



Grandstream Networks, Inc.

Asterisk PBX Configuration Guide

GXP21xx IP Phone/GXP1450 IP Phone

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ASTERISK PBX CONFIGURATION GUIDE FOR GXP21xx/GXP1450

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DISCLAIMER

This document is just a mere reference document intended to guide qualified Network Engineers to setup these features on their Grandstream GXP21xx/GXP1450 IP phones and Asterisk PBX system. Grandstream is not responsible for any problems or issues related to the Asterisk system, and should not be contacted for support related queries with regard to Asterisk System. These are just simple examples to illustrate these features.

Below you shall find useful information on how one can configure both GXP21xx/GXP1450 and an Asterisk PBX System to provide Call Features including Paging/Intercom, Parking and BLF.

PAGING AND INTERCOM

GRANDSTREAM CONFIGURATION

Firstly, in GXP21xx/GXP1450 Web GUI->Account, select “Yes” for option “Allow Auto Answer by Call-Info” as below.

Allow Auto Answer by Call-Info: No Yes

Note: The above configuration will allow GXP21xx/GXP1450 to auto answer a call when the call contains SIP header “Call-Info: <sip://127.0.0.1>\;answer-after=0”. And when the call hung up by the remote party, the phone will automatically on hook without alerting user with disconnect busy tones.

ASTERISK CONFIGURATION

Then you can set up Asterisk by editing file *extensions.conf* with following functions:

1) One to One Intercom

You will first define a Macro and then use it in the one to one intercom context.

```
[macro-pageext]
exten => s,1,ChanIsAvail(${ARG1})|js ; j is for dump and s is for ANY call
exten => s,2,SIPAddHeader(Call-Info: <sip://127.0.0.1>\;answer-after=0)
exten => s,3,Dial(${ARG1})
exten => s,4,NoOp() ; Add others here
exten => s,5, Hangup
exten => s,102, Hangup
```

```
[INTERCOM_GROUP]
exten => _*5XX,1,Macro(pageext,SIP/${EXTEN:1}) ;Page each extension
exten => _*5XX,2, Hangup
```

Note: The above configuration will allow user intercom with any extension (using 5XX) by dialing *5XX.

2) One to Many Paging

```
[One_Way_Page_GROUP]
exten => _**1,1,SIPAddHeader(Call-Info: <sip://127.0.0.1>\;answer-after=0)
exten => _**1,2,Page(${One_Way_Paging_List})
exten => _**1,3, Hangup
```

Note: The above configuration will allow user to one way page (broadcast) to all the extensions defined in variable "One_Way_Paging_List", which can be defined as following:

One_Way_Paging_List => SIP/501&SIP/502/&SIP/503

3) One to Many Intercom

[Two_Way_Intercom_GROUP]

exten => _**2,1,SIPAddHeader(Call-Info: <sip://127.0.0.1>\;answer-after=0)

exten => _**2,2,Page(\${Two_Way_Intercom_List}|d)

exten => _**2,3, Hangup

Note: The above configuration will allow user to do two-way intercom to all the extensions defined in variable "Two_Way_Intercom_List", which can be defined as following:

Two_Way_Intercom_List => SIP/501&SIP/502/&SIP/503

PARKING

GRANDSTREAM CONFIGURATION

None.

ASTERISK CONFIGURATION

In *extensions.conf*:

[parkedcalls]

exten => _*3, 1, ParkAndAnnounce(pbx-

transfer:PAKED|120|SIP/\${DIALEDPEERNUMBER}|sip_incoming,\${DIALEDPEERNUMBER},1)

In *features.conf*:

parkext => 400

parkpos => 401-420

context => parkedcalls

parkingtime => 45

transferdigittimeout => 3

courtesytone = beep

xfersound = beep

xferfailsound = beeper

findslot => next

Note: When in conversation, the above configuration will allow user to:

- 1) Press Transfer and then *3 to park a call into a parking lot, after the transfer, the GXP21xx/GXP1450 will ring itself, then the user can pick up the phone to hear where the call gets parked.
- 2) Users then can pick up the call from any location by calling into the parking lot number.

