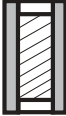
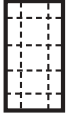




# Presentation

- *The radio range tester comprises a radio test controller and a test handset. It allows the installer to prepare his work, while allowing him to verify, on site (real conditions of environment and installation) and in advance the radio range of the DoorPhone. It also helps to establish the best location for the radio controller(s) (in the case of a DoorPhone for apartments) or the technical controller (in the case of a DoorPhone for a house).*

**propagation of waves**

### Propagation of radio waves

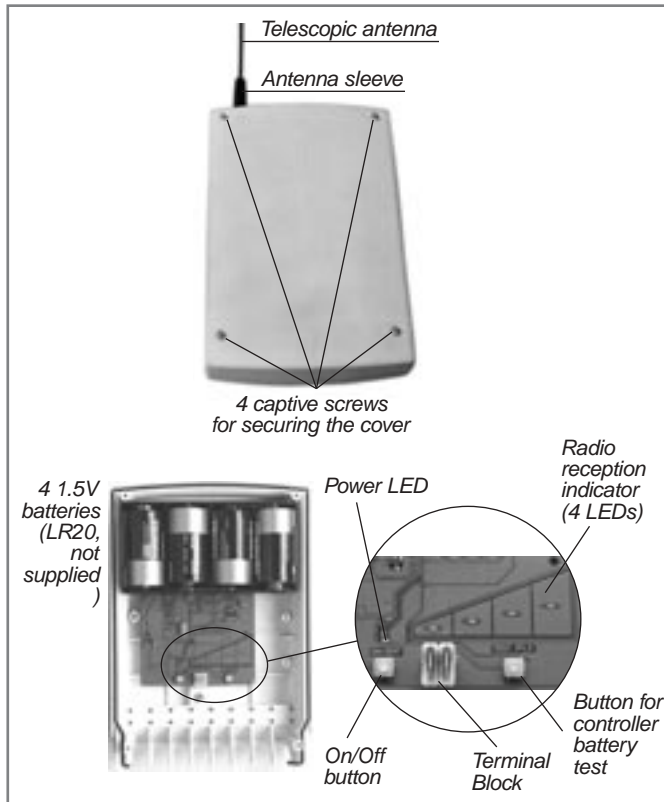
Wood and plaster		reduction of 10% to 30%	Reinforced concrete		reduction of 50% to 70%
Brick		reduction of 30% to 50%	Metallic cladding		reduction of 70% to 90%

The quality of the radio coverage and therefore the performance of the DoorPhone can be hampered by obstacles situated between the radio controller and the handset: walls, baffles, tiles, metal doors or a lift-shaft comprising metallic elements.  
(Also, the radio coverage can be hampered by electrical or electromagnetic interference.)

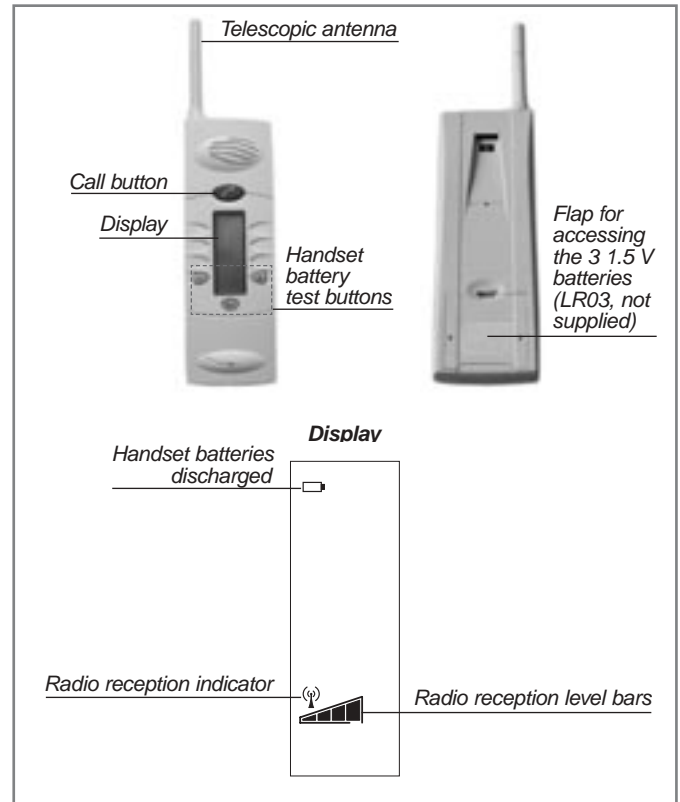
**This is why it is imperative to carry out the radio range tests at the proposed installation site.**

