figure 2-2. Rear Panel of IG7600

Label	Function
WAN	RJ-45 connector: Connects the device to your cable modem, or to your ADSL Modem. It's to connect to the remote network.
LAN	RJ-45 connector: Connects the device to your PC's Ethernet port, or to the uplink port on your LAN's hub.
Line (1-4)	RJ-11 connector: Connects the device to your PSTN lines.
TEL	RJ-11 connector: Connects the device to your analog phone.
Power	Connects to the supplied power converter cable.

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3. IG7600 Voice General Features

3.1 3-Way Conference

IG7600 supports 3-way conference. Conference allows multiple speakers to participate in a joint telephone conversation. Each participant in a conference can speak and hear the other participants. IG7600 supports one conference room with at most 3 participants. The voice is mixed on IG7600.

PS：IG7600 supports this function only when it is a new hardware version IG.

3.2 Access Control for Web Page

The Access Control settings allow the System Administrator to configure the Web Port, Service Control List, IP Address Access Control mode and password for Administrator, Supporter and User.

IG7600 also provide an external user access to the internal IP phone's Web page. The Registered Phone page will list all registered phones with their IP links for IP phone. Clicking a specific link will open that specific IP phone's Web page.

IG7600 provides three Access modes for Web Page

- Administrator mode: unrestricted access and configuration

  (Default: admin1234/adminxxxxxx xxxxxx are the last 6 characters of IG's MAC Address.)
- Support Mode: allow an ISP technician to maintain and run diagnostics

  (Default: support/supportxxxxxx, xxxxxx are the last 6 characters of IG's MAC Address)
- User Mode: view some configuration settings and statistics.

  (Default: user/userxxxxxx, xxxxxx are the last 6 characters of IG's MAC Address)

3.3 Answering Position

For incoming calls from the Public Switched Telephone Network (PSTN) (via analog CO or FXO ports), the IG7600 provides the flexibility to ring specific destinations. The IG7600 provides the ability to ring Auto Attendant. The IG7600 also provides the ability to simultaneously ring up to 50 extensions when programmed in a UCD Hunt Group, or the Operator in accordance with the system service mode (day or night). The user can also assign a line to ring directly to an extension. Incoming VoIP calls from a registered ITSP can be programmed and routed in the same manner as the analog CO (FXO) ports.

3.4 Auto Attendant & Voice Mail

The IG7600 Auto Attendant can greatly enhance business productivity by providing either a full-time automated attendant to handle all incoming system calls or part-time automated attendant to handle overflow traffic. The Voice Mail Module provides up to 16 hours recording time that are shared by all extensions. The system can handle four

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simultaneous calls with following functions.

- **Auto Attendant Functions**

  The Auto Attendant provides an incoming caller with a customized welcome greeting and specific prompts that will describe the options available to the caller.

  - Play the welcome greeting messages depending on the system service mode: Working, Holiday, and Temporary.
  - In Working Service mode, play the welcome greeting messages depending on the system service time: Day, Night, Noon, and Holiday.
  - Route the call to the appropriate destination (phone/virtual extension, UCD group, operator, single digit) with the dialing digit(s).
  - Leave a message to a particular mailbox.
  - Make an outside call via another trunkline (PSTN or SIP-Trunk).
  - Enter Voicemail box.

- **AA Menu**
  - Supports ten different Auto Attendent. Each AA's access number is "Start AA & VM Service Number" plus 0, 1, 2, and 3. For example, if "Start AA & VM Service Number" is 500, then 1st AA is 500, 2nd AA is 501, 3rd AA is 502 and so and so on.
  - Only the first AA has default voice prompts (10001~10005.vox), Other Auto Attendants' voice prompts (10006~10050.vox) need to be recorded manually.
  - AA Menu has a speed dial menu which is configured in Voice -> Voice Mail -> General -> Single Digit Table. This Table can quickly get your call to the destination that you wanted.
  - If an AA is set as Destination of a DID entry or Answering Position of a trunk, the outside caller will hear Dial Tone when it's answered, then it can call extensions by dialing extension numbers. It's used to allow outside devices to be able to dial extension numbers, UCD Group entry ID, AA entry, any appropriate destination.

- **Voice Mail Functions**
  - Delete, save, or skip messages.
  - Forward messages to other mailboxes.
    - Specified mailbox
    - All mailboxes.
  - Envelop information indicating the time and date of the message received; sender information will also be included in the email notification.
  - Leave a new message to other extension(s).
  - Change personal greeting and password.
  - Expert mode support (playback controls when reviewing messages).
  - Send a notification via email when a new message is left.
  - Send voice message as the attachment of the email in WAV format.
  - The maximum recording length for each call is 1800 seconds.
  - When 90% of the VM size is used, it shows "Message Full" on the all IP2061/M22/M62's LCD.
  - For each extension, the maximum number of Voice Mail is 200.

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- Each message can be saved for 1 - 30 days or permanently.
- Support 50 Virtual Mailboxes
- Enter voicemail through another phone extension

- **Management Menu**
  - Change the Greeting Mode: Working, Holiday, and Temporary.
  - Record the Greeting Messages
  - Record other voice prompts.
- **Voice Messages**
  - Provide two languages service for the all voice files.
  - Support G711-ulaw, G711-alaw, G729 three voice files.
  - Administrators can record the all voice messages by themselves.
  - Administrators can update, backup or delete the all voice messages from/to the PC.

For the detail, please refer Appendix 3.

NOTE: When an extension's voicemail is filled up to more than 100 mails, VM system will just read "You have 99 mails."

3.5 Auto Provisioning

WAN Management Protocol (TR-069) allows an Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device. Firmware upgrade or vendor configuration file backup can be done remotely on ACS server. Select the desired values and click "Save Settings" to configure the TR-069 client options.

An Auto Provision Server (APS) is also provided to update IG7600 FW, Update / Retrieve IG7600 Configuration and the registered IP2061/M22/M62 firmware, Management->PTC page is used to configure IG7600 to communicate with APS Server.

3.6 Basic Call

To make an intercom call, dial a Station number (IP Terminal, POTS) or a Voice Mail number.

To make an outside call, dial a phone number. IG7600 chooses a line (PSTN line, IP trunk, another IG7600) via Call Routing Table to dial out.

To make an outside call, dial a PSTN, an IP Trunk or a Trunk Group number first. After hearing dial tone, dial the phone number.

3.7 Call Abandon

For every PSTN call, IG7600 provides the facility to monitor the call status. If the remote party hangs up, the ongoing call will be terminated.

The PSTN line monitor is accomplished through monitoring the loop-break signal, polarity reversal or busy tone. The value range of loop-break signal is: "Disable"/100/200/…/1000 ms.

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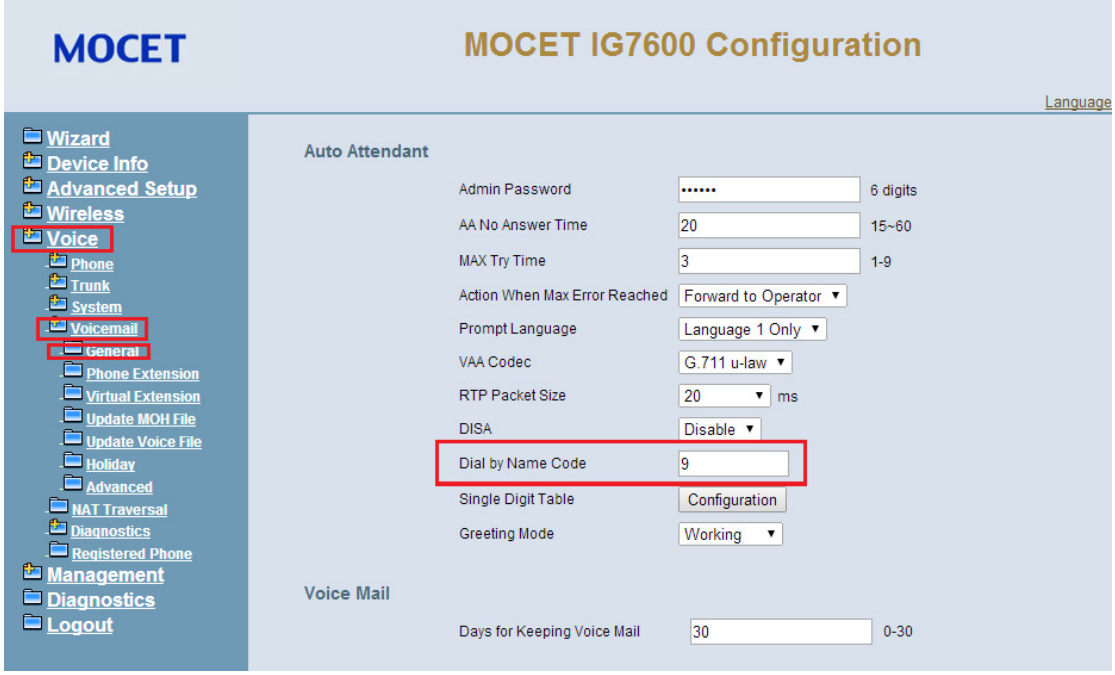
3.8 Call By Name

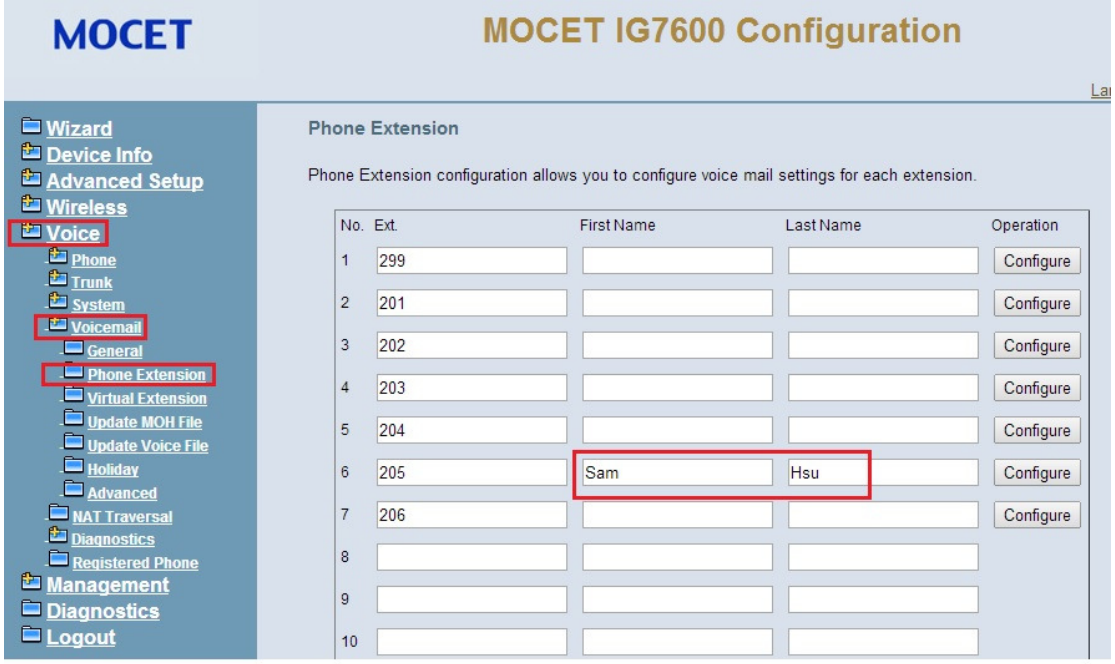
IG supports Call by Name now, but it is not enabled as default. We should activate it manually before we use it.

Get ready for dial by name process:

1st find the web page **Voice-> Voice Mail->General->Auto Attendant->Dial by Name Code** and We input a number (for example "9") here to use it as a dial by name code.



2nd configure extension user name, for example "Sam Hsu" for extension 205, in **Voice->Voice Mail->Phone Extension** page as below.



3rd Dial 500(as the default Voice mail service number) or pressing "Message" button on IP phone (#205)

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→input your password (default “0000”)
→ press “5”
→Record your name and press “#” key, for example saying “Sam Hsu” and then press “#” key after the beep tone.

4th Record day greeting for auto attendant → Dial 500(as the default Voice mail service number) or pressing “Message” button on IP phone → input your password (default “0000”) → press “*” →Input administrator password “000000” → press “3” → press “10001” → press “1” to confirm → press “2” to record the greeting, including the greeting with like “for dial by name, please dial “9”….” → press “1” to listen to the current greeting to confirm if it is OK.

Now IG7600 is ready for dial by name process.

Incoming call to Auto attendant and transfer the call thru “dial by name”:

Incoming call to IG7600
→ auto attendant pickup
→ auto attendant playing “…for dial by name, please dial “9”…”
→ dial “9” on remote caller
→ auto attendant playing “Using the letters on the telephone keypad, dial the person's first or last name and then press pound. For "q" press 7. For "z" press 9.”
→ dial the number on remote caller, for example, dial “726” for “Sam” or dial “468” for “Hsu” (The dialed name will be finished when the caller presses “#” or stops the digit dialing in 5 seconds.)
→ auto attendant playing “when you hear the correct name, please dial “1”..”(after the caller inputs the name; AA compares the dialed name with these activated First Name and Last Name. Then AA starts to play the matched extension’s name file. If it matches two or more extensions’ names, these extensions’ name files will be played one by one following by the extension number. The interval between two name files is 5 seconds.)
→ press “1” to confirm the selection on remote caller
→ the call will be transferred to phone (#205 with Sam Hsu), phone #205 will be ringing
→ pick up the call on phone #205 and start the conversation.

In Dial by Name process, a voice prompt (10230.vox) will be played to ask the caller to input the name.

after the caller inputs the name; AA compares the dialed name with these activated First Name and Last Name. Then AA starts to play the matched extension’s name file. If it matches two or more extensions’ names, these extensions’ name files will be played one by one following by the extension number. The interval between two name files is 5 seconds.

When hearing the matched name, the caller dials “1”. AA will transfer the call to the extension of the matched name (if it’s a Virtual Extension, the call will be answered by the mailbox of the Virtual Extension directly). If the caller dials a non-“1” digit, the digit will be ignored.

If it has no matched name or the caller doesn’t dial “1” after playing the all matched name, AA will play a warning message (10232.vox), then play a voice prompt (10234.vox) to ask the caller to select the next operation. Press “1”, it will ask the caller to input a name again. Press 2, back to AA greeting.

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3.9 Call Operator (Call Attendant)

IG7600 supports one Primary operator and one Secondary operator. Any extension can be designated as the operator through system configuration.

One primary operator may be assigned in the system. When assigned as operator, this extension supports general system functions.

While the internal extension dials Operator Directory Number ("0" at default), or the outside party dials the Operator Directory Number when Auto Attendant plays the welcome message, these calls will be stored into Operator Queue. The Operator is First-In-First-Out to service these calls. For the incoming trunk calls at the waiting time, the calling party will be on Music-On-Hold state.

A secondary (alternate) operator position may be designated for common sharing of incoming operator calls during peak traffic period. If operator doesn't answer the operator call in Operator Reroute Time, the call is forwarded to Secondary Operator. If Secondary Operator doesn't answer the call in Operator Reroute Time also, the call will be forwarded to Operator's mailbox.

3.10 Call Pickup – Group

Each extension belongs to a Pickup Group. Direct Call Pickup allows extension users to answer a trunk call that is ringing at other extensions. If dialing "*", allow you to easily access trunk calls ringing in your group. If dialing All Pickup Group Directory number, allow you to access any trunk calls ringing in the system. Calls ringing at extensions in other pickup groups may also be answered using the Directory number assigned to that Pickup Group.

3.11 Call Restriction

IG7600 provides sophisticated monitoring of digits dialed on PSTN/IP Trunks. If a digit or range of digits dialed on a Trunk line is inconsistent with the dialing extension's COS, the call is denied. This calling COS criteria can be applied to local calls, long distance calls, and specific numbers that are considered allowed in areas where other numbers may be restricted.

- **From/To**

  The intervals are made up of a From and To entry which establish a numeric range. For example, an entry of "From 1700", "To 1800" would include the following range of numbers as the leading: 1700, 1701, 1702 …1799, 1800. Each From/To entry can be from 1 to 13 digits long and may contain any digit 0-9, *, #, X/x (representing any digit) and +. The "From" entry must be less than or equal to the "To" entry.

- **Trunk Access**

  IG7600 checks the field only when a call matches the associated entry. If the field is set to "Y", the entry is valid when the trunk is accessed previously. If the field is set to "N", the trunk isn't accessed previously. The trunk will be accessed through Call Routing Table. If the option is set to "YN", the entry is valid no matter the trunk is accessed or not previously.

- **COS**

  The entry in the Allowed Table is matched when the extension's COS value is smaller than or equal to the COS of this entry, while the entry in the Denied Table is matched when the extension's COS value is larger than or equal to the COS value

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of this entry.

- **Table Type**

  It decides into which table this entry will be added.

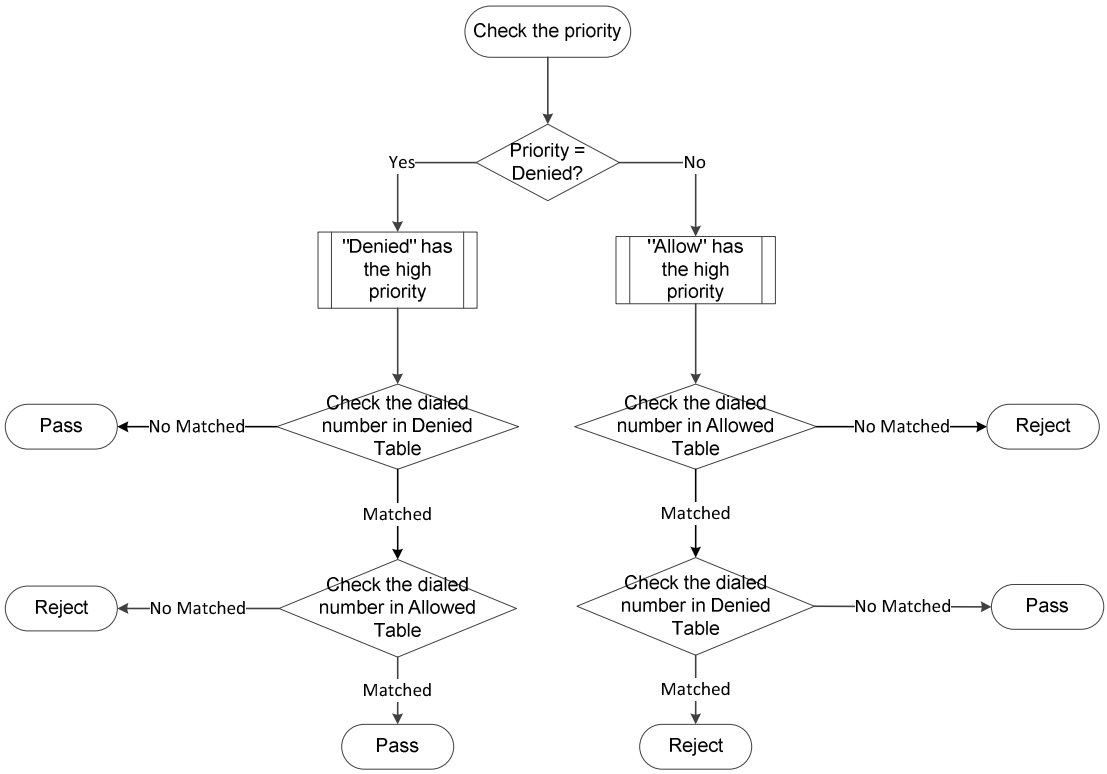
- **Priority**

  It decides which table will be checked first.

  If Priority is “Allowed”, IG7600 will check Allowed Table first, if any entry is matched IG7600 will search Denied Table then, the call can be made only when there is any matched entry found in Allowed Table and there is no any matched entry found in Denied Table.

  If Priority is “Denied”, IG7600 will check Denied Table first, if any entry is matched IG7600 will search Allowed Table then, the call will be forbidden only when there is any matched entry found in Denied Table and there is no any matched entry found in Allowed Table.

  Below is a figure that shows the process:



Example:

We can take an example to explain the details.

Consider we have a Call Restriction Table like the picture shows.

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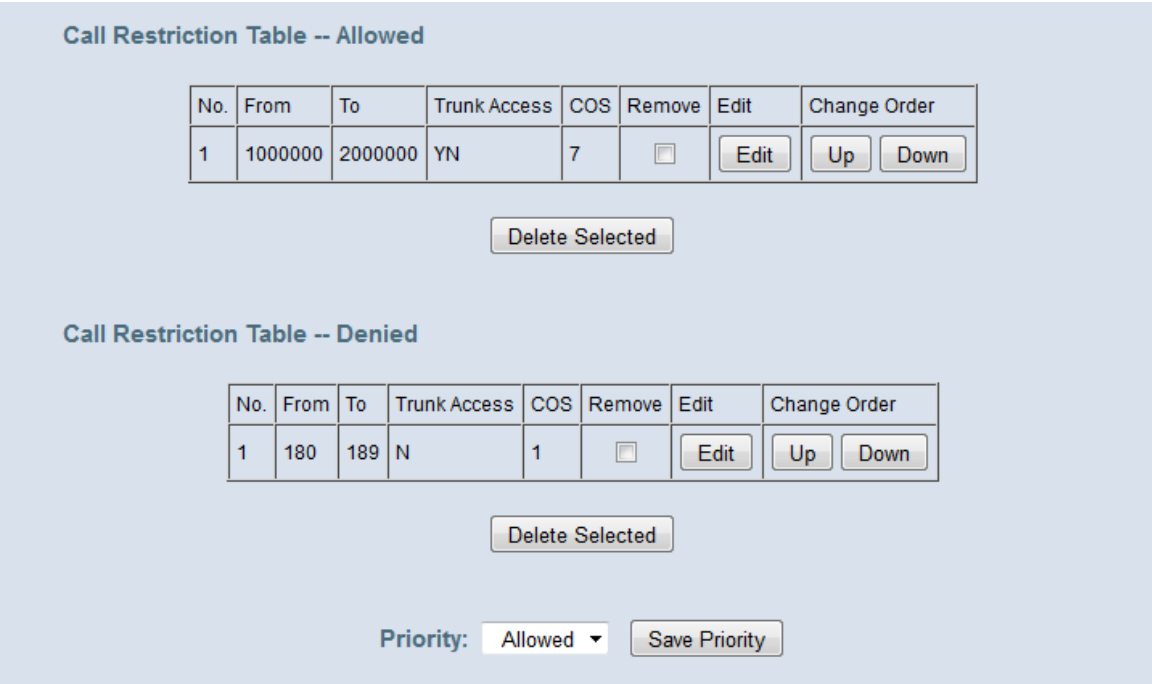

Since the priority is allowed, we should check the allowed table first.

In Allowed table, since 1000000 has 7 digits, you can only dial the number that is between 1000000 and 2000000 with a length not less than 7, and the extension you use must have a COS level higher or equal to “7”.

If you’ve passed the Allowed Table, check the Denied Table then, This Denied table means that when you dial the number directly, and the first three number is between 180 and 189, your extension must have a COS level higher or equal to “1”, if not, your call will be rejected by IG.

3.12 Call Routing

The Call Routing feature automatically routes outgoing calls using the most appropriate route. The appropriate route is determined based on the number dialed. If necessary, IG7600 can automatically modify the dialed number by deleting and inserting digits.

The call routing destination is a PSTN line, an IP line or a line group. It allows you to configure each entry in the Call Routing Table which contains a routing rule for outgoing calls:

- From/To setting defines the number range
- Min/Max defines the match length
- Del can delete some leading digits in the dialed number.
- Insert can add some digits as the leading for the target number. It will be added after doing “Del”.
- Destination defines the outbound call interface trunk

3.13 Caller ID Detection/Generation

IG7600 provides the ability to detect the calling party identification provided by CO via PSTN lines or by Uplink Server via IP trunks. This data when received by the telephone carrier will be displayed on all ringing IP phones.

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IG7600 also provide Caller ID Generation to the Caller ID equipped Single Line Telephone.

3.14 Class Of Service (COS)

IG7600 provides 8 Classes of Service (COS) for assignment of outside line dialing-privileges. Each extension may be assigned one Day-COS and one Night-COS. The Extension COS is primarily used for restriction and control of long distance dialing. COS 0 is the highest priority. COS 7 is the lowest one.

3.15 Daylight Saving Time

Daylight Saving Time (DST) feature supports auto adjustment for daylight saving time. It allows you to configure the Daylight Saving Time (DST) which includes support for auto adjustment of daylight saving time.

- Internet Time: it obeys the international standard rule.
- Manual DST Rule: it allows you to define your own Daylight Savings Time Rule.

3.16 Default Set

Clear all settings and return the IG7600 set to the factory condition will take at most 5 minutes.

When rebooting the IG7600 to the default, some settings for the registered IP Phones (IP2061, M22 and M62) and Smart Phones are reset to the default also.

- Line Keys
- Call Forward (Direct, Busy, No Answer, DND, Call Fork)
- Phone Lock
- Call Waiting
- Call Waiting Tone

3.17 Direct In Dialing (DID)

IG7600 provides a Direct In Dialing Table for IP Trunks. It will be able to offer its individual phone number for each extension.

IG7600 provides 100 entries in the Direct In Dialing Table. Each entry includes

- DID Number: used to check the caller ID of the incoming call.
- Destination: the ringing destination of the incoming call. It can be a Phone Extension, Virtual Extension, Auto Attendant, UCD Group, Speed Dial, or Paging number. It also can be an outside phone number.
- Outgoing Call ID: used as the private Caller ID when the “Destination” user makes the outgoing call. When the setting is null, it assumes to be the same as “DID Number”.
- Display Name: used as the Caller Name when the “Destination” user makes the outgoing call.
- Trunk: the applied trunk(s) of this DID entry. If it’s “All”, this entry will be applied for the all IP Trunks.

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3.18 Direct Inward System Access (DISA)

The feature allows you to remotely access IG7600 lines to make the outside calls. The current PSTN/IP lines are all DISA lines. While ringing to Auto Attendant, the outside callers have direct access to extensions, or make an outside call,

The out-calling is to dial a pound ("#") key at the beginning when Auto Attendant plays the greeting message. The call is secured by means of verified passwords against the assigned extension number. The use is accomplished only when a valid extension number has been entered and when the password entered matches that stored for the extension number entered.

The DISA function is disabled by default.

3.19 Emergency Call

IG7600 allows you configure five Emergency Call numbers and lines with which Emergency Calls are sent out. Any user can make an Emergency Call regardless of its Call Routing table, Call Restriction, and Phone Lock, when they dial a pre-configured Emergency Call number. The numbers of Emergency Call must not collide with the numbers in Numbering Plan.

It allows programming 5 emergency numbers. "911" is in it by default.

3.20 Extension Password

All extensions of the IG7600 system have an associated User Password. The Password is applied to Voice Mail service, and some system feature settings (Phone Lock, COS Following, DISA, Forward, Restore to Default, Feature Button Reset).

The Extension Password is 4-digit length. The default is "0000".

3.21 Fax/Modem

IG7600 supports FAX/modem tone detection and auto-fallback to G.711. IG7600 also support to use T.38.

3.22 Flash – Analog Port (SLT) Flash Recognition

Flash is the momentary operation of the hook-switch at the analog device, which can be deciphered by the IG7600 system in such a way that the previous call in progress is held, or placed in a status of transfer awaiting further instructions from the user.

3.23 Hold Recall Time

If a call is been hold for a long time, longer than the "hold recall time", IG will ring the IP Phone that holds the call.

PS:

1 How to set Hold Recall Time? Please refer to section 6.6.3.3 Transmission.

2 This function works only when the IP Phone enables hold reminder on its webpage as below.

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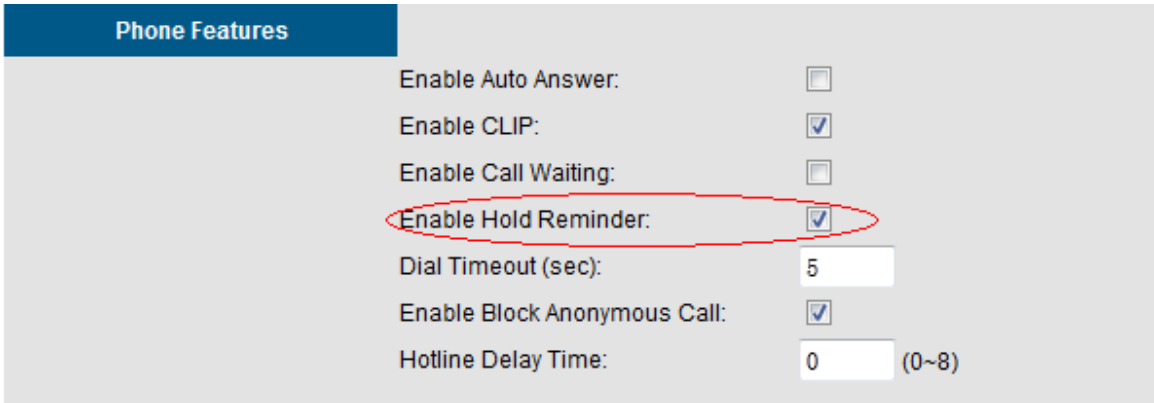

3.24 IP Trunk

IG7600 can register up to 12 SIP Uplink Servers. The extensions may make a call to the users of the Uplink Servers, or any user in the world through the Uplink Servers.

- SIP messages, including INVITE, re-INVITE, ACK, CANCEL, BYE, REGISTER, INFO, REFER and NOTIFY messages
- SIP Proxy, SIP Outbound Proxy, Registrar, and Outbound Registrar
- Auto Registration when Power-on or period
- Session Timer support
- Support IP address, domain name, user name, display name for SIP URL.

3.25 Message Waiting Indication (MWI)

It's a Voice Mail feature. When somebody leaves messages, the router will inform the phones, and phones' LCD will display new voice mails information, and its lamp will flash accordingly.

3.26 Music on Hold

Any PSTN/IP line calls placed on hold will give music to the other external party.

3.27 Numbering Plan

The Numbering Plan refers to the structure of dialed access to the various resources that are part of the system. IG7600 also allows for a very flexible configuration numbering for the various system resources.

IG7600 provides the following resources to be programmed in Numbering Plan.

- Extension Number
- Operator Code
- AA & VM Service Number
- Virtual Extension Number
- PSTN Line Number
- IP Trunk Number
- Trunk Group Number
- All Paging Number

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- Paging Group Number
- UCD Group Number
- Pickup Group Number
- System Speed Dial Number
- Call Park Number
- Conference Room Number

3.28 PSTN Backup

In case of power failure, IG7600 automatically switches the first PSTN line to the Single-line analog phone. The other PSTN lines are not supported

3.29 Registration Server

The IG7600 combines Proxy and Registrar servers in its application. For a Registrar server, it acts as the front end to the location service for a domain, reading and writing mappings based on the contents of REGISTER requests. The location service is then typically consulted by a Proxy server.

3.30 Remote Registration

The IG7600 now supports remote registration for M22, M62 and M54(-i), this makes it easier for users to configure their IP Phones from WAN Side.

IG allows Remote IP Phone to do registration under these circumstances (take M54 for instance):

1 IG's WAN side works under static mode, and has a public IP Address that we can reach from anywhere. Just input the public address in corresponding blanks.

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2 IG has a domain name that we can reach, users can set their IP Phones Sip servers to the domain name as below.

3.31 Service Mode

IG7600 provide Day and Night settings for each weekday in service mode page. It will be applied in the following function:

- Answering Position: Trunk incoming call may be forwarded to different extensions according to the settings.
- Class of Service (COS): Phone extension may be assigned to have the different COS in the different time.
- AA Greeting message in Working mode.

3.32 Station Message Detailed Recording (SMDR)

The feature allows the administration to track all incoming and outgoing outside call traffic, chronologically by extension number. SMDR is output from the standard Syslog (None/LAN/WAN/Both)

SMDR information includes Trunk Line used, extension number, time and date the call was placed, number dialed, duration of the call.

IG7600 also provides Outgoing Call Duration Start Time to the PSTN call. It's used to start the record for the PSTN outgoing call.

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3.33 System Speed Dial

IG7600 stores frequently dialed numbers. These Speed Dial Numbers are accessed for dialing by the associated Speed Dial Directory Numbers. The Speed Dial Directory Numbers are assigned in Numbering Table. The Speed Dial is only for outgoing calls.

IG7600 stores up to 100 Speed Dial Numbers. In the Speed Dial Number, it's allowed to store Phone number up to 20 digits in length. Call Restriction and Call Routing are applied and extensions may utilize only those numbers allowed based on their extension COS.

3.34 System Time & Date

The IG7600 system provides a built-in time clock to track System Time for reference in certain features such as day/night service mode. This clock has the ability to automatically adjust with network NTP server through internet.

The IG7600 also supports to use manual time setting. Because IG7600 doesn't support battery backup, the time setting may need to be reset when rebooting the IG7600.

System Time & Date can be applied to Smart Phone and IP Phone.

3.35 Trunk Group

The Trunk Group feature is used to assign each PSTN Trunk and IP Trunk to a specific Trunk Group. Each Trunk can be assigned to only one Trunk Group. The Trunk group assignment is used for Trunk pool access. If setting some PSTN trunks and some IP trunks into the same Trunk Group, the trunk access sequence will depend on the access priority and the search order. The IG7600 provides up to 4 selectable Trunk Groups. All PSTN Trunks and IP Trunks are assigned to Trunk Group 1 by default. For the four groups you can choose IP first or PSTN first if programming PSTN and IP Trunk in the same group. This will take effect if call routing entry's destination has been set as Group choice

Group All is a special group that all trunks are included in.

3.36 UCD (Uniform Call Distribution) Group (or Hunt Group)

IG7600 supports 4 UCD Groups. Each UCD Group can have up to 50 members. There are three kinds of UCD Group mode – All Ring, Linear, and Distributed. For All Ring mode, incoming Trunk calls ring all member extensions simultaneously. For Linear mode, incoming call is put into a queue and then distributed from the first extension. For Distributed mode, it is the same as Linear but selection of an extension is uniformed.

If more than one call rings at the same time, the first agent to go off hook will be connected to the call that has been ringing the longest.

For unanswered Trunk call, it will be forwarded to a Reroute destination. The Reroute destination can be AA Menu, Voice Mail, Phone Extension or Virtual Extension.

The missed UCD Group calls are recorded in UCD Call Log. It records the last 100 missed UCD Group calls.

3.37 IGW Group

IG7600 can discover other IG dynamically to build up an IGW Group. You can use IGW Group as a call routing way to expand your voice system conveniently.

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Basically in one IGW Group we demand one of the IGs works under master mode, others work under slave mode. The members in the group need to be found by each other on the internet make sure about it before you use this function. When an IGW Group is build up successfully we can choose IGW Group as a Call Routing way in Call Routing configuration page.

When IGW Group Settings are OK and Call Routing table is set appropriately, Ext under one IG can call another IG's Ext or use its Trunk resource directly. IGW Group only supports Exts from different IG having conference call only when the Initiator is a specific IP Phone, M54(-i) is not supported.

1. We have a figure and a table to describe what IGW Group supports.

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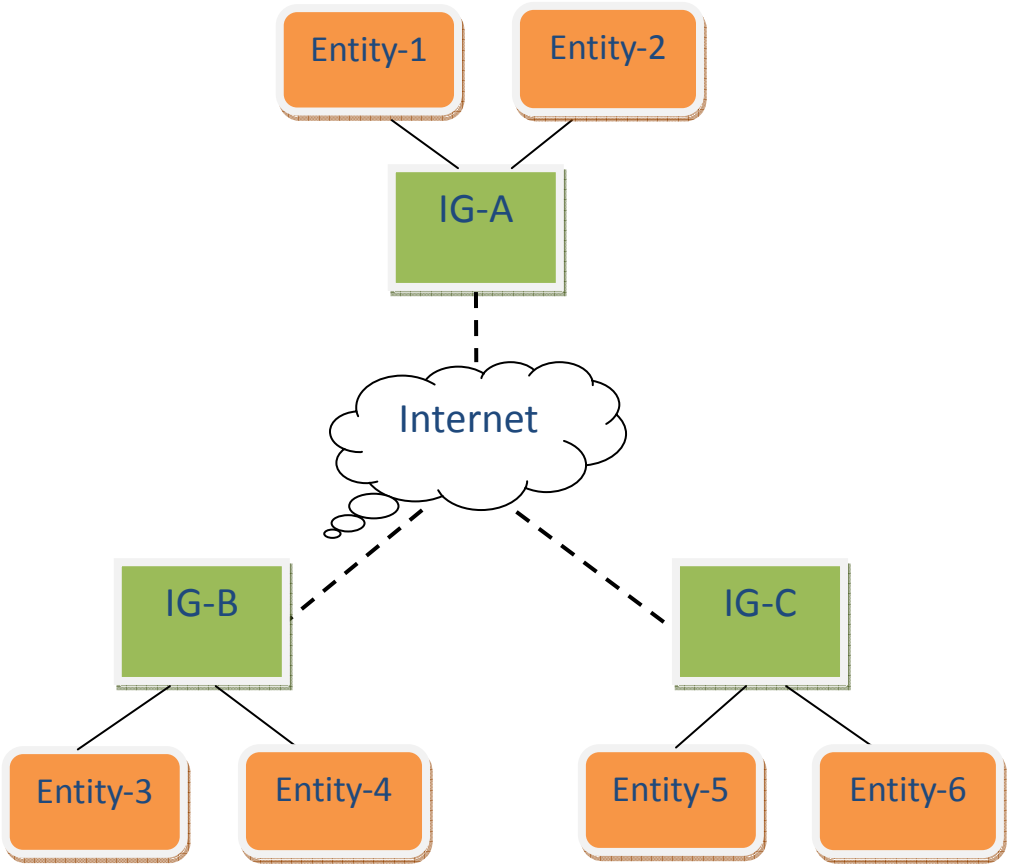

IG-A	IG-B	IG-C	Operation	Support
Entity-1	Entity-3		Entity-1 call/hold/retrieve Entity-3	V
Entity-1, Entity-2	Entity-3		Entity-1 transfer/forward Entity-2 to Entity-3	V
Entity-1, Entity-2	Entity-3		Entity-1 transfer/forward Entity-3 to Entity-2	V
Entity-1	Entity-3, Entity-4		Entity-1 transfer/forward Entity-3 to Entity-4	V
Entity-1	Entity-3	Entity-5	Entity-1 transfer/forward Entity-3 to Entity-5	V
Initiator: Entity-1 is an IPP	Entity-3	Entity-5	Three of them having a conference call	V
Initiator: Entity-1 is a SMP	Entity-3	Entity-5	Three of them having a conference call	X

2. IGW Group doesn't support:
   a) Setting other IG's Ext as a UCD/ Paging Group member.
   b) Setting other IG's Trunk line as a Trunk Group member
   c) Listen to other IG's Ext's message.
   d) Dial other IG's Operator Code。
   e) Set other IG's Ext as operator.

Usage Sample: IG A and IG B build up a IGW Group. IG A's extension range is 201-299. IG B's extension range is 101-199. IG A has an IP Phone Ext whose number is 201 and a FXS Phone whose number is 299. IG B has an IP Phone Ext whose number is 101.

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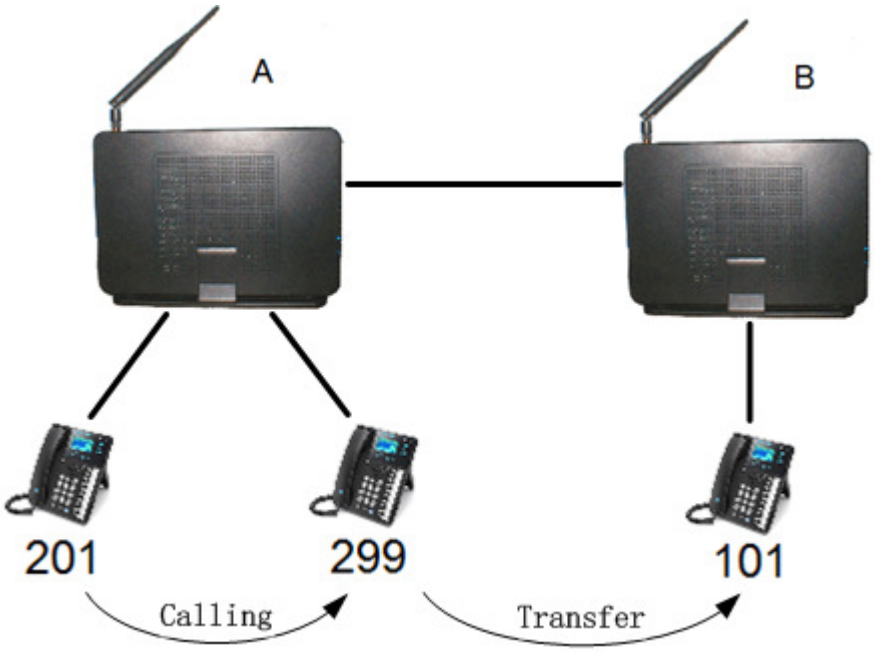
With this setting IG A's Ext 299 can transfer a call from 201 to IG B's Ext 101 by dialing 101 directly.

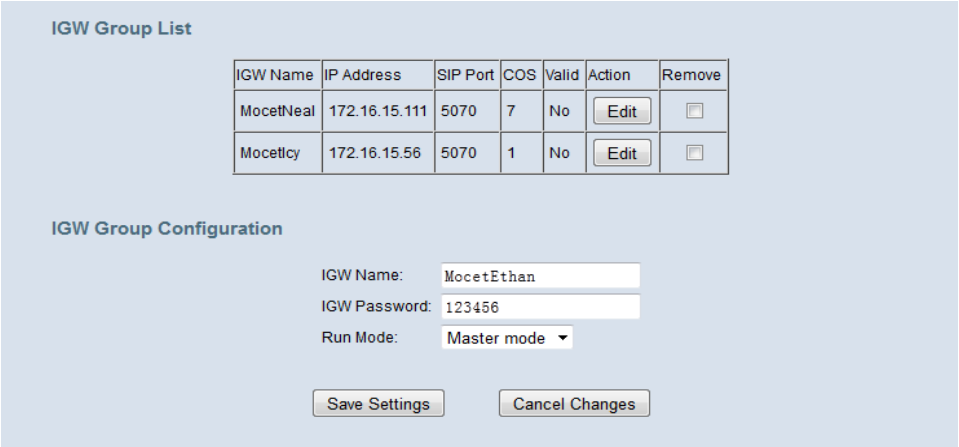


Get Ready
[IG7600 programming—IGW Group]
IGW Name: The name of IG. It will be referred for the other IGs.

Run Mode: The mode that IG is running. IG can run in Master Mode or Slave Mode.

Master Mode: When IG is running in master mode, it maintains an IG list table. When the master found that some slave IG changes its name or IP address, it will broadcast to all of other slave IGs in this list and let them update their own IG list table.

Slave Mode: When IG is running in slave mode, the master IG IP address should be configured. When its name or IP address changed, it will inform the master IG. And then the master IG will let other IG know this change.



Slave mode:

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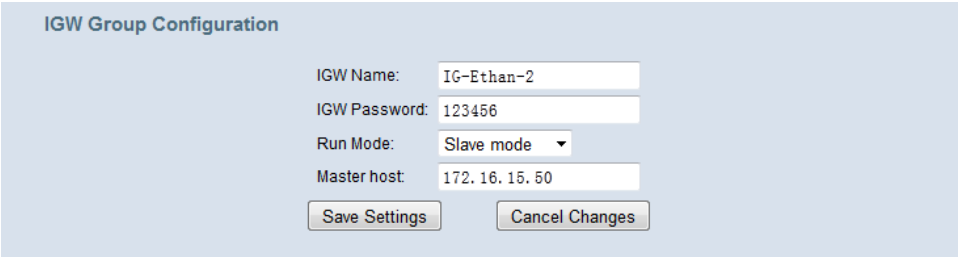
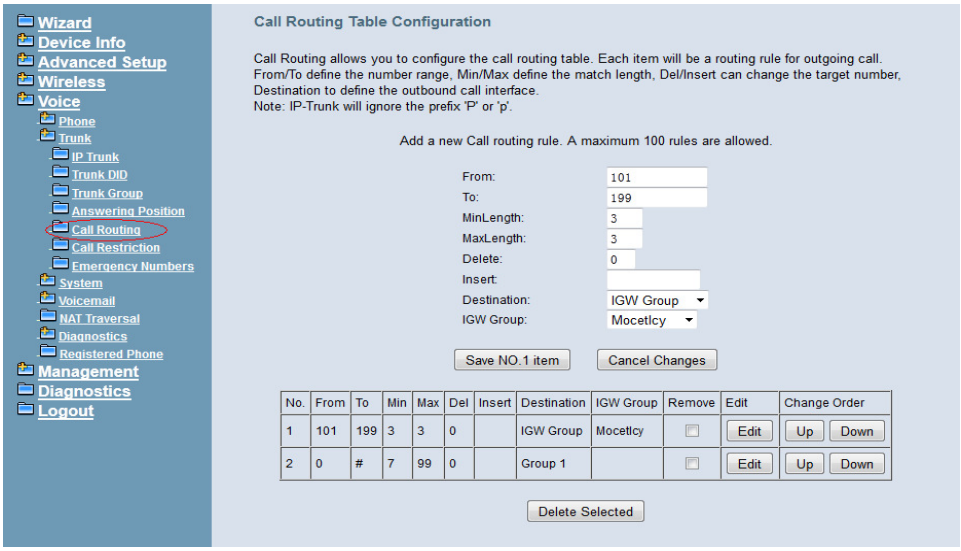


[IG7600 programming—Call Routing Rule]

To fulfill the condition of the Sample, IG A has one Call routing rule to IGW Group member -- IG B whose settings are like this figure shows: when the dialing is from 101 to 199 and is exactly a 3 digit number, IG A Transfer the dialing to IG B directly without deleting any of the digit.



Steps

- **Access IG B from IG A's Ext**

a) Off-hook the phone 201 and dial 299.
b) Pickup FXS 299 to answer the call.
c) Phone 201 press "transfer" button to hold the call
d) Phone 201 dial "101" and back to idle screen.
e) Ext 101 rings and pickup it to speak with Ext 201.

Features that support IGW Group:

IG7600 Voice General Features	3-Way Conference	No
	Access Control for Web Page	NA
	Answering Position	No
	Auto Attendant	No
	Voice Mail	Yes
	Basic Call	Yes
	Call By Name	No
	Call Abandon	Yes
	Call Operator	No
	Call Pickup – Group	No
	Call Restriction	Yes
	Call Routing	Yes
	Caller ID Detection/Generation	Yes
	Class Of Service (COS)	Yes

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	Daylight Saving Time	No
	Default Set	No
	Direct In Dialing (DID)	No
	Direct Inward System Access (DISA)	No
	Emergency Call	No
	Extension Password	NA
	Fax/Modem	No
	Flash – Analog Port (SLT) Flash Recognition	Yes
	IP Trunk	Yes
	Message Waiting Indication (MWI)	Yes
	Music on Hold	Yes
	Numbering Plan	No
	PSTN Backup	NA
	Registration Server	No
	Service Mode	No
	Station Message Detailed Recording (SMDR)	Yes
	System Speed Dial	No
	System Time & Date	No
	Trunk Group	No
	UCD (Uniform Call Distribution) Group (or Hunt Group)	No
	Wizard Setup	NA
IG7600 Voice Extension Features	3-Way Conference	Yes
	Agent Log On/Off – UCD Group	No
	Alphanumeric Display	Yes
	Automatic Callback Busy	No
	Auto Hold	Yes
	Call Fork	No
	Call Forward	Yes
	Call Hold	Yes
	Call Log	Yes
	Call Park / Call Park Answer	No
	Call Pickup – Individual	No
	Call Waiting	Yes
	Caller Blocking	Yes
	CO Flash	Yes
	COS Following	No
	Distinctive Ringing	Yes
	Do Not Disturb (DND)	Yes
	DSS/EDM	No
	Feature Button Reset	NA
	Feature Key Programming	NA
	Feature Reset	NA
	Hold Reminder	Yes
	Hotline	Yes
	Live Recording (One Touch Record)	Yes
	Multi-Line Appearance	No
	Mute	Yes
	On Hook Dialing	Yes
	Paging (All/Group) / Paging Answer	No
	Paging Allow/Deny	No

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	Phone Book	No
	Phone Lock/Unlock	No
	Plug & Play	NA
	Reminder Tone	NA
	Service Mode Switching	NA
	Transfer / Recall	Yes
	Volume Control	Yes
	Web Management	NA

3.38 Wizard Setup

The IG7600 has a setup Wizard that provides the system administrator with a series of step-by-step operations. You can get in the wizard process from the entry shown on the main page.

When you start setup wizard you can configure the corresponding settings step by step. The following four items are supported.

- WAN Setting
- Secondary WAN Setting
- LAN Setting
- Wireless Basic
- Internet Time (include Manual Time Setting)

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4. IG7600 Voice Extension Features

IG7600 follows SIP standard to serve SIP phones. Basically, telephone features that meets SIP standard can be applied in IG7600.

Smart Phone M54(-i) , M22, M62 and IP2061 phone support many phone features. But for adding some traditional KTS features that are not defined definitely in SIP protocol, some specified information are transmitted between IG7600 and IP2061/M22/M62/M54(-i) Phones. This section introduces these special phone features. Some features are only for IP2061/ M22/M62/M54(-i) phones and/or FXS phone.

The following features depend on whether the phone provides.

Feature	IP2061	M22/M62	FXS	M54(-i)	Other SIP Phone
Agent Log On/Off – UCD Group	Yes	Yes	Yes	No	No
3-Way Conference	Yes	Yes	No	Yes	No
Alphanumeric Display	Yes	Yes	Depends	Yes	Depends
Automatic Callback Busy	Yes	Yes	No	No	No
Auto Hold	Yes	Yes	No	Yes	Depends
Call Fork	Yes	Yes	Yes	No	No
Call Forward – Direct	Yes	Yes	Yes	Yes	Depends
Call Forward – Busy	Yes	Yes	Yes	Yes	Depends
Call Forward – No Answer	Yes	Yes	Yes	Yes	Depends
Call Forward – DND	Yes	Yes	Yes	Yes	Depends
Call Forward – Follow Me	Yes	Yes	Yes	No	No
Call Hold	Yes	Yes	Yes	Yes	Depends
Call Log	Yes	Yes	No	Yes	Depends
Call Park	Yes	Yes	No	No	No
Call Park Answer	Yes	Yes	Yes	No	Yes
Call Pickup - Individual	Yes	Yes	Yes	No	Depends
Call Waiting	Yes	Yes	Yes	Yes	Depends
Caller Blocking	Yes	Yes	No	No	Depends
CO Flash	Yes	Yes	Yes	No	No
Conference (3-way)	Yes	Yes	Yes	Yes	Depends
COS Following	Yes	Yes	Yes	No	No
Default Setting	Yes	Yes	Yes	Yes	Depends
Distinctive Ringing	Yes	Yes	Partial	Yes	Depends
Do Not Disturb	Yes	Yes	Yes	Yes	Depends
DSS/EDM	IP2061 Only	Yes	No	No	No
Feature Key Programming	Yes	Yes	No	No	No
Hold Reminder	Yes	Yes	Yes	No	Depends
Hotline	Yes	Yes	Yes	No	Depends
LCD & Interactive Buttons	Yes	Yes	No	Yes	Depends
Live Recording	Yes	Yes	No	No	Depends
Multi-Line Appearance	Yes	Yes	No	Yes	Depends
Mute	Yes	Yes	No	Yes	Depends
On Hook Dialing	Yes	Yes	Depends	Yes	Depends
Page (All/Group) - Paging	Yes	Yes	Yes	Yes	Yes

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Page (All/Group) - Paged	Yes	Yes	No	No	No
Page Answer	Yes	Yes	No	No	No
Page Allow / Deny	Yes	Yes	No	No	No
Phone Book	Yes	Yes	No	Yes	Depends
Phone Lock/Unlock	Yes	Yes	Yes	Yes	No
Plug and Play	Yes	Yes	Yes	Yes	No
Reminder Tone	Yes	Yes	Yes	No	Depends
Service Mode Switching	Yes	Yes	Yes	No	No
Transfer	Yes	Yes	Yes	Yes	Depends
Web Management	Yes	Yes	No	No	Depends
Volume Control	Yes	Yes	Depends	Yes	Depends

NOTE: the word “Depends” means that the features depend on whether the phone provides.

4.1 3-Way Conference

The Conference feature allows the user to connect two calls into a single conversation. IP2061/M22/M62 can establish a 3-way conference on the phone. M54(-i) needs to use IG7600’s resource to establish the 3-way conference call. IG7600 supports 1 set of 3-way conference for M54(-i).

4.2 Agent Log On/Off – UCD Group

Extensions can log on or log off from UCD group.

Enable Agent Log On feature, dial *91.

Disable Agent Log On feature, dial **91.

If an extension disables the Agent Log On feature, the extension should log off from all UCD groups it belongs to.

4.3 Alphanumeric Display

The IP Phone extension provides a graphic LCD that supports 64 alphanumeric characters. The LCD enhances many system features.

4.4 Automatic Callback Busy

IP2061/M22/M62 supports Automatic Callback Busy. When the callee has no session resource, the caller will hear busy tone.

The caller can dial “6” to get the Automatic Callback Busy feature.

The confirmation tone will be heard and come back to idle status. When the callee is no longer in busy status, the caller will hear call back ring.

Remove the Callback Busy calls, dial *66.

Example:

To make it simple and clear, assume that we have 3 EXTs under our system. Let’s call them A, B and C. A is an EXT with Call Waiting function disabled.

Now A is having a conversation with B, C wants to call A, after the dialing, user C hears the busy tone, shows that A cannot answer the call now. Before the busy tone stops C presses “6” to enable busy call back, and then C hangs up.

