

Grandstream Networks, Inc.

GRP26xx - VPK (Virtual Multi-Purpose Keys) Guide



Grandstream GRP26XX Carrier-Grade 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 GRP2613 IP phone, for instance, which supports 6-line keys, customers can use 1 LINE key for the main SIP accounts and the 5 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 GRP2613, customers can configure the same LINE key with up to 4 features virtually mapped o 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 Pa on screen 4.

Below screenshot shows the 3rd screen page of the GRP2613.



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 example, GRP2613 has 6 Line key allowing to support 6 Fixed VPKs.

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, GRP26 has 6 hard keys, number of supported VPKs (Fixed and Dynamic) is 24 VPK = 6 (Fixed VPK) x 4 (screens), available Dynamic VPKs is 18 VPK = 24 VPK – 6 hard keys.

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.

Dynamic VPKs support all available modes (BLF, Speed Dial, Call Park, transfer...) except LINE, Shared Line modes.

Fixed/Dynamic VPK per Phone Model

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

	GRP2612(P/W/G)	GRP2613	GRP2614	GRP2615	GRP2616	GRP2624	GRP2634	GRP2636	GRP2650	GRP2670
Fixed VPK	4	6	4	10	6	8	8	12	14	12
Dynamic VPK	12	18	12	30	18	24	24	36	42	36
Total VPK	16	24	16	40	24	32	32	48	56	48

VPKs per GRP261x model

	GRP2602(P/W/G)	GRP2603(P)	GRP2604(P)
Fixed VPK	4	6	6
Dynamic VPK	4	6	6
Total VPK	8	12	12

VPKs per GRP260x model

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 \rightarrow Programmable Keys \rightarrow Virtual Multi-Purpose Keys.

	Iulti-Purpose Ke	<i>j</i> -				
			-	n the account will not show		
	configure carefully. Clic		ode VPKs or Shared mo	de VPKs. If there are Defau	lt mode and Shared	mode VPKs
Order	Mode	Account	Value	Label	Locked	I
I	← Line	V Account 1	√ 6001			⊙ ⊘
2	← Line	V Account 2	. v			\odot
}	← Line	✓ Account 3				\odot
Ļ	None	V	V			\odot
i	None	V	V			\odot
5	None	×	V			\odot
		Add				

Virtual Multi-Purpose Keys page

1. Fixed VPK:

- Select mode to use from Mode drop-down list.
- Select Account# from Accounts drop-down list.
- Enter a description text in Label field (optional).
- Enter the value sequence for each mode in Value field if required.
- Press Save button to save your configuration (Reset button allows to reset all fields to default values).

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

Order	Mode	Account	Value	Label	Locked	
1	► Line ∧	Account 1 🔍	6001			⊘ ⊘
2	None	Account 2 V				\odot
3	 Shared Speed Dial 	Account 3 V				\odot
4	♣ Busy Lamp Field (BLF)	· ·				⊚ ⊙
5	🎗 Eventlist BLF	×				\odot
6	Speed Dial via Active Ac ▼ None ∨	~				\odot
		Add	Save Reset			

Fixed VPK – Edit

Example:

Customer's GRP2613 has a SIP account registered on Account 1 and needs to monitor extension 1000.

Below values needs to be used:

- Mode: Busy Lamp Field (BLF)
- Accounts: Account 1 (selected)
- Label: BLF_1000 (optional)
- Value: 1000
- 2. Dynamic VPK
 - Press the Add button on the bottom of the page to create a new Dynamic VPK.

6	None	~	~		\odot
7	None	× .	~		$\odot \odot \otimes$
8	None	~	~		$\odot \odot \otimes$
9	None	~	~		$\odot \odot \otimes$
		Ad	id Save	Reset	

Added VPKs

- Select mode to use from Mode dropdown list.
- Select Account# from Accounts dropdown list.
- Enter a description text in **Label** field (optional).
- Enter the value sequence for each mode in Value field if required.
- Press **Save** button to save your configuration.

Example:

Customer's GRP2613 has a SIP account registered on Account 1 and wants to add a Speed Dial for extension 1001.

Below values needs to be used:

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

VPK Modes and Indication for GRP26XX

Fixed VPK support all available modes, while Dynamic VPK doesn't support **Default, Shared** modes. The number of available VPK modes can be different depending on the model. The below table provides a description of each mode as well as state, icon, and LED status.

Note :

Availability of certain VPK modes on the WEB UI may vary depending on the firmware version of the device. To ensure optimal functionality, it is recommended to regularly check for and install firmware updates.

