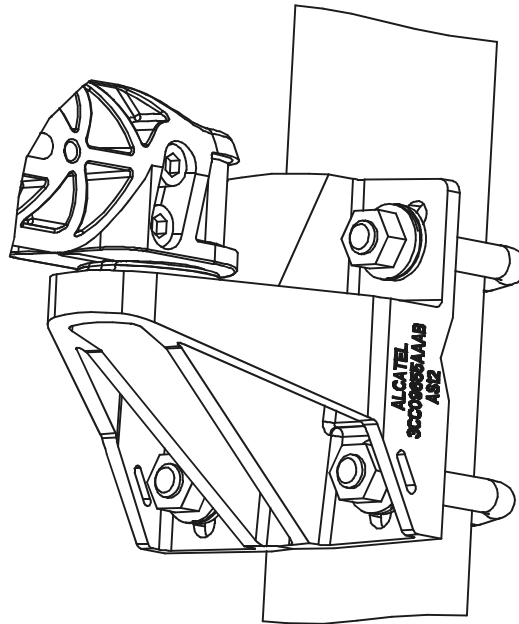


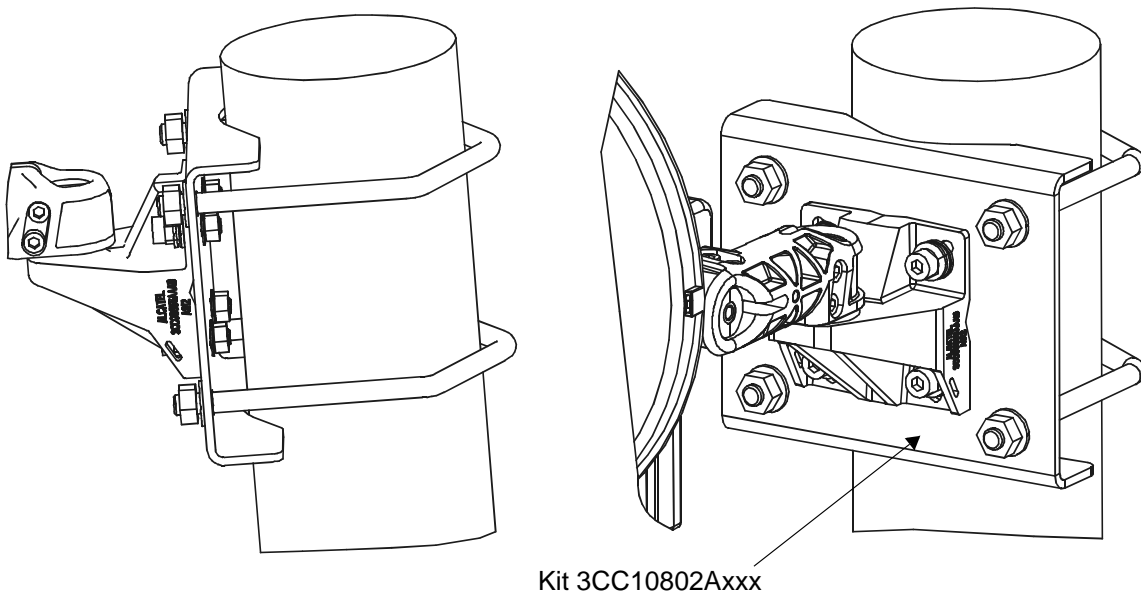
**3.4.3.1 Installing the RT unit on an existing tube, 76 mm in diameter**



**Figure 17 – Installing the RT unit on an existing tube, 76 mm in diameter**

**3.4.3.2 Installing the RT unit on an existing tube, 76 to 114 mm in diameter**

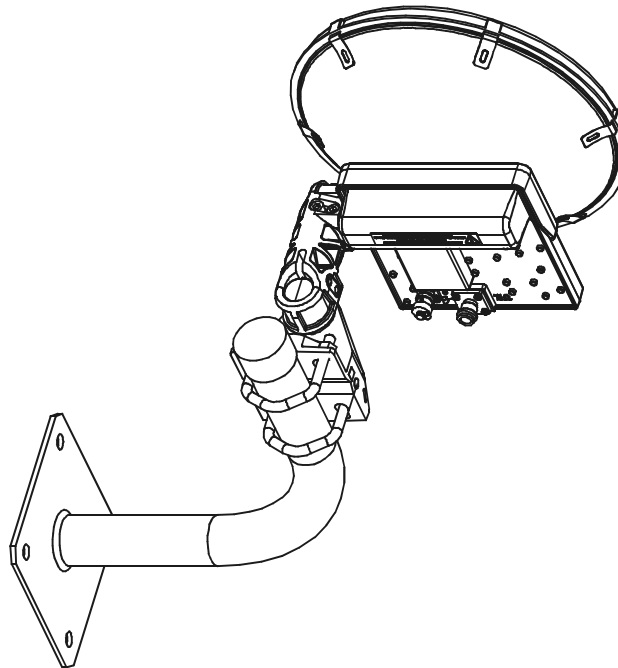
Use the 3CC10802 Axxx kit.



