

Introducing the New IP4100 DECT Telephone!

In response to demands from customers and Authorized Toshiba Dealers, Toshiba is now offering a new mobile SIP DECT telephone solution for Toshiba's IPedge and Strata CIX IP business telephone systems, giving users more choices to meet their mobility needs. The IP4100 DECT solution provides a cost-effective in-building wireless solution, built on proven DECT 6.0 technology.

The IP4100 DECT (shown right) solution is a complete in-building mobility solution that can support up to 200 handsets and 40 access points (bases). The handset features a 2-inch color display and longer talk time.

The IP4100 DECT includes:

- Complete in-building mobility solution supporting up to 200 handsets and 40 access points.
- Support of 8~10 simultaneous call sessions per base.
- Seamless roaming between bases in a multi-base configurations.
- 2.0 inch color TFT back-lit display.
- Single base or multi-base configuration providing coverage and expansion as needed.
- True on-site mobility that improves efficiency and productivity.
- Over-air base synchronization, which provides extended wireless coverage.
- A cost-effective in-building wireless solution built on proven DECT 6.0 technology.
- Crystal clear speech, seamless handover and secure air interface through secure encryption.



Advantages of the IP4100 DECT Telephone

- **Simplicity** – Integration of several functions lead to reduced maintenance and troubleshooting, and significant cost reductions.
- **Flexibility** – Single network architecture can be employed and managed. Furthermore, the architecture is amenable to different deployment scenarios, including isolated buildings for in-building coverage, location with co-located partners, and large to medium scale enterprise deployment for wide coverage.
- **Scalability** – Small to Medium Enterprise network architecture can easily be scaled to the required size depending on customer requirements.

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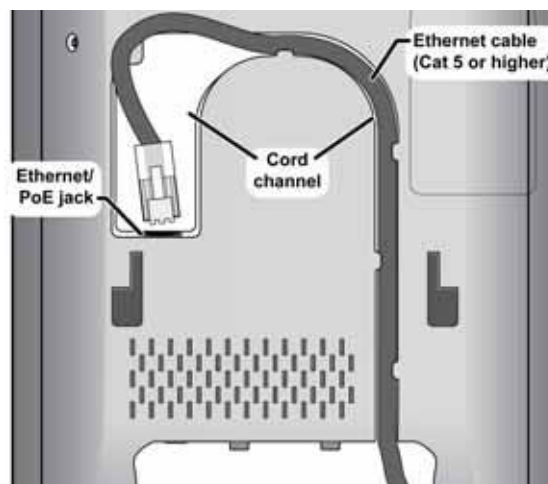
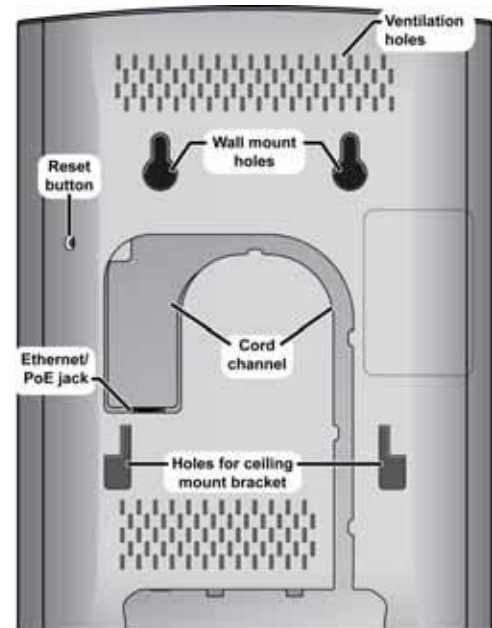
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Base Station

Connecting the Base Station

1. Connect a standard Ethernet cable (Cat 5 or higher) to the Ethernet/PoE jack on the rear of the base station.



2. Connect the other end of the cable to your TCP/IP network.
3. When the base station powers on, the Status LED on the front briefly lights orange and then turns off while it initializes and connects to the network. After the base station successfully initializes and connects to the network, the LED lights green and remains steady on.