# Description

## ➤ Radio test controller



## ➤ Test handset

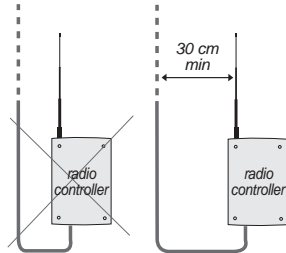


# Positioning rules

## ➤ For a apartment block

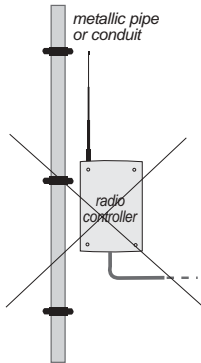
### rule 1

- Avoid placing the radio controller close to sources of electromagnetic interference.
- Avoid placing the antenna of the radio controller along side its cable.



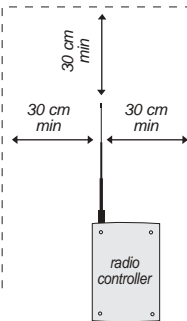
### rule 2

Avoid placing the antenna along side metallic pipes.



### rule 3

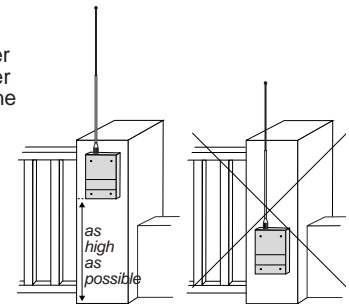
- Avoid close proximity with pieces of metal, metallic door...
- The radio controller must be positioned antenna toward the top and in completely clear space.



## ➤ For a house

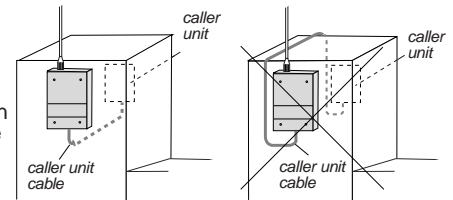
### rule 1

In order to guarantee its weather tightness: the technical controller must always be mounted with the antenna toward the top.  
In order to guarantee good radio range: reserve a space around the antenna of the technical controller (height of about 80 cm).  
Clear all dense vegetation close by.



### rule 2

Never pass a cable along side the antenna (especially the link cable between the caller unit and the technical controller).



### rule 3

Also avoid placing the products close to metallic objects or sources of interference:

- for the technical controller: electricity meter, electricity line, high tension...
- for the handset: television, cordless telephone, electrical devices, meter or electrical distribution board.

### rule 4

The handset must be more than 2 m away from the technical controller.

# Before starting tests

*It is imperative to carry out the 2 tests below and to ensure that they are conclusive!*

## 1<sup>st</sup> test

Prior conditions	Radio test controller	→	powered up
	Test handset	→	un-powered

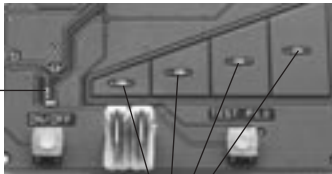
- 1 To liven up the test radio controller:
  - insert the 4 1.5 V LR20 batteries
  - fully extend the telescopic antenna of the test radio controller
  - make a short press **ON / OFF**



*short press (about 1 sec)*

- 2 **Check** the test radio controller to ensure there are no signal strength Leds lit.

The power LED is lit



**No LEDs must be lit!**

## 2<sup>nd</sup> test

Prior conditions	Radio test controller	→	un-powered
	Test handset	→	powered up

- 1
  - Remove a battery from the test radio controller.
  - Liven up the test handset:
    - insert the 3 1.5 V LR03 batteries.



- make a long press

*press for longer than 3 sec*

- 2 **Check** the test handset to ensure there are no signal bars indicated.





**No signal bar must indicate!**











# To carry out radio range tests: for apartments

The objective is to place an adequate number of radio controllers (reminder: 7 maximum consisting of 1 base radio controller + 6 extension radio controllers).

Mark the location of the controllers on the site for each successful test (every apartment), in order to ensure the radio controllers are installed correctly in the future.

