

DECT Repeater

User Manual - extended

Edition	1.
Date	03/2018
Product	DECT Repeater
ProdID	1270.1000.01
Firmware	Rev1436

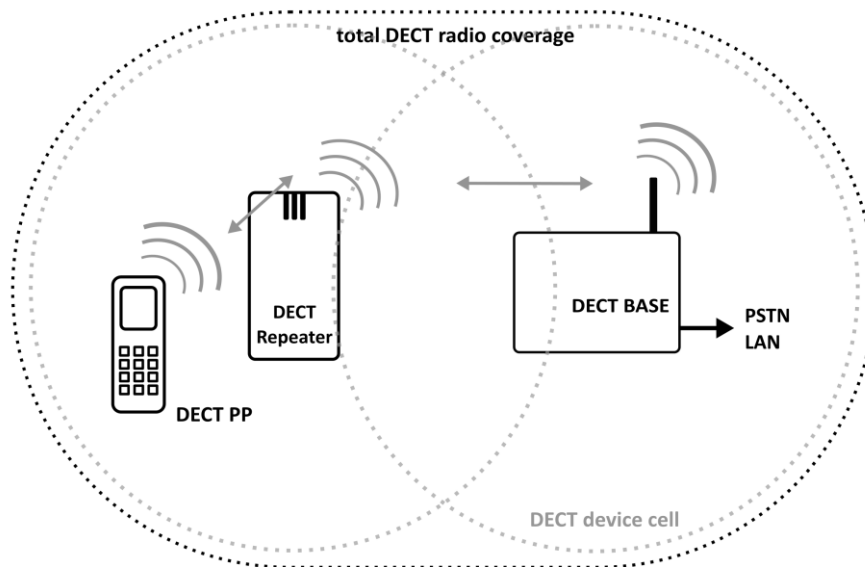
Content

Content	2
Introduction	3
General.....	3
Installation.....	4
Safety precautions	4
Placing.....	4
User Interface	5
Connecting the Device.....	6
LED	6
Associating DECT Repeater to a base station	7
Associating more DECT Repeaters to the same base station	7
Operation	7
Relay connection - incoming call.....	7
Relay connection - outgoing call	7
Handover between radio cells with ongoing call.....	7
Scenarios.....	8
Deleting association and new association.....	9
Troubleshooting.....	10
Technical Data	10

Introduction

General

DECT Repeater extends the DECT radio coverage of base stations.



It is characterized by wide compatibility, easy installation and a user friendly display concept.

The performance of DECT Repeater depends on the support and the limitations of the associated base station in the DECT network. You can arrange up to 5 repeaters, but rarely those scenarios are useful or meet the performance expectations in practice.

Generally, a maximum of 3 repeaters in star or 2 in cascade arrangement are recommended. In accordance with DECT resource requirements, mixed setups are possible, too.

Installation

Safety precautions

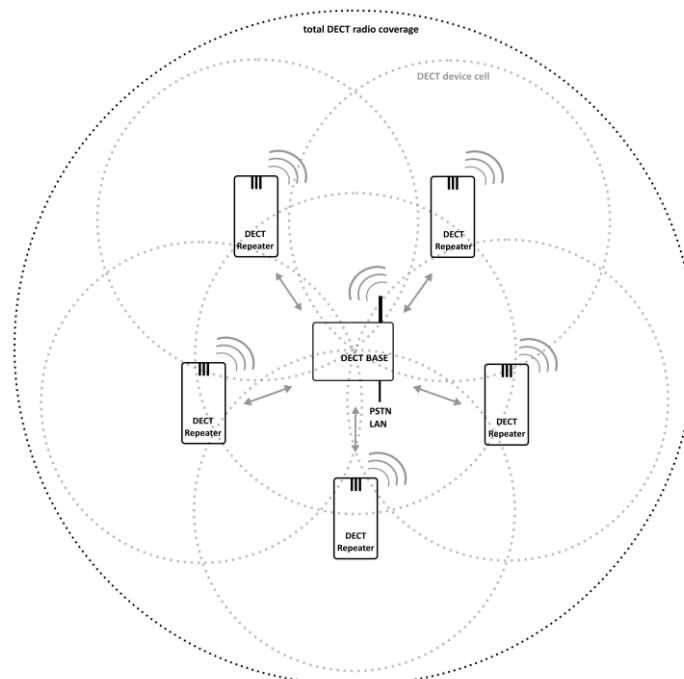
Use the device in a dry location only. It should not be placed next to a heat source, e.g. a heater or direct sunlight. In a close setup, the DECT Repeater could interfere with other electronic equipment (e.g. Microwave ovens, Hifi-systems etc.). The DECT Repeater must be used in a socket that is easily to access.

note *The DECT Repeater should be plugged LED's upwards for optimal radio transmission*

