3 Installation of the Base Station

3.1 Equipment delivery

When you receive the equipment in its packaging:

- check the condition of the packaging,
- if damaged, make your reservations known to the carrier without delay.

3.1.1 Labels on the equipment and the packaging

Figures given on the examples below are not contractual.

The RBS labels are affixed to the packaging and to the equipment to indicate its contents.

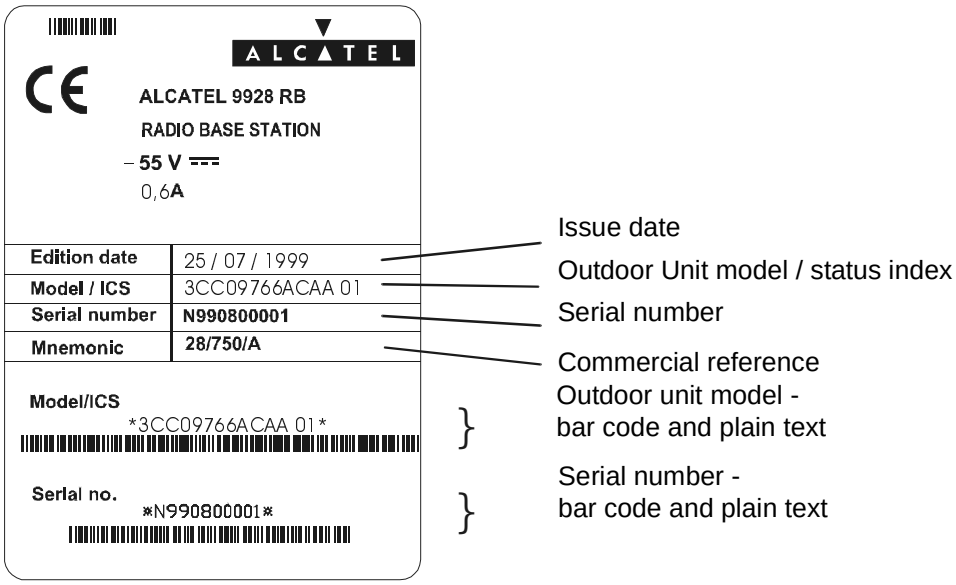
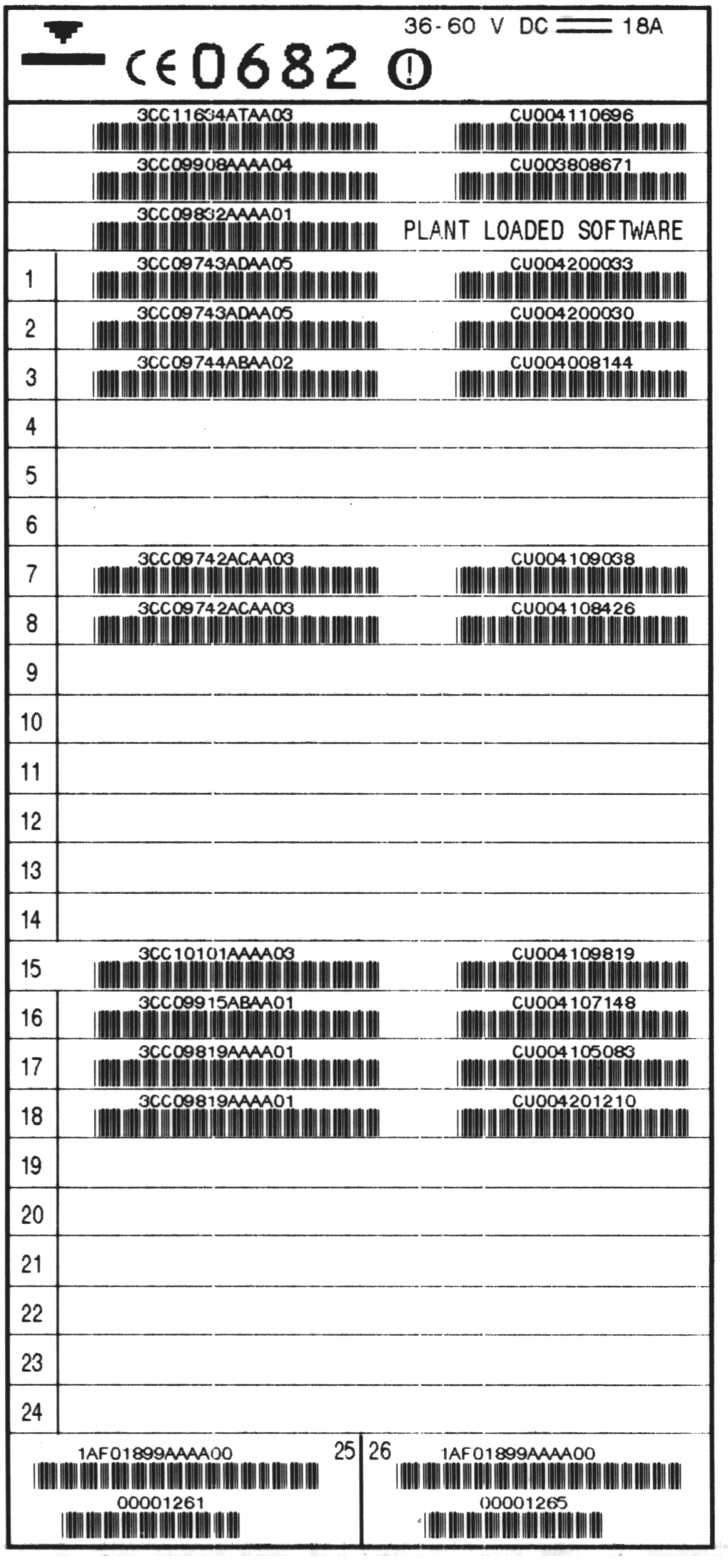


