

# 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 Status</div> <div>User Login</div> <div>basic</div> <div>advanced</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

| Proxy and Registration    |               |                              |          |
|---------------------------|---------------|------------------------------|----------|
| 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 ▾     |
| Subscriber Information    |               |                              |          |
| 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

| Dial Plan          |                           |
|--------------------|---------------------------|
| 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<br>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

The screenshot displays the Cisco SPA504G Configuration Utility interface. At the top, the Cisco logo and 'Small Business' text are visible, along with the title 'SPA504G Configuration Utility' and a 'User Login' link. Below the title bar, there are tabs for 'Voice', 'Call History', 'Personal Directory', and 'Attendant Console Status'. The 'Voice' tab is selected, and within it, the 'Ext 1' sub-tab is active. The interface is divided into several sections: 'General', 'Share Line Appearance', 'NAT Settings', 'Network Settings', and 'SIP Settings'. In the 'SIP Settings' section, the 'SIP Port' is set to 5070, which is highlighted in yellow. Other settings include 'Line Enable' (yes), 'Share Ext' (private), 'Subscription Expires' (3600), 'Monitor User ID' (empty), 'NAT Mapping Enable' (no), 'NAT Keep Alive Msg' (\$NOTIFY), 'NAT Keep Alive Enable' (no), 'NAT Keep Alive Dest' (\$PROXY), 'SIP TOS/DiffServ Value' (0x68), 'RTP TOS/DiffServ Value' (0xb8), 'Network Jitter Level' (high), 'SIP Transport' (UDP), 'SIP 100REL Enable' (no), 'Shared User ID' (empty), 'Restrict MWI' (no), and 'SCA Unseize Delay' (0).

| Section               | Setting                | Value    |
|-----------------------|------------------------|----------|
| General               | Line Enable            | yes      |
|                       | Share Line Appearance  |          |
| Share Line Appearance | Share Ext              | private  |
|                       | Subscription Expires   | 3600     |
|                       | Monitor User ID        |          |
|                       | Shared User ID         |          |
| 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        |
| SIP Settings          | SIP Transport          | UDP      |
|                       | SIP 100REL Enable      | no       |
|                       | SIP Port               | 5070     |
|                       | EXT SIP Port           |          |

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

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

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

User L

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: **yes** ▾

**Share Line Appearance**

Share Ext: **private** ▾ Shared User ID:

Subscription Expires:  Restrict MWt: **no** ▾

Monitor User ID:  SCA Unseize Delay:

**NAT Settings**

NAT Mapping Enable: **no** ▾ NAT Keep Alive Enable: **no** ▾

NAT Keep Alive Msg:  NAT Keep Alive Dest:

**Network Settings**

SIP TOS/DiffServ Value:  SIP CoS Value: **3** ▾

RTP TOS/DiffServ Value:  RTP CoS Value: **6** ▾

Network Jitter Level: **high** ▾ Jitter Buffer Adjustment: **up and down** ▾

**SIP Settings**

SIP Transport: **UDP** ▾ SIP Port: **5060**

SIP 100REL Enable: **no** ▾ EXT SIP Port:

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

**Proxy and Registration**

Proxy:

Outbound Proxy:

Alternate Proxy:

Alternate Outbound Proxy:

Use Outbound Proxy: **no** ▾ Use OB Proxy In Dialog: **yes** ▾

Register: **no** ▾ Make Call Without Reg: **yes** ▾

Register Expires:  Ans Call Without Reg: **yes** ▾

Use DNS SRV: **no** ▾ DNS SRV Auto Prefix: **no** ▾

Proxy Fallback Intvl:  Proxy Redundancy Method: **Normal** ▾

Dual Registration: **no** ▾ Auto Register When Failover: **no** ▾

**Subscriber Information**

Display Name: **VE7BEF Direct** User ID:

Password:  Use Auth ID: **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                       |
| 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                           |
| Voice Mail Number:         | *97                            |
| BMP Picture Download URL:  |                                |
| Select Logo:               | Default                        |
| Softkey Labels Font:       | Auto                           |
| Screen Saver Wait:         | 300                            |
| Station Display Name:      | VE7BEF                         |
| Text Logo:                 |                                |
| Select Background Picture: | None                           |
| Screen Saver Enable:       | no                             |
| Screen Saver Icon:         | Background Picture             |
| <b>Line Key 1</b>          |                                |
| Extension:                 | 1                              |
| Share Call Appearance:     | private                        |
| Extended Function:         |                                |
| Short Name:                | SUSER                          |
| <b>Line Key 2</b>          |                                |
| Extension:                 | 2                              |
| Share Call Appearance:     | private                        |
| Extended Function:         |                                |
| Short Name:                | VE7BEF 3311                    |
| <b>Line Key 3</b>          |                                |
| Extension:                 | Disabled                       |
| Share Call Appearance:     | private                        |
| Extended Function:         | vid=4;fnc=sd;ext=10.46.174.182 |
| Short Name:                | VE7LSE Direct                  |
| <b>Line Key 4</b>          |                                |
| Extension:                 | 4                              |
| Share Call Appearance:     | private                        |
| Extended Function:         |                                |
| Short Name:                | VE7BEF IP Dialing              |

## 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

| 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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