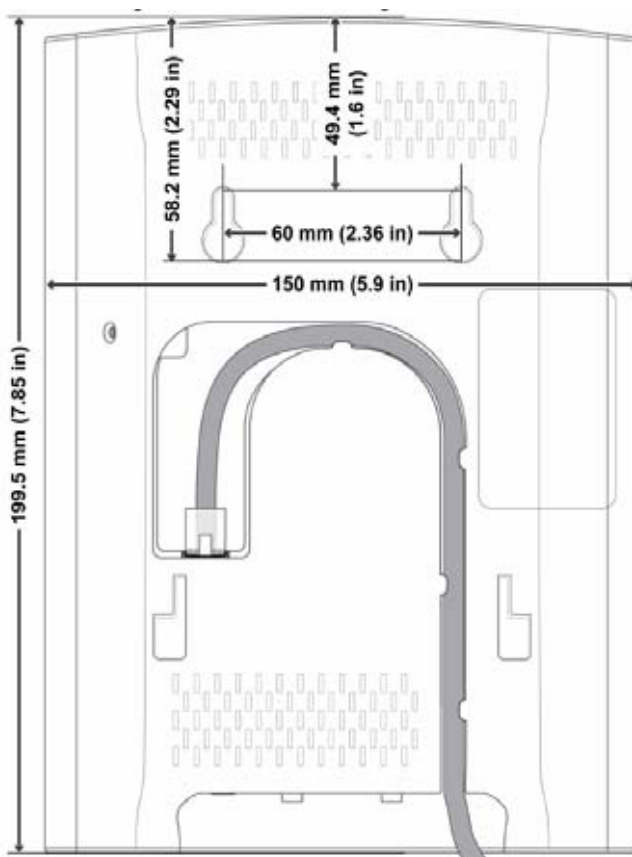
LED Definitions

Color	State	Meaning
Green	Flickering	Firmware Update in Progress
Green	Steady On	All Operations Normal
NA	Off	No Power in unit or initializing and connecting to the network
Orange	Briefly On	Powering On
Orange	Flickering	Firmware Update in Progress
Red	Blinking	Factory Reset Warning – A factory reset has been initiated or in progress
Red	Blinking	No Ethernet Connection or Handset registration failed
Red	Briefly On	Reboot to start after firmware update
Red	Steady On	Critical Error. Contact Tech Support

To Wall Mount the Base Station

Be sure the wall material can hold the weight of the base.

1. Hold the base in its final location and mark the screw location based on the measurements shown right.
2. Insert the appropriate anchors for the wall material.
3. Insert the mounting screws into the anchors, leaving about $\frac{1}{4}$ inch of space between the screw head and the wall.
4. Connect the Ethernet cable and route the cord as shown.
5. Place the base over the screw heads and slide it down into place.



Handset and Charger



IP4100-DECT Handset Features

- 2.0 inch color TFT back-lit display
- Li-ion battery for long talk time and standby time
- Wideband Voice (HDSP) Basic and Extended operations
- Over-air feature upgrade support
- DECT 6.0 frequency support with encryption
- Back-lit keypad for easy operation in low-lit environments
- Laser-etched keypad numbers for extended life use
- Three soft keys for ease of operation
- Four programmable feature keys for flexibility in operations
- 2.5 mm headset jack