VPK Mode	Description	State	Icon	LED Status
		Unregistered	*	OFF
	Regular line key to open up a line and	Registered + Idle		OFF
Line	switch line. The Label and Value fields can be left blank.	Voicemail		OFF
	Note: Line mode is supported on Fixed VPK only.	Dialing / Outgoing Call		GREEN
		Ongoing Call		GREEN
		Ringing / Incoming Call	1	Flashing RED
		On Hold		Flashing GREEN
Shared	Share 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.	Unregistered	3	OFF
		Registered + Idle	5	OFF
		Dialing / Outgoing Call	8	GREEN

1		I	I	I
		Ringing / Incoming Call	22	Flashing RED
		Ongoing call	83	GREEN
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.	Account Registered/Unregistere d	2	OFF
		Offline/Unknown	20	OFF
Busy Lamp Field	Busy Lamp Field (BLF) mode allows to monitor status (available, ringing, busy) of an extension.	status (available, ringing, busy) of	2	GREEN
(BLF)	Select the Account to monitor the BLF status. Enter the extension number in the Value field to be monitored.	Ringing (Early)	<u>*</u>	Flashing RED
		Trying		
		Confirmed	46	RED
Presence Watcher	Presence watcher allows to monitor presence / registration status of an extension. this feature needs to be supported by SIP server to use it.	Unavailable, Unknown	1	OFF
	Select the Account to monitor the presence status. Enter the extension number in the Value field to be monitored.	Available	2	GREEN
		Away	20	GREEN
		Chat	2,	RED
		Custom Status	2 ,	GREEN

		DND	20	RED	
	Eventlist BLF allows to monitor a list of	Offline/Unknown	20	OFF	
	extension similar to BLF, administrator needs to configure Eventlist BLF on server side and provide Eventlist BLF URI on the phone.	Terminated	2	GREEN	
Eventlist BLF	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 $X \rightarrow$ SIP Settings \rightarrow	Ringing (Early)	<u>_</u>	Flashing RED	
	Advanced Features).	Trying			
		Confirmed	46	RED	
Speed Dial Via Active Account	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 specified account if available, otherwise, first available account will be used to dial out. 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	12	OFF	
Dial DTMF	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. Enter a series of DTMF digits in the Value field to be dialed during the call.	No state changes	V	OFF	
		Account not registered			
Voicemail	Allows access to user's voice mail by pressing configured VPK.	Account Registered (No new voice mail)	<u>60</u>	OFF	
vorcentan	Select Account and enter the Voice Mail access number in the Value field.	Account Registered (voice mail available)	p	Flashing RED	
Call Return	Allows users to dial last answered call by pressing configured VPK. The Value field should be left blank. This option is not binding to the account	No state changes	ę	OFF	

	and the call will be returned based on the account with the last answered call.			
Transfer	Allows to set a destination number to transfer calls to it (blind transfer) by pressing configured VPK. Select Account , and enter the number in the Value field to be transferred during the call.	Account Registered/Unregistere d	•(OFF
	This feature allows to park/pick up the call, and can be also used to monitor parking lots via VPK button's LED.	Call Park Extension		OFF
Call Park	Select Account , and enter the call park extension in the Value field to park/pick up the call.	Parking Lot (No available call)	C.	GREEN
	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.	Parking Lot (Available call)	V.	RED
Intercom	Allows to set a VPK as intercom button to a specific destination with auto-answer instruction. When the call is initiated, SIP INVITE sent towards destination extension (via SIP server) will include Alert-info header with Auto-answer=0 parameter. Select Account , and enter the extension number in the Value field to do the intercom.	Account Registered/Unregistere d		OFF
LDAP Search	 This option is to narrow the LDAP search scope. Enter the LDAP search base in the Label 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. For example: If users set VPK as "LDAP Search" for "Account 1", and set filters: Description -> ou=video,ou=SZ,dc=grandstream,dc=com Value -> sn=Li Since the Base for LDAP server configuration is "dc=grandstream,dc=com", "ou=video,ou=SZ" is added to narrow the LDAP search scope. "sn=Li" is the example to filter the last name. 	No State		OFF

