iPECS is an Ericsson-LG Brand

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IP-DECT Introduction update (100 series range)

May 2023

iPECS Your Communications Solution

Contents

- Line-up overview
- Value Propositions
- Base Stations
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- Feature list
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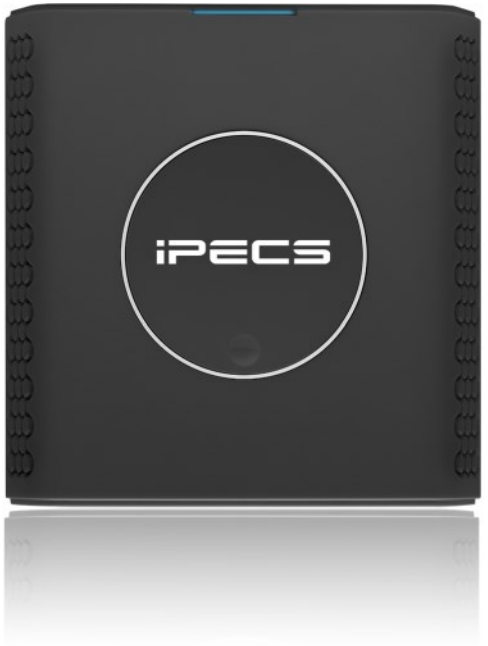
Aria Technologies has the following IP DECT products in the iPECS portfolio:

PART	DECRIPTION
GDC-800R	IP DECT Wireless Repeater
150DH	IP DECT 150dh Handset
110DH	IP DECT 110dh Handset
130DB	IP DECT 130db Base Station
110DB	IP DECT 110db Base Station
GDC-800H	IP DECT GDC-800H Handset
100dr	IP DECT new Wireless Repeater
120DH	IP DECT 120dh Handset

The iPECS IP DECT 100 series range:



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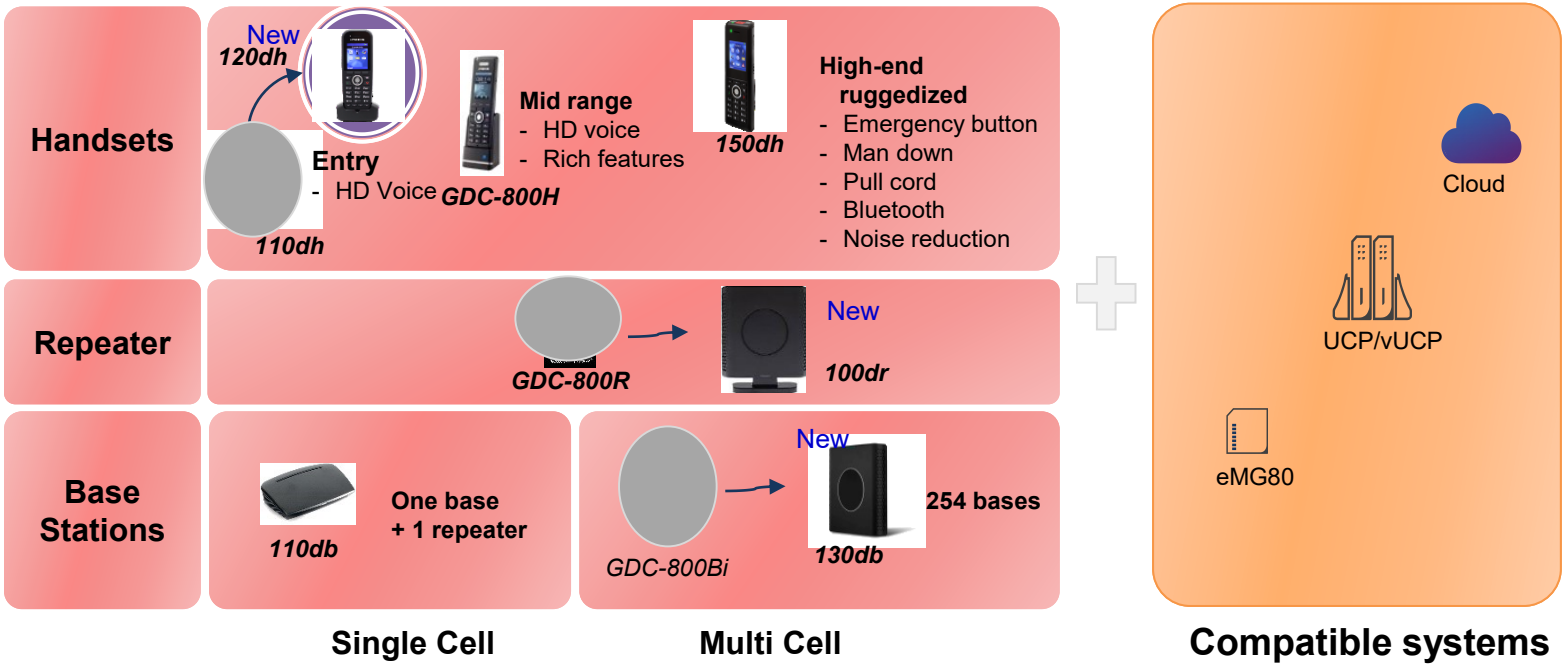
Line-up overview

