



# Cisco IP DECT

## 6800 Series Overview

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## Cisco IP Multi-Platform DECT 6800 Series Overview

The Cisco IP DECT 6800 Series is designed for small and medium businesses, as well as larger organizations. The Cisco IP DECT 6823 and Cisco IP DECT 6825 Handsets are designed for use with the Cisco IP DECT DBS-110 Single-Cell Base Station, Cisco IP DECT DBS-210 Multi-Cell Base Station and Cisco IP DECT Phone RPT-110 Repeater. Together, these products enable the convenience of a mobile DECT solution for Voice-over-IP (VoIP) service. The Cisco IP DECT 6800 Series supports many phone numbers and handsets in a system that can grow from a small storefront to cover the largest locations by adding more base stations and repeaters to the network.



Installing the system is straightforward in most locations. Each handset comes with a site survey tool that provides a graphical green, yellow or red indicator of signal strength throughout the workplace. Base stations and repeaters may be wall or surface mounted with an optional mounting kit or set up to stand on a table or shelf with a foot stand included in each gift box. Each handset supports one or two lines and systems may be installed to enable a few, dozens, or hundreds of handsets.

The 6823 and 6825 handsets have a sleek, comfortable design that clips to a belt or fits easily into a user's pocket as they move about the workplace. The high resolution, graphical color display provides an intuitive user experience: calls can be answered quickly and features such as transfer, conference and hold may be activated with confidence. Each handset supports wide band audio, long talk time in an attractively priced, high performance system. There is also a ruggedized version of the 6825 that is IP65 rated and designed to work well in dusty or moist environments.

The 6825 offers the following advantages that are not provided by the 6823:

- A high resolution display
- Backlit keypad keys
- Bluetooth LE 4.1 for headsets
- An emergency button for inter-network notifications

The Cisco IP DECT 6800 series consists of:

- Cisco IP DECT 110 Single-Cell or Dual-Cell Base Station
- Cisco IP DECT 210 Multi-Cell Base Station
- Cisco IP DECT 110 Repeater
- Cisco IP DECT Phone 6823 Handset
- Cisco IP DECT Phone 6825 Handset
- Cisco IP DECT Phone 6825 Ruggedized Handset

### Cisco IP DECT DBS-110 Single-Cell Base Station, DBS-210 Multi-Cell Base Station and RPT-110 Repeater

The **Cisco IP DECT DBS-110 Single-Cell Base Station** allows up to 20 SIP registrations per unit and up to 2 base stations and 12 repeaters per system. At its maximum size a Single Cell system supports 20 concurrent narrowband or 8 concurrent wideband calls.

The **Cisco IP DECT DBS-210 Multi-Cell Base Station** may be installed as a single cell solution that can grow up to a large system with 250 integrated base stations that supports up to 1000 SIP registrations and 2000 calls.

The **Cisco IP DECT RPT-110 Repeater** extends the connectivity range of handsets registered to the Base Stations. Each Base Station and Repeater has a signal radius of 50 meters (164 feet). The Deployment Guide provides more detail on how combinations of Base Stations and Repeaters may be installed to satisfy different signaling coverage scenarios.

The 110 Single-Cell Base Station, 210 Multi-Cell Base Station and 110 Repeater are supported in the follow frequency ranges:

- 1880 – 1900 MHz (Australia and New Zealand – reduced power 22 dBm)
- 1880 – 1900 MHz (E.U. and APAC)
- 1920 – 1930 MHz (U.S. and Canada)

Each handset is programmed to one of the frequency ranges above when registering to a Base Station for the first time.

### Difference between Multi-Cell, Dual-Cell, and Single-Cell DECT network deployment

DECT Network Type	Description
Single-Cell	It consist of a single base station of DBS 110 model
Dual-Cell	It consist of two base stations of DBS 110 model
Multi-Cell	It consist of 1 or multiple DBS 210 model




## Difference between DBS 110 Single-Cell and DBS 210 Multi-Cell models

Feature	Cisco MPP DBS-110	Cisco MPP DBS-210
Single Cell Mode	Yes	Yes
Multi Cell Mode	No	Yes
Handsets Support per Base Station	10	30
SIP Registration on Single Cell Mode	30	30
SIP Registration on Multi Cell Mode	Not Supported	1000
Concurrent Calls on Single Cell Mode	10	10
Concurrent Calls on Multi Cell Mode	Not Supported	2032
Indoor Range	165 ft. (50m)	165 ft. (50m)
Outdoor Range	980 ft. (300m)	980 ft. (300m)
Repeater support on Single Cell Mode	up to 6 repeater	up to 3 repeater
Repeater support on Multi Cell Mode	multi cell mode not supported	up to 750 repeater
Additional Base Station support on Single Cell Mode	1 base station	1 base station
Additional Base Station support on Multi Cell Mode	multi cell mode not supported	up to 250 base station

The base stations and repeater look the same from the front, but each has a different function and part number that is printed on the back label. The Base stations communicate with the call control system, the handsets, and the optional repeaters. Repeaters communicate with the base station and handsets.



