



DKT2404-UDR200
Repeater
Operation Guide

Contents

DKT2404-UDR200 DECT Repeater

INTRODUCTION.....	1
Package Contents	2
SPECIFICATIONS	2
OPERATION RANGE	2
EXTENDED COVERAGE	3
MULTIPLE REPEATER CONFIGURATION	4
UDR200 REGISTRATION	6
Registering Multiple Repeaters.....	7
MAP BASE STATION COVERAGE.....	7
INSTALLING THE REPEATER.....	8
Correct Location	8
Test The Location	9
Installation.....	9
MAINTENANCE	10
SAFETY INFORMATION	10
TROUBLE SHOOTING	11
IMPORTANT ELECTRICAL CONSIDERATIONS	11
FCC REGULATORY INFORMATION.....	12
Part 15 Compliance	12
Privacy Information	12
Radio Interference Information	12
I.C. NOTICE	13
Terminal Equipment.....	13
Radio Equipment	13

DKT2404-UDR200 DECT Repeater

INTRODUCTION

The DKT2404-UDR200 repeater replaces the DKT2404-UDR100 repeater, or works exclusively with the DKT2404-DECT base station. The DKT2404-UDR200 is more compact and easier to deploy than the DKT2404-UDR100. Refer to Figure 1.

The DKT2404-UDR200 repeater has the following features and enhancements:

- Supports up to 6 repeaters to a base station in star-configuration and up to 3 repeaters in a daisy-chain configuration.
- Eliminates the need for complex and time-consuming programming when adding two or more repeaters in a daisy-chain configuration. Simply register the UDR200 to a base station and it will self-configure itself as the second or third repeater when installed in a daisy-chain. (The DKT2404-PRGKT is not needed.)
- IP54 enabling outdoor installation (not waterproof)
- Complies with FCC Part 15.
- Includes AC power adaptor and wall-mount hardware.

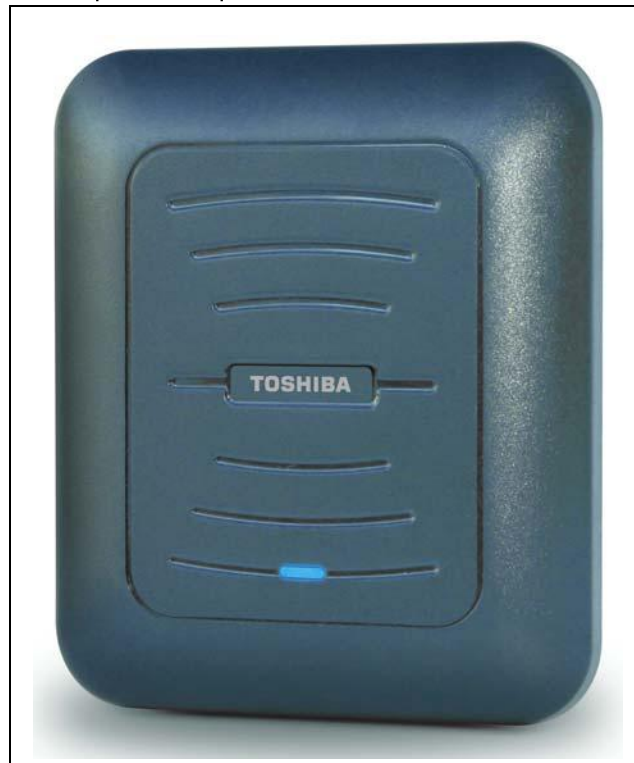


Figure 1 – DKT2404-UDR200 DECT Repeater

DKT2404-UDR200 DECT Repeater

SPECIFICATIONS

Package Contents Each DKT2404-UDR200 DECT Repeater package (Part Number DKT2404-UDR200) includes the following items:

- DKT2404-UDR200 DECT repeater
- AC adapter (with six-foot cord)
- Mounting screw and wall anchor