- 1 Position the test radio controller in its proposed location (cupboard on the landing, stairwell, under the stairs...) in order to carry out radio range tests as close to reality as possible and to conform to the users expectations.
- 2 Check the level of radio reception on the test radio controller and the test handset is OK!  
To do this, it is necessary to carry out the test exactly as follows:
  - fully extend the telescopic antenna of the test radio controller,
  - hold the test handset in your hand and leave the antenna un-extended,
  - press the call button ,
  - observe the radio reception indicator  on the handset as well as the number of LEDs alight on the test radio controller.

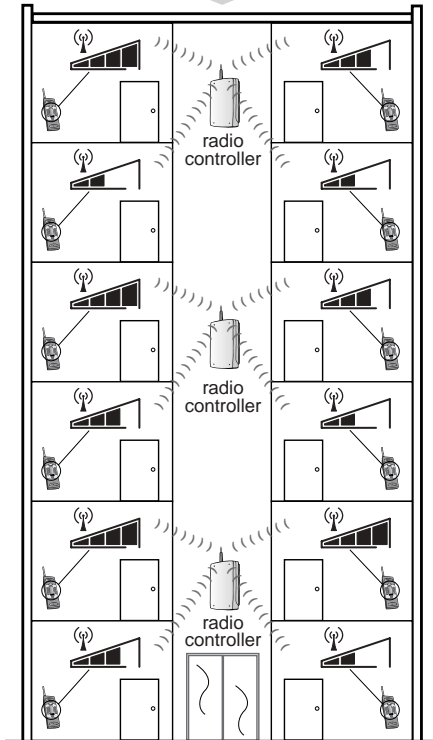
## Interpreting the different levels of radio reception

Test radio controller	Significance	Test handset
4 LEDs 	the quality of the level of radio reception is very good	4 bars 
3 LEDs 	the quality of the level of radio reception is good	3 bars 
2 LEDs 	the quality of the level of radio reception is OK	2 bars 
1 LED 	the quality of the level of radio reception is poor	1 bar 
no LEDs 	no radio reception	no bars 

*If there are more than 2 bars (or 2 LEDs), the level of reception is OK from both ways. Below this the level of radio reception is insufficient and the radio signal received is uncertain and therefore unreliable.*

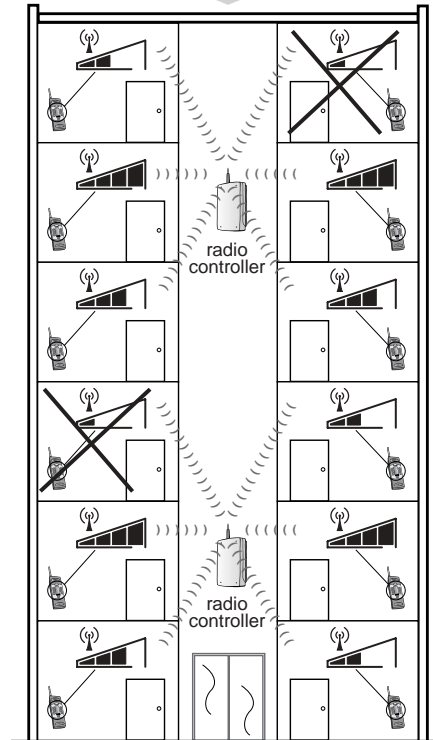
# To carry out radio range tests: for apartments

## Examples of conclusive tests



In this example: with **3 radio controllers**, the reception indicator confirms the level of radio reception is correct for every apartment

## Examples of inconclusive tests





In this example: with **2 radio controllers**, the reception indicator confirms an unacceptable level of radio reception for 2 of the apartments