Busy Call Back works like this, when EXT A turns back to idle (hang up the call with B), EXT A will starts to ring immediately, after A picks up the call, Ext C starts to ring, and C picks up the call to start the conversation with A.

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4.5 Auto Hold

You may enable the feature to simplify call handling and avoid accidental “lost” calls. Hold will automatically place any call that is currently connected at your phone on hold whenever a Trunk line button is pressed.

4.6 Call Fork

IG7600 supports to ring another extension or an outside destination via IP Trunk simultaneously when the extension gets an incoming call. When the call is answered by one of the both parties, the call at the other party will stop ringing automatically.
For the Call Fork destination, IG7600 supports to have the second Fork destination. If the first destination is non-existed or busy, make the forking call to the second Forking Destination.

To Activate (Type: 0 – ICM, 1 – Outside, 2 – Both; Destination#: 1 – first, 2 – second)
*26 + Destination# + Type + Ext No
*26 + Destination# + Type + * + (PSWD) + * + Outside Number

To Cancel
**26 → cancel the both forking destination.
**261 → cancel the first forking destination.
**262 → cancel the second forking destination.

Call Fork is not applied to Operator call, Paging call and UCD call

4.7 Call Forward

Call Forwarding reroutes incoming calls from one extension to another destination. The destination of a call forward can be another extension, voicemail box or an outside phone number (External Call Forward; ECF).

IG7600 support the following feature access codes to program Call Forwards for IP2061/M22/M62/M54(-i) and FXS. It includes a “Type” setting for each Call Forward. It can be programmed to “ICM”, “Outside” or “Both” (Type: 0 – ICM, 1 – Outside, 2 – Both).

Direct Call Forward:
Forward all of the calls without regard to the extension status.
To enable, dial *21 + Type + Ext/VAA/UCD No.
*21 + Type + * + (PSWD) + * + Outside Number
To disable, dial **21.

Busy Call Forward:
Forward the calls if the extension is busy.
To enable, dial *22 + Type + Ext/VAA/UCD No.
*22 + Type + * + (PSWD) + * + Outside Number
To disable, dial **22.

No Answer Call Forward:
Forward the calls if the extension doesn’t answer the call within No Answer Time.
To enable, dial *23 + Type + Ext/VAA/UCD No + * + Time.
*23 + Type + * + (PSWD) + * + Outside Number + * + Time
To disable, dial **23.

DND Call Forward:
Forward the calls if the extension enabled DND.
To enable, dial *24 + Type + Ext/VAA/UCD No

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*24 + Type + * + (PSWD) + * + Outside Number
To disable, dial **24.

Follow Me Call Forward:
Forwards calls at your extension to the extension where you are currently working.
To enable, dial *25 + Type + Ext No + * + Password
To disable, dial **25 + Ext No + * + Password

These Call Forward features can also be set / cancelled in web page of IP2061/M22/M62.

4.8 Call Hold

Trunk and Intercom calls can be placed on hold at any extension. Any PSTN/IP line caller placed on hold will hear the Music On Hold. The held trunk can be resumed by other extensions by pushing Feature Key.

For the Single Line phone, it's to put a call on hold, press flash then hang up (optional). It's to return to the original call, press flash or pick up the phone.

4.9 Call Log

The IP2061/M22/M62 and M54(-i) phone can store a call log for your reference. To access your call log, use the LCD menus. There are three types of Call Logs - Missed Calls, Received Calls, or Dialed Calls. To dial from a listing, press the soft keys corresponding to the LCD menus display.

4.10 Call Park / Call Park Answer

The feature allows you to "park" a call at IP2061/M62 extension. It also allows any extensions to retrieve a parked call. Calls are parked by pressing the Park feature key. System supports two methods in the Call Park application.

a. If the Park key has a specified Call Park number, like 731, then it's called System Call Park key. For example, a PSTN trunk call 701 is "parked" by a System Call Park key 731, then all System Call Park key 731 and all Trunk key 701 on all extensions will flash.

   Any extension can pick up the trunk call by pressing the flashing System Park key 731, by inputting the Call Park Code 731, by pressing the flashing Trunk key 701, or by inputting the Trunk Access Code 701.

b. If the Park key has no Call Park number, then it's called Individual Call Park key. For example, a PSTN trunk call 701 is "parked" by extension 101's Individual Call Park key, then only Trunk key 701 on all extensions or the Individual Call Park key on extension 101 will flash, all extensions' System Call Park key and other extensions' Individual Call Park will NOT flash.

   Extension 101 can pick up the trunk call by pressing the flashing Trunk key 701, by inputting the Trunk Access Code 701, or by pressing the flashing Individual Call Park key.

   Other extensions can pick up the trunk call by pressing the flashing Trunk key 701 or

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by inputting the Trunk Access Code 701. Meanwhile, other extensions can also pick up this trunk call by pressing the IDLE Individual Call Park key and input the extension number “101”.

4.11 Call Pickup – Individual

You may answer the calls at another specified extension. The feature allows you to easily access calls ringing via the feature access code.

*53 + Extension Number

4.12 Call Waiting

If Call Waiting is enabled for a specific IP2061/M22/M62/M54(-i) station, an alert (muted ring) will be played on the called party when a second call is received and the extension is in use.

To enable Call Waiting, dial *98

If Call Waiting is disabled for a specific station, the station will return a busy tone to any calling party while the station is in use.

To disable Call Waiting, dial **98

PS: Call waiting is disabled by default. You have to enable it manually.
Call waiting tone is enabled by default.

4.13 Caller Blocking

IP2061/M22/M62 can block up to 10 phone numbers from reaching you at your phone when a caller attempts to call you from one of these numbers.

4.14 CO Flash

FXO Line is programmed setting that will determine what flash timing will be presented to the CO/PBX when the extension issues a Hook-Flash command while connected to a FXO Line.

4.15 COS Following

You can temporarily change the individual Class of Service of each extension on a per call basis. You may want to do this when the user goes to the office of low-priority COS extension and try to make an outgoing call, the user can use the function to use their own COS.

When using the COS Following feature the station COS change will revert to the station’s original COS after a one minute idle time-out.

To set COS Following, dial *55 + (phone number) + (password)

4.16 Distinctive Ringing

Distinctive ring cadences can be selected allowing adjacent users to discern which extension is ringing. It also provides different ring tones for intercom and trunk calls.

Every Trunk Line may be allocated one of the available Ring Types. When the feature is used, the specific ring type assigned to the Trunk Line is the ring type heard when the Trunk Line rings. The feature helps to identify the Trunk Line and the Trunk Group to which it belongs to.

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4.17 Do Not Disturb (DND)

Extension users can enable DND to reject all incoming calls. The DND on an extension can be allowed or denied through the feature access code.

To enable the Do Not Disturb feature, dial *4.

To disable the Do Not Disturb feature, dial **4.

DND and FWD can be set independently. If multiple features are set at the same time, it is applied in the order of Direct FWD > DND > Busy/No Answer FWD.

4.18 DSS/EDM

IG7600 supports to provide the status of the extensions and trunk lines. The status can be shown on the LED of IP2061/M22/M62's flexible keys. For IP2061, M22 and M62, they support EDM modules that can have 24 more keys.

PS: basically the button lamp will light when the button's corresponding destination is busy, but when the destination is an M54(-i), the lamp will not lit under the same circumstance.

4.19 Feature Button Reset

The feature is used to reset all feature buttons to be the same as the current settings in IG7600.

To reset the Feature Buttons, dial *68 + (Password)

4.20 Feature Key Programming

Feature Keys can be programmed by phone users. A feature key can be programmed for line appearance.

To program a Feature Key, dial *70 + (Feature Key number: 01 – 04/44$^{(*)}$) + (Feature Key Type; 00 - 08) + Number

Feature Key Type:

00: Null; Number should be null.

01: Extension; Number can be an Extension or Virtual number.

02: Trunk; Number can be a PSTN, IP Trunk or Trunk Group number.

03: Call-Park; Number can be a Park number.

04: Feature Key; Number can be a feature access code

05: Others; Number could be an outside phone number.

06. Do Not Disturb; Number should be null.

07: Live Record

08: Virtual Mailbox key; Number can be a Virtual number.

Note: IP2061, M22 and M62 supports EDM module, it provides 24 more keys for feature access.

4.21 Feature Reset

When the feature is activated, the extension will return the features that can be programmed through feature codes to default settings. It will affect the following options:

Call Waiting disabled

Call Waiting Tone Enabled

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Paging Accept
Default Feature Key Setting
Phone Lock disabled
Call Forward (Direct, Busy, No Answer, DND, Call Fork) disabled
DND disabled
Agent Log on
Auto Answer disabled
Distribution List clean

To activate the Default Setting feature, dial *69+ (Extension Password or Administrator Password).

4.22 Hold Reminder

IP2061/M22/M62 provides a programmable timer to remind you that a call has been left on Hold. When enabled, you will hear one ring tone repeated each time the selected hold time expires.

4.23 Hotline

The feature allows an extension to automatically access a given resource each time the extension goes off hook. The resource can be any system directory number or outside phone number. It can access the desired resource from 0 to 8 seconds after the extension goes off hook. The delay allows the user to dial another resource before the hotline takes effect.

If the “Hotline Delay Time” of FXS is 0, it can cancel the setting by pressing Flash key after making a hotline call. Then dial the feature access code.

To enable, dial *9* + (any Number) + * + Time //Time: 0~8 seconds; 0: immediately
To disable: **9*

4.24 Live Recording (One Touch Record)

The Live Recording feature can be activated by using the Live Recording feature key on your telephone. When activated during an active call, the Live Recording feature will record the conversation as a voicemail message. After finishing the recording, the recording will be as a new leaving message into the extension’s mailbox.

During the recording, the LED of the Live Recording key is lit. Press the key when it’s lit, it will stop the recording. When the call is held or released, it stops the recording also. After stopping the recording, it disallows to enable it again in 10 seconds.

It allows having 4 Voice Recording calls maximum simultaneously. The maximum recording time is 30 minutes. Live Recording feature isn’t applied in the conference call.

4.25 Multi-Line Appearance

IG7600 provides PSTN line and IP line status to IP2061/M22/M62, it also provides PSTN line or IP Line status to M54(-i).

Trunk LED:

Dark – the line is Null or Idle
Fast Flash – the line is ringing
Slow Flash – the line is held

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Wink Flash – the line is held recall
Lit – the line is in talk

4.26 Mute

The Mute feature allows the user to disable the handset transmitter or the speakerphone microphone.

4.27 On Hook Dialing

IP2061/M22/M62 phone extensions may make outgoing calls without lifting the handset and monitor the dialing status through the built-in speaker. The button lamp is lit when dialing.

4.28 Paging (All/Group) / Paging Answer

Paging function can be initiated from any extension in the IG7600. Dialing a Paging Group Directory number allows an extension to broadcast a page to all assigned members of the selected paging group.

IG7600 provides a Paging Range to define the paged extensions.

- LAN: the all assigned extensions on LAN side are paged.
- WAN: the all assigned extensions on WAN side and the extensions are connected to the same router with IG7600 are paged.
- Both: the all extensions on LAN and WAN are paged.

When receiving a Paging call, the paged IP2061/M22/M62 extension can answer the call by pressing the “Answer” soft button.

IG7600 provides 3 Paging Group. Each Group can have 49 extensions.

4.29 Paging Allow/Deny

You can block one-way pages (internal, group, and all page) over the IP phone speaker by dialing the Page Deny code.

To enable Paging Deny, dial *99
To disable Paging Deny, dial **99

4.30 Phone Book

The IP2061/M22/M62/M54(-i) provides users with a Phone Book, with each entry containing a user programmed Phone Number and User Name. You can also edit your Mobile Number and Display Name on an M54(-i).

4.31 Phone Lock/Unlock

You can use the Lock feature to prevent unauthorized trunk calls from being made from extension. A locked extension continues to receive incoming calls, and a user can continue to place and receive intercom calls. Outgoing Trunk calls are blocked.

To lock the phone, dial *97 + (Password)
To unlock the phone, dial **97 + (Password)

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4.32 Plug & Play

While connecting IP2061/M22/M62 to IG7600's LAN port, it will register to IG7600 automatically. IG7600 will also assign a valid extension number to the phone directly.

When IP2061/M22/M62 and IG7600 connect to the same Router, IG7600 will assign a valid extension number to the IP2061/M22/M62 also.

IG7600 will do Plug & Play with M54(-i) only when the pairing button is pushed.

4.33 Reminder Tone

Play stutter dial tone to remind the user that DND or DCFW is enabled at your extension. If having MWI, it also plays the stutter dial tone

4.34 Service Mode Switching

The feature can be used by Operator phone only. Operator uses a programmed key or by feature access code to change IG7600 Service Mode.

*791: assign to Day mode.
*792: assign to Night mode
*793: assign to Time mode

IG7600 also provide a feature code "*790" to switch the Service mode. The rule is

- If "Service Mode" setting is "Day", it changes the setting to "Night".
- If "Service Mode" setting is "Night", it changes the setting to "Day"
- If "Service Mode" setting is "Time", it changes the Service Mode temporarily. The change will be clean when it reaches the time in "Time" service mode.

When the "*790" is programmed on the line key, it shows the current operating mode on the LED indication (the LED is lighten on Night time, dark on Day mode).

4.35 Transfer / Recall

Transfer is used to deliver calls at your extension to another extension. It means that calls can be routed to IG7600's system destinations: an extension or an outside phone number.

When transferring a trunk call to another extension, if the call is not picked up within 30 seconds, the call will be recalled back to the transferring extension.

IP2061/M22/M62/M54(-i) Phone supports Blind Transfer, Unscreened Transfer, and Screened Transfer.

FXS phone supports Unscreened Transfer, and Screened Transfer.

4.36 Volume Control

The IP2061/M22/M62 is equipped with a volume control that is used to adjust the various volume settings of the telephone. The following functions can be adjusted:

- Ringing
- Handset
- Speaker
- Headset

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4.37 Web Management

The IP2061/M22/M62 is supported two-level web management. The Administrator has several pages to configure the IP phone. User is able to configure personal information by himself. User level is not including these two pages – software update, SIP configuration.

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5. Quick Installation

This Quick Installation helps you to install the product quickly and easily. For detailed instructions on installation, and further setup option, please refer to the configuration chapter.

5.1 Connecting the IG7600

(1) Place IG7600 in an optimum location.

(2) Connect the included Category 5 Ethernet network cable to the IG7600's LAN port or WAN port. Then connect the other end of the network cable to a switch or hub or directly your PC's Ethernet port. The IG7600 will then be connected to your 10/100/1000 network.

(3) Connect the AC power adapter to the IG7600's Power port. Only use the power adapter supplied with the IG7600. Use of a different adapter may result in product damage.

(4) Now that you have connected the IG7600 to your network, you are ready to begin setting it up. The Setup Wizard will take you through all necessary steps to help you to configure the IG7600 easily.

5.2 Wizard Setup

This system administrator can configure the IG7600 remotely or locally via a Web Browser. When IG7600 return to default factory settings, its LAN address is "192.168.123.1", and username is "admin1234", password is "adminxxxxxx" ("xxxxxx" are the last 6 characters of IG's MAC Address).

Click "Wizard" on IG's home page to start the setup wizard. It allows system administrator to select the appropriate operation mode and configure the corresponding setting step by step. The following four items are supported.

- WAN Settings
- Secondary WAN Settings
- LAN Settings
- Wireless Basic
- Internet Time

In the configuration, the administrator presses "Next" or "Cancel" button to choose the setting item. If pressing "Save & Reboot", the settings will be saved and the IG7600 will be rebooted automatically.

5.2.1 WAN Setting

There are three modes that you can configure WAN IP address: Static IP mode, DHCP mode, and PPPoE mode. You can also select to enable or disable Firewall.

Note that Network Address Translation (NAT) function is default enabled and is not shown on the page to prevent it from being disabled.

This page shows that the current existing WAN interface in this system is Static IP mode. (Figure 5-1)

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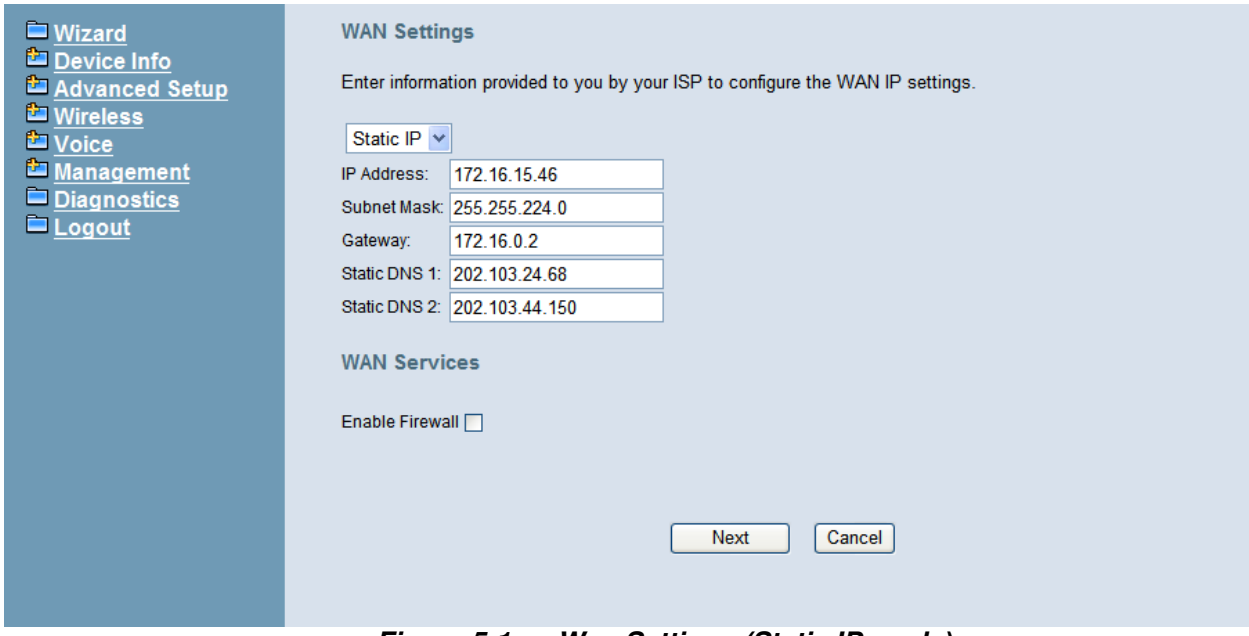

Figure 5-1. Wan Settings (Static IP mode)

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.

This page shows the current existing WAN interface in this system is DHCP mode (Figure 5-2).

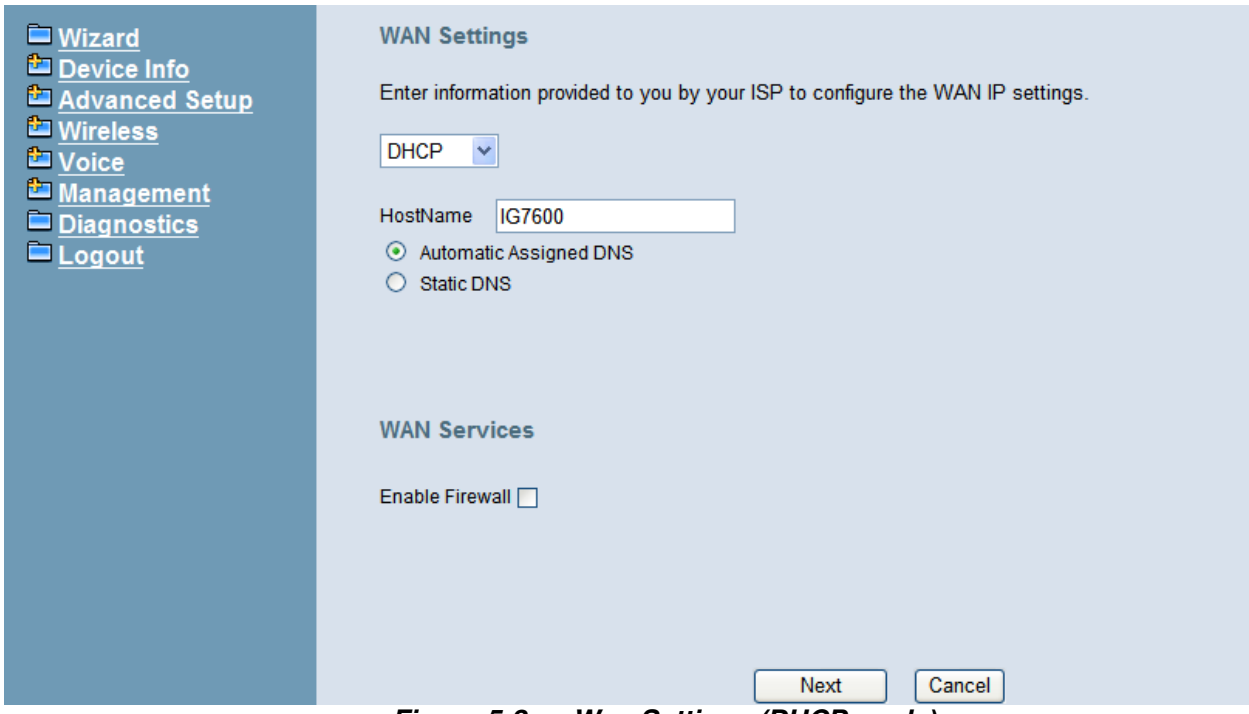

Figure 5-2. Wan Settings (DHCP mode)

The Point-to-Point Protocol over Ethernet (PPPoE) requires a user name and password that your ISP has provided to you to establish your connection. This page shows that the current existing WAN interface in this system is PPPoE mode (Figure 5-3).

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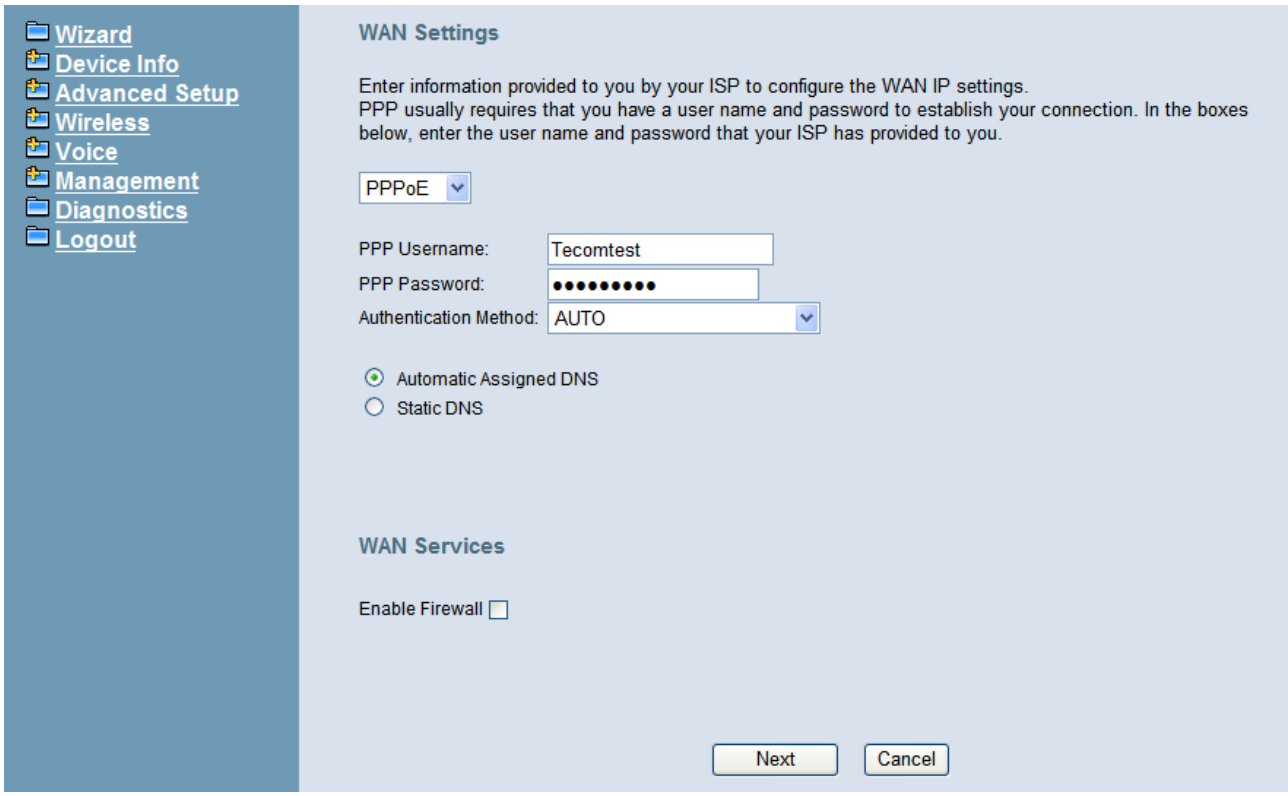
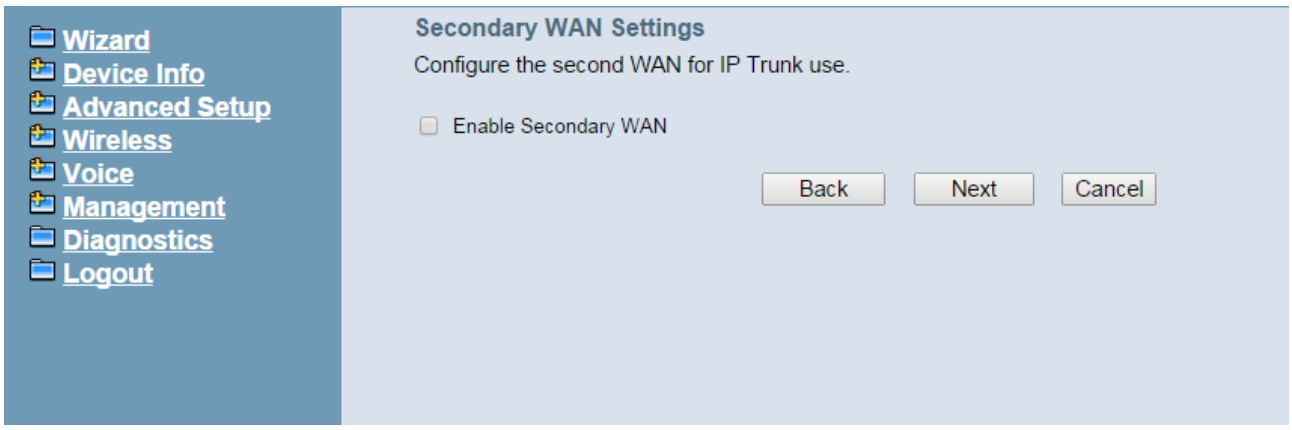


Figure 5-3. Wan Settings (PPPoE mode)

5.2.2 Secondary WAN Setting

IG7600 supports secondary WAN which is dedicated for IP Trunk. If you check "Enable Secondary WAN" then it will turn LAN port into secondary WAN port. And you still can use wireless interface for LAN access. Regarding secondary WAN settings, please refer to 5.2.1 WAN settings.



5.2.3 LAN Setting

This page (Figure 5-4) allows you giving LAN IP and Subnet Mask for LAN interface. You can also select to enable or disable DHCP Server and configure related settings for that mode.

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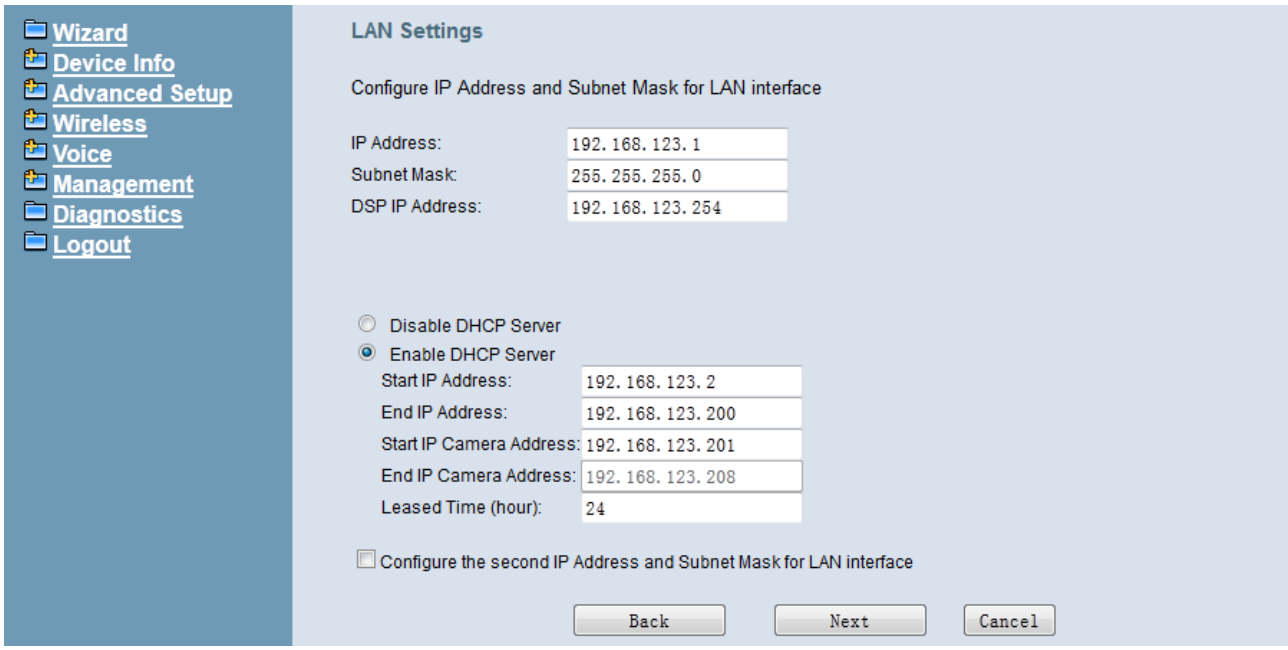

Figure 5-4. LAN Settings

5.2.4 Wireless Basic

The page (Figure 5-5) allows you to configure basic feature of the wireless LAN interface. You can enable or disable the wireless LAN interface, hide the network from active scanning, set the wireless network name (also known as SSID), and restrict the channel set based on country requirement.

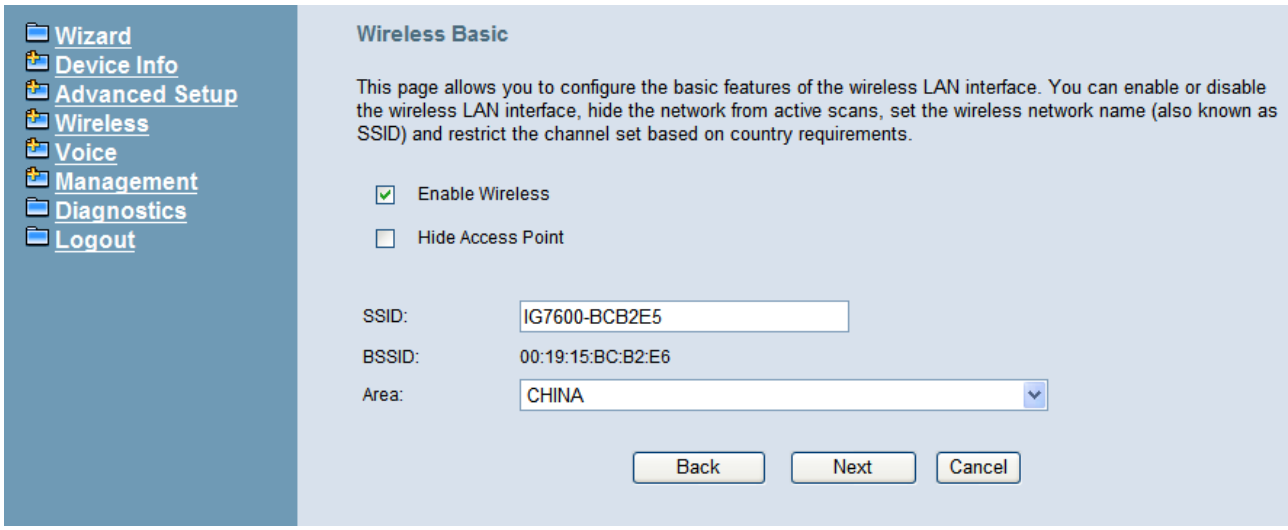

Figure 5-5. Wireless Basic

5.2.5 Internet Time

The page allows you to configure the NTP time server, so the IG7600 can have correct system time. It is useful such as reviewing the System Log. (Figure 5-6).

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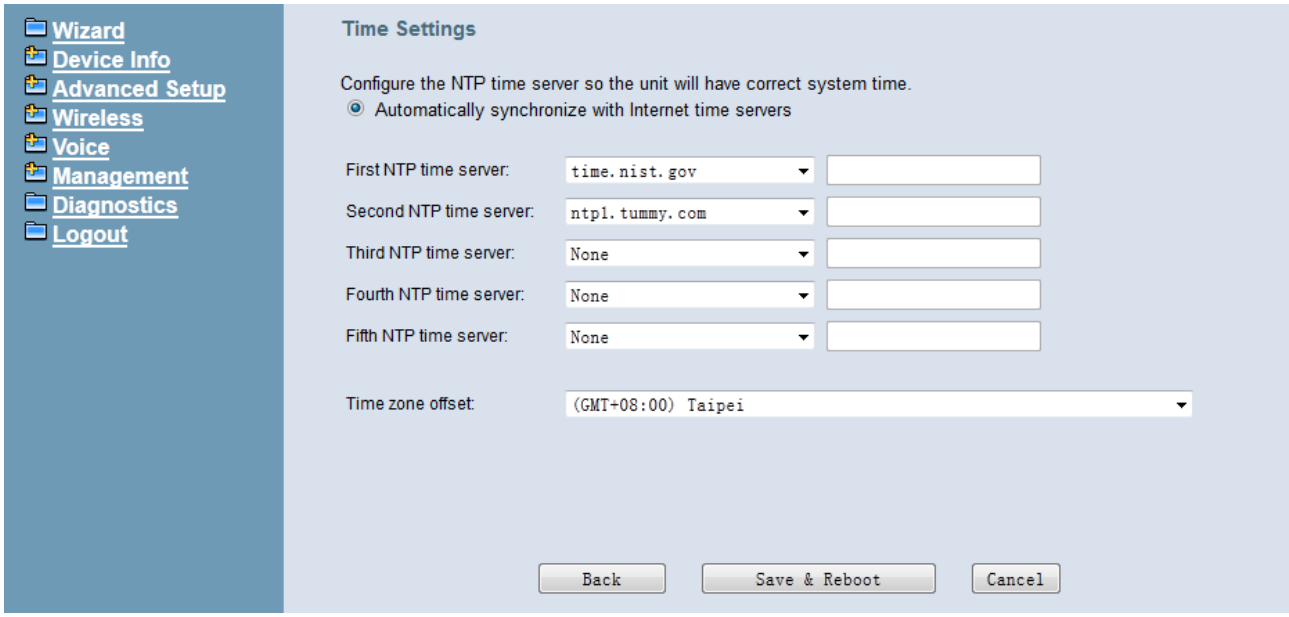

Figure 5-6. Internet Time – Automatic

5.2.6 Wizard Setup Finished

When you click “Save & Reboot” Button at above page, the wizard setup will save your setting and the wizard setup will be finished. Then the system will reboot as shown below.(Figure 5-7)

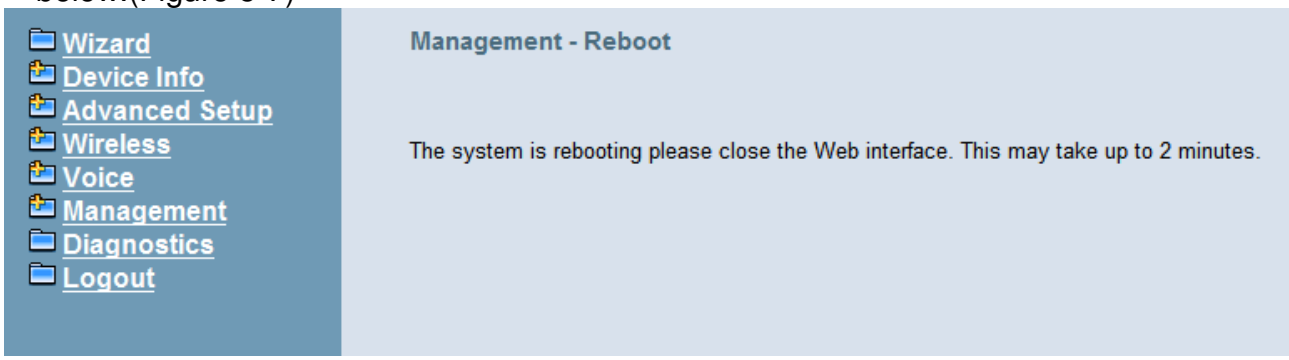

Figure 5-7. Wizard Setup finished

Congratulations! The wizard setup of the IG7600 is complete.

For additional details, advanced configuration, or any other questions, refers to the next chapter.

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6. Configuration

6.1 Setup

- Connect the IG7600 to PC.
- The default LAN IP of the IG7600 is 192.168.123.1.
- The default WAN IP of the IG7600 depends on upper router's DHCP server.
- For web login, the default user name is "admin1234"; the default password is "adminxxxxxx". ("xxxxxx" are the last 6 characters of IG's MAC Address.)
- For telnet login, the name/password is the same as web login.

6.2 Establish the Connection

Enter the IP address of IG7600 from the Web Browser.

A Dialogue Box will pop up to request the user to enter username and password. (Figure 6-1)

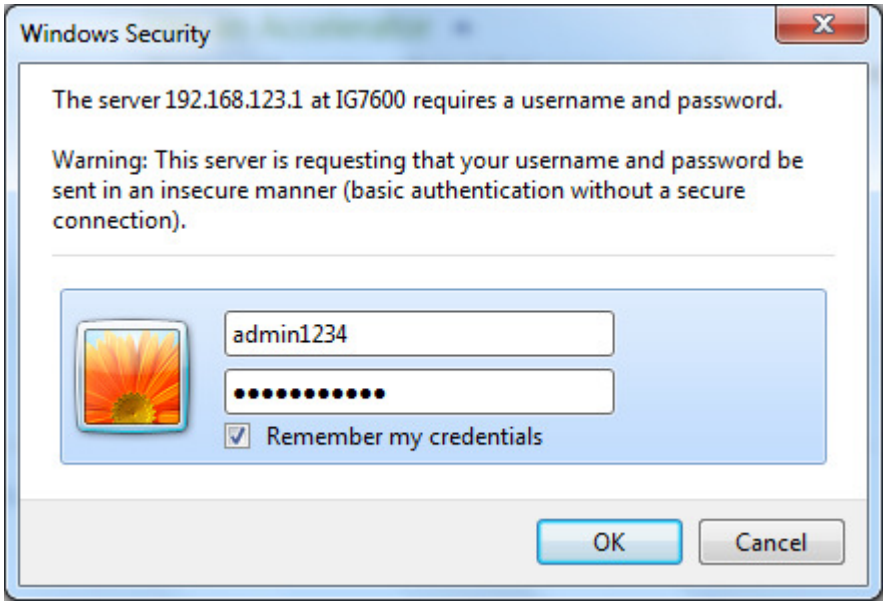

Figure 6-1. Authentication

Please enter the management username/password into the fields then click the OK button (default username/password is admin1234/adminxxxxxx. "xxxxxx" are the last 6 characters of IG's MAC Address.)

When the authentication is OK, the home page "*Device Info – Summary*" will be displayed. In the Web Configuration, it is divided into eight categories (Figure 6-2):

- Wizard
- Device Info
- Advanced Setup
- Wireless
- Voice

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- Management
- Diagnostics
- Logout

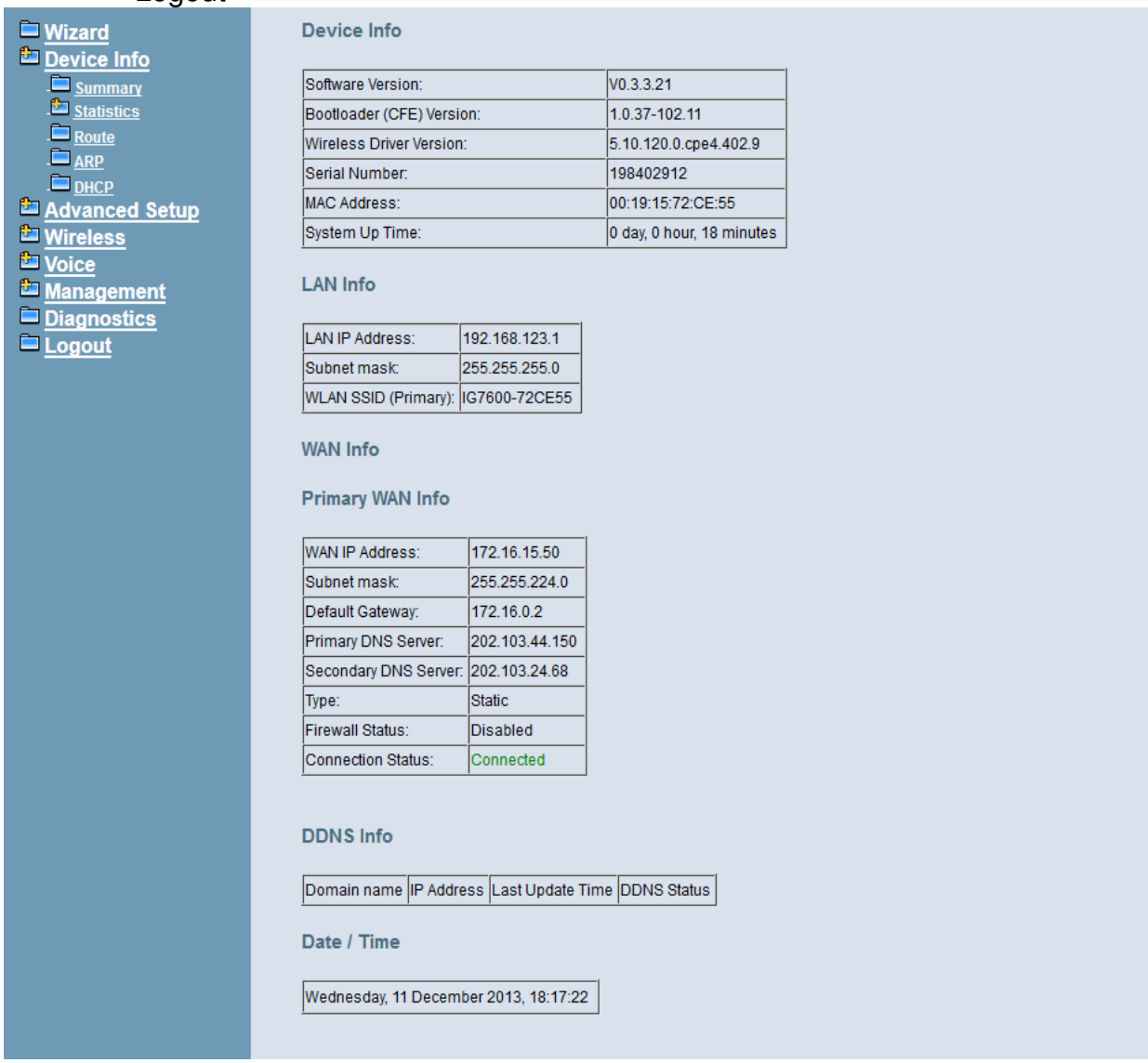

Figure 6-2. Device Info - Summery

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6.3 Device Info

This information reflects the current Status of IG7600 connection. It includes the following topics:

- Summary
- Statistics
- Route
- ARP
- DHCP

6.3.1 Summary

In the page (Figure 6-2) you can get the information reflects the current software version and connection status. It includes Device Info, Network Info and Date/Time.

For Network Info, it includes the three parts:

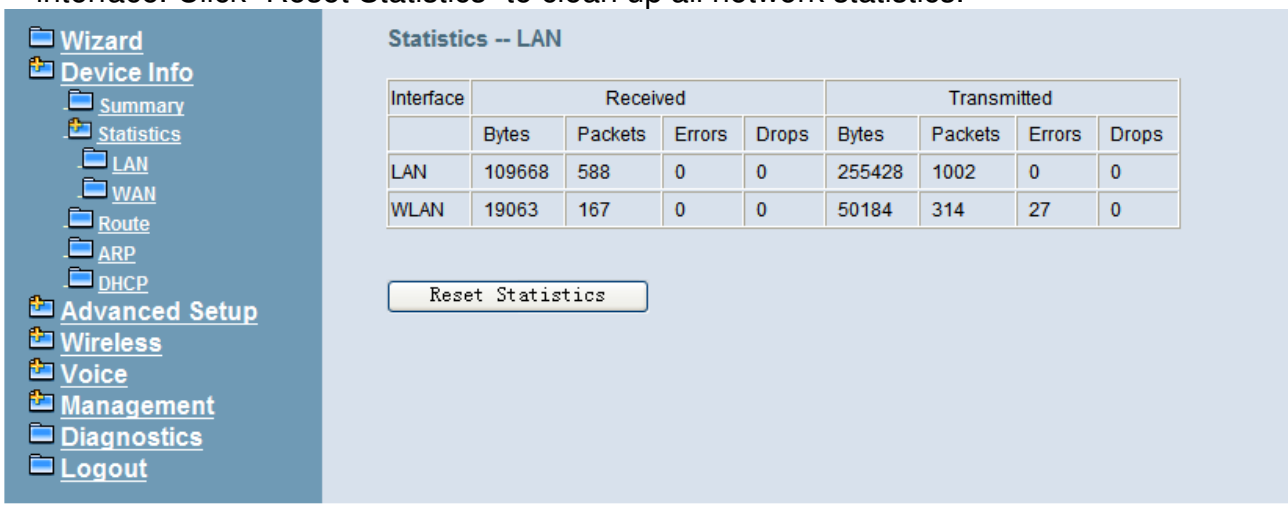
- LAN Info: Ethernet LAN status
- Primary WAN Info: Ethernet WAN status
- Secondary WAN Info: Mobile Network status; shown when it exists.

6.3.2 Statistics

It's separated into two parts: LAN and WAN.

6.3.2.1 LAN

In this page (Figure 6-3) you can get the network statistics of the LAN and Wireless LAN interface. Click "Reset Statistics" to clean up all network statistics.



Interface	Received				Transmitted			
	Bytes	Packets	Errors	Drops	Bytes	Packets	Errors	Drops
LAN	109668	588	0	0	255428	1002	0	0
WLAN	19063	167	0	0	50184	314	27	0

Figure 6-3. Device Info – Statistics – LAN

6.3.2.2 WAN

In this page (Figure 6-4) you can get the network statistics of the WAN interface. Click "Reset Statistics" to clean up all network statistics.

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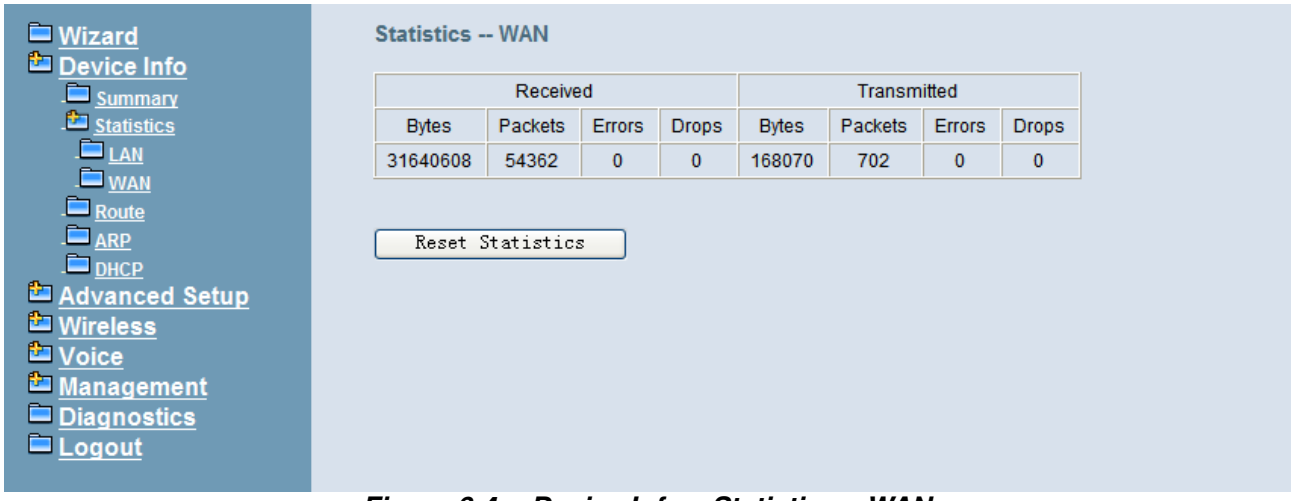

Figure 6-4. Device Info – Statistics – WAN

6.3.3 Route

In this page you can get the IP route information of the device. (Figure 6-5)

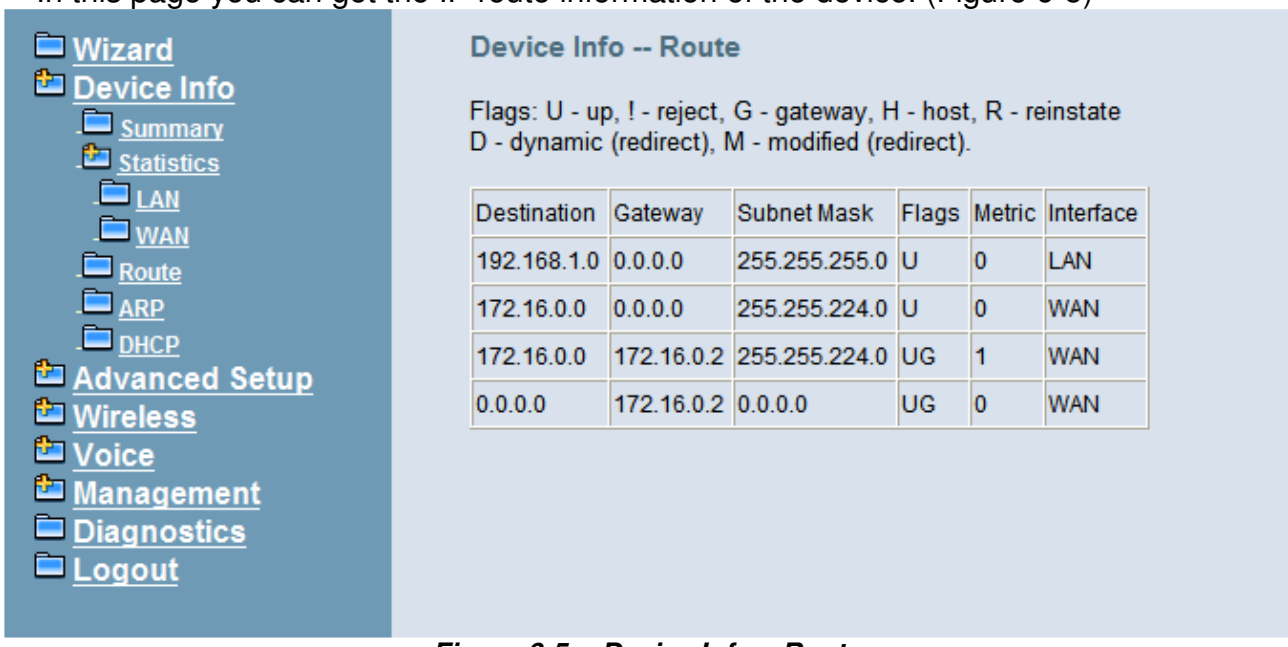

Figure 6-5. Device Info – Route

6.3.4 ARP

This page shows an ARP table which maps IP network addresses to hardware addresses used by data link level protocol. (Figure 6-6)

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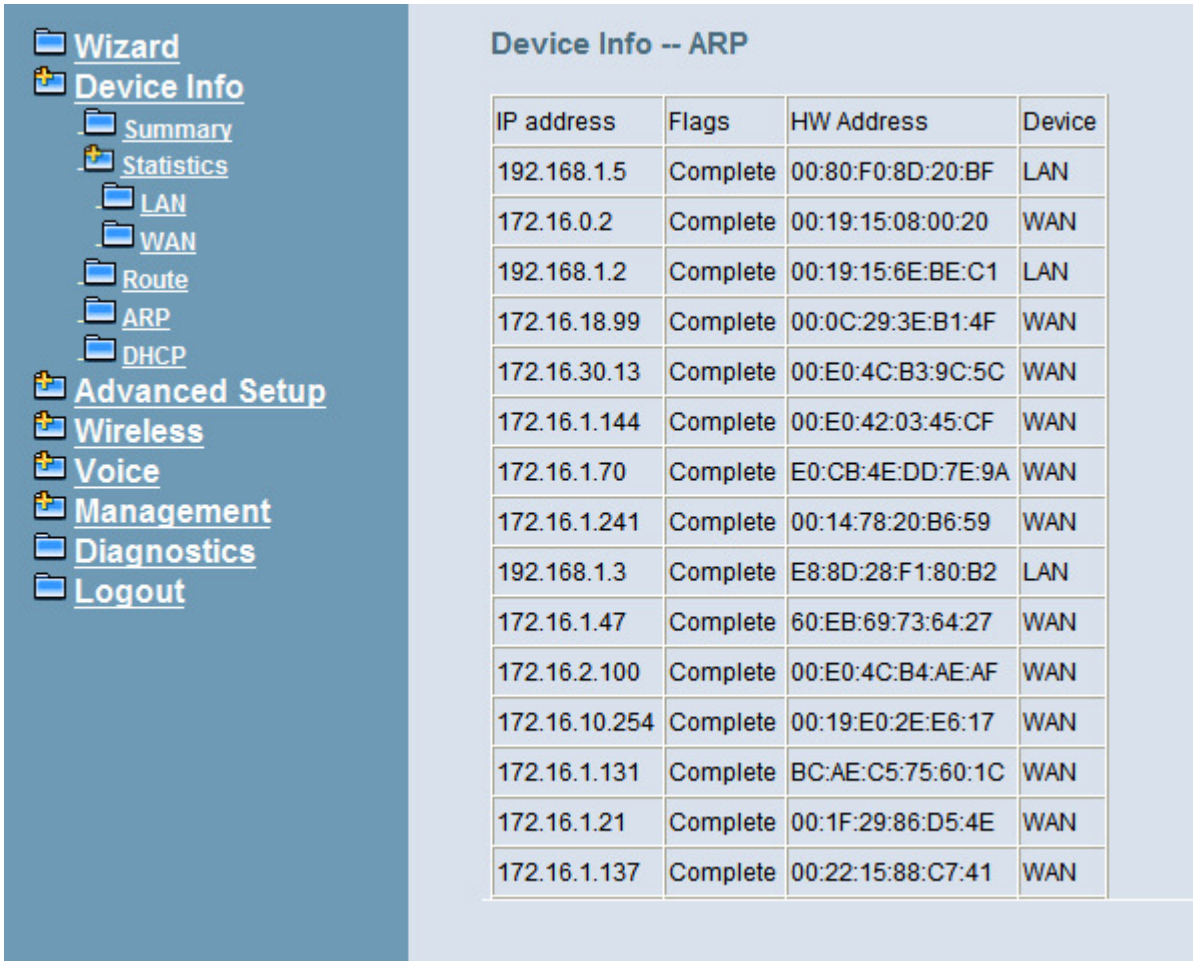

IP address	Flags	HW Address	Device
192.168.1.5	Complete	00:80:F0:8D:20:BF	LAN
172.16.0.2	Complete	00:19:15:08:00:20	WAN
192.168.1.2	Complete	00:19:15:6E:BE:C1	LAN
172.16.18.99	Complete	00:0C:29:3E:B1:4F	WAN
172.16.30.13	Complete	00:E0:4C:B3:9C:5C	WAN
172.16.1.144	Complete	00:E0:42:03:45:CF	WAN
172.16.1.70	Complete	E0:CB:4E:DD:7E:9A	WAN
172.16.1.241	Complete	00:14:78:20:B6:59	WAN
192.168.1.3	Complete	E8:8D:28:F1:80:B2	LAN
172.16.1.47	Complete	60:EB:69:73:64:27	WAN
172.16.2.100	Complete	00:E0:4C:B4:AE:AF	WAN
172.16.10.254	Complete	00:19:E0:2E:E6:17	WAN
172.16.1.131	Complete	BC:AE:C5:75:60:1C	WAN
172.16.1.21	Complete	00:1F:29:86:D5:4E	WAN
172.16.1.137	Complete	00:22:15:88:C7:41	WAN

Figure 6-6. Device Info – ARP

6.3.5 DHCP

This page shows a DHCP Leases table which shows the all used IP addresses under IG7600's DHCP Server. (Figure 6-7)

Hostname	MAC Address	IP Address	Expires In
	20:59:a0:03:7a:a0	192.168.1.2	21 hours, 1 minutes, 44 seconds
	00:01:02:05:04:58	192.168.1.10	22 hours, 10 minutes, 56 seconds
	04:18:0f:07:77:75	192.168.1.3	23 hours, 19 minutes, 2 seconds
	c4:6a:b7:50:69:28	192.168.1.4	23 hours, 22 minutes, 58 seconds
	00:11:22:33:44:55	192.168.1.5	18 hours, 27 minutes, 8 seconds
android-6b04f2e2ae2be56d	74:2f:68:28:7d:36	192.168.1.6	0 seconds
	98:4b:4a:80:3b:b7	192.168.1.7	20 hours, 30 minutes, 37 seconds
	00:0a:6b:a3:d2:12	192.168.1.8	0 seconds
	98:4b:4a:3d:09:8d	192.168.1.9	20 hours, 51 minutes, 37 seconds

Figure 6-7. Device Info – DHCP

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6.4 Advanced Setup

Advanced Setup allows system administrator to configure the following topics:

- WAN
- LAN
- NAT
  - Virtual Servers
  - Port Triggering
  - DMZ Host
- Security
  - IP Filtering
    - Outgoing
    - Incoming
- Parental Control
  - Time Restriction
  - URL Filter
- Quality of Service
  - DSCP Marking
  - Bandwidth Control
- Routing
  - Static Route
- Dynamic DNS
- Upnp

6.4.1 WAN

There are three modes that you can give WAN IP address to IG7600: Static IP mode, DHCP mode and PPPoE mode. You can also enable or disable Firewall.