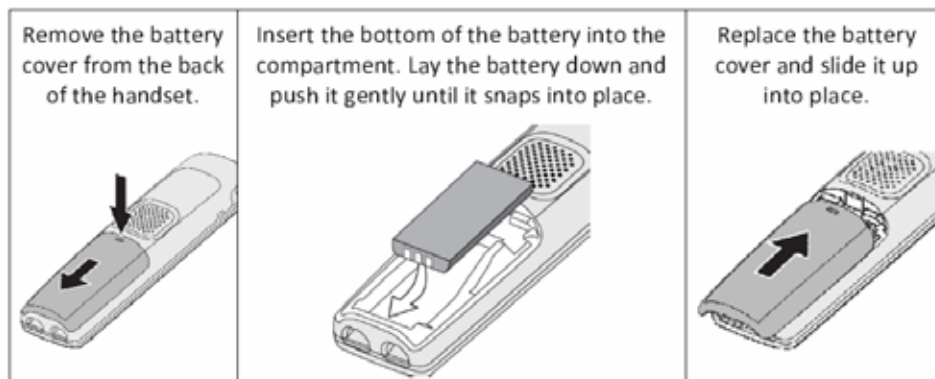
- Polyphonic ringer support
- Vibration ring support
- Additional battery charging station in handset charger
- High-quality speaker phone
- Belt clip

The IP4100-BASE (Access Points) Features

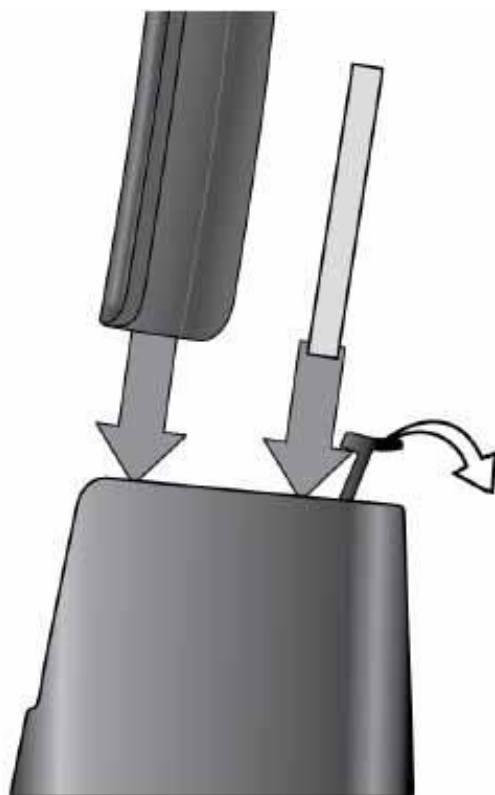
- Attractive design
- Power over Ethernet support
- Omni-directional internal antenna for flexible installation options
- Antenna diversity switching to avoid interference
- Frequency support 1920-1930mhz with Wi-Fi avoidance technology
- Colored LED status indication for ease of installation and operation
- Easy installation via web GUI interface
- Built-in trouble-shooting tools.

Charging the Battery

1. Install the handset as shown below
2. Use the charger AC adapter to connect the charger's AC jack to a standard 120V AC power outlet.
3. Place the handset in the charger with the display facing forward. The Handset Status should turn on; if it doesn't, re-seat the handset or try plugging the AC adapter into a different outlet.
4. Place a spare battery if available on the back section of the charger; the battery status LED should turn on. Pull the battery latch back slightly to fit the battery in the slot.



Inserting the Handset into the Charger



System Compatibility

Hardware Platform	Software Version
IPedge EP, EC & EM Servers	
CIX40	R520 MT055
CIX100	R520 MT055
CIX670	R520 MT055
CIX1200	R520 MT055
MIPU	MIPU02_06

Features

Feature	Supported	Not Supported
Supervised Transfer	X	
Blind Transfer	X	
Hold	X	
Speed Dial	X	
Call Lists ¹	X	
Do Not Disturb	X	
Call Forward All Calls	X	
Call Forward Busy	X	
Call Forward No Answer	X	
Call Forward Busy, No Answer	X	
Directed Call Pickup	X	
Contacts	X	
Central Directory	X	
Speaker mode	X	
Mute	X	
Vibrate	X	
Alarm	X	
Date / Time	X	
Multi Language	X	
Power Save Mode	X	
Color Display	X	
Reject Call	X	
Silent mode	X	
Headset	X	
Coverage Warning	X	
Auto Answer	X	
Automatic Keylock	X	
6 Ring Melodies (default)	X	
Message Waiting Indicator	X	
Message Waiting Answer	X	
Message Waiting Cancel	X	
Emergency Call	X	
Caller ID	X	
Caller Name	X	