Enhanced IP-DECT mobility solutions for iPECS on-premise and cloud solutions

- Cost effectiveness for small businesses
- Broad choices for SME and Enterprises in highly demanding environments



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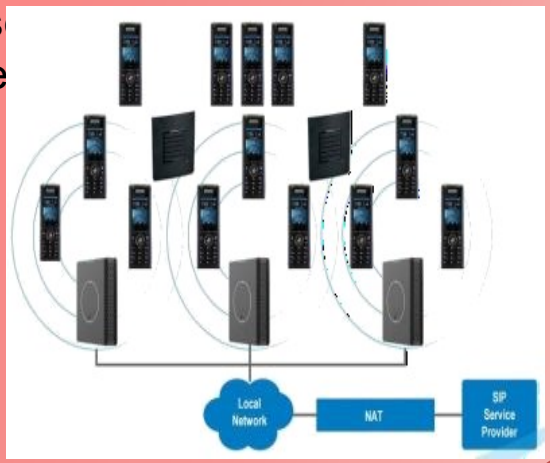
Value Propositions

Cost-effective mobility solution for small offices

- Single cell base station
  + 1 repeater
- Up to 20 users*
- 5 simultaneous calls

Cost effective and broad choices for SME and Enterprises in highly demanding environments

- Highly scalable up to 254 bases (without repeaters)
- Expanded coverage with LAN sync
- Enhanced Security
- Ruggedized hands
- Emergency feature



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* Naturally this is the capable maximum,
multi cell solution may suit well prior to this number.

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Value Propositions

Advantages vs 3rd party standalone solutions

- **Cost competitive with IPEXT license** instead of SIP Ext license
- **Better quality and more reliable**
- **Voicemail indication and one-touch access**
- **Continuous future feature enhancements** - Sys directory integration, etc
- **One-brand solution** – single contact for support, etc.

Advantages vs TDM or Analogue DECT

- **Make use of existing structured cabling**
- **In the case of vs Analogue – no need for STLM integration**
- **Voicemail indication and one-touch access**
- **Future proof your investment** – TDM is reaching EOS/EOL
- **Continuous future feature enhancements** - Sys directory integration, etc
- **One-brand solution** – single contact for support, etc.

Base station summary

Category	110db (Single Cell Base)	GDC-800Bi* (Multi Cell Base)	130db (Multi Cell Base)
Design			
Max. Base per zone	1	127	254
Repeater	Y (up to 1)	Y	Y
Max. Subscribers	20	1,000**	1,000**
Simultaneous Call per Base	5 (G.711) 4 (G.722)	8 (G.711) 4 (G.722)	9 (G.711) (8 in Multi mode) 4 (G.722)
Protocol	SIP	SIP	SIP
Sync	-	Air Sync^	Air Sync^ and LAN Sync (IEEE 1588)
Audio	Narrow or Wide Band	Narrow or Wide Band	Narrow or wideband
Security	TLS v1.1	TLS v1.1	TLS v1.2
Power	DC (Adatper is included)	PoE only	POE or DC (Adapter is not included)

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*Listed here for comparison purposes. Not for sale.
**Up to system capacity
^ LAN Sync is the preferred Sync method

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110db – Single-Cell base station

Cost-effective single cell base for small offices or branch offices

- 1 base station
- Up to 1 repeater for coverage expansion
- Up to 20 users* registered and 5 simultaneous calls
  - Up to 5 simultaneous calls using G.711
  - Up to 4 simultaneous calls using G.722 (optional**)
- Central directory support (Phonebook / LDAP & System with P4)
- Handset software upgrade over the air
- Power adapter with UK, EU and AUS power plug

- *Support 110dh, 150dh and GDC-800H*
- *Compliant with iPECS UCP, eMG, and Cloud*

- **Cost effective mobility for small offices**
- **HD Voice Quality**
- **Easy to install and management**

* Naturally this is the capable maximum, multi cell solution may suit well prior to this number.
** Aria recommends G.711 so not required.