From top to bottom,  
 Cisco DECT RPT-110 Repeater  
 Cisco DECT DBS-210 Multi-Cell Base Station  
 Cisco DECT DBS-110 Single-Cell Base Station

Device Model	Symbols
Cisco IP DECT 110 Single-Cell or Dual-Cell Base Station	
Cisco IP DECT 210 Multi-Cell Base Station	
Cisco IP DECT 110 Repeater	



The handsets communicate with the base station and repeaters using Digital Enhanced Cordless Telecommunications (DECT).

If you need to use a handset in a volatile, dusty, or damp environment, you can use the Cisco IP DECT Phone 6825 Ruggedized Handset. This handset is IP65-rated, which means that the handset is sealed to protect it from dust and water.

The Cisco IP DECT Phone 6823 Handset is similar to the Cisco IP DECT Phone 6825 Handset, except for these differences. The use of keys and display of icons may differ between the two handsets.

Feature	Cisco IP DECT Phone 6825 Handset	Cisco IP DECT Phone 6823 Handset
Screen	Display: 2 inches Resolution: 240 x 320 pixels	Display: 1.7 inches Resolution: 128 x 160 pixels
Emergency button	Present	Not present
Bluetooth	Supported	Not supported
Charging cradle	USB port and LED	No USB port or LED

### Cisco IP DECT 6800 Handsets



		
<p><b>Cisco IP DECT 6823 Handset</b></p> <ul style="list-style-type: none"> <li>❖ Smaller, low-resolution display</li> <li>❖ Cost-effective</li> <li>❖ Ruggedized with larger buttons</li> <li>❖ Call control support</li> </ul>	<p><b>Cisco IP DECT 6825 Handset</b></p> <ul style="list-style-type: none"> <li>❖ Color display, built-in belt clip</li> <li>❖ 17 hours talk time, 200 hours standby time</li> <li>❖ Wideband and narrowband support</li> <li>❖ Supports Bluetooth and wired headsets</li> </ul>	<p><b>Cisco IP DECT 6825 Ruggedized Handset</b></p> <ul style="list-style-type: none"> <li>❖ All the features of the 6825 Handset</li> <li>❖ Designed to withstand dusty or moist environments</li> <li>❖ Features an orange band to help distinguish it from the non-ruggedized handsets</li> </ul>












## Cisco IP DECT Handset Buttons and Hardware

Your handset has many buttons and hardware features that you will use regularly. Use the following figure and table to identify the important buttons and hardware features. The figure shows the 6823 Handset and 6825 Handset. The 6825 Ruggedized handset is similar to the 6825 handset in appearance.






Table for 6825 Handset and 6823 Handset Buttons and Hardware

Item	Name or Grouping	Description
1	Indicator light (LED)	Indicator light Use the light to identify states. You can configure the event that triggers the red, yellow, or green LED.
2	Emergency button	Emergency  Raises an emergency alarm, if configured. This button is not available in the 6823 Handset.
3	Headset port	Headset port with cover  Remove the protective cover and plug in a headset or ear buds (3.5 mm audio jack).

<p>4</p>	<p>Softkeys, handset control buttons (Speaker, Menu), Navigation cluster, call control buttons (Answer/Send, Power/End).</p>	<p>Softkeys  Activate the option displayed on the screen.</p> <p>Speaker  Toggle the speaker mode on or off for the handset.</p> <p>Menu  Access directories, settings, status, and other information.</p> <p>Navigation cluster  Navigation ring and Select button:</p> <ul style="list-style-type: none"> <li>• Navigation ring (outer ring): Move up, down, left, or right.</li> <li>• Select button  (center of the cluster): select a menu item.</li> </ul> <p>Answer/Send  Answer a ringing call or, after dialing a number, press to place the call.</p> <p>Power/End  Turn the handset on or off, or end a connected call. In menus, the button returns you to the previous screen.</p>
<p>5</p>	<p>Keypad</p>	<p>Dial numbers and enter letters.</p> <p>One  <ul style="list-style-type: none"> <li>• Enter "1" when you dial a number.</li> <li>• Access voicemail Press and hold automatically dials the voicemail system.</li> <li>• Enter these special text characters: <b>.!?, - " @ + ; :</b></li> </ul> </p> <p>Asterisk  <ul style="list-style-type: none"> <li>• Press and hold to add the plus (+) symbol at the beginning of a phone number.</li> </ul> </p> <p>Zero  <ul style="list-style-type: none"> <li>• Enter "0" when you dial a number.</li> <li>• Press and hold to lock or unlock the keypad.</li> <li>• Enter a space.</li> </ul> </p> <p>Pound  <ul style="list-style-type: none"> <li>• Press and hold to silence the handset ringer. If configured, the handset vibrates instead.</li> <li>• Enter this special text character: <b>#</b></li> </ul> <p>Use the keys 2 through 9 to enter letters and numbers.  <b>Note:</b> In some languages, additional characters may be present.</p> </p>