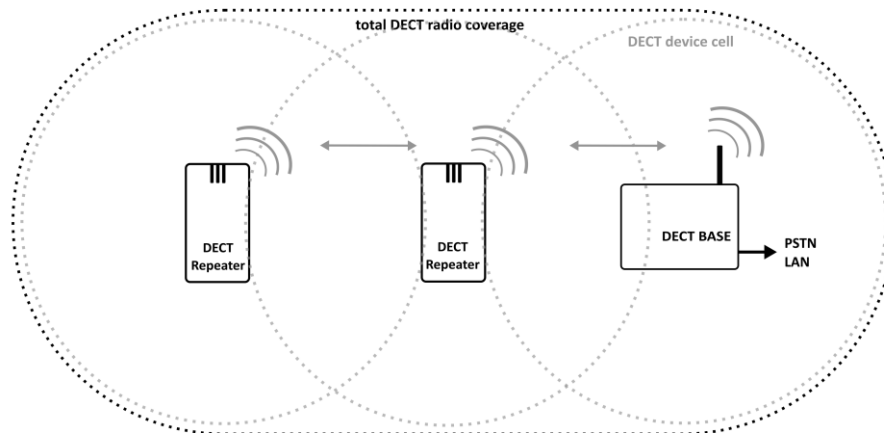
Placing

DECT ensures due to its flexible usage of different time- and frequency channels a high level of transmission and operational reliability within the coverage area compared to other radio standards. To benefit from this advantage, the repeater should be placed in such a way that a good DECT link between the devices is possible. Please make sure that whatever setup you choose minimum distance between *base station - repeater* or *repeater - repeater* should be 10 meters. Beside the basic setup with one repeater, there are other ones for multi repeater operation.

Star setup:



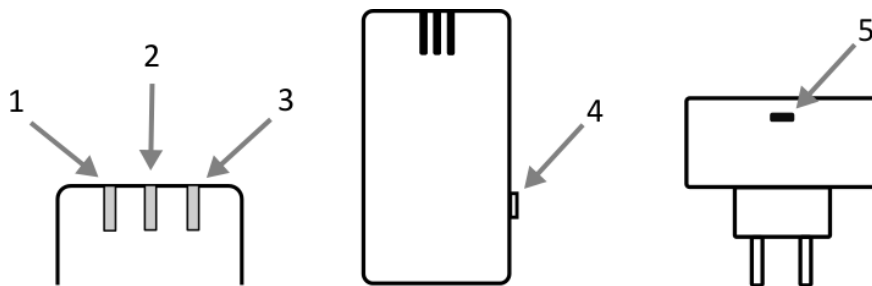
Cascade setup:



When planning the placement of the DECT Repeater, the local conditions must be taken into account because they influence the quality of the radio link.

Every barrier located on a straight line between transmitter and receiver will have an impact on radio transmission depending on its structure. Barrier-free transmission lines are preferred.

User Interface

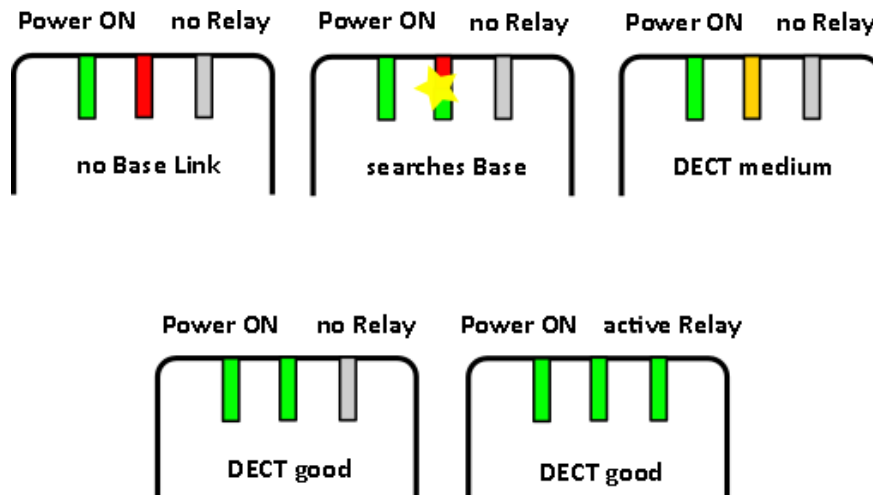


Nr	Element
1	LED1 Power (1 color for ON/OFF)
2	LED2 DECT Link Quality (3 colors)
3	LED3 active call in REP (1 color for ON/OFF)
4	Side Key (Clear Registration on Base Station)
5	USB Connector (SW Upgrade)

Connecting the Device

Insert the DECT Repeater into in an easily accessible socket. If DECT Repeater is not yet associated, go on with association as described below.