Feature	Supported	Not Supported
Park	X	
Page Outbound ²	X	
Conference ³		X
Multiple DNS ⁴		X

¹ All Calls, Answered Calls, Dialed Calls, Missed Calls.

² SIP telephones cannot be part of a Page Group but can initiate a Group Page.

³ Cannot initiate a conference but can be joined into a conference

⁴ Will be supported in a future release.

Availability

Part #	Description
IP4100-DECT	Wireless SIP DECT 6.0 handset supports HD voice
IP4100-BASE	Wireless SIP DECT cordless access point
IP4100-BATTERY	IP DECT Spare Battery
IP4100-MOUNT	IP DECT Ceiling Mount
IP4100-CASE	IP DECT Leather Case
IP4100-CHARGER	IP DECT Charger Unit
IP4100-BELTCLIP	IP DECT Belt Clip
IP4100-ACADPT	IP DECT AC Adapter for Charger

Quick Setup

1. Create SIP accounts on the Strata CIX.



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Strata CIX NETWORK MANAGER
TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
User Name: Administrator

Home Clients Connected Equipment Application Settings

log out

[Strategy ES](#) |
 [System](#) |
 [Station](#) |
 [Trunk](#) |
 [IP-Telephony](#) |
 [LCR/DR](#) |
 [Strata Net](#) |
 [Maintenance](#) |
 [Alarm/Traffic](#) |
 [Help](#)

Station - Station Assignments

Uniden



Basic **DKT** **DSS** **Key** **Timer** **Ring Down**

Prime DN 301

260 Full IP Station Assignment

82 PON Equipment Number 0105		
81 Type SP		
85 COS Day1 1	Day2 1	Night 1
86 DRL Day1 1	Day2 1	Night 1
87 FRL Day1 1	Day2 1	Night 1
89 QPL Day1 1	Day2 1	Night 1
88 LCR Group 1	10 Name to Display Toshiba SP2	
11 Dialing Progress Tone Dial Tone	12 System Call Forward 	
13 Call Pickup Permitted	14 Bearer Capability Audio	
15 Display DN 	16 CLESID 	
17 Emergency Call Group 1	18 Remote CF/DND Pass-word 	
19 VMID Code 	20 VM MW Center Port 	
21 Travel COS Change Disable	22 TGAC Override Disable	
23 Service Tones Enable	24 Call Waiting Tone Enable	

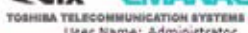
Submit
Print
Refresh
Get Default
Change DN
Selective Copy
PON Table View
Create
Delete

Network Manager: V5.20A11a ©2005 Toshiba America Information Systems, Inc.

2. Configure G711 CODEC and RFC 2833 DTMF for SIP accounts on the Strata CIX.



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TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
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IP-Telephony - IPT Data

Uniden



250 IPT DATA ASSIGNMENT

00 Prime DN	301
01 Station ID	301
02 Station IP Address Type	Any
03 Station IP Address	0. 0. 0. 0
04 Auto Assign Station ID	Do Not Care
05 Station Terminal Authentication Mode	Do Not Care
06 Station MAC Address	
07 Voice Packet Table	1
08 Audio Codec	G711
09 Display Software Version Number of IPT	
10 SIP Terminal URI	
11 SIP Terminal Password	301
12 Station IP DTMF Translation Mode	RFC2833
14 Secondary Audio Codec for Full IP station	None
15 Secondary Voice Packet Index	3
16 IPT NAT/No Peer to Peer	Disable
17 Base UDP Port for IPT Media Channel	49154

Submit
Print
Refresh
Get Default
Copy

297

298

299

300

301

302

303

304

3. Create corresponding SIP accounts on the Toshiba IP4100 DECT.

Using the IP4100-Base web interface, navigate to the Extensions page (shown below) and click “add extension” to create the corresponding SIP accounts. The necessary fields must be completed, covered on the next page of this document under “[Required IP4100-Base Station Parameters](#)” section.