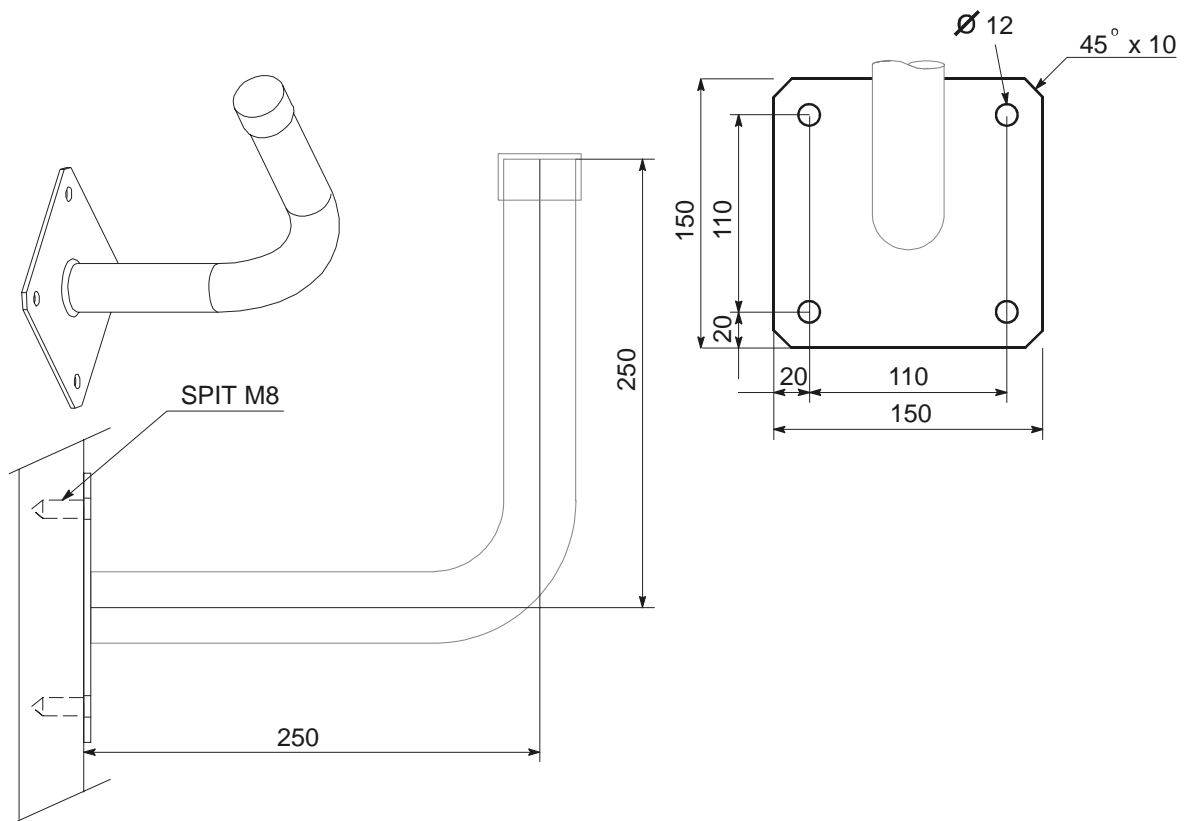
**Figure 18 – Installing the RT on a tube, 76 to 114 mm in diameter**

**3.4.3.3 Front installation of the RT unit**

Use a support in accordance with our 3CC11132Axxx model.



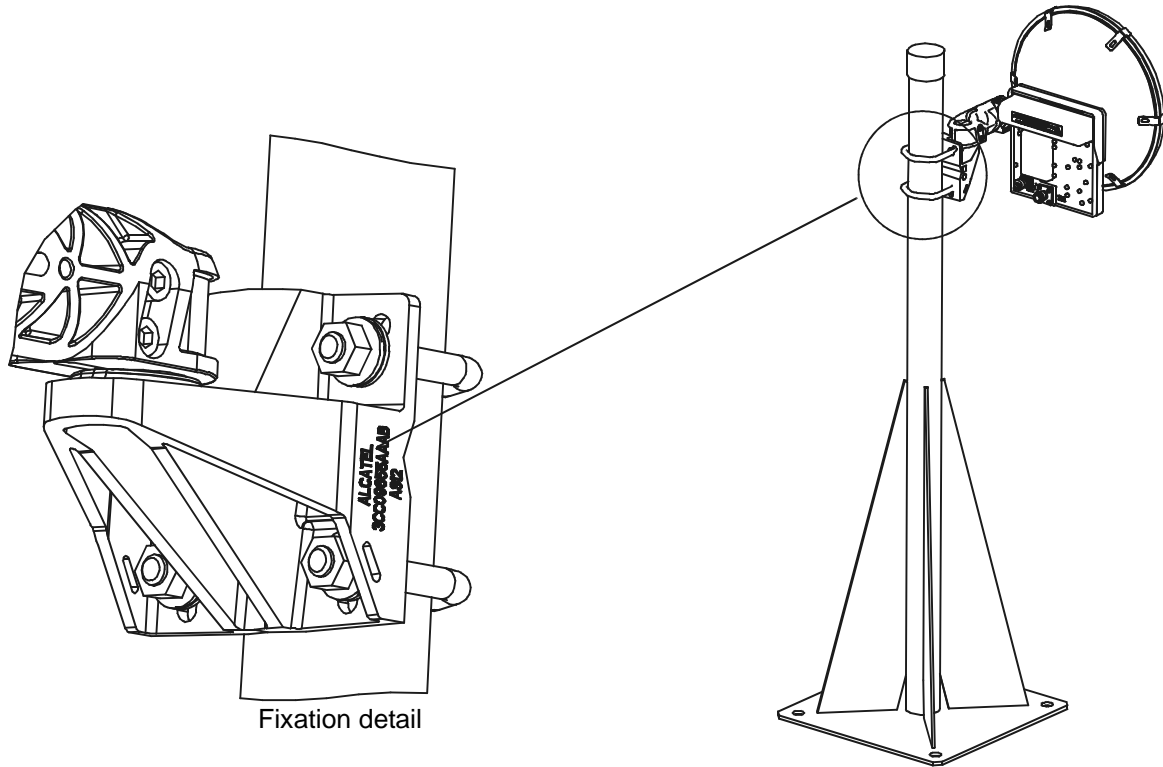
**Figure 19 – Topview of RT front installation**