LED



Status	Relay	DECT	Power
Power On	Off	Off	Green
Not associated, Auto search base station	Off	Flashing slowly red	Green
Base station found	Off	Flashing rapidly green	Green
Linked to base station	Off	Green (see Radio link)	Green
Active relay	Green	Green (see Radio link)	Green
Associated, but not linked to base station	Off	Alternately fast green – once red Flashing	Green

Description	Interval
Flashing slowly	On/Off – 1sec/1sec
Flashing rapidly	On/Off – 0,25sec/0,25sec

Radio link	Colour
Excellent to good	Green
Medium	Orange
Poor	Red

Associating DECT Repeater to a base station

- Plug DECT Repeater into a socket near the base station
- Power LED is green and DECT LED is flashing slowly red
- Set base station into registration mode according user manual (e.g. press Paging-button of base station for 5sec to 10sec)
- If base station is found, DECT LED is flashing rapidly green
- When DECT LED is on, association to base station was successful (green: good DECT link)
- If association was not successful (DECT LED is still flashing slowly red), go on with „*Troubleshooting*“

Associating more DECT Repeaters to the same base station

- All associated DECT Repeaters must be placed close to the base station if more DECT Repeaters should get associated to this base station
- Plug DECT Repeater into a socket near the base station
- Power LED is green and DECT LED is flashing slowly red
- Set base station into registration mode according user manual (press Paging-button of base station for 5sec to 10sec)
- If base station is found, DECT LED is flashing rapidly green
- When DECT LED is on, association to base station was successful (green: good DECT link)
- If association was not successful (DECT LED is still flashing slowly red), go on with „*Troubleshooting*“

Operation

Relay connection - incoming call

- Relay-LED is green
- Handset in repeater zone accepts an incoming call, Relay-LED is green until call is finished

Relay connection - outgoing call

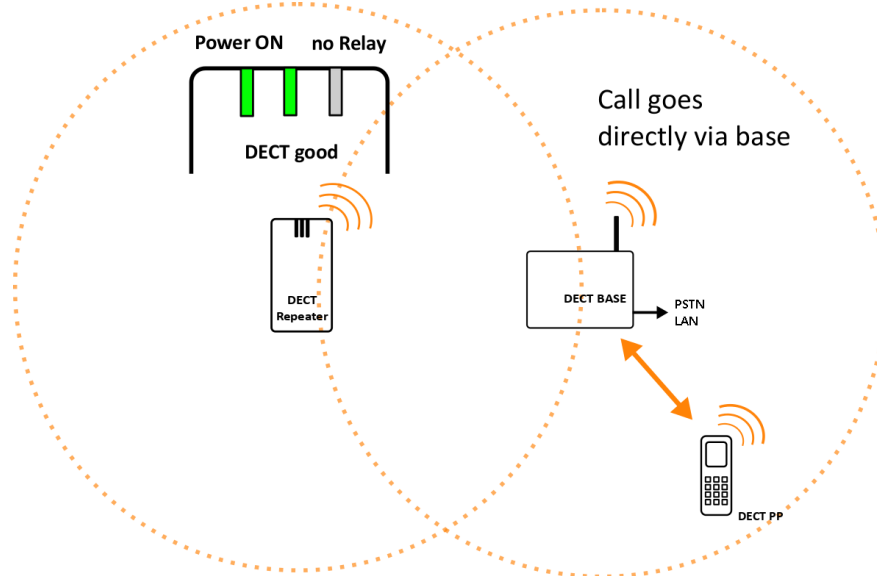
- Handset in repeater zone starts an outgoing call
- Relay-LED is green until call is finished

Handover between radio cells with ongoing call

- When the handset is moving between radio cells with an ongoing (e.g. base station to repeater cell or repeater to repeater)
- Relay-LED gets green when the handset is locked to the repeater