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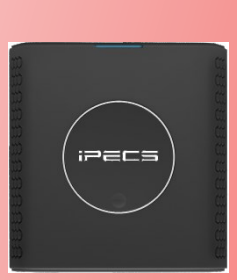
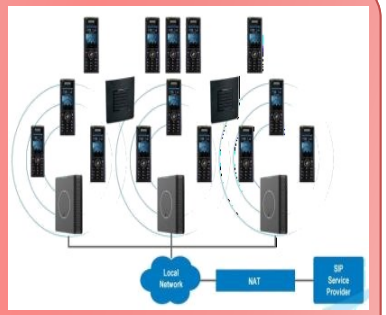
130db – Multi-Cell base station

Multi cell base for SME and Enterprise – highly scalable and flexible

- Up to 254 base stations and 1,000 handsets per Zone
- Repeater support for cost-effective coverage expansion
- Up to 9 voice channels (single cell)
- Up to 8 voice channels (multi cell)
- IEEE1588 Lan Sync or Air Sync
- Full SRTP and TLS 1.2 support
- Handset software upgrade over the air
- Power over Ethernet support
- Upside down mounting with turn-able logo

- *Support 110dh, 150dh and GDC-800H*
- *Compliant with iPECS UCP, eMG and Cloud*





- **Highly scalable up to 254 bases**
- **Expanded coverage with LAN sync**
- **Enhanced Security**

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GDC-800R or 100dr – Repeater

Repeater for cost-effective coverage expansion

- Professional DECT repeater with extended call
- Supports up to 5 channels
- Can be used with 110db/130db
  - 110db: max 1 repeater
  - 130db
    . 50 bases and 3 repeaters per base
    . 127 bases and 1 repeater per base
    . 254 bases and 0 repeater
- Range (open / building) : up to 200/30m

  * Max coverage is depend on an environment

Expand the wireless coverage cost effectively

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Handset summary

Features	110dh	New 120dh	GDC-800H	150dh
Design				
Size (mm)	135 x 41 x 25	128 x 48 x 21	140x48x25	152x48x28
Display	1.44” TFT, 148x148	2" TFT, 176x220	2” TFT, 176x220	2.0” TFT, 176x220
Multi languages	Y	Y	Y	Y
Call log/Local pb/Central pb/Alarm	20 / 50 / Y / -	50 / 100 / Y / -	50 / 100 / Y / Y	50 / 250 / Y / Y
Speakerphone	Y	Y	Y	Y
Bluetooth	-	-	-	Y
Headset jack (3.5mm)	Y	-	Y	Y
Noise reduction	-	Y	-	Y
Vibrator	-	-	Y	Y
Belt clip	-	Y	Y	Y
Environmental - IP65 compliant	-	-	-	Y
Man-down / Pull cord	- / -	- / -	- / -	Y / Y
Emergency button	-	-	Y (using OK key)	Y (dedicated)
Keypad				
soft keys / 5way navigation keys	Y	Y	Y	Y
Speaker/Menu/Call/End/Dial keys	Y	Y	Y	Y
Side keys (volume up/down, mute)	-	-	Y	Y
Shortcut keys	-	Y	-	-
Alarm key	-	-	Y (using OK key)	Y
Backlight	-	-	Y	Y
Talk time (NB) / Stand-by time	8 / 200 hrs	22 / 350 hrs	18 / 200 hrs	17 / 200 hrs
Battery	2 x AAA NIMH	1x Li-on	1x Li-on	1x Li-on
Adapter w/EU/UK/AU power plugs	Y	Y	Y	Y

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110dh overview

Entry DECT handset with compact design and HD voice quality For office mobile users

Cost effective & Compact

- HD audio support (G.722)
- 1,44” TFT display, 128 x 128
- Wideband speakerphone
- Polyphonic ringtones
- Call log (20ea)
- Local phonebook (50ea)
- Central Directory support (around 3,000ea*)
- Headset connector (3.5mm)
- Firmware upgradable over-the-air from the base station
- Multi languages (16)
  - English, Español, Deutsch, Francais, Italiano, Nederlands, Português, Dansk, Svenska, Türkce, Polski, Norsk, Russian, Hrvatski, Srpski, Slovenian

