



Grandstream Networks, Inc.

GRP260X Essential IP Phones

VPK (Virtual Multi-Purpose Keys) Guide



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SUPPORTED DEVICES

Following table shows Grandstream products supporting VPK feature:

Table 1: Grandstream products supporting VPK feature

Model	Supported	Firmware
Essential IP phones GRP260X Series		
GRP2602/GRP2602P/GRP2602W	Yes	1.0.1.50 or higher
GRP2603/GRP2603P	Yes	1.0.1.50 or higher
GRP2604/GRP2604P	Yes	1.0.1.50 or higher



INTRODUCTION

Grandstream GRP260X Essential IP phones support the VPK (“Virtual Multi-Purpose Keys”) feature to add more flexibility and provide better user experience using Multi-Purpose Keys modes.

With the VPK feature design, line keys can be assigned with multiple functions. Users have also the ability to add more VPKs which will be displayed on different screens. The screens are dynamically added to match the extra VPKs, and incrementally indexed on the top of the main screen (1 to 4) until reaching the maximum number of supported VPKs.

Using VPK, users will be able to monitor extensions, use speed dial numbers, send DTMF during calls and more from their phone screens directly; switching between screens will show configured VPK and bring more flexibility to user’s experience.

If using standard MPK on a GRP2603 IP phone, for instance, which supports 3 line keys, customers can use 1 LINE key for the main SIP accounts and the 2 others (not including built-in MPKs) can be used for monitoring/speed dial or any other available features using that account. While using VPK feature on the same GRP2603, customers can configure the same LINE key with up to 4 features virtually mapped on different screens, as an example, Line 1 key can be configured as LINE on the first screen, Speed Dial on screen 2, BLF on screen 3 and Call Park on screen 4.

The screenshot below shows the 3rd screen page of the GRP2603.

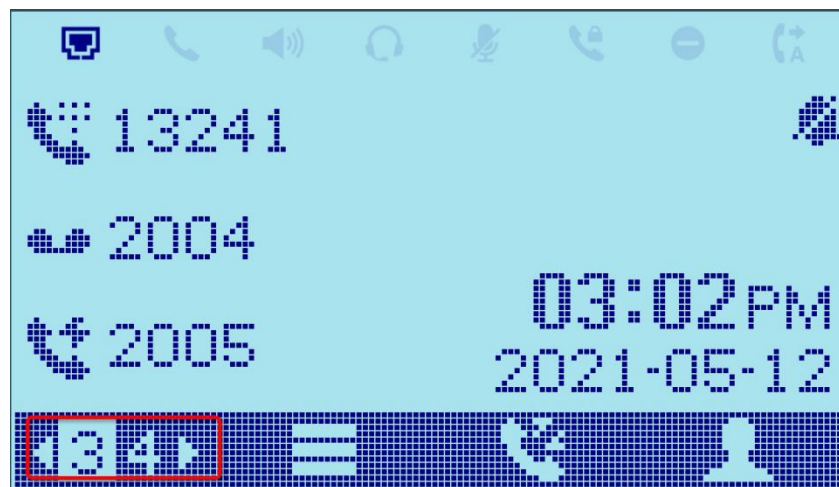


Figure 1: VPK Pages



FIXED AND DYNAMIC VPK

Fixed VPK

Fixed VPKs are the hard line keys on each phone model; their default mode is “Line” and support all other modes (BLF, Speed Dial...).

Each phone model has a specific number of hard line keys limiting the number of supported Fixed VPK. For instance, GRP2603 has 3 Line keys allowing to support 6 Fixed VPKs (6 Account) in two pages.

Dynamic VPK

Dynamic VPK are virtual keys that can be added by users.

Each phone model has a specific number of allowed Dynamic VPK, depending on number of hard line keys and screens. For instance, GRP2603 has 3 hard keys, number of supported VPKs (Fixed and Dynamic) is 12 VPKs = 3 (Hard Keys) x 4 (screens), available Dynamic VPKs is 6 VPKs = 12 VPKs – 6 Fixed VPKs. The screens are dynamically added to match the extra VPKs, and incrementally indexed on the Bottom left corner of the main screen (1 to 4) until reaching the maximum number of supported VPKs.