SPECIFICATIONS

Table 1: DKT2404-UDR200 Repeater Specifications

Item	Specifications
AC Power Adapter	Input: 100 ~ 240 VAC 50 ~ 60 Hz Output: 9 VDC 350 mA
Unit Weight	4.8 oz. (136 g)
Unit Size (Approx.)	4.5 in. W x 5.3 in. H x 1.22 in. D (114 cm W x 135 cm H x 31 cm D)
Frequency Band	1.9 GHz
Transmitter Power	100 mW (+20 dBm)
Receiver Sensitivity	-96 dBm (nominal) BER @ 1000 PPM
Operating Temperature	32° ~ 122° F (0° ~ 50° C)
Standards	• Designed in accordance with the Digital Enhanced Cordless Telecommunications (DECT) standard for USA. • Compliant with FCC Part 15

OPERATION RANGE

Telephone base station ranges of 300 to 400 feet are possible depending on the building structure in which it is used. Each DKT2404-UDR200 repeater has similar range. The range is affected by the operating environment and can be impacted by factors including metal walls, walls with metal studs, office partitions, cabinets, other radio frequency (RF) sources in the area, and nearby equipment. For optimum range and performance from your handset, try the following:

- Place the repeaters at least three feet from metal structures; and six feet from computers, fax machines or other electronic equipment.
- Place the repeater unit as high as possible in the room
- Use an AC outlet not associated with computer or electromagnetic equipment.

Refer to [“MULTIPLE REPEATER CONFIGURATION”](#) on page 4, [“MAP BASE STATION COVERAGE”](#) on page 7 and [“INSTALLING THE REPEATER”](#) on page 8.

EXTENDED COVERAGE

The DKT2404-UDR200 repeater extends the operating range of the base station in all directions, including up and down. When it's connected through the repeater, the mobile handset operates in the same manner as when connected to the base. Refer to [Figure 2](#). The handoff from the base to the repeater can be completely invisible to the end user, even during an active call. Each base station can support up to six repeaters, refer to [Figure 3](#). The repeater must be at least 35 feet (10 meters) from the base station. Use the mapping procedure ("[MAP BASE STATION COVERAGE](#)" on [Page 7](#)) to determine where to place repeaters.

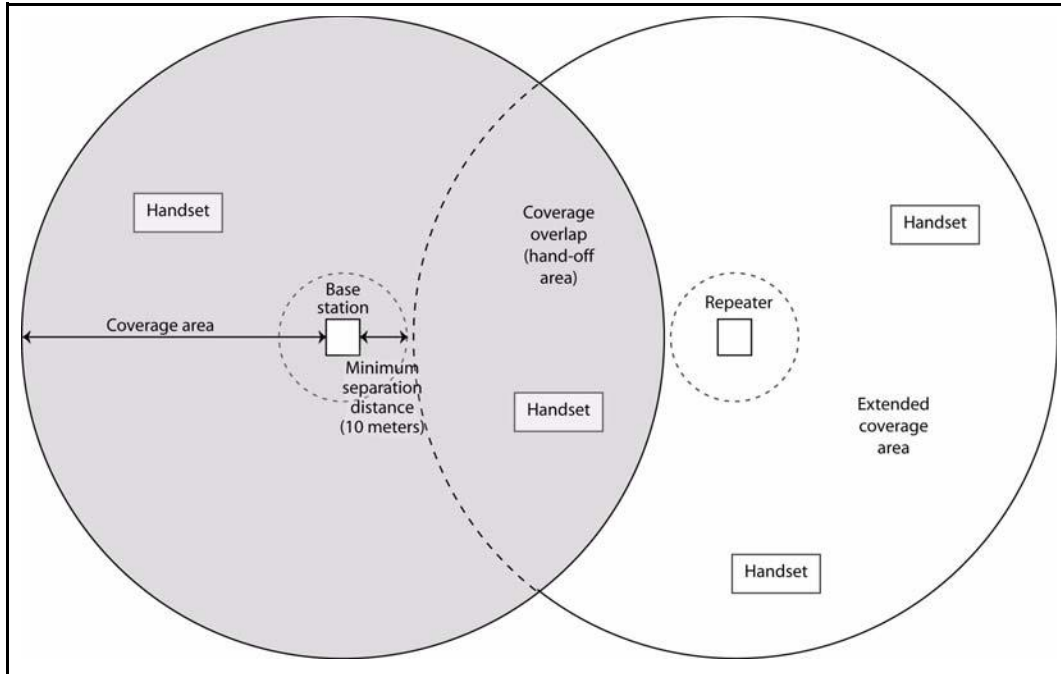


Figure 2 – Coverage with a Base Station and One Repeater

DKT2404-UDR200 DECT Repeater
MULTIPLE REPEATER CONFIGURATION

**MULTIPLE REPEATER
CONFIGURATION**

Up to six repeaters can be registered to a base station. Base station and repeaters operate in all directions. Coverage is spherical, extending in all directions including up and down.

