KX-TGP600&KX-A406 Installation

(KX-TGP600 series)

Sep 18, 2015

Ver.0.1

Panasonic Corporation

Abstract about this document

This document describes system structure of KX-TGP600 and KX-A406.
And also the use of narrowband and wideband codec are described.
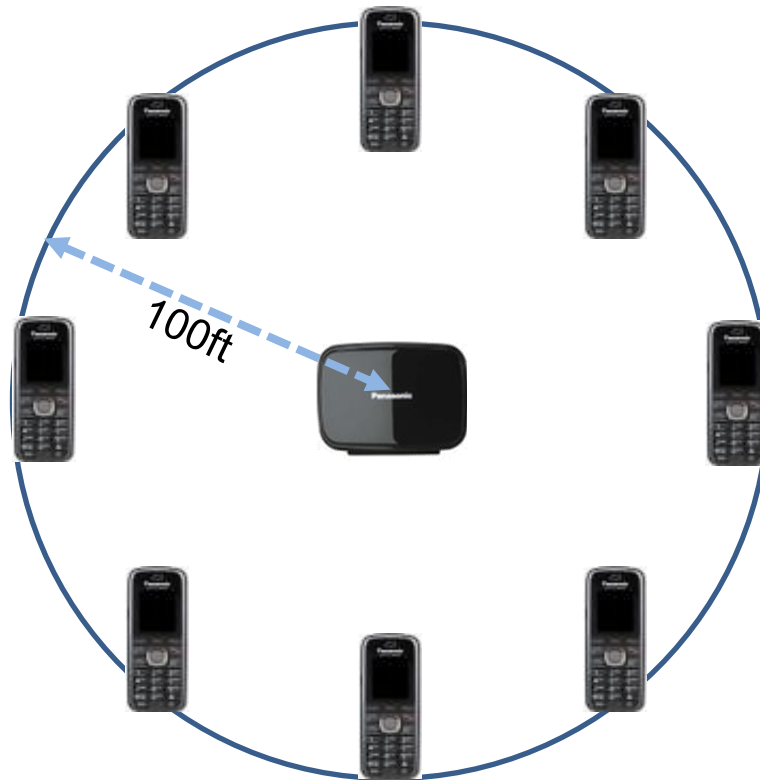
Important Notice

The estimation in this document presupposes the No Radio Interference environment.
The presence of Radio interference will affect the number of available devices in the area.

Any ranges in this document are just a rough indication, and may be increased/decreased significantly due to the presence/absence of obstacles, especially such case going through thick walls or floors.

Revision history

Date	Version	Revision	Firmware version
Sep 18, 2015	Ver.0.1	Initial Release	All versions