Note: Dynamic VPKs support all available modes (BLF, Speed Dial, Call Park, transfer...) except **LINE**, **Shared Line** and **NONE** modes.

Fixed/Dynamic VPK per Phone Model

The table below shows how many Fixed/Dynamic VPKs each GRP model support.

Table 2: Fixed/Dynamic VPK per Phone Model for GRP260x

	GRP2602/ GRP2602P/GRP2602W	GRP2603/GRP2603P	GRP2604/GRP2604P
Fixed VPK	4	6	6
Dynamic VPK	4	6	6
Total VPK	8	12	12

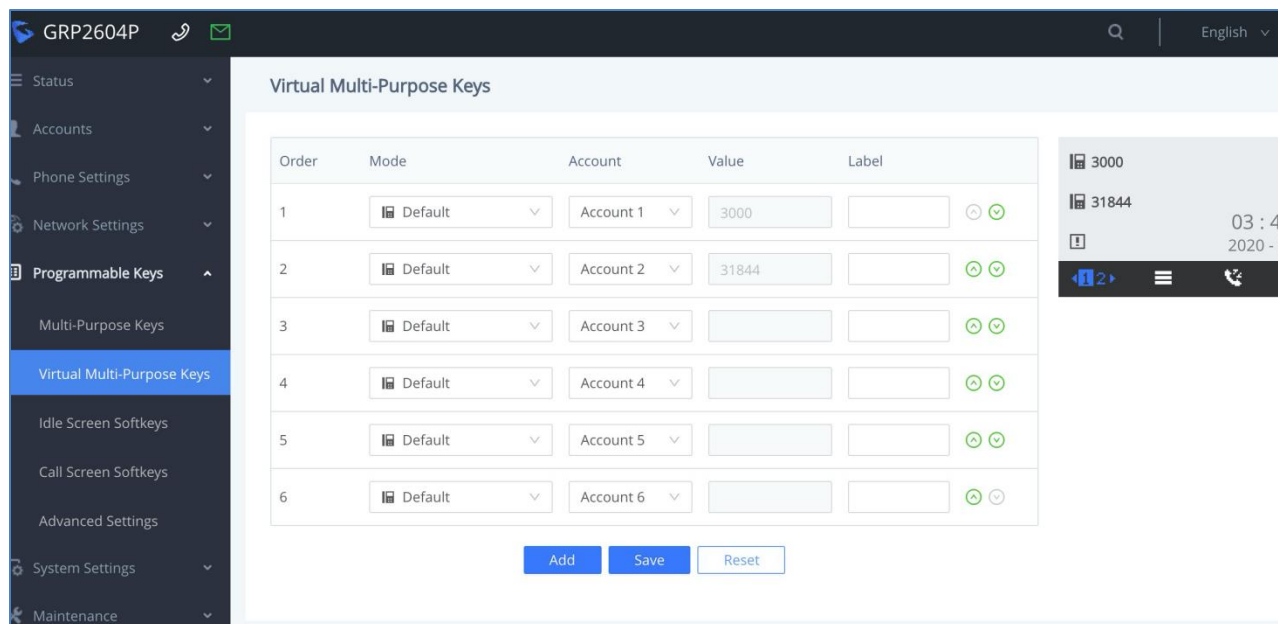
Note: Even if a fixed VPK has mode set to “None”, the number of allowed Dynamic VPKs will not change.



VPK CONFIGURATION

To configure/add/edit or delete VPK, follow below steps:

1. Access Web GUI of GRP phone.
2. Go to **Settings** → **Programmable Keys** → **Virtual Multi-Purpose Keys**.



Order	Mode	Account	Value	Label
1	Default	Account 1	3000	
2	Default	Account 2	31844	
3	Default	Account 3		
4	Default	Account 4		
5	Default	Account 5		
6	Default	Account 6		

Buttons: Add, Save, Reset

Preview: 3000, 31844, 03:43, 2020-0

Figure 2: Virtual Multi-Purpose Keys page

3. Configure Fixed or Dynamic VPKs as follow:

a. Fixed VPK:

- Select mode to use from **Mode** dropdown list.
- Select **Account#** from **Account** dropdown list.
- Enter the value sequence for each mode in **Value** field if required.
- Enter a description text in **Label** field (optional).
- Check the LCD **preview** on the right.
- Press **Save** button to apply changes to VPK(**Reset** button allows to reset all fields to default values).