** File size of directory needs to be below 100K bytes*
** Nursecall functionality not available with this handset*

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120dh overview

Enhanced Entry DECT handset supporting basic telephony needs for on-premise and cloud mobile users

Compact & Robust design
Improved UX with large LCD display and short keys
Clear communication with noise reduction
Embedded belt clip

- HD audio support (G.722)
- 2” TFT display, 176 x 220
- Wideband speakerphone
- Polyphonic ringtones
- Call log (50ea)
- Local phonebook (100ea)
- Central Directory support directory (3000ea)*
- 4 function keys – program speed dial or shortcuts to easily access different menus like settings, etc.
- Noise reduction (off, high, low) – reduce the noise from the background so the sound is clearer to the counterpart
- Belt clip
- Talk time up to 22hours (NB) / Stand-by time up to 350 hours
- Firmware upgradable over-the-air from the base station
- Multi languages
  - English, Español, Deutsch, Francais, Italiano, Nederlands, Português, Dansk, Svenska, Türkce, Polski, Norsk, Russian, Hrvatski, Srpski, Slovenian

** File size of directory needs to be below 100K bytes*
** Nursecall functionality not available with this handset*

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GDC-800H overview

Mid-range DECT handset with rich features and HD voice quality
For mobile workers in small and medium sized business

Rich features

- HD audio support (G.722)
- 2.0” color TFT display (176x220)
- Wideband speakerphone
- Vibrator
- Polyphonic ring tones
- Call log (50ea)
- Local phonebook (100ea)
- Remote (LDAP) and Central directory (3000ea)*
- Emergency key (common use with “OK” button in navigation keys)
- Headset connector (3.5mm)
- Firmware upgradable over-the-air from the base station
- Multi languages (16)
  - English, Español, Deutsch, Francais, Italiano, Nederlands, Português, Dansk, Svenska, Türkce, Polski, Norsk, Russian, Hrvatski, Srpski, Slovenian

** File size of directory needs to be below 100K bytes*

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150dh overview

Ruggedized DECT handset with IP65 compliant & various emergency features
For mobile workers and lone workers in highly demanding environments

Ruggedized with IP65 compliant
Multiple emergency management

- HD audio support (G.722)
- 2.0” TFT display (176x220)
- Ruggedized design with IP65 compliant and belt-clip
- Ambient noise reduction
- Dedicated Alarm key on handset top
- Pull cord support
- Man-down support
- Embedded Bluetooth
- Micro SD-card support for fast handset exchange
- HD audio speakerphone
- Local phonebook (250ea)
- Remote (LDAP) and Central directory (3000ea)*
- Multi languages (16)
  - English, Español, Deutsch, Francais, Italiano, Nederlands, Português, Dansk, Svenska, Türkce, Polski, Norsk, Russian, Hrvatski, Srpski, Slovenian

See next slide regarding alarms

File size of directory needs to be below 100K bytes

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How to Trigger Alarms on the Handset

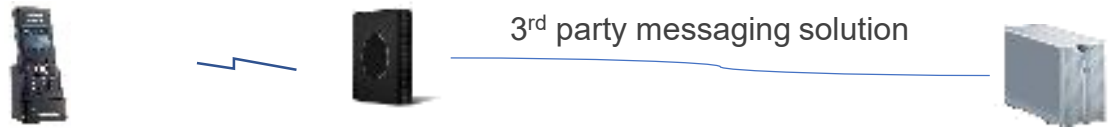
1. **Alarm Button –** via the red button on top of the handset (long-press +3sec).
2. **Pull Cord Alarm –** by pulling a cord containing a magnet from the pull cord hole on the right side of the handset.
3. **Running Alarm –** If the handset is shaken up and down for a couple of seconds as in the running motion.
4. **Man Down Alarm –** The Man Down alarm is triggered if the handset is lying down in an angle from 60 degrees. The time is set in the base station programming.
5. **No Movement Alarm –** Trigger in a no movement scenario. The time is set in the base station programming.

The Call Number is programmed in the Base when adding the extension

Nurse Alarm Integration

- ➢ It is recommended to integrate directly between IP-DECT and 3rd party solution using the RTX interface specifications.

