

Pancode IP User Manual

from Version 49 and above

Contents

| | |
|---------------------------------------|----|
| Contents | 1 |
| Chapter 1. Product Overview | 3 |
| 1. Introduction | 3 |
| 2. Features..... | 3 |
| Chapter 2. Quick Setup | 5 |
| Chapter 3. Settings | 9 |
| 1. IP announcement | 9 |
| 2. Web Interface Login | 9 |
| 3. Status..... | 10 |
| 4. Pancode..... | 11 |
| 5. Language Setting | 14 |
| 6. Network Setting | 15 |
| 7. SIP Account Configuration..... | 18 |
| 8. SIP Call Features | 22 |
| 1) Features | 22 |
| 2) Voice..... | 24 |
| 3) Tones | 26 |
| 9. PancodeBook..... | 27 |
| 1) Call Log..... | 27 |
| Chapter 4. Security..... | 29 |
| 1. Web Password Modify | 29 |
| 2. Web Server Certificate Upload..... | 30 |

| | |
|--------------------------|----|
| Chapter 5. Upgrade | 31 |
| 1. Basic Upgrade..... | 31 |
| 2. Advance Upgrade | 32 |

Chapter 1. Product Overview

1. Introduction

2. Features

➤ Highlights

- HD Voice
- PoE / 12VDC / 12VAC
- Full Compatible with Asterisk and BroadSoft Platform , Cisco , Avaya and cloud PBX

➤ Pancode features

- Call Logs (100 entries)
- Volume Adjustable
- Country Ringtone Signal
- Direct IP Call
- Multi-Language: Default: English
- 2 relay operating
- RGB led out

➤ IP-PBX Features

- HD Voice
- Narrowband Codec: PCMU , Default: PCMU
- VAD, CNG , Echo Cancellor
- Full-Duplex Speakerphone

➤ **Network Features**

- SIP V1(RFC2543), V2(RFC3261)
- Static IP/DHCP IP Configuration
- HTTP / HTTPS Web Server Management
- TFTP/FTP/HTTP/HTTPS Protocols

➤ **Administration Features**

- Auto Provisioning via FTP/TFTP/HTTP/HTTPS/PNP
- Dial through IP PBX Using Phone Number
- Dial through IP PBX using URL address
- Configuration Managements with Web, and Auto Provisioning
- TR069

➤ **Security Features**

- Support HTTPS (SSL)
- Support SRTP for Voice Data Encryption
- Support Login for Administration
- SIP Over TLS

Chapter 2. Quick Setup

➤ IP Announcement

While the Pancode is on idle, press 963#, the voice system will announce its IP.

➤ Language Setting

Open a web browser, enter the device IP address, login the Web interface with the correct user name and password. On Pancode -> Time/Lang page, select the desired language as shown below.

ITS Telecom LogOut

Time/Lang

Web Language
Type:

Format Setting
Time Format:
Date Format:
Display Mode:

Type
 Manual
Date: Year Mon Day
Time: Hour Min Sec
 Auto

NTP
Time Zone:
Primary Server:
Secondary Server:
Update Interval: (>= 300s)

Daylight Saving Time
Active:
OffSet: (-300~300Minutes)
 By Date
Start Time: Mon Day Hour
End Time: Mon Day Hour
 By Week
Start Month:
Start Week Of Month:
Start Day Of Week:
Start Hour: (0~23)
End Month:
End Week Of Month:
End Day Of Week:
End Hour: (0~23)

Help
Note :
Max. length of characters for input box:
255: Broadsoft Pancodebook server address
127: Remote Pancodebook URL & AUTDP Manual Update Server URL
63: The rest of input boxes
Warning :
Field Description :

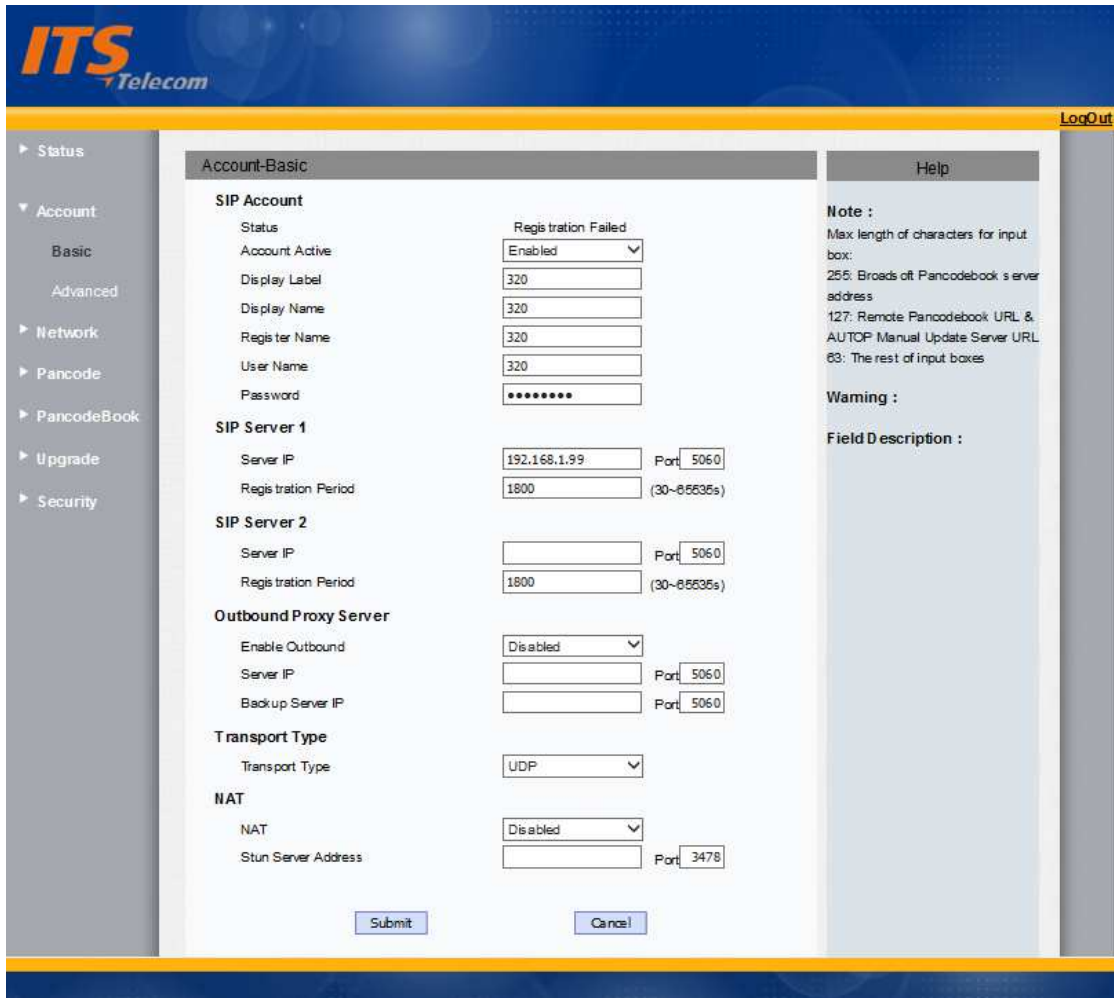
➤ **Network Setting**

If the IP address has not been setup, the default IP address is Static IP (192.168.1.100); if you want set it to DHCP, go to the Web interface, Network -> Basic, and then set it to DHCP as shown below.

The screenshot displays the ITS Telecom web interface. On the left, a navigation menu includes Status, Account, Network (highlighted), Pancode, PancodeBook, Upgrade, and Security. The 'Network' section is expanded to show 'Basic' and 'Advanced'. The main content area is titled 'Network-Basic' and features a 'LAN Port' section with two radio buttons: 'DHCP' (unselected) and 'Static IP' (selected). Below this, there are input fields for 'IP Address' (192.168.1.100), 'Subnet Mask' (255.255.255.0), and 'Default Gateway' (192.168.1.1). There are also empty fields for 'LAN DNS1' and 'LAN DNS2'. A 'PPPoE' section includes 'User Name' and 'Password' fields. At the bottom of the form are 'Submit' and 'Cancel' buttons. On the right side, there is a 'Help' section with a 'Note' and a 'Warning' section.

