Alcatel-Lucent 4080 IP-DECT

Installation Manual

8AL90850USAAed01 - July 2011

Alcatel, Lucent, Alcatel-Lucent and the Alcatel-Lucent logo are trademarks of Alcatel-Lucent. All other trademarks are the property of their respective owners. The information presented is subject to change without notice. Alcatel-Lucent assumes no responsibility for inaccuracies contained herein.

Copyright© 2011 Alcatel-Lucent. All rights reserved.

Regulatory information European Union

Declaration of Conformity
This equipment is in compliance with the essential requirements of R&TTE Directive 1999/5/EC.The Declaration of Conformity may be obtained from your installer.

PRODUCT DISPOSAL INFORMATION (EN)

For countries in the European Union

The symbol depicted here has been affixed to your product in order to inform you that electrical and electronic products should not be disposed of as municipal waste.

Electrical and electronic products including the cables, plugs and accessories should be disposed of separately in order to allow proper treatment, recovery and recycling. These products should be brought to a designated facility where the best available treatment, recovery and recycling techniques is available. Separate disposal has significant advantages: valuable materials can be re-used and it prevents the dispersion of unwanted substances into the municipal waste stream. This contributes to the protection of human health and the environment.

Please be informed that a fine may be imposed for illegal disposal of electrical and electronic products via the general municipal waste stream.

In order to facilitate separate disposal and environmentally sound recycling arrangements have been made for local collection and recycling. In case your electrical and electronic products need to be disposed of please refer to your supplier or the contractual agreements that your company has made upon acquisition of these products.

For countries outside the European Union

Disposal of electrical and electronic products in countries outside the European Union should be done in line with the local regulations. If no arrangement has been made with your supplier, please contact the local authorities for further information.

Regulatory information United States

This device contains functions which are not operational in US territories

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.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the equipment.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help."

Privacy of communications may not be ensured when using this equipment.

Exposure to Radio Frequency (RF) Signals:

This base station is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the OET Bulletin 65 Supplement C. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on the safety standards previously set by international standards bodies. These standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

This device with internal antennas must provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Regulatory information Canada

Operation of this device is subject to the following two conditions: (1) this device may not cause any interference and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Exposure to Radio Frequency (RF) Signals:

This wireless device is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limit for exposure to radio frequency (RF) energy set by the Ministry of Health (Canada), Safety Code 6. These limits are part of comprehensive guidelines and established permitted levels of RF energy for the general population. These guidelines are based on the safety standards previously set by international standards bodies. These standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

Privacy of communications may not be ensured when using this equipment.

CONTENTS

PREFACE

This manual is applicable for the 4080 IP-DECT, DECT Transceiver.

Please note that some product models or features described in this manual may not be available in all world regions."

No legal rights can be obtained from information in this manual.

Important:

The equipment described in this manual should be installed and maintained only by professional and qualified engineers in accordance with the procedures and instructions described in this manual.

1 4080 IP-DECT GENERAL

1.1 GENERAL

This installation Manual is valid for installing a DECT transceiver (4080 IP-DECT) to a wall in horizontal or vertical position. The 4080 IP-DECT is designed for indoor use. When installing an 4080 IP-DECT outdoors, please use the dedicated Outdoor Cabinet:

Note that there are two types of DECT Transceivers::

- **4080 IP-DECT Access Point Integrated antennas.**
- **4080 IP-DECT Access Point External antennas.**

Note: *The 4080 IP-DECT Access Point External antennas must always be installed/used in the outdoor cabinet! For more information consult the manual for the Outdoor Cabinet for 4080 IP-DECT.*

1.2 COUNTRY SELECTION

The 4080 IP-DECT is equipped for EMEA, Latin America and North America. However, the DAP Controller determines the frequency used and the power level. The DAP Controller is the software that runs on a PC to control the 4080 IP-DECT.