Toshiba BS1 SIP_V160

Extensions

Server 1:
192.168.10.100

Server 1:

	Idx	Extension	Display Name	IPEI	State	FW Info	FWU Progress
☐	<u>0</u>	<u>300</u>	Toshiba SIP1	11:6E:50:03:A8	SIP REGISTERED@RPN00		
☐	<u>1</u>	<u>301</u>	Toshiba SIP2	11:6E:50:03:AD	SIP REGISTERED@RPN00		
☐	<u>2</u>	<u>302</u>	Toshiba SIP3	11:6E:50:03:B8	SIP REGISTERED@RPN00		
☐	<u>3</u>	<u>300</u>	Toshiba SIP1	11:6E:50:03:C8	SIP REGISTERED@RPN00		

Check All / Uncheck All

With selected: Delete Extension(s), Register Handset(s), Deregister Handset(s)

[Add extension](#)

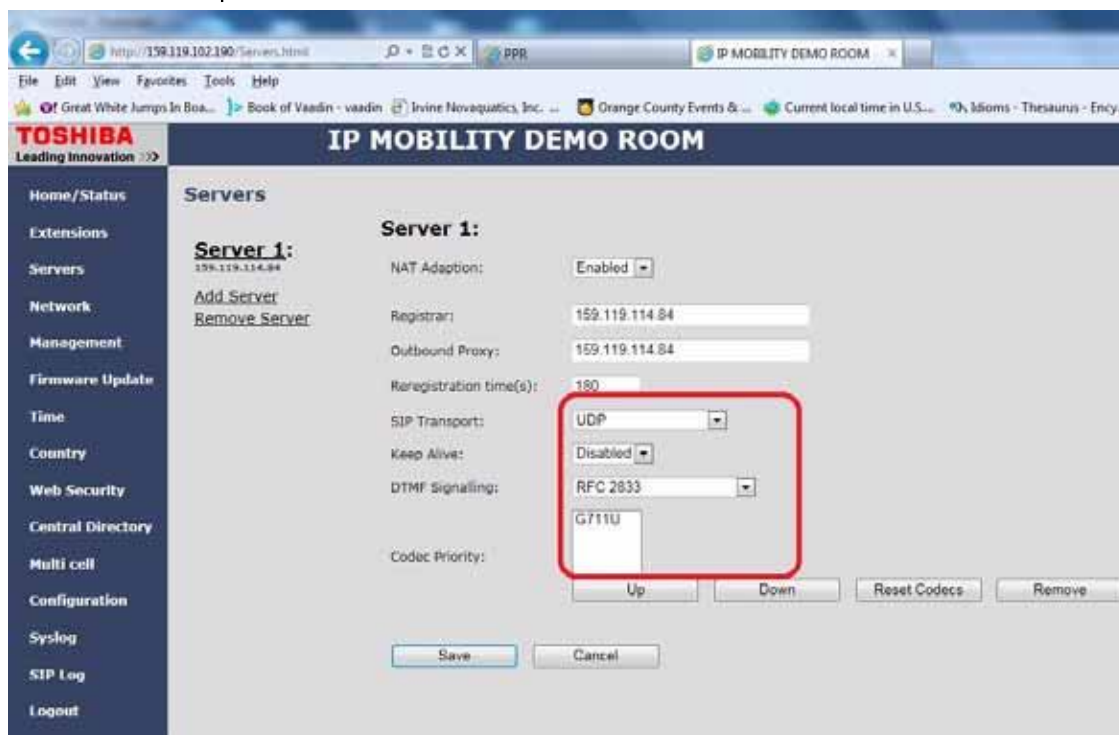
[Refresh](#)