➤ **Account Registration**

On web interface, Account -> Basic, fill in the account information to register as shown below.



➤ **Pancode Setup**

To quick setup pancode, go to web interface, Pancode ->Pancode, as shown below.

- ▶ Status
- ▶ Account
- ▶ Network
- ▶ Paracode
 - Paracode
 - Time ring
 - Features
 - Voice
 - Trunk
- ▶ Paracode-out
- ▶ Paracode
- ▶ Security

Paracode

Par Mode

Par Mode:

Call Button

| Call Button | Call Button Value |
|----------------------|-------------------|
| Call Button Day 1 | 104 |
| Call Button Day 2 | 104 |
| Call Button Day 3 | 104 |
| Call Button Night | 104 |
| Round Robin Time Out | 10 (5-20) |

System Time

2006/11/11 09:11

Day Night Setting

Day Start: Hour: 4 Min: 0

Night Start: Hour: 19 Min: 0

Door 1

Door Digit:

Door Open Time:

Open Password: (4-8)

Door 2

Door Digit:

Door Open Time:

Open Password: (4-8)

Cancel To Hangup

Push to hang up:

Max Call Time

Max Call Time: (0-99999)

Speed Dial Code

| Speed Dial Code | Destination |
|-----------------|-------------|
| 0 | 102,102,102 |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |

Color Define

Idle:

Relay 1 on:

Relay 2 on:

Only Dial In Tables

Only Dial In Tables:

System Reboot

Action:

Reboot Time:

Reboot Interval: (1-30)

Identify Door Paracode

Identify:

Door Open Deep

Door Open Deep:

Help

Note:

- Max length of characters for input: 204
- 256 Brands of Paracodebook server address
- 102 Brands of Paracodebook URL & AUTOM Manual Update Server URL
- 80 The rest of input zones

Warning:

Field Description:

Chapter 3. Settings

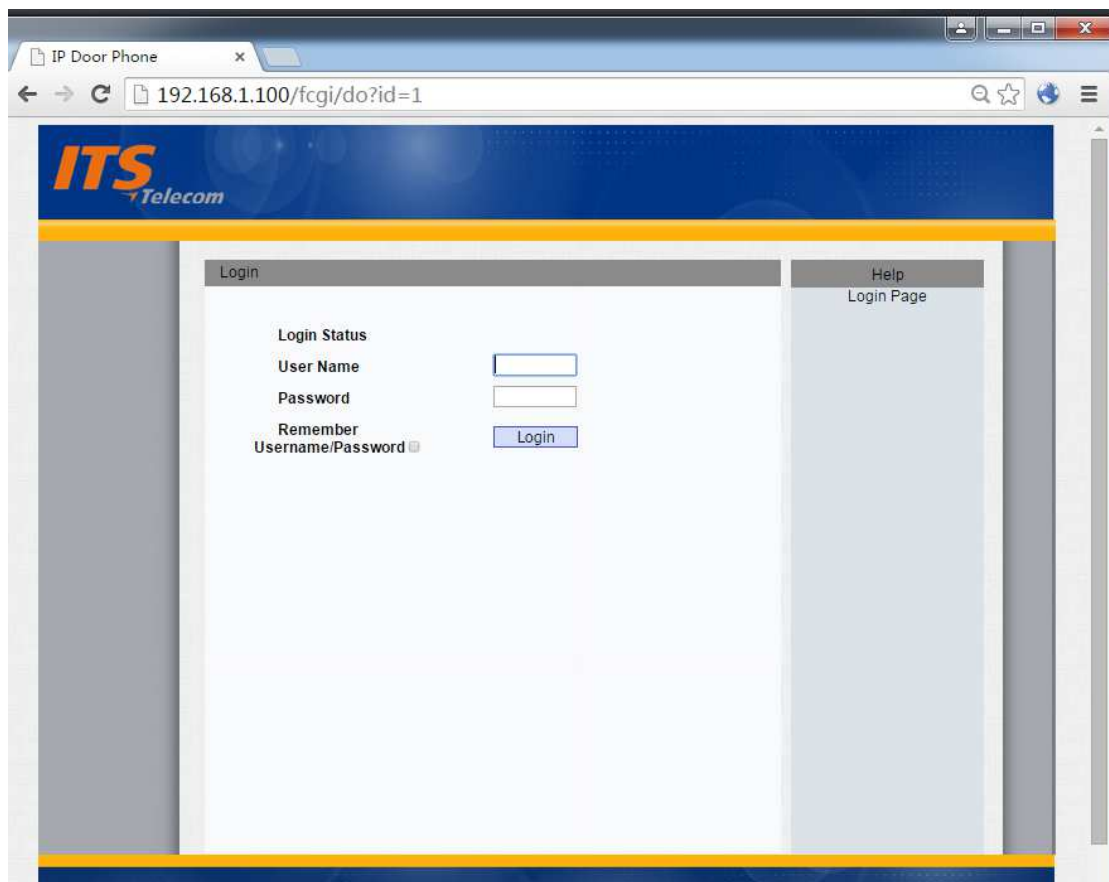
1. IP announcement

While the Pancode is on idle, press 963#, the voice system will announce its IP.

2. Web Interface Login

Open a web browser, enter the IP address (Default IP address is 192.168.1.100) of your Pancode. On the login page, enter the correct user name and password to login (Both default user name and password are "admin").

Note: If below page does not show up, IP address may be wrong, and check the IP address again.



3. Status

The device status can be view from Status -> Basic, and the product information, network information and account information are displayed in status page.

The screenshot displays the ITS Telecom web interface. The top navigation bar includes the ITS Telecom logo and a 'LogOut' link. A left sidebar contains a menu with options: Status, Basic, Account, Network, Pancode, PancodeBook, Upgrade, and Security. The main content area is titled 'Status' and is divided into three columns. The first column, 'Status', contains three sections: Product Information, Network Information, and Account Information. The second column, 'Help', contains a 'Note' and a 'Warning' section. The third column is empty.

| Status | | Help |
|----------------------------|---|--|
| Product Information | | Note : Max length of characters for input box: 255: Broads of Pancodebook s ever address 127: Remote Pancodebook URL & AUTOP Manual Update Server URL 63: The rest of input boxes Warning : Field Description : |
| Model | SDP-R21P | |
| MAC Address | 0c:11:05:02:70:f2 | |
| Firmware Version | 21.0.2.49 | |
| Hardware Version | 21.0.1.0.16.0.0.0 | |
| Network Information | | |
| LAN Port Type | Static IP | |
| LAN Link Status | Connected | |
| LAN IP Address | 192.168.1.100 | |
| LAN Subnet Mask | 255.255.255.0 | |
| LAN Gateway | 192.168.1.1 | |
| LAN DNS1 | | |
| LAN DNS2 | | |
| Primary NTP | 0.pool.ntp.org | |
| Secondary NTP | 1.pool.ntp.org | |
| Account Information | | |
| Account1 | 320@192.168.1.99 Registration Failed | |

4. Pancode

Pancode can be set from Pancode -> Pancode page as shown below.

The screenshot displays the ITS Telecom web interface for the Pancode configuration page. The interface is divided into a sidebar menu on the left, a main configuration area, and a Help section on the right.

