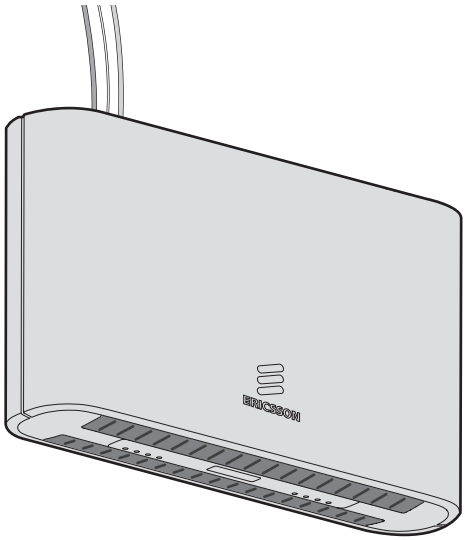
ERICSSON

Install RBS

RBS 6402

INSTALLATION



56/1531-LZA 701 6001 Uen D

Contents

1 Prerequisites

This section contains information on the documents, tools, and equipment required for installing RBS 6402.

1.1 Documentation

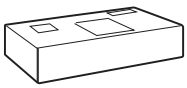
Read the following documents:

- *Personal Health and Safety Information*
- *System Safety Information*
- *Transportation and Storage*
- *Integrating RBSs On-Site Using ENIS*
- *Handling SFP Modules and Optical Cables*
- *SFP Module Selector Guide*

1.2 Tools and Equipment

The following tools and equipment are required:

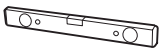
Required Equipment



Contents:
- RBS
- Drilling template
- Mounting bracket

RBS package

Android™ phone with Ericsson Node Integration Scanner (ENIS) application

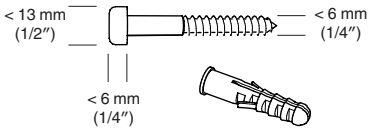


Spirit level

Required Equipment

Hammer drill

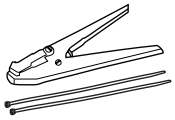
Hammer drill bit for plugs suitable for ≤ 6 mm screws



3 screws with plugs and screwdriver

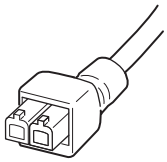
Screwdriver TORX® T20

Data cable, optical or Ethernet

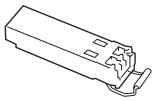


Cable tie tensioner and cable ties

Optional Equipment

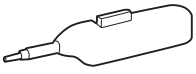


Power cable



Small Form-Factor Pluggable (SFP) module

Global Positioning System (GPS) cable



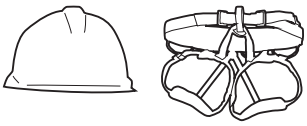
Ferrule end-face cleaner — for optical cables

Safety Equipment

Hearing protection

Eye protection

Optional Safety Equipment

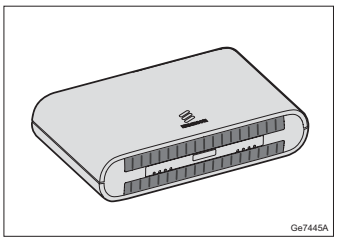


Helmet and harness — when working at heights

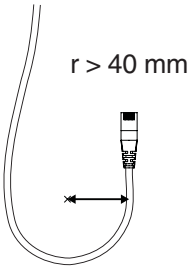
ESD Protective Gloves — for external antenna installation

2 Install RBS

Note



Always rest the RBS on a flat, nonabrasive surface.



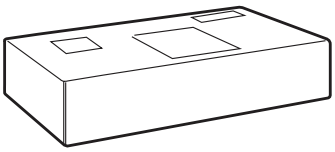
The minimum bending radius for optical cables is 40 mm.

Danger!

Never look directly into the end of a fiber optic cable or other laser source. Equipment that transmits laser light can cause permanent eye damage. Switch off the laser before starting work on laser equipment.

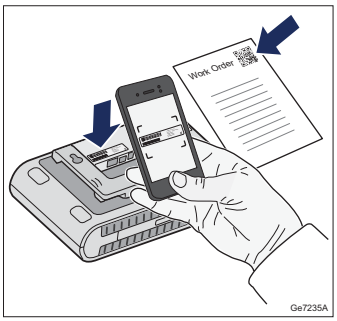
1. Unpack

Check that the delivered items correspond to the packaging list.