Network Address Translation (NAT) allows you to share one public WAN IP address for multiple computers on your LAN side. In IG7600, NAT is enabled by default and is not shown on the page to prevent it from being disabled.

This page shows the setting of WAN interface which is Static IP mode (Figure 6-8).

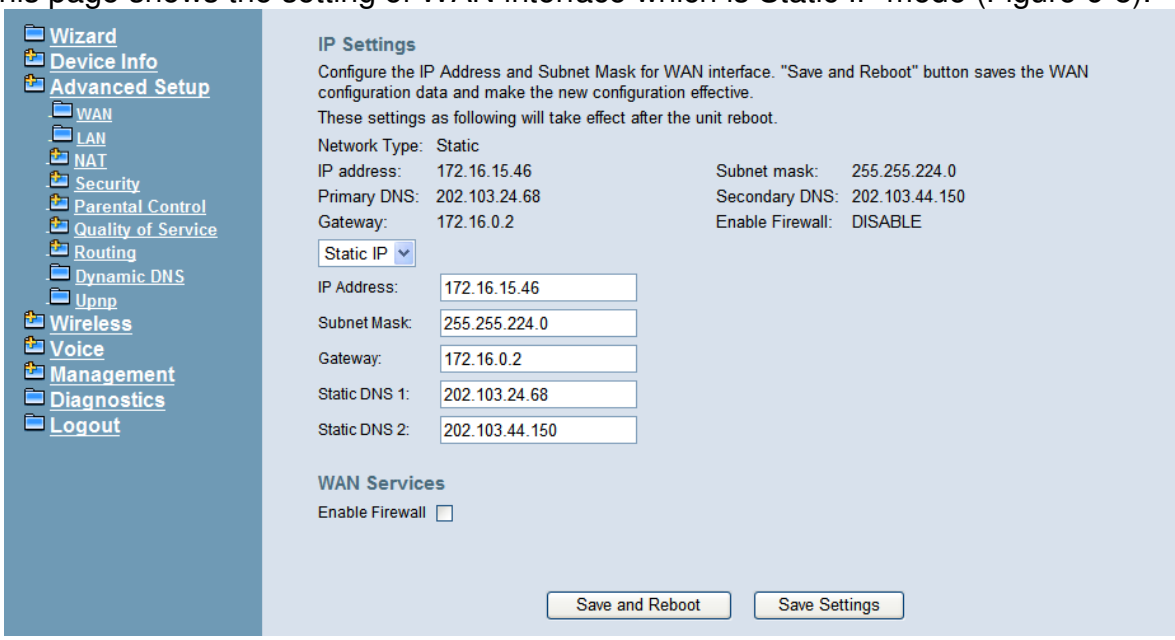

Figure 6-8. Advanced – WAN (Static IP Mode)

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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.

This page shows the setting of WAN interface which is DHCP mode (Figure 6-9).

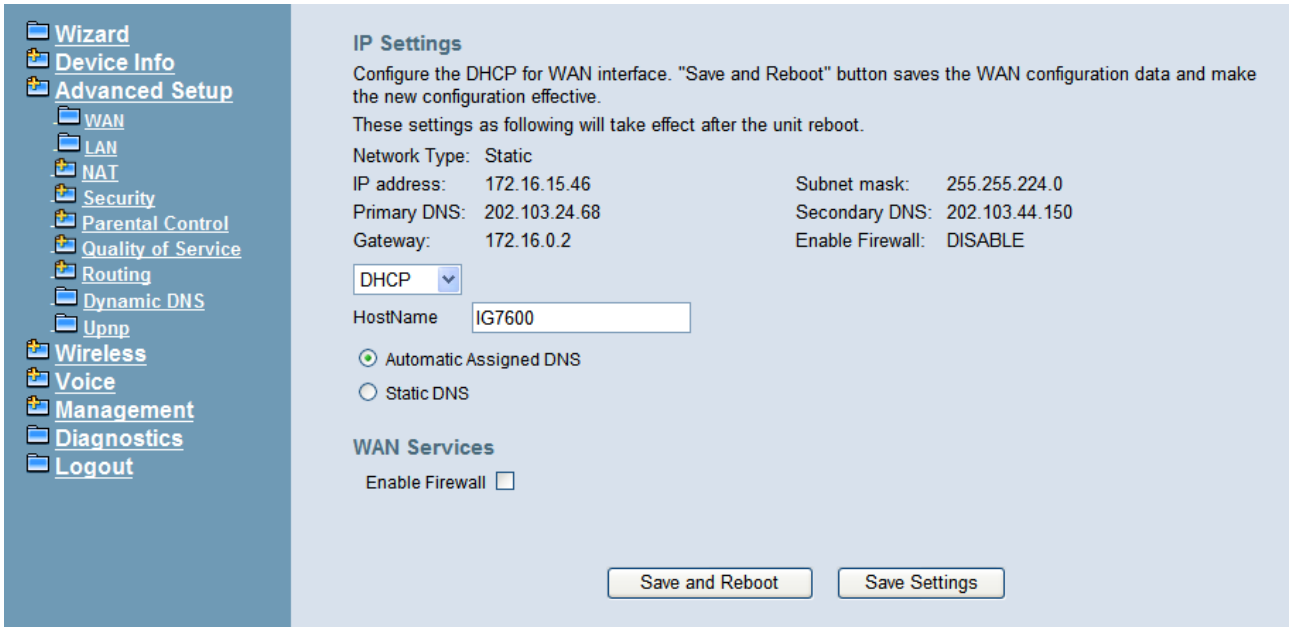

Figure 6-9. Advanced – WAN (DHCP Mode)

The Point-to-Point Protocol over Ethernet (PPPoE) requires a user name and password that your ISP has provided to you to establish your connection. This page shows the setting of WAN interface which is PPPoE mode (Figure 6-10).

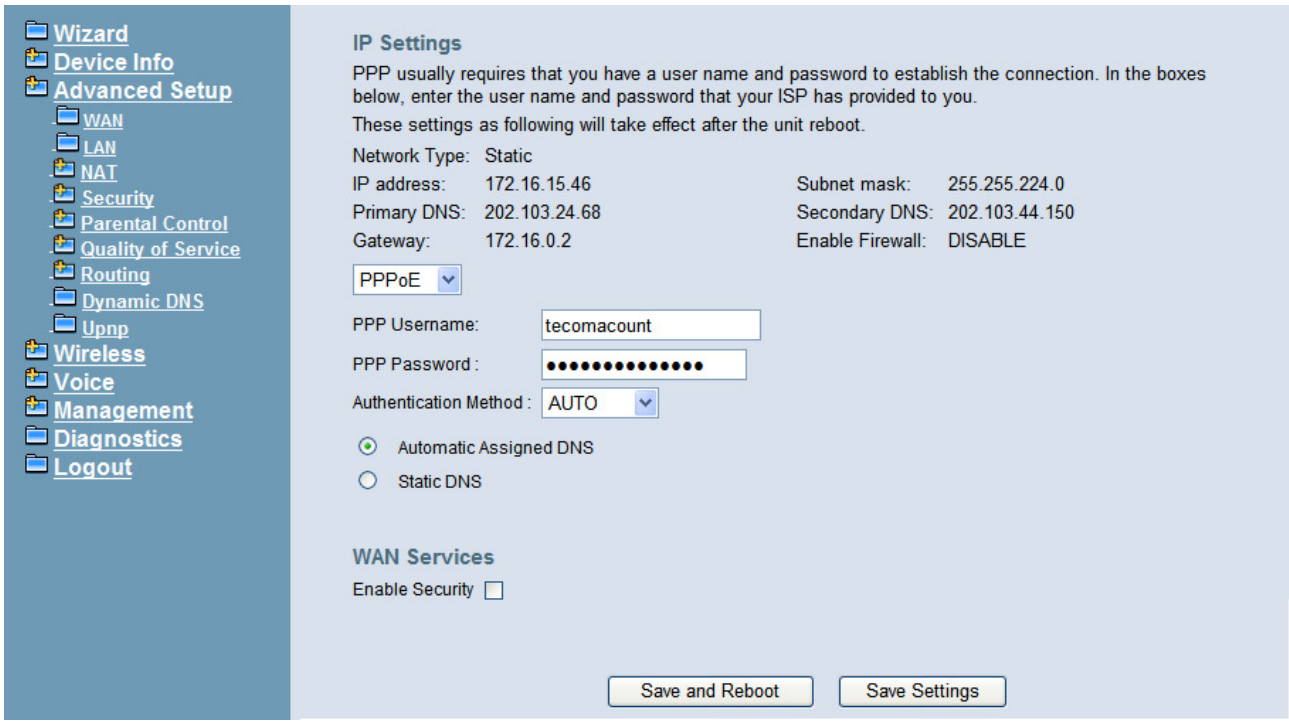

Figure 6-10. Advanced – WAN (PPPoE Mode)

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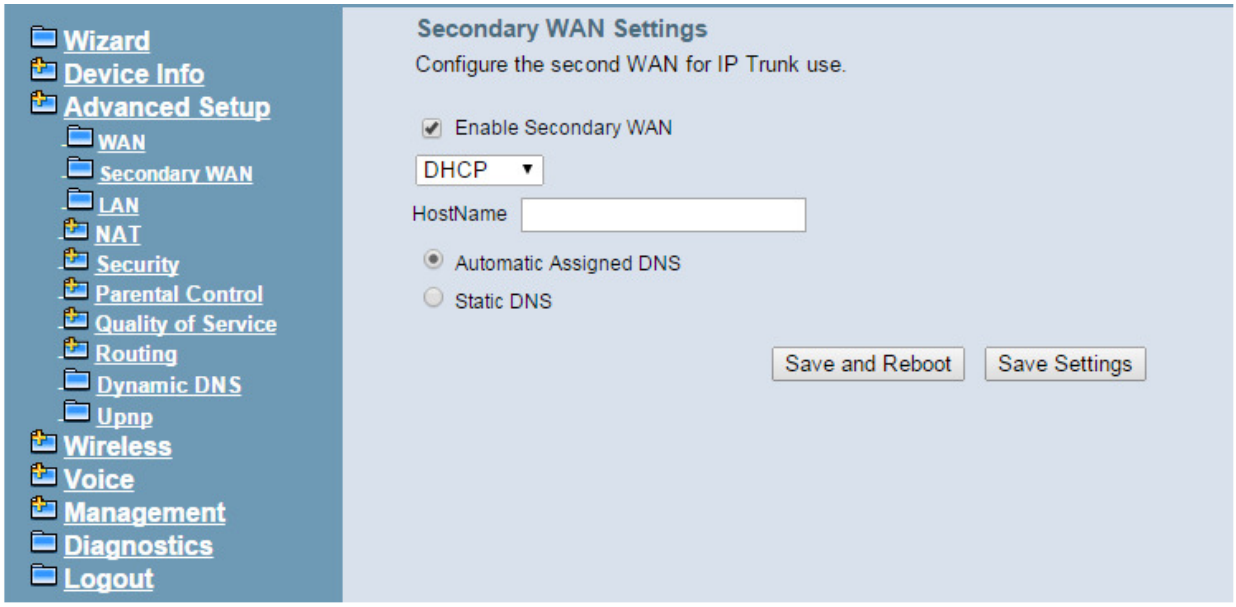
6.4.2 Secondary WAN

IG7600 supports secondary WAN which is dedicated for IP Trunk. If you check “Enable Secondary WAN” then it will turn LAN port into secondary WAN port. And you still can use wireless interface for LAN access. Regarding secondary WAN settings, please refer to 6.4.1 WAN settings.



6.4.3 LAN

It allows you to set LAN IP and Subnet Mask for LAN interface. A DSP IP address can be configured for FXO/FXS application. You can also enable or disable DHCP Server and configure related settings. End IP Camera Address cannot be configured; it is generated automatically when you configure the Start IP Camera Address. The “Static IP Lease List” allows to program 32 entries to have the fixed IP address for the specified devices. If needed, it can also configure the second IP address and Subnet Mask for the LAN interface (Figure 6-11).

Info: If the DHCP Pool is changed, and the new “Start IP Address” is bigger than the older one or the new “End IP Address” is smaller than the older one, the Static IP Lease List will be cleared automatically.

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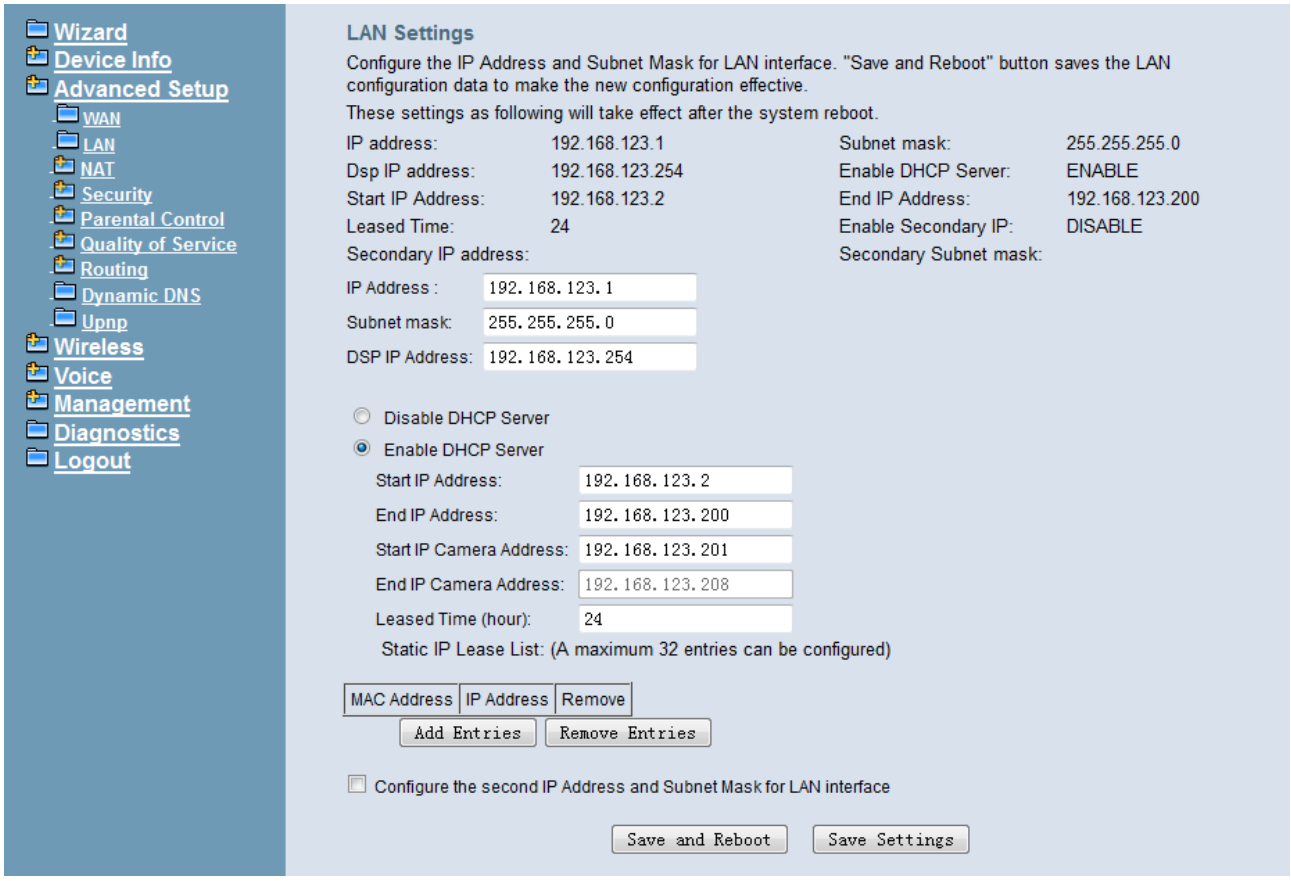

Figure 6-11. Advanced – LAN

6.4.4 NAT

It's separated into three parts: Virtual Servers, Port Triggering, and DMZ Host.

6.4.4.1 Virtual Servers

Virtual Server allows you to direct incoming traffic from WAN side identified by Protocol and External port to the internal server with private IP address on the LAN side. The "Internal Port" can be modified if the "External Port" needs to be converted to a different port number used by the server on the LAN side. The remote IP should be specified in the table to allow the access. A maximum 32 entries can be configured. (Figure 6-12, Figure 6-13)

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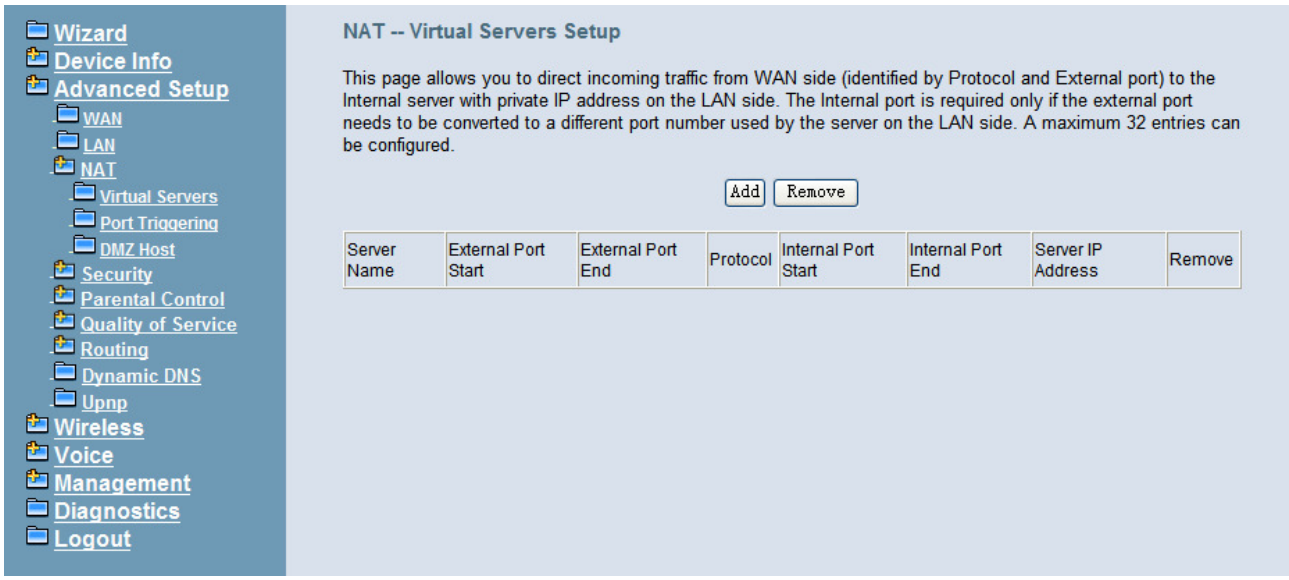

Figure 6-12. Advanced – NAT – Virtual Servers

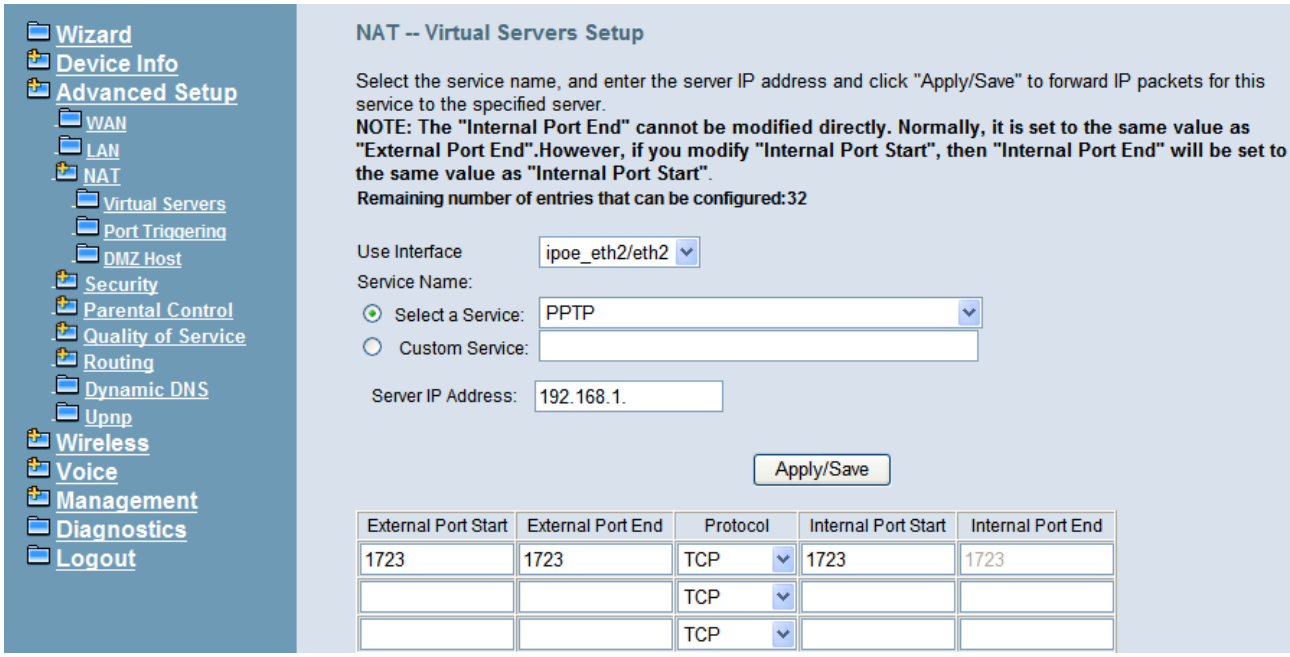

Figure 6-13. Advanced – NAT – Virtual Servers – Add

6.4.4.2 Port Triggering

Some applications require that specific ports in the IG7600's firewall opened for access by the remote parties. Port Triggering dynamically opens up the "Open Ports" in the firewall when an application on the LAN initiates a TCP/UDP connection to a remote party using the "Trigger Ports". IG7600 allows the remote party from the WAN side to establish new connections back to the application on the LAN side using the "Open Ports". A maximum 32 entries can be configured. (Figure 6-14,Figure 6-15)

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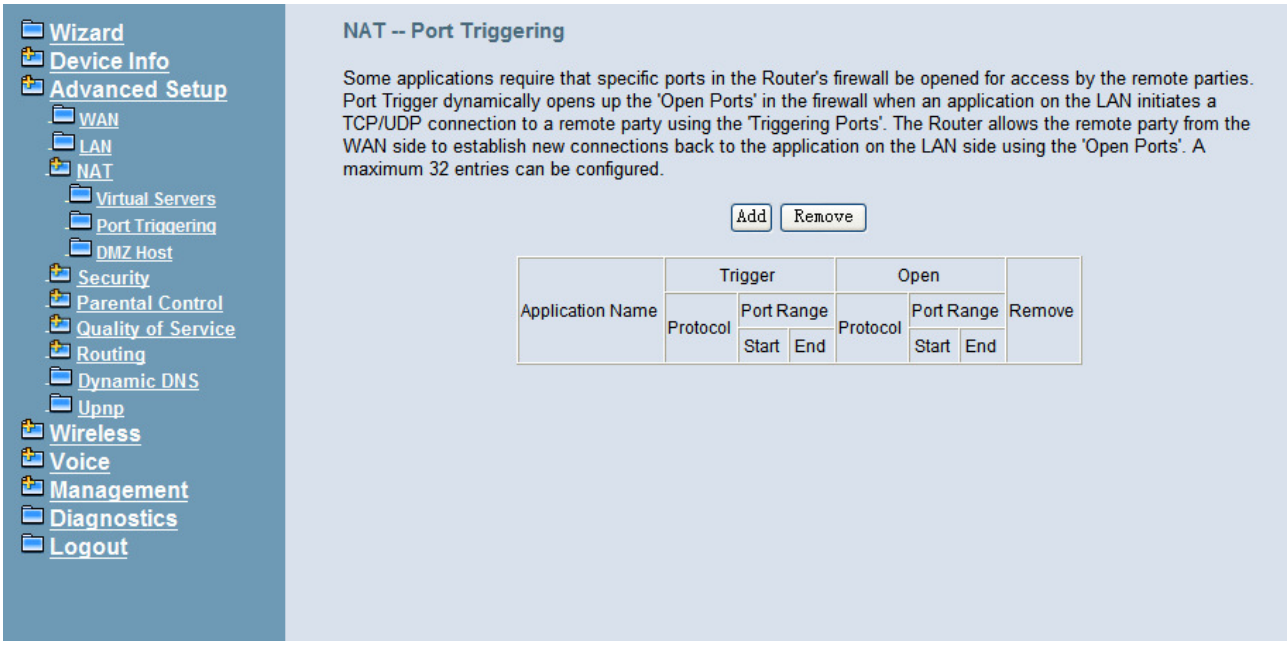

Figure 6-14. Advanced – NAT – Port Triggering

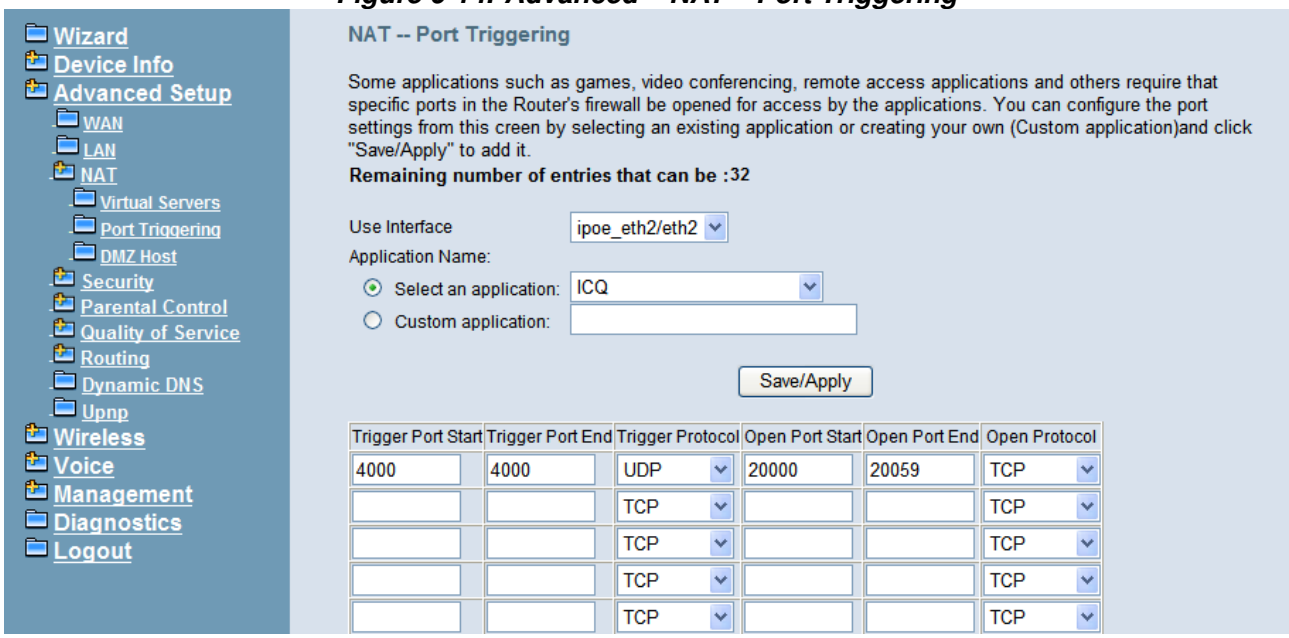

Figure 6-15. Advanced – NAT – Port Triggering – Add

6.4.4.3 DMZ Host

IG7600 will forward IP packets that do not belong to any of the applications configured in the Virtual Servers table to the DMZ host computer. Enter the computer's IP address and click "Save Settings" to activate the DMZ host. Clear the IP address field and click "Save Settings" to deactivate the DMZ host. (Figure 6-16)

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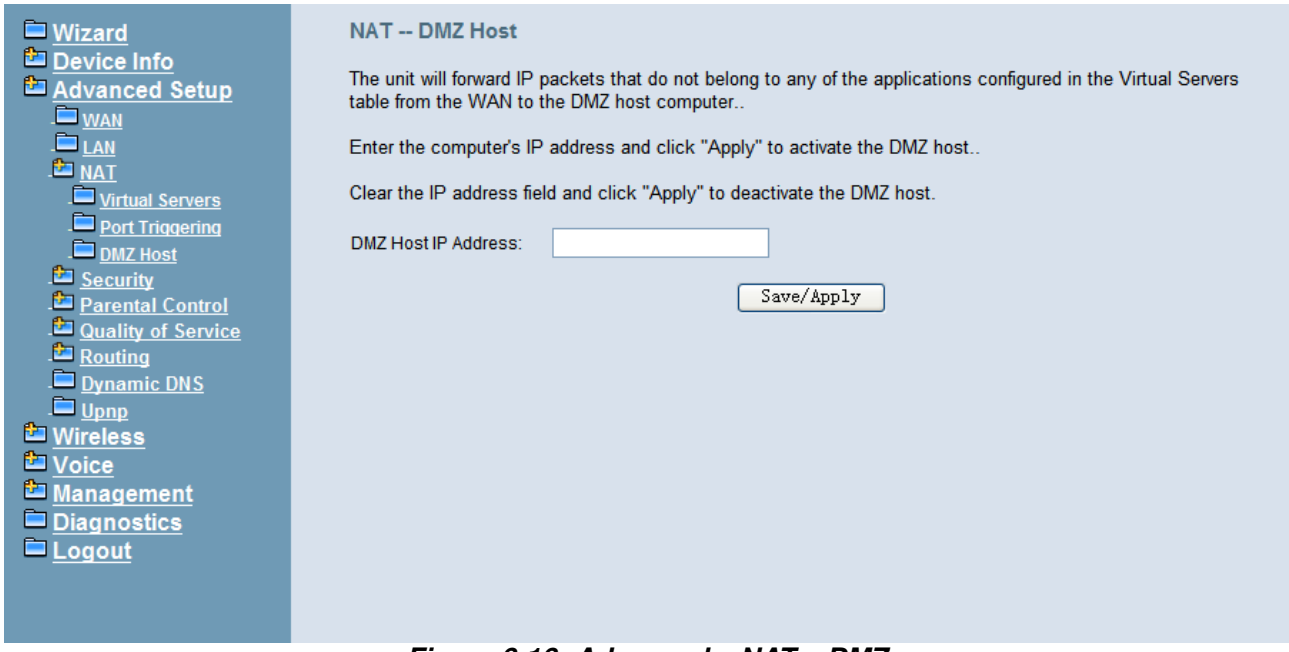

Figure 6-16. Advanced – NAT – DMZ

6.4.5 Security

It supports IP Filtering Setup. It's separated into two parts: Outgoing and Incoming.

6.4.5.1 IP Filtering - Outgoing

It allows the administrator to create a filter rule to identify outgoing IP traffic by specifying a new filter name. At least one condition is needed. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. (Figure 6-17,Figure 6-18)

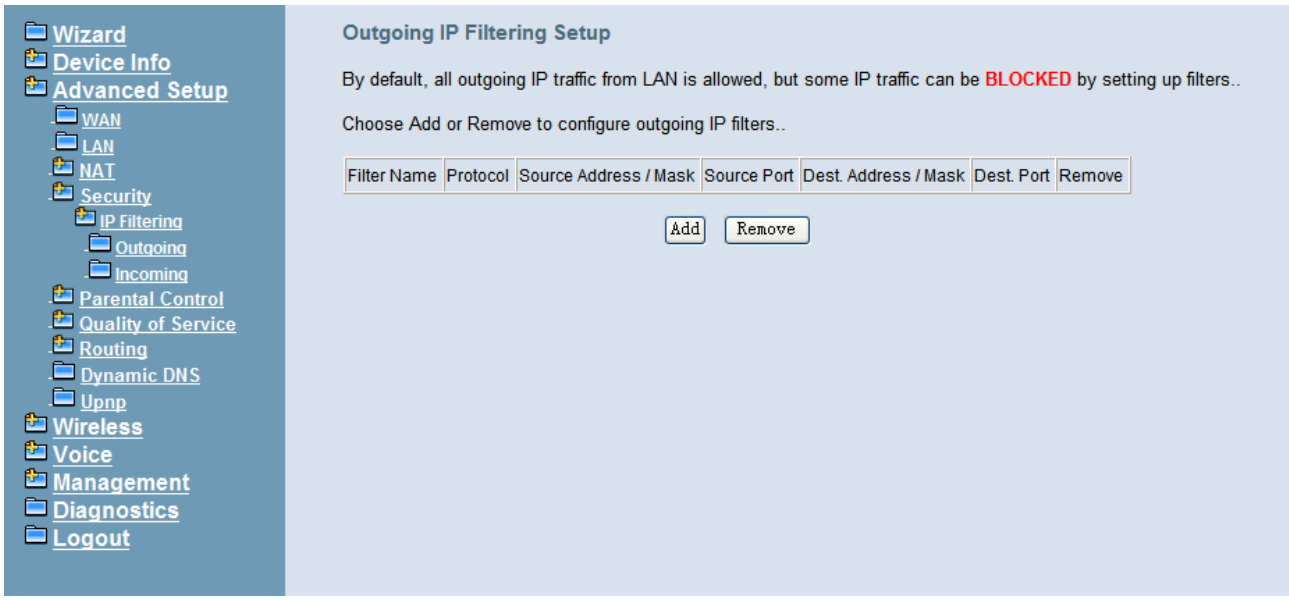

Figure 6-17. Advanced – Security – IP Filtering – Outgoing

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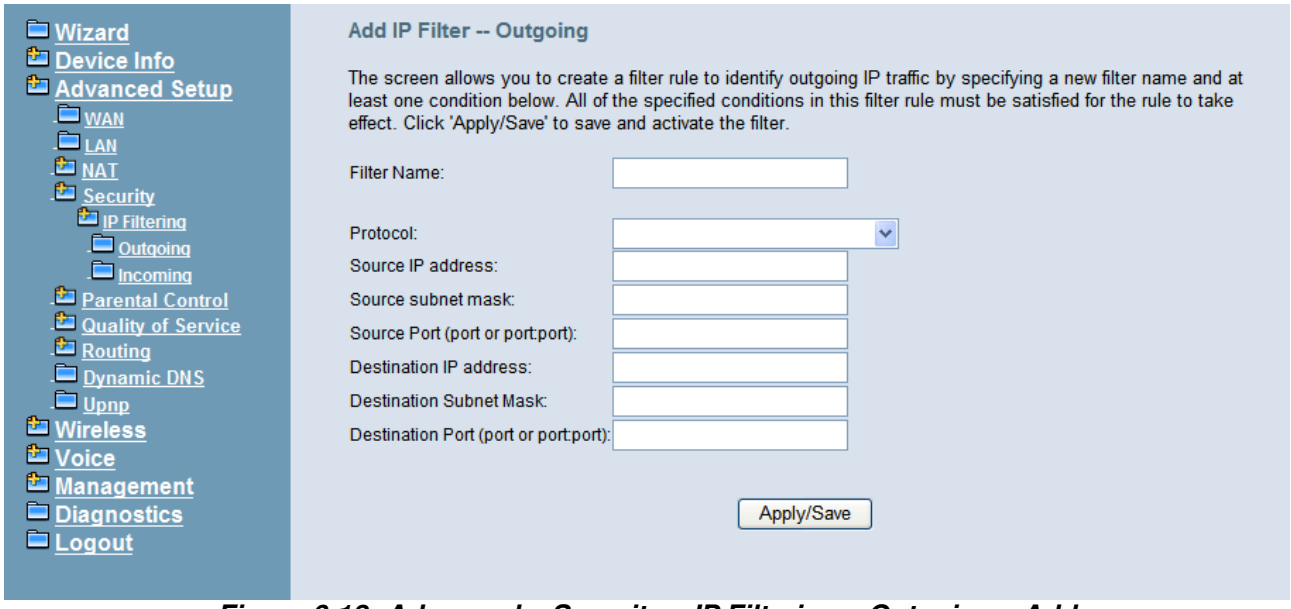

Figure 6-18. Advanced – Security – IP Filtering – Outgoing – Add

6.4.5.2 IP Filtering - Incoming

It allows the administrator to create a filter rule to identify incoming IP traffic by specifying a new filter name. At least one condition is needed. All of the specified conditions in this filter rule must be satisfied for the rule to take effect. (Figure 6-19, Figure 6-20)

By default, all incoming IP traffic from the WAN will be blocked if it is not consistent with the incoming filter rules. In fact, IG7600 has opened some necessary ports such as web port, sip port, and rtp port, to make sure that voice application can communicate well.

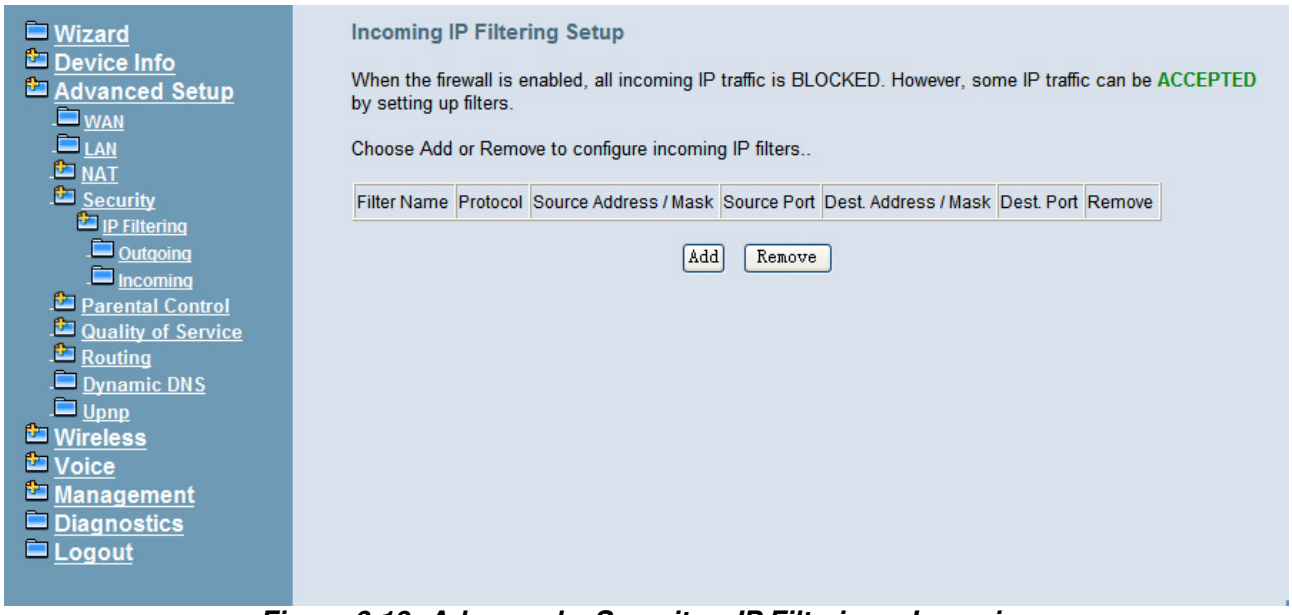

Figure 6-19. Advanced – Security – IP Filtering – Incoming

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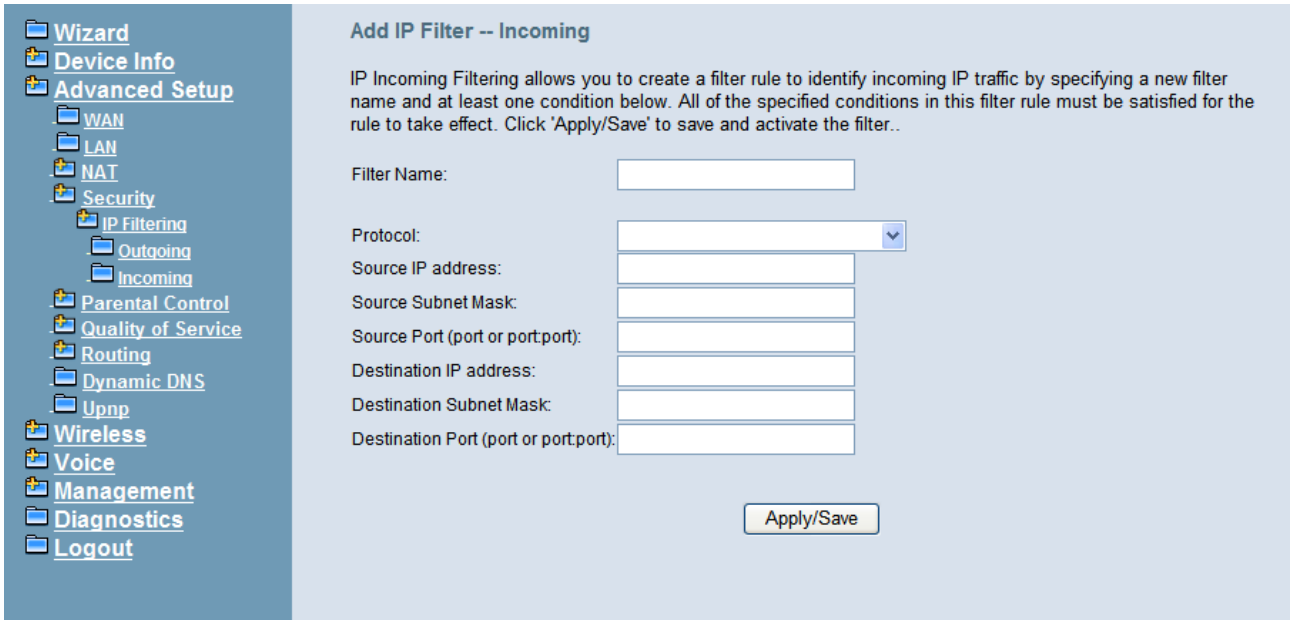

Figure 6-20. Advanced – Security – IP Filtering – Incoming – Add

6.4.6 Parental Control

It's separated into two parts: Time Restriction, and URL Filter.

6.4.6.1 Time Restriction

The administrator can add time restriction to a special LAN device connected to IG7600. The "Browser's MAC Address" automatically displays the MAC address of the LAN device where the browser is running. To restrict other LAN device, click the "Other MAC Address" button and enter the MAC address of the other LAN device. (Figure 6-21, Figure 6-22)

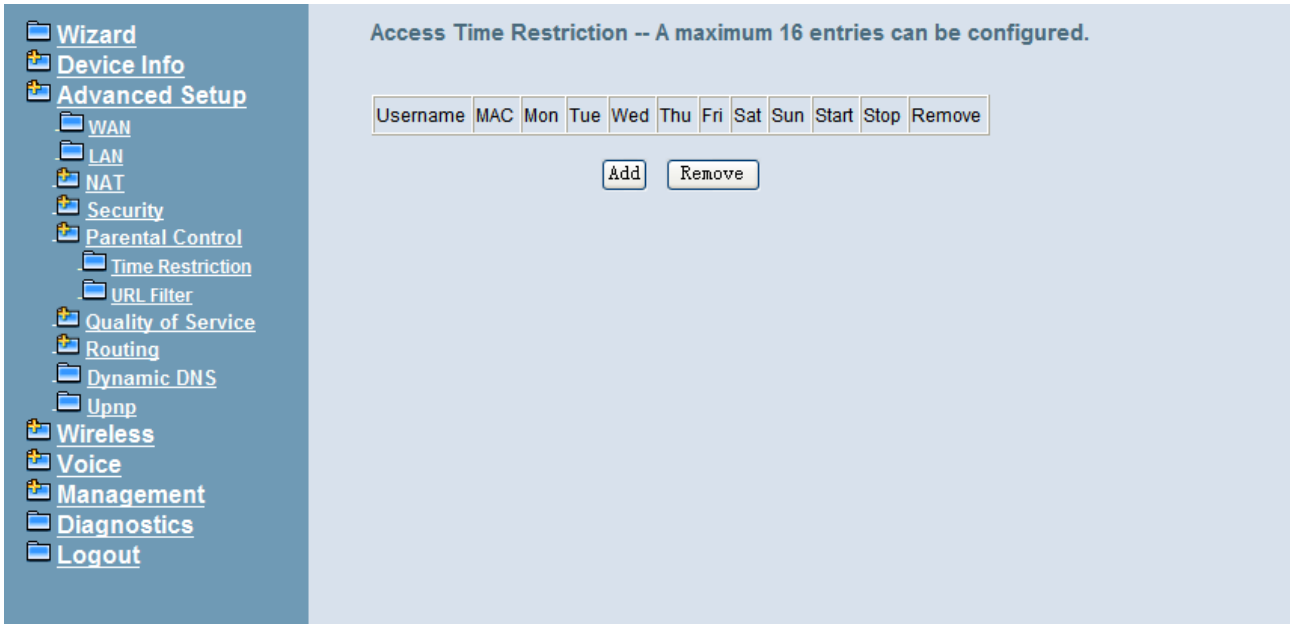

Figure 6-21. Advanced – Parental Control – Time Restriction

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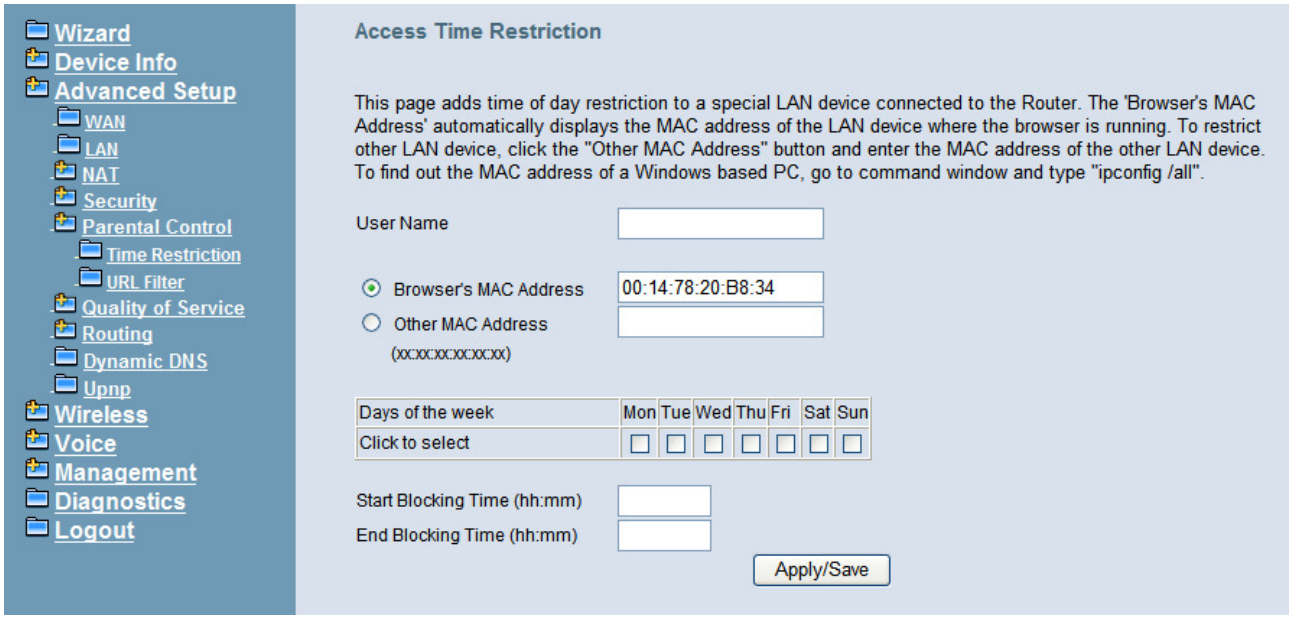

Figure 6-22. Advanced – Parental Control – Time Restriction – Add

6.4.6.1 URL Filter

The administrator can add 100 entries maximum to include/exclude the URL address and Port number. Choose “Include” means the user can only connect to the URL that you add. Choose “Exclude” means the user cannot connect to the URL that you add. “Include” and “Exclude” are exclusive. The all entries are for the selected type. (Figure 6-23, Figure 6-24).