Sidebar Menu:

- Status
- Account
- Network
- Pancode
 - Pancode
 - Time/Lang
 - Features
 - Voice
 - Tones
- Pancodebook
- Upgrade
- Security

Main Configuration Area:

Pancode

Pan Mode: Pan Mode: PANCODE (dropdown)

Call Button:

| Call Button | Call Button Value |
|----------------------|-------------------|
| Call Button Day 1 | 304 |
| Call Button Day 2 | 304 |
| Call Button Day 3 | 304 |
| Call Button Night | 304 |
| Round Robin Time Out | 10 (5-60s) |

System Time: 2000/1/11/ 1:50

Day Night Setting:

| | | |
|-------------|----------|--------|
| Day Start | Hour: 5 | Min: 0 |
| Night Start | Hour: 19 | Min: 0 |

Door 1:

| | |
|----------------|-------------|
| Door Digit | 1 |
| Door Open Time | 2 |
| Open Password | ***** (4-8) |

Door 2:

| | |
|----------------|-------------|
| Door Digit | 2 |
| Door Open Time | 2 |
| Open Password | ***** (4-8) |

Cancel To Hangup: Push to Hang up: Enabled (dropdown)

Max Call Time: Max Call Time: 2 (2-30/minutes)

Help Section:

Note :
Max length of characters for input box:
256: Broadsoft Pancodebook server address
127: Remote Pancodebook URL & AUTOP Manual Update Server URL
83: The rest of input boxes

Warning :

Field Description :

Speed Dial Code

| Speed Dial Code | Destination |
|-----------------|---------------|
| 0 | 192.168.1.102 |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |

Color Define

| | |
|-----------|---------|
| Idle | NOLIGHT |
| Relay1 on | NOLIGHT |
| Relay2 on | NOLIGHT |

Only Dial In Tables

Only Dial In Tables: Disabled

System Reboot

Active: Disabled

Reboot Time: 7 0

Reboot Interval: 4 (1~8h)

Identify Door Pancode

Identify: Submit

Door Open Beep

Door Open Beep: Enabled

Submit Cancel

Warning :

Field Description :

255: Broad of Pancodebook server address
 127: Remote Pancodebook URL & AUTOP Manual Update Server URL
 63: The rest of input boxes

Parameter description:

| Sections | Description |
|--------------------|--|
| Pan Mode | To select Pancode or Pantel |
| Call Button | <p>Pancode can automatically distinguish day and night, and call out the corresponding destination numbers.</p> <ul style="list-style-type: none"> ● Call Button Day1、Call Button Day2、Call Button Day3: Setting for day numbers, when it is in daytime, Pancode will be using the three numbers. Numbers will be repeated until the callee answers or hangup ● Call Button Night: When it is night time, the number will be called out; ● Round Robin Time Out: The time interval of repeated calls <p>Note: Daytime and night are different depending on Day Night Setting</p> |

| | |
|-----------------------------|---|
| Day Night Setting | <p>Define that when is the daytime, and when is the night.</p> <ul style="list-style-type: none"> ● Day Start: Day start time, daytime ends the time when night starts ● Night Start: Night start time, night ends when the day starts <p>Note: Range of Hour from 0 to 23; Range of Min from 0 to 59; Day Start value must be less than the Night Start value.</p> |
| Door /Extension Door | <p>Door and Extension Door, Door Digit, Door Open Time, Open Password can be configured for each door;</p> <ul style="list-style-type: none"> ● Door Digit: DTMF Code for door opening, door can be open remotely via pressing the number key, the key can be set from 0 to 9, *, and #; ● Door Open Time: After door opened, the time until the door locked again. The range of the time setting is from 1s to 9s; ● Open Password: Password for opening the door, the password must be numbers, and the length of the password is $4 \leq \text{Length} \leq 15$; |
| Cancel To Hangup | <p>Cancel the call to hangup;</p> |
| Max Call Time | <p>The durance of every call. When time is up, the call is automatically ended.</p> |
| Speed Dial Code | <p>Speed dial code can be assigned to numbers from 0 to 9. When the assigned number is pressed, and leave it for 3 seconds, Pancode will automatically call the destination number;</p> <p>Note: If you press any keys in the next 3 seconds right after pressing the speed dial code, it will fail the speed dial.</p> |
| Color Define | <p>Color define is used to define the indicators' color on pancode ; color can be defined for Idle, Replay1 on and Relay2 on.</p> |
| Only Dial in Tables | <p>Only Dial in table feature is used for users who only make calls of pre-set speed dial code or numbers of push button; users are not allowed to dialed any other number when Only Dial in Tables is enabled.</p> |

| | |
|----------------------------|--|
| System Reboot | To reboot the system. It can be turned off and set to be rebooting daily or at specific time; <ul style="list-style-type: none"> ● When it is enabled and reboot time is set, Pancode will be rebooting at the time which is set |
| Identify Door Phone | Submit Identify Door Phone, and Pancode will be automatically ringing for 3 ringtone signals. |
| Door Open Beep | When relay is triggered, the device will give beep sound. |

5. Language Setting

On web, Pancode -> Time/Lang, select the desired language as shown below.

ITS Telecom

LogOut

► Status

► Account

► Network

▼ Panoode

 Panoode

 Time/Lang

 Features

 Voice

 Tones

► PanoodeBook

► Upgrade

► Security

Time/Lang

Web Language

Type: English

Format Setting

Time Format: 12Hour

Date Format: YYYY-MM-DD

Display Mode: Disabled

Type

Manual

Date: [] Year [] Mon [] Day

Time: [] Hour [] Min [] Sec

Auto

NTP

Time Zone: 0 GMT

Primary Server: 0.pool.ntp.org

Secondary Server: 1.pool.ntp.org

Update Interval: 3600 (>= 3600s)

Daylight Saving Time

Active: Auto

OffSet: 60 (-300~300Minutes)

By Date

Start Time: [1] Mon [1] Day [0] Hour

End Time: [12] Mon [31] Day [23] Hour

By Week

Start Month: Jan

Start Week Of Month: First In Month

Start Day Of Week: Monday

Start Hour: 0 (0~23)

End Month: Dec

End Week Of Month: Fourth In Month

End Day Of Week: Sunday

End Hour: 23 (0~23)

Help

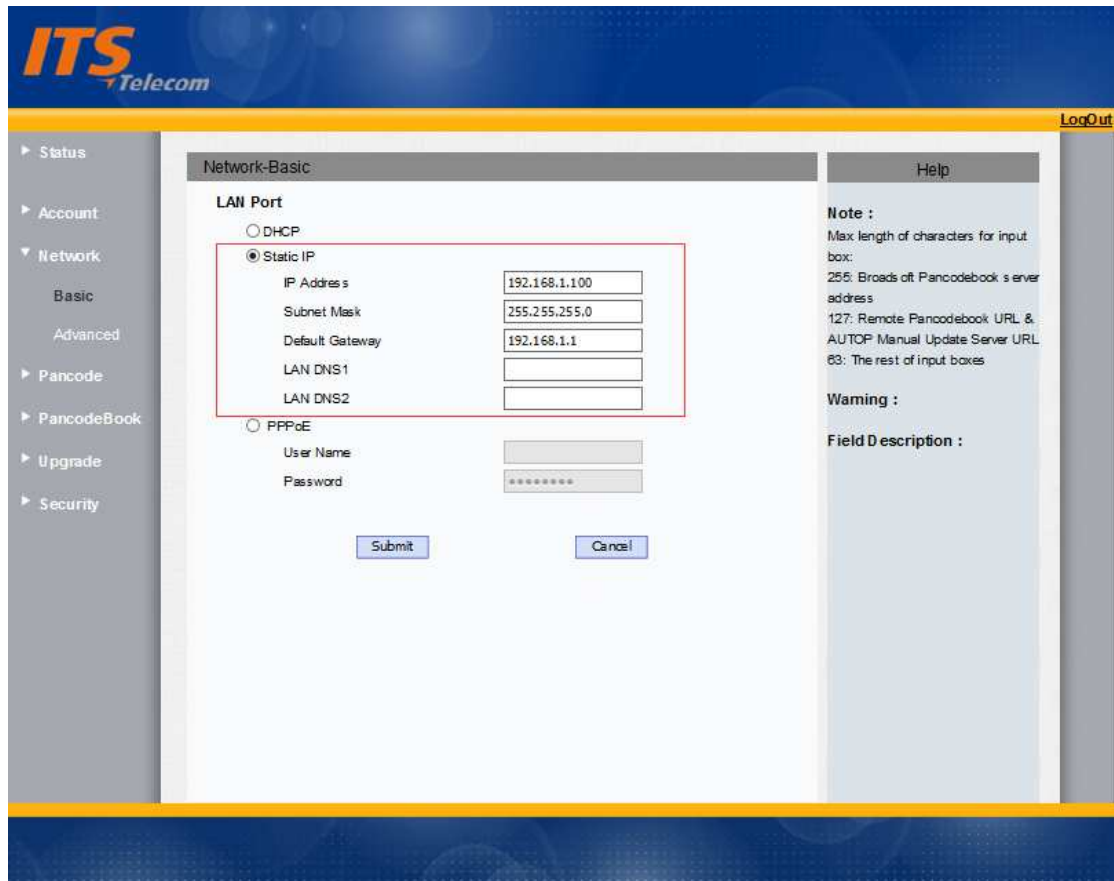
Note :
Max length of characters for input box:
256: Broadsoft Panoodebook server address
127: Remote Panoodebook URL & AUTOP Manual Update Server URL
83: The rest of input boxes