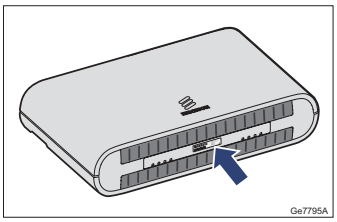


Examine the box and the RBS for damage. For more information, refer to *Handling Faulty Equipment*.

2. Scan Barcode

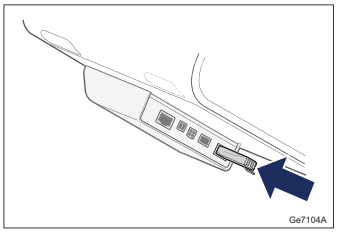


To prepare the RBS for autointegration, scan the barcode on the back of the RBS and the QR-code on the work order, using the ENIS Android application. Use ENIS to send the retrieved serial number and node logical name to the Operations Support System for Radio and Core (OSS-RC). For more information, refer to *Integrating RBSs On-Site Using ENIS*.



The barcode is also visible on the bottom of the RBS.

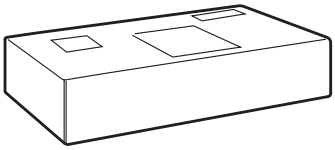
3. Install SFP Module



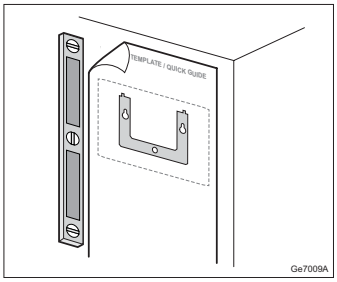
If applicable, insert the SFP module in the port marked WAN B.

For more information about handling SFP modules, refer to *Handling SFP Modules and Optical Cables* and *SFP Module Selector Guide*.

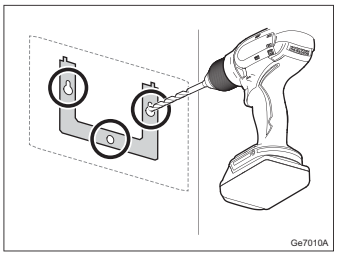
4. Install Mounting Bracket and Prepare Cables



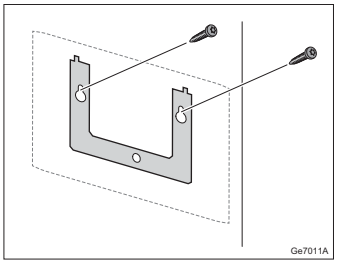
Protect the RBS and cables from dust by keeping them in the box when drilling.



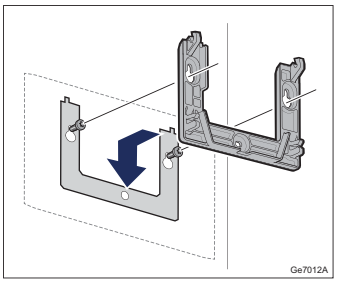
Put the drilling template on the wall and ensure that it is straight by using a spirit level. Make sure that the entire drilling template fits on the wall without it folding around any corners. Use the double-sided tape at the corners of the template to attach it to the wall.



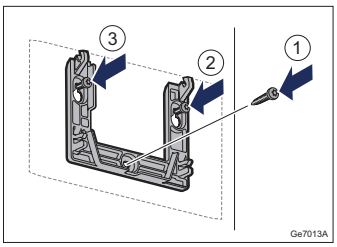
If applicable, drill the three holes marked on the drilling template.



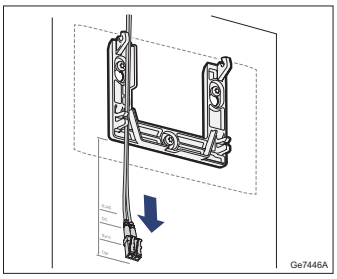
Attach the two upper screws in positions to hang the mounting bracket.



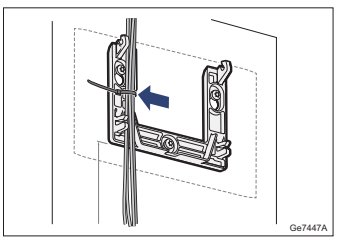
Hang the mounting bracket on the two upper screws.



Attach the third screw and tighten all the screws using a screwdriver.