Figure 4 – Example of a label for the RBS unit

The DBS labels are fixed to the packaging to indicate its contents on leaving the factory.These labels are not affixed to the equipment because the DBS configuration changes in accordance with the site modifications



Note: to know the place of the corresponding elements, refer to § 3.5.6 Place of the board into the rack

Figure 5 – Example of a label for the DBS chassis

3.1.2 Unpacking

Considerations

You are recommended to:

- unpack the equipment according to the instructions on the packaging, and to the instructions given below.
- take an inventory and identify any missing items. If the delivery does not match the delivery advice note, notify ALCATEL **within 48 hours of receipt of the equipment**.

Unpacking the RBS unit

Figure 6 – Unpacking the RBS unit

Unpacking the RBS antenna

Figure 7 – Unpacking the RBS antenna

	IMPORTANT: DO NOT REMOVE THE TRANSPARENT PLASTIC PROTECTIVE CAP.

Unpacking the pole-mounting mechanical system

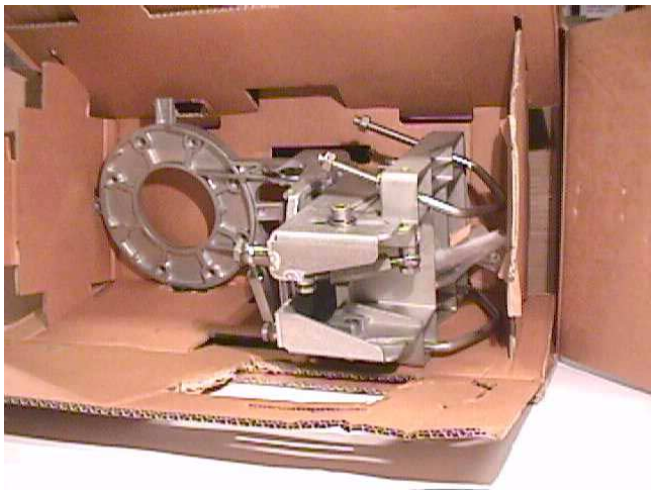


Figure 8 – Unpacking the pole-mounting mechanical system

Unpacking the DBS chassis

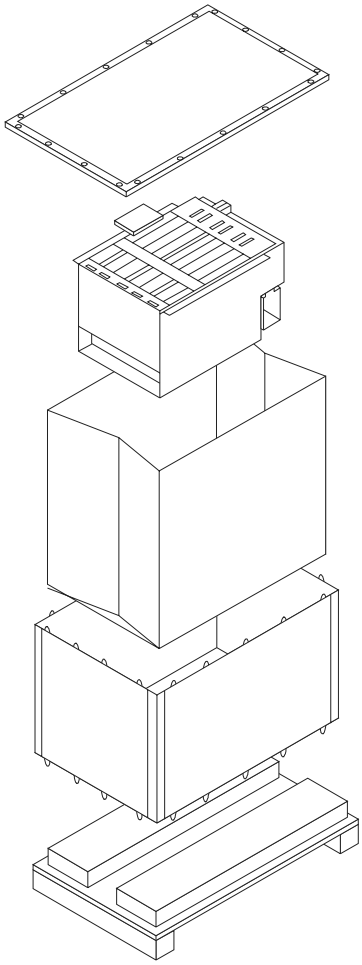


Figure 9 – Unpacking the DBS chassis

Unpacking the power supply units

Figure 10 – Unpacking power supply units

3.1.3 Checking the delivered configuration

The following **Base Station** (7390BS) components are delivered:

- the **RBS** and its installation hardware: in a cardboard box,
- the **RBS antenna**: in a cardboard box,
- the **pole mounting** mechanical system: in a cardboard box,
- the **DBS chassis** and the **installation kit**: in a crate/pallet,
- the DC/DC **power supply units**: in a cardboard box,
- the **connection cable** between RBS radio and DBS rack: on a reel.

Depending on the delivery site configurations, the delivery may include separate crates containing **standard 19" racks**.

3.1.3.1 Content of boxes

EQUIPMENT	CONTENTS
RBS	1 RBS assembly

EQUIPMENT	CONTENTS
RBS antenna	1 RBS antenna assembly

EQUIPMENT	CONTENTS
Pole mounting	1 pre-assembled pole-mounting mechanical system assembly
	2 U-bolts and their hardware
	grounding lugs and screws ; antenna attachment parts

EQUIPMENT	CONTENTS
DBS chassis	1 chassis containing the electronic boards according to the client configuration
	cables (for IBS board interface, N panel), in accordance with the site configuration
	fiber optic jumpers, in accordance with the site configuration
	2 fiber optic cable winding cassettes
	1 set of screws to install the rack into the chassis

EQUIPMENT	CONTENTS
DC/DC power supply	2 DC/DC power supply units

EQUIPMENT	CONTENTS
Optiona Standard 19" rack	1 rack with removable top cover and adjustable feet

3.1.3.2 Storage

If the installation is not to be carried out immediately, the type of packaging will determine the equipment storage conditions:

- the cardboard boxes should be warehoused indoors, in a well-ventilated and dry space,
- the wooden or laminated crates may be stored outdoors, provided that they are protected from the rain and direct sunlight.

3.2 Installing the equipment

3.2.1 Information required for installation

Appendix 1 – Installation sheet contains a sheet for you to complete, that compiles all the general information needed for the installation procedure.

3.2.2 Precautions

Installation is designed to meet all requirements concerning electromagnetic compatibility and safety.

The performance of the equipment depends on installation practices (cable installation, ground connections, etc.) which should be based on best trade practices and which may be degraded if theses pratices are not respected.

3.2.3 Tools required

The installation team must possess a standard installation toolkit (containing, in particular: drill, drill bits, soldering iron, cable tie pliers, terminal pliers).

The list of tools required for the mechanical installation of the equipment is given below:

Tool	Use
No. **6** Allen wrench (for 8 mm screw)	Antenna alignment
16/17 mm box wrench and flat wrench	Used for pole mounting and for fine adjustment of the antenna and various tightening operations
16/17 mm Torque wrench	Used for pole mounting and various tightening operations
20 mm flat wrench	For attaching the "N" coaxial connectors
Compax "Mars Actel OSA3" insertion and extraction tool	Wiring the COMPAX (mars actel cad) terminal strips
Essential compass and inclinometer (not supplied)	Pointing the antenna
5 mm Allen key (for M6 screw)	For mounting the antenna
10 mm flat wrench	For fixing the ground terminal
8 mm Allen key (for M10 screw)	For tightening the different parts of the pole mounting
Complete antenna pointing tool kit 3CC11782Axxx	Pointing the antenna

For installation and alignment procedure for an RBS 7390 with a sector antenna, refer to the User Manual 3CC12087Axxx.

Depending on the installations, additional equipment, provided by Alcatel as optional, may prove useful:

Tool	Use	Industrial Code
Crimping tool	Sub-D connectors crimping	9900YTB001

To get the commercial codes of these items, please consult *Appendix 5 – Correspondence between commercial codes and industrial codes relating to the BS* which gives the connection between industrial and commercial codes.