Repeaters must be at least 35 feet (10 m) apart and the same minimum distance from the base station.

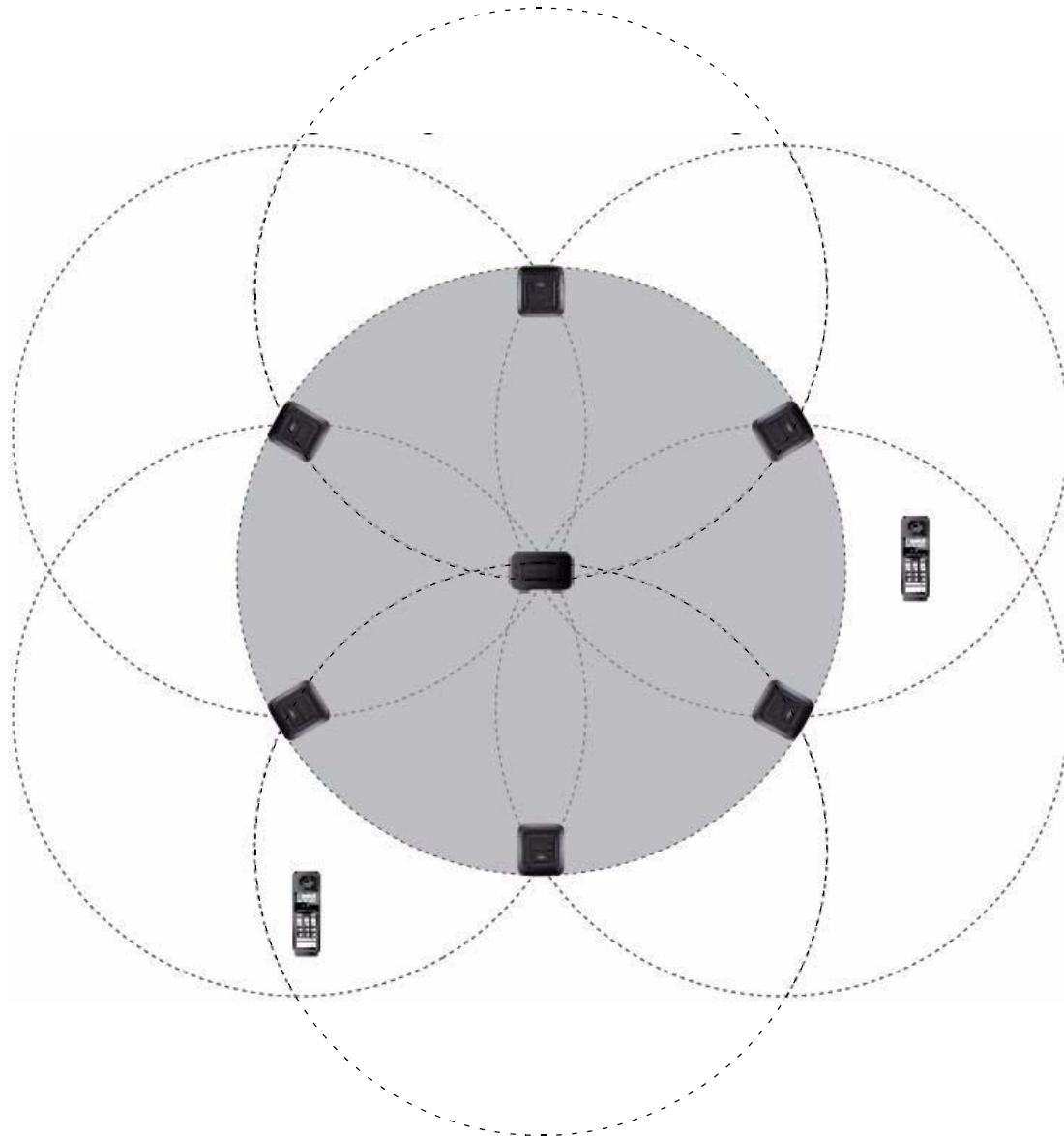


Figure 3 – Overhead view of Multiple Repeater Coverage

Repeaters can be daisy chained to increase the coverage area in one direction.