Note: Fixed VPKs can only be edited. Adding or deleting Fixed VPK is not allowed.



Example:























Customer's GRP2603 has a SIP account registered on Account 1 and needs to monitor extension 1000.

Below values need to be used:

- **Mode:** Busy Lamp Field (BLF)
- **Accounts:** Account 1 (selected)
- **Value:** 1000
- **Label:** BLF_1000 (optional)

b. Dynamic VPK

- Press **Add** to create a new Dynamic VPK.

Order	Mode	Account	Value	Label	
1	 Default	Account 1	3000		 
2	 Default	Account 2	31844		 
3	 Default	Account 3			 
4	 Default	Account 4			 
5	 Default	Account 5			 
6	 Default	Account 6			 
7	 None				  

Add Save Reset

Figure 3: Add VPK



- Select mode to use from **Mode** dropdown list.
- Select **Account#** from **Account** dropdown list.
- Enter the value sequence for each mode in **Value** field if required.
- Enter a description text in **Label** field (optional).
- Check the LCD **preview** on the right.
- Press **Save** button to save your configuration (**Reset** button allows to reset the VPK to default value).

Note: Once added and saved, **Delete** buttons will appear. Customers can edit or delete the dynamic VPK

Example:

Customer's GRP2603 has a SIP account registered on Account 1 and wants to add a Speed Dial for extension 1001.











Below values need to be used:

- **Mode: Speed Dial**
- **Accounts: Account 1 (selected)**
- **Value: 1001**
- **Label: SP_1001 (optional)**








VPK MODES AND INDICATION FOR GRP260X

Fixed VPK support all available modes (28 modes), while Dynamic VPK doesn't support **Default**, **Shared** and **None** modes (26 modes). The following table provides a description of each mode as well as state, icon, and LED status.







Table 3: VPK Modes and Indications for the GRP260x

VPK Mode	Description	State	Icon	LED Status
Default	Regular line key to open up a line and switch line. The Label and Value fields can be left blank. Note: Default mode is supported on Fixed VPK only.	Unregistered		OFF
		Registered + Idle		OFF
		Registered + Ringing		Flashing RED
		Registered + Dialing		GREEN
		Registered + Connected		GREEN
		Registered + On Hold		Flashing GREEN
Shared	Shared line for Shared Line Appearance feature. Select the Account registered as Shared line for the line key. The Description and Value fields can be left blank. Note: You may refer to this guide for more detail about Shared Line configuration: BS_SCA_conf_Guide	Unregistered		OFF
		Registered + Idle		OFF
Speed Dial	Speed Dial mode allows to set a key for one touch dialing; configured number will be dialed once VPK is pressed. Select the Account to dial from and enter the Speed Dial number to be dialed in the Value field or enter the IP address to set the Direct IP call as Speed Dial.	No state changes		OFF
Busy Lamp Field (BLF)	Busy Lamp Field (BLF) mode allows to monitor status (available, ringing, busy) of an extension. Select the Account to monitor the BLF status. Enter the extension number in the Value field to be monitored.	Offline, Unknown		OFF
		Available		GREEN
		Ringing (Early)		Flashing RED
		Trying		Flashing RED
		Confirmed		RED














