

# IP Direct Calling



The following instructions<sup>1)</sup> are to make direct IP-to-IP calls using the Cisco SPA525G or SPA504G phones. For instructions on using our local PBX, see the [instructions are here](#).


## General Notes:

- All steps are done as Administrator on the advanced page.
- This setup will configure the last extension and line key for direct IP dial calls and leave extension 1 / line key 1 for PBX calls.
- It may be a good idea to Submit All Changes after each step but it also may be unnecessary.
- Outgoing calls may be placed from the personal directory, speed dial buttons or the dial pad. When using the dial pad, end the IP address with a  character. This will send the call out immediately.
- If you like, you can publish your phone's IP number on the mesh status page so others can add your phone directly.
- If you are replacing an existing speed dial button with the new direct dialing Line, make sure to remove the previous info in the Short Name and Extended Functions boxes.

# SPA525G

## Ext 1 tab

- SIP Settings
  - SIP Port: 5070



IP Phone SPA525G2

Cisco Systems, Inc.

Voice		Wi-Fi		Bluetooth		Personal Address Book		Call History			Speed Dials		Firmware Upgrade	
Info	System	SIP	Provisioning	Regional	Phone	Ext 1	Ext 2	Ext 3	Ext 4	Ext 5	User	Att Console	TR-069	
<div>Attendant Console StatusUser Loginbasicadvanced</div>														

General

Line Enable:

yes

Share Line Appearance

Share Ext:

private

Subscription Expires:

3600

Shared User ID:

Restrict MWI:

no

NAT Settings

NAT Mapping Enable:

no

NAT Keep Alive Msg:

\$NOTIFY

NAT Keep Alive Enable:

no

NAT Keep Alive Dest:

\$PROXY

Network Settings

SIP TOS/DiffServ Value:

0x68

RTP TOS/DiffServ Value:

0xb8

Network Jitter Level:

high

SIP CoS Value:

3

RTP CoS Value:

6

Jitter Buffer Adjustment:

up and down

SIP Settings

SIP Transport:


UDP

SIP Port:

5070

## Ext 5 tab (or any free Ext you want to use)

- General
  - Line Enable: yes
- SIP Settings
  - SIP Port: 5060



# IP Phone SPA525G2

Cisco Systems, Inc.

Voice	Wi-Fi	Bluetooth	Personal Address Book				Call History				Speed Dials		Firmware Upgrade	
Info	System	SIP	Provisioning	Regional	Phone	Ext 1	Ext 2	Ext 3	Ext 4	<b>Ext 5</b>	User	Att Console	TR-069	
<a href="#">Attendant Console Status</a> <a href="#">User Login</a> <a href="#">basic</a>   <a href="#">advanced</a>														

### General

Line Enable: yes

### Share Line Appearance

Share Ext: private Shared User ID:   
Subscription Expires: 3600 Restrict MWI: no

### NAT Settings

NAT Mapping Enable: no NAT Keep Alive Enable: no  
NAT Keep Alive Msg: \$NOTIFY NAT Keep Alive Dest: \$PROXY

### Network Settings

SIP TOS/DiffServ Value: 0x68 SIP CoS Value: 3  
RTP TOS/DiffServ Value: 0xb8 RTP CoS Value: 6  
Network Jitter Level: high Jitter Buffer Adjustment: up and down

### SIP Settings

SIP Transport: UDP SIP Port: 5060

- Proxy and Registration
  - Register: no
  - Make Call Without Reg: yes
  - Ans Call Without Reg: yes
- Subscriber Information:
  - Enter your Call and Direct for example

<b>Proxy and Registration</b>			
Proxy:			
Outbound Proxy:			
Alternate Proxy:			
Alternate Outbound Proxy:	0		
Use Outbound Proxy:	no ▾	Use OB Proxy In Dialog:	yes ▾
Register:	no ▾	Make Call Without Reg:	yes ▾
Register Expires:	3600	Ans Call Without Reg:	yes ▾
Use DNS SRV:	no ▾	DNS SRV Auto Prefix:	no ▾
Proxy Fallback Intvl:	3600	Proxy Redundancy Method:	Normal ▾
Dual Registration:	no ▾	Auto Register When Failover:	no ▾
<b>Subscriber Information</b>			
Display Name:	VE7LSE DIRECT	User ID:	
Password:		Use Auth ID:	no ▾
Auth ID:		Reversed Auth Realm:	0
Mini Certificate:			
SRTP Private Key:			
Resident Online Number:		SIP URI:	

- Dial Plan
  - Dial Plan: (x.<\*:.>x.<\*:.>x.<\*:.>x.)
  - Enable IP Dialing: Yes

<b>Dial Plan</b>	
Dial Plan:	(x.<*:.>x.<*:.>x.<*:.>x.)
Caller ID Map:	
Enable IP Dialing:	yes ▾
Emergency Number:	

## Phone tab

- Line Key 1
  - Extension: 1
- Line Key 5
  - Extension: 5 or your preference Line Key




Make sure your line keys do not have anything entered for extended Function.