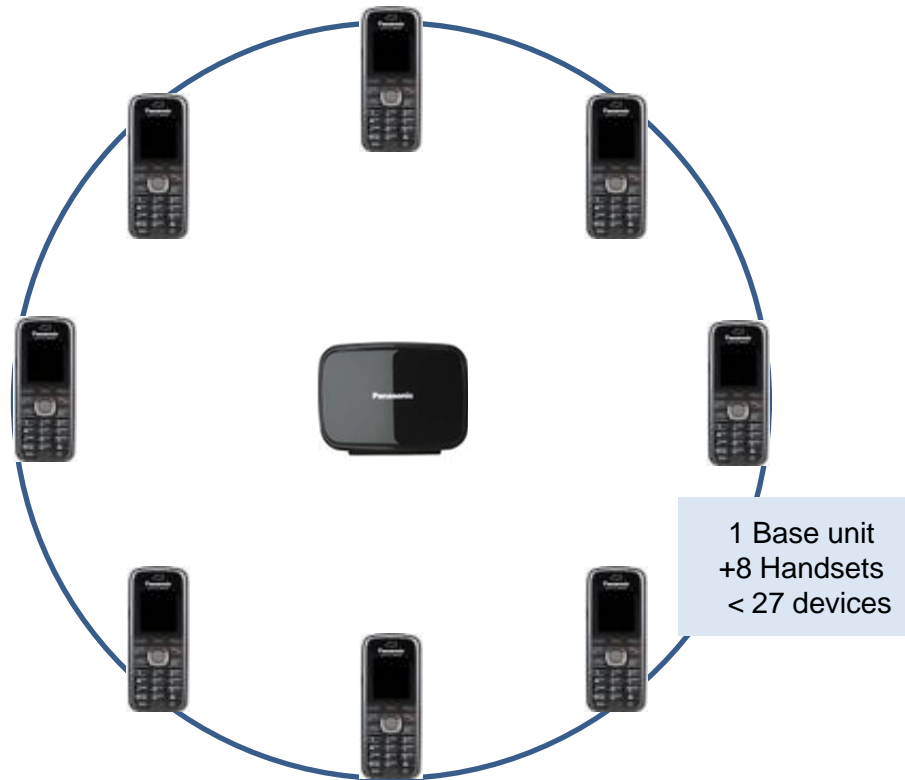# Basic communication range

100ft

One KX-TGP600 Base unit can support 8 (4 in wideband mode) Registered Handsets and 8 (4 in wideband mode) Simultaneous calls within a range of 100ft radius in a standard indoor environment.

- This range is just a rough indication, and may be increased/decreased significantly due to the presence/absence of obstacles, especially such case going through thick walls or floors.

To install more Base units, see the guideline of following pages.
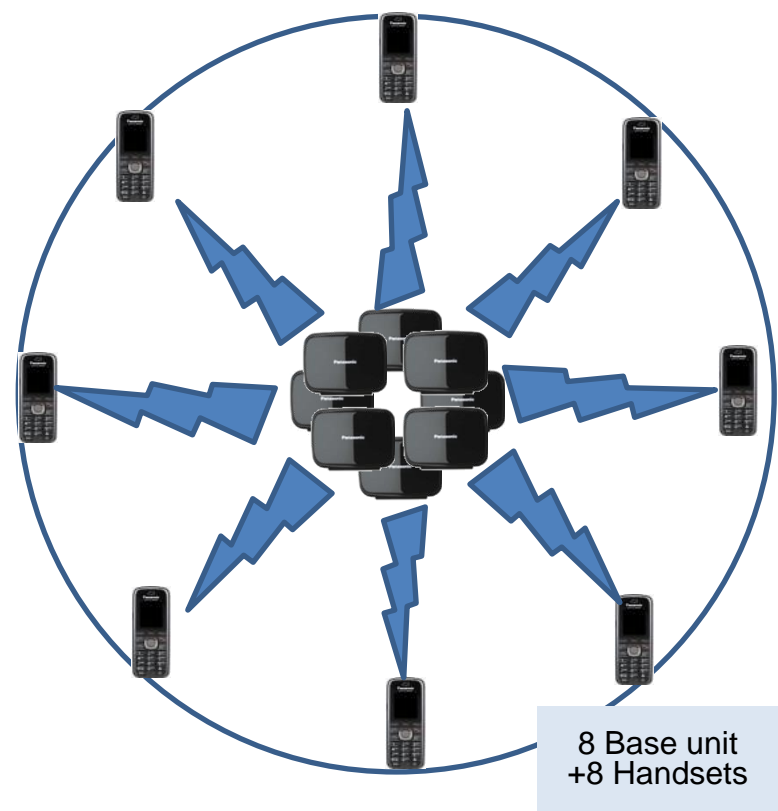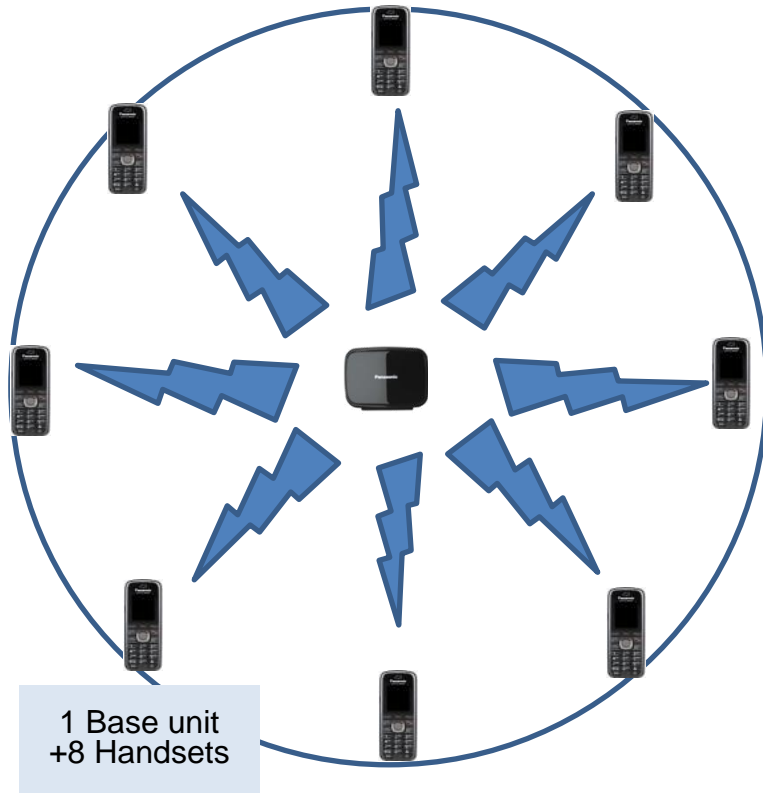
1 Base unit
+8 Handsets
< 27 devices