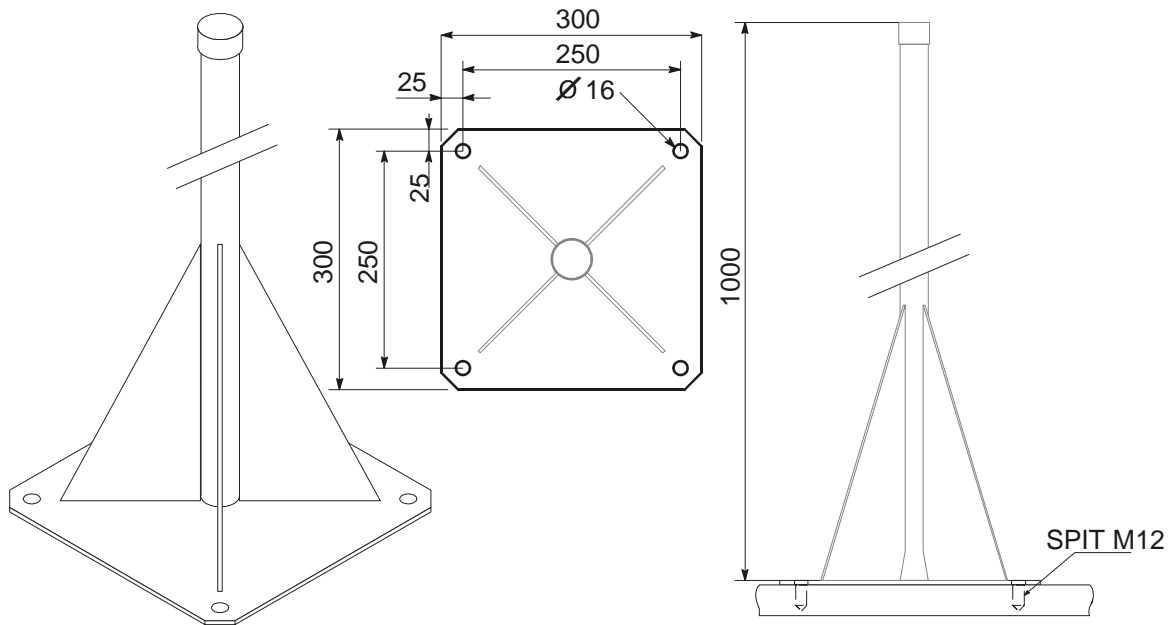
**Figure 20 – Quotation of the RT in frontage**

**3.4.3.4 Rooftop mounting of the RT unit (raised), 1 meter mast**

Use a support in accordance with our 3CC11133Axxx model.



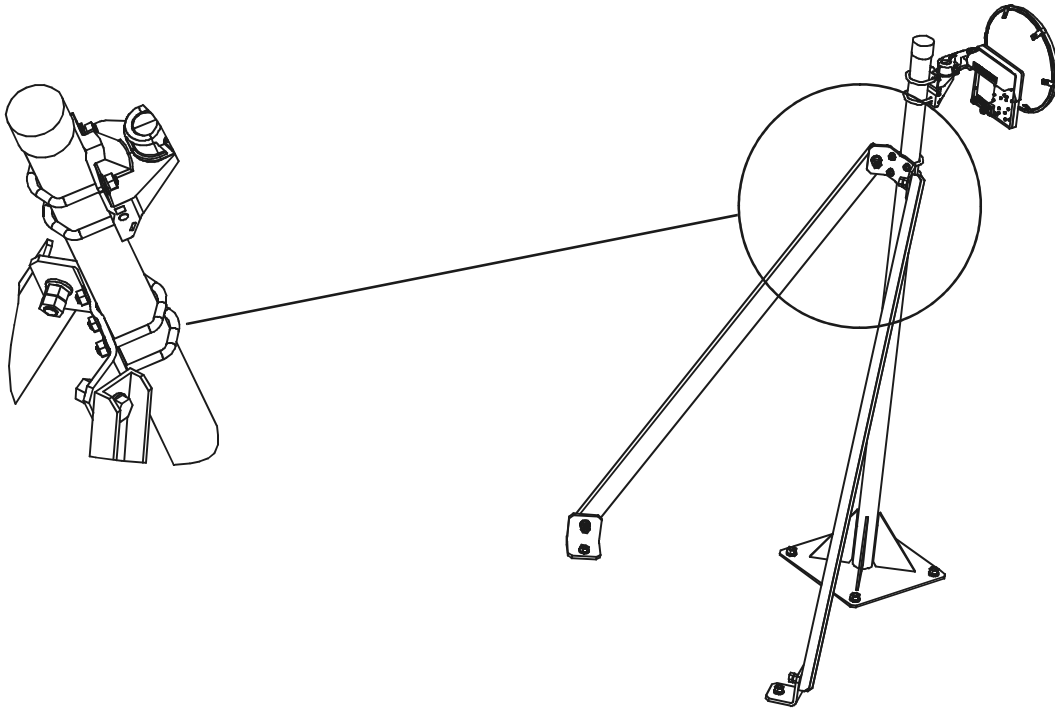
**Figure 21 – Rooftop mounting of the RT unit (raised), 1 meter mast**