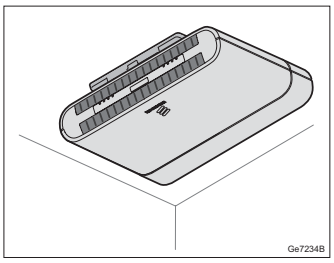


Prepare the cables so that they are at the correct length (as indicated on the drilling template).



Route all cables through the cable holders on the left-hand side of the RBS. Secure the cables with cable ties as indicated in the figure.

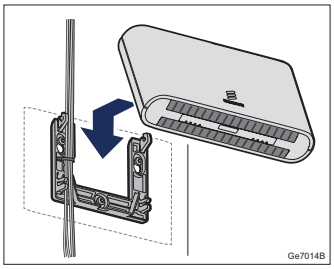
Note



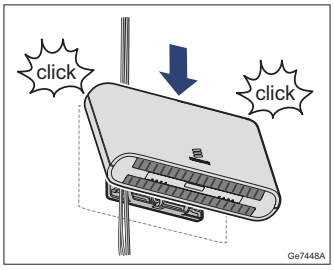
The RBS can be installed horizontally on ceilings, see Appendix A for more information.

The RBS can optionally be installed with the external antenna adapter, see Appendix C for more information.

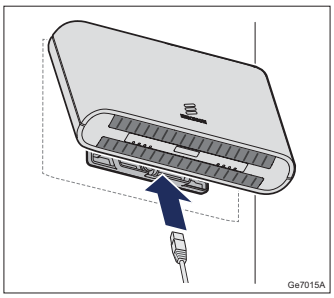
5. Attach RBS to Bracket and Connect Cables



Hang the RBS on the mounting bracket hooks.



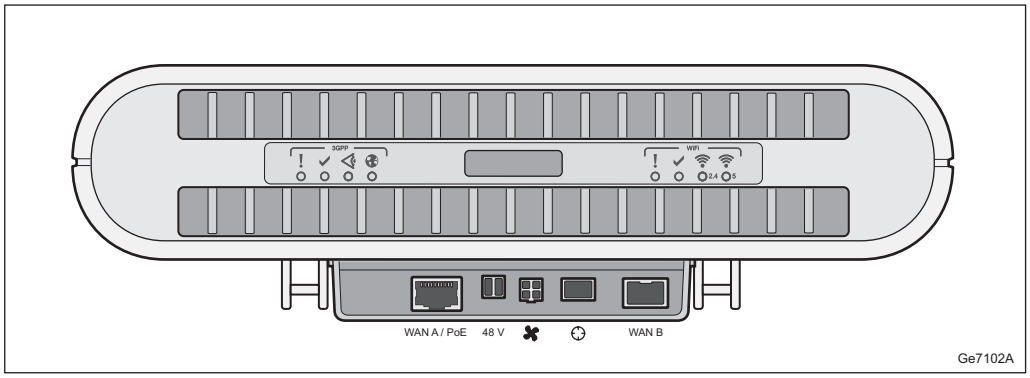
Press down gently so that the RBS locks onto the hooks.



Connect the cables.

Note that there are two options for powering the RBS and they determine the order of the cabling, as follows:

- Power over Ethernet (PoE), with a PoE Ethernet Switch or a PoE Injector to the RJ-45 connector
- AC/DC power converter (48 V DC to the DC input connector)



When using PoE with a PoE Ethernet Switch or a PoE Injector to the RJ-45 connector, connect the cables in the following order:

Connect the external antenna cables on the back of the RBS; see step 11 and step 12 in Appendix C for more information.

Connect the GPS Receiver Unit (GRU) cable to the GRU port with the Mini I/O connector. The RBS uses an external GRU module.

Connect the optical cable to the WAN B port.

Connect the RJ-45 cable to the WAN A / PoE port. Only connect the RJ-45 cable when all other cables have been connected.

When using an AC/DC power converter, connect the cables in the following order:

Connect the RJ-45 cable.

Connect the external antenna cables on the back of the RBS; see step 7 in Appendix C for more information.

Connect the GRU cable to the GRU port with the Mini I/O connector.

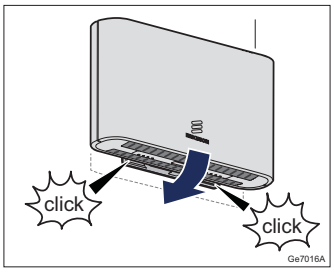
Connect the optical cable to the WAN B port.

Connect the DC power cable of the AC/DC converter to the DC input connector. Only connect the power cable when all other cables have been connected.