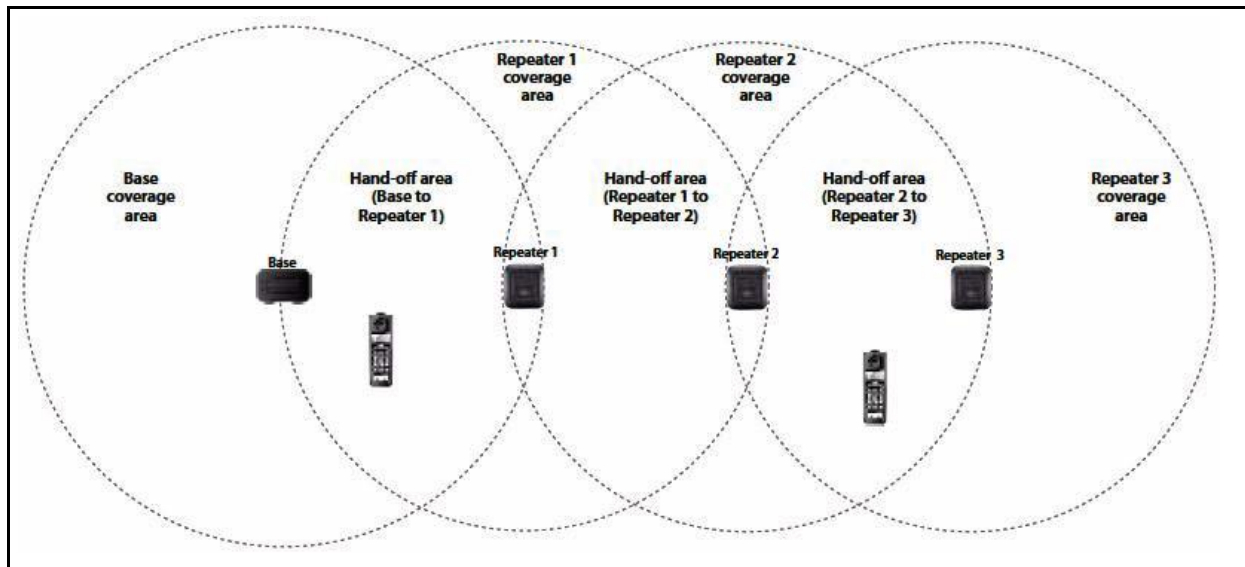


Figure 4 – Daisy-chain Repeater Configuration

The coverage area of the base stations and repeaters is spherical, it extends through walls, floors and ceilings.

