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Grandstream GXW 410X Configuration Procedure

Description

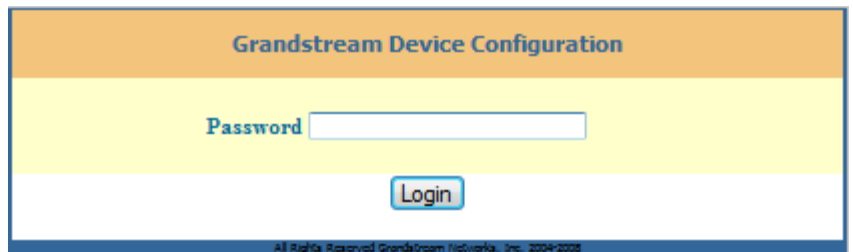
When application of the Grandstream GXW 410X is desired for connection of FXO circuits onto the IPitomy IPBX the following configuration information can be used as a guide to install the adjunct properly.

Procedure

1. Make wiring connections as necessary to the FXO circuits required.



2. Make wiring connections to the LAN per the photo above – Connect the Grandstream WAN port to an available LAN port of the network switch/router being used on site.
3. Power up the unit and identify its assigned IP address. (Typically assigned from the DHCP server of the host router.)
4. Use your browser to access the Grandstream by inputting the IP Address assigned to it. The IP Address assigned by your router via DHCP can be discovered several ways – the easiest of which is likely by accessing the router's connected devices page and finding it listed there.
5. When the Grandstream page is accessed, input the password ("admin" at default) and navigate to the pages below making the changes as defined.



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6. Navigate to the “Basic Settings” page and input the data as in the example shown in the photo.
7. As mentioned, the IP Address assigned is likely DHCP (automatically assigned by the router).
This is not desirable since the device must be “found” by the IPBX regardless of incidental changes and network adjustments. For this reason its best to change the IP Address to Static and assign an address that is out of range of those that the host router assigns for DHCP registered devices. (E.g. if the router will assign DHCP Adresses from 192.168.1.1 ~ 192.168.1.50 you should select an IP Address out of this range ...192.168.1.200 would work unless it is being used elsewhere.)
8. Use the other information provided by the DHCP assignment to fill in the remaining data; Subnet is usually 255.255.255.0. The Default Router Address must be that of the router—the same one that assigns DHCP IP Addresses. DNS should also be the router since it will direct traffic.
9. Click the button. This saves information on this page before moving on.

The screenshot shows the 'Grandstream Device Configuration' web interface. The 'Basic Settings' tab is selected. The 'Web Access' is set to HTTP with port 80. The 'End User Password' field is empty. Under 'IP Address', the 'statically configured (default) as:' option is selected and highlighted with a yellow box. The configuration values are: IP Address: 192.168.2.9, Subnet Mask: 255.255.255.0, Default Router: 192.168.2.1, DNS Server 1: 192.168.2.1, and DNS Server 2: 0.0.0.0. The 'Time Zone' is set to GMT-5:00 (US Eastern Time, New York) and 'Daylight Savings Time' is set to No. At the bottom, there are 'Update', 'Cancel', and 'Reboot' buttons.

IP Address:	192	.168	.2	.9
Subnet Mask:	255	.255	.255	.0
Default Router:	192	.168	.2	.1
DNS Server 1:	192	.168	.2	.1
DNS Server 2:	0	.0	.0	.0

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- 10. Navigate to the "FXO Lines" page.
- 11. Change the "Stage Method(1/2):" to **Ch1-4:1;**

Ch1-4:1;

Grandstream Device Configuration

[Status](#)
[Basic Settings](#)
[Advanced Settings](#)
[FXO Lines](#)
[FXO Line Test](#)
[Channels](#)
[Dial-plan](#)
[Profile 1](#)
[Profile 2](#)
[Profile 3](#)

FXO Termination

- 1. Enable Current Disconnect(Y/N): (default Y=yes)
 If enabled, use threshold: (default 100ms, range 5 ~ 65530 ms)
- 2. Enable Tone Disconnect(Y/N): (default No; If yes, use busy tone settings)
- 3. Enable Polarity Reversal(Y/N): (default No; Consult your carrier)
- 4. Silence Timeout(X1s): (default 60s)
- 5. AC Termination Impedance: (0-15, default 0)
 AC Termination Impedance Values (0-15, default 0)
 - 0 - 600 Ohm (North American)
 - 1 - 900 Ohm
 - 2 - 270 Ohm + (750 Ohm||150nF) and 275 Ohm + (780 Ohm||150nF)
 - 3 - 220 Ohm + (820 Ohm||120nF) and 220 Ohm + (820 Ohm||115nF)
 - 4 - 370 Ohm + (620 Ohm||310nF)
 - 5 - 320 Ohm + (1050 Ohm||230nF)
 - 6 - 370 Ohm + (820 Ohm||110nF)
 - 7 - 275 Ohm + (78 Ohm || 150 nF)
 - 8 - 120 Ohm + (820 Ohm||110 nF)
 - 9 - 350 Ohm + (1000 Ohm||210nF)
 - 10 - 0 Ohm + (900 Ohm||30nF)
 - 11 - 600 Ohm + 2.16 uF
 - 12 - 900 Ohm + 1 uF
 - 13 - 900 Ohm + 2.16 uF
 - 14 - 600 Ohm + 1 uF
 - 15 - Global complex impedance