6	Volume and Mute buttons	 <p>Volume</p> <ul style="list-style-type: none"> <li>• When the handset is idle, change the ring volume or turn off the ringer.</li> <li>• During a call, control the speaker volume for the active handset, headset, or speaker.</li> </ul>  <p>Mute  Toggle the mute feature on or off.</p>
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### Header Icons

The header icons tell you about the handset state. This section displays the header icons and gives their meaning. The header row icons can be different when do not disturb (DND) is enabled.

### Audio Path Icons











Icon	DND Mode Icon	Description
		Speaker is off
		Headset in use.
		Handset is muted.

### Bluetooth Icons













Icon	DND Mode Icon	Description
		Bluetooth® is connected.
		Bluetooth® is disconnected.

Note: The 6823 Handset does not support Bluetooth.







## Network Icons

Icon	DND Mode Icon	Description
		No network connection.
		Weak network connection.
		Good network connection.
		Better network connection.
		Best network connection





## Battery Icons

Icon	DND Mode Icon	Description
		Battery is depleted. Recharge the battery to use the handset.
		Battery is 1% to 24% charged. Recharge the battery as soon as possible.
		Battery is 25% to 49% charged.
		Battery is 50% to 74% charged.
		Battery is 75% to 100% charged.
		Battery is charging.

## Call-Related Icons

Icon	DND Mode Icon	Description
		Answered call
		Dialed call
		Do not disturb is enabled.
		Phone is forwarded.
		Voicemail message waiting.
		Missed call

## Other Icons

Icon	DND Mode Icon	Description
		Handset keypad is locked.
		Message

### Differences between Phone Calls and Lines

We use the terms *lines* and *calls* in very specific ways to explain how to use your phone.

- Lines — each line corresponds to a directory number or intercom number that others can use to call you. You have up to four lines.
- Calls — each line can support up to two calls. However, you can have only two calls on the handset.

Only one call can be active at any time; the other call is automatically placed on hold.

Here is an example: If you have four lines and each line supports two calls, then you can have two connected calls at one time. These two calls can be on the same line or on different lines. Only one of those calls is active and the other is a held call.

### Phone Batteries

Your phone contains a lithium ion battery. The fully charged battery provides the following hours of service:

- Up to 17 hours of talk time
- Up to 200 hours of standby time

The battery life is reduced when the phone is turned on. Calls, messages, application use, Bluetooth use, and actions like menu navigation use power and reduce the talk time. Your phone screen dims and turns off after a configurable period of inactivity to reduce battery drain.

For additional information, please review the [Cisco DECT 6800 Series Battery Usage Guide](#)

## Features and Benefits – Cisco IP DECT DBS-110 Single-Cell Base Station, DBS-210 Multi-Cell Base Station and RPT-110 Repeater

The specifications described in Table 2 apply to all three devices except where noted.