When you install multiple Base unit, you should consider the Total Number of Devices (Handsets and Base units) within a range of 100ft radius.
<u>For stable operation, Total Number of Devices within a range of 100ft radius should be less than 27 (15 in wideband mode) in each place.</u>

- To be precise, "Spatial Radio resources" should be considered. But to make it simpler, just to count the number of devices leads the same result. Don't forget to include the Base unit in the count, because the Base unit continuously transmits the "Control Signal" and it also consumes "Spatial Radio resources".

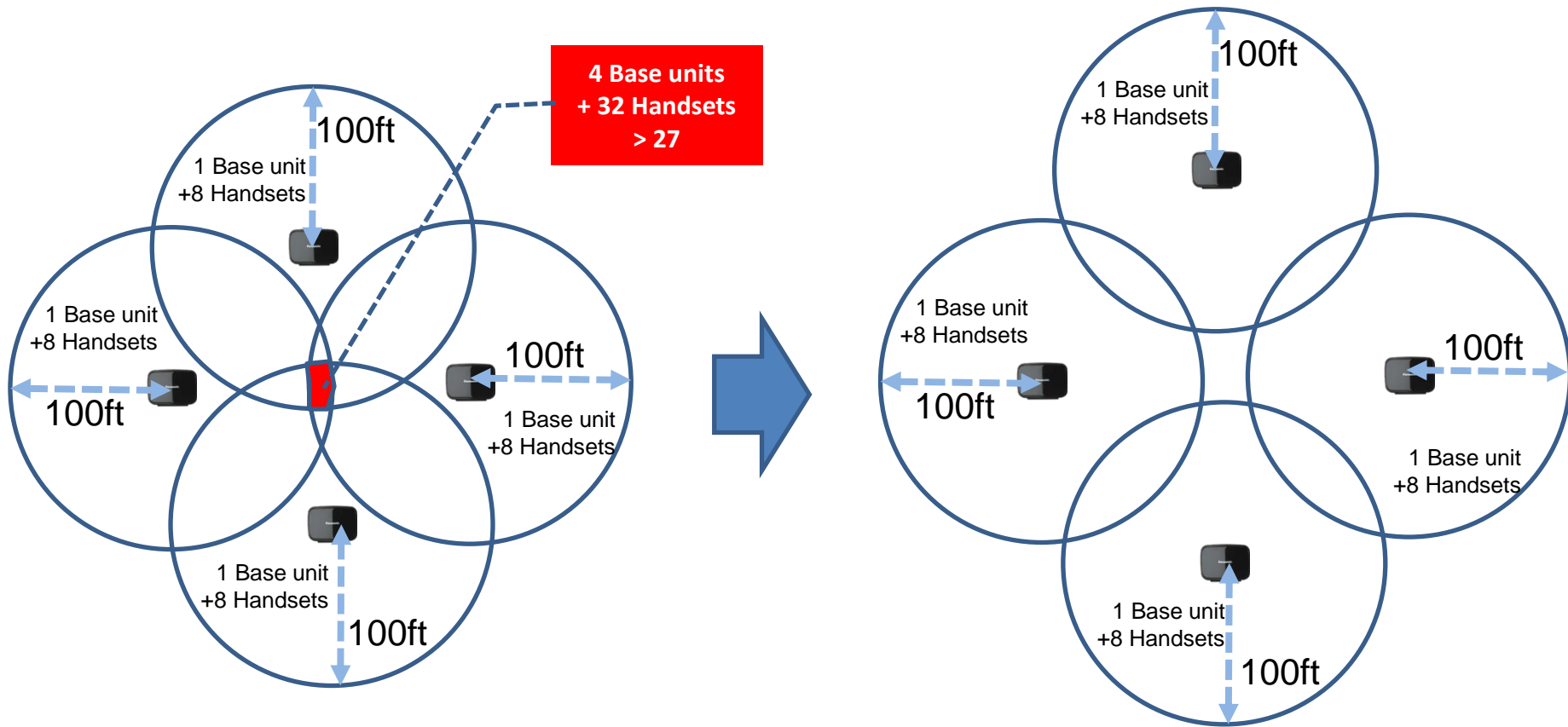- Even within this limit, larger number of devices lead larger risk of interference (see next page).