There are three types of DAP Controllers available for the 4080 IP-DECT:

- **DAP Controller – International.**
  This version is used in EMEA countries and countries that use the European frequencies and power levels.
- **DAP Controller - North America**
  This version is used in North America.
- **DAP Controller - Selective Countries.**
  This version is used in countries with other frequency ranges than EMEA or North America

Note: *In North America, only the "DAP Controller - North America" will be delivered, so no other frequencies than the North America frequencies and power levels are possible in North America.*

Note: *In Europe, only the "DAP Controller - International" will be delivered, so no other frequencies than the European frequencies and power levels are possible in Europe.*

1.3 SITE REQUIREMENTS

Usually the Cabinets will be fixed to existing walls in the positions determined by the Site Survey.

Do not mount the 4080 IP-DECT to a metal wall!

1.4 TEMPERATURE RANGES

- Temperature range 4080 IP-DECT: -5° to 45° C.

The AP400 should not be exposed to sunlight!

The outside temperature range for the 4080 IP-DECT (all types) mounted in the Outdoor Cabinet is as follows:

- Minimum outside temperature: -20° C
- Maximum outside temperature: 45° C

The Outdoor Cabinet should not be exposed to sunlight!

1.5 CABLE SPECIFICATIONS FOR 4080 IP-DECT Types

The cabling to the 4080 IP-DECT(External antennas) is “Category 5” or “Category 6” Ethernet cabling. The interface is defined as an SELV interface according EN60950-1. For this reason the following safety restriction is applicable:

Caution: *The cabling and/or the 4080 IP-DECT(*External antennas*) may never be exposed to over-voltages (e.g. lightning). Therefore, the 4080 IP-DECT(*External antennas*) and cabling associated with it may never be installed outdoors! However there is an exception: if installed in the Outdoor Cabinet, and the Outdoor Cabinet is mounted against a wall* ***and*** *the cable is led directly indoors, it is permitted. For details about this specific installation refer to the installation manual of the Outdoor Cabinet.*

Note: Cat 7 cabling is not supported!

The power for the 4080 IP-DECT(External antennas) must be supplied via the Ethernet cable, PoE (IEEE 802.3af). There is no room for a Mains Power adaptor inside the Outdoor Cabinet.

1.6 G.729 DAUGHTER BOARD

The 4080 IP-DECT does support the G.729 codec, but only if the G.729 Daughter Board is installed.

If the G.729 Daughter Board is not installed, the 4080 IP-DECT supports only G.711u law or G.711a law.

Installation of the Daughter Board is described in chapter 4. MOUNTING THE G.729 DAUGHTERBOARD.

1.7 VISUAL CHECK

The equipment must be carefully unpacked and examined for any visible sign of damage.

Anything not in order should be reported back to the supplier, as soon as possible, to avoid delays during installing due to missing equipment.

1.8 HORIZONTAL OR VERTICAL MOUNTING

The 4080 IP-DECT can be mounted horizontally or vertically. When mounting vertically, you don't need to change the antenna position.

Figure 1. 4080 IP-DECT in vertical position.

When the 4080 IP-DECT must be mounted horizontally, the antenna position must be changed.

Figure 2. 4080 IP-DECT mounted horizontally

1.9 INSTALLATION PROCEDURES

The installation of an 4080 IP-DECT comprises the installation of:

- Adjusting the Antenna position (if necessary).
- Mounting the G.729 Daughter Board (if applicable)
- Mounting the 4080 IP-DECT against the wall.

Note: *When you install the 4080 IP-DECT in the outdoor cabinet, please consult the 4080 IP-Dect Outdoor Cabinetisolated Installation Manual.*

Note: *The minimum distance between 4080 IP-DECTs (DECT Access Points) must be more than 1 meter. (However, it is strongly recommended to respect a minimum distance of 5 meters between the 4080 IP-DECTs.)*

2 UNPACKING

PROCEDURE: "Unpacking".

Actions

1. Open the card board box and take the 4080 IP-DECT out.

2. Open the card board box and take the 4080 IP-DECT out.

3. Check the 4080 IP-DECT on any damages.

4. Continue with one of the following Chapters:

   - When you mount the 4080 IP-DECT vertically, the antenna position will normally be OK, and when you do not need to install the G.729 Daughter Board, continue with **Chapter** 5 MOUNTING THE 4080 IP-DECT AGAINST A WALL.