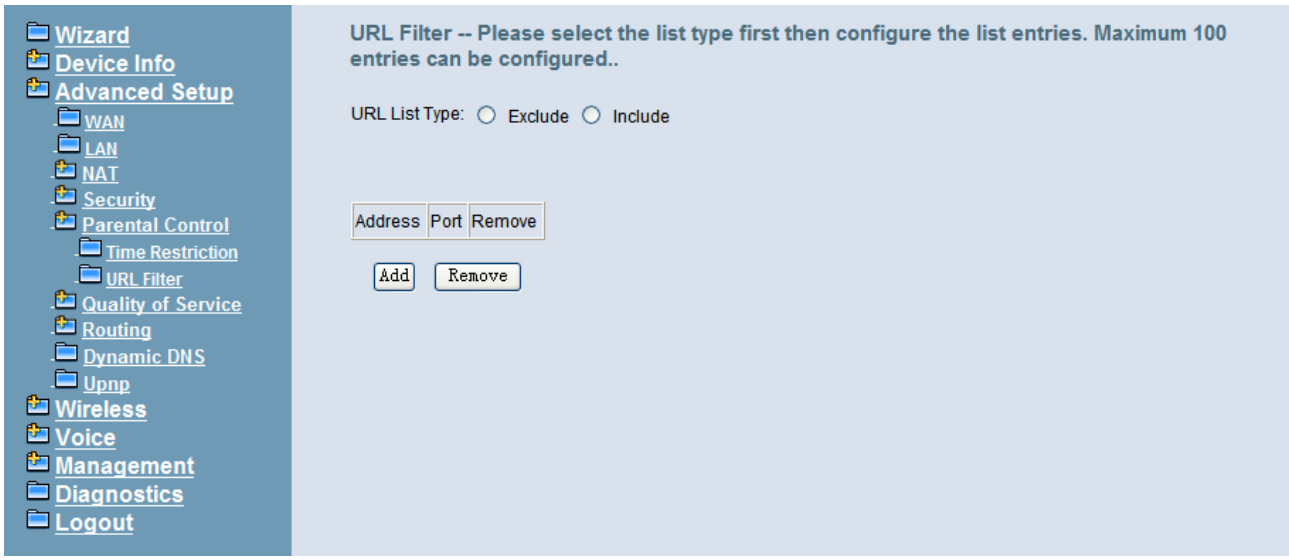

Figure 6-23. Advanced – Parental Control – URL Filter

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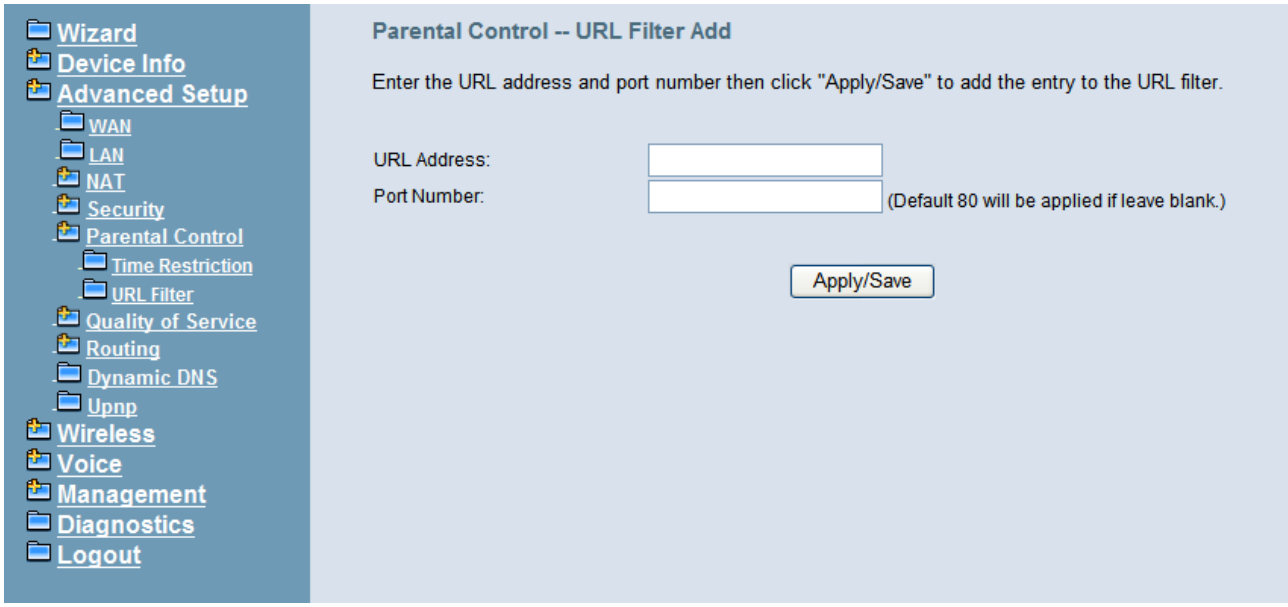

Figure 6-24. Advanced – Parental Control – URL Filter – Add

6.4.7 Quality of Service

It's separated into two parts: DSCP Marking, and Bandwidth Control

6.4.7.1 DSCP Marking

IP QoS is applied to the traffic from LAN to WAN; the traffic from WAN to LAN will not be applied. (Figure 6-25)

If "Enable DSCP Mark" checkbox is selected, choose a default DSCP mark to automatically mark incoming traffic without reference to a particular classifier. Click "Save Settings" button to save it. Note: If "Enable DSCP Mark" checkbox is not selected, all QoS will be disabled for all interfaces. The default DSCP mark is used to mark all egress packets.

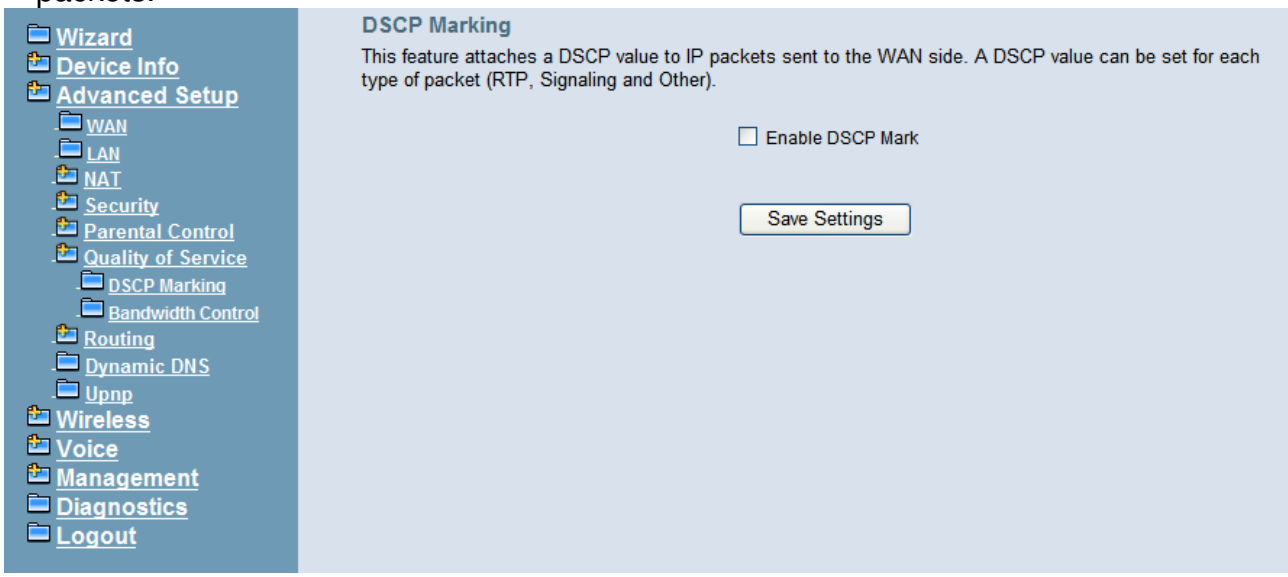

Figure 6-25. Advanced – Quality of Service – DSCP Marking

6.4.7.2 Bandwidth Control

Bandwidth Control allows you to control WAN port's upstream bandwidth according to your settings, and it can ensure the highest priority IP packet traffic throughput. By default,

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all voice packets have been queued in the highest IP packets, and the others have been queued in the normal IP packets if they have not been set in the traffic class rule.

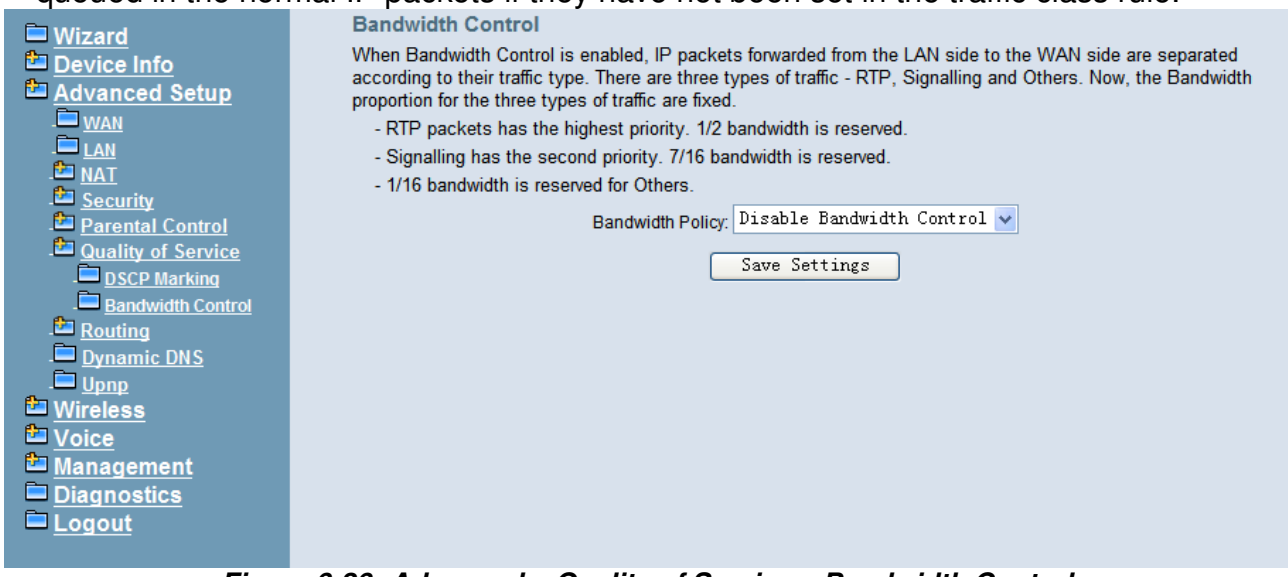

Figure 6-26. Advanced – Quality of Service – Bandwidth Control

6.4.8 Routing

6.4.8.1 Static Route

The Static Route allows you to add special routing rules into routing table.

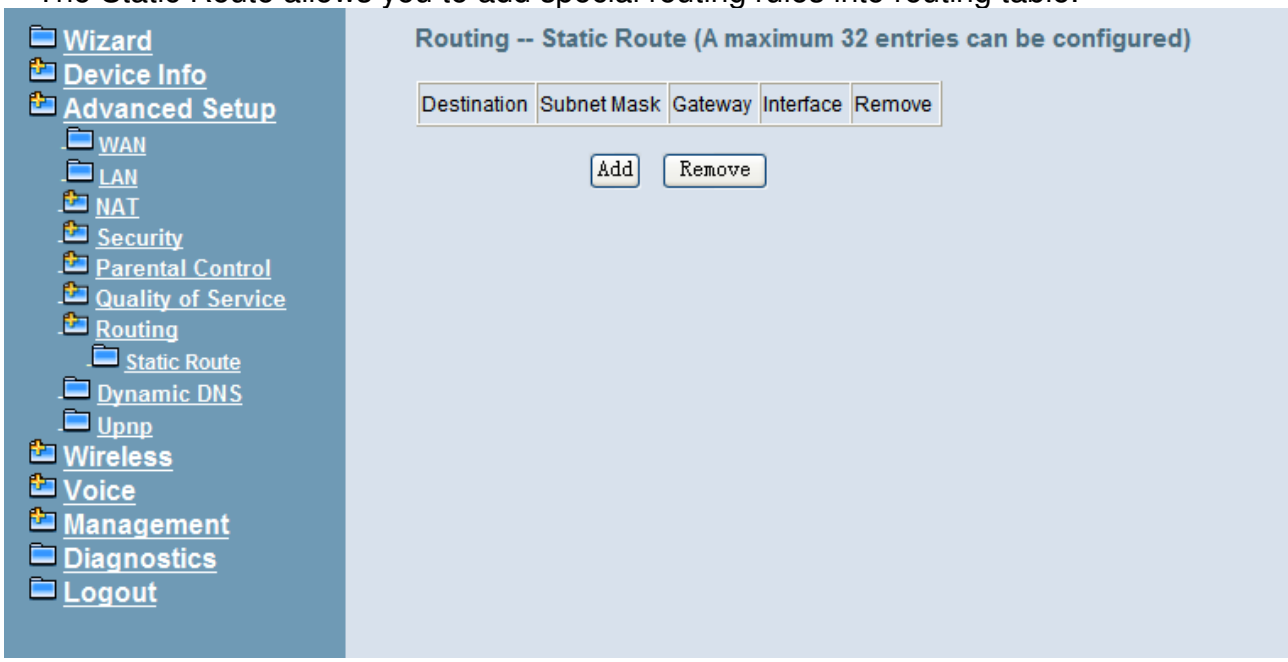

Figure 6-27. Advanced – Route – Static Route

Click “Add” to create a new Static Route. Enter the destination network address, subnet mask, gateway AND/OR available WAN interface then click "Save Settings" to add the entry to the routing table. (Figure 6-27, Figure 6-28)

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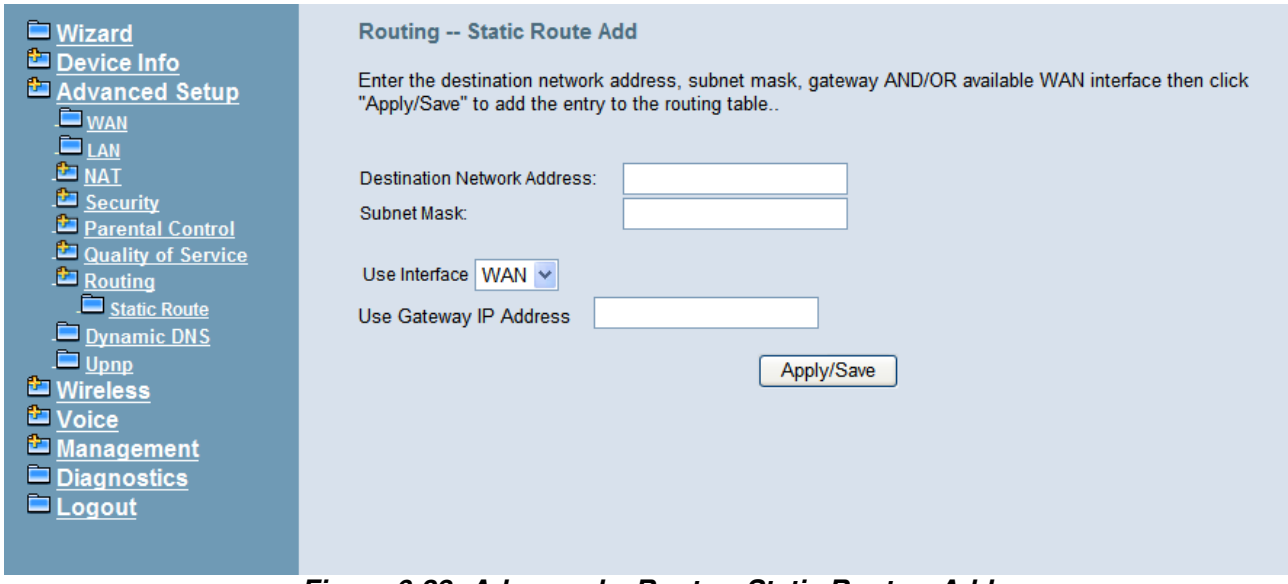

Figure 6-28. Advanced – Route – Static Route – Add

6.4.9 Dynamic DNS

The Dynamic DNS service allows you to alias a register domain name to a dynamic IP address. It allows IG7600 to be more easily accessed from various locations on the Internet. Click “Add” or “Remove” to configure Dynamic DNS. (Figure 6-29)

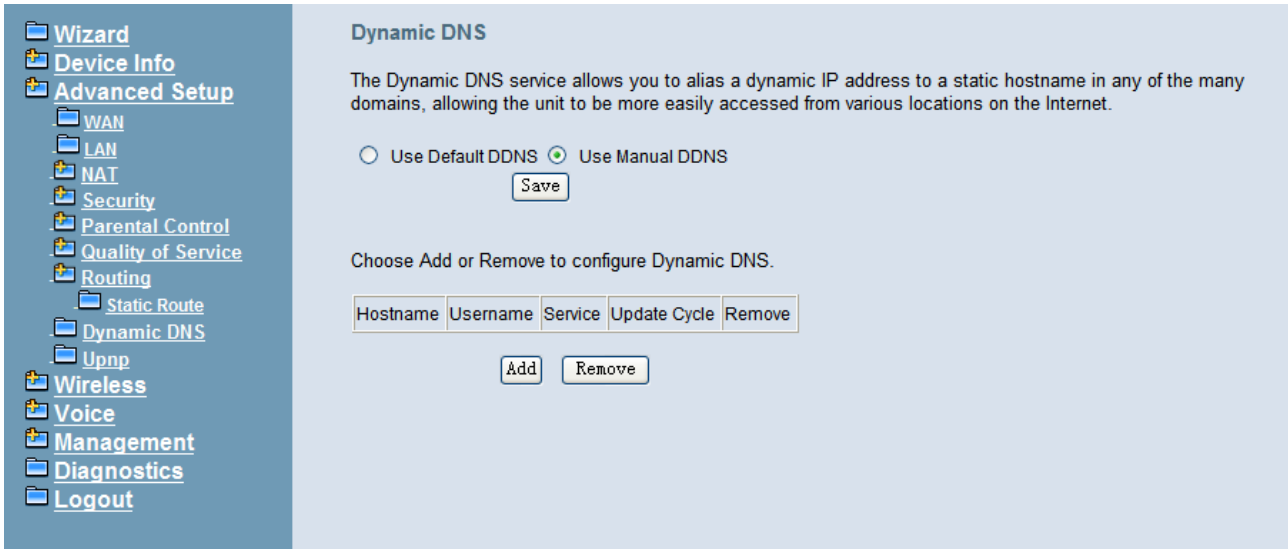

Figure 6-29. Advanced – Dynamic DNS

Now IG7600 support for three DDNS provider, DynDNS.org and TZO and custom provider. Specify the register hostname and choose the related interface. Fill in the username/password or email/key and click “Apply/Save”. IG7600 will update the current IP with DDNS provider when click “Apply/Save” or system reboot successfully. IG7600 will also update the current IP automatically with DDNS provider in the programmed Update Cycle. (Figure 6-30, Figure 6-31, Figure 6-32)

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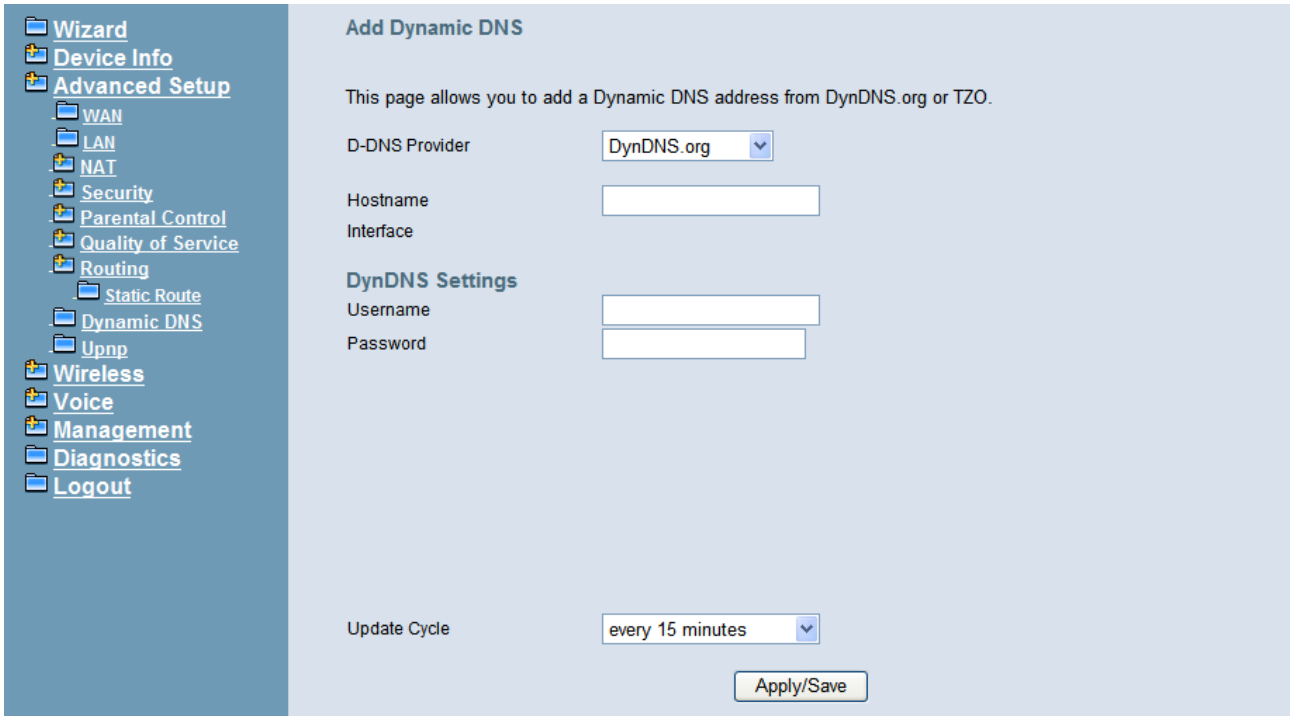

Figure 6-30. Advanced – Dynamic DNS – DynDNS.org

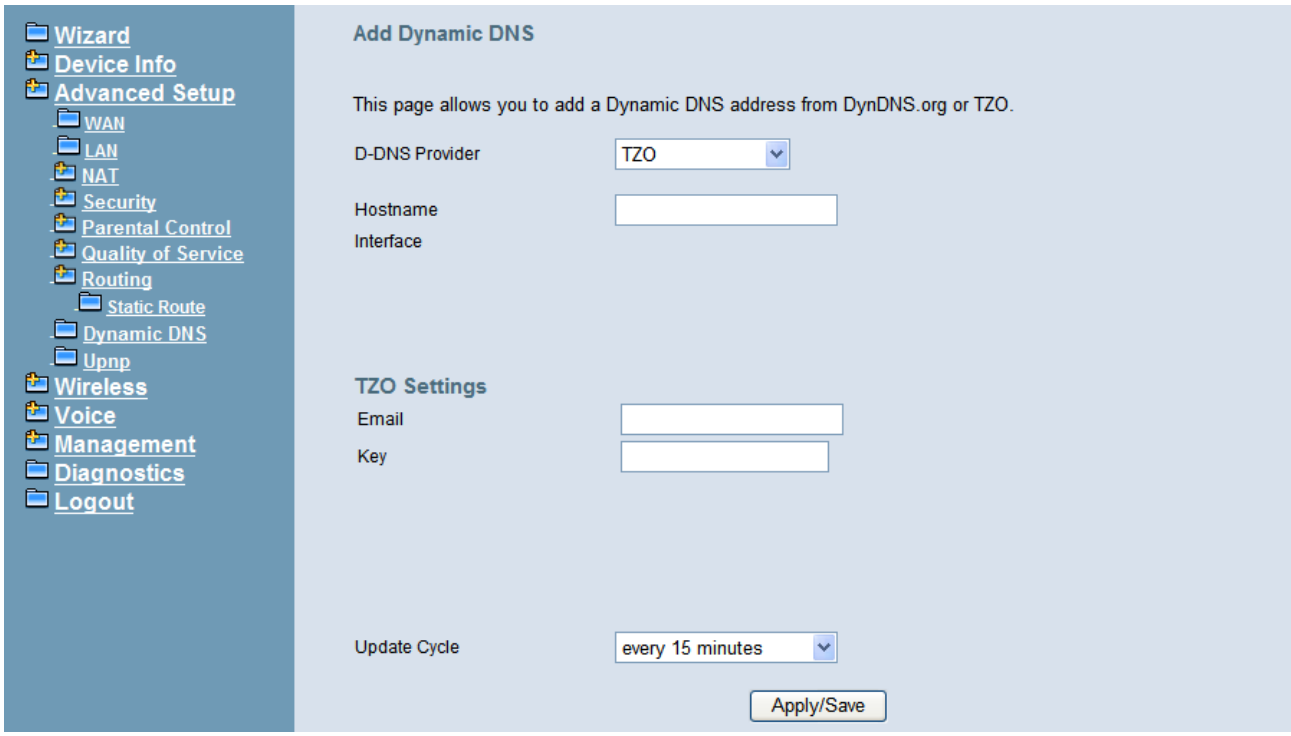

Figure 6-31. Advanced – Dynamic DNS – TZO

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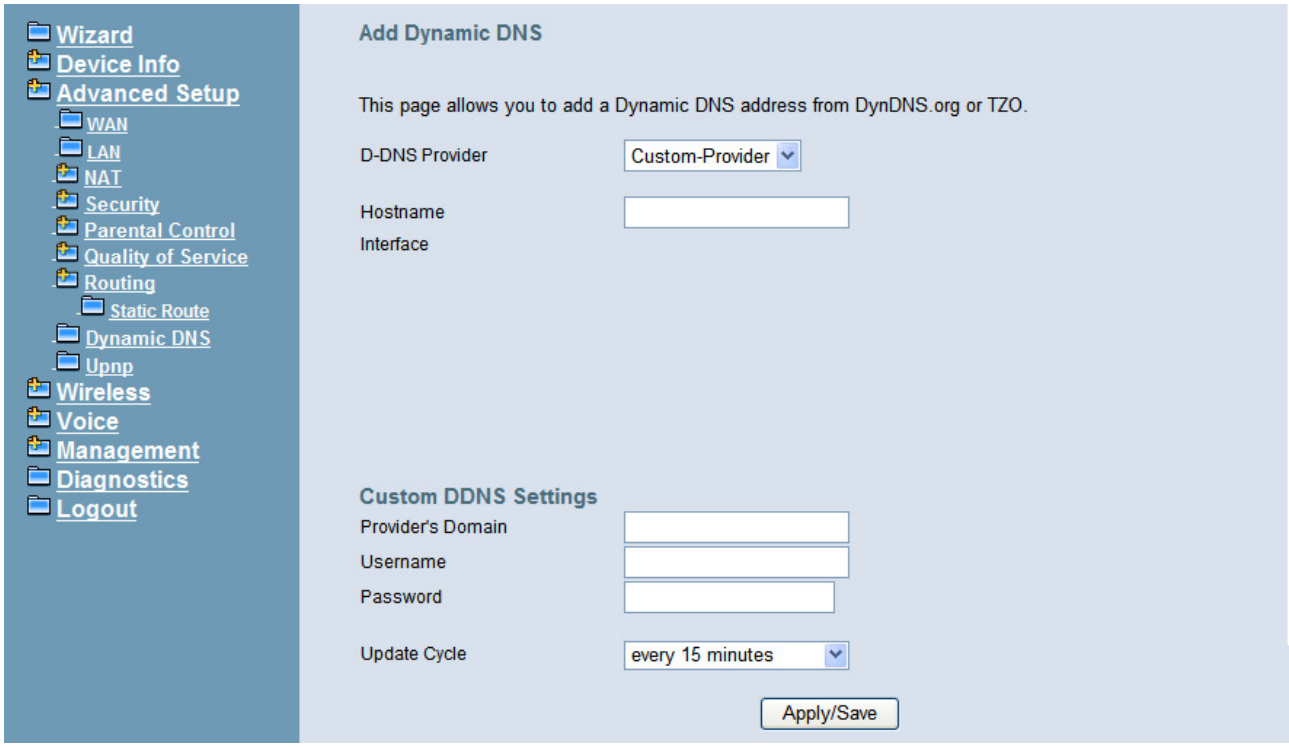

Figure 6-32. Advanced – Dynamic DNS – Customer-Provider

6.4.10 Upnp

It's used to enable or disable the universal plug and play function. (Figure 6-33)

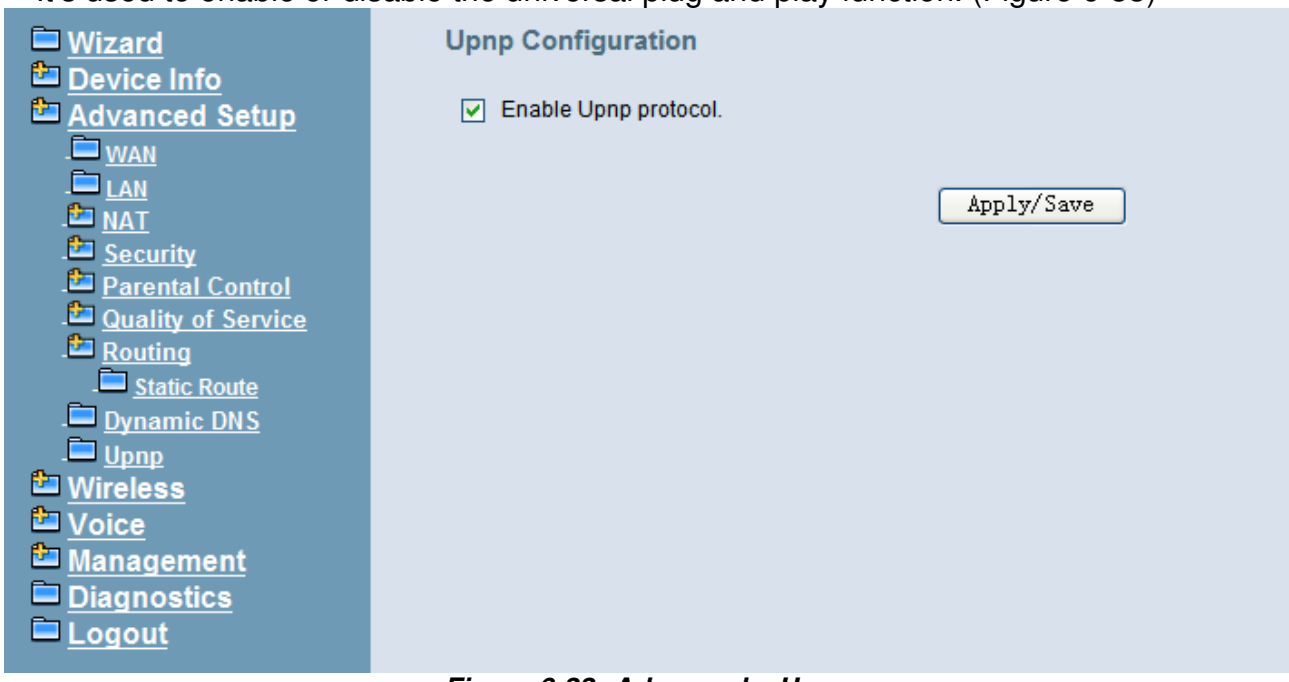

Figure 6-33. Advanced – Upnp

6.5 Wireless

Use the Wireless screen to configure the IG7600 for wireless access. It is separated into 7 parts:

- Basic
  - Primary
  - Additional

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- Security
- MAC Filter
- Wireless Bridge
- Advanced
- Station Info
- Power Saving

The configurable items for each part would be described in the following.

6.5.1 Basic

It's separated into two parts: Primary, and Additional.

6.5.1.1 Primary

This page allows you to configure the basic features of the wireless LAN interface. You can enable or disable the wireless LAN interface, hide the network from active scans, active the client isolation, disable WMM advertise and enable wireless multicast forwarding.

User can set the wireless network name (also known as SSID) and restrict the channel set based on country requirements. The max clients are 16. (Figure 6-34)

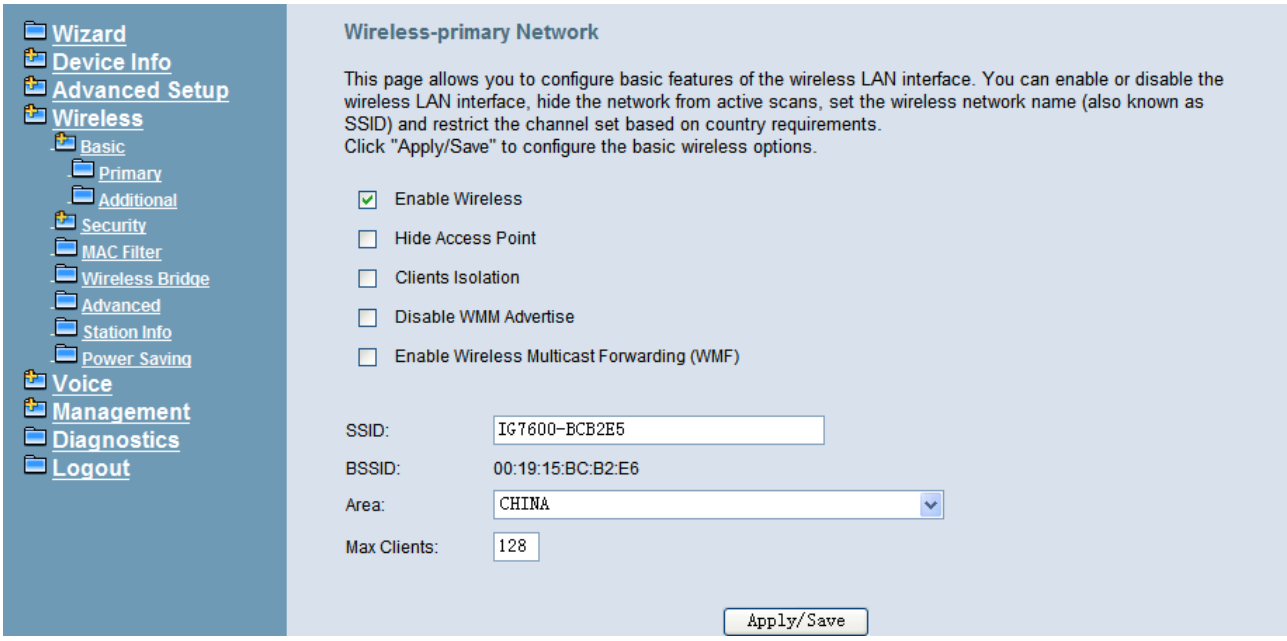

Figure 6-34. Wireless – Basic – Primary

6.5.1.2 Additional

IG7600 supports to configure 3 additional Wireless networks. Each SSID can have different name and configurations. (Figure 6-35)

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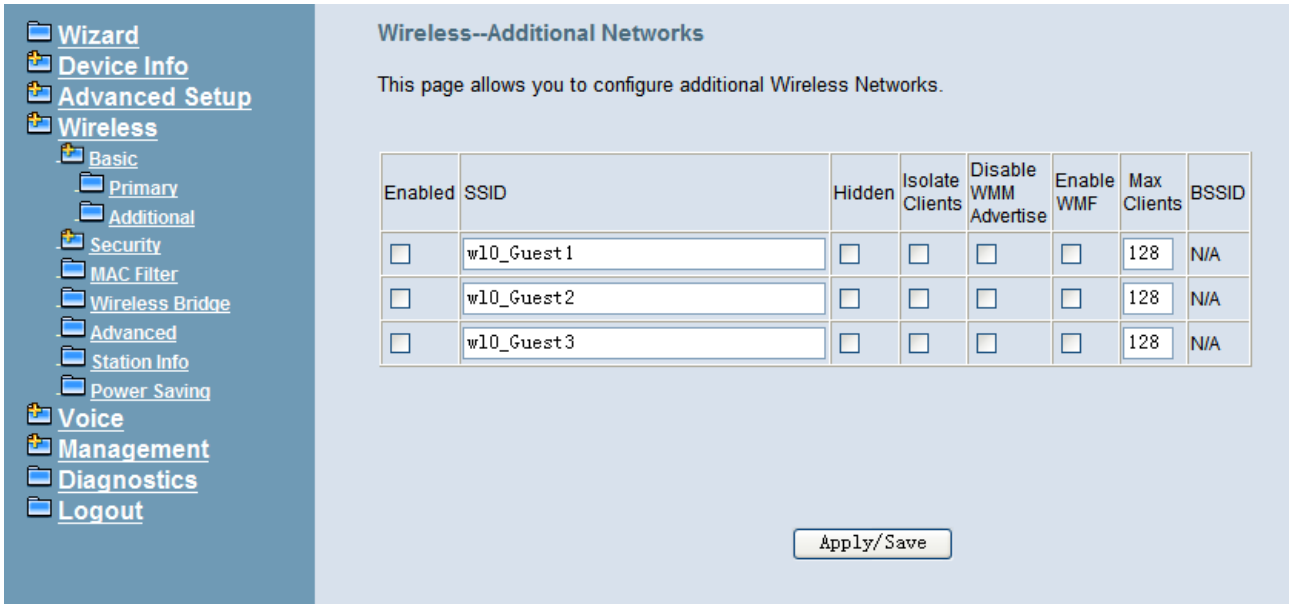

Figure 6-35. Wireless – Basic – Additional

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6.5.2 Security

This page allows you to configure security features of the wireless LAN interface. It allows you to select your Security Mode: Manual and WPS.

In WPS mode, it follows the Wi-Fi Protected Setup standard for easy and secure wireless network set up and connection. User can use Push-Button or PIN to configure the connection with IG7600. In Push-Button method, IG7600 and client must press the WPS button to establish connection. In PIN mode, when the Access Point Pin is used, client can input the PIN to establish the connection. When the External Device PIN is used, client device PIN can be entered in the field to establish connection (Figure 6-36).

Figure 6-36. Wireless – Security

In Manual mode, you can set the network authentication method, selecting data encryption, specify whether a network key is required to authenticate to this wireless network and specify the encryption strength. Click "Apply/Save" to configure the wireless security options. (Figure 6-37, Figure 6-38)

The following items will be configured in the page:

Network Authentication: Set the network Authentication method. Open and Shared can use the WEP Encryption. 802.1X and WPA require setting valid RADIUS parameters. WPA-PSK requires a valid WPA Pre-Shared Key to be set.

802.1X: As the IEEE standard for access control for wireless and wired LANs, 802.1x provides a means of authentication and authorizing devices to attach to a LAN port. This standard defines the Extensible Authentication Protocol (EAP), which uses a central authentication server to authenticate each user on the network.

WPA/WPA2: The Wi-Fi Alliance put together WPA/WPA2 as a data encryption method for 802.11 wireless LANs. WPA is an industry-supported, pre-standard version of 802.11i utilizing the Temporal Key Integrity Protocol (TKIP), which fixes the problems of WEP, including using dynamic keys.

WPA/WPA2 Pre-Shared Key: Set the WPA/WPA2 Pre-Shared Key (PSK).

WPA/WPA2 Group Rekey Interval: Set the WPA/WPA2 Group Rekey Interval in seconds. Leave blank or set to zero to disable periodic re-keying.

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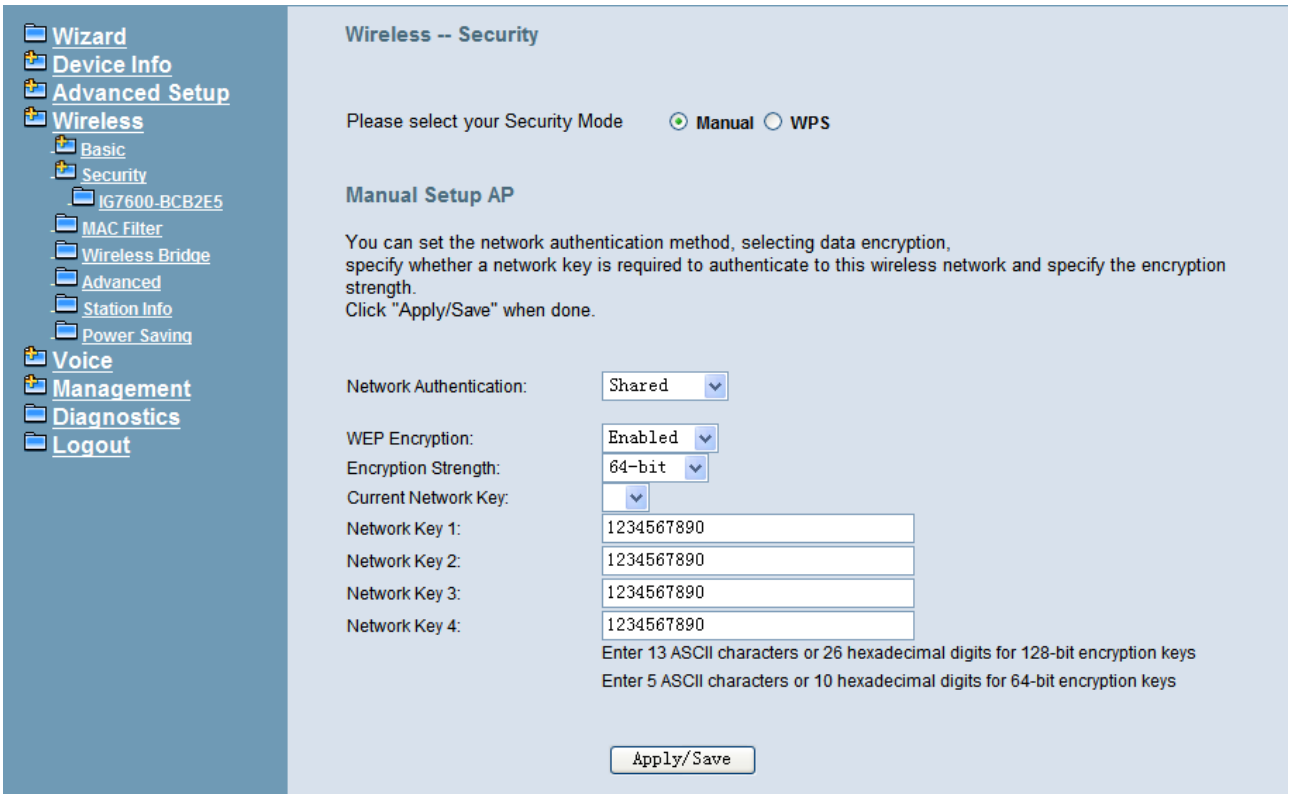

Figure 6-37. Wireless – Security – 1

Figure 6-38. Wireless – Security – 2

WEP Encryption: Selecting Disabled disables WEP data encryption. Selecting Enabled enables WEP data encryption and requires that a valid network key be set and selected unless 802.1X is enabled.

WEP, short for Wired Equivalent Privacy, is a protocol for wireless LANs or local area networks. This WEP is defined in the 802.11 Standard. WEP is designed so security levels are maintained at the same level as the wired LAN. WEP's aim is to provide security by encrypting data over radio waves. WEP protects data as it's transmitted from one end point to another. WEP is used at two lowest layers, the data link and

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physical layer. WEP is designed to make up for the inherent security in wireless transmission as compared to wired transmission.

Network Key: Set whether shared key authentication is required to associate. A valid network key must be set and selected if required.

6.5.3 MAC Filter

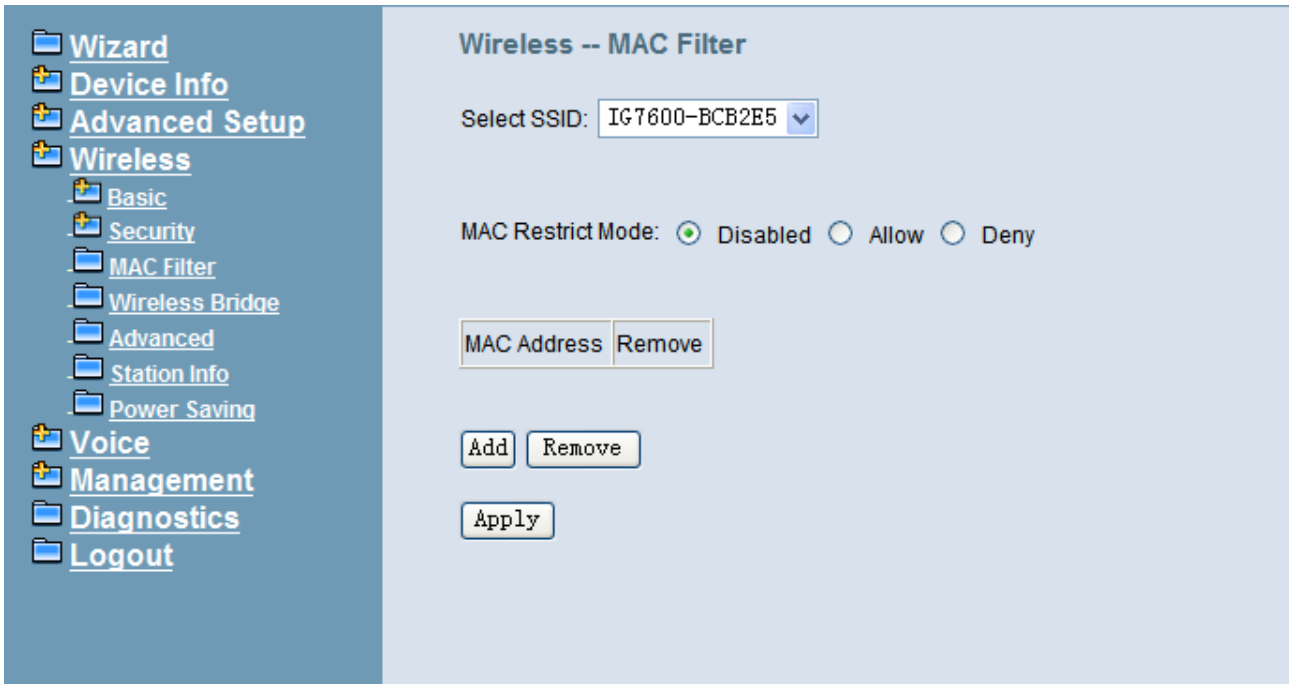

Figure 6-39. Wireless – MAC Filter

This page allows users to Add/Remove hosts with the specified MAC addresses that are able or unable to access the wireless network. When users decide to use Allow, only the MAC addressed in the user-defined list can access the wireless network. When users use Deny, only the user specified MAC addresses are unable to access to wireless network. And if the Disable option is selected, all users will be able to access to wireless network.

Note: The MAC addresses in the list would immediately take effect when Allow or Deny is checked. (Figure 6-39, Figure 6-40)

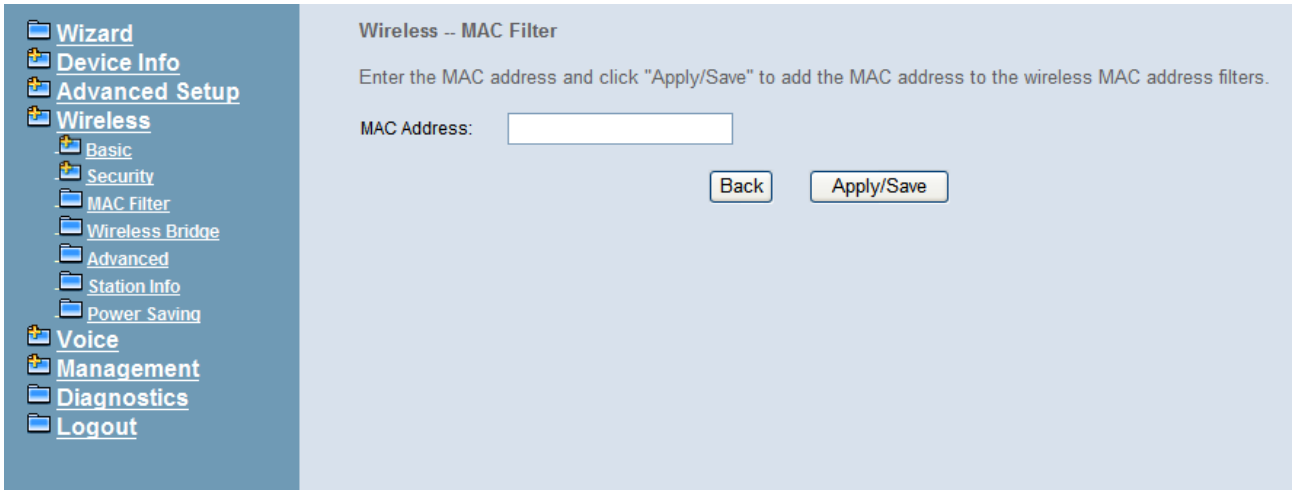

Figure 6-40. Wireless – MAC Filter – Allow/Deny

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6.5.4 Wireless Bridge

This page allows you to configure wireless bridge features of the wireless LAN interface. You can select Wireless Bridge (also known as Wireless Distribution System) to connect to other wireless bridge device, but the access point functionality will be disabled. Selecting Access Point enables access point functionality. Wireless bridge functionality will still be available and wireless stations will be able to associate to the AP. Select Disabled in Bridge Restrict which disables wireless bridge restriction. Any wireless bridge will be granted access. Selecting Enabled or Enabled (Scan) enables wireless bridge restriction. Only those bridges selected in Remote Bridges will be granted access. Click "Refresh" to update the remote bridges. Wait for few seconds to update. Click "Save Settings" to configure the wireless bridge options. (Figure 6-41)

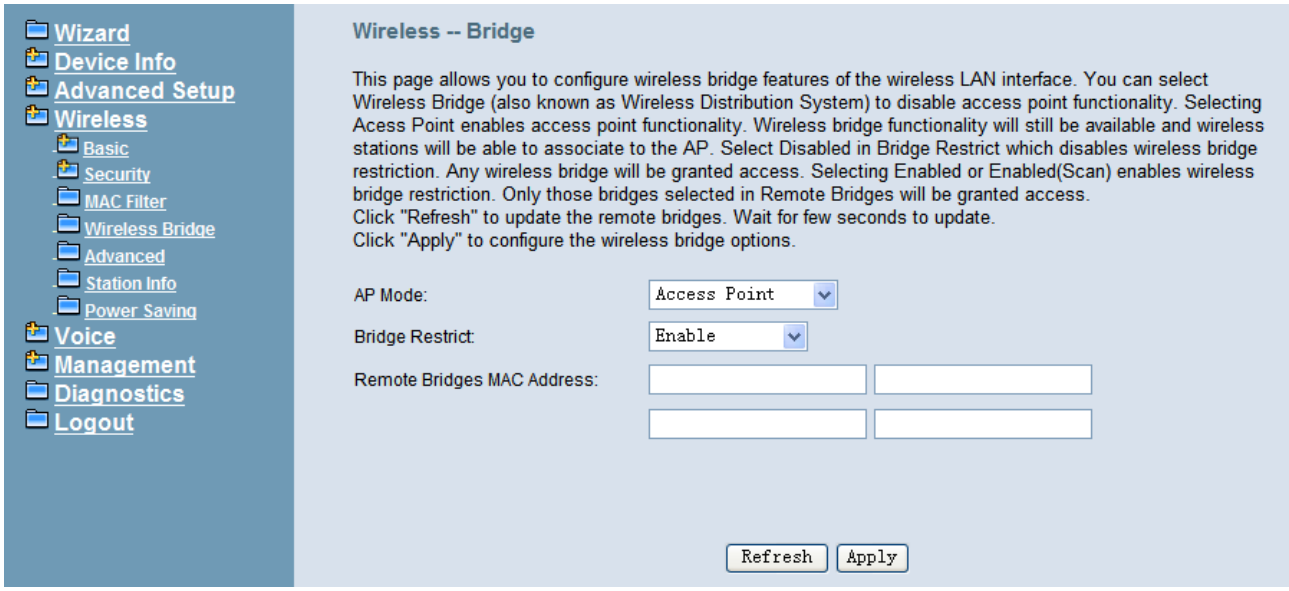

Figure 6-41. *Wireless – Wireless Bridge*

6.5.5 Advanced

It allows you to configure advanced features of the wireless LAN interface. You can select a particular channel on which to operate, force the transmission rate to a particular speed, set the fragmentation threshold, set the RTS threshold, set the wakeup interval for clients in power-save mode, set the beacon interval for the access point, set XPress mode and set whether short or long preambles are used. Click "Save Settings" to configure the advanced wireless options. (***Figure 6-42***)

Band: Default setting is 2.4GHz.

Channel: Select the appropriate channel from the list provided to correspond with your network settings. All devices in your wireless network must use the same channel in order to function correctly.

Auto Channel Timer: The IG7600 should search for the best wireless channel in this period (minute).

802.11n/EWC: Automatic or disable 802.11n support.

Bandwidth: User can choose 20MHz/40MHz in both band or 20MHz in 2.4G band/40MHz in 5G band.

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Control Sideband: Specify if the extension channel should be in the “Upper” or “Lower” sideband.

802.11n Rate: Set the Physical Layer rate. These rates are only applicable when the”802.11n/EWC” is configured as “Auto”.

802.11n Protection: In “Auto” mode, the wireless devices use RTS/CTS to improve 802.11n performance in mixed 802.11g/802.11b networks. Turn protection off to maximize 802.11n throughput under most conditions. Do not disable 802.11n protection if there is a possibility that 802.11b or 802.11g devices will use your wireless network.

Support 802.11n Client Only: “On” enables support for 802.11n clients only. Off will enable support for clients that are not 802.11n.

54g® Rate: The default setting is Auto. The range is from 1 to 54Mbps. The rate of data transmission should be set depending on the speed of your wireless network. You can select from one transmission speed, or keep the default setting, Auto, to have the IAD automatically use the fastest possible data rate.

Multicast Rate: The default setting is 54Mbps. The range is from 1 to 54Mbps. The rate of data transmission should be set depending on the speed of your wireless network. You can select from one transmission speed, or keep the default setting, to have the IAD automatically use the fastest data rate for multicast packets.

Basic Rate: Select the basic rate that wireless clients must support.

Fragmentation Threshold: This value should remain at its default setting of 2346. The range is 256~2346 bytes. It specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet error rate, you may slightly increase the Fragmentation Threshold. Setting this value too low may result in poor network performance. Only minor modifications of this value are recommended.