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1 Base unit
+8 Handsets

8 Base unit
+8 Handsets

Only one KX-TGP600 Base unit is necessary to support 8 (4 in wideband mode) simultaneous calls within a range of 100ft radius as left figure.
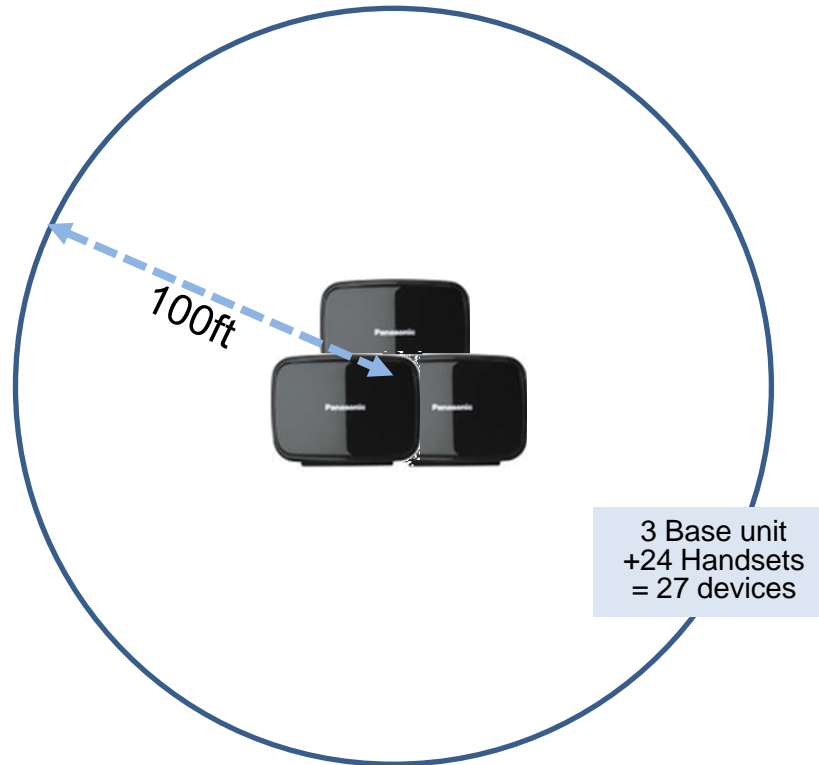
Installing unnecessarily many Base units is not recommended. For example, if you install 8 Base units for each of 8 Handsets one-by-one as right figure, 7 extra devices than left figure may increase the risk of interference. Such installation is not recommended.

