

# Configuring the Grandstream HandyTone 503 (HT-503)

Rev 1.1, 5/8/2015

## History

Rev 1, 3/12/2014 : Initial version

Rev 1.1, 5/8/2015 : Added setting for Current Disconnect Threshold

## Preface

This guide provides information and hints for configuring the Grandstream HandyTone 503 (HT-503) to work with Ignition Voice Alarming. The HT-503 is a basic telephony appliance with both an FXS port (for a telephone) and an FXO port (for the phone line). While it is not a complete VOIP server, it does support SIP, and can be successfully used to route calls from Ignition to PSTN, through the FXO port.

This guide assumes that you have access to the HT-503 user manual, available from Grandstream's product website:

<https://www.grandstream.com/index.php/products/ip-voice-telephony/consumer-analog-telephony-adaptors/ht503>

## Setup

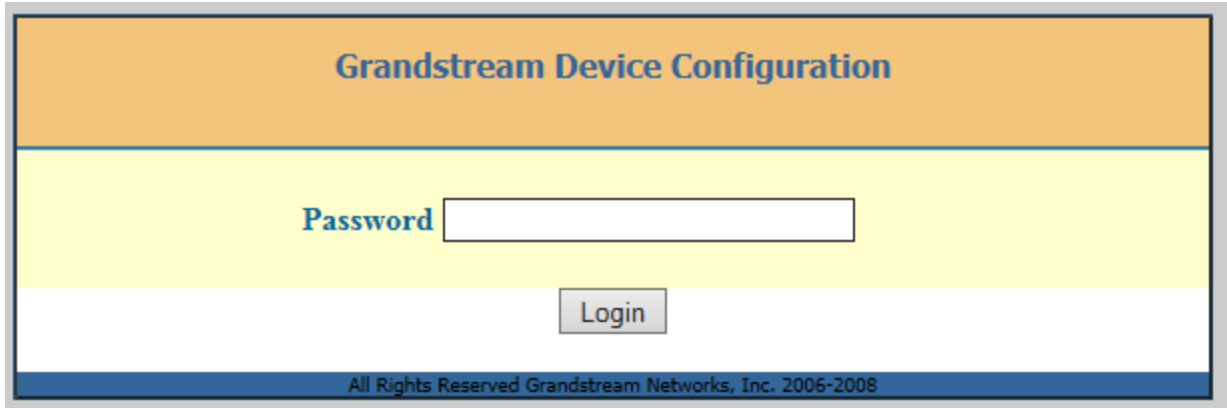
**Note:** After modifying each page, click "Apply" at the bottom to save the changes. Changes are not automatically saved when moving from page to page.

1) Connect to the web interface

Follow the instructions in the user manual section titled "ACCESS THE WEB CONFIGURATION MENU".