- ✓ Multiple integration solutions between IP-DECT and 3rd party solutions
  - LAS (Based in Queensland, Australia)
  - LAS - www.las.com.au - 1300 997 248



Nurse Call system	Fire System
Alert	Ampac
Austco	Notifier
Bosch	Chubb
CareTech	
Tunstall	
Sedco	
Smartcaller	
Smartlink	
Questek	
Merlon	
+ many more	

- ✓ For advanced sites Nursecall can go through the iPECS system for Hotel check-out messages and system SMS messages through to the handsets. Extra licenses required for this feature.

Compatibility

System SW for IP-DECT

Bases for Handsets

	110db	130db
150dh	Y	Y
800H	Y	Y
120dh*	Y (110db f/w: v530b9~)	Y (130db f/w: v650b2~)
110dh	Y	Y

	Unified V3.5~	Cloud V3.0~
130db	Y	Y
110db	Y	Y
100dr	V5.0~	Y
800Bi (MDed)	*Y*	*Y*
800R (MDed)	*Y*	*Y*
150dh	Y	Y
800H	Y	Y
120dh	V6.1~	TBD**
110dh	Y	Y

Base and Repeater

	110db	130db
800R	Y	Y
100dr***	Y	Y
100dr + 800R	N	Y

To make it easier to remember what the models are:

d = DECT
b = base
r = repeater
h = handset

* To connect 120dh to base stations, minimum base FW version should be V530b9 for 110db, V650b2 for 130db respectively. Not supported for 800Bi.
** UCM/Cloud versions to be fixed after QV test in Q1, 2023
***To connect 100dr to base stations, minimum base FW version should be V480B5 or above.

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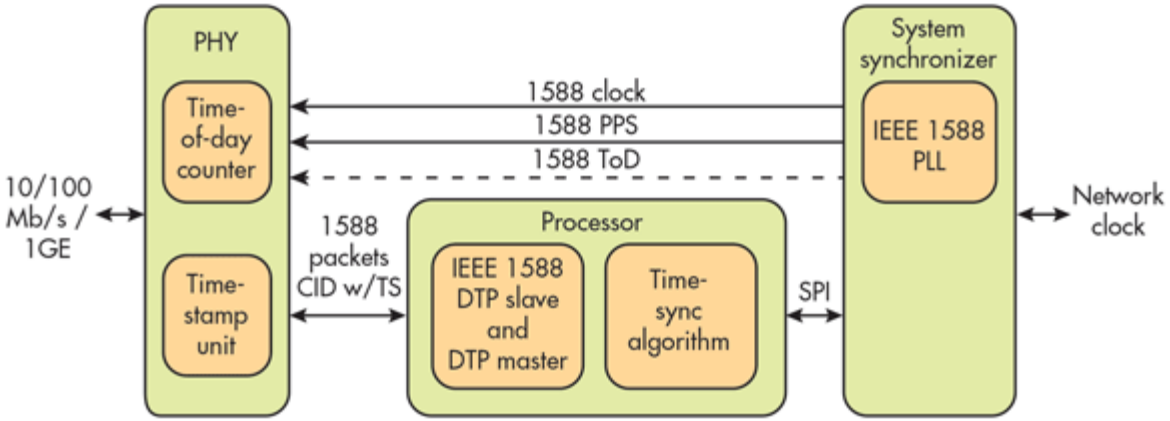
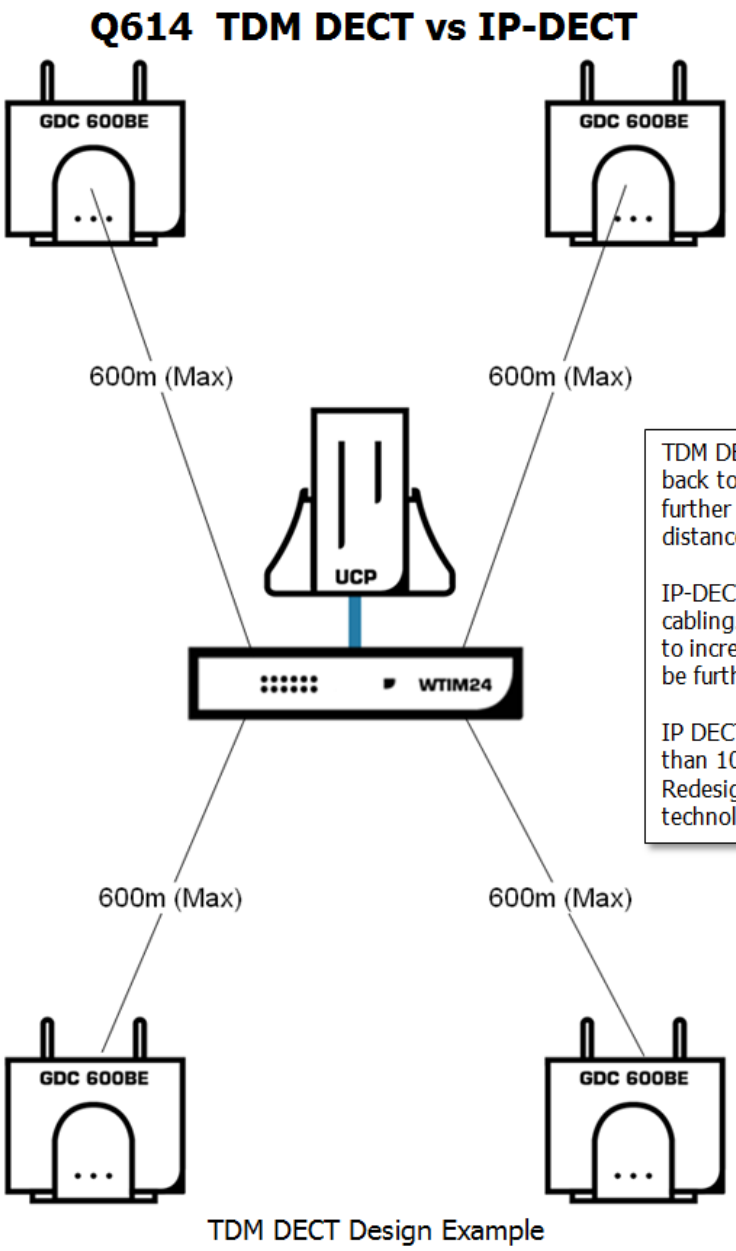
Need to observe the following.