4. Ensure the following settings (shown below) are made on the Server configuration screen:

Keep-Alive set to Disabled

Remove G711A from list

RFC2833 as DTMF option



Required IP4100-Base Station Parameters

- NTP must be configured first (Time section)
- Extension, Authentication User Name and Authentication Password (if used) MUST match Strata CIX (Extensions section)
- Display Name and Extension are strongly recommended to match the Strata CIX (Extensions sections)
- RFC 2833 is only DTMF signaling method supported (Servers section)
- g711u is the only CODEC supported (Servers section)
- Keep Alive MUST be disabled (Servers section)
- Registrar is the only required field, IP address OF CIX IPU card. (Servers section)
- SIP Server support for multiple registrations per account MUST be "Enable" if using a Multi cell system (Multi cell section)

Quick Reference Guide

Supervised Transfer

1. Establish a call.
2. Press **Transfer** soft key.
3. Dial digits of telephone number to transfer to.
4. Press **Talk**.
5. Transfer target answers. There is talk path.
6. Press **Transfer** again to transfer the call.
7. The IP4100-DECT will drop out of the call.

Blind Transfer

1. Establish a call.
2. Press **Transfer** soft key.
3. Dial digits of telephone number to transfer call to.
4. Press **Transfer** again.
5. IP4100-DECT drops out of call, and call is transferred.

Hold

1. Establish a call.
2. Press **Hold** soft key. No audio at this point.
3. Press Retrieve soft key to retrieve call. Talk path reestablished.

Speed Dial

1. A contact has already been created.
2. Press the Contacts soft key.
3. Highlight a contact for speed dial, and press More (or press the center **OK** key).
4. Navigate down and select Speed dial.
5. Highlight one of the number keys.
 - a. 2 ~ 9 represent the respective number keys.
 - b. 10 ~13 align with the bottom four keys from left to right.
6. Press the **Add** soft key. The contact will be entered into the speed dial entry.
7. Exit to idle screen.
8. To call a speed dial contact on keys 2 ~ 9, press and hold the key until the IP4100-DECT indicates that it is calling the contact.
9. To call a speed dial contact on one of the bottom four keys, press and release the key to start the call.

Call Lists

1. With IP4100-DECT idle, press right hand Calls soft key.
2. View "All calls".
3. Navigate right with center navigation keys to view Answered calls.
4. List containing Answered calls, caller names and numbers will be shown.
5. Press center **View** soft key to view details of any call.
6. Press navigation right again to view Dialed calls.
7. List containing Dialed calls, caller names and numbers will be shown.
8. Press navigation right again to view Missed calls.
9. List containing Missed calls, caller names and numbers will be shown.
10. Press **End** to exit Calls.
11. Press the **Calls** soft key.
12. From one of the lists, select a call entry.
13. Press the Call soft key to originate a call.

Do Not Disturb

Option 1:

1. Go to Menu > Settings > Do not disturb.
2. Select enable, and exit.

Option 2:

1. Dial **#6091**
2. Press **Talk**.

Note #6092 disables.

Call Forward All Calls

1. Dial **#6011** number to forward to # from IP4100-DECT that will be forwarded for all calls.
2. Press **Talk**.

Note #6051 cancels.

Call Forward Busy

1. Dial **#6021** number to forward to # from IP4100-DECT that will be forwarded if busy.
2. Press **Talk**.

Notes

- #6051 cancels.
- The COS 1 (default) must have Offhook Camp-on disabled for busy treatment (CIX).