Feature	Detail
<b>Unit Capacity:</b> <b>Single-Cell Mode</b>	DECT 110 Single-Cell Base Station: <ul style="list-style-type: none"> <li>• Up to 20 SIP Registrations</li> <li>• Up to 10 Concurrent Calls</li> </ul> DECT 210 Multi-Cell Base Station: <ul style="list-style-type: none"> <li>• Up to 30 SIP Registrations</li> <li>• Up to 10 Concurrent Calls</li> </ul>
<b>Multi-Cell Mode:</b>	DECT 110 Single-Cell Base Station: <ul style="list-style-type: none"> <li>• Not supported in Multi-Cell Mode</li> </ul> DECT 210 Multi-Cell Base Station with 250 Base Stations Deployed: <ul style="list-style-type: none"> <li>• Up to 1000 SIP Registrations</li> <li>• Up to 2032 Concurrent Calls</li> </ul>
<b>Base Stations and Repeaters</b> <b>Single-Cell Mode:</b>	DECT 110 Single-Cell Base Station: <ul style="list-style-type: none"> <li>• 1 Base Station</li> <li>• Up to 6 Repeaters</li> </ul> DECT 210 Multi-Cell Base Station: <ul style="list-style-type: none"> <li>• 1 Base Station</li> <li>• Up to 3 Repeaters</li> </ul>
<b>Multi-Cell Mode</b>	DECT 110 Single-Cell Base Station: <ul style="list-style-type: none"> <li>• Not Supported in Multi-Cell Mode</li> </ul> DECT 210 Multi-Cell Base Station: <ul style="list-style-type: none"> <li>• Up to 250 Base Stations</li> <li>• Up to 750 Repeaters</li> </ul>
<b>Audio</b>	<ul style="list-style-type: none"> <li>• Codecs: G.711 (A-law and mu-law), G.722.2, G.726, G.729 (a and ab)</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>• 4.75 in. x 4.75 in. x 1.2 in. (121 mm x 121 mm x 31 mm)</li> </ul>
<b>Weight</b>	<ul style="list-style-type: none"> <li>• 6 oz. (167g)</li> <li>• With stand - 8.2 oz. (231g)</li> </ul>
<b>Network</b>	<ul style="list-style-type: none"> <li>• MAC address (IEEE 802.3)</li> <li>• SIP protocol support (RFC 3261 and companion RFCs)</li> <li>• IPv4 (RFC 791)</li> <li>• DNS: A record (RFC 1706), SRV record (RFC 2782)</li> <li>• Dynamic Host Configuration Protocol (DHCP) (RFC 2131)</li> <li>• Simple Network Time Protocol (SNTP) (RFC 2030)</li> <li>• Network Address Translation (NAT) traversal, serial tunnel (STUN)</li> <li>• User Datagram Protocol (UDP) / Transmission Control Protocol (TCP)</li> <li>• Link Layer Discovery Protocol (LLDP)</li> </ul>
<b>Ethernet</b>	<ul style="list-style-type: none"> <li>• Internal Single Port - 10/100 BASE-T IEEE 802.3</li> <li>• Power over Ethernet (PoE) - minimum IEEE 802.3: Power class 2 (3.84 – 6.49W)</li> </ul>

Feature	Detail
<b>Security</b>	<ul style="list-style-type: none"> <li>• Certificates</li> <li>• Transport Layer Security (TLS)</li> <li>• Media encryption via Secure Real-Time Transport Protocol (SRTP)</li> <li>• Encrypted configuration files</li> <li>• Digest authentication</li> <li>• Password-protect handset</li> <li>• HTTPs secure provisioning</li> <li>• Secure call</li> </ul>
<b>Call control and audio features</b>	<ul style="list-style-type: none"> <li>• Make and Receive a call over any line</li> <li>• Auto-answer</li> <li>• Barge call (shared line)</li> <li>• Redial</li> <li>• Do not disturb</li> <li>• Anonymous call and Anonymous call rejection</li> <li>• Caller ID</li> <li>• Conference – Three-way</li> <li>• Transfer – Attended and Blind</li> <li>• Call swap (to/from)</li> <li>• Call forwarding</li> <li>• Call waiting</li> <li>• Call Park and Call Return</li> <li>• Call hold / resume</li> <li>• Shared line / multi-line</li> <li>• Key lock</li> <li>• Emergency call</li> <li>• Phonebook search, import, export and local phonebook</li> <li>• Call history (up to 50 entries)</li> <li>• Remote phonebook / Lightweight Directory Access Protocol (LDAP)</li> <li>• Narrowband / wideband codecs</li> <li>• DTMF dialing</li> <li>• Distinctive ringing, Ringtone selection, and Ringer volume control</li> <li>• Receiver volume control</li> <li>• Cisco BroadWorks® Directory</li> <li>• Speed dial</li> <li>• Voicemail and Message Waiting Indicator</li> <li>• Full duplex speakerphone</li> <li>• HTTPS, SRTP, and Support for provisioning / upgrade</li> </ul>
<b>Directory</b>	<ul style="list-style-type: none"> <li>• 250 entries</li> <li>• Local phonebook</li> <li>• XML / LDAP remote directory</li> <li>• Cisco BroadSoft® directory</li> <li>• Call history (missed, placed, and received), up to 50 entries</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>• Configuration: Browser, phone, auto-provision</li> <li>• Auto-provision via TFTP, HTTP, or HTTPs for mass deployment</li> <li>• Packet capture</li> </ul>