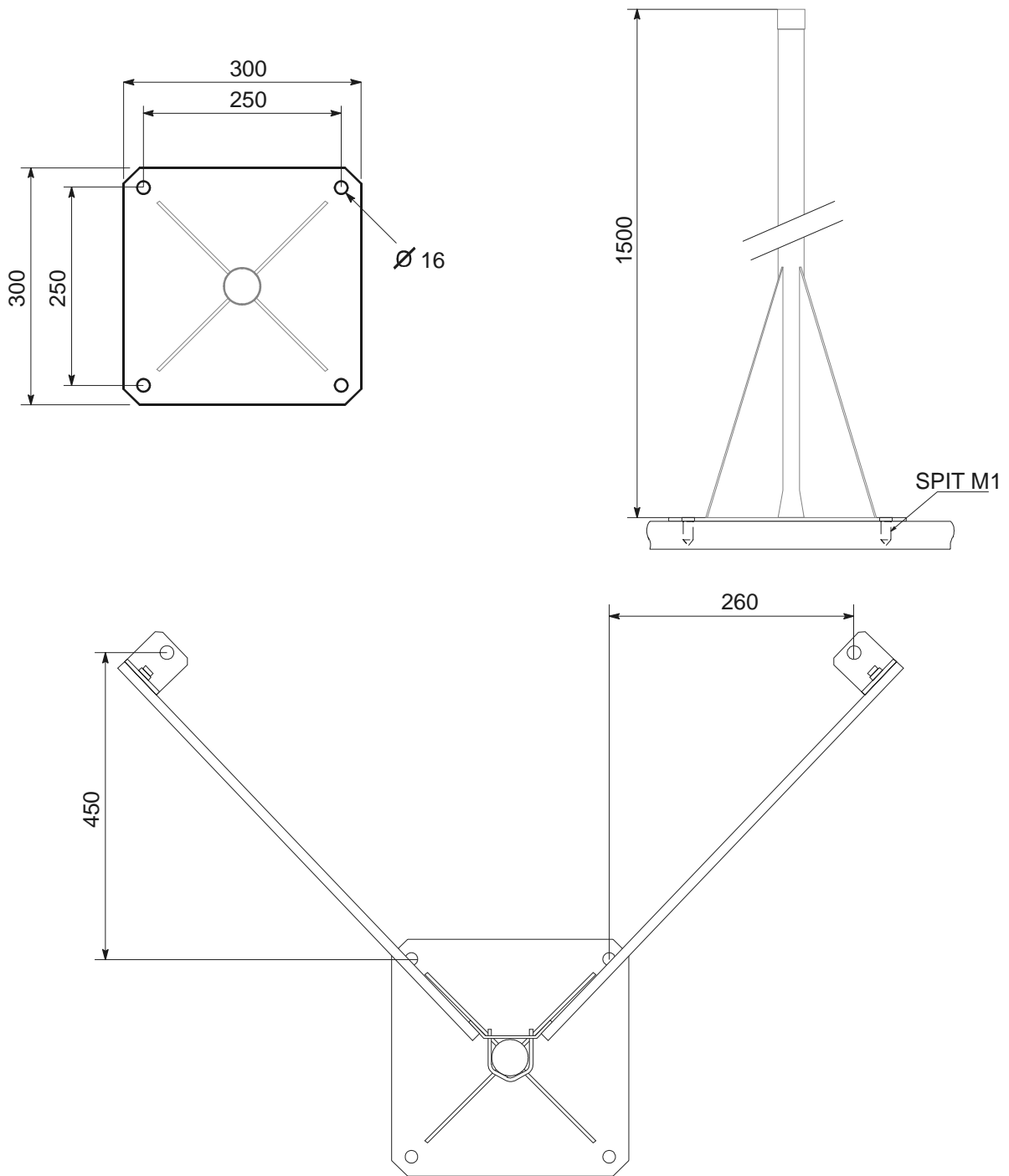
**Figure 22 – Quotation of the rooftop mounting of the RT unit, 1 meter mast**

**3.4.3.5 Rooftop mounting of the RT unit (raised), 1.5 meter mast**

Use a support in accordance with our 3CC11134Axxx model.



**Figure 23 – Rooftop mounting of the RT unit (raised), 1.5 meter mast**



**Figure 24 – Quotation of the rooftop mounting of the RT unit, 1.5 meter mast**

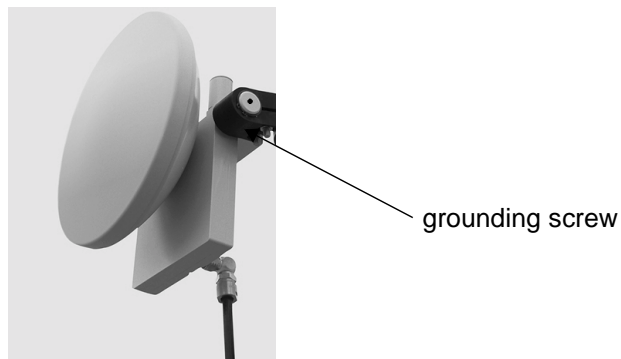
### 3.4.4 Grounding the RT unit

#### Considerations

- It is not necessary to establish special grounding connection for the RT casing. However the RT unit can be grounded.
- On the RT unit, the ground terminal is in the form of a tapped hole (see *Figure 25 – Grounding the RT unit*) on the attachment axis of the pole mounting.
- The RT unit can be grounded using the grounding lug and screw hardware supplied with the equipment.

#### Steps

1. Crimp a lug (ref.: 16-6 CT) on to the grounding cable (16 mm 2 minimum cross-section).
2. Screw the cable lug into the tapped hole. Use an M6 screw and ondudflex washers.



**Figure 25 – Grounding the RT unit**

**Note:** Position of the grounding screw may differ according to mechanical variants being either close to the 75 ohm connector or on the side as shown here.

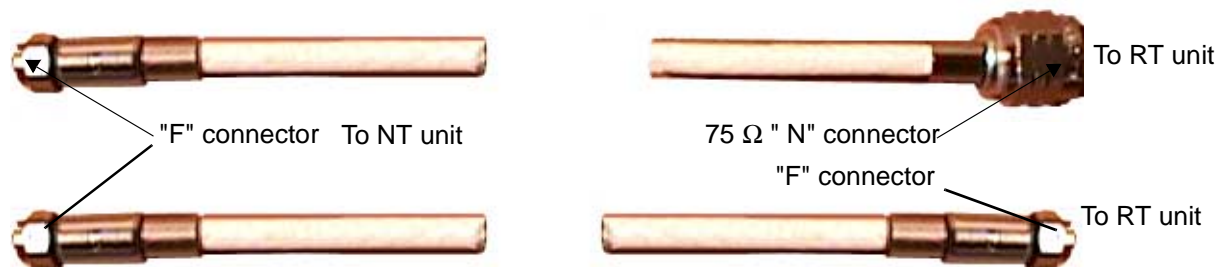
### 3.5 Installation of the Terminal Station RT unit with a non integrated antenna

See Appendix 6 – Installation of the Terminal Station RT unit with a non integrated antenna.