3.3 Installation of outdoor equipment

Considerations

- Outdoor equipment installation involves:
  - installation of the mechanical system (also called "pole mounting" system) which supports the RBS and facilitates antenna alignment,
  - installation of the RBS assembly and its antenna,
  - installation of the connection cable connecting the RBS to the DBS rack.
- Outdoor equipment installation should guarantee a precise and fixed antenna pointing.
- The RBS location and its antenna orientation should arise from a planning analysis in order to optimize the sector coverage. These elements must be imperatively known with precision by the installation staff.
- Antenna orientation is carried out according to geometric criterion (using compass and inclinometer).
- All the outdoor equipment assemblies are designed for installation without any particular protection. However, the following recommendations must be respected:
  - make sure that the reception metallic structure has a perfect stability,
  - do not install the equipment below bird nesting areas,
  - do not attach the equipment to chimneys which give off fat deposits, dust and other aerosols which are liable to be deposited on the equipment,
  - do not install the equipment in proximity to sources of heat,
  - do not place the equipment in proximity to corrosive gas outputs,
  - do not place the equipment below roof run-offs not equipped with guttering (high risk of microwave short-circuit),
  - do not attach the equipment to a structure prone to vibrations,
  - do not cross the antenna field.
- Two types of installation are possible:

1. installation on a tube or pole, using threaded U-bolts and nuts.

Note: *the tube selected should be sufficiently rigid to resist vibrations that may give rise to antenna misalignment.*

2. wall mounting: direct or with mounting plate: see *Figure 63 – Direct wall mounting and Figure 64 – Wall mounting option with mounting plate 9900UXI101* in Appendix A.7.

3.3.1 Definition of assemblies

The 7390BS outdoor equipment includes:

- the mechanical mounting and alignment (pole mounting) system,
- the transceiver,
- the sectored antenna.