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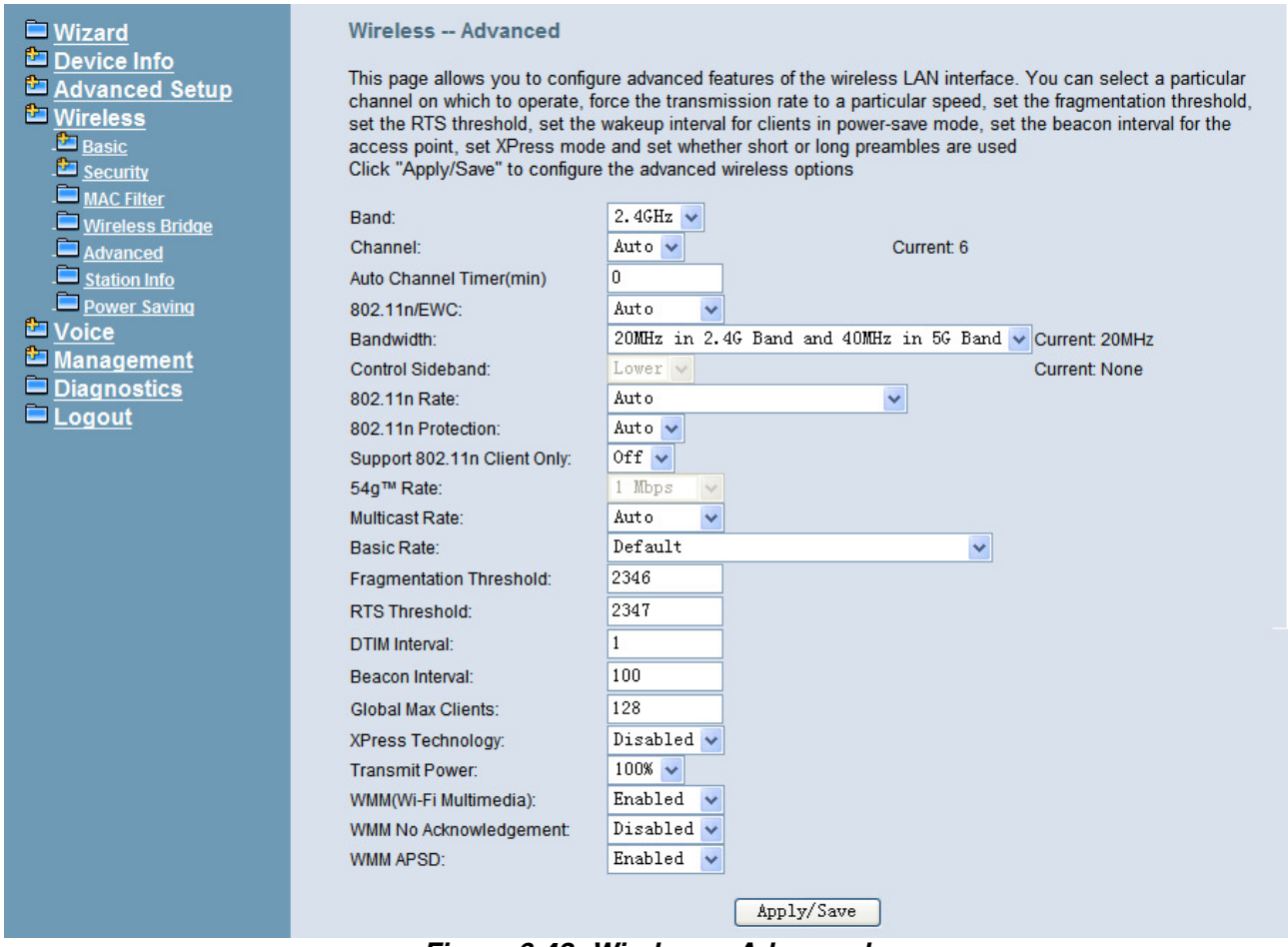

Figure 6-42. Wireless – Advanced

RTS Threshold: This value should remain at its default setting of 2347. The range is 0~2347 bytes. Should you encounter inconsistent data flow, only minor modifications are recommended. If a network packet is smaller than the packet RTS threshold size, the RTS/CTS mechanism will not be enabled. The IAD sends Request of Send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. After receiving an RTS, the wireless station responds with a Clear to Send (CTS) frame to acknowledge the right to begin transmission.

DTIM Interval: The default value is 3. This value, between 1 and 255 milliseconds, indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the router has buffered broadcast or multicast for associated clients, it sends the next DTIM with a DTIM Interval value. Its clients hear the beacons and awaken to receive the broadcast and multicast message.

Beacon Interval: The default value is 100. Enter a value between 1 and 65535 milliseconds. The Beacon Interval value indicates the frequency interval of the beacon. A beacon is a packet broadcast by the router to synchronize the wireless network.

Global Max Clients: Maximum number of wireless clients.

XPress™ Technology: Select “Enable” to improve the wireless performance. It is a technology that utilizes standards based on frame bursting to achieve higher throughput.

Transmit Power: User can set the transmit power as 20%, 40%, 60%, 80% and 100%

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WMM (Wi-Fi Multimedia): Feature that improves the experience for audio, video and voice applications over a Wi-Fi network.

WMM No Acknowledgement: When the “WMM No Acknowledgement" is enabled, the receiver will not acknowledge received packets during wireless packet transmit. It is suitable in the environment where communication quality is good and interference is weak. It can improve transmission efficiency.

WMM APSD: WMM Automatic Power Save Delivery. APSD is useful for VoIP phone to achieve low power consumption.

6.5.6 Station Info

Authenticated wireless stations and their status will be shown here. (Figure 6-43)

Figure 6-43. Wireless – Station Info

6.5.7 Power Saving

The Power Saving Features provide the ability to turn off specific interfaces at specific times. (Figure 6-44)

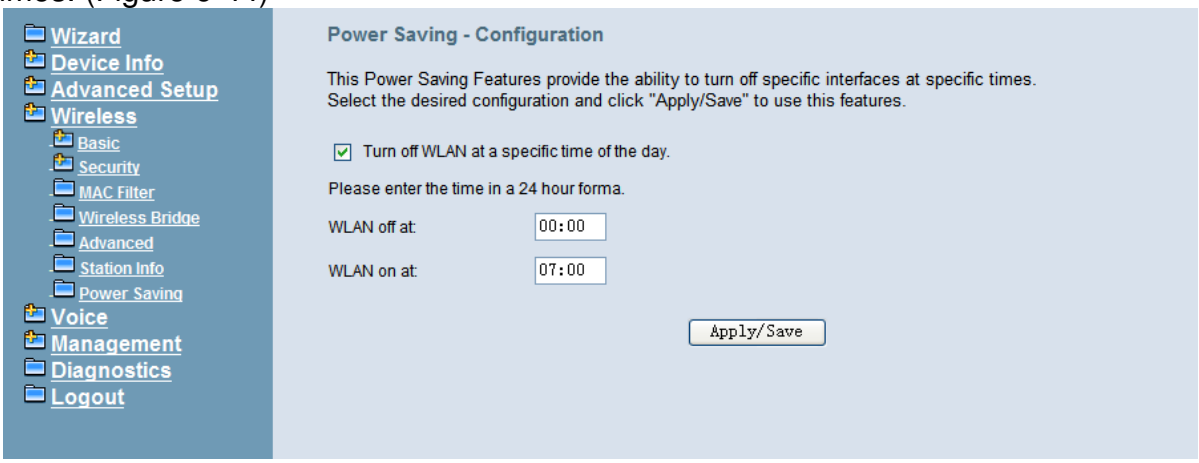

Figure 6-44. Wireless – Power Saving

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6.6 Voice

Use the Voice screen to configure the IG7600's voice related parameters. It allows system administrator to configure the following topics:

- Phone
  - Phone Extension
  - Video Doorphone Settings
  - Security Card Registration
  - Programmable keys
- Trunk
  - IP Trunk
  - Trunk DID
  - Trunk Group
  - Answering Position
  - Call Routing
  - Call Restriction
  - Emergency Numbers
- System
  - Numbering Plan
  - Service Mode
  - Transmission
  - SMDR
  - UCD Call Log
- Voicemail
  - General
  - Phone Extension
  - Virtual Extension
  - Update MOH File
  - Update Voice File
  - Holiday
  - Advanced
- NAT Traversal
- Diagnostics
  - Remote Maintenance
- Registered Phone

The configurable items for each part would be described in the following.

6.6.1 Phone

Use the Phone screen to configure IG7600's phone extension authentication and configure the default line key setting.

6.6.1.1 Phone Extension

The IG7600 combines Proxy and Register servers in its application. All phones registered to the internal Register server are set here. (Figure 6-45, Figure 6-46)

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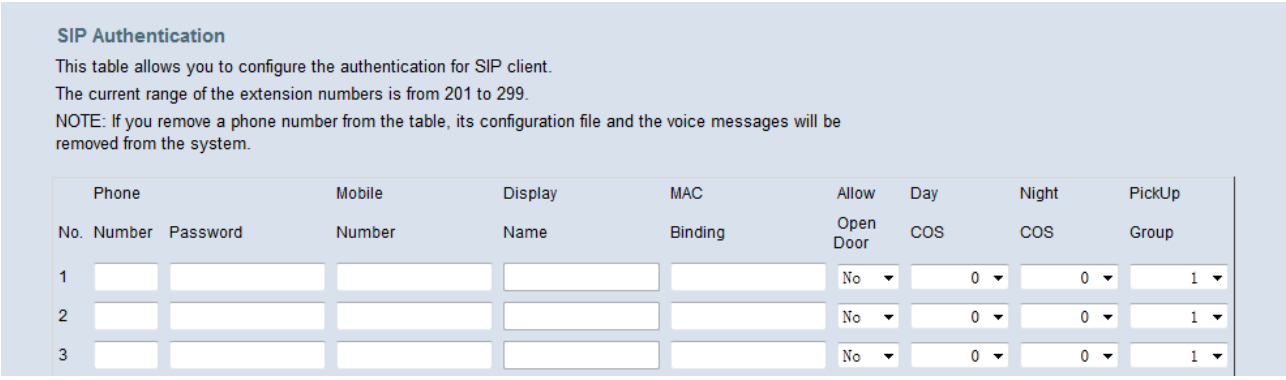

Figure 6-45. Voice – Phone – Phone Extension – 1

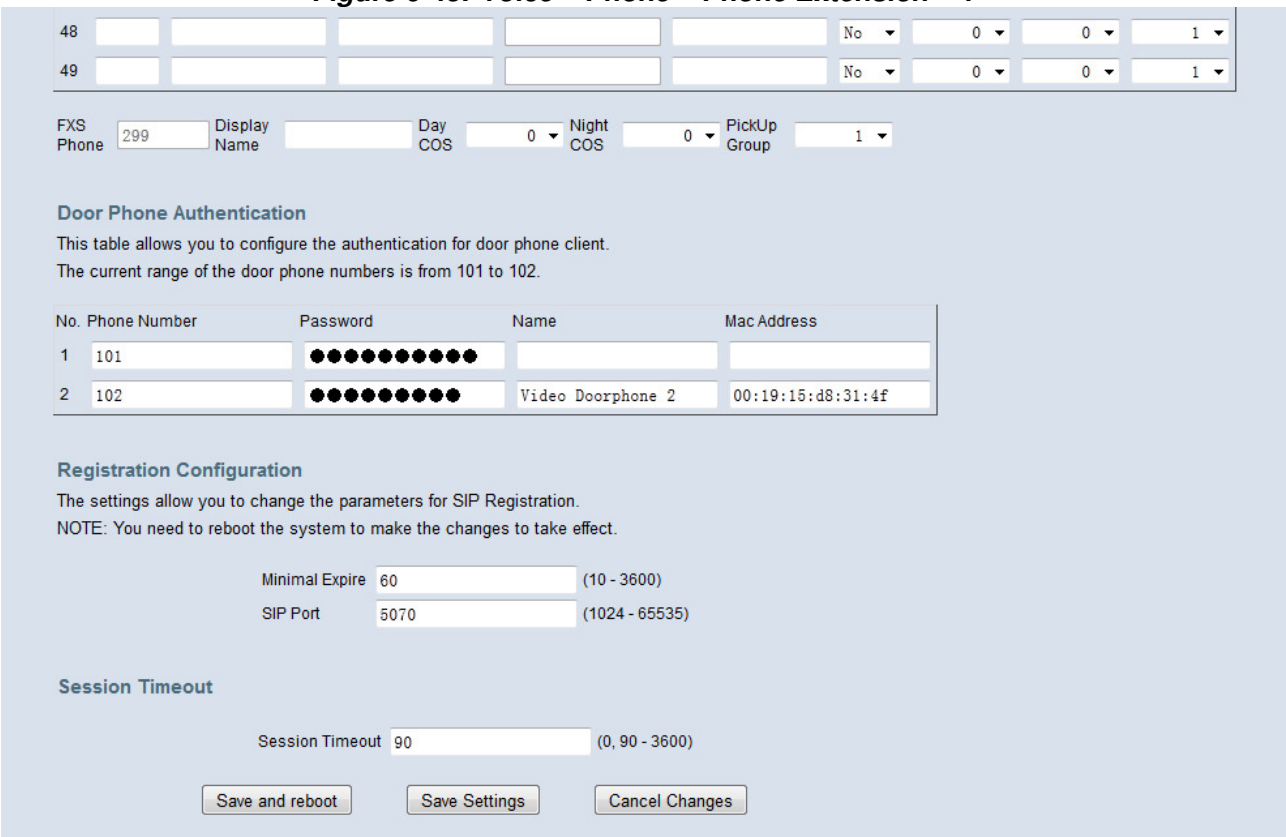

Figure 6-46. Voice – Phone – Phone Extension – 2

SIP Authentication: It provides 49 IP phones or Smart phones to register.

Phone Number: The phone number is a station number. If it conflicts with the setting in Numbering Plan, it fails to add or make the change. Its value range is limited by Start Extension Number and End Extension Number settings in Numbering Plan page.

Password: The user password of this phone. The length is up to 24 digits or characters. It's used for Digest Authentication.

Mobile Number: If a smart phone registers to it, it can tell its mobile number to IG7600.

Display Name. If a smart phone registers to IG with its display name, this column will display the name.

Mac Binding: If a phone number is assigned by Plug-and-Play, the number is bound to the extension's Mac address. You can also add Mac binding at IG7600's web page.

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If Mac binding exists, only the extension with this Mac address will be accepted to be registered.

Allow Open Door: This field is for user to configure if the extension is allowed to open door.

Day COS: The field assigns Class of Service for day mode operation. Acceptable values are 0-7. At default, all extensions are unrestricted.

Night COS: The field assigns Class of Service for night mode operation. Acceptable values are 0-7. At default, all extensions are unrestricted.

Pickup Group: The field assigns the extension to a specific pickup group. Each extension can be assigned to one pickup group only. Four pickup groups are available.

FXS Phone: It shows the FXS phone number. It's programmed in Numbering Plan.

- **Display Name**: The FXS user's Calling Name.
- **Day COS**: The FXS's Class of Service for day mode operation.
- **Night COS**: The FXS's Class of Service for night mode operation.
- **Pickup Group**: The FXS's pickup group number

Door Phone Authentication:

It provides two door phones to register. Phone number, password and Mac Address are for door phones to do Authentication. If Mac Address is empty, the entry is free to do register for any door phone, but if mac Address is filled with a special mac address, the entry is bind to the door phone with this mac address and only this door phone can use this account to do register.

Registration Configuration:

The settings allow you to change the parameters for SIP Registration. You need to reboot the system to make the changes to take effect.

Minimal Expire: Minimal registered period of IP phone.

SIP Port: The IG7600 listens for requests on the SIP port. This port is used for UDP application and 5070 is its default value. The port number cannot be the same as the "Local SIP Port for IP Trunk" for IP Trunk application.

Session Timeout:

The settings allow you to change the parameters for session timer.

Session Timeout: It defines how long IG7600 sends "UPDATE" packet to extension.

6.6.1.2 Video Doorphone Settings

This page allows you to configure the settings for door phone's features.(Figure 6-47)

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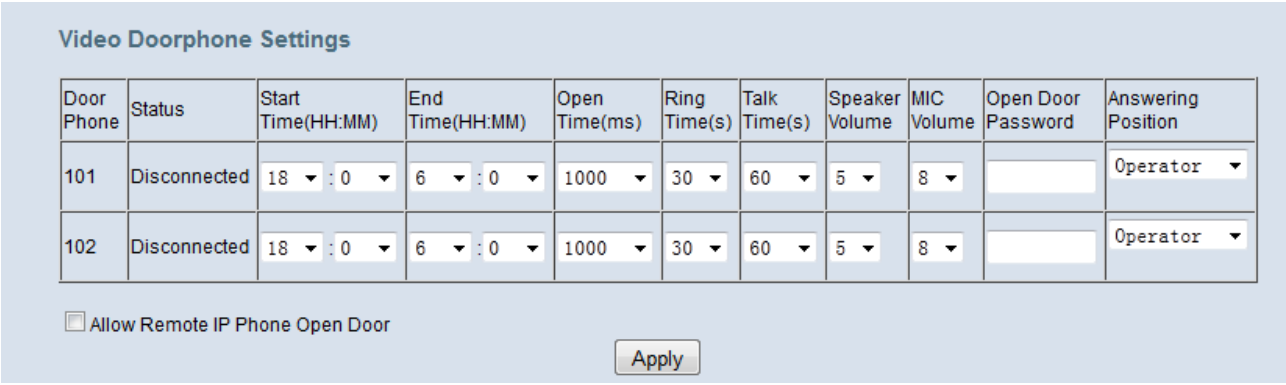

Figure 6-47. Voice – Phone – Door Settings

Door Phone: Door Phone Numbers.

Status: Door Phone Status(Disconnected/Closed/Opened)

Start Time/ **End Time**: During this period Door Phone should turn on its LED light.

Open Time: This is the time that door phone delays before open the door when receiving an open door request.

Ring Time: When a call is not answered after this time. The ringing will stop automatically.

Talk Time: When a call is answered and is last for 60(Default value) seconds. The call will be cut off by the IG.

Speaker/ **MIC Volume**: Volume of door phone's speaker and microphone can be modified here.

Open Door Password: This password is used when user wanted to open door.

Answer Position: Here is to set the answer position of a door phone call, any call from this door phone will be answered by the destination you've set.

Allow Remote IP Phone Open Door: If you want to open door on remote IPP you should enable the function first which is disabled by default, this checkbox is for you to enable it.

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6.6.1.3 Security Card Registration

This page shows the Door Card table, and allows you to configure them.(Figure 6-48)

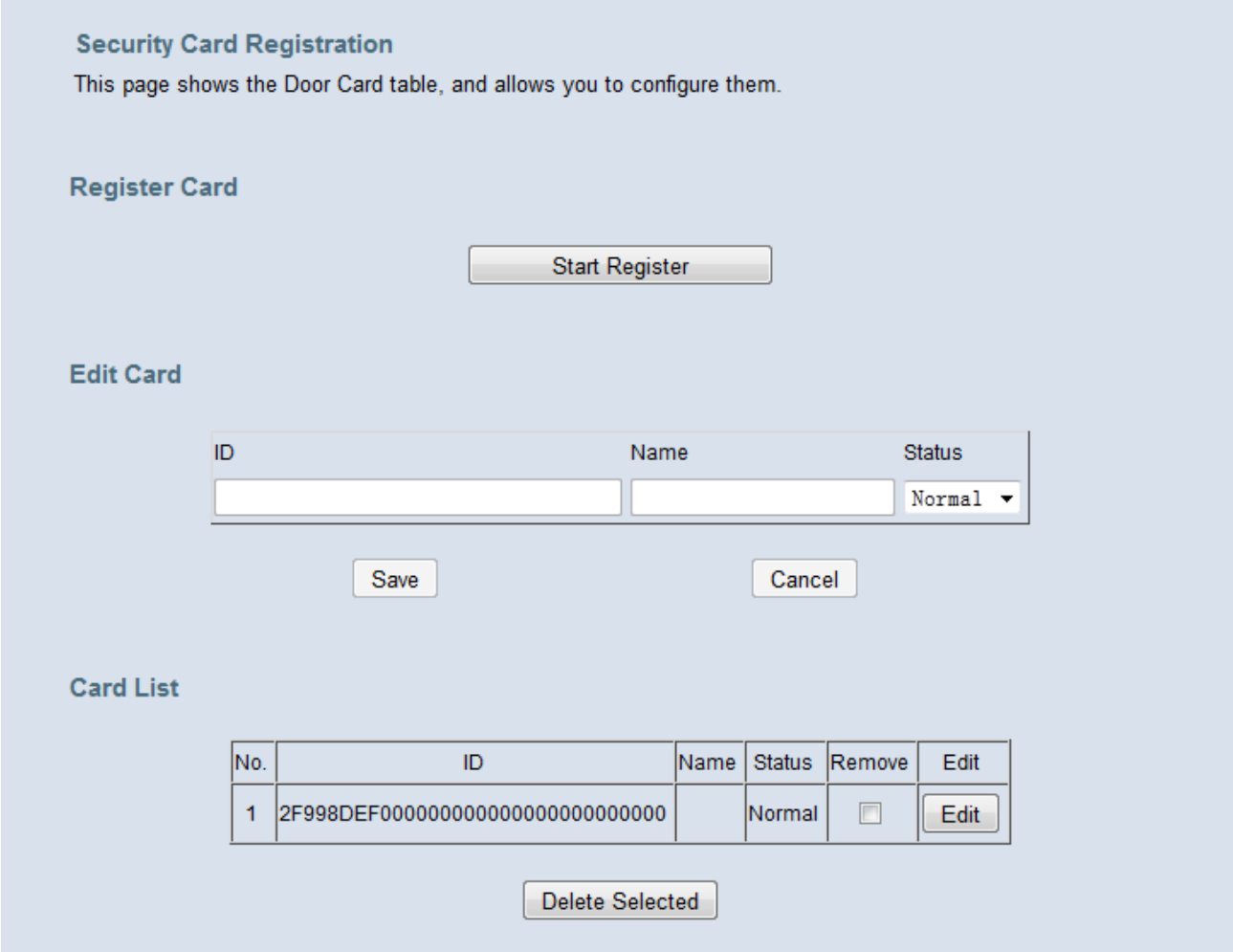

Figure 6-48. Voice – Phone – Door Card

When you want to add new door card to this table, you should push the "Start Register" button to start the register process and swipe the card. At most you can add 32 cards. You can change a card's name and status in the table by pressing the edit button

6.6.1.4 Programmable keys

This page allows you to configure the default settings for IP phone's programmable Keys. While a new-allocated IP phone is registering to IG7600, IG7600 will send these settings to the phone. You can select Extension, Trunk, Call Park, Feature key, Do Not Disturb, Live Record, Virtual Mailbox and Others to these Programmable keys. (Figure 6-49)

Line keys are for IP Trunk setting is only for M54(-i)'s 4 line keys. By default it is disabled and the 4 line keys on M54(-i) will show the status of PSTN Trunk; You can enable it here. If you enable it, M54(-i) will show the status of IP Trunk on its 4 line keys.

Programmable Keys 1-16 are specially for M22 and M62.

EDM Key 1-24 can be applied to IP2061's or M22 and M62's EDM.

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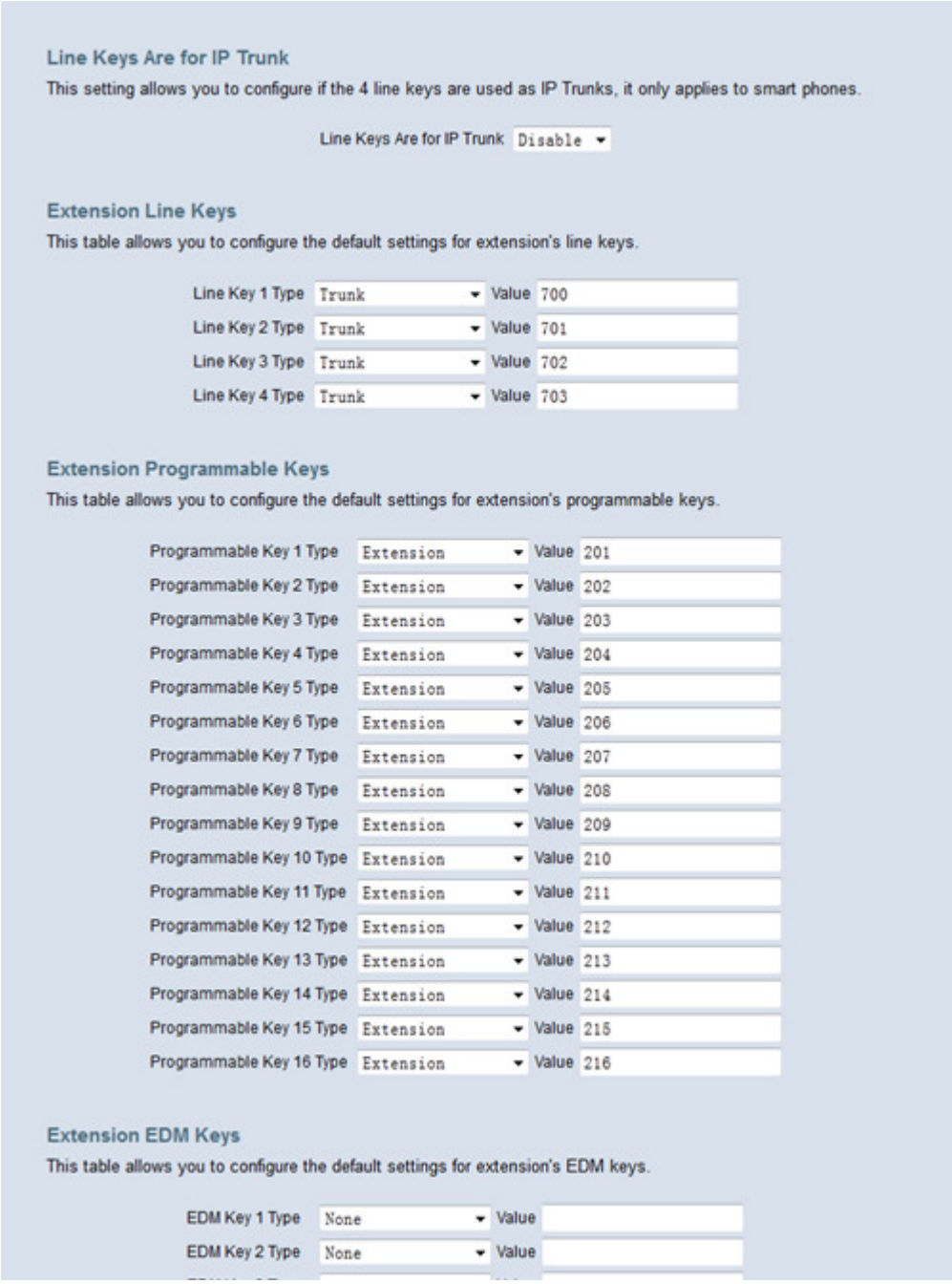
Auto Hold: When you are using a line and press another key, IG7600 can hold the original line. Select “Enable” to open this function.



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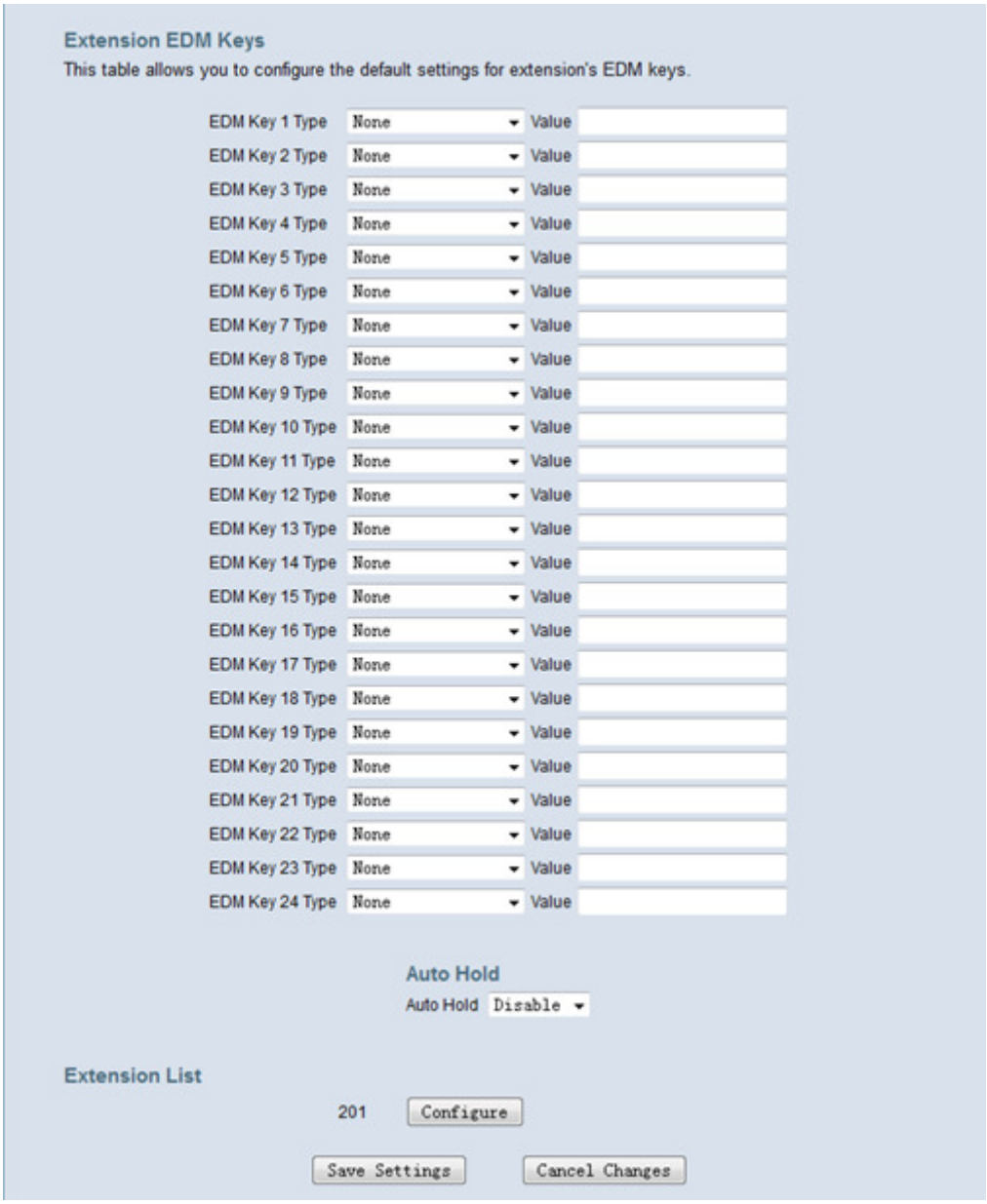

Figure 6-49. Voice – Phone – Programmable keys

When there are IP phones registered to IG7600, you can configure their key setting. In Extension List, press “Configure” to configure keys of the specific phone.

Follow Gateway Settings: Use default IG7600 key setting for the IP phone. If you check the checkbox, all the input operations are disabled, and the Ext’s programmable keys settings will use the Gateway settings. You can configure the settings manually only if the check box “Follow Gateway Settings” is not checked.

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Ext. 201 Configuration

Follow Gateway Settings

This table allows you to configure whether you use the gateway default settings to set the extension's programmable keys.

☑ Follow Gateway Settings

Extension Line Keys

This table allows you to configure line key settings for each extension.

Line Key 1 Type	Trunk	Value	700
Line Key 2 Type	Trunk	Value	701
Line Key 3 Type	Trunk	Value	702
Line Key 4 Type	Trunk	Value	703

Extension Programmable Keys

This table allows you to configure programmable key settings for each extension.

Programmable Key 1 Type	Extension	Value	201
Programmable Key 2 Type	Extension	Value	202
Programmable Key 3 Type	Extension	Value	203
Programmable Key 4 Type	Extension	Value	204
Programmable Key 5 Type	Extension	Value	205
Programmable Key 6 Type	Extension	Value	206
Programmable Key 7 Type	Extension	Value	207
Programmable Key 8 Type	Extension	Value	208
Programmable Key 9 Type	Extension	Value	209
Programmable Key 10 Type	Extension	Value	210
Programmable Key 11 Type	Extension	Value	211
Programmable Key 12 Type	Extension	Value	212
Programmable Key 13 Type	Extension	Value	213
Programmable Key 14 Type	Extension	Value	214
Programmable Key 15 Type	Extension	Value	215
Programmable Key 16 Type	Extension	Value	216

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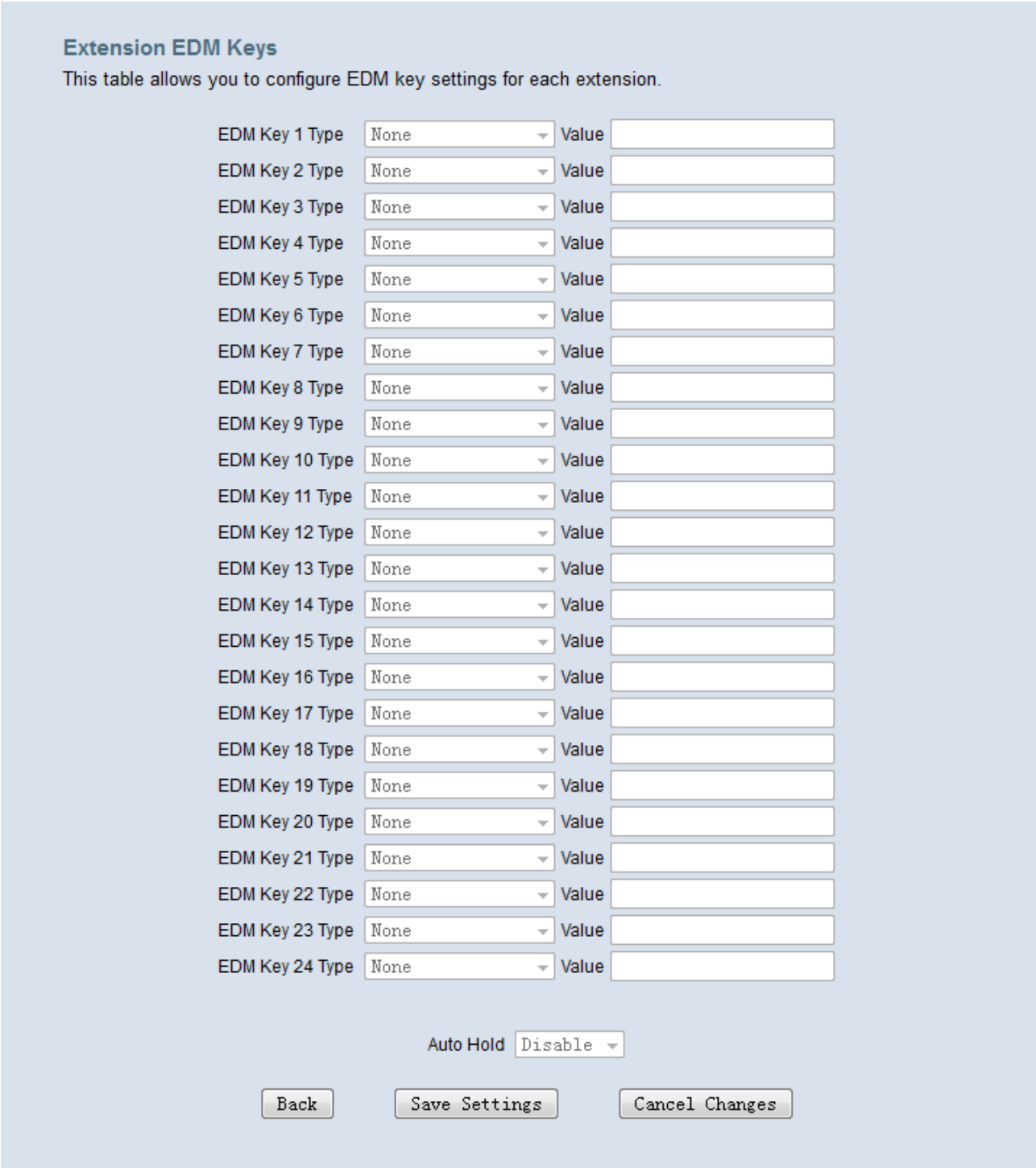

Figure 6-50. Voice – Phone – Extension Linekey-Configure

6.6.2 Trunk

Use the Trunk screen to configure the PSTN/IP Trunk function related parameters. It is separated into 7 parts:

- IP Trunk
- Trunk DID
- Trunk Group
- Answering Position
- Call Routing
- Call Restriction

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- Emergency Numbers

6.6.2.1 IP Trunk

This page allows you to configure the Proxy and Register server of IP Trunks; up to 12 lines of IP Trunk are supported. (Figure 6-51, Figure 6-52)

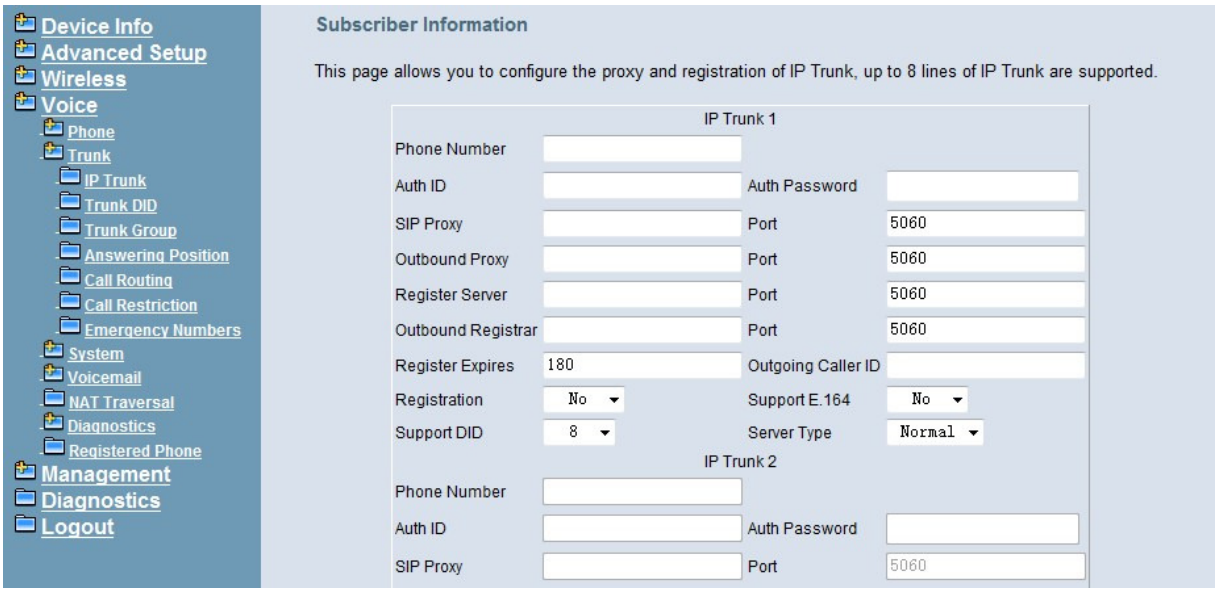

Figure 6-51. Voice – Trunk – IP Trunk – 1

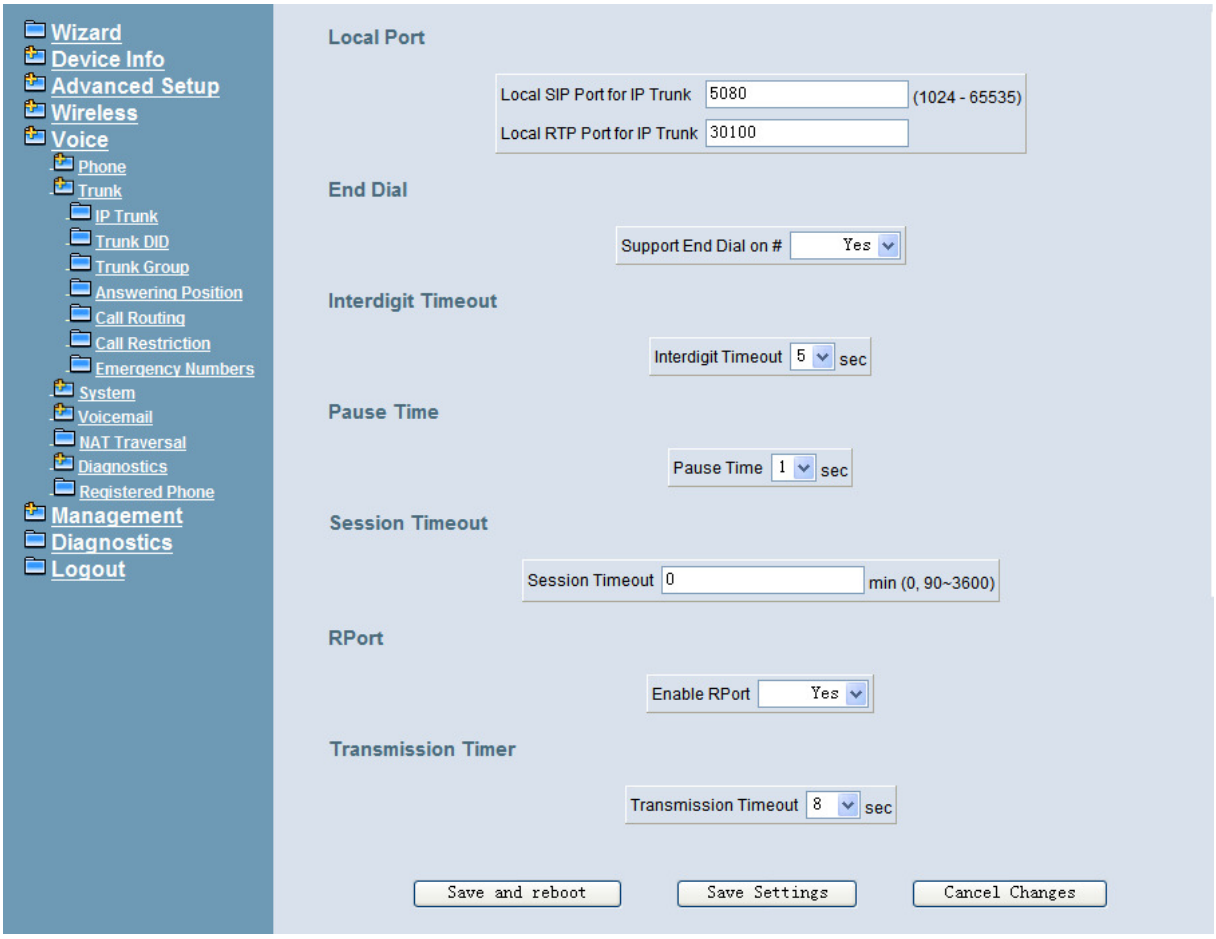

Figure 6-52. Voice – Trunk – IP Trunk – 2

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Subscriber Information:

Phone Number: It's the assigned phone number from uplink server.

Auth ID: The Account ID of registration to uplink server. It's used for Digest Authentication.

Auth Password: The Password of registration to uplink server. It's used for Digest Authentication.

SIP Proxy: The position of uplink SIP proxy server. IP address and domain name are all supported.

SIP Proxy Port: The SIP signal port of uplink registrar server.

Outbound Proxy: The address of uplink outbound proxy server. All sip request packet will be sent to this server that will determine their next hops.

Outbound Proxy Port: The SIP signal port of uplink outbound proxy server.

Register Proxy: The position of uplink register server. IP address and domain name are all supported.

Register Proxy Port: The SIP signal port of uplink registrar server.

Outbound Registrar: The address of uplink outbound Registrar server. All REGISTER packets will be sent to this server that will determine their next hops.

Outbound Proxy Port: The SIP signal port of uplink outbound registrar server.

Register Expires: It's the time for IG7600 sends REGISTER to uplink register server. It counts based on second.

Outgoing Caller ID: It's used as the Caller ID for the outgoing calls.

Registration: If "Registration" is No, the IP Trunk will not send REGISTER to the Register Proxy.

Support E.164: If "Support E.164" is Yes, the IP Trunk follows E.164 format to send to outgoing phone number.

Support DID: If "Support DID" is a digit, the IP Trunk is used in DID operation. The IP Trunks from the current one to the specified IP Trunk are applied in the specified account. For example, if the setting is "5" in IP Trunk 1, the account is applied for IP Trunk 1 to 5. It means it can have 5 concurrent calls in the account.

Server Type: If "Server Type" is CHTM, and if the Caller ID of the incoming Trunk call exists, IG7600 will use the Caller ID in From and P-Asserted-Identify header in the outgoing IP Trunk call.

Local Port:

Local SIP Port for IP Trunk: SIP control signal packet Port of IP Trunk Client. The port number cannot be the same as the "SIP Port" for Extension Registration.

Local RTP Port for IP Trunk: Real-Time Protocol packet Port of IP Trunk Client. It's the start RTP port address for these IP Trunks.

End Dial:

If "Support End Dial on #" is Yes, outgoing number from IP trunk will be sent out immediately after pressing pound key (#).

Interdigit Timeout:

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If there is no any dialed number after the setting time, the number will be sent out immediately. Its range is form 2 to 9 seconds.

Pause Time:

The pause time of alphabet “p” in the process of call dialing

Session Timeout:

It means the longest communication time for IP trunks, zero means no restriction.

RPort:

When client is behind a NAT, the rport and received filed can allow SIP proxy to append the public IP address and port of NAT and transfer SIP message correctly. Choose “Enable” to use this function.

Transmission Timer:

If an outgoing trunk call matches more than one entries in Call Routing Table, if the former matched entry gets timeout after this specific seconds, IG7600 will try the next one.

6.6.2.2 Trunk DID

The table offers its individual phone number for each extension (Figure 6-53). Up to 100 DID number are supported.

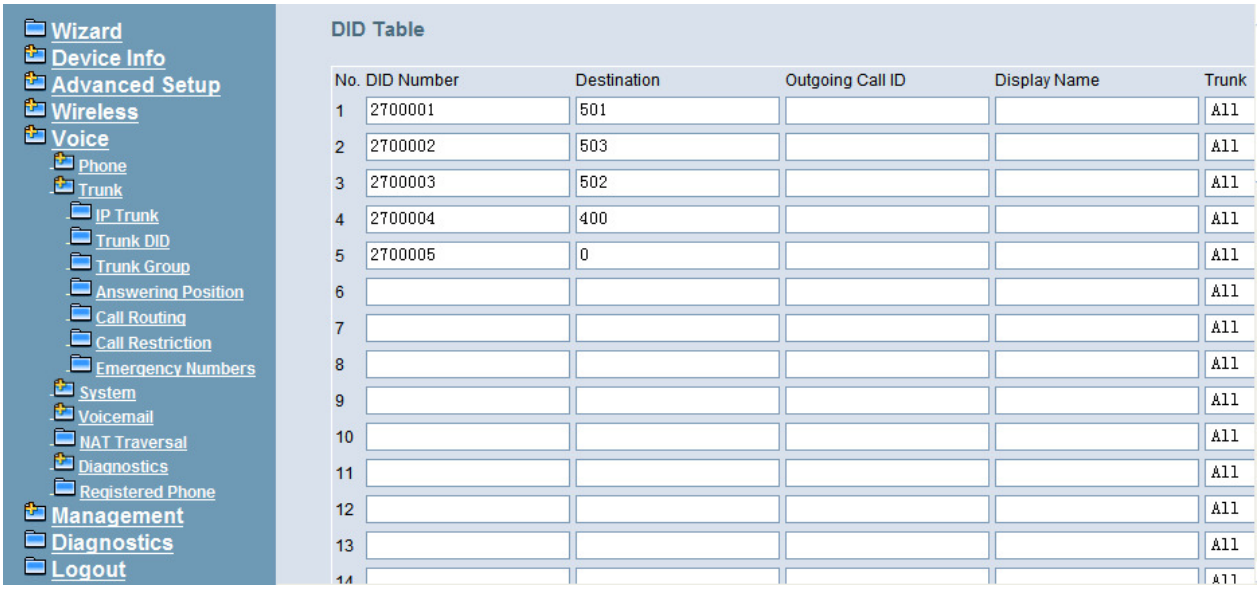
DID Number: It’s the assigned phone number from uplink server for incoming calls. If “Outgoing Call ID” is null, it will be as Caller ID number for outgoing calls also.

Destination: the specified ringing extension(s) for the individual DID phone number.

Outgoing Call ID: It’s the assigned Caller ID number from uplink server.

Display Name: the specified extension user name for the individual number. It will be used as Caller ID name in the outgoing calls.

Trunk: The DID item is for the specified trunk(s). If it’s “All”, the DID number can be applied to all IP Trunks.



No.	DID Number	Destination	Outgoing Call ID	Display Name	Trunk
1	2700001	501			All
2	2700002	503			All
3	2700003	502			All
4	2700004	400			All
5	2700005	0			All
6					All
7					All
8					All
9					All
10					All
11					All
12					All
13					All
14					All

Figure 6-53. Voice – Trunk – Trunk DID

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6.6.2.3 Trunk Group

This page allows you to configure the virtual Trunk Group. Up to 4 Trunk Groups are supported. (Figure 6-54, Figure 6-55)

Trunk Group & Label Name:

This item allows you to assign physical Trunk to virtual Trunk Group. For four PSTN lines and four IP lines you can choose from Group1 to Group 4.

PS: There is a special trunk group named Group ALL, all lines are considered to be a member of the group.

Label Name:

This item allows you to configure a specified string as incoming Caller ID name. For PSTN incoming call, it will be applied if no Caller ID received in the call. For IP Trunk call, it will replace the original Caller ID name.

Ring Type:

The specific ring type assigned to the Trunk Line is the ring type heard when the Trunk Line rings. The ring type is applied for IP2061/M22/M62 phone only.

Trunk Group Priority:

This Item allows you to define 4 Trunk Groups and Group All's interior priority.

Access Priority:

This Item allows you to define 4 Trunk Groups and Group All's interior priority. For the five groups you can choose IP first or PSTN first. This will take effect if call routing entry's destination has been set as Group choice.

Search Order:

You can choose the search order to use the specified access priority. For example, when you choose IP First and increase, IG7600 will try to find an available IP Trunk and search from the first IP Trunk in the Group.

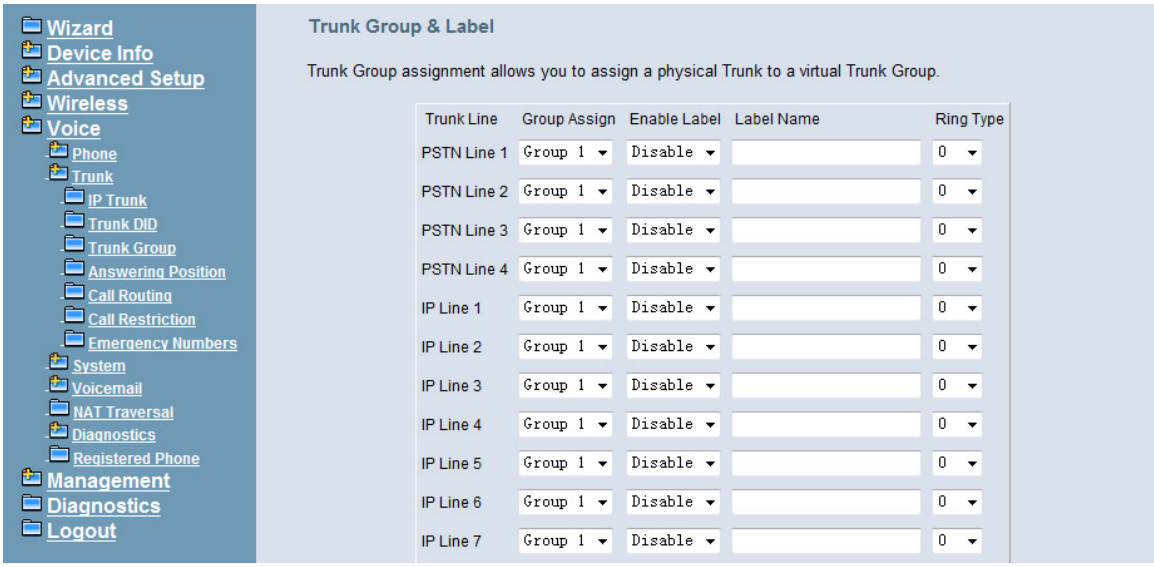

Figure 6-54. Voice – Trunk – Trunk Group – 1

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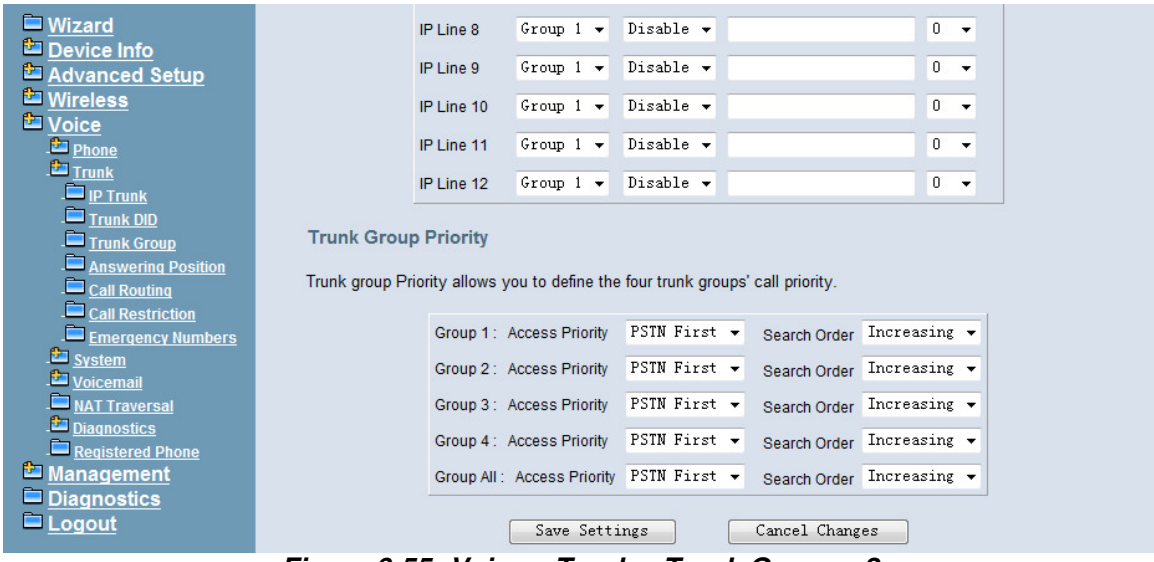

Figure 6-55. Voice – Trunk – Trunk Group – 2

6.6.2.4 Answering Position

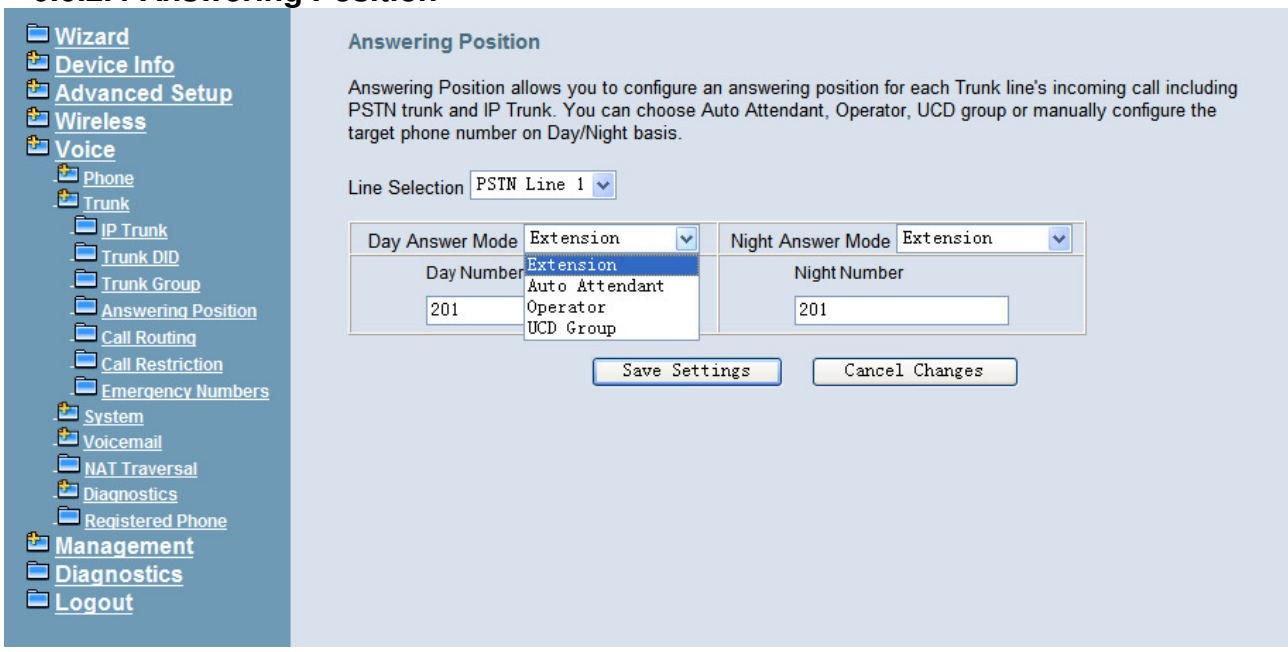

Figure 6-56. Voice – Trunk – Answering Positions

This page allows you to configure an answering position for each Trunk line's incoming call including PSTN trunk and IP Trunk. You can choose Auto Attendant, Operator, UCD Group or manually configure the target extension phone number on Day/Night basis. (Figure 6-56)

Choose Auto Attendant, you can configure an AA Menu number. An idle VAA will auto-answer this incoming trunk call.