### 3.6 Installation of the RT/NT link

#### Considerations

- The electrical connection between the RT unit and the NT unit of the Terminal Station is made using a type ET 2PA 981 **75 ohm coaxial cable** equipped with "F" connectors (at the NT side end) and "N" connectors (at the RT side end).
- If a single cable (70 meters without connectors) does not cover the distance between the RT unit and the NT unit, up to two **repeaters** must be used. For the possible configurations and installation of a repeater, see § 3.8 .
- If the RT unit is connected to **several NTs** of the Terminal Station, use several **splitters**. For the possible configurations, and installation of a splitter, see § 3.9 *Installation of one or several repeaters with splitter(s)*.
- The length of the cable used must be noted. In order to facilitate this measurement, refer to the markings printed every meter, on the outer sheath of the cables. To know the length of cable installed, subtract the number at one end from the number at the other end of the cable used. Note the result at the NT side end.
- You are recommended to secure the coaxial cable every meter with a cable tie. Use collars fitted to the support used for the path.



**Figure 26 – Coaxial cable**

- Physical cable characteristics are:
  - diameter = 7.5 mm,
  - maximum installed cable length = 210 meters,
  - minimal bend radius = 40 mm or 100 mm for a "drip of water".

#### Steps

1. Carry out the 75 ohm connector between the RT unit and the NT unit.

**Note:** In the event of the use of repeaters and/or splitters, use the number of cables required by the configuration. Refer to § and § 3.9 *Installation of one or several repeaters with splitter(s)*.

**Note:** Make a drip groove where the cable enters the building, respecting the cable's bending radius (100 mm minimum), in order to prevent water infiltration.

	<b>AVOID A TOO LONG PARALLEL WALK BETWEEN THE RT/NT COAXIAL LINK AND ELEC-TRICAL CABLES, OR GSM/DCS BASE STATION CABLES</b>
--	---

- Note the length of the cable installed in the 7390 RT/NT cabling sheet (*Appendix 1 – 7390 TS installation sheet*). This information will be entered into the database when the equipment is commissioned using the configuration software.

**Note:** The accuracy required by the configuration software is  $\pm 1.5$  m.

- At the RT unit side end, equip the cable with a type "N" 75 ohm coaxial connector if RT «N» and «F» with RT «F», supplied with the equipment. For attaching the coaxial terminals, refer to the manufacturer's Assembly manual and use the specific tools as recommended. One of the main causes of installation problems is the faulty mounting of connectors.

	<b>NEVER USE 50 OHM CONNECTORS, AT THE RISK OF DESTROYING THE RADIO UNIT, USE ONLY THE N 75 CONNECTOR SUPPLIED IN THE RT BOX (FOR RT «N»)</b>
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	<b>IMPORTANT NOTE: NEVER HANDLE THE RT UNIT BY ITS ANTENNA BUT BY THE BODY OF THE RADIO OR THE SUPPORT ARM</b>
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	<b>IMPERATIVE : PROTECT THE "N" CONNECTOR OR «F» CONNECTOR CONNECTION WITH A PRE-PASTED THERMOSHRINKABLE SLEEVE</b>
---	---




70

Thermoshrink a pre-pasted sleeve on the connector/terminal/cable assembly 70 mm along. (80 mm minimum long before thermoshrink).

The sleeve end should stop at the terminal base.

**Figure 27 – Connecting the "N" connector with the thermoshrinkable sleeve**

- Attach the cable to the RT unit using a cable tie.

	<b>THE COAXIAL CABLE SHOULD NEVER BE TOO TIGHT BETWEEN THE RT AND ITS MOUNTING. ADJUST THE POSITION OF THE MOUNTING AND THE LENGHT OF THE CABLE TO SUIT, OTHERWISE THERE IS A MAJOR RISK OF ANTENNA MISALIGNMENT OR CABLE DAMAGE AT THE CONNECTOR. ON THE OTHER HAND, TOO SLACK A CONNECTION CAN HAVE THE SAME CONSEQUENCES UNDER THE EFFECT TO THE WIND</b>
---	--

**Note:** No overtighten the cable tie on the cable; this could cause deformation of the dielectric and subsequent loss of performance.

- Run the cable to the NT unit and equip it with a type "F" 75 ohm coaxial connector, supplied with the equipment.



## 3.7 Installation of the Terminal Station 7390 NT (Indoor Unit)



### Considerations

- The NT units are intended for indoor installation only.
- The NT should be positioned in accordance with the needs of the user and the technical constraints (e.g., minimum distances to be respected, topology of the connections, accessibility of the RT/NT link, power supply).
- Always place the NT nit in a dry, dust-free environment, away from any major source of heat ( $-5^{\circ}\text{C} < T < +55^{\circ}\text{C}$ ).
- Always place the NCAxxx NT unit near a rated power source: 85-264 VAC , 47-63 Hz with ground connection.

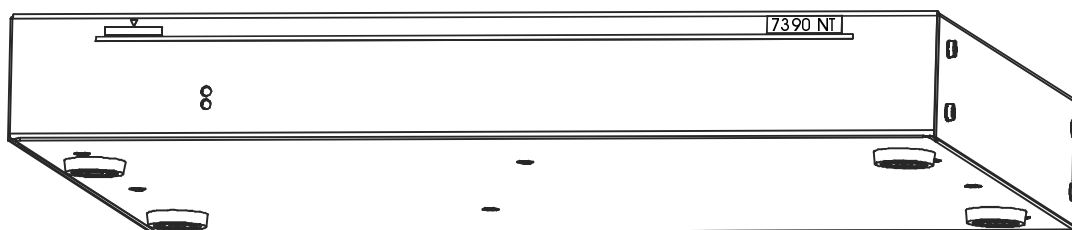
**Note:** Use grounded power connections only. Avoid the use of extension cables.

- The NT **to sector** connection must be done last, during commissioning (see *Chapter 4 Commissioning the 7390 TS Terminal Station*), TS installation, included all other connections, being completed.
- Do not install the NT too close to the ground (keep at a distance from dust and floor cleaning products).
- Do not install on premises containing corrosive materials.

### 3.7.1 Installation of the 7390NT unit on a desktop

#### Steps

1. After unpacking the unit, fit it with its four feet, clipping them on to the bottom of the unit.
2. Connect the NT unit to the Terminal Station RT ("F" connector).