Adjacent overlapped area

If many areas of 100ft radius around the Base unit are overlapped, the total number of devices in this overlapped area may exceed 27 (15 in wideband mode).

In this case, the distance between Base units should be longer each other to avoid too much devices.

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Very High Density (1)
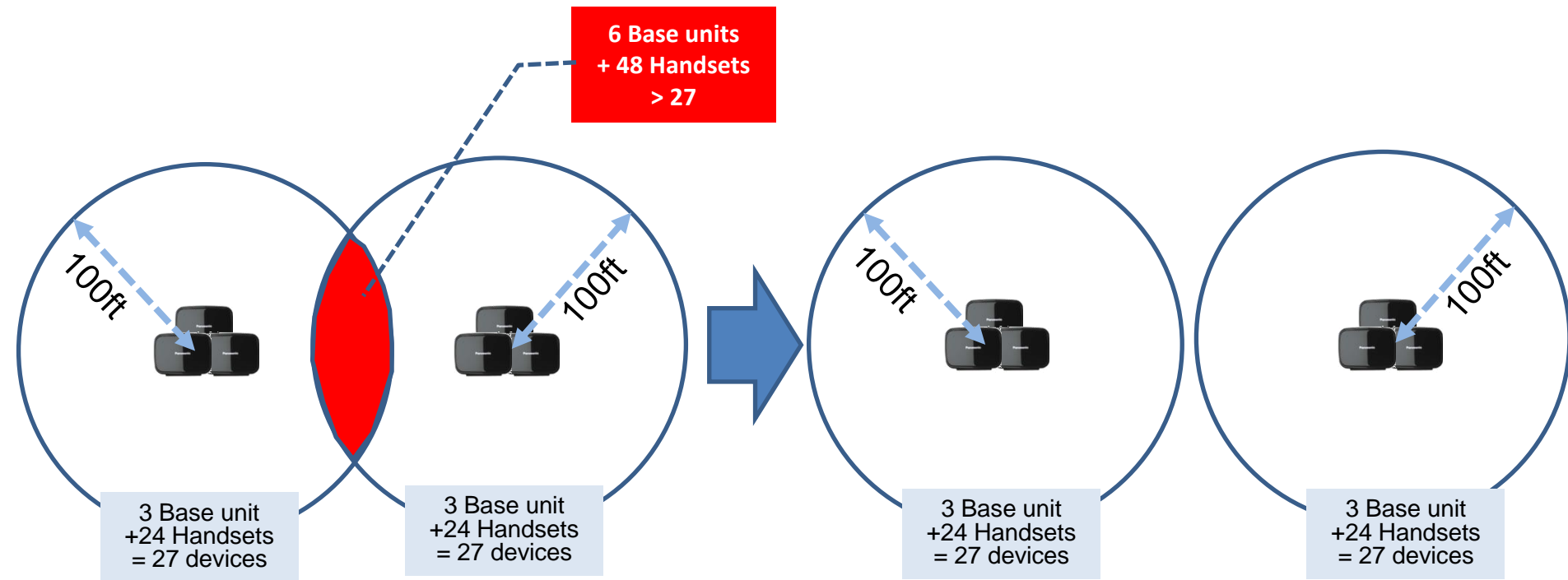

100ft

3 Base unit
+24 Handsets
= 27 devices

If Very High Density in one area with 100ft radius is needed, the maximum 3 Base units can be placed near the center of the area. In this case, the individual Base unit should be at least 2ft apart from each other.