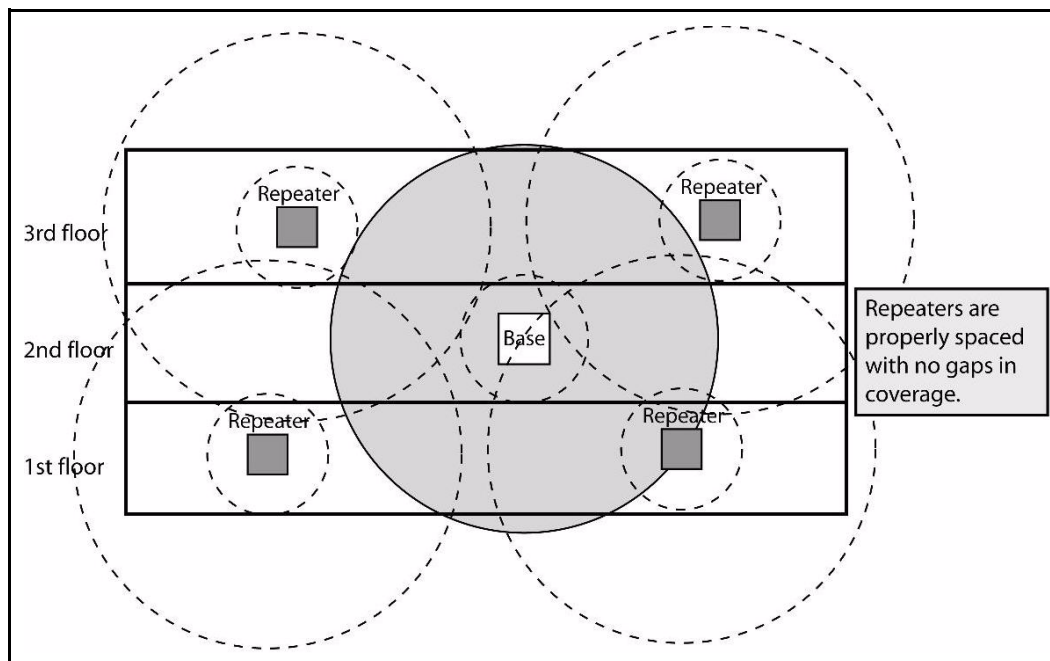


Figure 5 – Correct Repeater Placement

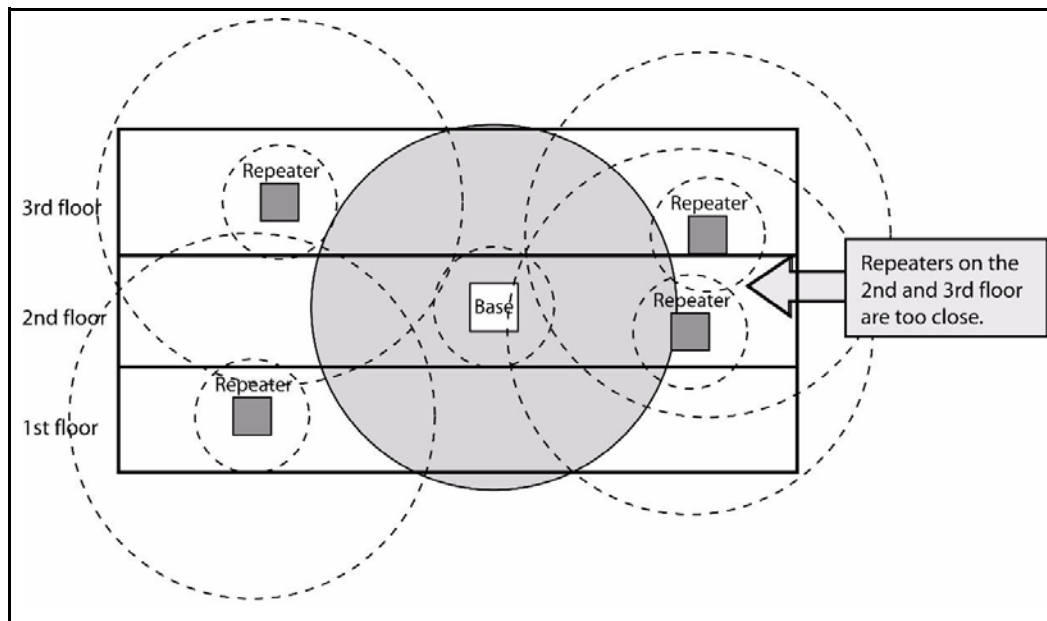


Figure 6 – Incorrect Repeater Placement

UDR200 REGISTRATION

The UDR200 must be registered to the base station before use.

1. Ensure that the repeater is close to the base station. Connect the AC adapter cable to the repeater.

CAUTION! Use ONLY the power adapter that came with your repeater. A different power adapter may cause an electrical hazard or damage the repeater.

2. Press and hold the registration key on the back of the repeater. This will start the registration process. The LINK LED on the front of the repeater will flash once per second (On: 500 ms/Off: 500 ms) in registration mode.
3. Press and hold the Base Left key (CT Phone select Key) on the base station. This will start the registration. The POWER LED on the Base will start to flash, almost twice each second, (On: 300 ms/Off: 300 ms) in registration mode.
4. Wait 60 seconds for the registration process to complete.
5. When the registration is successful, the LINK LED of the repeater will stop flashing and stay on.