Call Forward No Answer

1. Dial **#6031** number to forward to # from IP4100-DECT that will be forwarded for no answer.
2. Press **Talk**.

Notes

- **#6051** cancels.
- The default is 3 rings before forward.

Call Forward Busy, No answer

1. Dial **#6041** number to forward to# from IP4100-DECT that will be forwarded if busy and / or no answer.
2. Press **Talk**.

Note **#6051** cancels.

Directed Call Pickup (ringing call)

1. Dial **#5#5** number of ringing phone
2. Press **Talk**.
3. Originating phone will hang up automatically.
4. Ringing phone will be connected to phone (that initiated Directed Call Pickup).

Note Line must be ringing (other than the phone initiating Directed Call Pickup).

Contacts

1. Press **Contacts** soft key.
2. Press **More** soft key.
3. Select Add contact.
4. Select Name.
5. Use keypad to enter a name.
6. Press **Save** soft key.
7. Select Work, Mobile, Home, or Other.
8. Use keypad to enter a number.
9. Press **Save**.
10. Press **Save** again.
11. Press **Yes** to confirm.
12. Press **End** to exit Contacts

Contacts Call

1. Press **Contacts** soft key.
2. Navigate to highlight a contact.
3. Press **Call**.
4. Call will be established.
5. End call.

Central Directory

1. Press **Menu**.
2. Navigate to Central Directory.
3. Navigate to highlight a contact.
4. Press **Call**.
5. Call will be established.
6. End call.

Speaker Mode

Speaker Button – Outgoing Call

1. Dial a number and press the **Speaker** key.
2. Press **Speaker** to hear caller through earpiece.
3. Press **Speaker** again to put call back through speaker.
4. End call.

Speaker Button – Incoming Call

1. IP4100-DECT is called and rings/vibrates.
2. Press **Speaker** to answer.
3. Audio is heard through speaker.
4. End call.

Mute

1. A call must be established prior to performing the steps below.
2. Press the **Mute** button (left side of IP4100-DECT).
3. No audio will be streamed from IP4100-DECT resulting in no audio on far end.

Note Pressing Mute again will reestablish 2 way audio.

Vibrate

1. Go to Menu > Audio settings > Vibrator.
2. Select Vibrate then ring, or Vibrate only, or Vibrate and ring.
3. Exit to idle screen.
4. Receiving a call to the IP4100-DECT will result in vibrating according to the setting.

Alarm

1. Press the **Menu** key.
2. Navigate down to the bottom row to Alarms, and select.
3. Select Alarm.
4. Enter a time, and Save.
5. Select Recurrent Alarm if desired.
6. Enter a time, save, and select the days of the week.
7. Select Snooze time, and select one of the snooze times.
8. Exit to idle display.
9. An alarm icon will appear at the top of the display when an alarm is enabled.

Date / Time

1. Press the **Menu** key.
2. Navigate to Settings and select.
3. Select Time & date.
4. Select desired Time and Date formats.
5. Press **End** until back at idle display.

Note The time and date is provided by the Base and set by the Administrator.

Multi Language

1. Press the **Menu** key.
2. Navigate to Settings and select.
3. Navigate to Language and select.
4. Navigate to English, Espanol or Francais and press the Select soft key.

Power Save Mode

1. Press the **Menu** key
2. Navigate to Settings and select.
3. Navigate to Power save and select.
4. Navigate to desired time to initiate turning off the display and press the Select soft key.

Note Possible values for Power Save are in seconds: 5, 10, 20, 30, 45, and 60

Reject Call

1. A call must be ringing the IP4100-DECT.
2. Press the **Reject** soft key.
3. The IP4100-DECT will stop ringing.

Silent Mode

1. A call must be ringing the IP4100-DECT.
2. When the IP4100-DECT rings, press the **Silent** soft key.
3. The IP4100-DECT will stop ringing, but the display will continue to alert.
4. Press **Talk** to answer.