The maximum total number of devices in this case is;
3 Base units + 24 (12 in wideband mode) Handset = 27 (15 in wideband mode).
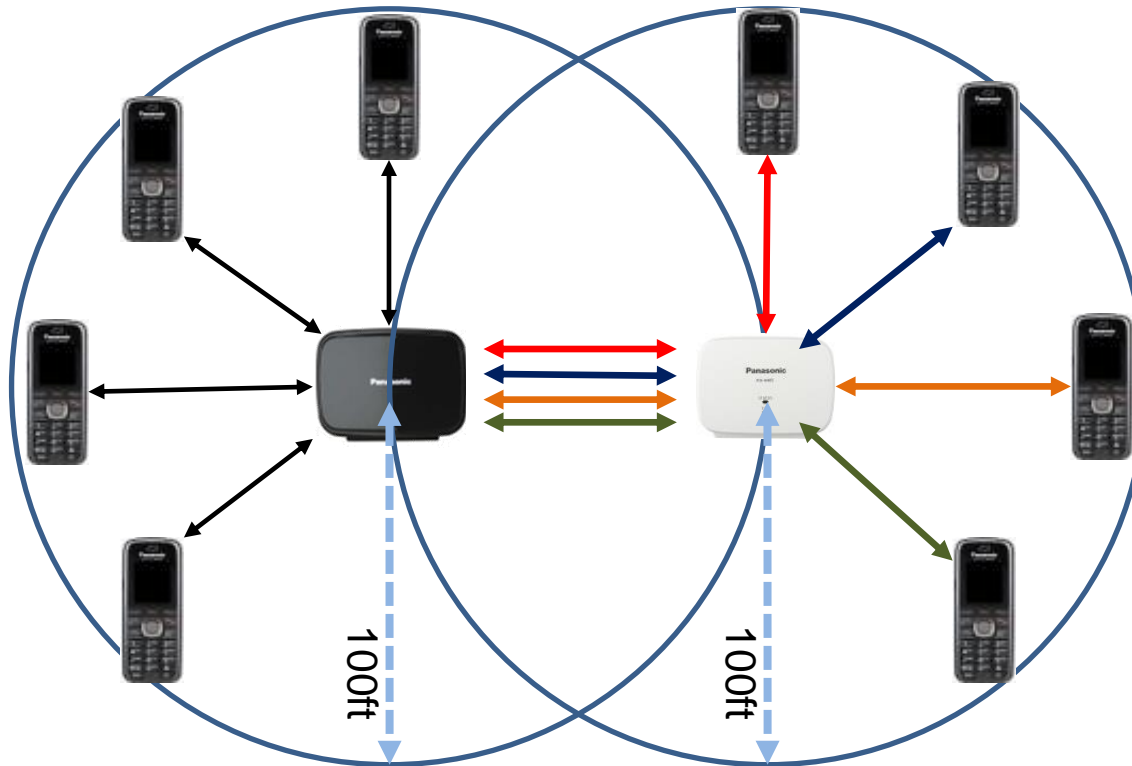
- If you face the interference/noise issue, move Base units to keep longer distance each other.
- Other DECT devices within this area also may cause the interference/noise issue.

Very High Density (2)