Choose Extension, you must configure the target phone number on Day/Night basis.

Choose UCD Group, you can configure an UCD group. The maximum phones for one UCD group are 50.

Choose Operator, the incoming trunk call will be redirected to Operator.

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6.6.2.5 Call Routing

This page allows you to configure the call routing table. A maximum 100 entries are allowed. Each entry is a routing rule for outgoing call. From/To define the number range, Min/Max define the match length, Del/Insert can change the target number, Destination to define the outbound call interface. (Figure 6-57)

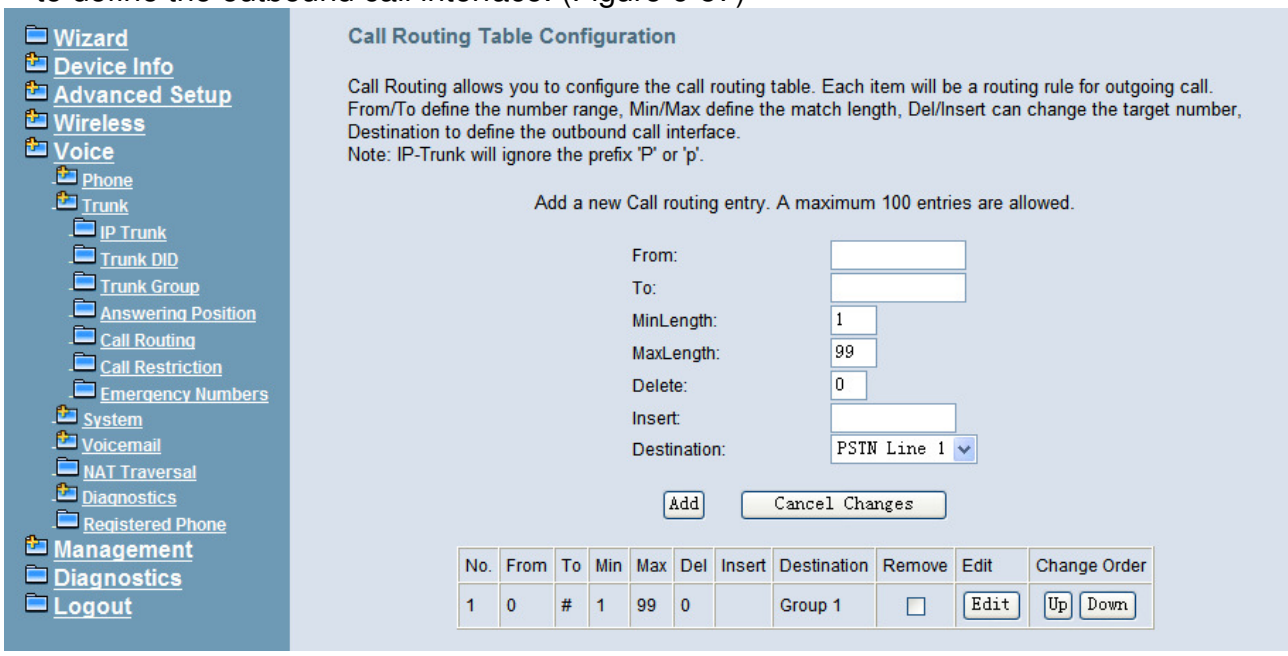

Figure 6-57. Voice – Trunk – Call Routing Table – 1

6.6.2.6 Call Restriction

This page allows you to configure the Call Restriction Table. A maximum 40 entries are allowed.

There are two types of Call Restriction Table, Allowed Table and Denied Table (Figure 6-58):

Each entry has an interval, which is made up of From and To, establishing a numeric range. For example, an entry of “From 1700”, “To 1800” includes the following range of numbers as the leading: 1700, 1701, 1702 …1799, 1800. Each From/To entry can be from 1 to 13 digits long and may contain any digit 0-9, *, #, X/x (representing any digit) and +. The “From” entry must be less than or equal to the “To” entry.

If the Trunk Access value is set to “Y”, the entry is valid when the trunk is accessed previously. If the field is set to “N”, the entry is valid when the trunk is NOT accessed previously (The call may be made through Call Routing Table). If the option is set to “YN”, the entry is valid no matter the trunk is accessed or not previously.

The COS value defines COS values that are considered to be matched for this entry. For the Allowed Table, the entry is matched when the extension’s COS value is smaller than or equal to it; while for the Denied Table, the entry is matched when the extension’s COS value is larger than or equal to it.

Table Type decides into which table this entry will be added.

Priority decides which table will be checked first. If Priority is “Allowed”, IG7600 will check Allowed Table first, if any entry is matched IG7600 will search Denied Table then, the call

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can be made only when there is any matched entry found in Allowed Table and there is no any matched entry found in Denied Table. If Priority is “Denied”, IG7600 will check Denied Table first, if any entry is matched IG7600 will search Allowed Table then, the call will be forbidden only when there is any matched entry found in Denied Table and there is no any matched entry found in Allowed Table.

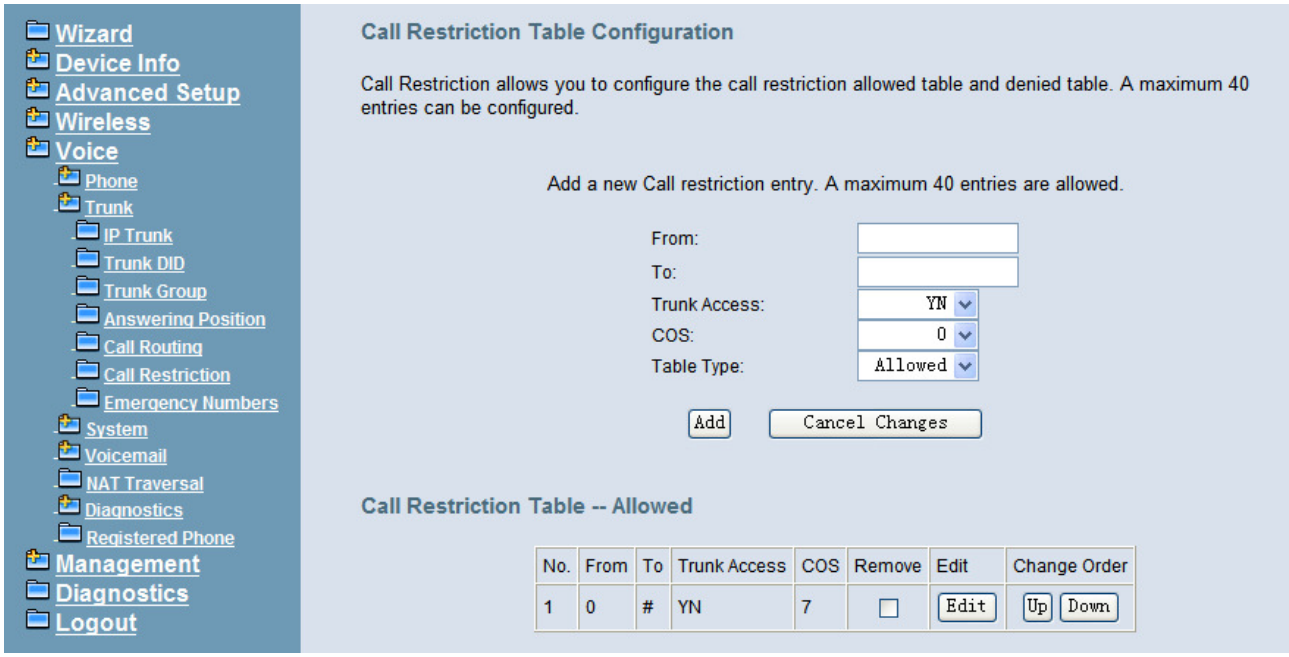

Figure 6-58. Voice – Trunk – Call Restriction

6.6.2.7 Emergency Numbers

When they dial a pre-configured emergency number, any user can make an emergency call regardless of call routing table, call restriction, and station lock. Notice: The numbers of emergency dial must not collide with the numbers in Numbering Plan.

This page allows you configure five emergency call numbers and lines with which emergency calls are sent out. (Figure 6-59)

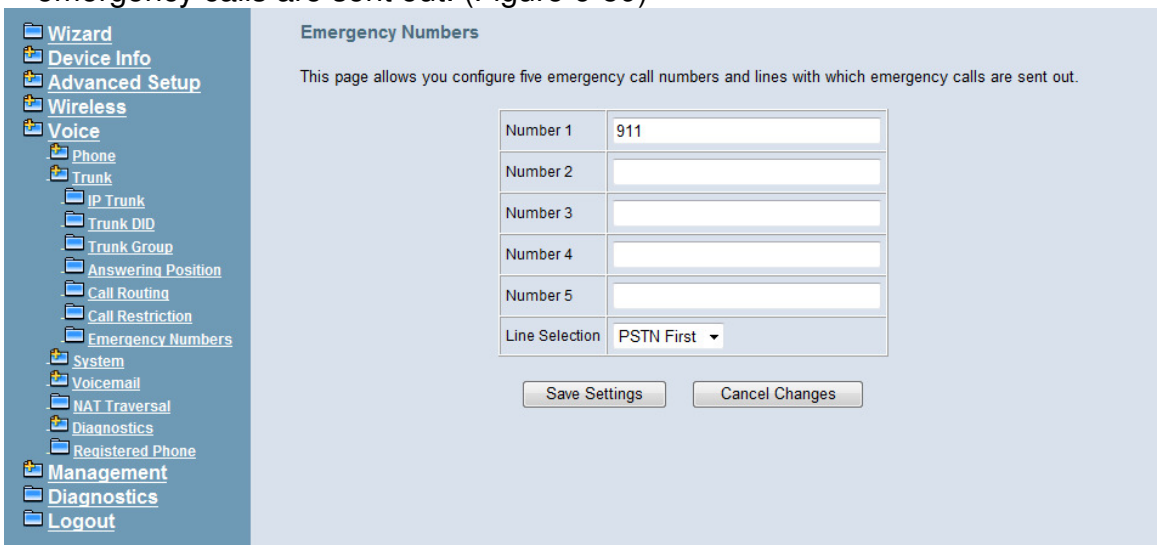

Figure 6-59. Voice – Trunk – Emergency Dial

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6.6.3 System

Use the System screen to configure the System function related parameters. It is separated into five parts:

- Numbering Plan
- Service Mode
- Transmission
- SMDR
- UCD Call Log

6.6.3.1 Numbering Plan

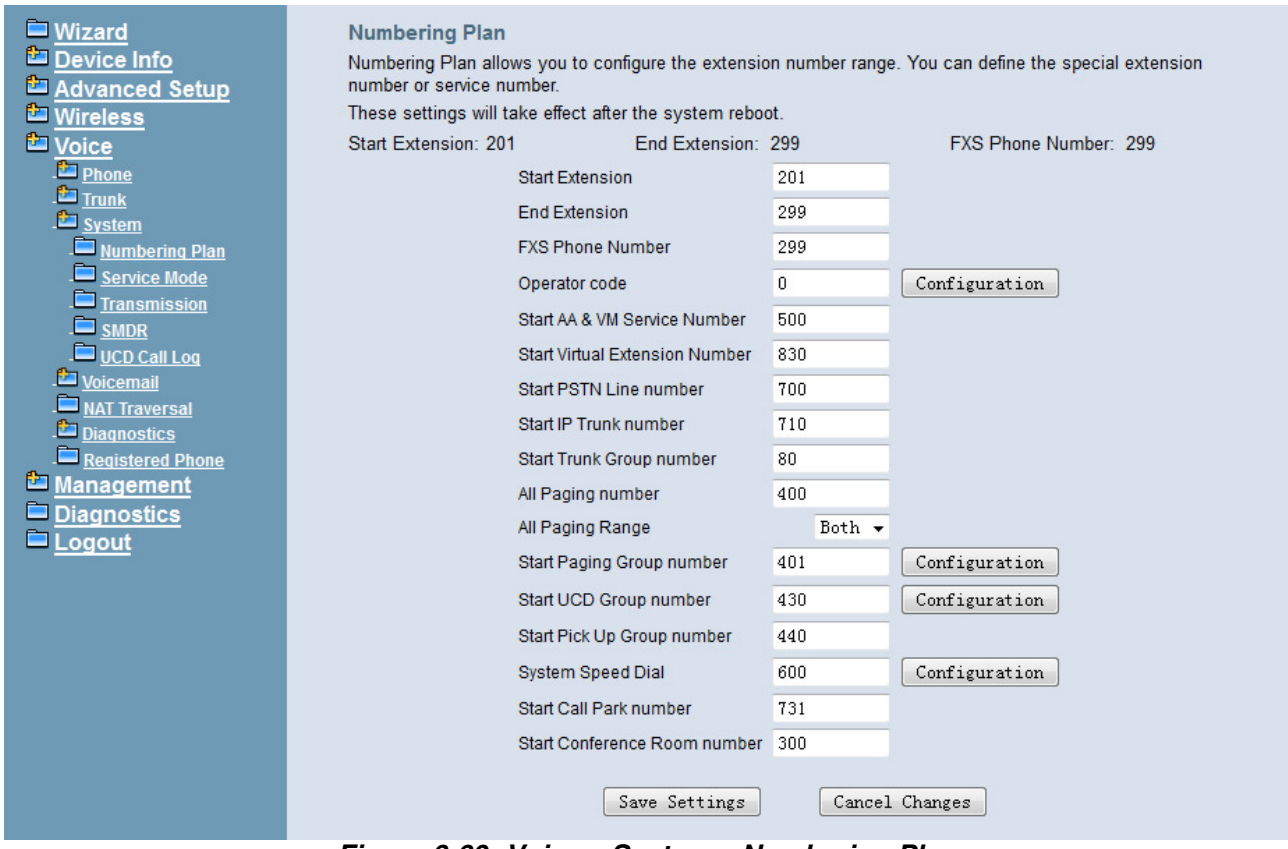

Figure 6-60. Voice – System – Numbering Plan

This page allows you to configure extension number range. You can also define some special service numbers in the table. (Figure 6-60)

Start extension: It's the start phone number of system internal extension. All valid extension number can't be smaller than it.

End extension: It's the end phone number of system internal extension. All valid extension number can't be greater than it. If receiving an IP2061/M22/M62's Plug & Play request, IG7600 will allocate the first unused number from this limited region.

FXS Phone Number: It determines the FXS phone number.

Operator speed-dial number: If dial this number, the operator extension will be called. The length is limited on 1 character.

When you press the "Configuration" button, the operator-related settings can be configured: (Figure 6-61)

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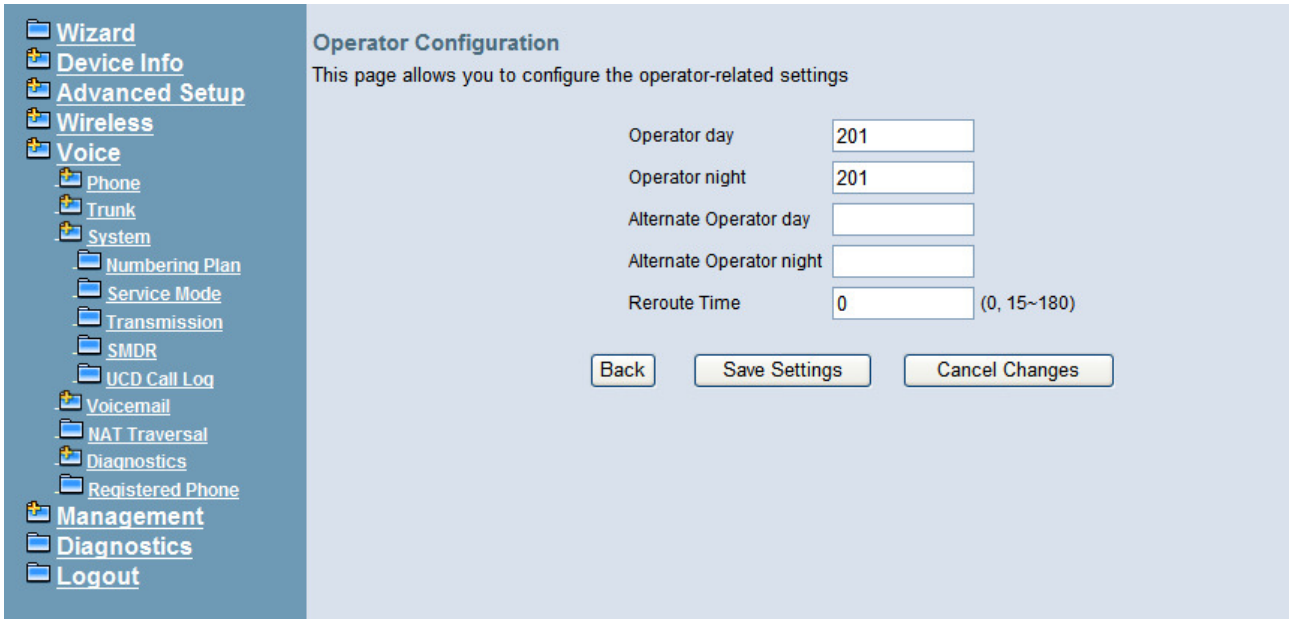

Figure 6-61. Voice – System – Numbering Plan – Operator Configuration

Operator day: It's the system operator number during day. If dial Operator speed-dial number, this extension will be called during day.

Operator Night: It's the system operator number during night. If dial Operator speed-dial number, this extension will be called during night.

Alternate Operator day: When the Operator during day does not answer a call, the call will be rerouted to alternate operator during day.

Alternate Operator night: When the Operator during night does not answer a call, the call will be rerouted to alternate operator during night.

Reroute Time: Set the length of operator no answer time to reroute to alternate operator. The time is applied to the call for alternate operator also. If alternate operator doesn't answer the call in the Reroute time, the call is reroute to Operator's Voice Mail box. "0" means it keeps ringing to the operator.

Start AA&VM Service Number: IG7600 provides 10 menus. If dial this number, internal user can enter IG7600's voicemail system and do some operations such as listening personal message.

Start Virtual Extension Number: IG7600 provides virtual extension number for the members not works in the office, or as a secondary mailbox.

Start PSTN Line number: IG7600 provides 4 PSTN lines at most. Every line has its own internal alias number. You can dial these numbers directly to access PSTN trunks.

Start IP Trunk number: IG7600 provides 12 IP Trunk lines at most. Every line has its own internal alias number. You can dial these numbers directly to access IP Trunks.

Start Trunk Group number: IG7600 provides 4 trunk groups at most. If dialing trunk group number,

All Paging number: If dialing this number, all internal IP2061/M22/M62 will be paged.

All Paging range: You can select the range of the paged extensions. If it's LAN, it pages the IP2061/M22/M62 on IG7600's LAN side. If it's WAN, it pages the IP2061/M22/M62 on IG7600 WAN side, but under the same Router with IG7600. If it's Both, it pages the all IP2061/M22/M62 on LAN and WAN.

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Start Paging Group number: 3 paging groups are defined in IG7600. If dialing a Paging Group number, the call will page to predefined internal IP phones. It can also select the Range like All Paging Number. The maximum phones for each paging group are 49.

While pressing "Configuration" in "Start Paging Group number", it shows Paging Group Configuration screen. (Figure 6-62)

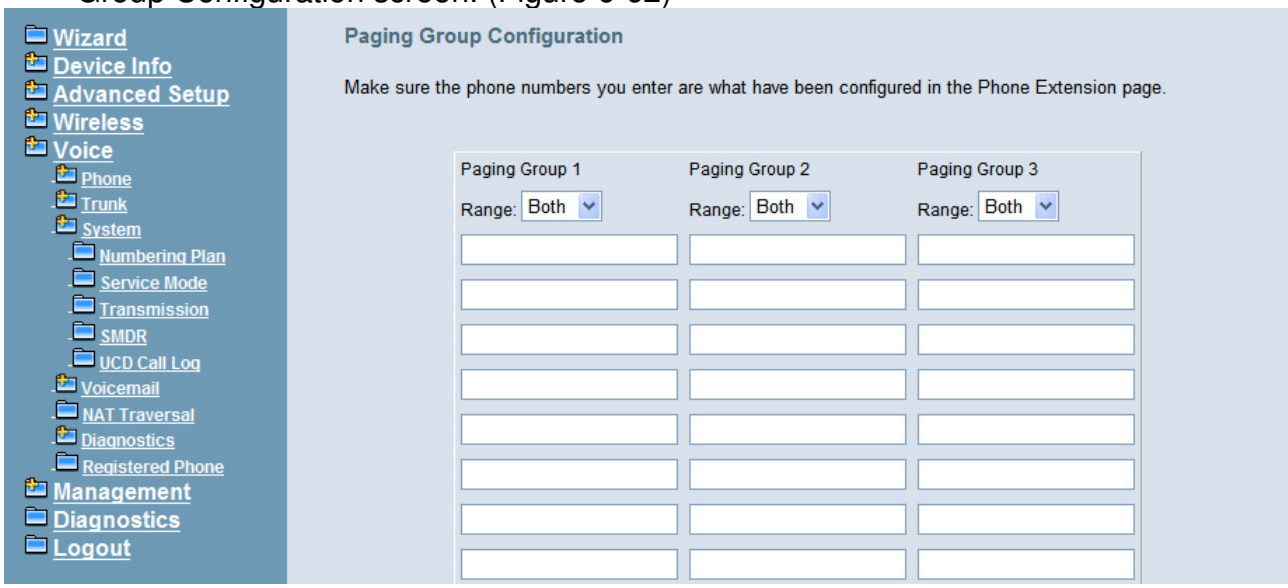

Figure 6-62. Voice – System – Numbering Plan – Paging Group

Start UCD Group number: 4 UCD groups are defined in IG7600. The maximum phones for each UCD group are 50. If one UCD Group is assigned to Answering Position of certain line, when there is an incoming trunk call, extensions of the UCD group will be called and ringing

While pressing "Configuration" in "Start UCD Group number", it shows UCD Group Configuration screen. (Figure 6-63)

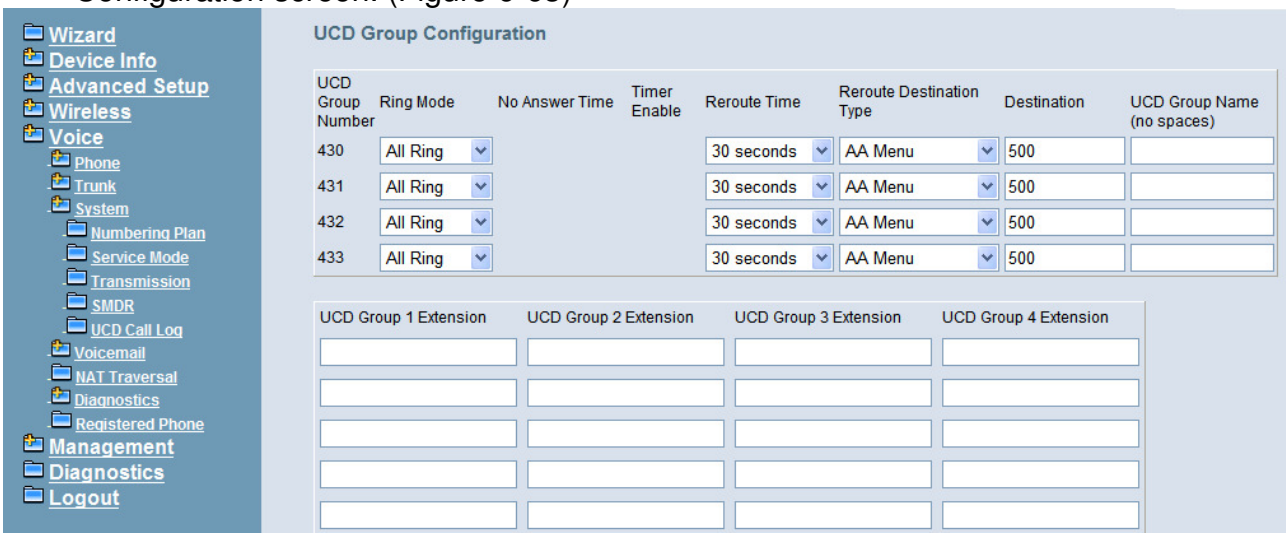

Figure 6-63. Voice – System – Numbering Plan – UCD Group

There are seven items to be decided.

For Ring Mode, IG7600 supports "All Ring", "Linear" and "Distributed" mode. The "All Ring" mode is no needed to use "No Answer Time" and "Timer Enable".

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For other items, if “Timer Enable” is YES, the incoming call will be transferred to another UCD Group’s member every “No Answer Time”. If NO, the call will ignore “No Answer Time” and finally reroute to “Reroute Destination” after “Reroute Time”. “Reroute Destination” can be an Auto Attendant Menu, an extension, a virtual extension, or phone extension’s mailbox. “UCD Group Name” is shown on the phone when receiving the UCD Group call.

Start Pickup Group number: The start number is used as All Pickup number. The next 4 numbers are used for the four pickup groups.

System Speed Dial: Speed Dialing allows you to store frequently outgoing numbers. There are 100 sets to be configured. Extension’s Class of service (COS) can also be checked or not. (Figure 6-64)

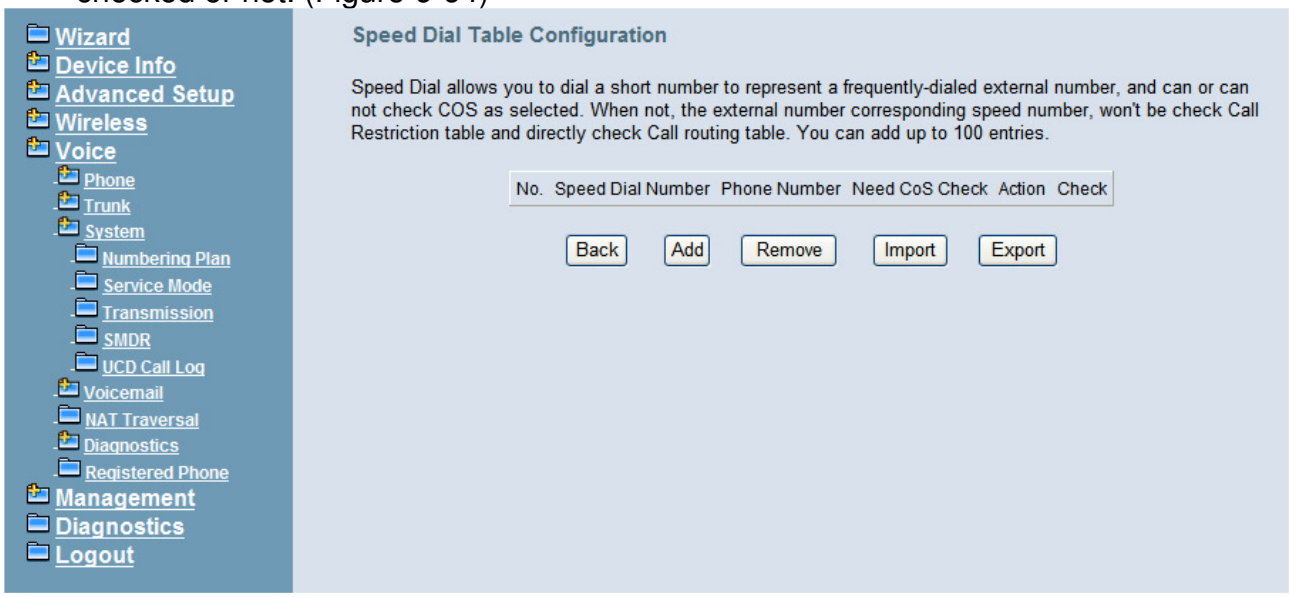

Figure 6-64. Voice – System – Speed Dial

Start Call Park Number: IG7600 supports to park 4 trunk calls maximum. The Call Park number can be programmed on the line keys.

Start Conference Room Number: Conference Room Number allows the users to build a conference conversation.

6.6.3.2 Service Mode

This page allows you to configure the Day/Night/Time service mode. You can also customize the working time manually for each weekday.

If you choose Time Mode, it’s for the specified day of week. The time is entered in 24-hour format. Valid entries are 00:00 to 23:59 in 1-minute increments. The first four digits are for the start time. The last four digits are for the end time. (Figure 6-65)

Working Hours: It’s applied in Answering Positions and Auto Attendant Greeting.

Lunch Break: It’s applied in Auto Attendant Greeting

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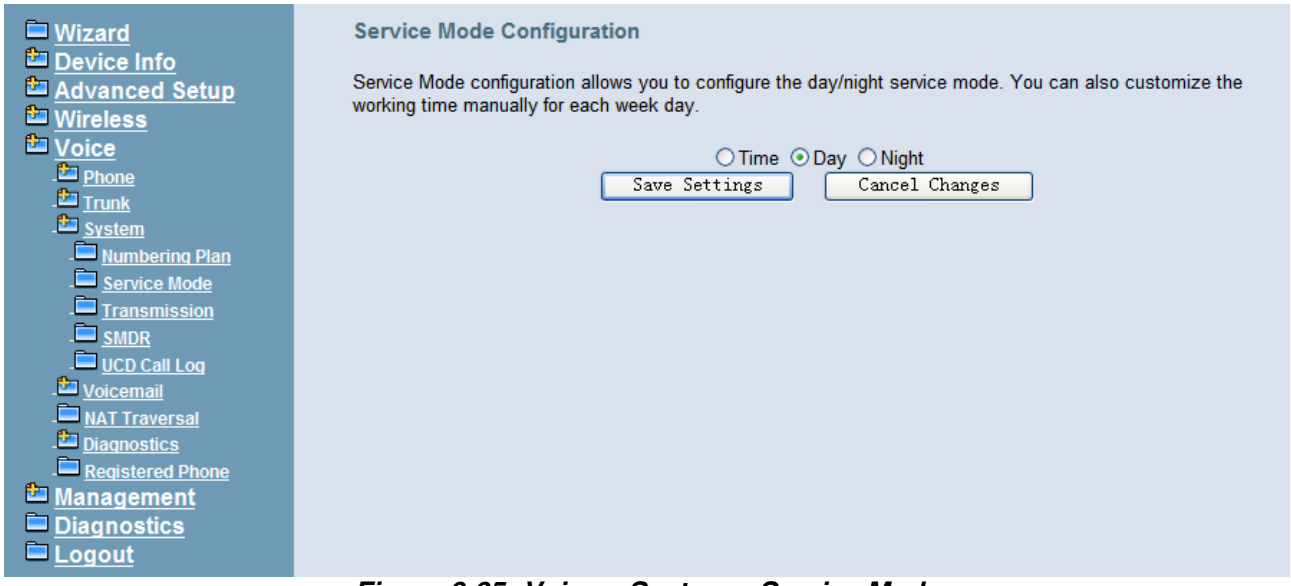

Figure 6-65. Voice – System – Service Mode

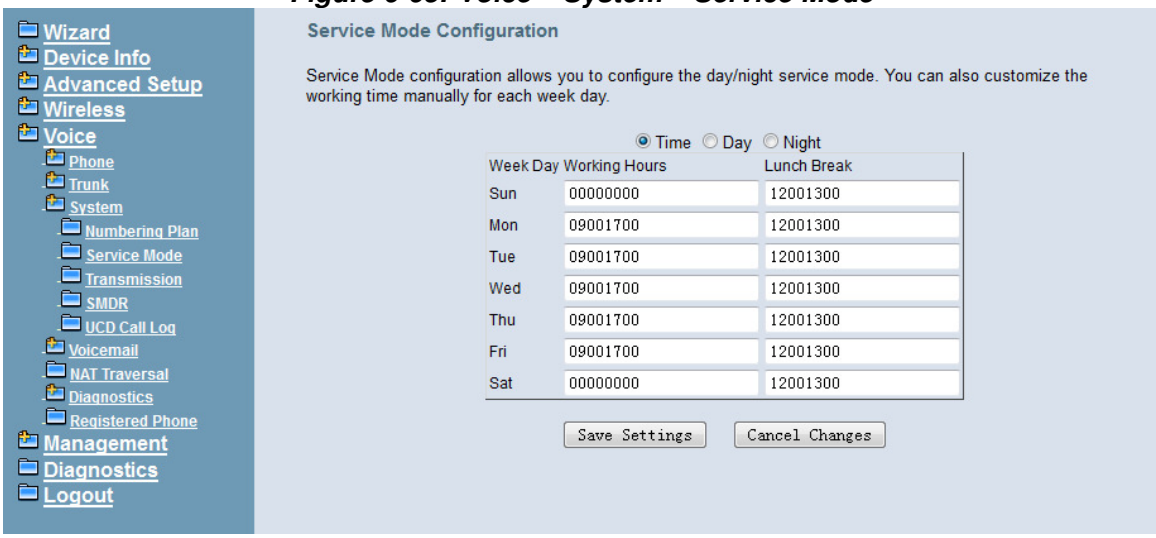

Figure 6-66. Voice – System – Service Mode

6.6.3.3 Transmission

This page allows you to configure the Audio, FXS, and FXO settings. Click “Save Settings” button to save the new configuration. (Figure 6-67)

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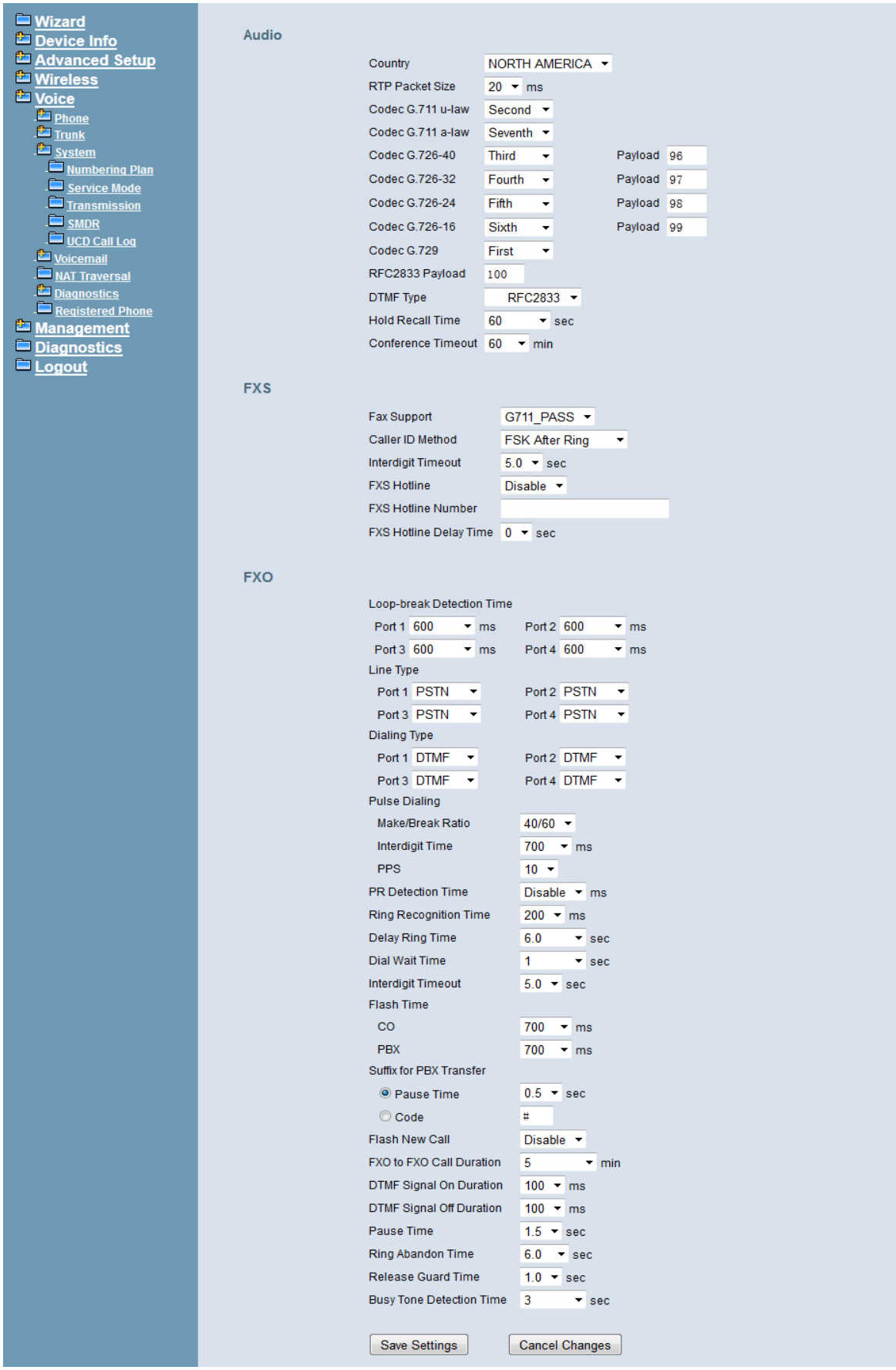

Figure 6-67. Voice – System – Transmission

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Audio: It is used to set many Audio-related options. It will be applied to the all FXS and PSTN lines.

Country: It may be used to determine not only the Caller ID detection/transmission method but also ring/tone cadence/frequency.

RTP Packet Size: 10/20/30/40/50/60 ms.

Codec G.711 u-law, G.711 a-law, G.726-16, G.726-24, G.726-32, G.726-40, and G.729: IG7600 supports different audio priority. You can choose “None”, “First”, “Second”, “Third”, “Fourth”, “Fifth”, “Sixth” and “Seventh.

RFC2833 Payload: It’s used as the default RFC2833 payload type when making the outbound calls.

DTMF Type: In IG7600, there are two methods for transmitting DTMF tone. Select RFC2833 Method, the DTMF tone will be transmitted by event packet. Select SIP-INFO Method, the DTMF tone will be represent in SIP INFO Message.

Hold Recall Time: IG7600 provides hold recall function. When the hold recall time expires, and IP Phone supported hold recall function, the IG will ring the IP Phone again.

Conference Timeout: This configuration is to limit the time of a conference call. After the time, conference call will end.

FXS: It is used to set many FXS-related options.

Fax Support: The system supports FAX/modem tone detection with G.711 and T38 mode.

Call ID Method: The system provides the ability to detect the calling party identification provided by PSTN lines. It also transmits the calling party identification to POTS ports. There are four choices: NONE, DTMF Before Ring, DTMF After Ring, FSK Before Ring, and FSK After Ring.

Inter-digit Timeout: Its range is from 2 to 9 seconds.

FXS Hotline: Enable/Disable

FXS Hotline Number: FXS dialing number in Hotline application.

FXS Hotline Delay Ti me: At idle state, FXS lifts the handset or press the Speaker button. A call is built to the Hotline Number either immediately or after the delay time.

FXO: It is used to set many central office line options.

Loop-break Detection Time: For every PSTN/FXO call, system provides the facility to monitor the call status. If the remote party hangs up, the ongoing call must be terminated. The PSTN line monitor is done by the loop-break signal or busy tone. The value range is: Disable/100/200/…/1000 ms.

Dialing Type: It determines how the dialing digits will be generated, either in DTMF or Pulse (Rotary) signaling format.

Pulse Dialing: This specifies the parameters of Pulse Dialing, you need to check with your service provider for the correct settings to make the outgoing call to work properly.

PR Detection Time: Some PSTN service providers provide the PR (Polarity Reversal) signal to indicate the call progress status (remote answer/hang up).

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Ring Recognition Time: The timer determines the minimum ring duration recognized as a valid incoming ring on a FXO port. Shorter ring signals are ignored. The timer range is 200ms to 600ms in 40ms increments.

Delay Ring Time: The timer is to allow the Central Office to send ICLID before the call is answered. Once the timer expires, the programmed extensions will ring and the ICLID number will be sent to the ringing extensions. The timer range is 3 to 6 seconds on 0.5 second increments.

Dial Wait Time: When the user seizes a PSTN/FXO line, the Stable Time delay is needed to wait the dial tone from Central Office. The timer range is 0 to 8 seconds on 1 second increments.

Inter-digit Timeout: Its range is from 2 to 9 seconds.

Flash Time: The on-off duration for sending the FLASH signal. Its range is from 90 to 3000 ms.

Flash New Call: If this item is set “Enable”, a call will be taken account of a new call when the CO FLASH feature is used.

FXO to FXO Call Duration: The maximum calling time between two FXO lines.

DTMF Signal On/Off Duration: The on/off time duration of DTMF signals. Their ranges are from 50 to 200 ms.

Pause Time: The pause time of alphabet “p” in the process of call dialing. The timer range is 1 to 5 seconds on 0.5 second increments.

Ring Abandon Time: It specifies the maximum time between valid ring signals from the CO/PBX. If the duration between rings exceed the Ring Abandon time, IG7600 stops ringing the destination(s) and the port returns to idle. The timer range is 1 to 10 seconds on 1 second increments.

Release Guard Time: The guard time to ignore the noise signal when releasing the call. The timer range is 1.0 to 3.0 seconds on 0.5 second increments.

Busy Tone Detection Time: System detects the busy tone to monitor the call status. When it reaches the detection time, system assumes the remote party hangs up. The ongoing call will be terminated. When setting the time to “0”, the Busy Tone detection will be disabled.

6.6.3.4 SMDR

SMDR (Station Message Detail Recording) will take down user’s dialing record. It contains every calling period. From the log of SMDR, the administrator can charge some fees from the user.

This page allows you to view the SMDR record and configure the SMDR. Click “View SMDR” button to view the SMDR record, and click “Configure SMDR” button to configure the SMDR. (Figure 6-68, Figure 6-69, Figure 6-70)

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Figure 6-68. Voice – System – SMDR

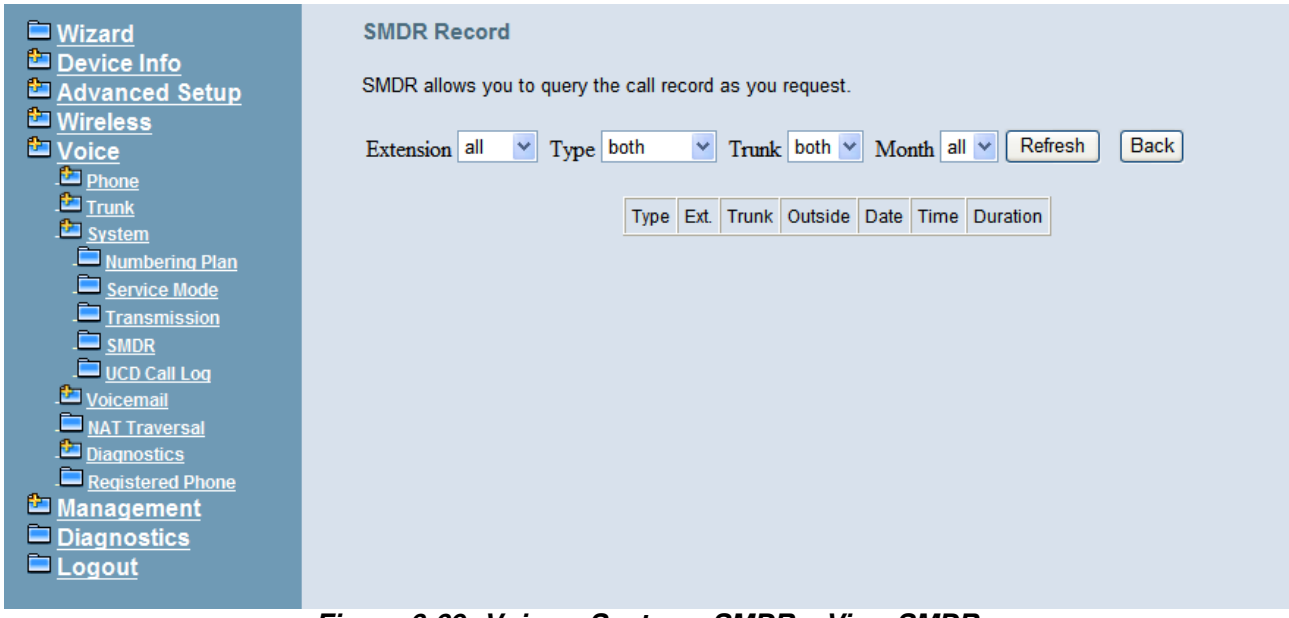

Figure 6-69. Voice – System –SMDR – View SMDR

The “PSTN Outgoing Call Duration Start Time” is used to estimate whether the PSTN outgoing call to be recorded. If the duration is less than it, the call won't be recorded. If log mode is configured, the specified SMDR record will be sent to local or/and remote log server.

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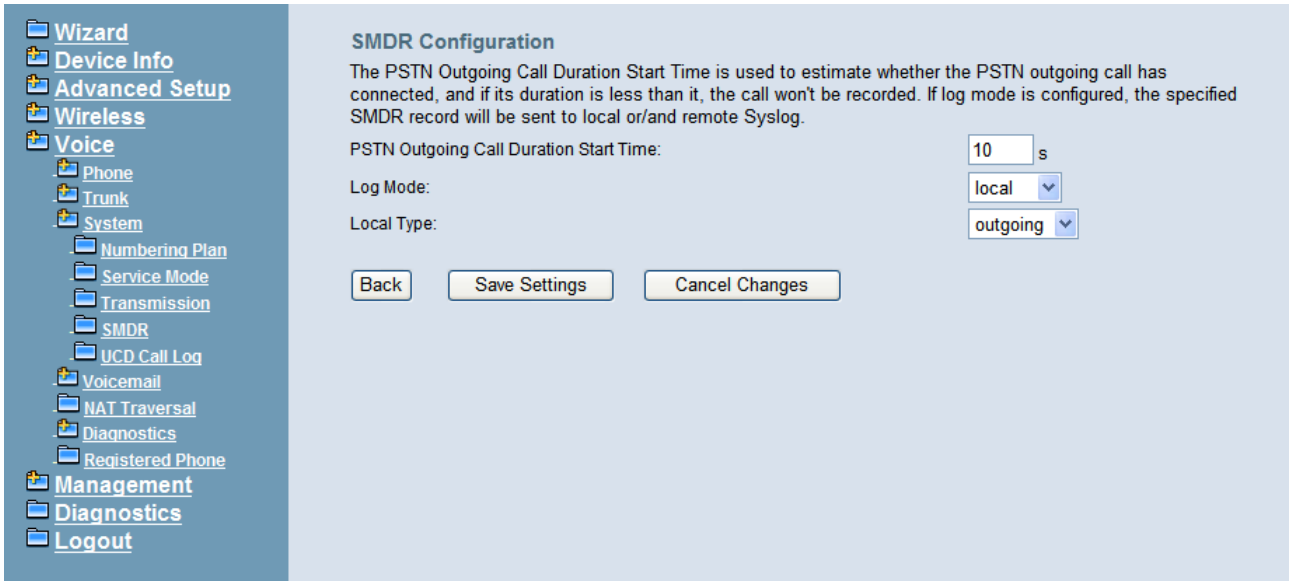

Figure 6-70. Voice – System –SMDR Configuration

6.6.3.5 UCD Call Log

This page shows the Call Log for incoming call to UCD group. (Figure 6-71)

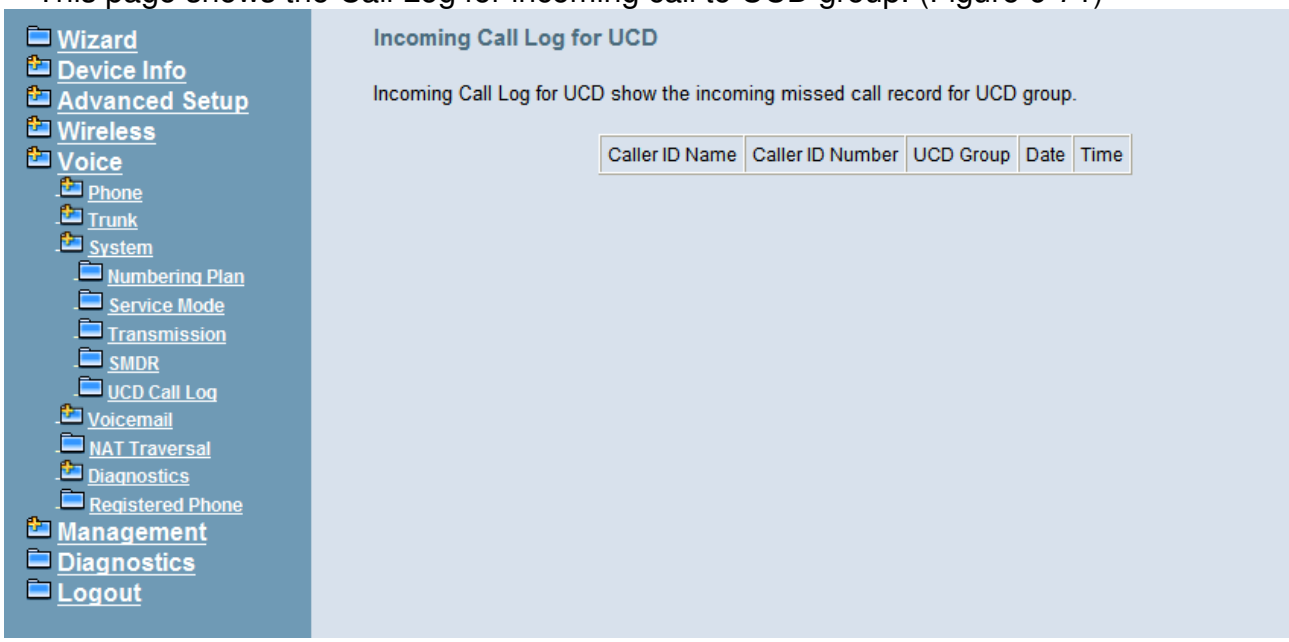

Figure 6-71. Voice – System – UCD Call Log

6.6.4 Voice Mail

IG7600 provides a built-in Auto Attendant and Voice Mail System. It is separated into 7 parts:

- General
- Phone Extension
- Virtual Extension
- Update MOH File
- Update Voice File
- Holiday
- Advanced

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The configurable items for each part would be described in the following.

6.6.4.1 General

This page allows you to configure the general settings of the auto attendant and voice mail.

Auto Attendant: (Figure 6-72)

Admin Password: The password of administrator.

AA No Answer Time: When a call is being transferred by AA, this timer will do a count down. When time is up, the callee is considered to be unavailable. AA will play 10206.vox then, to guide the caller what to do next.

Note: The timer must be shorter than the Reroute Timer of UCD Group, because only one of them can take effect.

Max Try Time: Maximum error times for extension's key input.

Action When Max Error Reached: You can set the system "Forward to operator" or "Disconnect" when reaching the "Max Try Time" errors for key input.

Prompt Language: Automated Attendant language type. It provides one or two languages to be chosen.

VAA Codec: Choose the codec of auto attendant.

RTP Packet Size: Choose the RTP packet size of auto attendant.

DISA: Enable/Disable DISA. When enable DISA, Auto Attendant plays the Greeting message and the Caller dials "#" key, caller can make an outside call. When disable DISA, caller can't make an outside call.

Dial by Name Code: This code is used as an entry code of Dial by name function in AA process. It is a disabled function by default. You should activate it manually by input a number here.