   - When you mount the 4080 IP-DECT horizontally, you probably need to change the antenna position. Consult Chapter 3. ADJUSTING THE ANTENNA POSITION.

   - When you require G.729 codec support, you will have to install the G.729 Daughter Board. Consult Chapter 4. MOUNTING THE G.729 DAUGHTERBOARD

3 ADJUSTING THE ANTENNA POSITION

Note: *You only need to change the antenna position when you mount the 4080 IP-DECT horizontally! In all other cases you don't need to change the antenna position.*

Figure 3. 4080 IP-DECT mounted horizontally

PROCEDURE: "Adjusting the Antenna position".

Note: *Antenna position can be changed once. You should not change it back!*

Actions

1. Remove the two screws from the rear side of the cabinet.

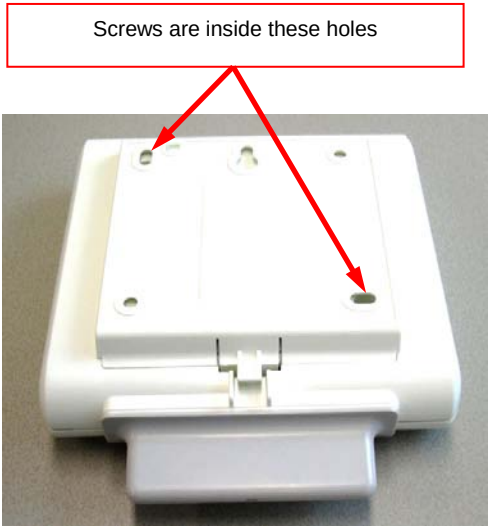

Figure 4. Rear side of Cabinet.

2. Open the cabinet CAREFULLY! Make sure that you shift the cover of the antenna's carefully from the antenna's.

3. Take the antenna cover from the 4080 IP-DECT cover.

4. To put the antennas in vertical position, bend them ***carefully*** as shown in Figure 5. Bend Antennas carefully into vertical position.

Figure 5. Bend Antennas carefully into vertical position.

5. After the anten*n*as are put in the vertical position, close the 4080 IP-DECT cabinet again. In other words, put the 4080 IP-DECT cover back into position and secure the screws at the rear side of the cabinet. See Figure 6. Antennas locked into Cover.

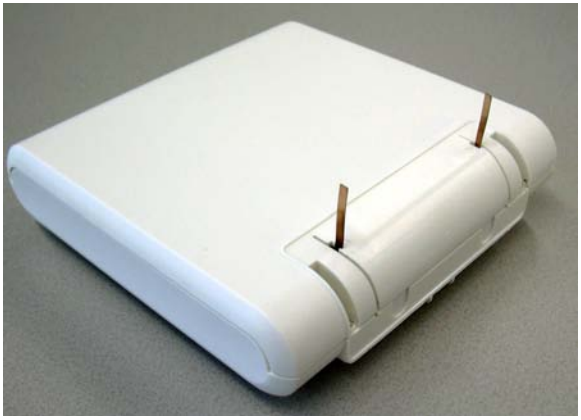

Figure 6. Antennas locked into Cover.

6. Make sure that the antennas are properly locked into the locks in the 4080 IP-DECT cover.

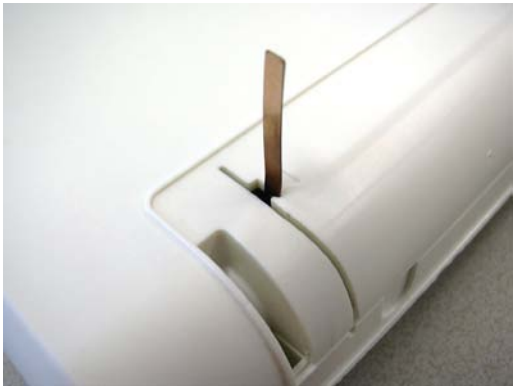

Figure 7. Detail of antenna in lock.