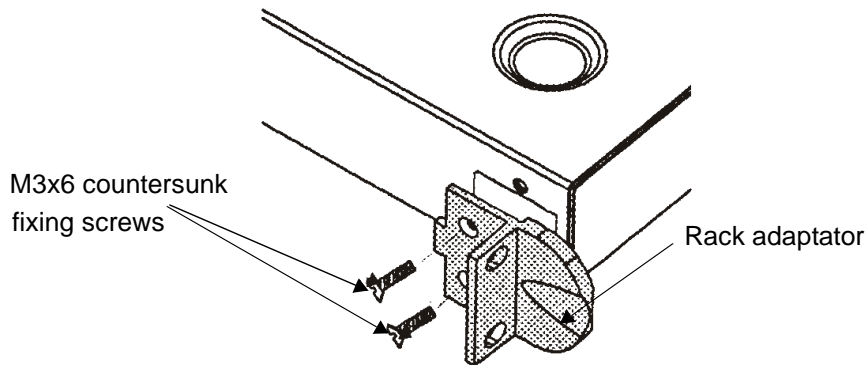


**Figure 28 – Mounting the feet**

### 3.7.2 Installation of the NT unit on a 19" rack

#### Steps

1. Fit the rack adaptators on the NT unit (see *Figure 29 – Fitting the NT unit rack adaptators*).
2. Install the unit in the 19" (or other type) rack (screw fittings not included, depending on the manufacturer).
3. Connect the NT to the RT ("F" connector).



**Figure 29 – Fitting the NT unit rack adaptators**

	<p><b>A SPACE OF AT LEAST 1U MUST BE LEFT FREE ABOVE THE ASSEMBLY</b></p>
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### 3.7.3 Earthing the NT units

#### Considerations

- NT casing must imperatively be connected to the main earth with a cable 16 mm<sup>2</sup> minimal cross-section whose length must not exceed 2.40 m. The grounding terminal is on the right of the NT unit (connections side) and is in the form of a tapped hole (see *Figure 30 – Earthing the (NCAxxx) NT unit*).
- The earth connection should be made as directly as possible between the unit and the general earthing system of the side (bar, rod, plate, etc.).
- The grounding of the NCAxxx NT units is through the 220V main connector; for the NGAxxx units, only one earthing point is necessary, after the earthing of all the NT units.

#### Steps

1. Crimp a lug (ref.: 16-6 CT) on to the earthing cable (16 mm<sup>2</sup> cross-section).
2. Screw the cable lug into the terminal designed for this purpose. Use an M6 screw.



**Figure 30 – Earthing the (NCAxxx) NT unit**



*Figure 31 – Earthing the (NCAxxx) NT Lite unit*

### 3.8 Installation of one or more repeater modules

#### Considerations

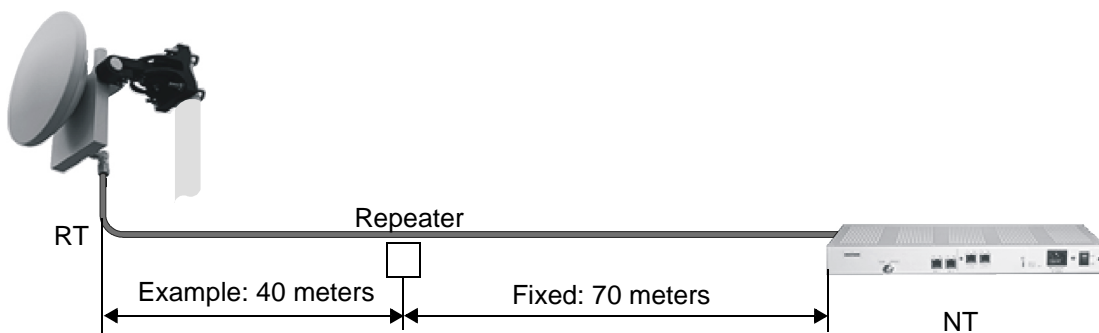
- In the case of a coaxial cable to cover a distance greater than 70 meters between the 7390 RT and the 7390 NT, a **repeater** module is required to compensate losses.
- Repeaters are installed indoors only, sheltered from dust and heat.
- The repeater must be installed in series on the RT/NT connection (coaxial cable).
- Respect the installation orientation of the repeaters, paying attention to the reference marks on the casing.
- The repeater needs no setting. It has no individual power supply: the repeater automatically takes its power from the supply passing through the RT/NT connection.
- The repeater is a fixed gain bi-directional amplifier. This means that the installation instructions and methodology described below **MUST** be respected.

#### Repeater installation instructions

- Between repeater and RT unit, the length of the connection (coaxial cable) is variable: from 0 to 70 meters.
- Between repeater and NT unit, the length of the connection (coaxial cable) is always fixed: 70 meters.
- Between two repeaters, the length of the connection (coaxial cable) is always fixed: 70 meters.
- The system supports a **maximum of 2 repeaters** per route. **Route** means the path between an NT unit and the RT unit.

**First example:** length of coaxial cable **less than 140 m** (here, 110 m).

A **single** repeater is used.



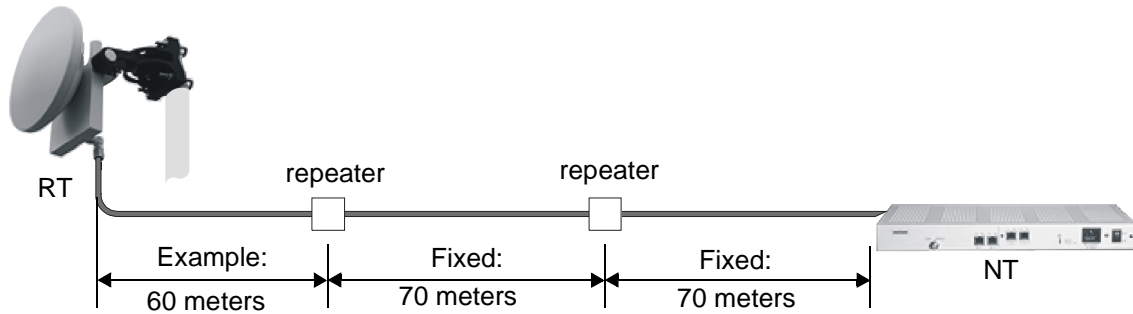
*Figure 32 – Installation with one repeater*

The variable length ( $\leq 70$  m), is always situated between repeater and RT unit.