When connected to the "LAN" port, the default ip address is: **192.168.2.1**

The default password is: **admin**

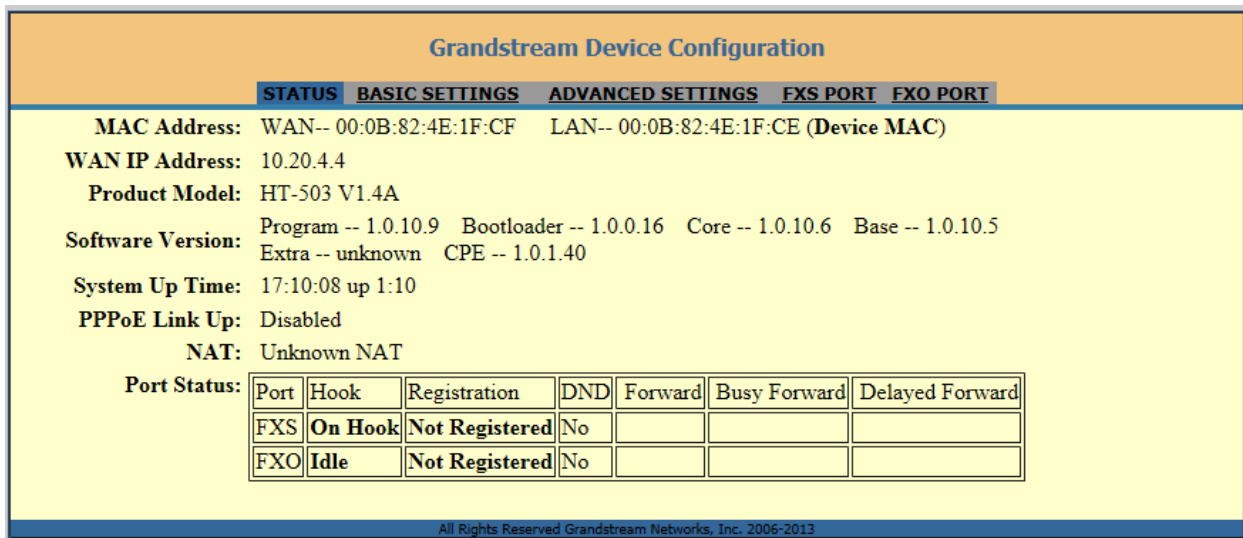


**Grandstream Device Configuration**

Password

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The initial login page



**Grandstream Device Configuration**

STATUS
BASIC SETTINGS
ADVANCED SETTINGS
FXS PORT
FXO PORT

**MAC Address:** WAN-- 00:0B:82:4E:1F:CF    LAN-- 00:0B:82:4E:1F:CE (Device MAC)  
**WAN IP Address:** 10.20.4.4  
**Product Model:** HT-503 V1.4A  
**Software Version:** Program -- 1.0.10.9    Bootloader -- 1.0.0.16    Core -- 1.0.10.6    Base -- 1.0.10.5  
                           Extra -- unknown    CPE -- 1.0.1.40  
**System Up Time:** 17:10:08 up 1:10  
**PPPoE Link Up:** Disabled  
**NAT:** Unknown NAT  
**Port Status:**

Port	Hook	Registration	DND	Forward	Busy Forward	Delayed Forward
FXS	On Hook	Not Registered	No			
FXO	Idle	Not Registered	No			

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The status page, after logging in

## 2) Configure basic network settings

You will likely need to change the IP address of the box to fit with your network scheme. Although Ignition will likely connect over the local network, this guide assumes you will connect the network to the WAN port.

### Grandstream Device Configuration

STATUS
BASIC SETTINGS
ADVANCED SETTINGS
FXS PORT
FXO PORT

**End User Password:**  (purposefully not displayed for security protection)  
**Web Port:**  (default for HTTP is 80)  
**Telnet Server:**  No  Yes  
**IP Address:**  dynamically assigned via DHCP  
     DHCP hostname:  (optional)  
     DHCP vendor class ID:  (optional)  
 use PPPoE  
     PPPoE account ID:   
     PPPoE password:   
     PPPoE Service Name:   
     Preferred DNS server:      
 statically configured as:  
     IP Address:      
     Subnet Mask:      
     Default Router:      
     DNS Server 1:      
     DNS Server 2:      
**Time Zone:**    
*Self-Defined Time Zone:*  (For example: "MTZ+6MDT+5,M4.1.0,M11.1.0")  
**Language:**

**NAT/DHCP Server Information & Configuration:**

*Device Mode:*  NAT Router  Bridge  
*NAT maximum ports:*  (range: 0 - 4096, default is 1024)  
*NAT TCP timeout:*  (range: 0 - 3600, default is 3600)  
*NAT UDP timeout:*  (range: 0 - 3600, default is 300)  
*Uplink bandwidth:*    
*Downlink bandwidth:*    
*Enable UPnP support:*  No  Yes  
*Reply to ICMP on WAN port:*  No  Yes (Unit will not respond to PING from WAN side if set to No)  
*WAN side HTTP/Telnet access:*  No  Yes (WAN side access will be rejected if set to No)  
*Cloned WAN MAC Addr:*       (in hex format)  
*Enable LAN DHCP:*  No  Yes  
*LAN DHCP Base IP:*  (base IP for the LAN port, default is 192.168.2.1)  
*LAN DHCP Start IP:*  (default is 100)  
*LAN DHCP End IP:*  (default is 199)  
*LAN Subnet Mask:*  (default is 255.255.255.0)

The following settings generally need to be modified:

1. **IP Address - Statically Configured**
  - a. Set relevant fields as necessary for your network.