- IP DECT is not available for 3rd party GAP handsets
- Wall mount (& ceiling mount for the 130db)
- A DHCP server is required to initially access the bases
- Maximum 3 switches between base stations (see next slide)
- POE Switches need to support Multicast, VLANs & QOS
- For LAN Sync, POE Switches need to support IEEE 1588
- Also switches not to exceed 50% load and have voice priority enabled
- Maximum cable runs of 100m or use fibre from core to edge switch



** IEEE 1588 diagram for display purposes only*

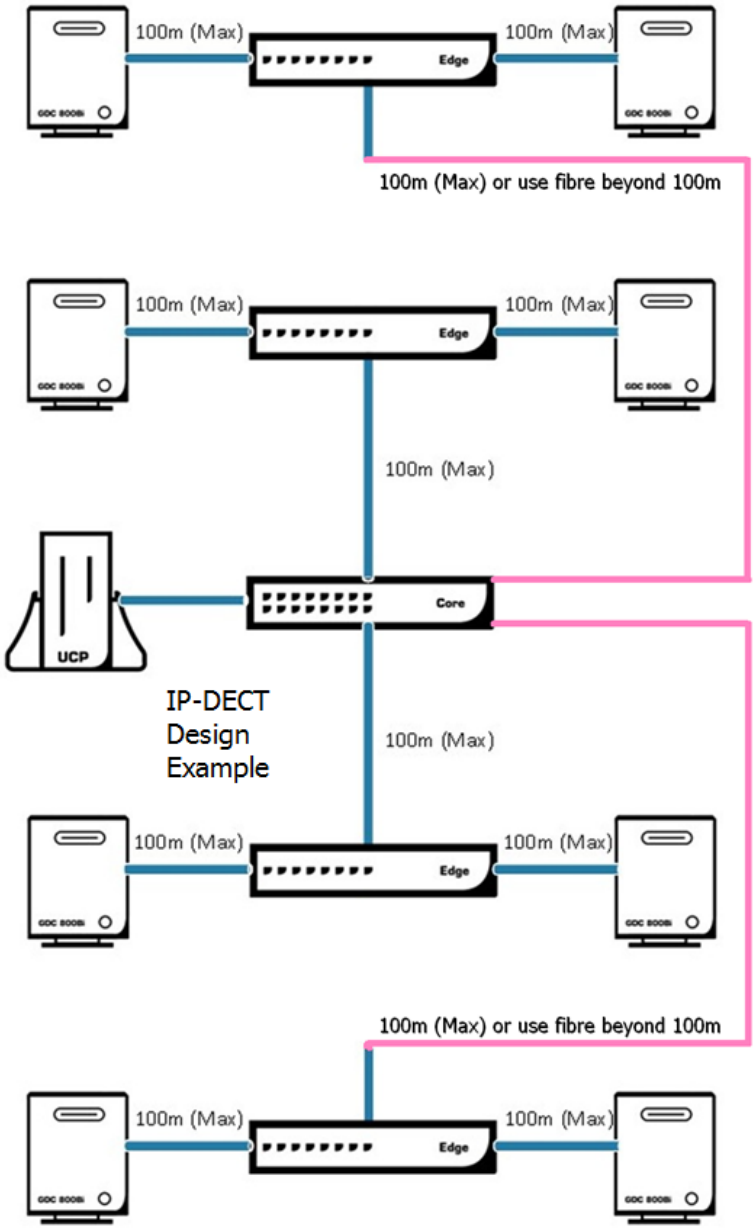
IP DECT Cabling Considerations



TDM DECT has independent cabling back to WTIM. The WTIM can be further from UCP to increase distance.

IP-DECT uses Structured Data cabling. Edge switches can be added to increase distance or switches may be further apart with fibre uplinks.

IP DECT Ethernet needs to be less than 100m back to edge switches. Redesign required if replacing either technology.



Simple & Easy to Survey a Site (programming not required)

- Simply fire up a base station (POE or DC pack)
- Use a handset to check the coverage
- Dial MENU *47* and select the base
- Walk & determine the edge of coverage
- Coverage should not exceed -72dBm

- Generally only MENU *47* is needed however via MENU *service* a comprehensive survey mode is available. Multi chain site needs to be programmed for this mode.

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Enhancements

Phase & Version	Feature	Details
P4.0.19 & v480b8	System Directory	IP DECT users can now access system directory search and dial
P4.0.19 & v480b8	Geo-redundancy	IP DECT supports system Call server failover support
P4.0.19 & v480b8	Hotel check-out notification	When guest checks-out, send a check-out message to DECT phone with room number & time. Requires licensing.
P4.0.19 & v480b8	Call Back	Call back is supported on IP DECT by pressing “#” when hearing a busy tone.