Warning :

Field Description :

6. Network Setting

The default IP address is Static IP (192.168.1.100) by default. To customize the network configuration, go to Web, Network -> Basic.



Parameter description:

| Sections | Description |
|------------------|--|
| DHCP | To configure DHCP settings <ul style="list-style-type: none"> ● If selected, Pancode will get IP address, Subnet Mask, Default Gateway and DNS server address from DHCP server automatically. |
| Static IP | To configure Static IP settings <ul style="list-style-type: none"> ● Static IP: If selected, you have to set IP address, Subnet Mask, Default Gateway and DNS server manually. |
| PPPoE | To configure PPPoE settings <ul style="list-style-type: none"> ● Use PPPoE username/password to connect to PPPoE server. |

To configure advanced network settings, go to Network -> Advanced, advanced network features can be configured as shown below.

The screenshot shows the ITS Telecom Network-Advanced configuration interface. On the left is a navigation menu with options: Status, Account, Network (Basic, Advanced), Parcode, ParcodeBook, Upgrade, and Security. The main content area is titled 'Network-Advanced' and contains several sections:

- Local RTP:** Max RTP Port (12000) and Min RTP Port (11800), both with a range of (1024-65535).
- TR069:** Active (Disabled) and Version (1.0).
- ACS:** URL, User Name, and Password fields.
- Periodic Inform:** Active (Disabled) and Periodic Interval (1800) with a range of (3-3600s).
- CPE:** URL, User Name, and Password fields.

At the bottom are 'Submit' and 'Cancel' buttons. On the right, a 'Help' section contains a 'Note' and a 'Warning'.

Parameter description:

| Sections | Description |
|------------------|---|
| Local RTP | To display and configure Local RTP settings. <ul style="list-style-type: none"> ● Max RTP Port: Determine the maximum port that RTP stream can use. ● Min RTP Port: Determine the minimum port that RTP stream can use. |
| TR069 | To display and configure TR069 settings. <ul style="list-style-type: none"> ● Active: To enable or disable TR069 feature. ● Version: To select supported TR069 version (version 1.0 or 1.1). |

| | |
|--|---|
| | <ul style="list-style-type: none">● ACS/CPE: ACS is short for Auto configuration servers as server side, CPE is short for Customer-premise equipment as client side devices.● URL: To configure URL address for ACS or CPE.● User name: To configure username for ACS or CPE.● Password: To configure Password for ACS or CPE.● Periodic Inform: To enable periodically inform.● Periodic Interval: To configure interval for periodic inform. <p>Note: TR-069(Technical Report 069) is a technical specification entitled CPE WAN Management Protocol (CWMP).It defines an application layer protocol for remote management of end-user devices.</p> |
|--|---|

7. SIP Account Configuration

To configure basic account settings, go to web, Account -> Basic. The SIP account parameters can be configured as shown below.

ITS Telecom LogOut

Account-Basic

SIP Account

Status: Disabled

Account Active:

Display Label:

Display Name:

Register Name:

User Name:

Password:

SIP Server 1

Server IP: Port:

Registration Period: (30~85536s)

SIP Server 2

Server IP: Port:

Registration Period: (30~85536s)

Outbound Proxy Server

Enable Outbound:

Server IP: Port:

Backup Server IP: Port:

Transport Type

Transport Type:

NAT

NAT:

Stun Server Address: Port:

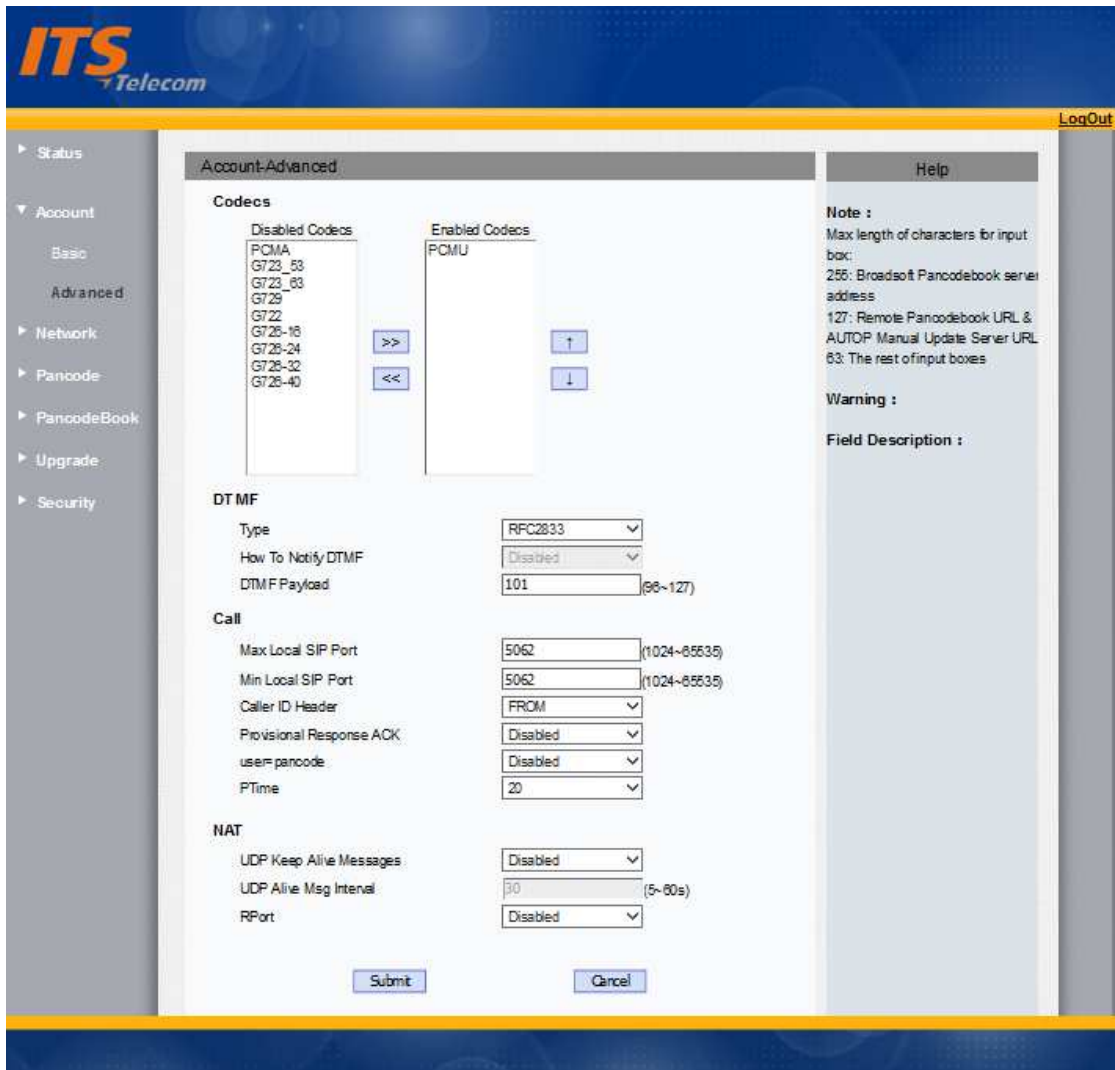
Help

Note :
 Max length of characters for input box:
 255: Broad of Pancodebook's server address
 127: Remote Pancodebook URL & AUTCP Manual Update Server URL
 63: The rest of input boxes

Warning :

Field Description :

To configure advanced account settings, go to web, Account -> Advanced. The advanced parameters can be configured as shown below.