Presence Watcher	<p>Presence watcher allows to monitor presence / registration status of an extension. this feature needs to be supported by SIP server to use it.</p> <p>Select the Account to monitor the presence status. Enter the extension number in the Value field to be monitored.</p>	Offline, Unknown		OFF
		Available		GREEN
Eventlist BLF	<p>Eventlist BLF allows to monitor a list of extension similar to BLF, Administrator needs to configure Eventlist BLF on server side and provide Eventlist BLF URI on the phone.</p> <p>Select the Account to monitor the Eventlist BLF status. Enter the extension number in the Value field to be monitored and make sure to specify “Eventlist BLF URI” (Account X → Advanced Settings → BLF).</p>	Offline, Unknown		OFF
		Available		GREEN
		Ringing (Early)		Flashing RED
		Trying		Flashing RED
		Confirmed		RED
Speed Dial Via Active Account	<p>Speed Dial via active account mode allows to set a key for one touch dialing; configured number will be dialed once VPK is pressed using specific current active account if available, otherwise, first available account will be used to dial out.</p> <p>Select the Account to dial from and enter the Speed Dial number to be dialed in the Value field or enter the IP address to set the Direct IP call as Speed Dial.</p>	No state changes		OFF
Dial DTMF	<p>Dial DTMF allows customers to send digits while in communication, for instance, when dialing to an IVR, users can set Dial DTMF Key to send digits to the IVR.</p> <p>Enter a series of DTMF digits in the Value field to be dialed during the call.</p>	No state changes		OFF
Voice Mail	<p>Allows access to user's voice mail by pressing configured VPK.</p> <p>Select Account and enter the Voice Mail access number in the Value field.</p>	No state changes		OFF
Call Return	<p>Allows users to dial last answered call by pressing configured VPK.</p> <p>The Value field should be left blank.</p> <p>This option is not binding to the account and the call will be returned based on the account with the last answered call.</p>	No state changes		OFF
Transfer	<p>Allows to set a destination number to transfer calls to it (blind transfer) by pressing configured VPK.</p> <p>Select Account, and enter the number in the Value field to be transferred during the call.</p>	Account Unregistered		OFF
		Account Registered		OFF



Call Park	<p>This feature allows to park/pick up the call, and can be also used to monitor parking lots via VPK button's LED.</p> <p>Select Account, and enter the call park extension in the Value field to park/pick up the call. <u>Notes:</u></p> <ul style="list-style-type: none"> If Value field has leading star code like *xx, the phone will not send SUBSCRIBE to the server, and VPK will be used to only park/retrieve calls; If Value field is set with parking lots (for example: 701, 702...), VPK will be used as Monitored Call Park; the phone will send SUBSCRIBE to monitor configured parking lots and park/retrieve calls. 	Account Unregistered		OFF
		Account Registered		OFF
Intercom	<p>Allows to set a VPK as intercom button to a specific destination with auto-answer instruction.</p> <p>When the call is initiated, SIP INVITE sent towards destination extension (via SIP server) will include Alert- info header with Auto-answer=0 parameter.</p> <p>Select Account, and enter the extension number in the Value field to do the intercom.</p>	Account Unregistered		OFF
		Account Registered		OFF
LDAP Search	<p>This option is to narrow the LDAP search scope.</p> <ul style="list-style-type: none"> Enter the LDAP search base in the Description field. It could be the same or different from the Base in LDAP configuration under Advanced Settings. The Base in LDAP configuration will be used if the Description field is left blank. Enter the LDAP Name/Number filter in the Value field. <p><u>For example:</u> If users set VPK as "LDAP Search" for "Account 1", and set filters: Label -> ou=video,ou=SZ,dc=grandstream,dc=com Value -> sn=Li</p>	No state		OFF
Conference	This feature allows the user to add a new conferee.	No State		OFF
Multicast Paging	<p>Multicast paging is a feature that allows the user to make calls to a group of phones listening to the same Paging IP address.</p> <p>Multicast paging calls will be automatically answered on listening phones and conversation will be in one-way audio path (originator can speak, while listening phones will be able to hear only).</p> <p>Enter Line key description in Label field and multicast sending address in Value field.</p>	No State		OFF
Call Log	This Key is a shortcut to Call History.	No State		OFF