	Enables users to initiate a conference by			
Conference	Biables users to initiate a conference by pressing the assigned button. By setting the extension number in the Value box, the users will be able to activate a 3-way conference by simply pressing the VPK button.	No state	1.1	OFF
Multicast Paging	Multicast paging is a feature that allows the user to make calls to a group of phones listening to the same Paging IP address. 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). Enter Line key description in Label field and multicast sending address in Value field.	No State	.	OFF
Record	Allows users to record ongoing calls. Recording needs to be supported on the server to use this feature.	Idle/Recording		OFF
Call Log	This Key is a shortcut to Call History.	No state	<u>\</u>	OFF
Monitored Call Park	This VPK is used to monitor parking lot	No parked call	2	GREEN
Montored Can Fark	extensions.	Available parked call	V.	RED
Menu	This Key is a shortcut to the Menu.	No state		OFF
XML application	This VPK is used to start XML application.	No state	9	OFF
Information	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	0	OFF
Messages	This Key is a shortcut to Messages.	No state	=0	OFF

Forward	This Key can be used to forward an ongoing call to the extension entered in the Value Field.	No state	2	OFF
DND	Allows users to enable/disable Do Not Disturb mode.	No state	•	OFF
Redial	The phone will redial using the same SIP account as was used for the last call.	No state	\$	OFF
Instant Messages	This Key is a shortcut to Instant Messages.	No state	•	OFF
Multicast Listen Address	This feature sets up a multicast listening address for the IP Phone.	No state	.	OFF
Keypad Lock	Enables users to lock and unlock keypad. This VPK can only be used if the Keypad Lock feature is enabled.	No state	ß	OFF
OpenDoor	Triggers an open-door action in conjunction with a GDS37xx.	No state	•	OFF
Presence Eventlist	Similarly to the Presence Watcher, this option allows to monitor the SIP presence status of extensions, but in this case the PBX collects the information from the phones and sends it out in one single notify message. Please be aware that the PBX server has to support this feature.	Unavailable	1	OFF
		Available	2	GREEN
		Away	20	GREEN
		Chat	2,	RED
		Custom Status	.? ,	GREEN
		DND	20	RED

Provision	Enables the phone to intiate an instant provisioning.	No state	C2	OFF
Contacts	This key is a shortcut to Phonebook.	No state	_	OFF
Multicast Paging Address	This Feature sets up a Multicast paging address for paging purposes.	No state	.	OFF
HTTP Command	Enables users to set up a call through an HTTP command.	No state	O	OFF
Silent call	The feature allow you to initiate calls from a harwdware V2 phone (HW V2), to an extension without any visual indication on the LCD screen, providing discreet calling where the call's status remains hidden.	No state	لا	OFF

VPK Modes and Indications for GRP261x, GRP2624, GRP2634, GRP2636, GRP2650, GRP2670

VPK Mode	Description	State	Icon	LED Status
Line Regular line key to open up a line and switch line. The Label and Value fields can be left blank. Note: Line mode is supported on Fixed VPK only.	switch line.	Unregistered		OFF
	blank. Note: Line mode is supported on Fixed	Registered + Idle		OFF
		Voicemail		OFF
		Dialing / Outgoing Call		GREEN
		Ongoing Call		GREEN
		Ringing / Incoming Call		Flashing RED
		On Hold		Flashing GREEN

Shared	Share 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.	Unregistered	<u>34</u>	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.	Account Registered/Unregistere d		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	2	OFF
		Terminated		GREEN
		Ringing (Early)		Flashing RED
		Trying		RED
	Presence watcher allows to monitor presence / registration status of an extension. this feature needs to be supported by SIP server to use it. Select the Account to monitor the presence status. Enter the extension number in the Value field to be monitored.	Confirmed Unavailable, Unknown	2	OFF
		Available		GREEN
Presence Watcher		Away	.10	GREEN
		Chat		RED
		Custom Status	.In	GREEN
		DND	.10	RED

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. Offline/Unknown Image: Configure Configur	
needs to configure Eventlist BLF on server side and provide Eventlist BLF URI on the phone. Terminated GREEN	
Eventlist BLF 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 UBU" (A sure t X > SUP S at is a >	
URI" (Account X → SIP Settings → Advanced Features). Trying	RED
Confirmed	
Speed Dial Via Active AccountSpeed Dial via active account mode allows to set a key for one touch dialing; configured number will be dialed once VPK is pressed using specified account if available, otherwise, first available account will be used to dial out.No state changesImage: Comparison of 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 changesImage: Comparison of 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.Image: Comparison of 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.Image: Comparison of 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.Image: Comparison of the speed Dial number to be dialed in the Value field or enter the IP address to set 	
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. No state changes Image: Communication of the IVR of the IVR of the IVR. Image: Communication of the IVR of the IVR of the IVR of the IVR. Image: Communication of the IVR of the IVR of the IVR of the IVR of the IVR. Image: Communication of the IVR of th	
Account not registered	OFF
Voicemail Anows access to user's voice mail by pressing configured VPK. Account Registered (No new voice mail)	
Select Account and enter the Voice Mail access number in the Value field. (voice mail available)	
Allows users to dial last answered call by pressing configured VPK. Allows users to dial last answered call by pressing configured VPK. No state changes Image: Call Return Image: Call Ret	
Transfer Allows to set a destination number to Account Image: Comparison of the set of	
transfer calls to it (blind transfer) byRegistered/Unregisterepressing configured VPK.d	