Info	System	SIP	Provisioning	Regional	Phone	Ext 1	Ext 2	Ext 3	Ext 4	Ext 5	User	Att Console	TR-069
<a href="#">Attendant Console Status</a> <a href="#">User Login</a> <a href="#">basic</a>   <a href="#">advanced</a>													
<b>General</b>													
Station Name:		VE7LSE				Station Display Name:		VE7LSE					
Voice Mail Number:		*97											
<b>BluePhone</b>													
Bluetooth Mode:		Phone ▾				Line:		5 ▾					
Short Name:						User Friendly ID:							
PIN Code:		*****											
<b>Line Key 1</b>													
Extension:		1 ▾				Short Name:		VE7LSE 2202					
Share Call Appearance:		private ▾											
Extended Function:													
<b>Line Key 2</b>													
Extension:		2 ▾				Short Name:		VE7LSE 3302					
Share Call Appearance:		private ▾											
Extended Function:													
<b>Line Key 3</b>													
Extension:		Disabled ▾				Short Name:		VE7ODG 2201					
Share Call Appearance:		private ▾											
Extended Function:		fnc=sd+cp+blf;sub=2201@\$PROXY											
<b>Line Key 4</b>													
Extension:		Disabled ▾				Short Name:		VA7DXX 2203					
Share Call Appearance:		private ▾											
Extended Function:		fnc=blf+sd+cp;sub=2203@\$PROXY											
<b>Line Key 5</b>													
Extension:		5 ▾				Short Name:		VE7LSE IP DIALING					
Share Call Appearance:		private ▾											
Extended Function:													

## Outgoing Direct-IP dialed calls

### Personal Directory

This section is done on the phone itself. To add to the directory:

- Press your line key that is setup for direct dialing
- Dial IP of the phone you want to call (using the \* key as a .)  
For example, to enter 10.10.123.123, key in: 1\*1\*123\*123
- Press **Dial** to make sure it works.
- Press Setup button: 
- Navigate to 2. Call History
- Navigate to 4. Placed Calls
- Navigate to the call you just placed using the IP Address
- Press the **Option** button.
- Navigate to Add to Address Book
- Enter the info you want in there then press **Save**

The reason for this method is that the SPA525G does not recognize an IP address entered into the web interface when adding a directory entry. If anyone figures out a work around, please let us know.

How to add direct IP contacts to your speed dial buttons on your phone's spare line keys or Attendant Console keys:

## Phone

- Line Key x
  - Extension: Disabled
  - Short Name: Enter a short name
  - Extended Function: Enter something like: vid=5;fnc=sd;ext=10.46.174.182



- vid=5 refers to the line key used for this speed dial button
- Change the IP address and name to the correct one you are trying to add

Cisco		IP Phone SPA525G2 Cisco Systems, Inc.												
Voice		Wi-Fi		Bluetooth		Personal Address Book			Call History		Speed Dials		Firmware Upgrade	
Info	System	SIP	Provisioning	Regional	Phone	Ext 1	Ext 2	Ext 3	Ext 4	Ext 5	User	Att Console	TR-069	
<a href="#">Attendant Console Status</a> <a href="#">User Login</a> <a href="#">basic</a>   <a href="#">advanced</a>														
<b>General</b>														
Station Name:		VE7LSE				Station Display Name:		VE7LSE						
Voice Mail Number:		*97												
<b>BluePhone</b>														
Bluetooth Mode:		Phone				Line:		5						
Short Name:						User Friendly ID:								
PIN Code:		*****												
<b>Line Key 1</b>														
Extension:		1				Short Name:		VE7LSE 2202						
Share Call Appearance:		private												
Extended Function:														
<b>Line Key 2</b>														
Extension:		2				Short Name:		VE7LSE 3302						
Share Call Appearance:		private												
Extended Function:														
<b>Line Key 3</b>														
Extension:		Disabled				Short Name:		VA7PF DIRECT						
Share Call Appearance:		private												
Extended Function:		vid=5;fnc=sd;ext=10.46.174.182												



## ATT Console

- Cut and paste this example into a free “Unit 1 or Unit 2 Key”:

```
vid=5;fnc=sd;ext=10.46.174.182;nme=VA7PF DIRECT
```