Monitored Call Park	<p>This feature allows to park/pick up the call, and monitor the parked call via VPK button's LED.</p> <p>Select account from Account field, and enter the call park extension in the Value field.</p> <p>Note: The phone sends SUBSCRIBE to the server to retrieve status of monitored parking lot.</p>	Offline, Unknown		OFF
		Available		GREEN
		Call Parked		Flashing RED
Menu	This Key is a shortcut to the Menu button.	No state		OFF
INFO	Select this feature in order to display the Information popup to show the firmware version, MAC address, IP address and IP Settings from the MPK buttons.	No state		OFF
Messages	This Key is a shortcut to the Messages.	No state		OFF
Forward	This feature allows the user to forward incoming call	No state		OFF
DND	This Key is a shortcut to enable DND.	No state		OFF
Redial	This feature allows the user to make a last outgoing call.	No state		OFF
Multicast Listening Address	This Key is a shortcut to enter Multicast listening address settings.	No state		OFF
Presence EventList	<p>Presence Eventlist allows to monitor a list of extension similar to Presence watcher, administrator needs to configure Presence Eventlist on server side and provide Presence Eventlist URI on the phone.</p> <p>Select the Account to monitor the Presence Eventlist status. Enter the extension number in the Value field to be monitored and make sure to specify "Presence Eventlist URI" (Account X → Advanced Settings → BLF).</p>	Offline, Unknown		OFF
		Available		GREEN
Provision	This Key is a shortcut to trigger provision.	No state		OFF
Multicast Paging Address	This Key is a shortcut to enter Multicast paging address settings.	No state		OFF



SCREEN EXAMPLES FOR GRP2603

The following screenshots show the GRP2603 screen's first two pages:

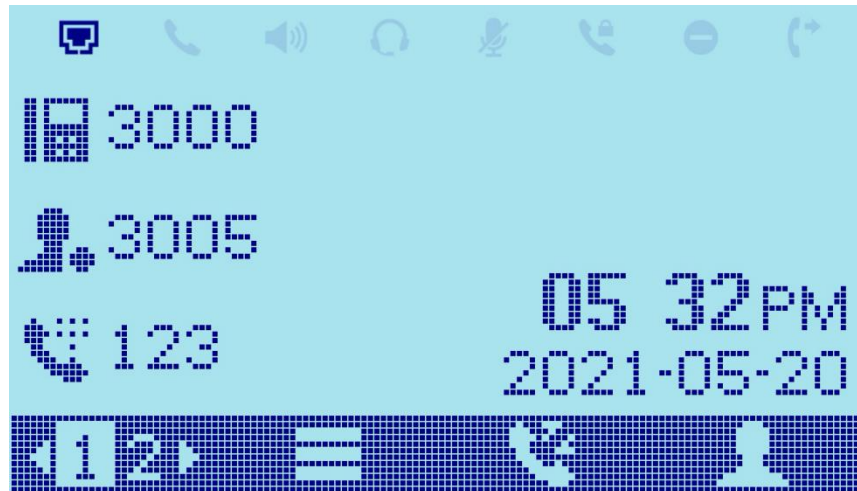


Figure 4: Screen Example - Page 1

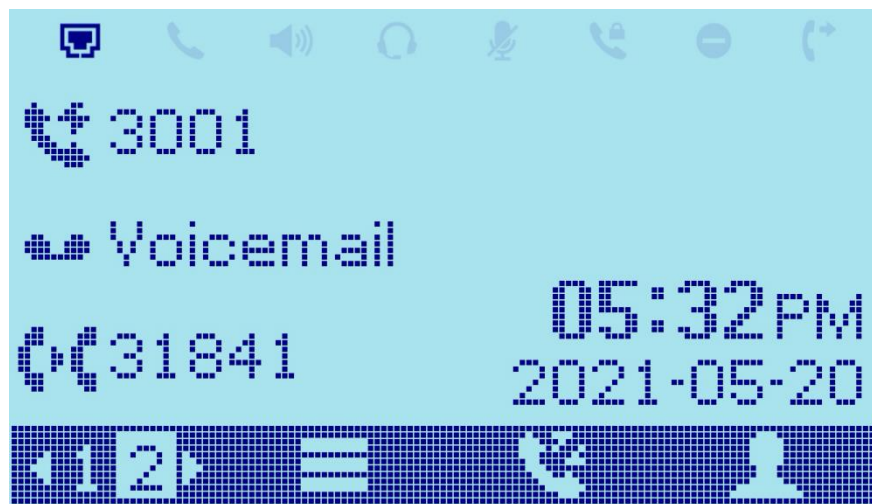


Figure 5: Screen Example - Page 2