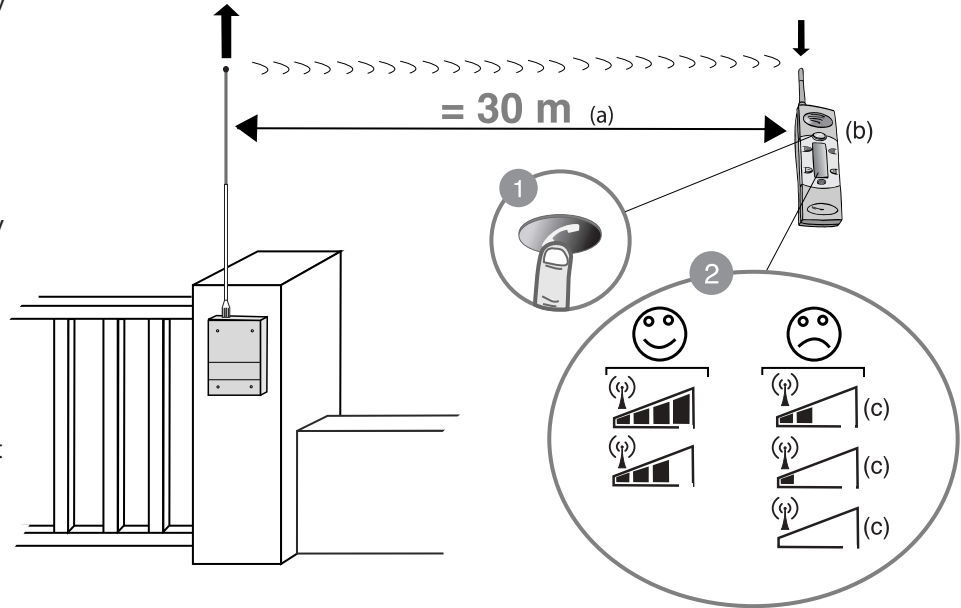
# To carry out radio range tests: for houses


## ① Check that the test radio controller is located correctly on the pillar!

To do this, it is absolutely necessary to carry out the following test:

- fully extend the test radio controller's telescopic antenna,
- hold the test handset in your hand vertically and leave the antenna un-extended,
- stand with the test handset exactly 30 metres from the test radio controller,
- press the call button ,
- observe the radio reception indicator .

If the radio reception is insufficient (2 indicator bars or less), check that the test radio controller is located exactly per the positioning rules described on page 44!





 **The location of the test radio controller can be remote from the gate pillar if necessary.**


# To carry out radio range tests: for houses

## ② Check that the radio reception level of both the test radio controller and the handset (thus from both ways) is correct!











To do this, it is necessary to carry out the test exactly as follows:

- fully extend the test radio controllers telescopic antenna,
- hold in your hand the test handset with its antenna un-extended at first,
- press the call button ,
- observe the reception indicator  on the handset and the number of LEDs alight on the test radio controller,

If the level of receipt is insufficient, extend the handsets telescopic antenna and restart the test.

 **Position yourself with the handset in different locations (inside and outside the house) in order to achieve the radio range tests as closely as possible to reality and in accordance with the users expectations.**

## Interpreting the different levels of radio reception

Test radio controller	Significance	Test handset
4 LEDs 	the quality of the level of radio reception is very good	4 bars 
3 LEDs 	the quality of the level of radio reception is good	3 bars 
2 LEDs 	the quality of the level of radio reception is OK	2 bars 
1 LED 	the quality of the level of radio reception is poor	1 bar 
no LEDs 	no radio reception	no bars 

*If there are more than 2 bars (or 2 LEDs), the level of reception is OK from both ways. Below this the level of radio reception is insufficient and the radio signal received is uncertain and therefore unreliable.*




# Low battery indications


## > Test radio controller




- **Automatically**, during radio range tests, the blinking ON/OFF of the power LED indicates that the 4 batteries are low and that it is necessary to replace them.

TEST PILE

- **At any time**, press and hold the  button to check the state of batteries with the aid of the 4 radio reception LEDs. 2 or more lit LEDs and the battery power is OK, less and it is time to change them!

## > Handset test

- **Automatically**, during radio range tests, the blinking of the  icon on the display indicates that the 3 batteries are low and that it is necessary to replace them.

- **At any time**, press and hold any one of the buttons other than the call button , this allows you to check the state of batteries using the level bars . If the indicator displays , the battery power is OK, less than this and it is time to change them!

# Technical characteristics

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## ➤ Test radio controller

- Polycarbonate housing
- Index of protection IP54: protection against dust and harmful deposits and sprays of water from all directions
- Operating temperature -20°C to +70°C
- Powered by 1.5V alkaline batteries (4 batteries of the type LR20, not supplied)
- Low battery indication
- Battery life: 150 hours

## ➤ Test handset

- ABS housing
- Index of protection IP41: protection against solid bodies > 1 mm and the vertical spray of water drops and condensation
- Operating temperature of product's PCB: 0°C to +50°C
- Powered by 1.5V alkaline batteries (3 batteries of the type LR03 or AAA, not supplied)
- Low battery indicator
- Battery life: 10 hours