7. Move the antenna cover carefully over the antennas in the vertical position and make sure that the antennas do not bend. When the antenna cover is in its position, push it further into its position in the 4080 IP-DECT cabinet to fix it.

Figure 8. Cover installed.

8. Now your 4080 IP-DECT is ready to be installed.

4 MOUNTING THE G.729 DAUGHTERBOARD

Follow the step-by-step procedure below, to install the G.729 daughter board.

PROCEDURE: "Adjusting the Antenna position".

Actions

1. Make sure that you have the G.729 Daughter board.
2. Open the cabinet. Use steps 4 till 6 in Chapter 3
3. Take the PWB out of the cabinet.

   Note: *Mind the light conductor for the LEDs. It can drop off!*

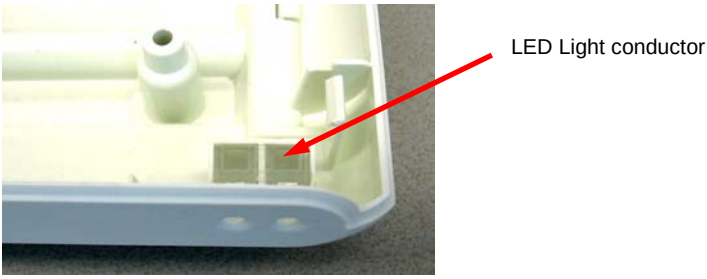

Figure 9. Light conductor for LEDs

4. Now you should have the 4080 IP-DECT PWB and the G.729 Daughter Board as separate items.
5. Remove the protection foil from the sticky part on the G.729 Daughter Board.

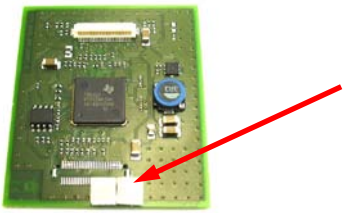

Figure 10. G.729 Daughter Board with sticky foam

6. Mount the G.729 Daughter Board onto the main PWB. Push the Daughter Board carefully onto the main board. The white connector should fit well. Make sure that the sticky part sticks to the Main Board.

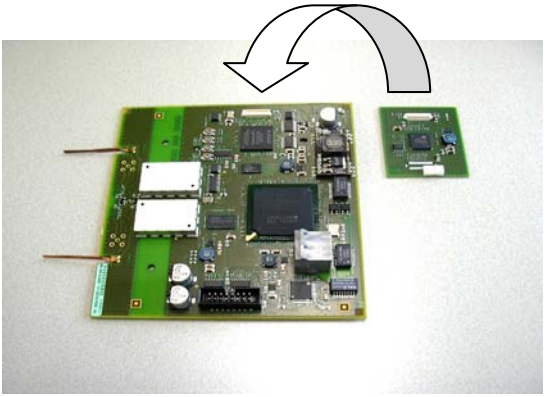

Figure 11. Mounting the G.729 Daughter Board onto the Main board.

Figure 12. G.729 Daughter Board on the Main Board

7. Put the 4080 IP-DECT together in the opposite way, mounting the PWB into the cabinet and assembling the cabinet. Do not forget to mount the two screws back into the rear side of the cabinet.

5 MOUNTING THE 4080 IP-DECT AGAINST A WALL

Note: *Cat 7 cabling is not supported!*

PROCEDURE: "Mounting the 4080 IP-DECT to the wall".

Actions

1. Remove the mounting plate from the 4080 IP-DECT cabinet.

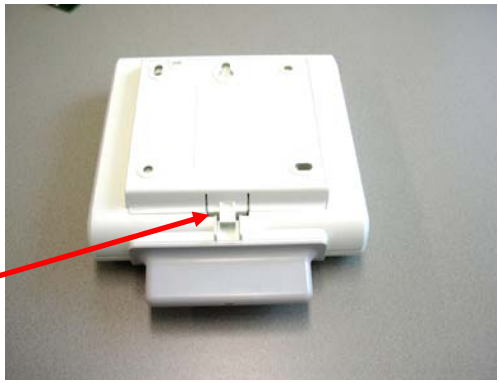

Figure 13. How to take the mounting plate off.