BLF

GRANDSTREAM CONFIGURATION

Firstly, in GXP21xx/GXP1450 Web GUI->BASIC SETTINGS, configure the Multi-Purpose Keys as shown below.

Multi-Purpose Keys	Multi Purpose Key 1:
Key Mode:	Busy Lamp Field (BLF) ▼
Account:	Account 1 ▼
Name:	JohnDo1
UserID:	501
	Multi Purpose Key 2:
Key Mode:	Busy Lamp Field (BLF) ▼
Account:	Account 1 ▼
Name:	JaneDo1
UserID:	502
	Multi Purpose Key 3:
Key Mode:	Busy Lamp Field (BLF) ▼
Account:	Account 1 ▼
Name:	JohnDo2
UserID:	503
	Multi Purpose Key 4:
Key Mode:	Busy Lamp Field (BLF) ▼
Account:	Account 1 ▼
Name:	JaneDo2
UserID:	504
	Multi Purpose Key 5:
Key Mode:	Busy Lamp Field (BLF) ▼
Account:	Account 1 ▼
Name:	JohnDo3
UserID:	505
	Multi Purpose Key 6:
Key Mode:	Busy Lamp Field (BLF) ▼

Account:	<input type="text" value="Account 1"/>
Name:	<input type="text" value="JaneDo3"/>
UserID:	<input type="text" value="506"/>
Multi Purpose Key 7:	
Key Mode:	<input type="text" value="Busy Lamp Field (BLF)"/>
Account:	<input type="text" value="Account 1"/>
Name:	<input type="text" value="JohnDo4"/>
UserID:	<input type="text" value="507"/>

Note: The above configuration will allow user to use the speed dial key as BLF key, so that for example for Key 2:

- 1) When JaneDo1 with extension 502 receive a call, key 2 lamp will flash fast in red, and user can pick up the call for JaneDo1 by simply pressing Key 2, GXP-21xx/GXP1450 will send a SIP INVITE to “**502” to Asterisk.
- 2) When JaneDo1 picks up the call, the key 2 lamp will keep in red.
- 3) When JaneDo1 is making a call, the key 2 lamp will keep in red as well.
- 4) If key 2 is not flashing, pressing Key 2 will initiate a call to JaneDo1 at extension 502.

ASTERISK CONFIGURATION

In *extensions.conf*:

```

.....
[BLF_group_pickup]
exten => _**5XX,1,Pickup(${EXTEN:2})
exten => _**5XX,2,Hangup
.....

```

Note: The above configuration will matches the configuration in GXP21xx/GXP1450 to pickup any **5XX calls.

```

[BLF_Group_1]
exten => 501, hint, SIP/501
exten => 502, hint, SIP/502
exten => 503, hint, SIP/503

```

```

[BLF_Group_2]
exten => 504, hint, SIP/504
exten => 505, hint, SIP/505
exten => 506, hint, SIP/506
exten => 507, hint, SIP/507

```

Note: The above configuration group extensions in 2 different groups, and only those extensions that with “hint” in the group are allowed to be picked up the calls.

In *sip.conf*:

```

[501]
type=friend

```

```
username=501  
secret=mypassword  
context=localcontext  
host=dynamic  
nat=yes  
canreinvite=no  
mailbox=501  
subscribecontext=BLF_Group_1
```

```
[504]  
type=friend  
username=504  
secret=mypassword  
context=localcontext  
host=dynamic  
nat=yes  
canreinvite=no  
mailbox=504  
subscribecontext=BLF_Group_2
```

Note: The above configuration indicates:

- 1) User 501 can only pickup calls from group BLF_Group_1.
- 2) User 504 can only pickup calls from group BLF_Group_2.