Parameter description:

| Sections | Description |
|--------------------|---|
| SIP Account | <p>To display and configure the specific Account settings.</p> <ul style="list-style-type: none"> ● Status: To display register result. ● Display Name: Which is sent to the other call party for displaying. ● Register Name: Allocated by SIP server provider, used for authentication. ● User Name: Allocated by your SIP server provide, used for authentication. |

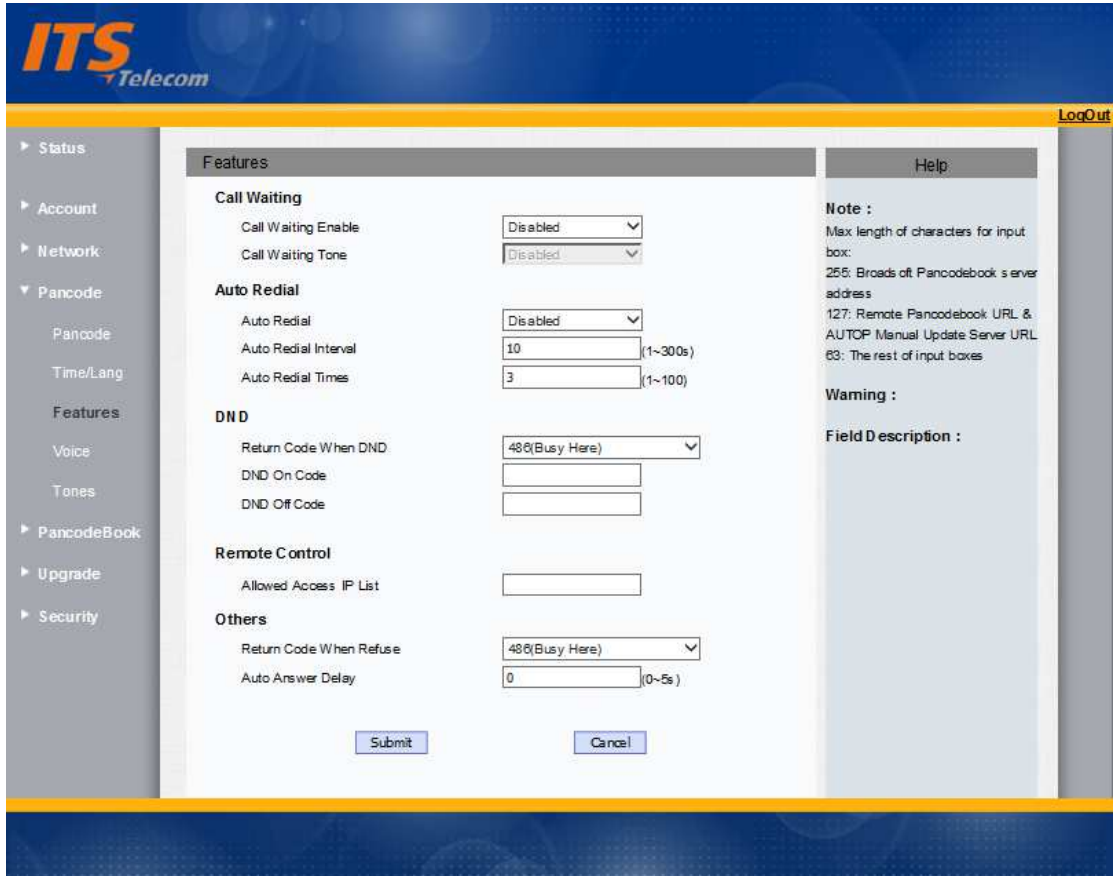
| | |
|------------------------------|--|
| | <ul style="list-style-type: none"> ● Password: Used for authorization. |
| SIP Server 1 | <p>To display and configure Primary SIP server settings.</p> <ul style="list-style-type: none"> ● Server IP: SIP server address, it could be an URL or IP address. ● Registration Period: The registration will expire after Registration period, Pancode will re-register automatically within registration period. |
| SIP Server 2 | <p>To display and configure Secondary SIP server settings.</p> <ul style="list-style-type: none"> ● This is for redundancy, if registering to Primary SIP server fails, Pancode will go to Secondary SIP server for registering. <p>Note: Secondary SIP server is used for redundancy; it can be left blank if there is not redundancy SIP server in user's environment.</p> |
| Outbound Proxy Server | <p>To display and configure Outbound Proxy server settings.</p> <ul style="list-style-type: none"> ● An outbound proxy server is used to receive all initiating request messages and route them to the designated SIP server. <p>Note: If configured, all SIP request messages from Pancode will be sent to the outbound proxy server forcefully.</p> |
| Transport Type | <p>To display and configure Transport type for SIP message</p> <ul style="list-style-type: none"> ● UDP: UDP is an unreliable but very efficient transport layer protocol. ● TCP: Reliable but less-efficient transport layer protocol. ● TLS: Secured and Reliable transport layer protocol. ● DNS-SRV: A DNS RR for specifying the location of services. |
| NAT | <p>To display and configure NAT (Net Address Translator) settings.</p> <ul style="list-style-type: none"> ● STUN: Short for Simple Traversal of UDP over NATS, a solution to solve NAT issues. <p>Note: By default, NAT is disabled.</p> |
| Codecs | <p>To display and configure available/unavailable codecs list.</p> <ul style="list-style-type: none"> ● Codec means coder-decoder which is used to transfer analog signal to digital signal or vice versa. ● Familiar codecs are PCMU (G711U), PCMA (G711A), G722 |

| | |
|-------------------|---|
| | (wid-bandth codecs), G723, G726, G729 and so on. |
| Call | <p>To display and configure call-related features.</p> <ul style="list-style-type: none"> ● Max Local SIP Port: To configure maximum local sip port for designated account. ● Min Local SIP Port: To configure minimum local sip port for designated account. |
| Encryption | <p>To enable or disabled SRTP feature.</p> <ul style="list-style-type: none"> ● Voice Encryption (SRTP): If enabled, all audio signals (technically speaking its RTP streams) will be encrypted for more security. |
| NAT | <p>To display NAT-related settings.</p> <ul style="list-style-type: none"> ● UDP Keep Alive message: If enabled, Pancode will send UDP keep-alive message periodically to router to keep NAT port alive. ● UDP Alive Msg Interval: Keepalive message interval. ● RPort: Remote Port, if enabled, it will add Remote Port into outgoing SIP message for designated account. |

8. SIP Call Features

1) Features

To configure Pancode features, go to web, Pancode -> Features. Call feature can be set as shown below.