2. Mount the mounting plate to the wall.

Figure 14. Mounting plate..

3. Make sure that the cable to the cabinet has the correct length.

4. If necessary, mount the RJ45 connector to the cable using the tool for mounting an RJ45 connector plug to a Category 5 or Category 6 cable..

5. Lead the cable to the 4080 IP-DECT cabinet and connect the RJ45 connector. Push the cable into the groove.

Figure 15. Cable at rear side of the cabinet.

6. Push the cabinet onto the mounting plate.

Note: *When pushing the 4080 IP-DECT on to the mounting plate, make sure that you hear/feel a distinct click. This indicates that the 4080 IP-DECT is firmly mounted to the mounting plate.*

Figure 16. 4080 IP-DECT mounted against the wall.

6 LEDs

6.1 LED Status

The 4080 IP-DECT is equipped with two LEDs.

Top LED – Yellow

This LED represents the status of the 4080 IP-DECT. The indications are equal to the status indication on the 4080 IP-DECT LED.

LED Status (Top LED, Yellow)	Meaning
Off	No power
0,5 sec. On - 0,5 sec. Off	Loading software/firmware
Short flash every 0,25 seconds	IP Network error (not connected, no DHCP/TFTP server, no DAP Controller
Fast blink	DAP operational, but trying to synchronize to another DAP
Continuous fast blink	Hardware error
Steady On	DAP operational (and synchronized to other DAP or is the synchronization master).

Table 1. 4080 IP-DECT LED Status on top LED

Lower LED – Red/Green

This LED is used to indicate the start-up and network status.

LED Status (lower LED, Red/Green)	Meaning
RED Steady on	Power but FPGA starting up
RED flashing	Trying to connect to the network
Green flashing	Network status display and showing network activity
Off	4080 IP-DECT operational

Table 2. Lower LED status on the 4080 IP-DECT.

6.2 LED Colours

The colour of the ***top*** LED might be different depending on the operational mode. The following operational modes are distinguished:

- **Normal (single band) mode**
  In the normal single band mode, the top LED will be Yellow.
- **Dual Band Mode**
  In Dual Band mode, the LED colour shows the operational frequency:
  Green ..... : Europe/International
  Red ..... : North America / USA
- **Site Survey mode (only applicable for the 4080 IP-DECT in the Site Survey Kit.)**
  Green ..... : Europe/International
  Red ..... : North America / USA
  Blue ..... : Latam
  Magenta..... : China and Thailand

7 SPECIFICATIONS

Dimensions / Environment:

- Dimensions (W x D x H).....: 145 x 43 x 174
- Outside temperature range .....: 0° C . . . 45° C
- IP Specification .....: In Outdoor Box = IP66
- Relative Humidity.....: 5 . . . 95 %

PoE Specifications:

- Voltage at 4080 IP-DECT via PoE .: 36 . . . . 57 V. DC
- PoE Class.....: Class 2
- Power Consumption.....: 6 Watt maximum

IP Specifications:

- IP Network .....: 10/100Base-T IEEE802.3
- Connector: .....: RJ45
- Cable .....: Cat 5 / Cat 6 UTP.
  Cat 7 is not supported!
- IP Version .....: IPv4
- DHCP/TFTP support.....: Yes
- Quality of Service.....: IEEE802.1Q, IEEE802.1P

Audio Algorithm:

- 4080 IP-DECT:.....: G.711
- 4080 IP-DECT with Daughter Board : G.711 and G.729

Country/Region support:

- EMEA.....: 1880 – 1900 Mhz
- Latin America.....: 1910 – 1930 MHz
- North America.....: 1920 – 1930 MHz (3 dB lower output power)

Note: *Country selection is determined by the DAP Controller Type! See section 1.2 COUNTRY SELECTION.*