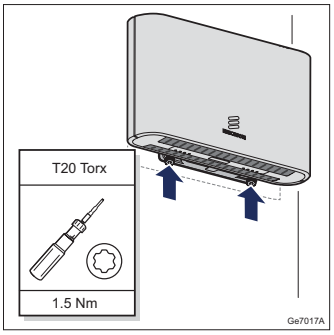
Note

Always clean optical cable connectors before connecting them.

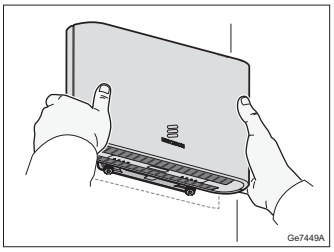
For more information about handling optical cables, refer to *Handling SFP Modules and Optical Cables* and *SFP Module Selector Guide*.



Check that there are no kinks in the cables and that they are placed securely in the cable holder. Attach the RBS to the bracket by gently pushing the bottom of the RBS against the bracket until it clicks.

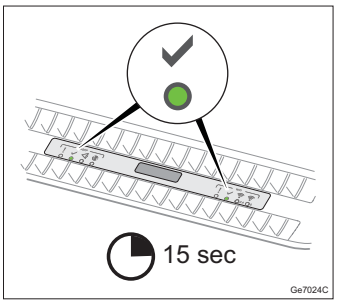


Fasten the RBS to the mounting bracket, by tightening the screws to 1.5 Nm.



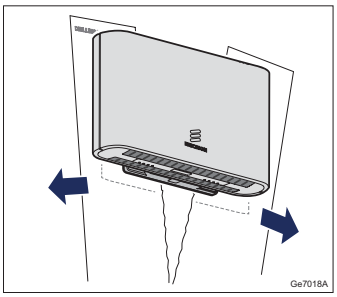
Check that the RBS is securely attached.

6. Verify

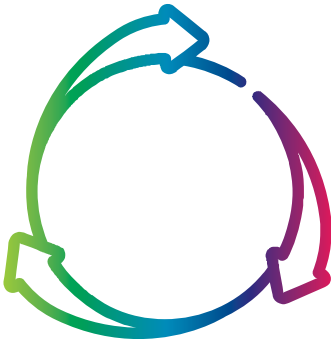


Confirm that the green operational indicator is on and that no alarms are active. A flashing green operational indicator means that the integration is in progress. It takes about 15 seconds after the cables have been connected before the operational indicator starts to flash. If there is an error, redo the autointegration process in step 2. If the error prevails, refer to *Handle Faults On-Site*.

7. Clean Up

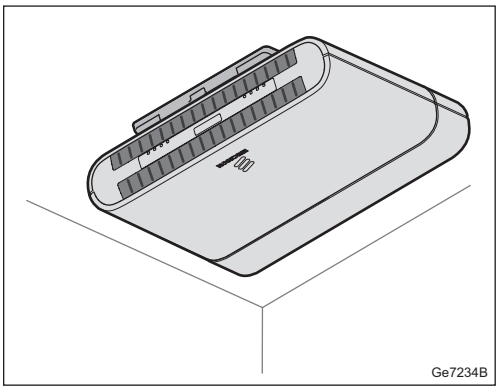


Remove the drilling template.



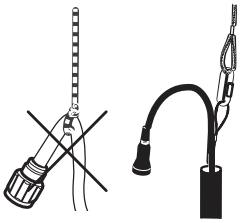
Dispose of waste according to local regulations.

3 Appendix A: Ceiling Installation and Working at Heights



Use appropriate safety equipment, such as helmet and harness.

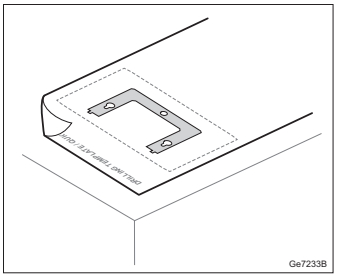
Use eye protection.



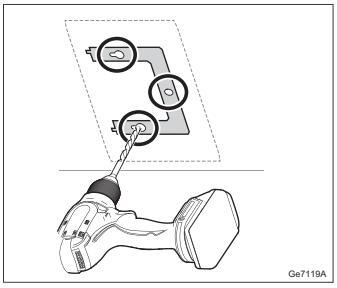
Optical cables are fragile so lift with care. Do not attach a pulling wire directly to the optical cable, rather attach the pulling wire to a loop and use the loop to lift the cable.