The fixed length, 70 m, is always situated between repeater and NT unit.

**Second example:** length of coaxial cable **less than 210 m** but **greater than 140 m** (here, 200 m).

**Two** repeaters are used.



**Figure 33 – Installation with two repeaters**

### Methodology

1. Select the installation location with respect to the location of the NT unit.
2. Install and secure the repeater.
3. Wire the repeater to the NT unit and to the RT unit, respecting the instructions contained in the installation principles above.
4. Note the real length of the cables installed. The length of each should be  $\leq 70$  m. This information will be entered in the database when the equipment is commissioned, using the configuration software.

**Note:** The accuracy required by the configuration software is  $\pm 1.5$  m.

5. If the last 70 meter section must be coiled, respect a minimum bending radius of 200 mm.

	<b>IN ALL CASES, CUMULATED CABLE LENGTH MUST NOT EXCEED 210 METERS</b>
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	<b>Remind: TWO REPEATERS MAXIMUM PER ROUTE CAN BE SUPPORTED</b>
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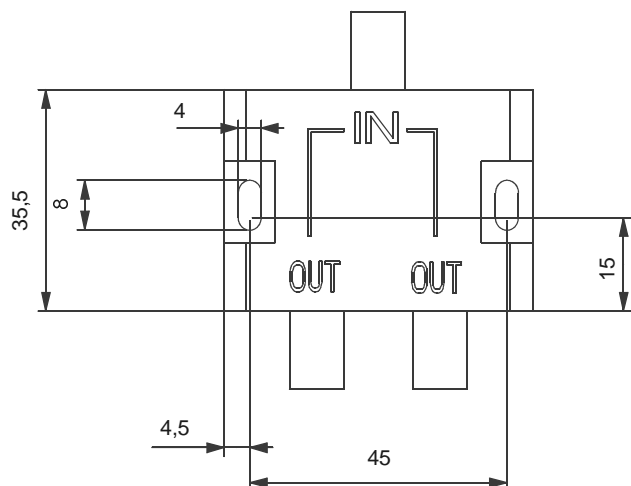
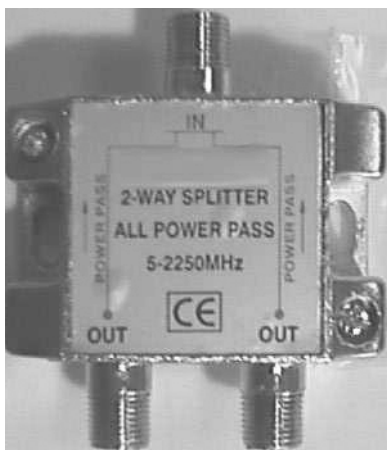
### 3.9 Installation of one or several repeaters with splitter(s)

#### Considerations

- Where there are several NT units for a single RT unit, one or several splitter(s) need(s) to be used.
- For a single RT unit it is possible to mount up to **8 NT** units.
- The splitter is installed in series on the RT/NT connection (coaxial cable).
- The splitter has no individual power supply: it feeds the power through from the NT to the RT.
- Respect the installation orientation of the repeaters and splitters, paying attention to the reference marks on the casing.
- The length of the cable used must be noted. In order to facilitate this measurement, refer to the markings printed every meter, on the outer sheath of the cables. To know the length of cable installed, subtract the number at one end from the number at the other end of the cable used.

#### 3.9.1 Installation directions for an assembly with 2 NT units

- The system supports a **maximum of 2 repeaters and 1 passive splitter** per route. **Route** means the path between an NT unit and the RT unit.
- The variable distance between an RT and a repeater is from 0 to 70 meters.
- The fixed distance between two repeaters is 70 meters.
- The fixed distance between a repeater and an NT is 70 meters.
- The fixed distance between two repeaters encompassing a passive splitter is 50 meters.
- The fixed distance between a repeater and an NT, and encompassing a splitter, is 50 meters.
- If a fixed length section must be coiled, respect a minimum bending radius of 200 mm.



**Figure 34 – Passive splitter**

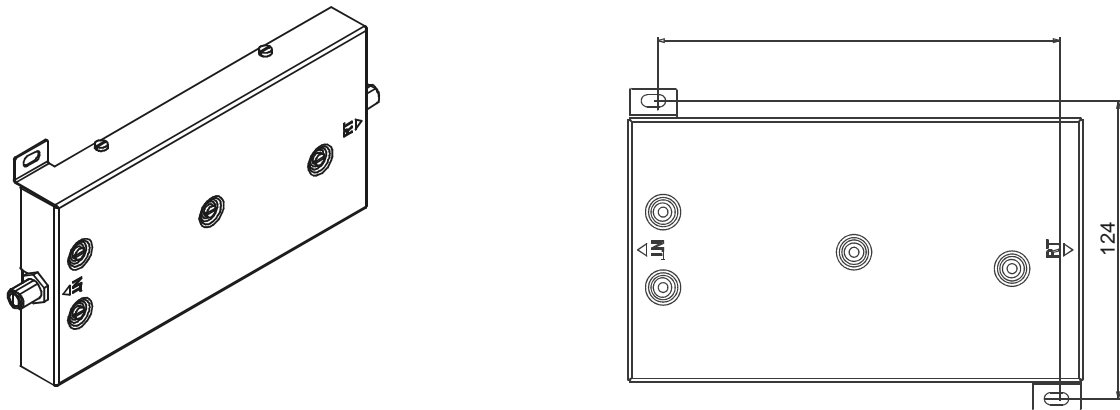


Figure 35 – Repeater

**Example of assembly**

This example is well suited to the distribution of NTs on the same floor of a building.