Channel Dialing to PSTN

- 1. Wait for Dial-Tone(Y/N): (default No)
- 2. Stage Method(1/2): (default 2 - 2 stage dialing)
- 3. Min Delay Before Dial PSTN Number: (default 500ms, range 50 ~ 65000ms)

	User ID	Sip Server	Sip Destination Port
4. Unconditional Call Forward to VOIP:	<input type="text" value="ch1-4:9413062200;"/> <small>(i.e ch1-2:223;ch3:224</small>	<input type="text" value="@ch1-4:p1;"/> <small>cn1-2:p1;ch3:p2</small>	<input type="text" value="ch1-4:5060;"/> <small>ch1-2:5060;ch2:7080)</small>

12. Program the "Unconditional Call Forward to VOIP:" to include the DID (Direct Inward Dial) number(s) that are to be routed. This routing is accomplished by Profiles 1, 2 & 3. Usually only one is necessary. This data field is the routing of the calls that are received on this FXO circuit (aka—very important). In our example the number dialed will always be 941-306-2200. We have programmed the Grandstream to route calls that have been received to the SIP Server using Profile 1. Click the **Update** button. This saves information on this page before moving on.

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13. Navigate to the Profile 1 page.
14. Here the SIP Server must be programmed. Set this to be the IP Address of the IPBX. In our example, the address is 192.168.2.18.
15. Also be sure that the SIP Registration field is set to "No".
16. Click the button. This saves information on this page before moving on.
17. Since programming is now complete in the Grandstream, click this will commit the changes saved thus far to memory and make them operational.

The screenshot displays the 'Grandstream Device Configuration' web interface. At the top, there are navigation tabs: Status, Basic Settings, Advanced Settings, FXO Lines, FXO Line Test, Channels, Dial-plan, Profile 1 (selected), Profile 2, and Profile 3. The main configuration area is divided into several sections. The 'SIP Server' field is highlighted with a yellow circle and contains the IP address '192.168.2.18'. The 'SIP Registration' field is also highlighted with a yellow circle and has the 'No' radio button selected. Other visible fields include 'Profile Name' (live), 'Outbound Proxy', 'Use DNS SRV', 'User ID is phone number', 'Register Expiration' (60), 'SIP Registration Failure Retry Wait Time' (20), 'SIP Transport' (UDP), 'NAT Traversal (STUN)', 'Proxy-Require', 'Early Dial', 'Session Expiration' (180), 'Min-SE' (90), 'Caller Request Timer', 'Callee Request Timer', 'Force Timer', 'UAC Specify Refresher', 'UAS Specify Refresher', 'Force INVITE', 'Enable 100rel', 'Refer-To Uses Target Contact', 'INVITE Ring-no-answer Timeout' (40), and 'Preferred Vocoder' (with choices 1-8: PCMU, PCMA, G.723.1, G.729A/B, GSM, GSM, PCMU, PCMU). A 'Special Feature' dropdown is set to 'Standard'. At the bottom, there are three buttons: 'Update', 'Cancel', and 'Reboot'. A small copyright notice 'All Rights Reserved Grandstream Networks, Inc. 2005-2006' is visible at the very bottom of the interface.

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18. In the IPitomy IPBX set the fields as you see them below... using the IP Address assigned to the Grandstream in step 7 above. (In our example we assigned the Grandstream an IP Address of 192.168.2.9. This becomes the "Host".)
19. Click 
20. Then click on the **Apply Changes** link in the upper right corner to make these settings operational in the Ipitomy IPBX.

SIP Provider	
Name:	<input type="text" value="grandstream"/>
User Type:	<input type="text" value="peer"/>
DTMF Mode:	<input type="text" value="auto"/>
Host:	<input type="text" value="192.168.2.9"/>
Port:	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
Register:	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Custom <input type="text"/>
Authentication:	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Custom <input type="text"/>
Auth User:	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
From User:	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
From Domain:	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
Realm:	<input checked="" type="radio"/> Default <input type="radio"/> Custom <input type="text"/>
Outbound Proxy:	<input checked="" type="radio"/> Disabled <input type="radio"/> Enabled <input type="text"/>
Username:	<input type="text"/>
Secret:	<input type="text"/>
Inbound Caller ID:	<input type="text"/>
Outbound Caller ID Name:	<input type="text"/>
Outbound Caller ID Number:	<input type="text"/>
Call Limit:	<input type="text" value="2"/>
Quality:	<input type="text" value="30000"/>

This should be number of circuits that are actually connected to the Grandstream.

21. Test the operation. Make a call into each of the Grandstream ports that have circuits and assure that they are being routed as defined in Call Routing—Incoming.
22. Test the operation. Make a call at an Ipitomy extension using a calling pattern as defined in Call Routing—Outgoing to assure that the call that should be placed over the Grandstream ports are placed.