Unit 1 Key 3:

```
vid=5;fnc=sd;ext=10.46.174.182;nme=VA7PF DIRECT
```



# SPA504G

## Ext 1 tab

- SIP Settings
  - SIP Port: 5070

**Small Business**  
**cisco SPA504G Configuration Utility** User Login

Voice Call History Personal Directory Attendant Console Status

Info System SIP Provisioning Regional Phone User Attendant Console

Ext 1 Ext 2 Ext 3 Ext 4

**General**

Line Enable:

**Share Line Appearance**

Share Ext:  Shared User ID:

Subscription Expires:  Restrict MWI:

Monitor User ID:  SCA Unseize Delay:

**NAT Settings**

NAT Mapping Enable:  NAT Keep Alive Enable:

NAT Keep Alive Msg:  NAT Keep Alive Dest:

**Network Settings**

SIP TOS/DiffServ Value:  SIP CoS Value:

RTP TOS/DiffServ Value:  RTP CoS Value:

Network Jitter Level:  Jitter Buffer Adjustment:

**SIP Settings**

SIP Transport:  SIP Port:

SIP 100REL Enable:  EXT SIP Port:

## Ext 4 tab or any free Ext you want to use

- General
  - Line Enable: yes
- SIP Settings
  - SIP Port: 5060

The screenshot shows the Cisco SPA504G Configuration Utility interface. The top navigation bar includes tabs for Voice, Call History, Personal Directory, and Attendant Console Status. Below this, there are tabs for Info, System, SIP, Provisioning, Regional, Phone, User, and Attendant Console. The 'Ext 4' tab is selected. The configuration is organized into sections: General, Share Line Appearance, NAT Settings, Network Settings, and SIP Settings. In the General section, 'Line Enable' is set to 'yes'. In the Share Line Appearance section, 'Share Ext.' is 'private', 'Subscription Expires' is '3600', and 'Monitor User ID' is empty. In the NAT Settings section, 'NAT Mapping Enable' is 'no', 'NAT Keep Alive Msg' is '\$NOTIFY', 'NAT Keep Alive Enable' is 'no', and 'NAT Keep Alive Dest' is '\$PROXY'. In the Network Settings section, 'SIP TOS/DiffServ Value' is '0x68', 'RTP TOS/DiffServ Value' is '0xb8', 'Network Jitter Level' is 'high', 'SIP CoS Value' is '3', 'RTP CoS Value' is '6', and 'Jitter Buffer Adjustment' is 'up and down'. In the SIP Settings section, 'SIP Transport' is 'UDP', 'SIP 100REL Enable' is 'no', 'SIP Port' is '5060', and 'EXT SIP Port' is empty.

- Proxy and Registration
  - Register: no
  - Make Call Without Reg: yes
  - Ans Call Without Reg: yes
- Subscriber Information
  - Enter your Call and Direct for example

The screenshot shows the 'Proxy and Registration' and 'Subscriber Information' sections of the configuration utility. In the 'Proxy and Registration' section, 'Proxy', 'Outbound Proxy', 'Alternate Proxy', and 'Alternate Outbound Proxy' are all empty. 'Use Outbound Proxy' is 'no', 'Register' is 'no', 'Register Expires' is '3600', 'Use DNS SRV' is 'no', 'Proxy Fallback Intvl' is '3600', 'Dual Registration' is 'no', 'Use OB Proxy In Dialog' is 'yes', 'Make Call Without Reg' is 'yes', 'Ans Call Without Reg' is 'yes', 'DNS SRV Auto Prefix' is 'no', 'Proxy Redundancy Method' is 'Normal', and 'Auto Register When Failover' is 'no'. In the 'Subscriber Information' section, 'Display Name' is 'VE7BEF Direct', 'User ID' is empty, and 'Password' is empty. 'Use Auth ID' is 'no'.

- Dial Plan
  - Dial Plan: (x.<\*:.>x.<\*:.>x.<\*:.>x.)
- Enable IP Dialing: Yes

<b>Dial Plan</b>	
Dial Plan:	(x.<*:.>x.<*:.>x.<*:.>x.)
Caller ID Map:	
Enable IP Dialing:	yes <input type="button" value="v"/>
Emergency Number:	

## Phone tab

- Line Key 1
  - Extension: 1
- Line Key 4
  - Extension: 4 or your preference Line Key



Make sure your line keys do not have anything entered for extended Function.