Single Digit Table: This entry is for users to configure a speed dial table for each AA menu. (Figure 6-73)

Greeting Mode: This controller is for you to select greeting mode of AA

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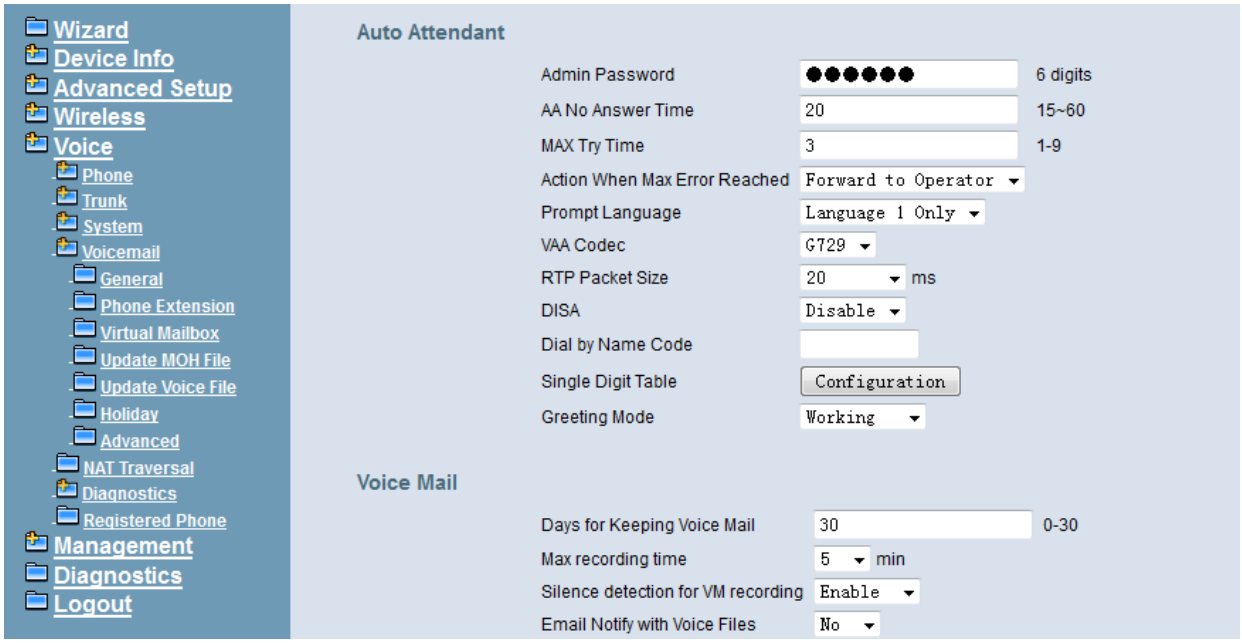

Figure 6-72. Voice – Voice Mail – General – 1

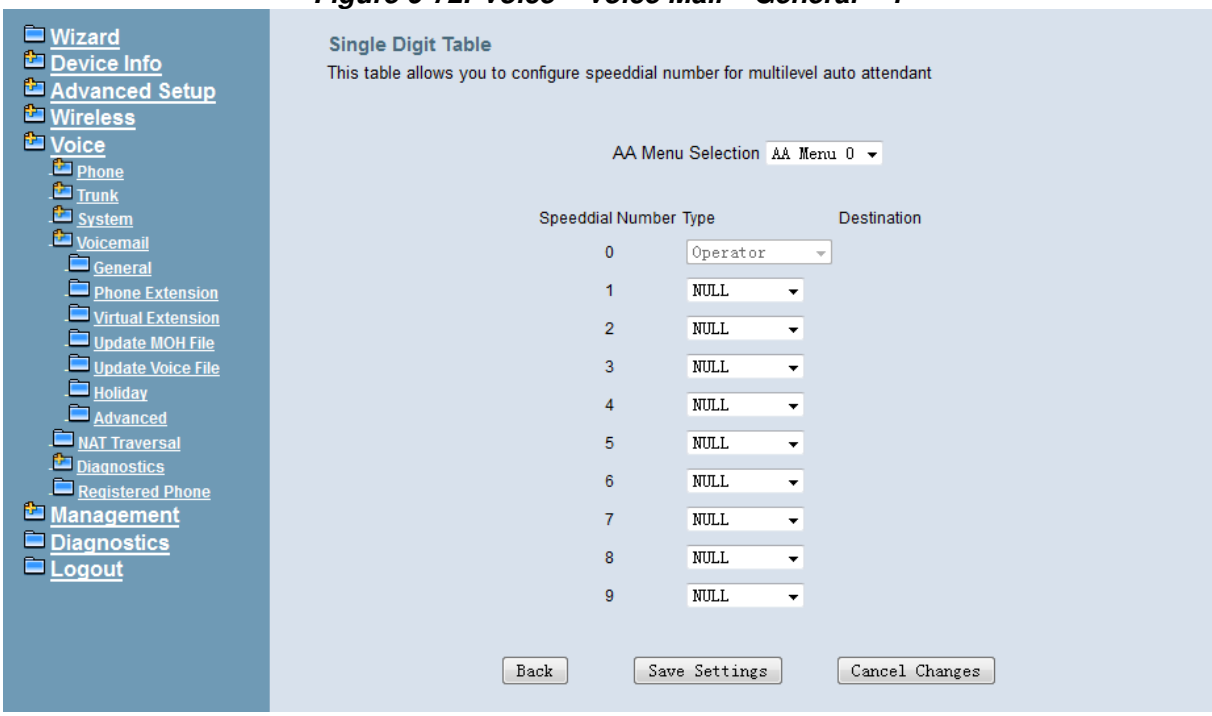

Figure 6-73. Voice – Voice Mail – General – Single Digit Table

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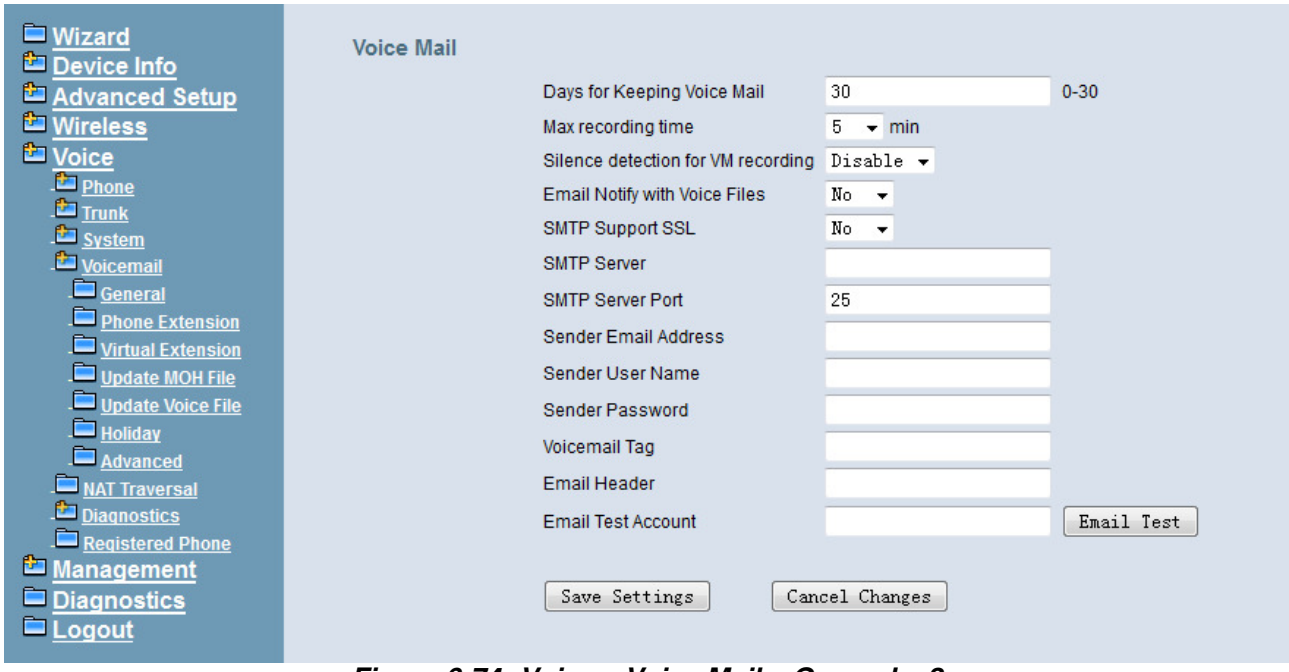

Figure 6-74. Voice – Voice Mail – General – 2

Voice Mail: (Figure 6-74),

Days for Keeping Voice Mail: Keep days for leaving messages. 0 means that the messages are kept until the users delete them.

Max recording time: The range of recording time is form 1 to 30 minutes.

Silence detection for VM recording: Set “Enable” of this item will do the silence detection in VM recording. If “silence” is detected, IG7600 will terminate the recording and release the line. It doesn’t work when AA’s codec is G.729.

Email Notify with Voice Files: Add attached WAV file in notifying email for leaved message.

SMTP Support SSL: Choose “Yes” to support SSL.

SMTP Server: SMTP Mail Server.

SMTP Server Port: SMTP Mail Server port. The default value is 25.

Sender Email Address: Email Address of Sender.

Sender User Name: User Name of Sender’s Email.

Sender Password: Password of Sender’s Email.

Voicemail Tag: Voicemail tag

Email header: Email header

Email Test Account: Input a Target Mailbox here. Press the button [Email Test] To send a test Email to the Target Mailbox.

6.6.4.2 Phone Extension

Voice Mail extension configuration allows you to configure voice mail settings for each extension. While pressing “Configure”, it shows Extension Voice Mail Configuration screen. (Figure 6-75)

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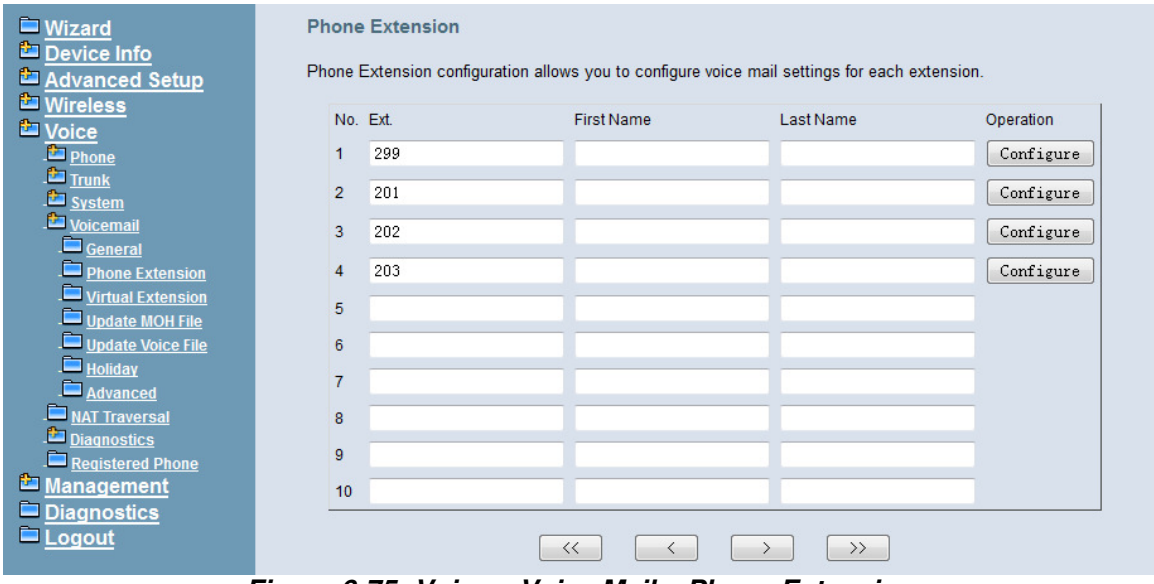

Figure 6-75. Voice – Voice Mail – Phone Extension

The following items will be configured in the Extension Configuration (Figure 6-76, Figure 6-77):

Voice Mail: Enable/Disable. To disable this item, there is not allowed to listen to the message from outside party.

Password: Password of voice mailbox of the extension.

E-mail Address: Phone user's E-mail Address.

Prompt Language: Provides one of the two languages to be chosen.

Email Message: This item is used when the message file is attached. You can select "Save as New"; the message will be displayed as a new message. Select "Save as Old"; the message will be recognized as a listened message. Select "Delete", the message will be recognized as a deleted message.

Distribution Lists: This item is used to configure the Distribution Lists of the Ext. You can configure 3 Lists at most. Usage: When you hear your message and you want to transfer the message (Press 4 when listening to the message) to a group of users, you can use Distribution Lists to make this easier. Each list can configure ten EXTs or Virtual Extensions at most to be the destinations. When you transfer your message, after the prompt that asks you to input the destination number, you just need to press 1 digit (1, 2 or 3) to choose the Distribution List and then press # to confirm, then your message will be transferred to all the members in the Distribution List.

Leaving Message: When disabling it, the mailbox stops recording messages.

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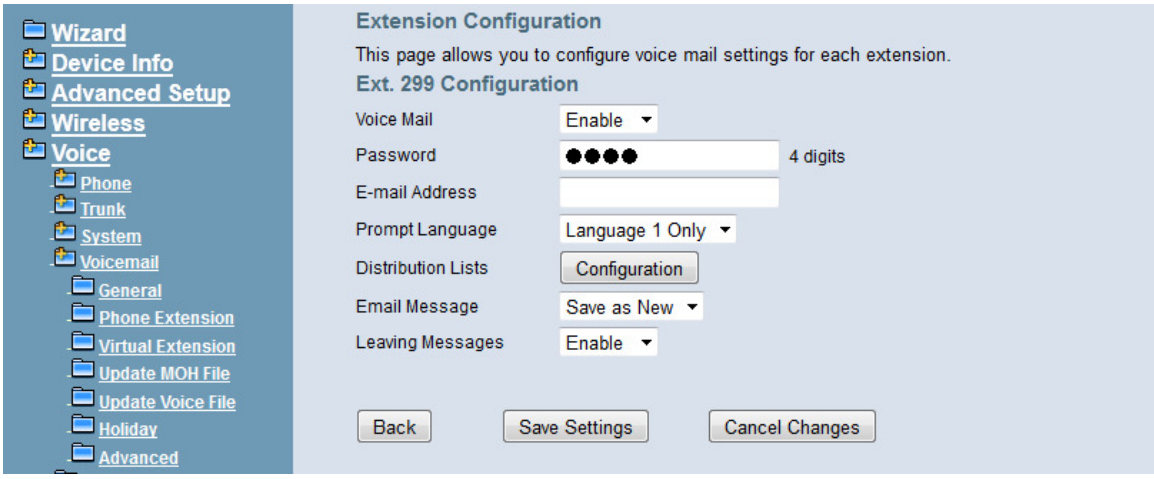

Figure 6-76. Voice – Voice Mail – Phone Extension – Extension Configuration

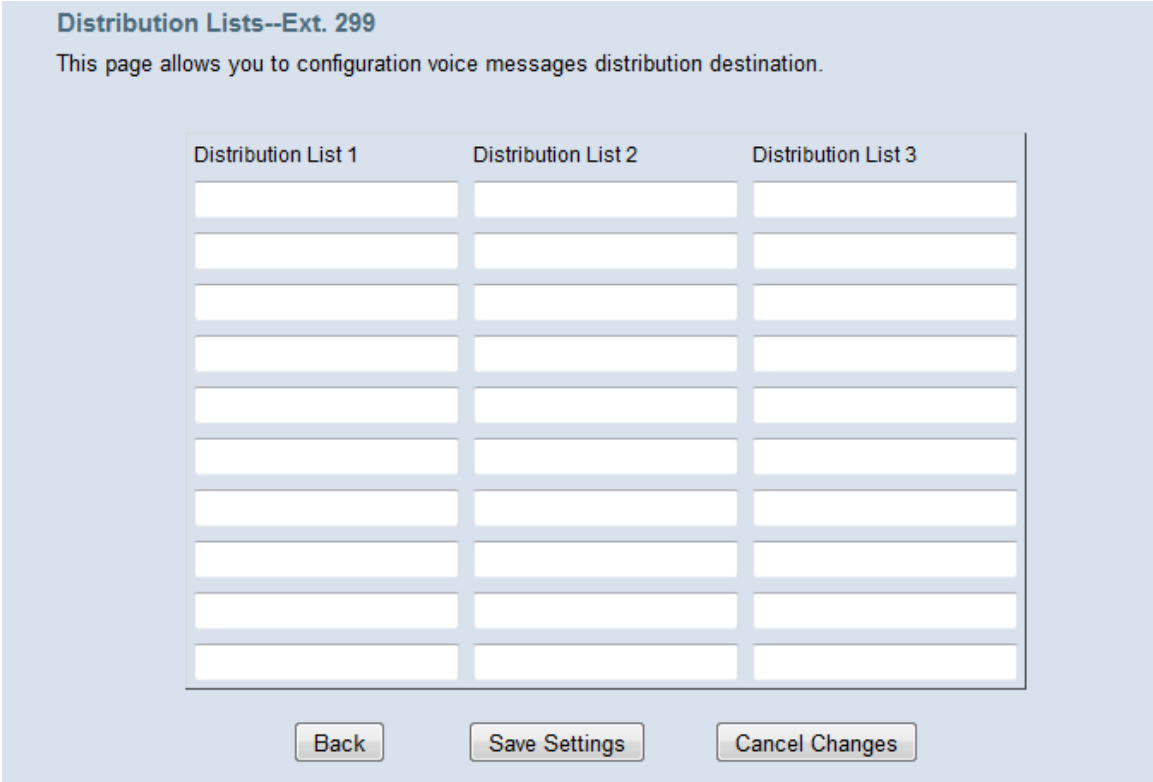

Figure 6-77. Voice – Voice Mail – Phone Extension – Distribution Lists

6.6.4.3 Virtual Extension

IG7600 provides 50 Virtual Mailboxes. These Virtual Mailboxes can be used by the members not works in the office, or as a secondary mailbox (Figure 6-78).

When selecting “Configuration”, it also has an Extension Configuration page to be configured (Figure 6-79)

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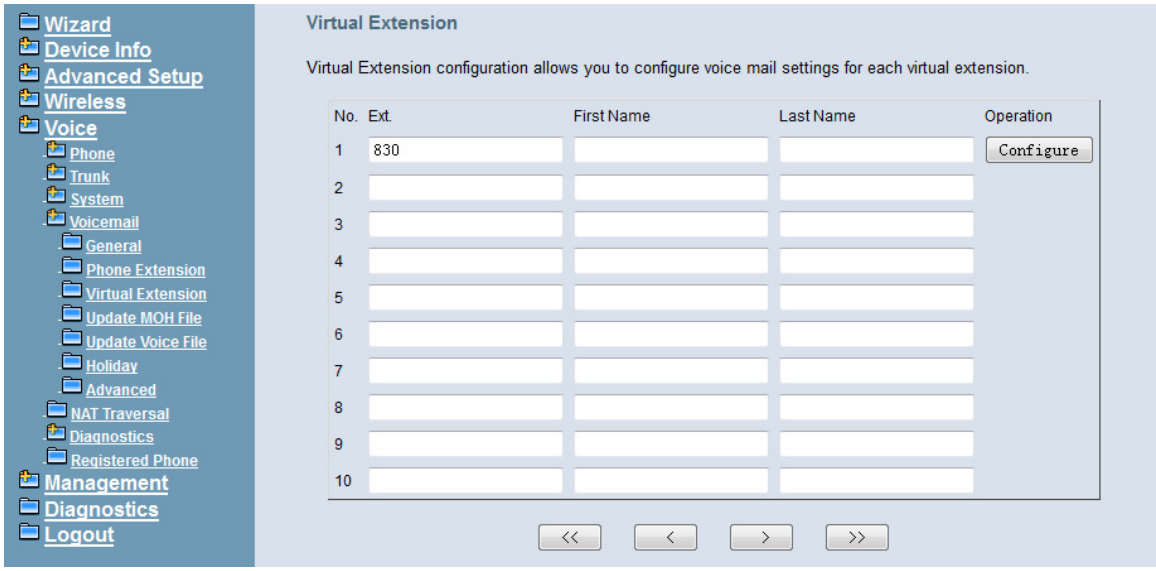

Figure 6-78. Voice – Voice Mail – Virtual Extension

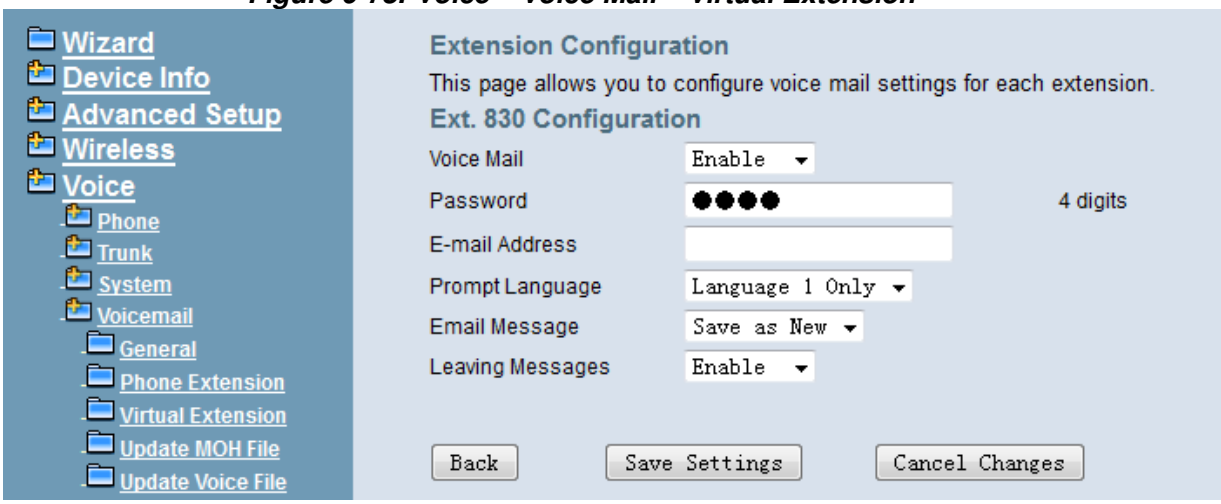

Figure 6-79. Voice – Voice Mail – Virtual Extension Configuration

6.6.4.4 Update MOH File

The Music On Hold (MOH) could be uploaded from the Local PC side. Click the “Browse” to locate the new MOH file in the PC. Then, click “Update File” to process the file upload.

By default IG only convert MOH to G.711 u and G.711 a codec, if the checkbox “Enable G.729 Convert” is checked. IG will convert your MOH at the same time.

NOTE: The device do not allow “stereo” MOH format, please upload a MOH file with “mono” format. Converting wav file to G.729 will take several minutes and the system will be blocked at the time. (Figure 6-80)

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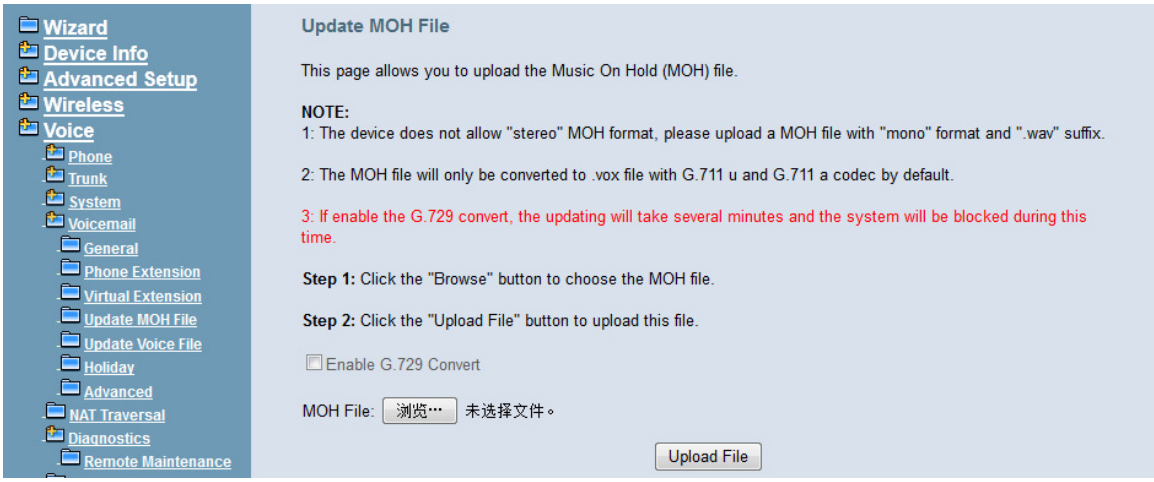

Figure 6-80. Voice – Voice Mail – Update MOH File

6.6.4.5 Update Voice File

The voice files could be uploaded from local PC side. These voice files are compressed in Linux System. It allows a “.tar”, “.tgz” or “.tar.gz” compressed format file. (Figure 6-81)

Figure 6-81. Voice – Voice Mail – Update Voice File

6.6.4.6 Holiday

This page allows you to configure the holiday or special off-duty days. You can click the buttons under the table to choose pages. (Figure 6-82)

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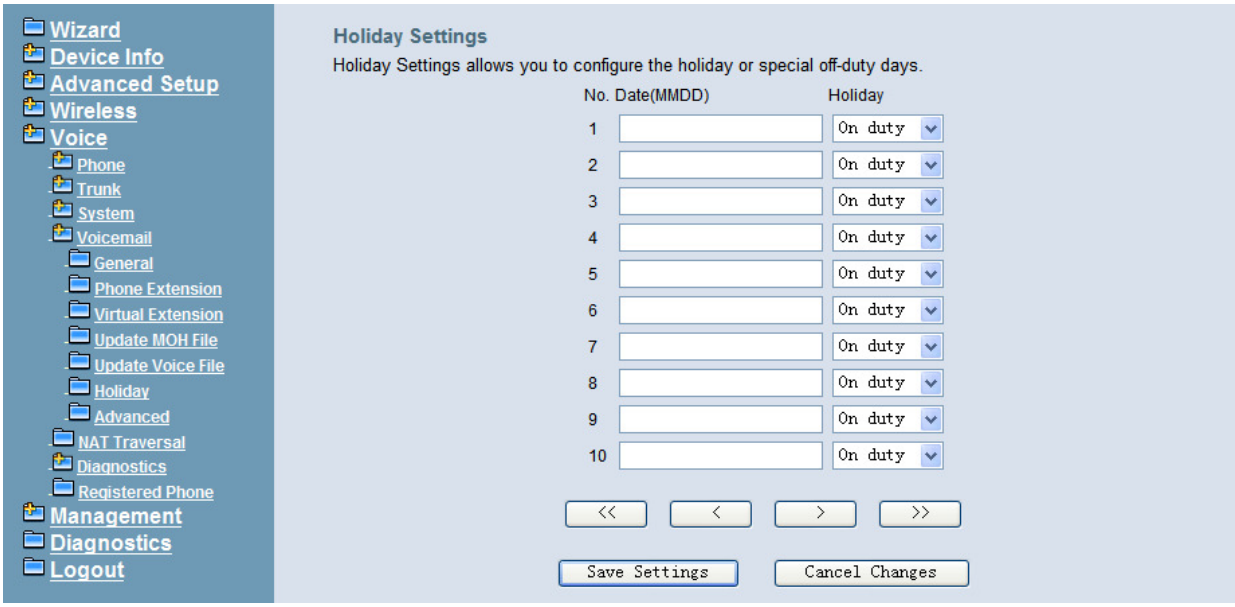

Figure 6-82. Voice – Voice Mail – Holiday

6.6.4.7 Advanced

This page allows you to browse, upload or download voice files through IG7600's ftp server. (Figure 6-83)

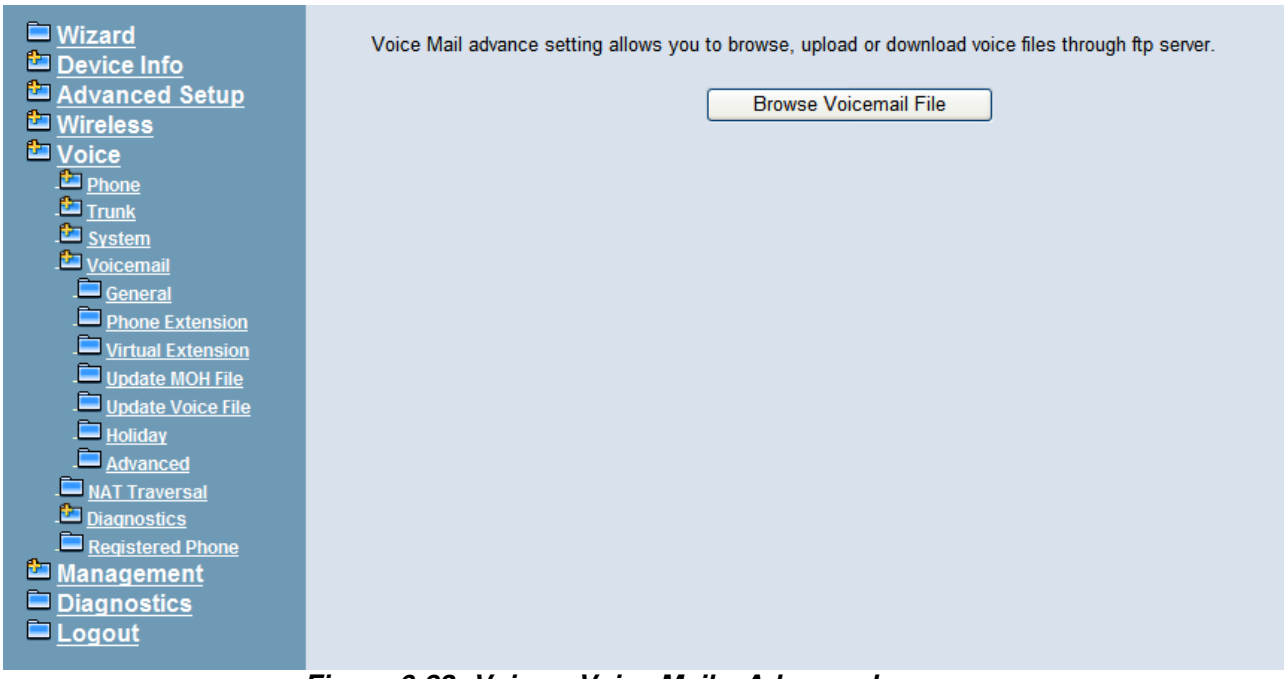

Figure 6-83. Voice – Voice Mail – Advanced

6.6.5 NAT Traversal

If IG is put behind a Router, you need to configure this page to enable NAT Traversal. (Figure 6-84, Figure 6-85)

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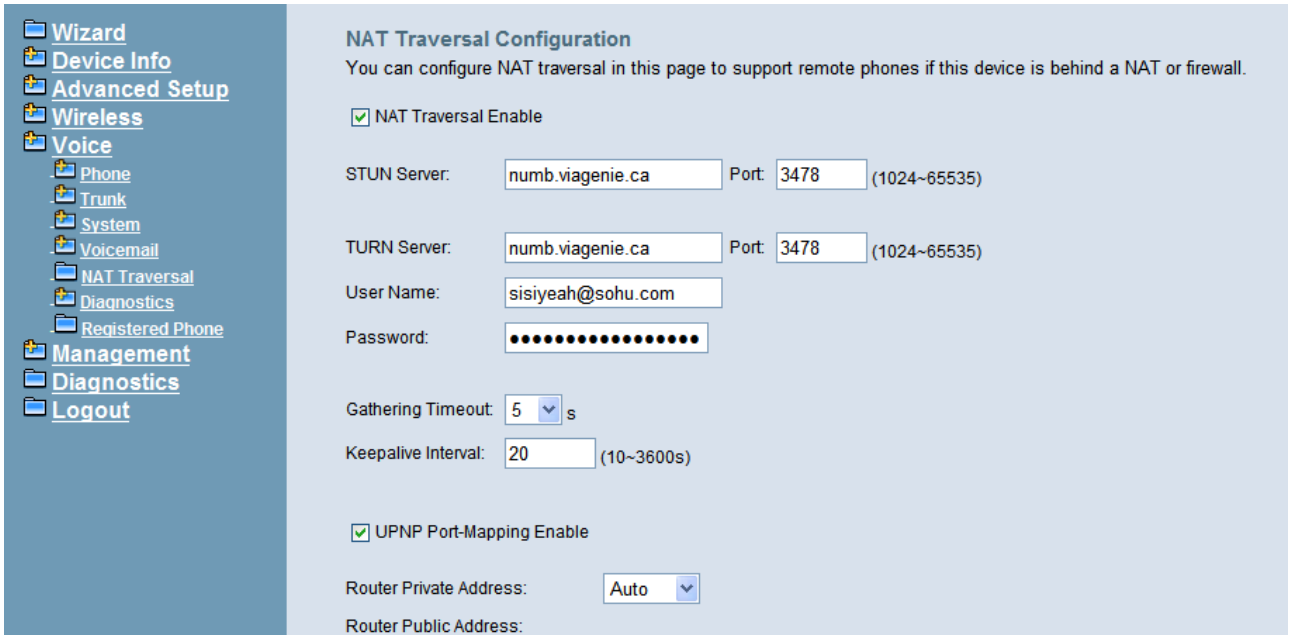

Figure 6-84. Voice – NAT Traversal – 1

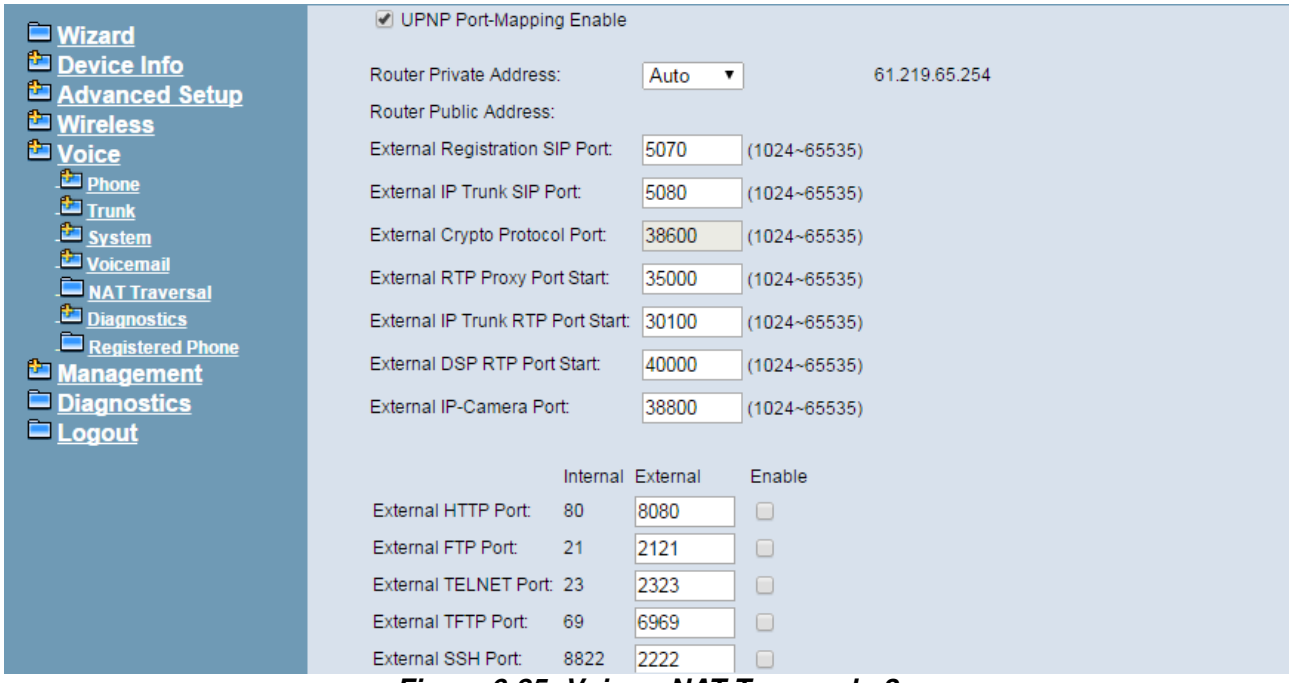

Figure 6-85. Voice – NAT Traversal - 2

The following items will be configured in the NAT Traversal page:

NAT Traversal Enable: Enable/Disable. IG can work properly if it's pub behind NAT only when it's enabled.

STUN Server: A STUN server located at Internet.

TURN Server: A TURN server located at Internet.

Username: Most TURN server needs username/password to authenticate.

Password: Most TURN server needs username/password to authenticate.

Gathering Timeout: The expire timer to collect self information by ICE.

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Keep alive Interval: Keep alive interval for STUN server.

UPNP Port-Mapping Enable: To enable/disable UPNP client.

Router Private Address: If you choose “Auto” UPNP client will detect Router’s private IP address by itself. If you choose “Manual” you should input Router’s private IP address manually.

Router Public Address: It records Router’s public IP address detected by STUN.

External Registration SIP Port: Port that will be opened on Router for SIP port.

External IP Trunk SIP Port: Port that will be opened on Router for IP Trunk’s SIP port.

External Crypto Protocol Port: Port that will be opened on Router for Crypto protocol between IG and IP2061/M22/M62/M54(-i).

External RTP Proxy Port Start: Port range that will be opened on Router for RTP proxy, it will reserve 300 ports.

External IP Trunk RTP Port Start: Port range that will be opened on Router for IP Trunk RTP, it will reserve 100 ports.

External DSP RTP Port Start: Port range that will be opened on Router for DSP RTP, it will reserve 14 ports.

External IP Camera Port Start: Port range that will be opened on Router for IP Cameras, it will reserve 8 ports.

External HTTP Port: Port that will be opened on Router for web configuration pages of IG7600. You need to enable it if necessary.

External FTP Port: Port that will be opened on Router for ftp server of IG7600. You need to enable it if necessary.

External TELNET Port: Port that will be opened on Router for Telnet server of IG7600. You need to enable it if necessary.

External TFTP Port: Port that will be opened on Router for TFTP server of IG7600. You need to enable it if necessary.

External SSH Port: Port that will be opened on Router for SSH server of IG7600. You need to enable it if necessary.

RTP Transmission

With “Auto” mode, IG7600 chooses RTP transmission method for the two parties automatically. It will try its best to let two parties transmit RTP directly without RTP relay. While with “Always” mode IG7600 always helps to do RTP relay between the two parties, except for that both of the two parties are in the same network segment of IG7600’s LAN port or WAN port.

Please be noted that “Always” RTP Relay by IG7600 will occupy more network bandwidth and CPU loading of IG7600, so it is not chosen as default mode. But if you meet any situation that leads to no audio or one way audio issue, you can try to change it to “Always” mode to see if the problem is solved.

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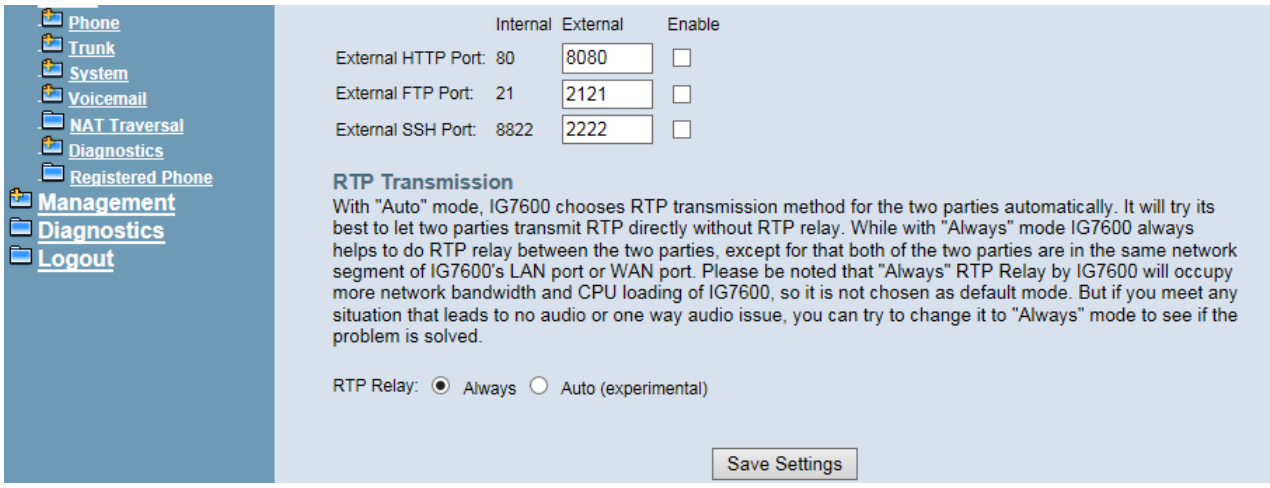
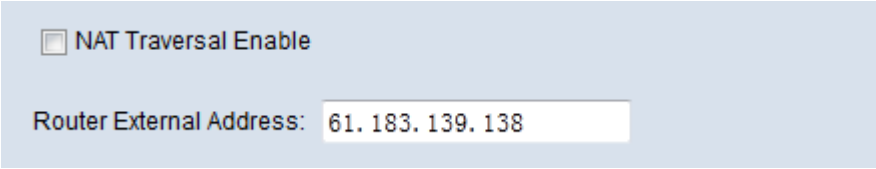


Note: When do you need this function?

If IG has a public IP for remote EXTs to reach there is NO NEED to use NAT Traversal. When IG works under the public network, and has a domain name, there is NO NEED to use NAT Traversal either.

Sometimes IG works behind a router, M54 can only reach to IG through the router with the IG's domain name. We have to tell IG the Router's external IP Address if we have a static one. As below:



If the Router does not have a reachable static external IP Address, we have to enable NAT Traversal to make sure IG knows the Router's external IP address. And ask the router to do Upnp Port mapping to make sure IG is reachable for Remote parties. The Stun server and the TURN Server are for you to deal with these circumstances. In most cases Stun server is used, TURN Server is more capable when the client supports ICE, since M22, M62 and M54 doesn't support ICE, we'll not give you any examples.

The UPNP port mapping is to tell the Router that packets to these ports should send to your IG, it makes no sense when your router opens DMZ to your IG, because all packets are surly sent to your IG.

6.6.6 Diagnostics

This page can help you to collect debugging information for trace easily.

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6.6.6.1 Remote Maintenance

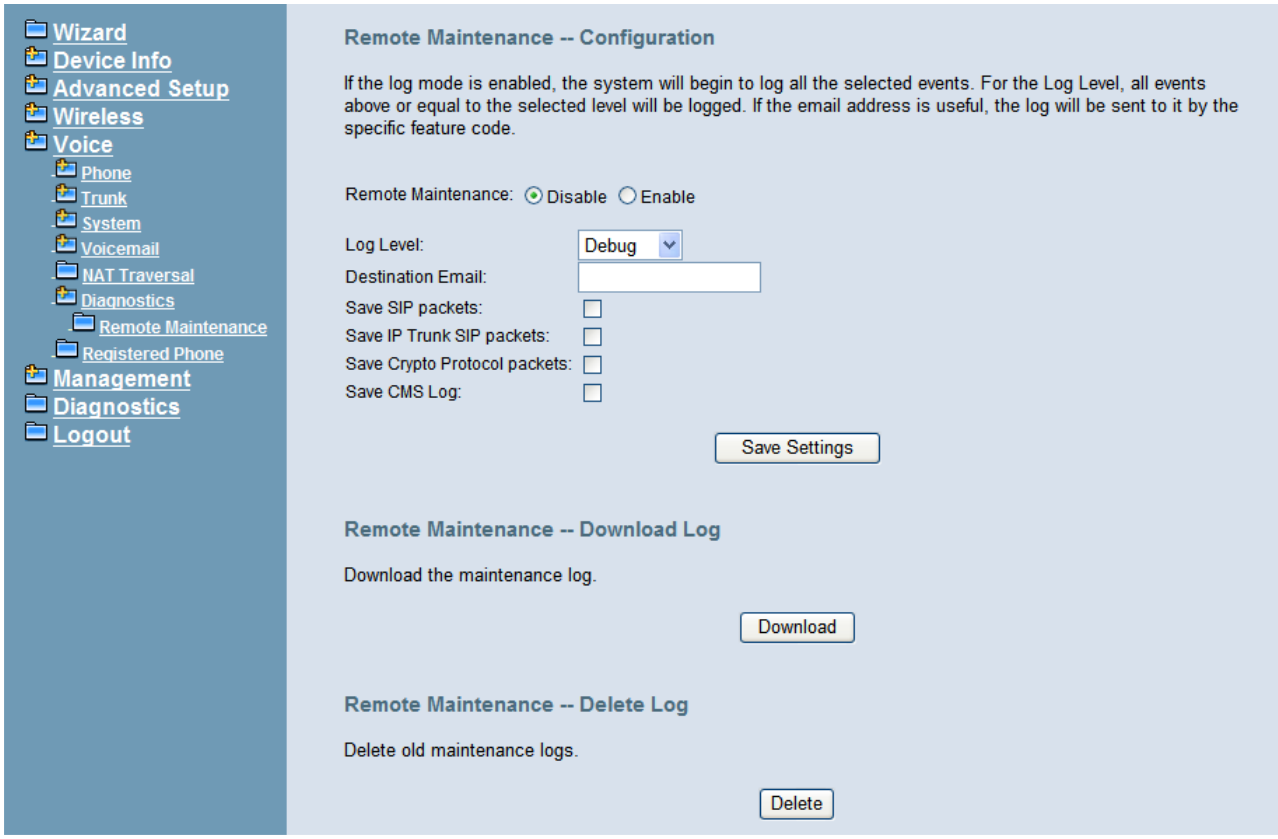

Figure 6-86. Voice – Remote Maintenance

The following items will be configured in the Remote Maintenance page:

Remote Maintenance: Enable/Disable. When it's enabled, IG will write necessary information to maintenance log.

Destination Email: If it's set, maintenance log file will be sent to this Email address automatically if user presses "*64" accordingly.

Save SIP packets: If it's checked, IG7600 will record SIP packets sent to or received from IP2061/M22/M62/M54(-i).

Save IP Trunk SIP packets: If it's checked, IG7600 will record SIP packets sent to or received from each IP Trunk.

Download Log: You can download maintenance log to your local PC by pressing this button.

Delete Log: You can delete all old maintenance logs by pressing this button.

6.6.7 Registered Phone

This page lists the information of registered phones, and provides the link to access the phone's web page. (Figure 6-87)

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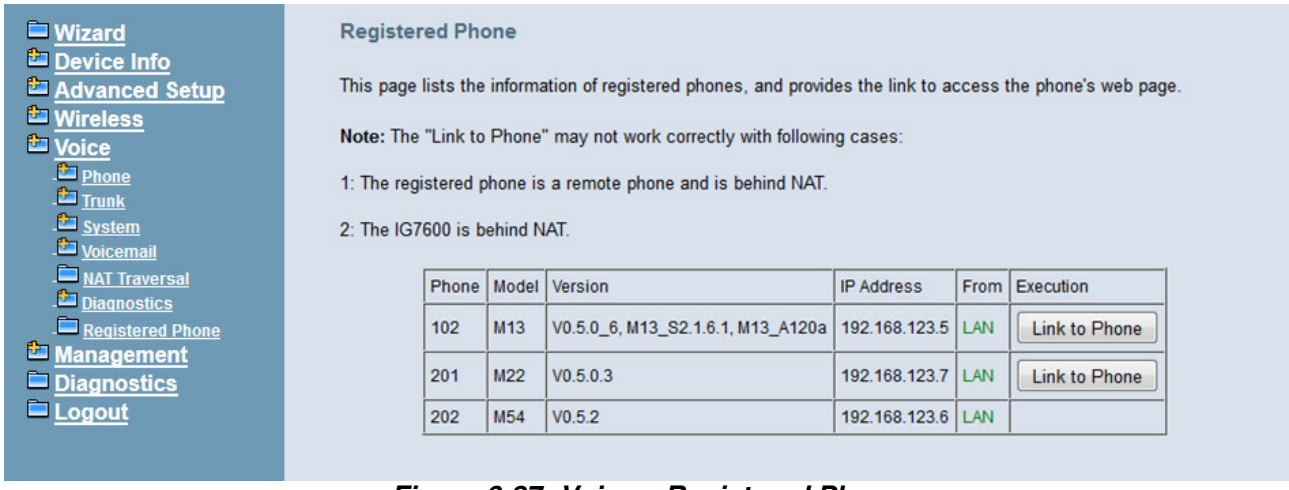

Figure 6-87. Voice – Registered Phone

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6.7 Management

The system administrator can do the following functions to manage the configurations, events, and software update of the IG7600.

- Settings
  - Backup
  - Update
  - Restore Default
- TR-069 Client
- Time Settings
  - Internet Time
  - Daylight Saving Time
- Access Control
  - Service Port
  - Services
  - IP Addresses
  - Password
- Open Door Log
- IP Camera
- Update Software
- Upgrade Phone Software
- Upgrade Door FW
- APNS Certificate
- Reboot

6.7.1 Settings

The settings area allows the administrator to create a backup, update the system, and restore the system to factory default.

6.7.1.1 Backup

Click "Backup Settings"; you may save your IG7600's configurations to a file on your PC. The backup file is a compress file (.tar). It includes System Configuration file, backupsettings.conf, and the individual extension's voicemail configuration files (.ini) (Figure 6-88)

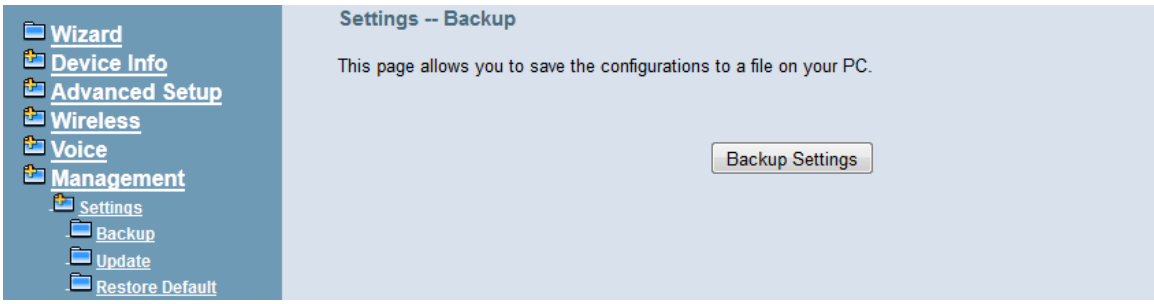

Figure 6-88. Management – Settings – Backup

6.7.1.2 Update

Click "Browse" to locate the setting file saved on the Local PC. The file can be a compress file (.tar) or a System Configuration file (backupsettings.conf). Then, click "Update Settings" would apply the settings to the IG7600 according to the configuration file. (Figure 6-89)

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Figure 6-89. Management – Settings – Update

6.7.1.3 Restore Default

You can choose restore Voice Files or Default Settings or Restore All in the drop-down menu. Click “Restore” to restore selected default settings. This would be helpful when the voice files or settings are messed up. (Figure 6-90)

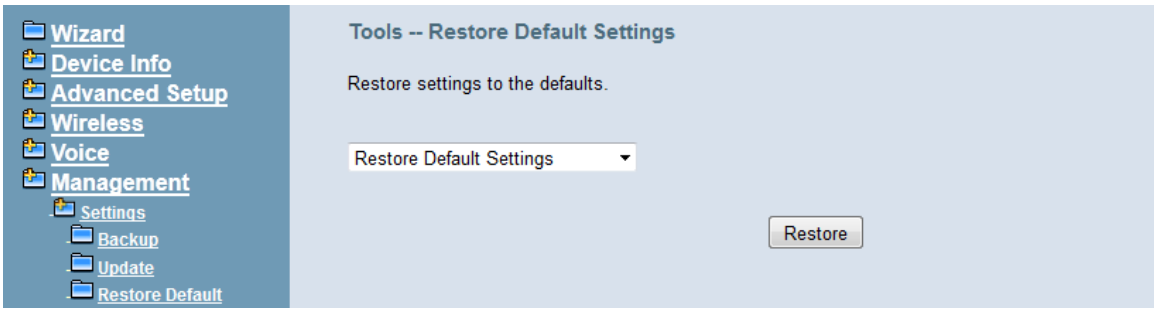

Figure 6-90. Management – Settings – Restore Default

6.7.2 TR-069 Client

WAN Management Protocol (TR-069) allows an Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device. Firmware upgrade or vendor configuration file backup can be done remotely on ACS server. Select the desired values and click "Save Settings" to configure the TR-069 client options. (Figure 6-91)

Inform: It can be set to Disable or Enable for periodically inform every Inform Interval. Fill the correct ACS URL, ACS username/password and select Interface, the TR-069 client is able to connect to ACS server.

Display SOAP message on serial console: Disable/Enable.

Connection Request Authentication: The “Connection Request User Name” and “Connection Request User Password” are used for the server to initiate an ACS initiation connection.