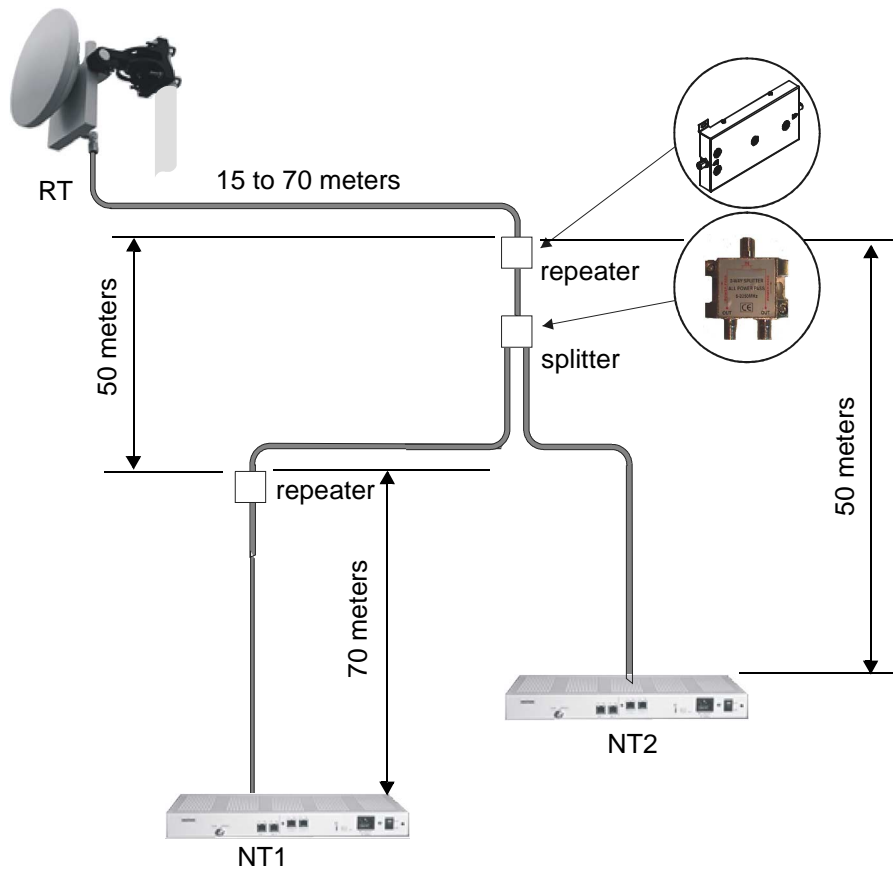


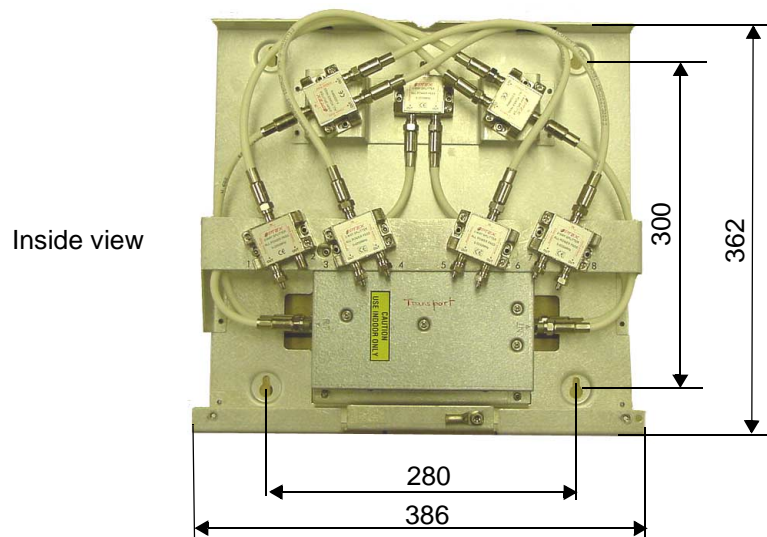
Figure 36 – 2 NT unit assembly

### 3.9.2 Installation directions for an assembly with 4 NT or 8 NT units (\*)

- The active splitter comprises **2 repeaters** and **7 passive splitters**, see *Figure 37 – 8 NT assembly with active splitter\** and *Figure 38 – "4 NT" assembly with active splitter*.
- This set of components is located in a casing (if necessary, the active splitter may be assembled on-site via field cabling by the installer).
- The cables between the passive splitter and the other components must then be less than 30 cm. long.
- The variable distance between a RT and an active splitter is from **20 to 50 m** for a **standard** cable or from **70 to 140 m** for a **low-loss** cable.
- The fixed distance between an active splitter and an NT is 24 m for a standard cable.
- The fixed distance around a repeater from an active splitter to an NT is 94 m for a standard cable.
- For each access not used by an NT, add a 75 Ohm load.

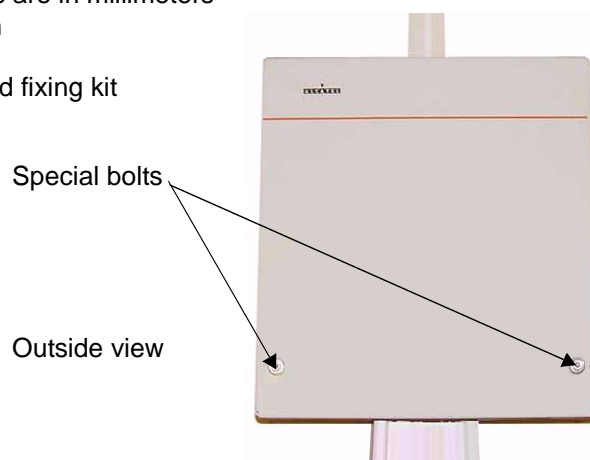
#### Example of assembly with active splitter:

**Note:** The active splitter unit is locked by two special bolts. Use the tool splitter 8V Torx T15 to unlock it.



The dimensions are in millimeters  
Height : 96 mm

Use the included fixing kit



**Figure 37 – 8 NT assembly with active splitter\***