	the Value field to be transferred during the call.			
	This feature allows to park/pick up the call, and can be also used to monitor parking lots via VPK button's LED.	Call Park Extension		OFF
Call Park	Select Account , and enter the call park extension in the Value field to park/pick up the call.	Parking Lot (No available call)		GREEN
	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.	Parking Lot (Available call)		RED
	Allows to set a VPK as intercom button to a specific destination with auto-answer instruction.			
Intercom	When the call is initiated, SIP INVITE sent towards destination extension (via SIP server) will include Alert-info header with Auto-answer=0 parameter.	Account Registered/Unregistere d		OFF
	Select Account , and enter the extension number in the Value field to do the intercom.			
LDAP Search	 This option is to narrow the LDAP search scope. Enter the LDAP search base in the Label 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. For example: If users set VPK as "LDAP Search" for "Account 1", and set filters: Description -> ou=video,ou=SZ,dc=grandstream,dc=com Value -> sn=Li Since the Base for LDAP server configuration is "dc=grandstream,dc=com", "ou=video,ou=SZ" is added to narrow the LDAP search scope. "sn=Li" is the example to filter the last name. 	No State		OFF
Conference	Enables users to initiate a conference by pressing the assigned button. By setting the extension number in the Value box, the users will be able to activate a 3-way conference by simply pressing the VPK button.	No state	<u>. 19</u> 1.	OFF

Multicast Paging	Multicast paging is a feature that allows the user to make calls to a group of phones listening to the same Paging IP address. 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). Enter Line key description in Label field and multicast sending address in Value field.	No State		OFF
Call History	This Key is a shortcut to Call History.	No state		OFF
Monitored Call Park	This VPK is used to monitor parking lot	No parked call	∉ ₽	GREEN
	extensions.	Available parked call		RED
Menu	This Key is a shortcut to the Menu.	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 Messages.	No state	ļ	OFF
Forward	This Key can be used to forward an ongoing call to the extension entered in the Value Field.	No state	Ç.+	OFF
DND	Allows users to enable/disable Do Not Disturb mode.	No state	¢	OFF
Redial	The phone will redial using the same SIP account as was used for the last call.	No state		OFF
Multicast Listen Address	This feature sets up a multicast listening address for the IP Phone.	No state		OFF
OpenDoor	Triggers an open-door action in conjunction with a GDS37xx.	No state		OFF

Presence Eventlist	Similarly to the Presence Watcher, this option allows to monitor the SIP presence status of extensions, but in this case the PBX collects the information from the phones and sends it out in one single notify message. Please be aware that the PBX server has to support this feature.	Unavailable	2	OFF
		Available		GREEN
		Away	.lo	GREEN
		Chat		RED
		Custom Status	"Im	GREEN
		DND	.lo	RED
Provision	Enables the phone to intiate an instant provisioning.	No state		OFF
Multicast Paging Address	This Feature sets up a Multicast paging address for paging purposes.	No state		OFF
HTTP Command	Enables users to set up a call through an HTTP command.	No state	P	OFF
Call Flip	This feature allows the user to switch devices seamlessly while a call is ongoing. The flip happens without having to hang up the call.	No state	<u>[0</u> =]	OFF

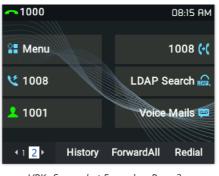
VPK Modes and Indications for GRP260x

Screen Examples for GRP2613 and GRP2604

The following screenshots show the GRP2613 screen's first two pages:



VPKs Screenshot Example – Page 1



VPKs Screenshot Example – Page 2

The following screenshots show the GRP2604(P) screen's pages (1, 3 and 4):



VPKs Screenshot Example – Page 4