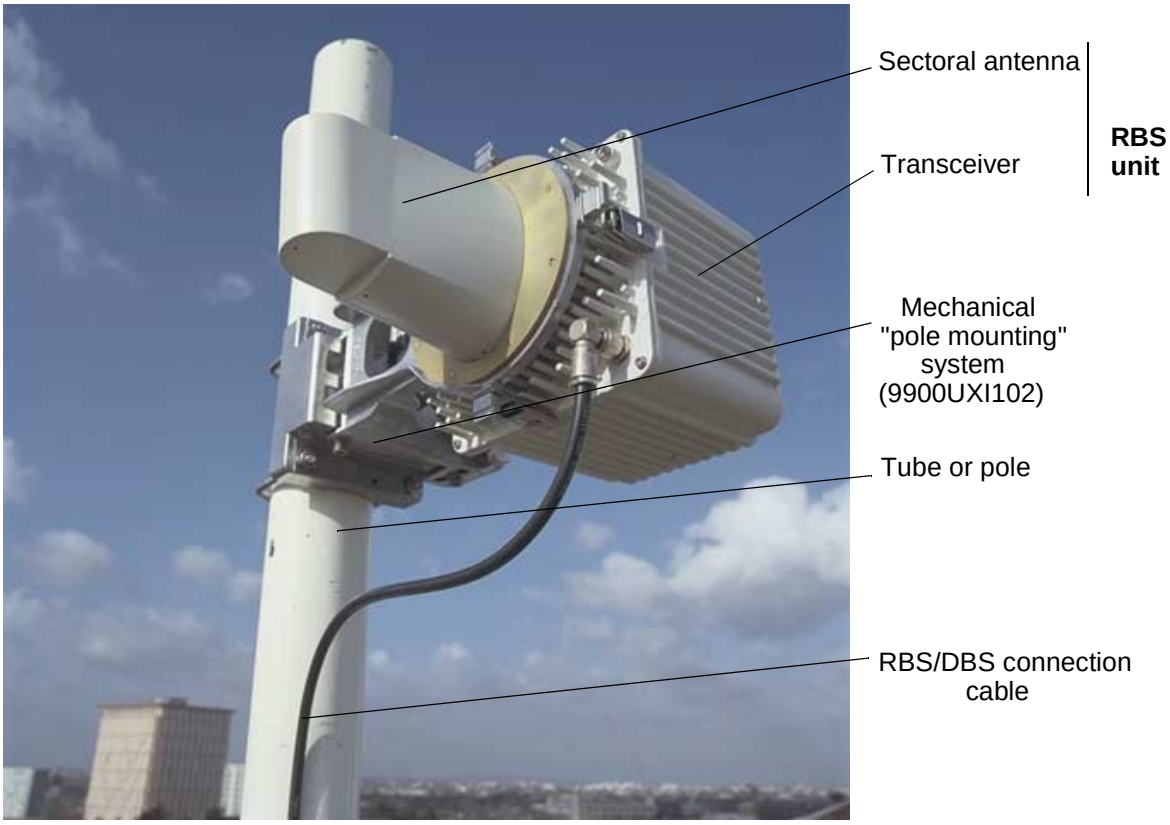


Figure 11 – Definition of 7390BS outdoor equipment

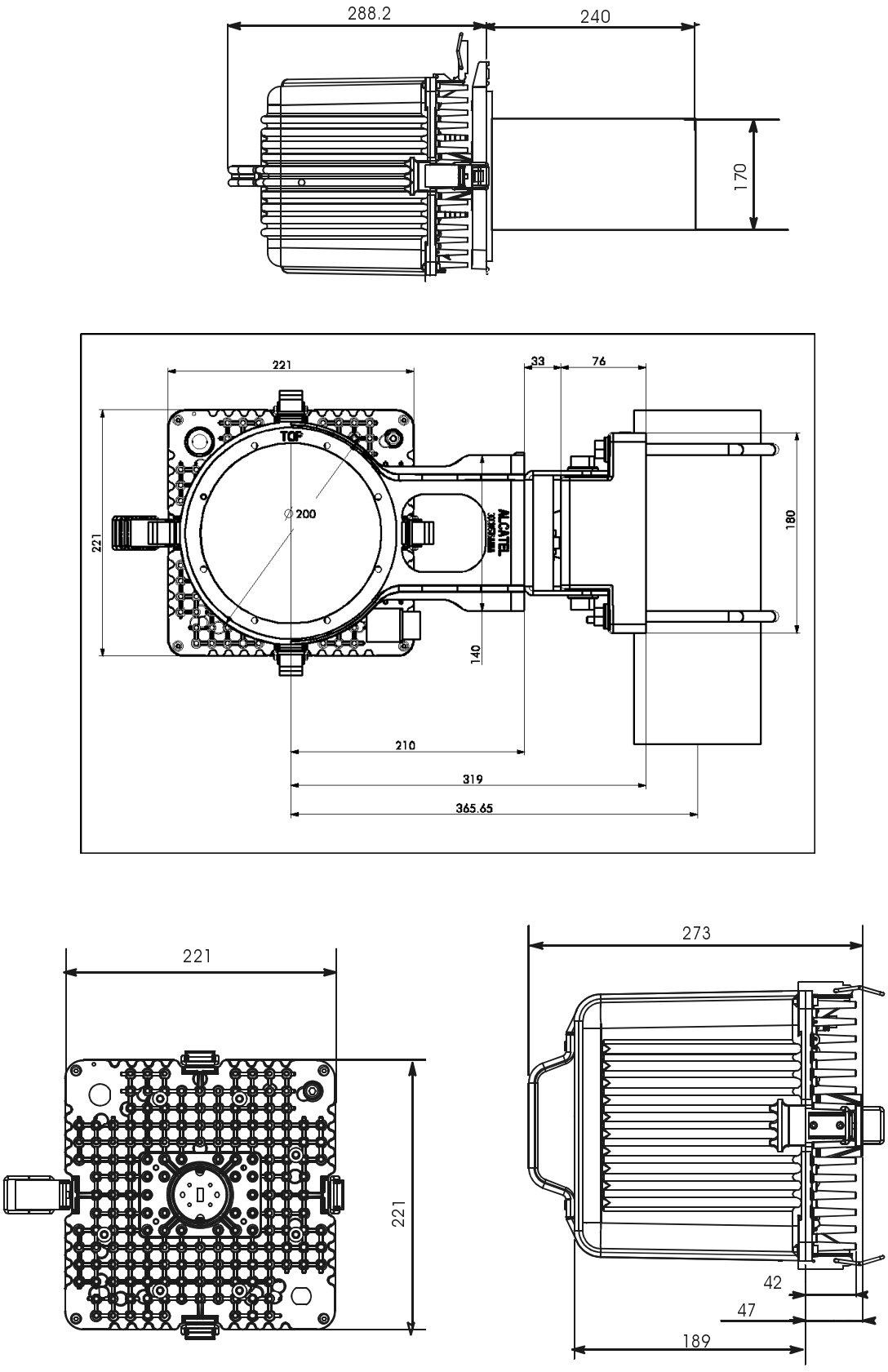


Figure 12 – Dimensions of the RBS cube unit