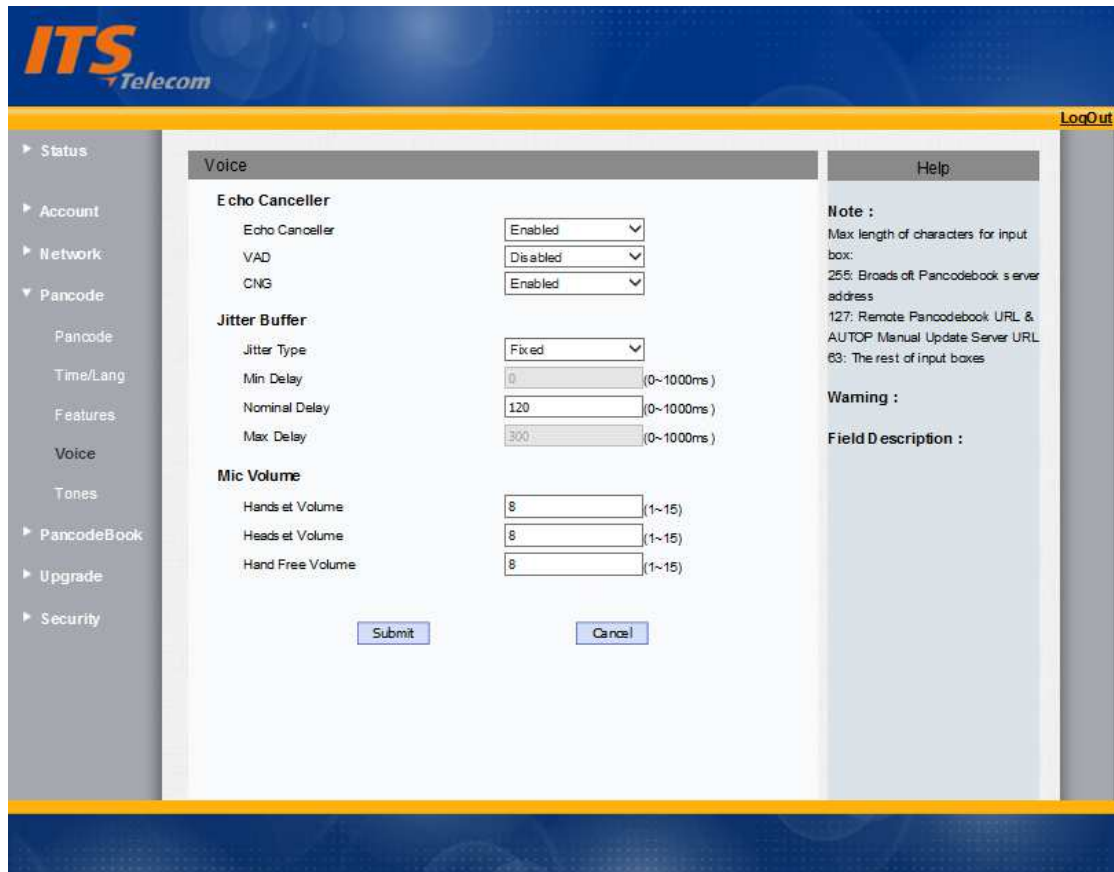
Parameter description:

| Sections | Description |
|---------------------|--|
| Call Waiting | <p>To enable or disable Call Waiting.</p> <ul style="list-style-type: none"> ● Call Waiting Enable: If enabled, it allows Pancode to receive a new incoming call when there is already an active call. ● Call Waiting Tone: If enabled, it allows Pancode to play the call waiting tone to the waiting callee. |
| Auto Redial | <p>Auto redial allows Pancode to redial an unsuccessful call for designated times within designated interval.</p> <ul style="list-style-type: none"> ● Auto Redial: To enable or disable auto redial feature. ● Auto Redial Interval: Determine the interval between two consecutive attempts. |

| | |
|-----------------------|---|
| | <ul style="list-style-type: none"> ● Auto Redial Times: Determine how many times to redial. |
| DND | <p>DND (Do Not Disturb) allows Pancode to ignore any incoming calls.</p> <ul style="list-style-type: none"> ● Return Code when DND: Determine what response code should be sent back to server when there is an incoming call if DND on. ● DND On Code: The Code used to turn on DND on server's side, if configured, Pancode will send a SIP message to server to turn on DND on server side if you press DND when DND is off. ● DND Off Code: The Code used to turn off DND on server's side, if configured, Pancode will send a SIP message to server to turn off DND on server side if you press DND when DND is on. |
| Remote Control | <p>Remote Control allows specific host to interact with Pancode by sending HTTP or HTTPS requests. The specific action could be answering an incoming call, hangup an ongoing call and so on.</p> <ul style="list-style-type: none"> ● Allowed Access IP List: To configure the allowed host address. <p>Note: For now, Pancode can only support IP address, IP address list and IP address pattern as allowed hosts</p> |
| Others | <ul style="list-style-type: none"> ● Return Code When Refuse: Allows user to assign specific code as return code to SIP server when an incoming call is rejected. ● Auto Answer Delay: To configure delay time before an incoming call is automatically answered. |

2) Voice

To configure Voice, go to web, Pancode -> Voice, voice configuration can be done as shown below.



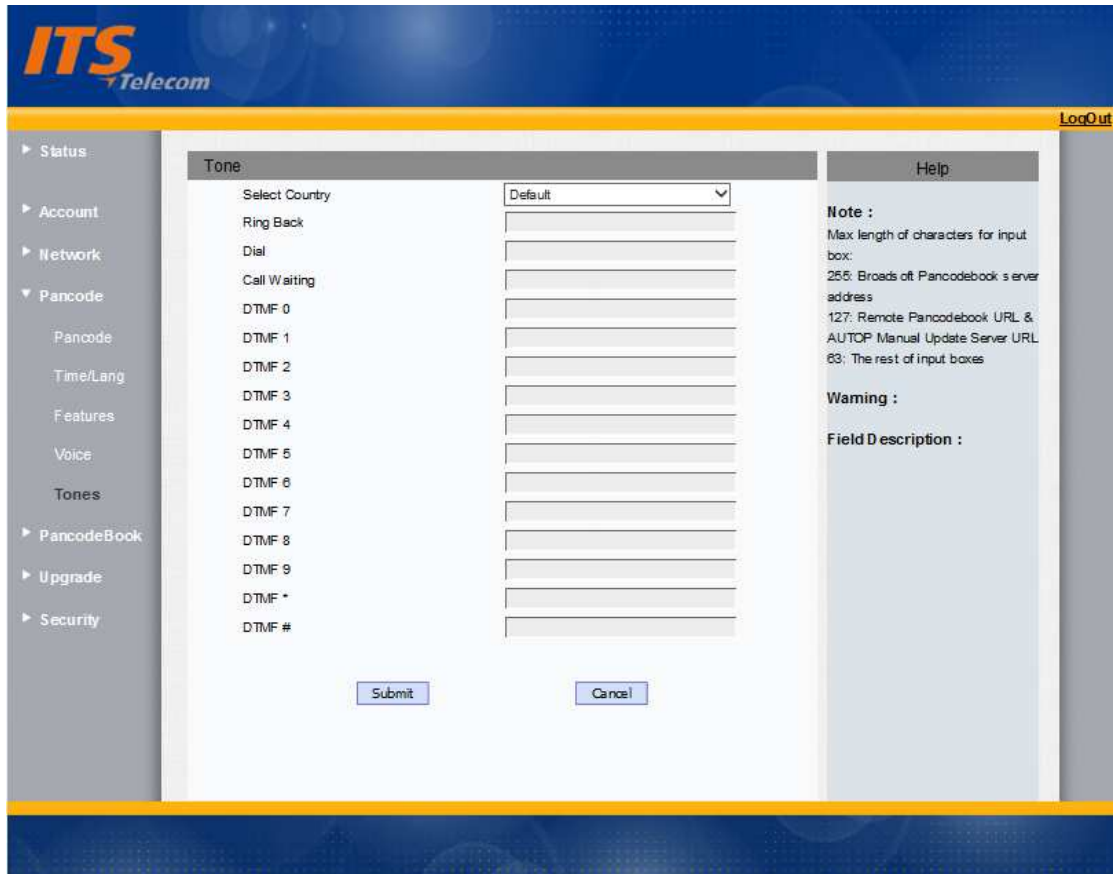
Parameter description:

| Sections | Description |
|-----------------------|---|
| Echo Canceller | <p>Echo Canceller: To remove acoustic echo from a voice communication in order to improve the voice quality.</p> <ul style="list-style-type: none"> ● VAD (Voice Activity Detection): Allow Pancode to detect the presence or absence of human speech during a call. When detecting period of “silence,” VAD replaces that silence efficiently with special packets that indicate silence is occurring. It can facilitate speech processing, and deactivate some processes during non-speech section of an audio session. It can avoid unnecessary coding or transmission of silence packets in VoIP applications, saving on computation and network bandwidth. ● CNG (Comfort Noise Generation): Allow Pancode to generate comfortable background noise for voice communications during periods of silence in a conversation. It is a part of the silence suppression or VAD |

| | |
|----------------------|---|
| | <p>handling for VoIP technology. CNG, in conjunction with VAD algorithms, quickly responds when periods of silence occur and inserts artificial noise until voice activity resumes. The insertion of artificial noise gives the illusion of a constant transmission stream, so that background sound is consistent throughout the call and the listener does not think the line has released.</p> |
| Jitter Buffer | <p>Jitter buffer is a shared data area where voice packets can be collected, stored, and sent to the voice processor in even intervals. Jitter is a term indicating variations in packet arrival time, which can occur because of network congestion, timing drift or route changes. The jitter buffer, located at the receiving end of the voice connection, intentionally delays the arriving packets so that the end user experiences a clear connection with very little sound distortion.</p> <p>Pancode support two types of jitter buffers: fixed and adaptive.</p> <p>Fixed: Add the fixed delay to voice packets. You can configure the delay time for the static jitter buffer on Pancode.</p> <p>Adaptive: Capable of adapting the changes in the network's delay. The range of the delay time for the dynamic jitter buffer added to packets can be also configured on Pancode.</p> |
| Mic Volume | <p>To configure Microphone volume for headset, handset and speaker mode.</p> |

3) Tones

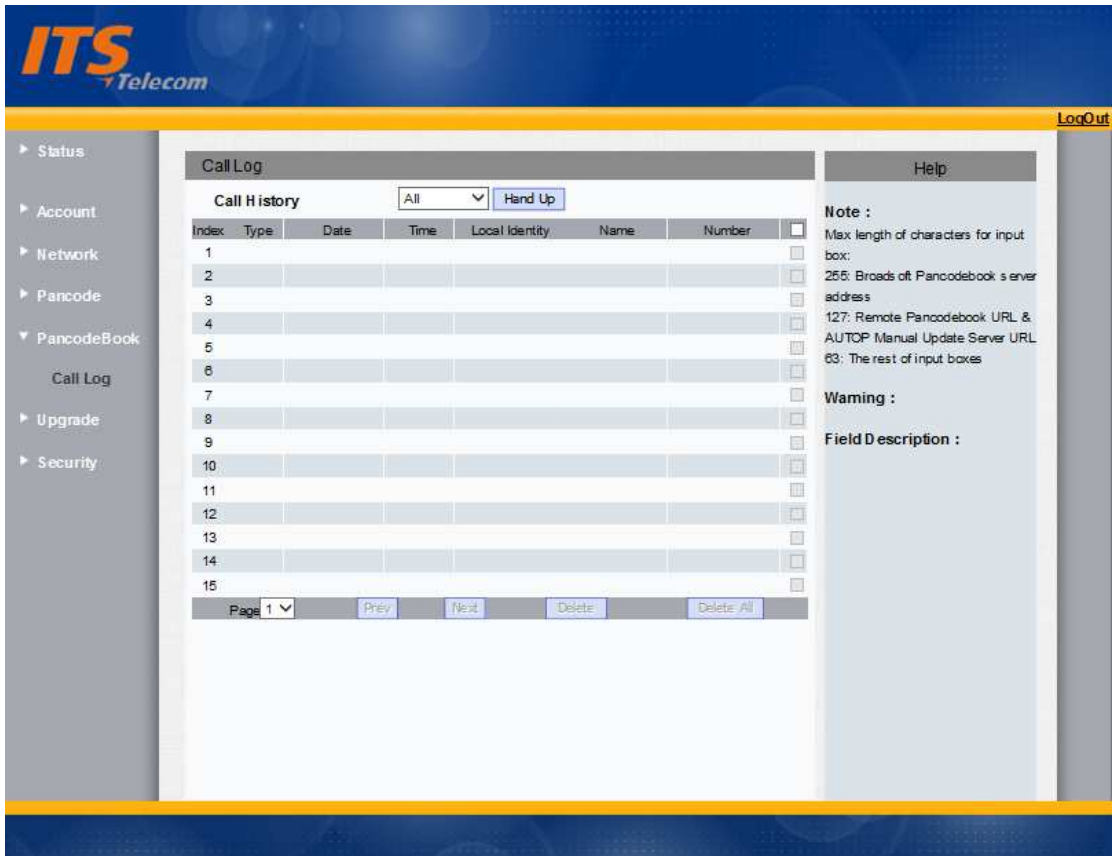
To configure tones, go to web, Pancode -> Tone. Tones can be set as shown below.



9. PancodeBook

1) Call Log

To view call logs, go to web, PancodeBook -> Call Log. The call log web page is shown below.



Parameter description:

| Sections | Description |
|---------------------|---|
| Call History | <p>To display call history records.</p> <ul style="list-style-type: none"> ● Available call history types are, All calls, Dialed calls, Received calls, Missed calls, Forwarded calls. ● HangUp: To click to hangup ongoing call on the Pancode. <p>Note: For “HangUp” feature, you need to have the remote control privilege to control Pancode via Web UI. Please refer to section “Remote Control” in the Web UI->Pancode->Call Feature page.</p> |

Chapter 4. Security

1. Web Password Modify

To modify the web password, go to web, Security -> Basic. Web password can be modified as shown below.

The screenshot shows the ITS Telecom web interface. The main content area is titled 'Security-Basic' and contains the 'Web Password Modify' form. The form has the following fields:

- User Name: admin
- Current Password: [input box]
- New Password: [input box]
- Confirm Password: [input box]

Below the form are 'Submit' and 'Cancel' buttons. On the right side, there is a 'Help' sidebar with the following content:

Note :
 Max. length of characters for input box:
 255: Broads of Pancodebook server address
 127: Remote Pancodebook URL & AUTOP Manual Update Server URL
 63: The rest of input boxes

Warning :

Field Description :

Parameter description:

| Sections | Description |
|----------------------------|---|
| Web Password Modify | <p>To modify user's password.</p> <ul style="list-style-type: none"> ● Current Password: The current password you used. ● New Password: Input new password you intend to use. ● Confirm Password: Repeat the new password. <p>Note: For now, Pancode can only support user admin.</p> |

2. Web Server Certificate Upload

Web server certificate can be uploaded via web, Security -> Advance. Also, the certificate can be deleted on the same web page.

The screenshot shows the ITS Telecom web interface. On the left is a navigation menu with categories like Status, Account, Network, Pancode, PancodeBook, Upgrade, and Security. The Security section is expanded to show 'Basic' and 'Advanced' options. The main content area is titled 'Advanced' and contains three sections:

- Web Server Certificate:** A table with columns for Index, Issue To, Issuer, and Expire Time. One entry is shown with Index 1, Issue To Ringslink, Issuer Ringslink, and Expire Time Sun Jun 27 07:14:32 2037. A 'Delete' button is next to it.
- Web Server Certificate Upload:** A section with a 'Browse...' button (showing 'No file selected.'), 'Submit', and 'Cancel' buttons.
- Client Certificate:** A table with columns for Index, Issue To, Issuer, Expire Time, and a checkbox. Ten rows are visible, all with empty fields. 'Delete' and 'Cancel' buttons are at the bottom.
- Client Certificate Upload:** A section with an 'Index' dropdown (set to 'Auto'), a 'Browse...' button (showing 'No file selected.'), 'Submit', and 'Cancel' buttons.

On the right side, there is a 'Help' section with a 'Note' (regarding character limits for input boxes) and a 'Warning' section with a 'Field Description'.