Info	System	SIP	Provisioning	Regional	Phone	User	Attendant Console
Ext 1	Ext 2	Ext 3	Ext 4				
<b>General</b>							
Station Name:		2211		Station Display Name:		VE7BEF	
Voice Mail Number:		*97		Text Logo:			
BMP Picture Download URL:							
Select Logo:		Default <input type="button" value="v"/>		Select Background Picture:		None <input type="button" value="v"/>	
Softkey Labels Font:		Auto <input type="button" value="v"/>		Screen Saver Enable:		no <input type="button" value="v"/>	
Screen Saver Wait:		300		Screen Saver Icon:		Background Picture <input type="button" value="v"/>	
<b>Line Key 1</b>							
Extension:		1 <input type="button" value="v"/>		Short Name:		SUSER	
Share Call Appearance:		private <input type="button" value="v"/>					
Extended Function:							
<b>Line Key 2</b>							
Extension:		2 <input type="button" value="v"/>		Short Name:		VE7BEF 3311	
Share Call Appearance:		private <input type="button" value="v"/>					
Extended Function:							
<b>Line Key 3</b>							
Extension:		Disabled <input type="button" value="v"/>		Short Name:		VE7LSE Direct	
Share Call Appearance:		private <input type="button" value="v"/>					
Extended Function:				vid=4;fnc=sd;ext=10.46.174.182			
<b>Line Key 4</b>							
Extension:		4 <input type="button" value="v"/>		Short Name:		VE7BEF IP Dialing	
Share Call Appearance:		private <input type="button" value="v"/>					
Extended Function:							

## Outgoing Direct-IP dialed calls

### Personal Directory

In each box, place an entry for each desired phone. Examples:

n=VE7LSE;p=10.1.2.3  
n=N2MH;p=10.73.73.66

The screenshot shows the Cisco SPA504G Personal Directory web interface. At the top, there is a header with the Cisco logo, 'Small Business', and 'SPA504G Personal Directory'. On the right, there are links for 'Admin Login', 'basic', and 'advanced'. Below the header, there is a navigation bar with four tabs: 'Voice', 'Call History', 'Personal Directory' (which is highlighted in green), and 'Attendant Console Status'. Under the 'Personal Directory' tab, there is a sub-tab labeled 'Directory'. Below this, there is a table with six rows, numbered 1 through 6. The first two rows contain example entries: 'n=VE7LSE;p=10.1.2.3' and 'n=N2MH;p=10.73.73.66'. The remaining four rows are empty.

Directory	
1.	<input type="text" value="n=VE7LSE;p=10.1.2.3"/>
3.	<input type="text" value="n=N2MH;p=10.73.73.66"/>
5.	<input type="text"/>
2.	<input type="text"/>
4.	<input type="text"/>
6.	<input type="text"/>

How to add direct IP contacts to your speed dial buttons on your phone's spare line keys or Attendant Console keys:

## Phone

- Line Key x
  - Extension: Disabled
  - Short Name: Enter a short name
  - Extended Function: Enter something like: vid=4;fnc=sd;ext=10.46.174.182



- vid=4 refers to the line key used for this speed dial button
- Change the IP address and name to the correct one you are trying to add

**Small Business**  
**cisco SPA504G Configuration Utility**

Voice | Call History | Personal Directory | Attendant Console Status

Info | System | SIP | Provisioning | Regional | **Phone** | User | Attendant Console

Ext 1 | Ext 2 | Ext 3 | Ext 4

**General**

Station Name: 2211 | Station Display Name: VE7BEF  
 Voice Mail Number: \*97 | Text Logo:  
 BMP Picture Download URL:  
 Select Logo: Default | Select Background Picture: None  
 Softkey Labels Font: Auto | Screen Saver Enable: no  
 Screen Saver Wait: 300 | Screen Saver Icon: Background Picture

**Line Key 1**

Extension: 1 | Short Name: \$USER  
 Share Call Appearance: private  
 Extended Function:

**Line Key 2**

Extension: 2 | Short Name: VE7BEF 3311  
 Share Call Appearance: private  
 Extended Function:

**Line Key 3**

Extension: Disabled | Short Name: VE7LSE Direct  
 Share Call Appearance: private  
 Extended Function: vid=4;fnc=sd;ext=10.46.174.182

**Line Key 4**

Extension: 4 | Short Name: VE7BEF IP Dialing  
 Share Call Appearance: private  
 Extended Function:

## ATT Console

- Cut and paste this example into a free “Unit 1 or Unit 2 Key”:

```
vid=5;fnc=sd;ext=10.46.174.182;nme=VA7PF DIRECT
```

Unit 1 Key 3:

```
vid=5;fnc=sd;ext=10.46.174.182;nme=VA7PF DIRECT
```

1)

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