6 Base units + 48 Handsets > 27

100ft

100ft

100ft

100ft

3 Base unit
+24 Handsets
= 27 devices

3 Base unit
+24 Handsets
= 27 devices

3 Base unit
+24 Handsets
= 27 devices

3 Base unit
+24 Handsets
= 27 devices

If there are adjacent areas of such Very High Density, each area should not be overlapped each other to keep the total number of devices in this overlapped less than the limit, i.e. not exceed 27 (15 in wideband mode).
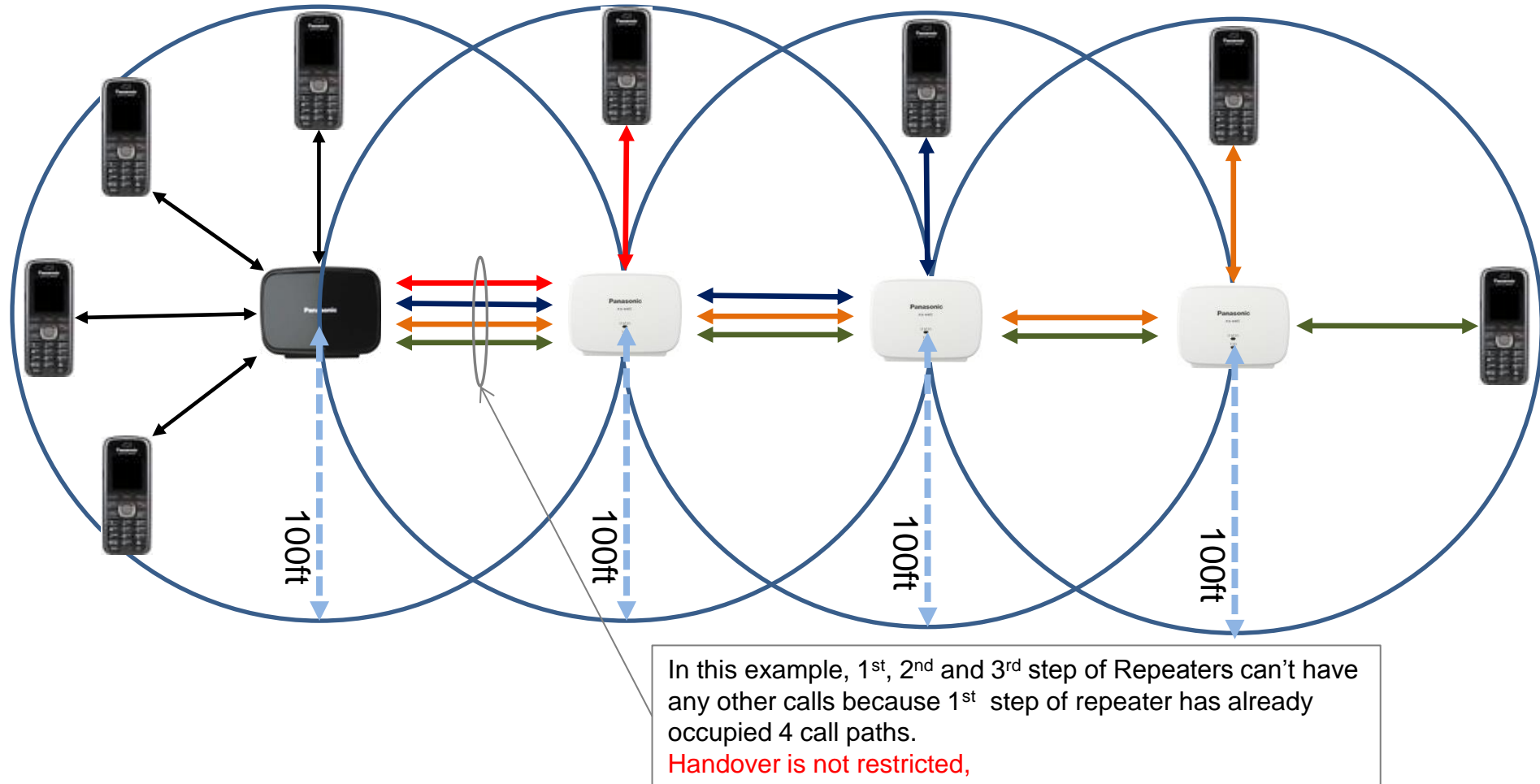
KX-A406 repeater can extend a range of the Base unit, but it consumes much Radio resources and there are several complicate restriction.

- Between Base and Repeater has max 4 simultaneous call paths.
  (only 2 simultaneous call paths in Wideband mode, so Narrowband mode is recommended in case of using repeater.)
- Base unit allows simultaneous calls : Up to 8 (including call path between Base and Repeater. Repeater never extend the Radio resources of base unit !)

KX-A406 Repeater (Cascade)

100ft · 100ft · 100ft · 100ft

In this example, 1st, 2nd and 3rd step of Repeaters can't have any other calls because 1st step of repeater has already occupied 4 call paths.
Handover is not restricted,

In case of Cascade connection of Repeater.
- Repeaters in the same system : Up to 6
- Cascade steps : Up to 3

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