Note

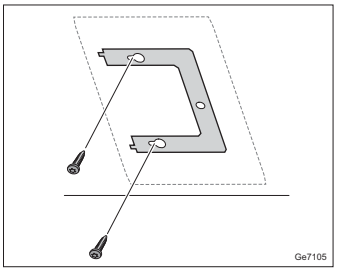
Before installing the RBS on a ceiling, the fan unit must first be installed on the RBS. See Appendix B for more information.



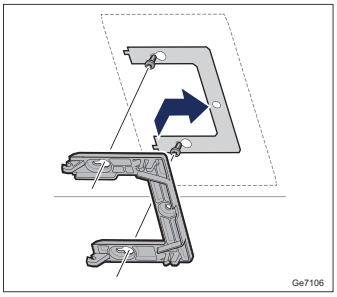
1. Put the drilling template on the ceiling and ensure that it is straight. Make sure that the entire drilling template fits on the ceiling without it folding around any corners.



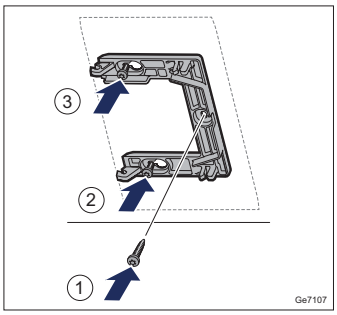
2. If applicable, drill the three holes marked on the drilling template.



3. Attach the two upper screws in positions to hang the mounting bracket.

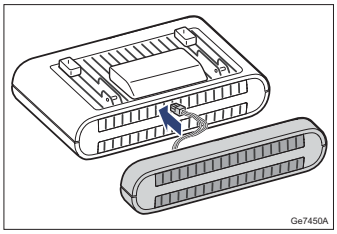


4. Hang the mounting bracket on the two screws.

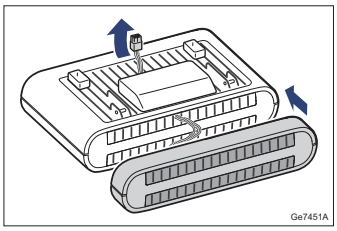


5. Attach the third screw and tighten all the screws using a screwdriver.

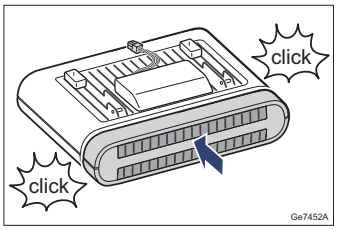
4 Appendix B: Install Fan Unit



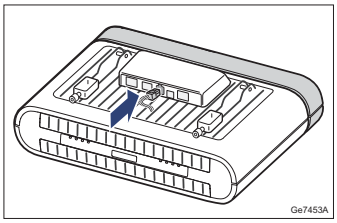
1. Insert the fan cable through one of the grids on the top of the RBS.



2. Pull the cable out from underneath the connector board, at the same time bring the fan unit to the top of the RBS.

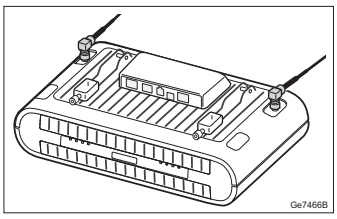


3. Attach the fan unit to the RBS.



4. Connect the fan cable to the port.

5 Appendix C: Install External Antenna



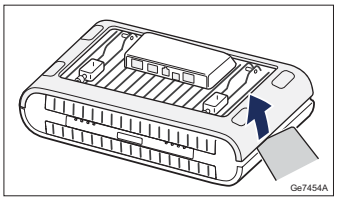
The RBS can be equipped with two to four external cellular antennas.

For single-band deployment the upper two RF module places are used. For dual-band deployment all four RF module places are used.

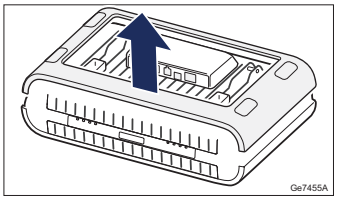
Note

Before removing the covers, discharge any static electricity by touching the metallic part at the rear of the RBS with ESD protective gloves.

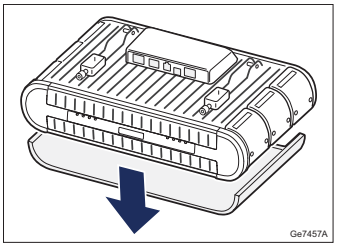
Use the ESD protective gloves during the whole process when installing the external antenna.