2. *Wan side HTTP Access* - **Yes**, unless you intend to perform all configuration while connected to the LAN port.
3. *Enable LAN DHCP* - **No**, although the LAN port likely won't be used, it is likely not desirable to have the box provide DHCP services if connected to the network.

***There are no settings on the Advanced Settings panel that must be changed.***

### 3) Configure the FXS Port settings

Although the FXS port will not be used, there are several settings that must be changed.

1. *Account Active* - **No**
2. *Local SIP Port* - **5063** (Or anything besides 5060, which will be used by the FXO port)

The screenshot shows the 'Grandstream Device Configuration' interface. At the top, there are tabs for 'STATUS', 'BASIC SETTINGS', 'ADVANCED SETTINGS', 'FXS PORT', and 'FXO PORT'. The 'FXS PORT' tab is selected. Below the tabs, there is a section for 'Account Active' with radio buttons for 'No' (selected) and 'Yes'. Below that, there are two input fields: 'Local SIP port' with the value '5063' and a note '(default is 5060 for UDP and TCP; 5061 for TLS)', and 'Local RTP port' with the value '5004' and a note '(1024-65535, default 5004)'. The entire configuration area is highlighted in yellow.

### 4) Configure the FXO Port settings

This is where the bulk of the configuration takes place. If these settings are not correct, the default action is to forward calls to the FXS port on the box (in other words, when Ignition attempts to make a call, you will see the FXS port status go to "Ringing" on the HT-503 status page).

The HT-503 expects to be connected to a SIP server. While Ignition is not a sip server, the box can be configured to point to it, as it will not actually try to connect with the "SIP Registration" option set to "No" (see below).

## Grandstream Device Configuration

**STATUS** **BASIC SETTINGS** **ADVANCED SETTINGS** **FXS PORT** **FXO PORT**

**Account Active:**  No  Yes

**Primary SIP Server:**  (e.g., sip.mycompany.com, or IP address)

**Failover SIP Server:**  (Optional, used when primary server no response)

**Prefer Primary SIP Server:**  No  Yes (yes - will register to Primary Server if Failover registration expires)

**Outbound Proxy:**  (e.g., proxy.myprovider.com, or IP address, if any)

**SIP Transport:**  UDP  TCP  TLS (default is UDP)

**NAT Traversal:**  No  Keep-Alive  STUN  UPnP

**SIP User ID:**  (the user part of an SIP address)

**Authenticate ID:**  (can be identical to or different from SIP User ID)

**Authenticate Password:**  (purposely not displayed for security protection)

**Name:**  (optional, e.g., John Doe)

**DNS Mode:**  A Record  SRV  NAPTR/SRV  Use Configured IP

**Primary IP:**

**Backup IP1:**

**Backup IP2:**

**Tel URI:**

**SIP Registration:**  No  Yes

**Unregister On Reboot:**  No  Yes

**Outgoing Call without Registration:**  No  Yes

### Account Settings

**Local SIP port:**  (default 5062)

**Local RTP port:**  (1024-65535, default 5012)

### SIP Port Settings

**DTMF Payload Type:**

**Preferred DTMF method:** Priority 1:  (in listed order)  
Priority 2:   
Priority 3:

**Disable DTMF Negotiation:**  No (default, negotiate with peer)  Yes (use above DTMF order without negotiation)

### DTMF Settings

**Number of Rings:**  (1-50. Default 4)  
(Number of rings for a PSTN incoming call before FXO port answers to accept VoIP number)

**PSTN Ring Thru FXS:**  No  Yes (Default Yes)  
(If set to yes, all incoming PSTN calls will ring the FXS port after the Ring Thru Delay)

**PSTN Ring Thru Delay (sec):**  (1-10 seconds. Default 4 seconds)

### FXO Termination Setting

Wait for Dial-Tone:  No  Yes (Default Yes - dial upon dial-tone)

Stage Method (1/2):  (Default 2 - 2 stage dialing)