P4.0.19 & v480b8	NurseCall	Latest versions now integrate Alarm messaging notification between DECT & 3rd party alarm/nurse call solutions as specified.
v530b2	Call Drop Issue	Some improvement regarding call qualities.

Enhancements

Phase & Version	Feature	Details
P6.0.5 & v610b1/v530b5	Speed dial extension	From the 530 version, 150dh and GDC-800H support speed dial extension if no central directory in base station's web page is in use. Previously 2~9(8ea) for one-digit speed dial is available and currently 0~9(10ea). "0" is newly added and "1" is either for one-digit speed dial or VM access. If "1" is not configured for one-digit speed dial, it can work for VM access same with previous version.
P6.1.1 & v650b2	Support 120Dh	120Dh (new entry model) is supported

Frequently Asked Questions

FAQ	Details
1. Do I need licensing?	Just for the system ports and stations. SPL + IPEXT
2. For NurseCall to IP DECT do I need a license?	No. AMSI is not needed (this is for TDM DECT or other alarm/message solutions)
3. Can IP DECT connect to current iPECS systems?	Yes. UCP, vUCP, eMG100* and iPECS Cloud.
4. What s/w does the iPECS system need to be?	The latest software. Due to advancements and features listed in this PPT the s/w must be current.
5. Can IP DECT be remote from the iPECS system?	Yes. For more secure connection, VPN solutions (or similar) is preferred, not via port forwarding.
6. Do I need VOIP Channels for IP DECT?	Yes & No. This is more critical on an eMG system. Eg. IP DECT calling a digital handset or analogue service. Yes. Local DECT calling another local DECT or IP phone: No. For other scenarios please contact your pre-sales engineer.
7. How many IP DECT handsets can connect to each Unified System	eMG80: 32, eMG100: 64, UCP100: 199, UCP600: 600, vUCP&UCP2400: 2400. These are maximum capacities. VOIP channels and bases and other devices will limit these numbers.

* IP DECT was initially available on the eMG80 with final 3.5 versions

Thank you