



**Disclaimer:** This document is just a mere reference document intended to guide qualified Network Engineers to setup these features on their Grandstream 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 Grandstream phones and an Asterisk PBX System to provide Call Features like Paging/Intercom, Parking and BLF.

### • Paging and Intercom

#### Grandstream Configuration:

Allow Auto Answer by Call-Info:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes
Turn off speaker on remote disconnect:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes

**Note:** Above configuration will allow GXP-2000 to auto answer a call when the call contains SIP header “Call-Info: 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 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: 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: 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: answer-after=0)
exten => _**1,2,Page(${One_Way_Paging_List})
exten => _**1,3, Hangup
```

*Note: Above configuration will allow user to one way page(broadcast) to all the extensions defined in variable “One\_Way\_Paging\_List”, which can be define 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: answer-after=0)
exten => _**2,2,Page(${Two_Way_Intercom_List}|d)
exten => _**2,3, Hangup
```

*Note: Above configuration will allow user to do two way intercom to all the extensions defined in variable “Two\_Way\_Intercom\_List”, which can be define 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:PARKED|120|SIP/${DIALEDPEERNUMBER}|sip_incoming,${DIALEDPEER
NUMBER},1)
```

*In features.conf:*

```
parkext => 400
parkpos => 401-420
context => parkedcalls
parkingtime => 45
transferdigittimeout => 3
courtesytone = beep
xfersound = beep
xferfailsound = beeper
findslot => next
```

*Note: Above configuration will allow user to when in conversation:*

- 1) press Transfer and then \*3 to park a call into a parking lot, after the transfer, the GXP2000 will ring itself, then the user can pick up the phone to hear where the call gets parked.*
- 2) User then can pick up the call from any location by calling into the parking lot number.*



- **BLF**

## Grandstream Configuration:

In BASIC Page:

<b>Multi Purpose Key 1:</b>	Key Mode: Asterisk BLF Account: Account 1 Name: JohnDo1 UserID: 501
<b>Multi Purpose Key 2:</b>	Key Mode: Asterisk BLF Account: Account 1 Name: JaneDo1 UserID: 502
<b>Multi Purpose Key 3:</b>	Key Mode: Asterisk BLF Account: Account 1 Name: JohnDo2 UserID: 503
<b>Multi Purpose Key 4:</b>	Key Mode: Asterisk BLF Account: Account 1 Name: JaneDo2 UserID: 504
<b>Multi Purpose Key 5:</b>	Key Mode: Asterisk BLF Account: Account 1 Name: JohnDo3 UserID: 505
<b>Multi Purpose Key 6:</b>	Key Mode: Asterisk BLF Account: Account 1 Name: JaneDo3 UserID: 506
<b>Multi Purpose Key 7:</b>	Key Mode: Asterisk BLF Account: Account 1 Name: JohnDo7 UserID: 507

**Note:** 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 pickup the call for JaneDo1 by simply press Key 2, GXP-2000 will send a SIP INVITE to “\*\*502” to Asterisk.



- 2) *When JaneDo1 pickup 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: Above configuration will matches the configuration in GXP-2000 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: 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=myspassword
context=localcontext
```



## Asterisk PBX Configuration for Grandstream Phones

```
host=dynamic  
nat=yes  
canreinvite=no  
mailbox=501  
subscribecontext=BLF_Group_1
```

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

*Note: 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*.