If the registration fails, the LINK LED on the repeater will slowly flash (On: 1 s/Off: 1 s). If this happens repeat Steps 1 ~ 5.

The repeater is now registered to this base and is ready to use. You can safely disconnect the power. The repeater remains registered even if you disconnect the AC adapter or there is a power failure. Move the repeater to the selected location, the repeater will stay registered to the base.

Registering Multiple Repeaters

Use this procedure to register more than one repeater to a base station.

1. Plug in the power supply to the repeater.
2. Register this repeater to the base station using the registration steps above.
3. Disconnect the power supply from the repeater.
4. Perform 1 ~ 3 for each repeater for this base station.
5. Physically install the repeaters. As the power supply is connected to each repeater the Link LED should remain lit.

UDR100 and UDR200 repeaters can be combined in a 'star' configuration. Refer to [Figure 3](#) on [Page 4](#).



Figure 7 – Both Types in Star Configuration

Do not mix UDR100 and UDR200 repeaters in a 'daisy-chain' configuration.

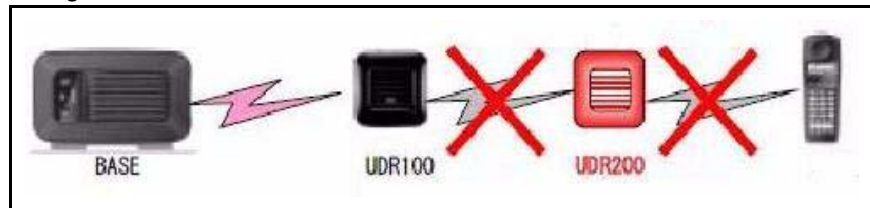


Figure 8 – Do Not Mix Repeater Types in Daisy Chain

MAP BASE STATION COVERAGE

Use this process to map the base station coverage area.

1. Stand near the base and make a call.
2. Continue the call, and carry the handset away from the base.
3. Make a note where you start to hear noise on the line, which indicates the signal is getting weaker. Refer to [Figure 9](#) on [Page 8](#).

DKT2404-UDR200 DECT Repeater

INSTALLING THE REPEATER

The optimum location for the repeater is as far from the base as possible while still maintaining a good signal, or just inside the location where the noise became noticeable.