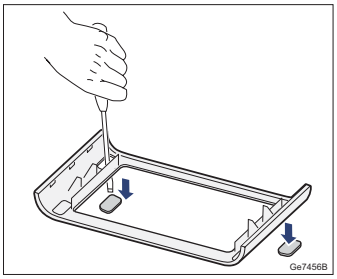
1. Remove the back cover by first gently inserting the flat end of the tool (included in the external antenna adapter kit) at a slight angle along the side, then pulling the cover upward.



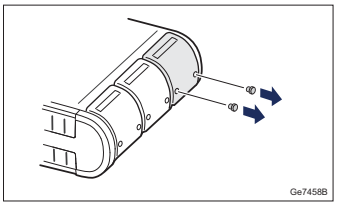
2. Remove the back cover.



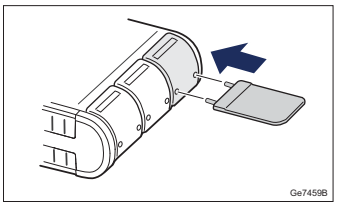
3. Remove the front cover.



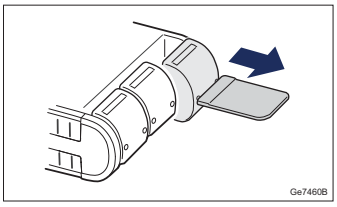
4. Break the relevant antenna cable knock outs in the back cover with a screwdriver. Make sure that the edges of the knock-out holes are smooth.



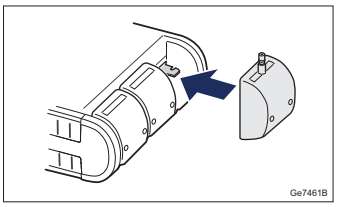
5. Remove the internal antenna by first removing the plugs.



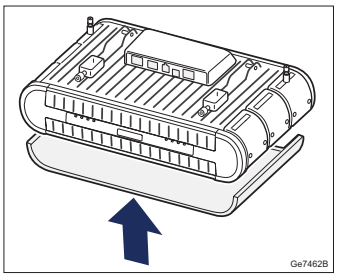
6. Insert the tool to unhook the antenna from the RF circuit board.



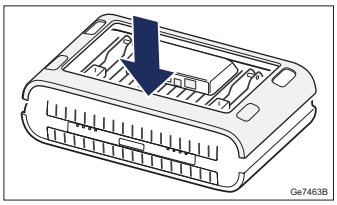
7. Detach the internal antenna from the RF circuit board.



8. Insert the external antenna kit in the same way as the internal antenna, at the end of the RF circuit board.

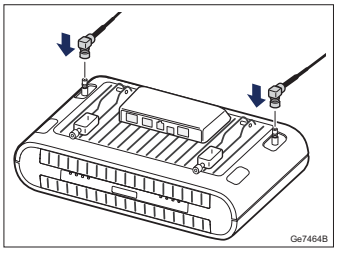


9. Attach the front cover to the RBS by gently pushing it against the RBS.

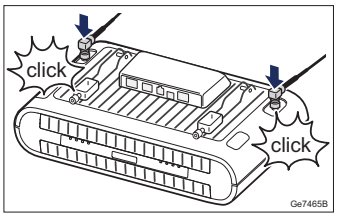


10. Attach the back cover to the RBS by gently pushing it against the RBS.

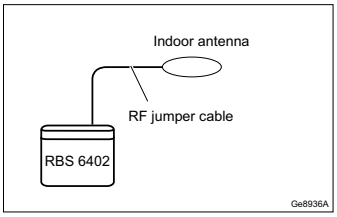
Make sure that both covers are securely in place.

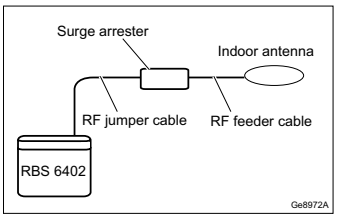


11. Attach the antenna cables.



12. Press down firmly when attaching the antenna cables.





13. Attach the antenna cables to the indoor antenna. There are two options, as follows:

- For shorter distances (<2.6 m), connect the RF jumper cable directly from the RBS to the indoor antenna.
- For longer distances (>2.6 m), connect the RF jumper cable from the RBS to a surge arrester and an RF feeder cable, with N-type (m) connectors, from the surge arrester to the indoor antenna.