Parameter description:

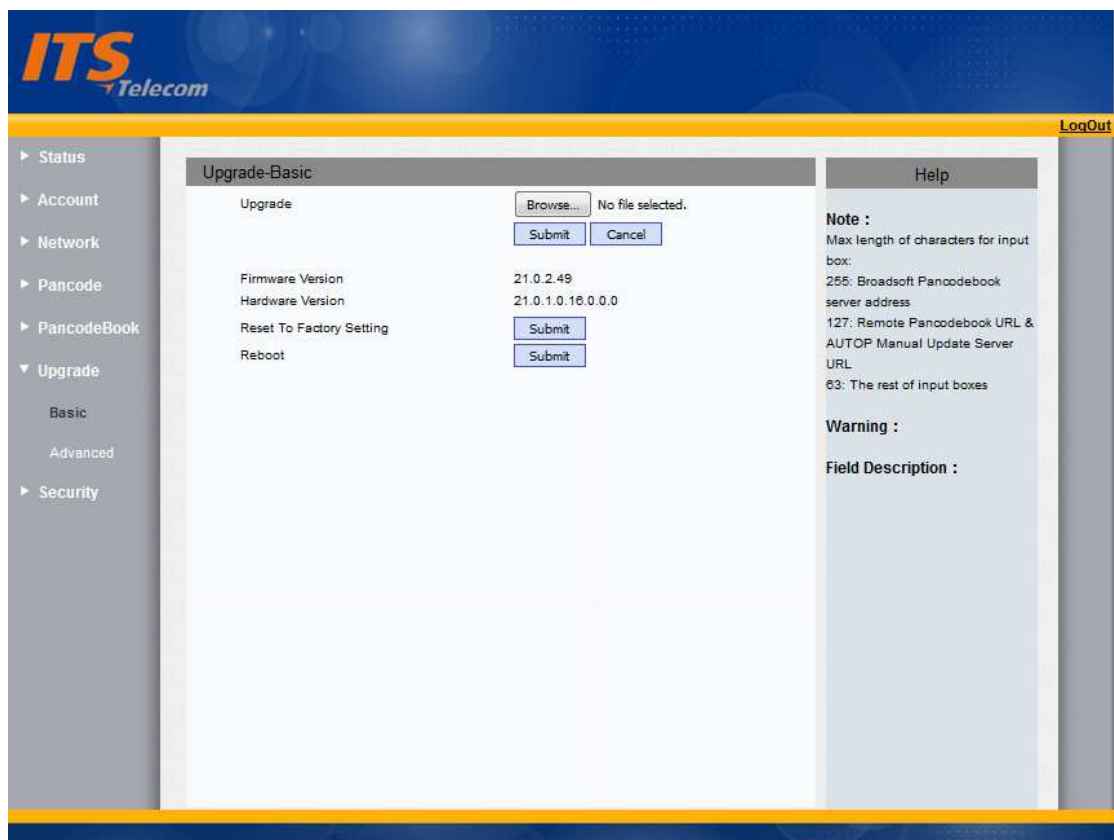
| Sections | Description |
|--------------------------------------|---|
| Web Server Certificate | To display or delete Certificate which is used when Pancode is connected from any incoming HTTPs request. Note: The default certificate could not be deleted. |
| Web Server Certificate Upload | To upload a certificate file which will be used as server certificate. |
| Client Certificate | To display or delete Certificates which is used when Pancode is |

| | |
|----------------------------------|--|
| | connecting to any HTTPs server. |
| Client Certificate Upload | To upload certificate files which is used as a client certificate. |

Chapter 5. Upgrade

1. Basic Upgrade

To basic upgrade, to go web, Upgrade -> Basic. Upgrade can be down on the page below.



Parameter description:

| Sections | Description |
|----------------|---|
| Upgrade | To select upgrading rom file from local or a remote server automatically. |

| | |
|---------------------------------|---|
| | Note: Please make sure it's right file format for right model. |
| Firmware version | To display firmware version, firmware version starts with MODEL name. |
| Hardware Version | To display Hardware version. |
| Reset to Factory Setting | To enable you to reset Pancode's setting to factory settings. |
| Reboot | To reboot Pancode remotely from Web UI. |

2. Advance Upgrade

For advance upgrade methods, go to web, Upgrade -> Advanced. Advanced upgrade settings can be done as shown below.

The screenshot displays the ITS Telecom web interface for the 'Upgrade-Advanced' configuration page. The interface includes a sidebar with navigation options (Status, Account, Network, Pancode, PancodeBook, Upgrade, Security) and a main content area with the following sections:

- PNP Option:** PNP Config is set to 'Enabled'.
- DHCP Option:** Custom Option is a text input field with a '(128~254)' character limit.
- Manual Update Server:** Includes fields for URL, User Name, Password, Common AES Key, and AES Key(MAC).
- AutoP:** Mode is 'Power On', Schedule is 'Sunday' at '22' hours. Buttons for 'AutoProvision' and 'Submit' are present.
- System Log:** LogLevel is '3', with an 'Export Log' button.
- PCAP:** Includes 'Start', 'Stop', and 'Export' buttons.
- Others:** Config File(.tgz) with a 'Browse...' button and 'Import', 'Export', and 'Cancel' buttons.

A 'Help' section on the right contains the following information:

- Note :** Max length of characters for input box: 255: Broadsoft Pancodebook server address, 127: Remote Pancodebook URL & AUTOP Manual Update Server URL, 63: The rest of input boxes.
- Warning :**
- Field Description :**

Parameter description:

| Sections | Description |
|------------------------------------|---|
| <p>PNP Option</p> | <p>To display and configure PNP setting for Auto Provisioning.</p> <ul style="list-style-type: none"> ● PNP: Plug and Play, once PNP is enabled, the Pancode will send SIP subscription message to PNP server automatically to get Auto Provisioning server's address. <p>By default, this SIP message is sent to multicast address 224.0.1.75(PNP server address by standard).</p> |
| <p>DHCP Option</p> | <p>To display and configure custom DHCP option.</p> <ul style="list-style-type: none"> ● DHCP option: If configured, Pancode will use designated DHCP option to get Auto Provisioning server's address via DHCP. ● This setting require DHCP server to support corresponding option. |
| <p>Manual Update Server</p> | <p>To display and configure manual update server's settings.</p> <ul style="list-style-type: none"> ● URL: Auto provisioning server address. ● User name: Configure if server needs a username to access, otherwise left blank. ● Password: Configure if server needs a password to access, otherwise left blank. ● Common AES Key: Used for Pancode to decipher common Auto Provisioning configuration file. ● AES Key (MAC): Used for Pancode to decipher MAC-oriented auto provisioning configuration file (for example, file name could be 0c1105888888.conf if Pancode's MAC address is 0c1105888888). <p>Note: AES is one of many encryptions, only configure filed is ciphered with AES should be configured, otherwise left blank.</p> |
| <p>AutoP</p> | <p>To display and configure Auto Provisioning mode settings.</p> <p>This Auto Provisioning mode is actually self-explanatory.</p> <p>For example, mode "Power on" means Pancode will go to do</p> |

| | |
|-------------------|--|
| | Provisioning every time it powers on. |
| System Log | <p>To display syslog level and export syslog file.</p> <p>Syslog level: From level 0~7.The higher level means the more specific syslog is saved to a temporary file.</p> <p>By default, it's level 3.</p> <p>Export Log: Click to export temporary syslog file to local PC.</p> |
| PCAP | <p>To start, stop packets capturing or to export captured Packet file.</p> <ul style="list-style-type: none"> ● Start: To start capturing all the packets file sent or received from Pancode. ● Stop: To stop capturing packets. <p>Note: Pancode will save captured packets file to a temporary file, this file maximum size is 1M(mega bytes), and will top capturing once reaching this maximum size.</p> |
| Others | <p>To display or configure others features from this page.</p> <p>Config file: To export or import configuration file for Pancode.</p> |