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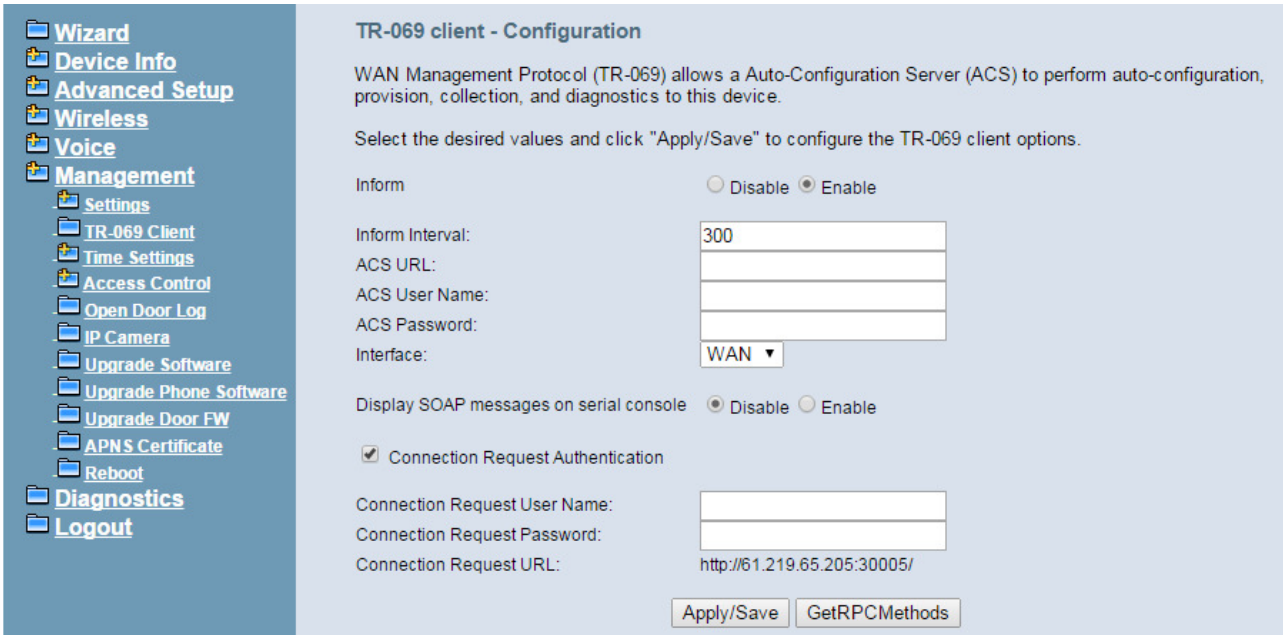

Figure 6-91. Management – TR-069 Client

6.7.3 Time Setting

This item allows you to configure system's time and the Daylight Saving Time.

6.7.3.1 Internet Time

This page allows you to configure the Internet time setting. You can choose the "Automatically synchronize with internet time servers". So the IG7600 can synchronize its system time with NTP time server automatically (Figure 6-92). When you choose "Manual Date and Time Settings", you can manually configure the date and time settings (Figure 6-93).

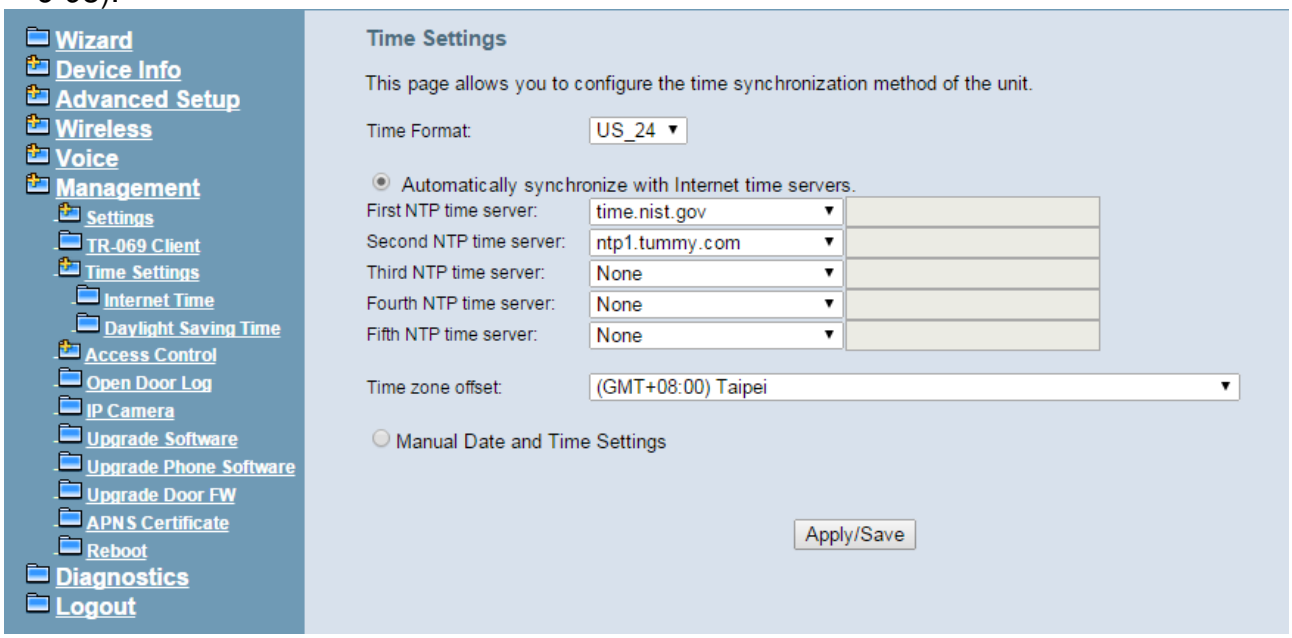

Figure 6-92. Management – Time Setting – Internet Time – Automatically

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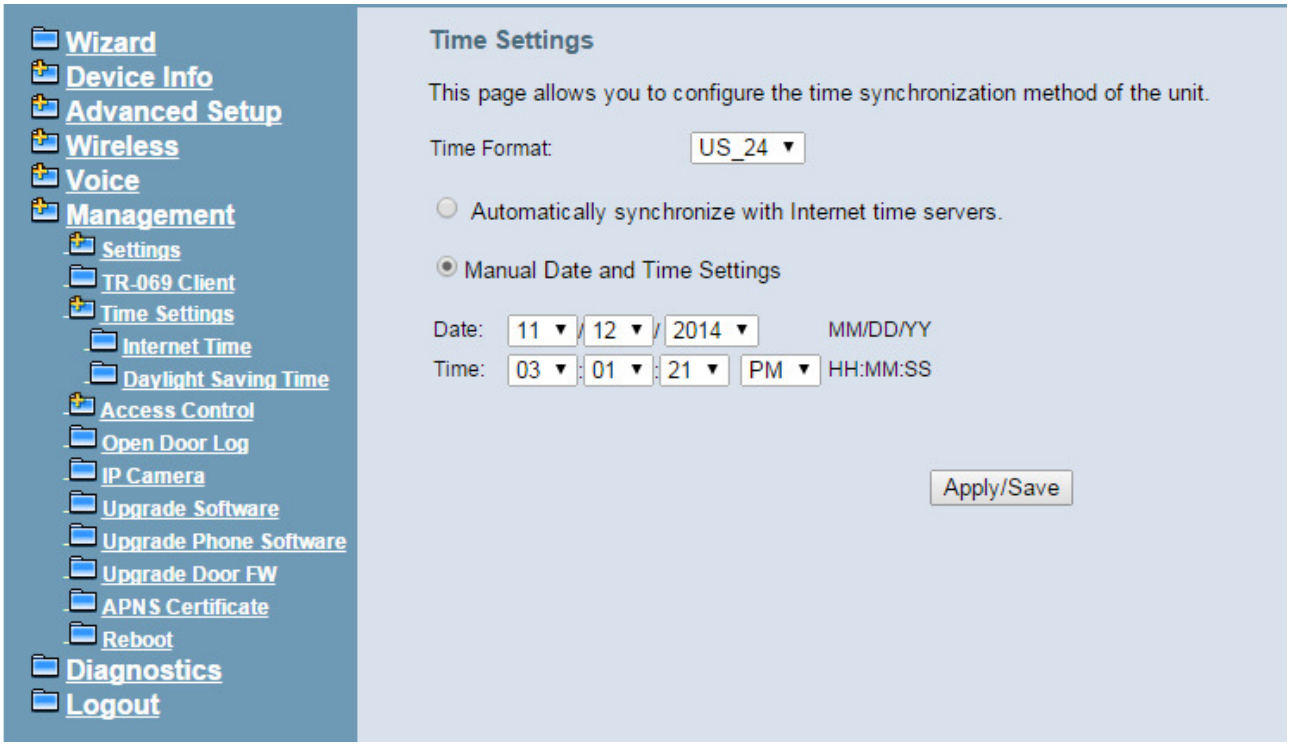

Figure 6-93. Management – Time Setting – Internet Time – Manually

6.7.3.2 Daylight Saving Time

This page allows you to configure the Daylight Saving Time (DST) which supports auto adjustment for daylight saving time. Click "Save Settings" button that you can save the new configuration. Click "Cancel Changes" button that you can cancel the changes. (Figure 6-94, Figure 6-95)

Figure 6-94. Management – Time Settings – Daylight Saving Time

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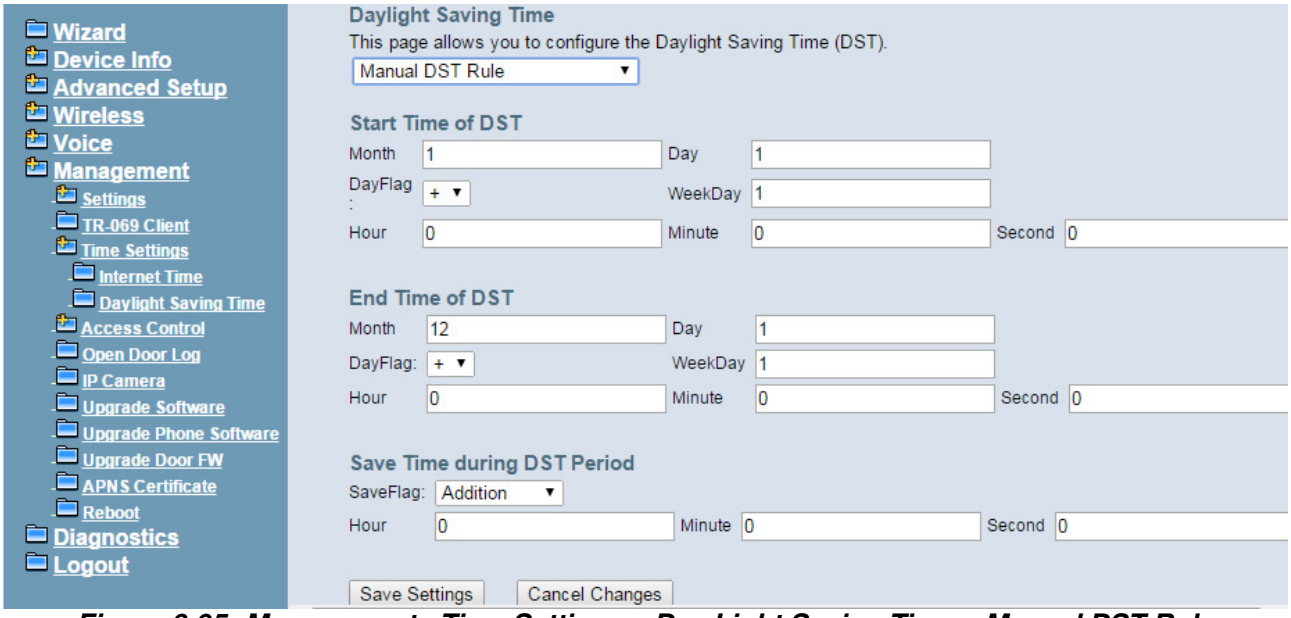

Figure 6-95. Management –Time Settings – Day Light Saving Time – Manual DST Rule

Default International DST Rule: Default DST Rule obey international standard rule.

Manual DST Rule: Define your own DST Rule.

Start Time of DST: The date and time to start daylight saving.
If "Weekday" is 0, it means the date to start daylight saving is at exactly the given date.
If "Weekday" is not 0, the DST starts on the "Weekday" on or after the given date.

End Time of DST: The date and time to end daylight saving.
If "Weekday" is 0, it means the date to end daylight saving is at exactly the given date.
If "Weekday" is not 0, the DST ends on the "Weekday" on or before the given date.

Save Time during DST Period: The amount of hour/min/sec to add to the current time during daylight saving period.

6.7.4 Access Control

This item allows you to configure some service Ports, enable/disable some services, IP Address access control, and password for user, support, and administrator.

6.7.4.1 Service Port

This page allows you to change the IG7600's web port, ftp port, tftp port, ssh port and telnet port. And they will take effect after reboot. (Figure 6-96)

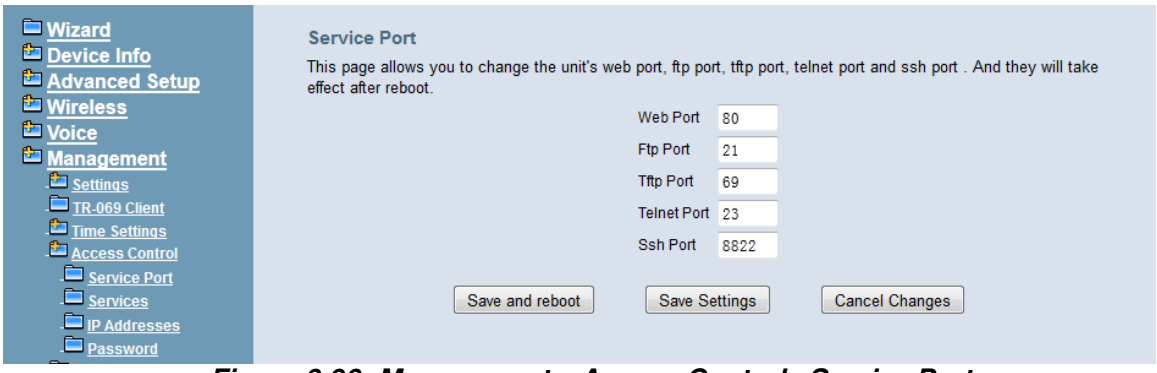

Figure 6-96. Management – Access Control –Service Port

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6.7.4.2 Services

A Service Control List enables or disables services from being used. (Figure 6-97)

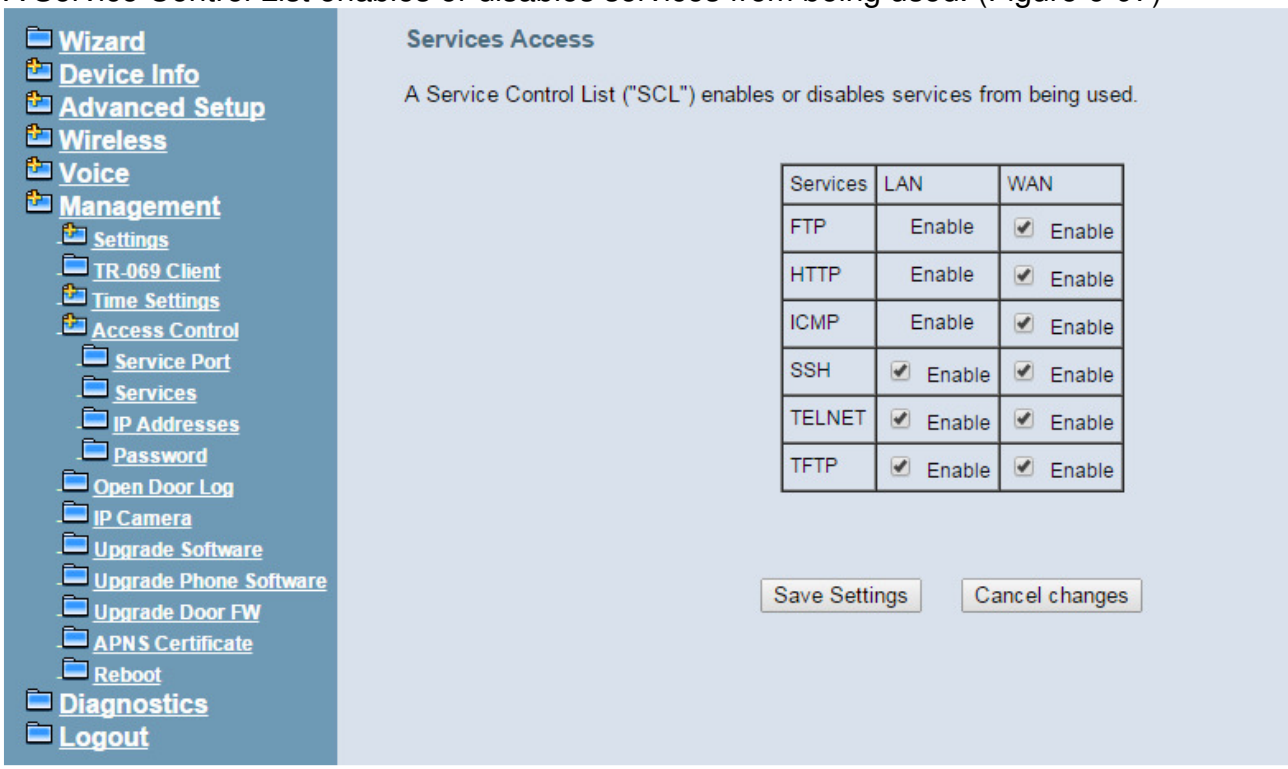

Figure 6-97. Management – Access Control –Services

6.7.4.3 IP Addresses

If the Access Control mode is enabled, permits access to local management services from IP addresses contained in the Access Control List. If disabling the mode, it will not validate IP addresses for incoming packets. WAN Only and WAN And LAN in Access Control Interface entries are for you to choose the rule executed on which side of your IG. Make sure you can connect to IG if you choose WAN and LAN mode. (Figure 6-98)

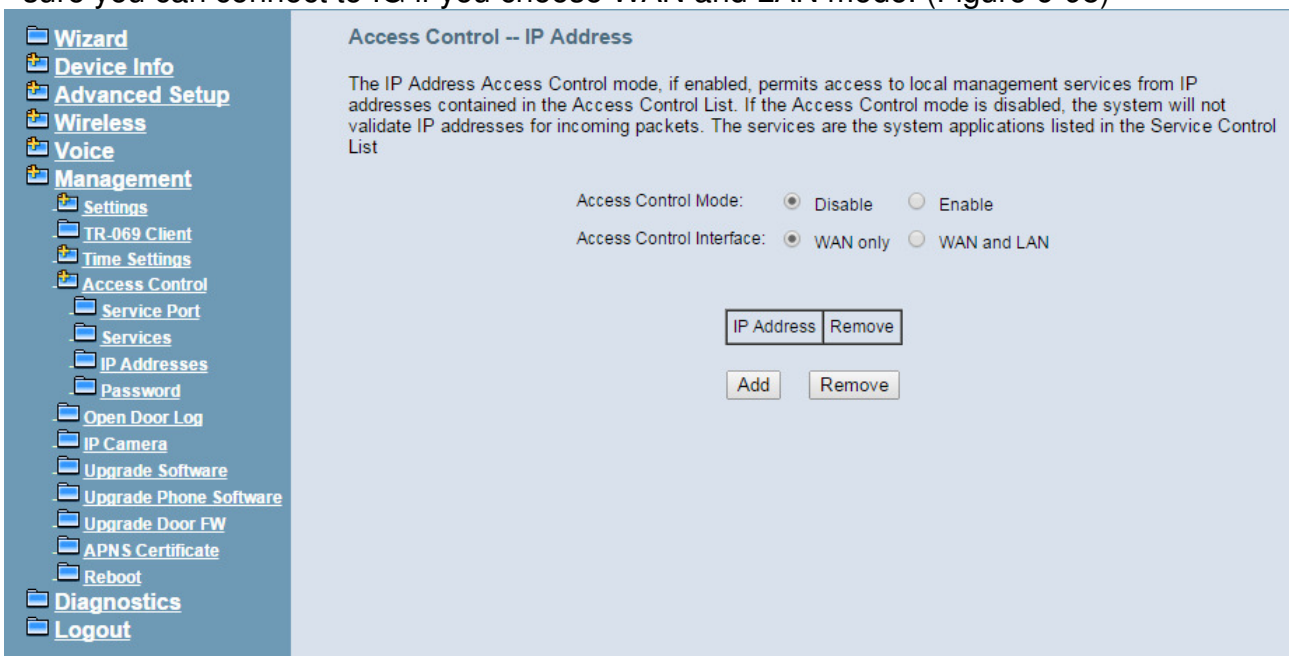

Figure 6-98. Management – Access Control –IP Addresses

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6.7.4.4 Password

In this page you can define the passwords for administrator, support, and user. The Administrator has unrestricted access to change and view configuration of your IG7600. The Support is used to allow an ISP technician to access your IG7600 for maintenance and to run diagnostics. The User can access the IG7600, view configuration settings and statistics, as well as, update the router's software.

Use the password field to enter up to 16 characters. Note: Password cannot contain a space. (Figure 6-99)

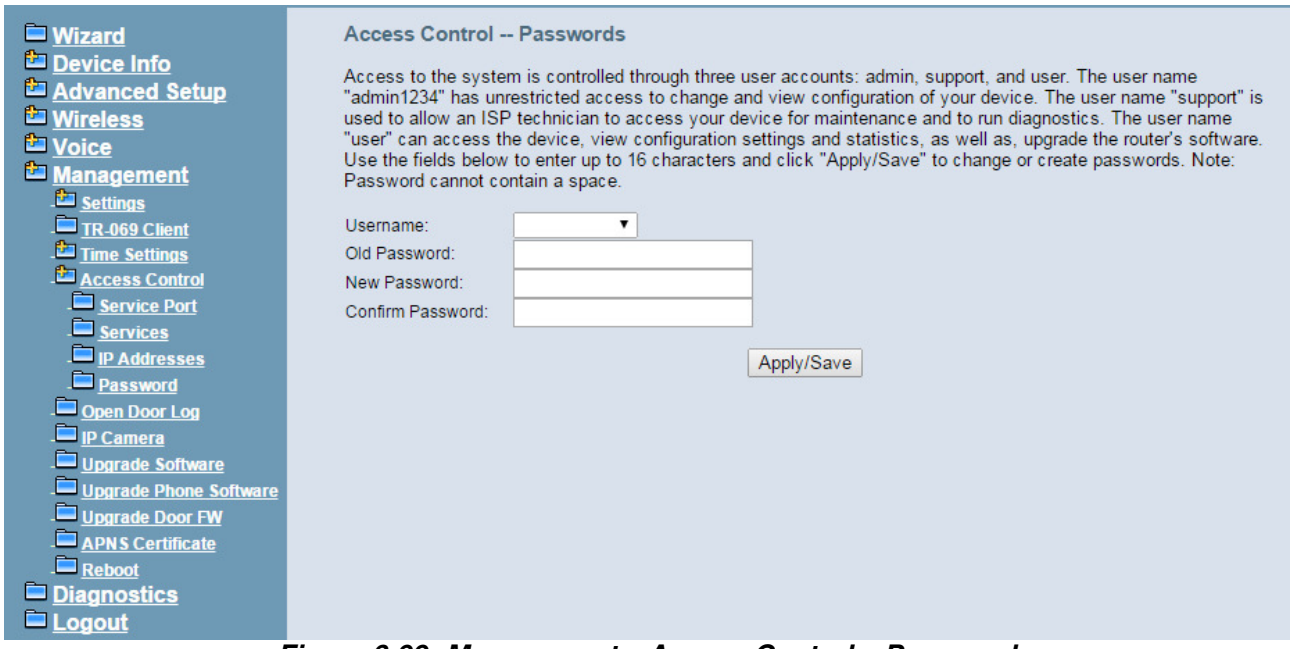

Figure 6-99. Management – Access Control – Password

6.7.5 Open Door Log

This page records the result of the last 500 times user tries to open the door(s). Each page shows at most 50 times. The first page shows the last 50 times. (Figure 6-100)

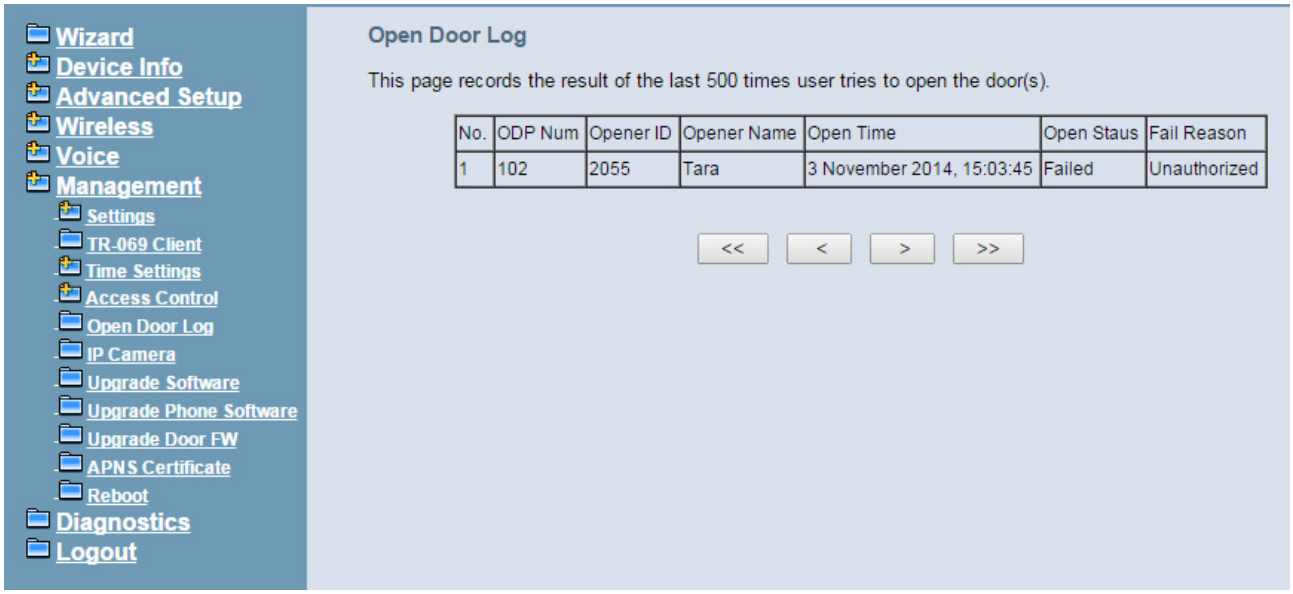

Figure 6-100. Management-Open Door Log

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6.7.6 IP Camera

IG7600 now provide 8 entries for IP Camera, You can either add IP Cameras automatically when you are configuring a tecom special supported IP Camera, or manually add an ordinary one. (Figure 6-101)

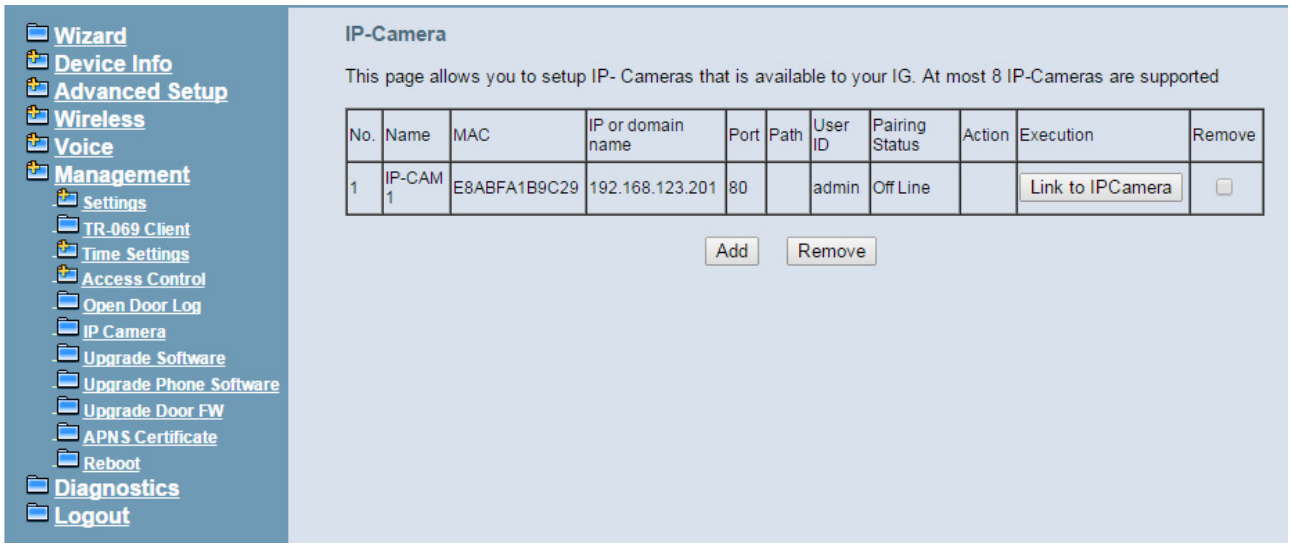

Figure 6-101. Management – IP Camera

Click add to add a new entry (Figure 6-102)

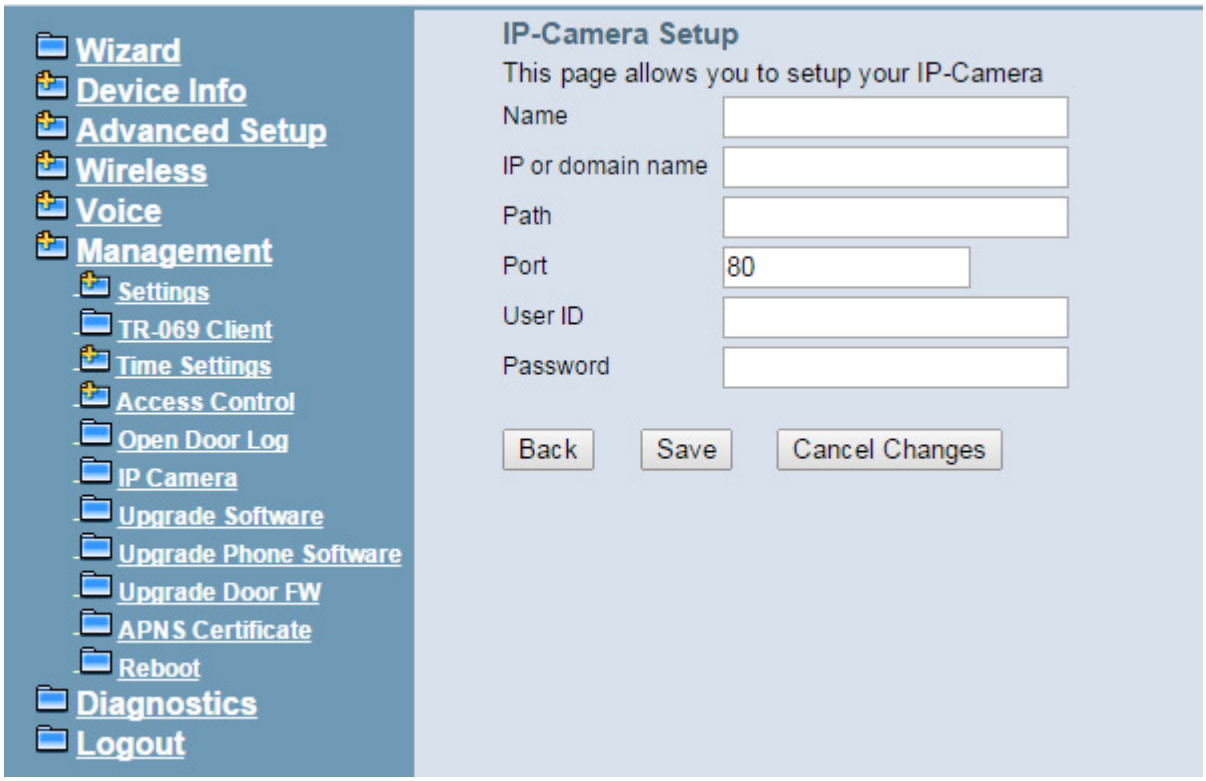

Figure 6-102. Management – IP Camera-Add

6.7.7 Upgrade Software

The new released software could be upgraded from the Local PC side or remotely. Click the “Browse” to locate the new software image file in the PC. Then, click “Update Software”

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to process the software update. NOTE: The upgrade process takes about 5 minutes to complete, and your IG7600 will reboot. (Figure 6-103)

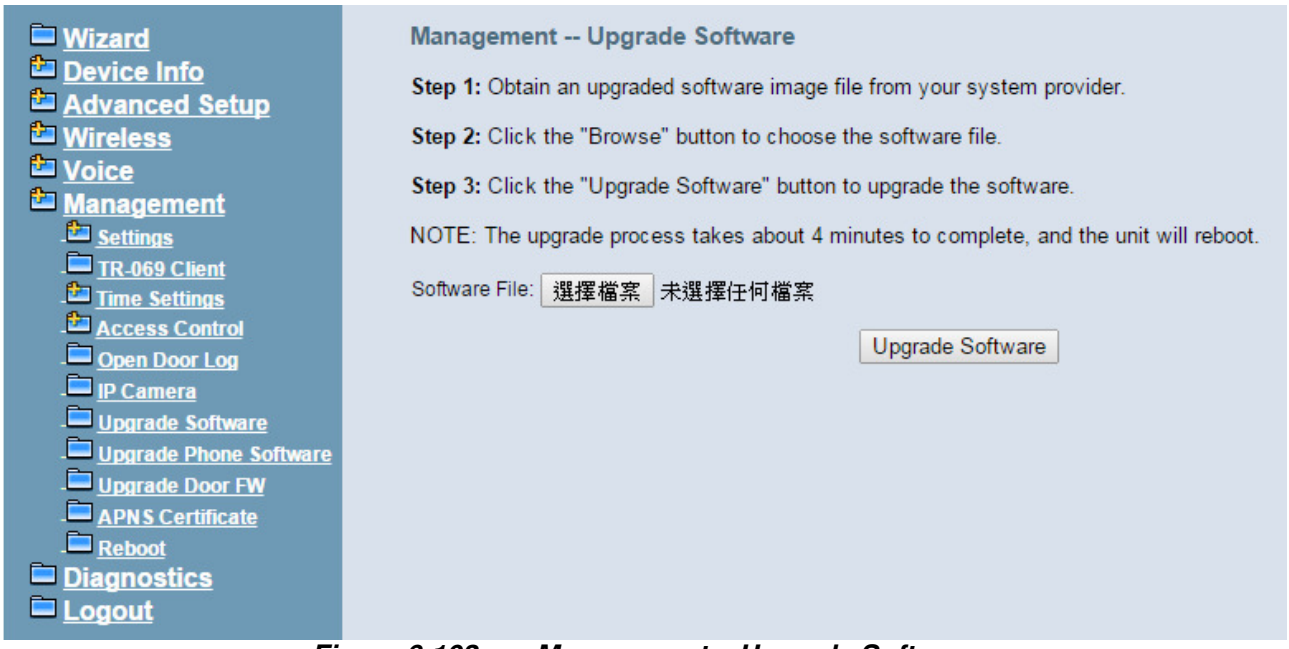

Figure 6-103. Management – Upgrade Software

6.7.8 Upgrade Phone Software

Upgrade Phone Software page is for you to manage your IP Phones' software, when the IP Phone Extensions' software is different from the one we stored in system, IG will ask the IP Phone to upgrade its software using the image we stored.
You can delete the software if you don't want to use it.(Figure 6-104)

Figure 6-104. Management – Upgrade Phone Software

6.7.9 Upgrade Door FW

Upgrade Door FW page is for you to manage your Door Phones' firmware. When the Door Phone Extensions' firmware is different from the one we stored in system IG will ask the

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Door Phone to upgrade its firmware using the image we stored. There are three FWs for Door Phone, one for voice part upgrading, and two for video part upgrading.
You can delete the firmware if you don't want to use it.(Figure 6-105)

Figure 6-105. Management – Upgrade Door FW

6.7.10 APNS Certificate

APNS Certificate page is for you to update your APNS certificate file for IG. You can use either Manual Mode or Auto Mode to update your certificate file. When you use Auto mode ask for the server URL from your Internet service provider. You should update the certificate file before your certification is expired, or your iOS device will not get push notifications any more. (Figure 6-106)

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Figure 6-106. Management – APNS Certificate

6.7.11 Reboot

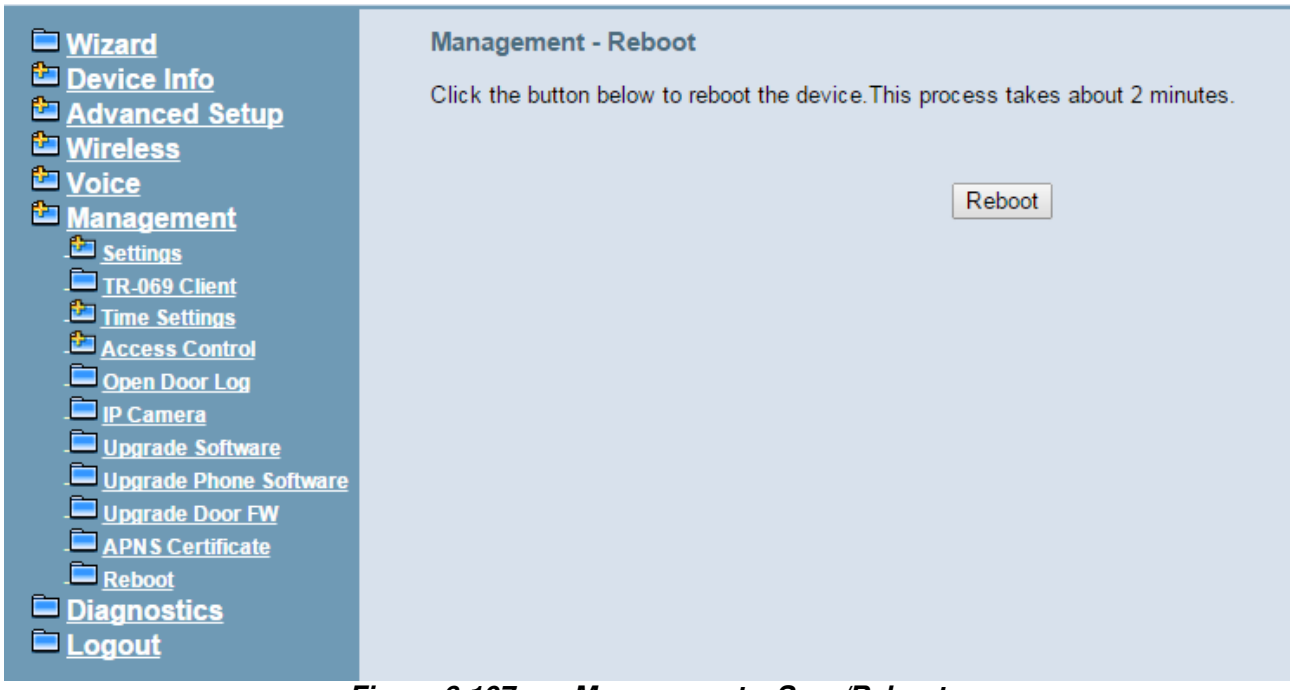

Figure 6-107. Management – Save/Reboot

Click “Reboot” to reboot the IG7600. The IG7600 would automatically save the configuration before reboot, so that modified settings would take effect after reboot. (Figure 6-107)

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6.8 Diagnostics

This page provides the following information to users: (Figure 6-108, 6-109)

- The network connection information on the net.
- The status of IG7600's PSTN Line.
- The status of IG7600's IP Trunk Line.
- The status of IG7600's AA Line.
- The status of IG7600's FXS.
- The Missed Voice Files. *Note: Displays only if there is any voice file missed. This column shows at most 5 missed files. If there are more than 5 ones, it shows first 5 files and adds a "…" symbol at the end.*

1) Network Connection
   PASS: Normally connected
   FAIL: Connecting fail
   DOWN: No connection

2) PSTN Line / IP Trunk Line / AA / FXS
   FAILED: Connecting fail or registering failure
   IDLE: The line is idle
   N/A: The line is not available
   Busy: The line is in use

For Refresh Mode, if user select automatically refresh, the web page will automatically refresh for every 20 seconds.

Click "Disconnect" button will allow you release the selected trunk line or rescue the blocked one.

When a Line is captured, user of the line will be shown after **BUSY.**

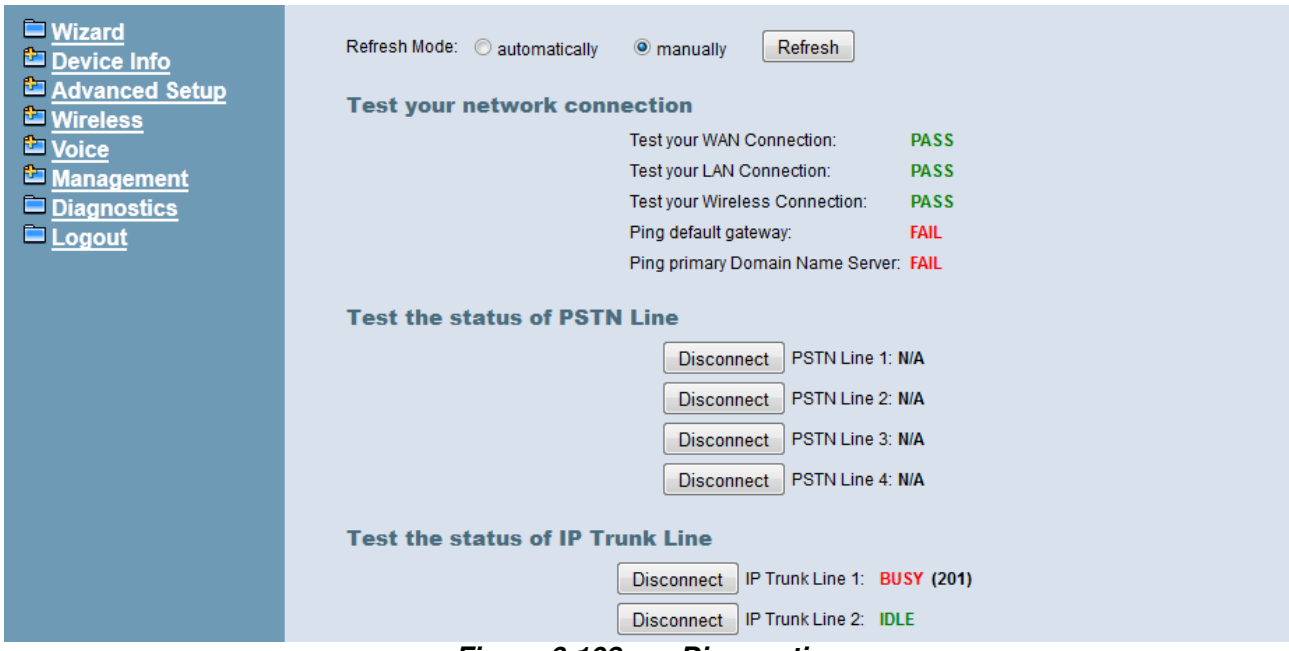

Figure 6-108. Diagnostics

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Figure 6-109. Diagnostics - Missed Voice Files

6.9 Logout

Press “Logout”, you can logout the IG7600 web configuration page.

6.10 Web UI Language

Move your mouse to the upper right corner of the webpage, a list will pop up to show the languages you can choose. Now we support only English and Russian. (Figure 6-108

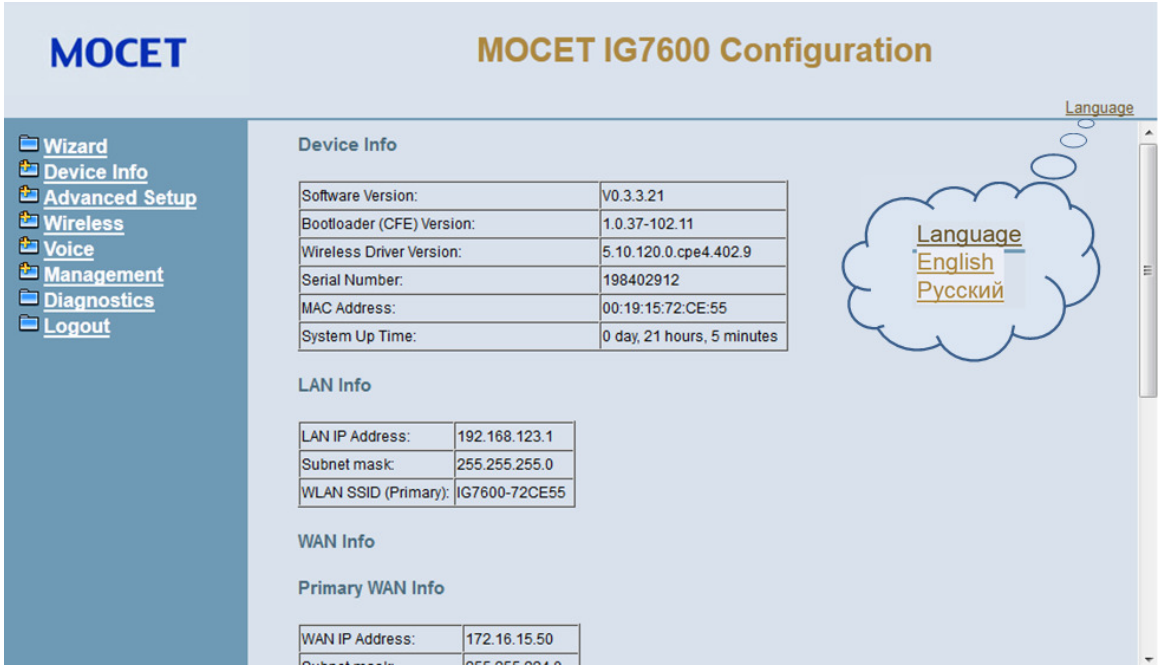

Figure 6-110. Web UI Language-Drop down list

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Appendix 1: Product Summary

TCP/IP Protocols

- IP Protocol (791)
- ARP (RFC 826) / RARP (RFC 903)
- ICMP (RFC792)
- TCP (RFC 793)
- UDP (RFC 768)
- SNTP
- DNS
- HTTP
- Telnet

IP Address Assignment

- Static
- Dynamic
- Subnet Mask
- PPPoE Client (RFC 2516)
- Primary and Secondary DNS
- DHCP Server (RFC 2131-2132)
- DHCP Client (RFC 2132)
- Dynamic DNS

Routing

- RIP v1/v2
- Static routing
- DHCP Server/Relay/Client
- DNS Relay
- NAT/NAPT
- NAT Traversal / Far End NAT Traversal
- SIP Firewall

Virtual Server

- Virtual Server
- Port Trigger
- DMZ

QoS

- IP ToS function (RFC 1349)
- DSCP
- IP Precedence
- Priority for Voice packet

VoIP Protocols

- SIP (RFC 3261)
- SDP(RFC2327, RFC3264)
- Real Time Protocol (RTP ; RFC 1889)
- MD5 (RFC3261 HTTP) digest authentication

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- G.168 Echo Cancellation
- Voice Codec: G.711u, G.711a, G726-16, G726-24, G726-32 and G.726-40 (G.729a optional)
- Support FAX/modem tone detection and auto-fallback to G.711
- T.38

Digital Audio

- Codec: G.711 a-law/μ-law 64Kbps, G.729
- SIP Call Offer /Answer: Codec auto capacity exchange
- Echo Cancellation: G.168 for each voice line
- Silence Detection/Suppression
- Comfort Noise Generation
- Adaptive jitter buffer
- Different frame size support (10,20,30,40, 50, and 60ms)
- Packet loss concealment
- Out-band (RFC2833) (In-band DTMF is not supported by AA now)

Security

- Password protected system management
- User authentication for PPP (PAP/CHAP/MSCHAP)
- Firewall
- Packet Filtering
- Access Control List
- Wireless Security:
  Support WEP (64, 128-bit) encryption
  802.1x and WPA/WAP2 authentication
  MAC Address-based access control
  WDS support

Configuration Management

- LAN/WAN management via Telnet interface or Web-based browser interface
- Status display and event report from Web-based management
- Configuration Save and Restore from PC
- Reset to factory default
- System Clock Setting
- Manual / Automatic by Network NTP Server
- Remote Diagnostics
- Software Upgrade
- TR-069

Remote Diagnostic

- System for Debugging and Event log
- Device Diagnostic, Enable remote test following:
  Test the connection to your local network,
  The connection to your Internet service provider,
  The status of PSTN Line,
  The status of IP Trunk Line,
  The status of VAA Line,
  The status of FXS

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Language Support

- English (North America) – default

LED Status

LED Name	Color	Status	Description
POWER	Red/Blue	Red On	Firmware updating
		Blue Flashing	System booting up
		Blue On	System initialized and running
		Off	Power off
WIRELESS	Blue	On	Wireless LAN is active
		Off	Wireless LAN is idle
LINE (1-4)	Blue	Off	PSTN Line is idle
		On	PSTN Line is active
TEL	Blue	Off	Phone is idle
		On	Phone is active
LAN	Blue	On	LAN is connected
		Off	LAN is not connected
		Flashing	LAN activity present (traffic in either direction)
WAN	Red/Blue	Blue On	WAN is connected and IP is obtained
		Red On	WAN is not connected or no IP assigned
		Flashing	WAN activity present (traffic in either direction)

Power Requirement

- Input : Voltage Range 90~230 VAC
- Output : 12V DC / 1.5A

Operating Environment

- Temperature : 0~40℃
- Humidity : 10 to 90%, non-condensing

Physical Specification

- Dimension : 190(W) x 280(L) x 34(D) (mm)

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Appendix 2: Feature Access Codes

The Feature Access Codes are applied in IP2061/M62/M22 Phones, M54 Smart Phones and FXS phone only. It's to activate/cancel some IG7600 user-specified functions.

These Feature Access Codes are used when the phone is at idle state.

Direct Call Forward

Forward all of the calls without regard to the extension status.
(Type: 0 – ICM, 1 – Outside, 2 – Both)

To Activate

*21 + Type + Ext/VAA/UCD No.
*21 + Type + * + (PSWD) + * + Outside Number

To Cancel

**21

Busy Call Forward

Forward the calls if the extension is busy.
(Type: 0 – ICM, 1 – Outside, 2 – Both)

To Activate

*22 + Type + Ext/VAA/UCD No.
*22 + Type + * + (PSWD) + * + Outside Number

To Cancel

**22

No Answer Call Forward

Forward the calls if the extension doesn't answer the call within No Answer Time.
(Type: 0 – ICM, 1 – Outside, 2 – Both)

To Activate

*23 + Type + Ext/VAA/UCD No + * + Time.
*23 + Type + * + (PSWD) + * + Outside Number + * + Time.

To Cancel

**23

DND Call Forward

Forward the calls if the extension enables DND.
(Type: 0 – ICM, 1 – Outside, 2 – Both)

To Activate

*24 + Type + Ext/VAA/UCD No
*24 + Type + * + (PSWD) + * + Outside Number

To Cancel

**24

Follow Me Call Forward:

Forwards calls at your extension to the extension where you are currently working.
(Type: 0 – ICM, 1 – Outside, 2 – Both)

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To Activate

*25 + Type + Ext No + * + Password

To Cancel

**25 + Ext No + * + Password

Call Fork

When extension gets an incoming call, the extension gets ringing. It rings another extension or rings an outside destination simultaneously.
(Type: 0 – ICM, 1 – Outside, 2 – Both; Destination: 1 – First; 2 – Second)

To Activate

*26 + Destination# + Type + Ext No
*26 + Destination# + Type + * + (PSWD) + * + Outside Number

To Cancel

**26 → cancel the both forking destination
**261 → cancel the first forking destination only
**262 → cancel the second forking destination only

Do Not Disturb

Extension users can enable DND to stop incoming calls from ringing at their phone.

To Activate

*4

To Cancel

**4

Call Pickup

Users can answer the calls at another extension. The feature allows you to easily access calls ringing via the feature access code.

*53 + Ext No.

COS Following

It changes the individual COS of the extension temporarily.

*55 + (phone number) + (password)

Call Back Busy

When remote party is busy, press 6 to wait call back. Press *66 to delete the record.

To Activate

6

To Cancel

*66

Remote Maintenance Simple Enable

*62 + Action Type + Admin. Password
“Action Type”:1 – Enable; 2 – Disable.

To Activate

*621 + Admin. Password

To Cancel

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*622 + Admin. Password

Remote Maintenance Simple Save

*63 + Admin. Password

Remote Maintenance

*64 + Action Type [+ Log Level] + * + Admin. Password
"Action Type":1 – Enable; 2 – Disable; 3 – Save and send the tar ball file through email.
"Log Level": 0 – Error; 1 – Warning; 2 – Info; 3 – Debug

Reset Feature Buttons

Reset all feature buttons to IG7600's setting.
*68 + (Password)

Reset To Default

Selected IG7600 extension features can be returned to default setting.
*69 + (Extension/Administrator password)

Feature Key Programming

To program the line keys as a PSTN, IP Trunk, Trunk Group number, Call-Park number or Extension number.

*70 + (Feature Key number: 01 – 44(*)) + (Feature Key Type: 00 – 08) + Number

Feature Key Type:

00: Null; Number should be null.
01: Extension; Number can be an Extension number.
02: Trunk; Number can be a PSTN, IP Trunk or Trunk Group number.
03: Call-Park; Number can be a Park number.
04: Feature Key; Number can be a feature access code
05: Others; Number could be an outside phone number.
06. Do Not Disturb; Number should be null.
07: Live Record
08: Virtual Mailbox key; Number can be a Virtual number.

Note: IP2061 provides 4 keys for feature access.

IP2061 supports EDM module, it provides 24 more (total 28) keys for feature access.

Service Mode Selection

Change Service Mode from Operator

*79 + (Service Mode, 0 – 3)

(Service Mode:

0. Change the Service Mode
1: Day Mode
2: Night Mode
3: Time Mode)

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Agent Log On/Off

It can control the status in an UCD group.

To Activate (Log On)

*91

To Cancel (Log Off)

**91

Phone Lock/Unlock

You can use the Lock feature to prevent unauthorized trunk calls from being made from extension.

To Activate Phone Lock

*97 + (password)

To Cancel Phone Lock

**97 + (password)

Call Waiting

If disabled, it returns busy response while getting second call at non-idle state

To Activate

*98

To Cancel

**98

Page Allow/Deny

Block one-way paging (group and all page) over the IP phone speaker

To Activate Page Deny

*99

To Cancel Page Deny

**99

Hotline

To Activate

9 + (any Number) + * + Time //Time: 0~8 seconds; 0: immediately

To Cancel

**9*

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