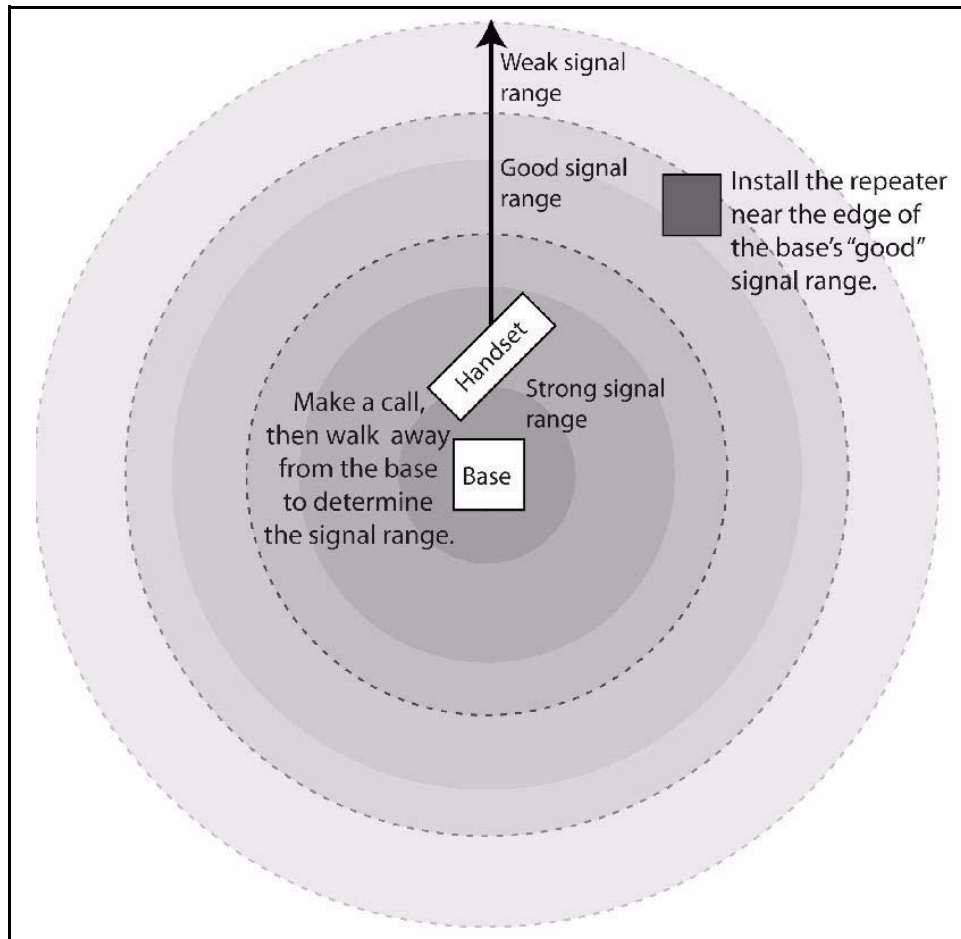


Figure 9 – Mapping the Base Station Coverage Area

INSTALLING THE REPEATER

Register the repeaters before installing them. Repeaters can be installed:

- Wide area array where are base stations are within the range of the base station
- Daisy-chain (sequential) array
- Mix of both.

Ensure that each repeater is at least 35 feet (10 m) away from the base station or other repeaters. Refer to [Figure 2](#) on [Page 3](#).

Correct Location

- Place the repeater as high as possible. It should be at least six feet above the floor.
- Make sure you have good reception from the base, refer to ["MAP BASE STATION COVERAGE"](#) on [Page 7](#).

DKT2404-UDR200 DECT Repeater
INSTALLING THE REPEATER

- Make sure the location is close enough to a standard 120 V AC power outlet for the power cord to reach the repeater. Never install electrical cords across traffic areas where they cause a trip hazard. If the cords become damaged, they may create fire or electrical hazards.
- Allow at least 35 feet between repeaters. When installing repeaters across multiple floors allow at least 35 feet vertically.
- Avoid sources of electrical interference, such as hi-fi systems, office equipment or microwave ovens.
- Avoid heat sources and direct sunlight.
- Avoid things that can interfere with radio signals, such as metal doors, thick walls, niches and cupboards.

Test The Location

Plug the AC adapter into the repeater, then hold the repeater in the place where you plan to mount it. The LED should remain on and steady, indicating that the repeater has a good signal from the base. If the LED flashes, the repeater is not getting a good signal. The repeater may be too far away from the base, there may be interference from electronic devices, or the signal might be blocked by thick walls or metal objects. Try moving the repeater to another location.

Installation

1. Hold the repeater in its final location, and mark the center of the top edge.
2. From the edge mark, measure down about 1½ inches (approximately 38 mm), and mark the screw location.
3. At the screw location, use a 3/16 inch (4.8 mm) drill bit to make a pilot hole approximately 1 inch (25.5 mm) deep.
4. Place the wall anchor into the pilot hole and tap it gently with a hammer until the anchor is flush with the wall.
5. Insert the mounting screw into the anchor, leaving approximately 1/4 inch (6.4 mm) of space between the screw head and the wall.
6. Plug the AC power adapter cable into the repeater.
7. Put the repeater over the screw head and slide it down into place.
8. Plug the AC adapter to a 120 V AC power outlet.

MAINTENANCE

There are no user adjustments on the DKT2404-UDR200 Repeater. Maintenance is only cleaning the case as needed.

CAUTION! Unplug the repeater from the AC power outlet before cleaning.

- Wipe the front of the repeater with a damp cloth or antistatic wipe.
- Do not apply liquid cleaners directly on the repeater.
- Never use aerosol cleaners or solvents.
- To avoid static discharge, never use a plain dry cloth.