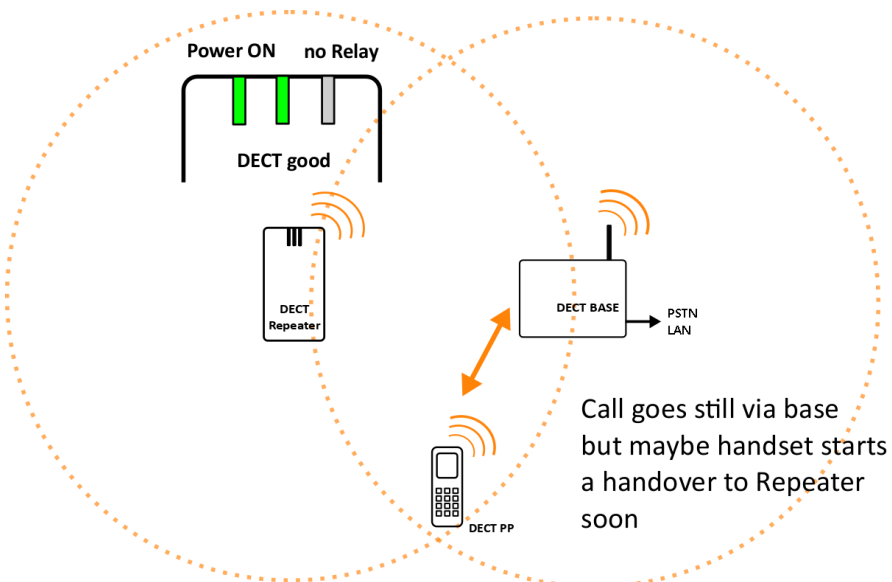
Scenarios

- Call goes directly via base station
- Handset doesn't "see" the Repeater



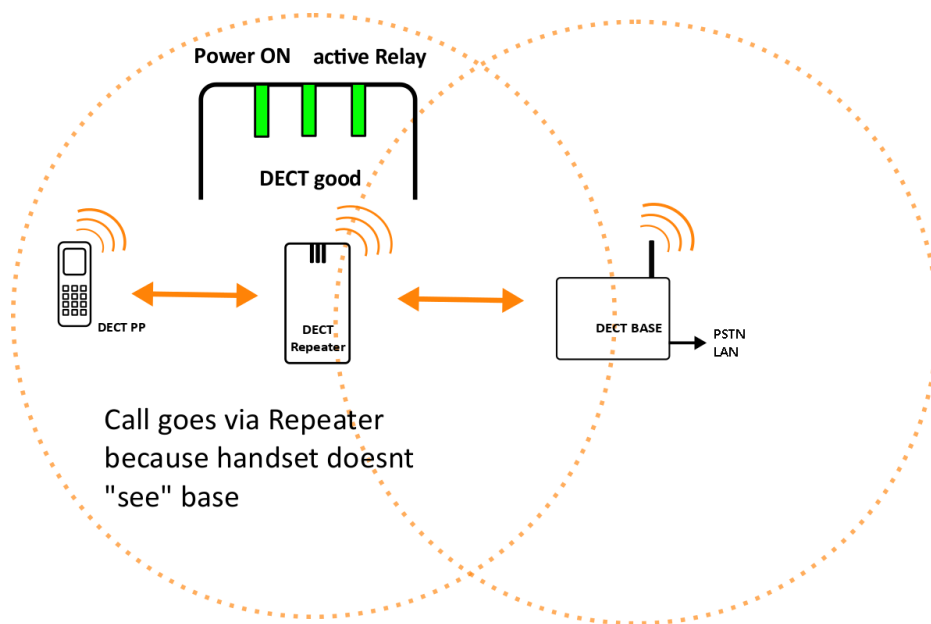
Scenario 1

- Call still goes via base station but if handset moves further away from base station towards the Repeater it will handover to repeater
- Handset generally prefers calls via base station because the base station has more capacity



Scenario 2

- Call goes via Repeater because handset doesn't "see" the base station
- Without repeater, at this position the handset could not do a call

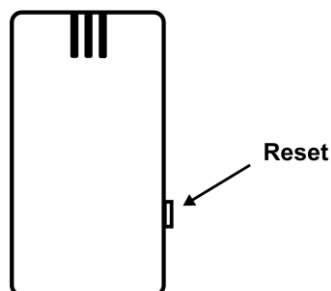


Scenario 3

Deleting association and new association

DECT Repeater is plugged into the socket. If the DECT Repeater is associated to a base station, DECT LED is green. Press the Reset button ca. 5sec for deleting the association to a certain base station. DECT LED is flashing slowly red after successful deleting of association.

If a base station is in association mode and the DECT Repeater is not yet associated to a certain base station, DECT Repeater associates automatically to this base station.



Troubleshooting

Problem	Cause	Proceeding
No DECT link to base station within repeater zone	DECT Repeater is not associated with the base station, DECT LED flashes red	Repeat the registration with base station
	DECT LED is red	Change the location of repeater (shorten distance to base station or try to find positions without barriers between) until the DECT LED is green
	Base station is OFF	Turn base station ON
Registration with base station failed	Base station is not in registration mode	Set base station in registration mode
	Repeater mode of Base station is not switched ON	Switch ON repeater mode in base station configuration
	Base station doesn't support repeater	

Technical Data

Standards	EU DECT, CAT-iq 2.0
Radio frequency range	1880 MHz to 1900 MHz
Modulation	GFSK
Speech coding	32kbit/s G.726 64kbit/s G.722 ¹⁾
Transmission power	Average 10mW
Range	Up to 300m outdoors, up to 50m in buildings
Power supply	100 – 240V ~ 60/50Hz
Environmental operating conditions	0 °C to +45 °C
Dimensions	12cm H x 6,1cm W x 3cm L1
Weight	115g

¹⁾ Only if base station supports codec.