#### Channel Dialing Settings

1. Account Active - **Yes**
2. Primary SIP Server - **The IP address of your Ignition gateway** (Note: since the box will not actually register with Ignition, in a redundant setup it should be sufficient to simply enter the master address)
3. SIP User ID, Authenticate ID, Name - **Any simple name/id**
4. SIP Registration - **No**
5. Outgoing Call without Registration - **Yes**
6. Local SIP port - **5060**
7. DTMF Payload Type - **101**
8. Preferred DTMF method, Priority 1 - **RFC2833**
9. Number of Rings (FXO Termination) - **1**
10. PSTN Ring Thru FXS - **No**
11. PSTN Ring Thru Delay - **1**
12. Wait for Dial-Tone (Channel Dialing) - **No**
13. Stage Method - **1**

**Note:** It has been observed that in some environments, the *Current Disconnect Threshold (ms)* setting must be set higher in order for calls to be made successfully. If everything appears to be fine, but calls are not placed, try increasing the value to 800:

#### FXO Termination

Enable Current Disconnect:  No  Yes (Default Yes. If set to yes, enter threshold below)

Current Disconnect Threshold (ms):  (50-800 milliseconds. Default 100 milliseconds)

#### 5) Configure Ignition

1. Create a new voice notification profile by going to Gateway Configuration>Alarming>Notification>Create new profile, and selecting "VOIP"
2. Enter the IP address assigned to the box
3. *Leave the username and password blank*

## Edit Alarm Notification Profile

Main	
Name	Grandstream <input type="text"/>
Description	<input type="text"/>
Enabled	<input checked="" type="checkbox"/> (default: true)
VOIP Gateway Settings	
Gateway Address	192.168.1.101 <small>The ip address or domain name of your SIP gateway.</small>
Username/Account	<input type="text"/>
Change Password?	<input type="checkbox"/> Check this box to change the existing password.
Password	<input type="password"/>
Password	<input type="password"/> <small>Re-type password for verification.</small>
Outbound Proxy	<input type="text"/> <small>The proxy to use, if any.</small>

## Testing and Troubleshooting

To place a test call, you must first configure all of the parts of Ignition normally required for alarm notification. This includes:

1. Create a user in your User Source
2. Assign the user a phone number (**NB:** The phone number must be valid for the phone line, as it will be dialed directly. It will usually include the long distance country code, and should not include dashes. For example: 15551235432)
3. Create an On-Call Roster, assign the user
4. Create an alarm pipeline, with a notification block set to use the VOIP profile, and the correct On-Call Roster.
5. Create an alarm set to use the alarm pipeline as the “active pipeline”.

When a call is placed, you will be able to monitor its progress from Status>Voice Alarming in the gateway.

In the HT-503, you should see the status of the FXO port change:

Port Status:	Port	Hook	Registration	DND	Forward	Busy Forward	Delayed Forward
	FXS	<b>On Hook</b>	<b>Not Registered</b>	No			
	FXO	<b>Idle</b>	<b>Not Registered</b>	No			

*Normal, non-call status*

Port Status:	Port	Hook	Registration	DND	Forward	Busy Forward	Delayed Forward
	FXS	<b>On Hook</b>	<b>Not Registered</b>	No			
	FXO	<b>In Use</b>	<b>Not Registered</b>	No			

*Status during call*

## Troubleshooting Notes

- If the status of the FXS port becomes “Ringing”, the call is not being routed correctly. Verify that all of the settings described in this document are set, and have been correctly saved.
- In Ignition, you may need to increase the “Answer Timeout” in order to allow more time for the call to be initialized and established.
- In Ignition, all SIP messages are logged under the logger “Alarming.Notification.Voice.CallManager.Agent”, at the Debug level. By enabling this logger in Configuration>System>Console>Levels, you will see the messages sent and received in the console. Primarily, note the messages that begin with “[network, SENT...” or “[network, RECEIVED...”. If you do not see any “RECEIVED” messages, it is likely that the HT-503 is not able to communicate with Ignition due to network or firewall settings. Also verify that port 5060 is not already in use on the Ignition system.