SAFETY INFORMATION

When using telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons, including the following:

- Read and understand all instructions.
- Follow all warnings and instructions marked on the product.
- Do not use this product near water; for example, near a sink or in a wet area.
- Do not place this product on an unstable cart, stand, or table. The unit can fall, causing serious damage to the unit.
- To protect the product from overheating, do not block or cover any slots or openings in the base unit. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless the proper ventilation is provided.
- This product should be operated only from the type of power source indicated on the marking label.
- Do not allow anything to rest on the power cord. Do not locate this product where the cord will be damaged by people walking on it.
- Do not overload wall outlets and extension cords, as this can result in the risk of fire or electrical shock.
- Never push objects of any kind into this product through the base unit slots, as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock. Never spill liquid of any kind on the product.
- To reduce the risk of electric shock, do not disassemble this product. Contact qualified service personnel when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply cord is damaged or frayed.
- If liquid has been spilled onto the product.

- If the product has been exposed to water or rain.
- If the product does not operate normally when following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls can result in damage, and will often require extensive work by a qualified technician to restore the product to normal operation.
- If the product has been dropped, or the cabinet has been damaged.
- If the product exhibits a distinct change in performance.

TROUBLE SHOOTING

Table 2: Trouble Shooting for Users

Problem	Solution
There is a lot of static when calls hand-off to the repeater. AND/OR the LED on the repeater won't stop flashing.	Move the repeater closer to the base. Check for interference from electronic devices. Make sure the repeater is not too close to metal objects or thick walls.
I used to be able to connect to the base, but now I can't.	Make sure the repeater is powered on. Register the repeater to the base again.
Calls won't hand-off to the repeater.	Make sure the repeater is inside the base's good signal range. Make sure there is at least 35 feet between repeaters. Reset the repeater and register it to the base again.

IMPORTANT ELECTRICAL CONSIDERATIONS

WARNING! Do not attempt to unplug any appliance during an electrical storm.

Unplug all electrical appliances when you know an electrical storm is approaching. Lightning can pass through your household wiring and damage any device connected to it. This repeater is no exception.

Changes or modifications to this product not expressly approved by Toshiba America Information Systems, Inc., or operation of this product in any way other than as detailed by this manual, could void your authority to operate this product.

DKT2404-UDR200 DECT Repeater
FCC REGULATORY INFORMATION

**FCC REGULATORY
INFORMATION**

Information for users in the United States.

Part 15 Compliance

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. Privacy of communications may not be ensured when using this phone.

Privacy Information

Cordless telephones are radio devices. Communications between the handset and base of the cordless telephone are accomplished by means of radio waves which are broadcast over the open airways. Because of the inherent physical properties of radio waves, communication can be received by radio receiving devices other than your own telephone unit, consequently, any communications using the cordless telephone may not be private.

**Radio Interference
Information**

Radio interference may occasionally cause buzzing and humming in your cordless handset, or clicking noises in the base unit. This interference is caused by external sources such as TV, fluorescent lighting, or electrical storm. Your unit is NOT DEFECTIVE. If these noises continue and are too distracting, check around your office to see what appliances may be causing the problem. In addition, we recommend that the base not be plugged into a circuit that also powers a major appliance because of the potential of interference. For best performance, ensure that the antenna on the base unit is fully extended.

In the unlikely event that you consistently hear other voices or distracting transmissions on your telephone, you may be receiving radio signals for another cordless telephone or other source of interference. If you cannot eliminate this type of interference, you need to change to a different channel.

Finally, it should be noted that some cordless telephones operate at frequencies that may cause interference to nearby TVs and VCRs. To minimize or prevent such interference, the base of the cordless telephone should not be placed near or on top of a TV or VCR. If interference is experienced, moving the cordless telephone farther away from the TV or VCR will often reduce or eliminate the interference.

Radio interference causes interruptions in conversation. When this happens, your unit is not defective. When noise continues, move to a different location while you talk. (You might even need to move the base unit.) When the situation persists, contact Customer Service.

CAUTION! The base station must be placed at least 8 inches (20 cm) from nearby persons for compliance with FCC exposure guidelines.

I.C. NOTICE

Information for users in Canada.

Terminal Equipment

NOTICE: This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

Radio Equipment

The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. "Privacy of communications may not be ensured when using this telephone."

THIS IS THE END OF THE DOCUMENT.