Headset

Headset – Outgoing Call

1. Insert a headset that has a 2.5mm connector into headset jack.
2. Dial digits, and press **Talk** to establish a call.
3. Audio in each direction will be through headset ear pieces and microphone.
4. Press '+' to increase volume to headset.
5. Press '-' to decrease volume to headset.
6. Remove headset from jack. Audio will be through earpiece and IP4100-DECT microphone.
7. If headset is reinserted audio is through headset again.
8. End call.

Headset – Incoming Call

1. Headset is inserted in jack.
2. IP4100-DECT receives a call and rings/vibrates.
3. Press **Talk** to answer.
4. Audio is through headset.
5. End call.

Coverage Warning

1. Navigate to Menu > Audio settings > Coverage warning.
2. Select On, and press **Exit**.
3. When a call is established and one moves to the edge of the IP4100 Base's range a quick 3-beep tone when at the edge will be heard.

Auto Answer

1. Navigate to Menu > Settings > Auto answer.
2. Select Any key, and **Exit**.
3. When receiving a call, answer by pressing any of the number keys, '*', '#', **Speaker**, **Menu**, **OK** and surrounding navigation keys, and center soft key.
4. Selecting Automatic will result in a received call being automatically answered.

Note There is a 3 second delay between the time of the first ringing and the auto answer.

Automatic Keylock

1. Navigate to Menu > Settings > Security.
2. Select Automatic keylock.
3. Select a time after which the keypad will lock if the IP4100-DECT has been idle for that time.
4. Return to the idle display.
5. The keylock screen appears briefly after the idle time elapses. A lock icon will also appear at the top of the display.
6. The keypad is now locked.
7. Press the center OK button and * to unlock the keypad.

Note It is not recommended to change the PIN.

Ring Melodies

1. Navigate to Menu > Audio settings > Ring melody.
2. Navigate up or down to highlight a melody.
3. Press the **Play** soft key to hear the melody.
4. Select a melody, and **Exit**.
5. When a call is placed to the IP4100-DECT the newly selected melody is heard.

Message Waiting Indicator (sending to another IP4100-DECT)

1. Dial #63target IP4100-DECT extension
2. Press **Talk** (target IP4100-DECT display 1 new message alert and mail icon at top of screen)

Note Dialing #64target IP4100-DECT extension and pressing Talk will clear message alert and mail icon.

Message Waiting Indicator Answer

1. Dial **#408** on IP4100-DECT if alert message is present or mail icon is at the top of screen.
2. Press **Talk**.
3. IP4100-DECT automatically calls back originating phone of message waiting indicator.

Note Dialing #409 and pressing Talk will clear the mail icon at the top of screen.

Park

1. A call must be established prior to performing the steps below.
2. Press the transfer soft key, dial **#33#** and press **Talk** (parks the call locally on this extension).
3. The IP4100-DECT parking the call will disconnect and the parked IP4100-DECT remains connected.
4. To retrieve the parked call from the IP4100-DECT, dial **#32#** and press **Talk** (audio path established).

Note If the IP4100-DECT remains parked for 2 minutes, the IP4100-DECT that parked the call will ring. If one rejects the call, it will disconnect the parked call. One must answer the call and perform the park sequence again.

Page All (Outbound)

1. Dial **#30**
2. Press **Talk**

Note IP4100-DECT cannot be part of Page All Group, only DKTs.

Page Group (Outbound)

1. Dial **#31** page group number
2. Press **Talk**

Note IP4100-DECT cannot be part of Page Group, only DKTs.

Multiple DNs (Not supported however, one can place multiple outbound calls)

1. A call must be established before performing the steps below.
2. Press **Hold** soft key.
3. Dial extension or telephone number.
4. Press **Talk** (second call initiates and connects audio when answered).
5. Press **End** to terminate second call.
6. Press **Retrieve** to resume first call.
7. Press **End** to terminate first call.

Note Multiple inbound calls are not supported.

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-End-