

About This Document

Overview

You can start installing devices of the RET antenna system after the site preparation is complete. These devices and the base station can be installed simultaneously.

This document describes how to install the RET antenna system (consisting of the RET antenna, feeders, jumpers, RCU, SBT, and BT) and provides checklists for the hardware installation.

Version

The following table lists the versions of the product described in this document.

| Product Names | Versions |
|---------------|----------|
| BTS3012 | V300R004 |
| | V300R005 |
| | V300R006 |
| BTS3012AE | V300R005 |
| BTS3006C | V300R005 |
| | V300R006 |
| BTS3002E | V300R005 |

Intended Audience

This document is intended for:

- GBTS installers

Update History

Refer to [Changes in BTS Antenna System Installation Guide-RET](#).

Organization

1 Safety Precautions

This part describes the safety precautions you must take when installing and maintaining the network equipment.

2 Typical RET Antenna System

The typical RET antenna system is an independent antenna system that does not share antennas and feeders with other systems.

3 Typical Antenna System Shared Between 2G and 3G Base Stations

The antenna system shared between the 2G and 3G base stations means that the 2G base station and the 3G base station share an antenna or feeders. The two typical scenarios for the shared antenna system are: shared RET antenna + independent feeders and independent RET antennas + shared feeders.

4 Introduction to RET Antenna Line Devices

The RET antenna line devices consist of RET antennas, feeders, jumpers, RCUs, SBTs, AISG control cables, BTs, and splitters.

5 Control of RET Antennas

Huawei GSM base station configured with the BT can control RET antennas.

6 Antenna System Installation Preparations

Before installing the antenna system, you must keep the necessary tools and instruments, and the feeder window ready.

7 Procedure for Installing the GSM RET Antenna System

This part describes how to install the GSM RET antenna system, which consists of the antenna, feeders, and ALDs.

8 Installing the Grounding Bar

The grounding bar is used for surge protection. In principle, the grounding bar should be installed near the cabinet or on the rainproof wall of the feeder inlet on the rooftop. In practice, the grounding bar should be installed according to the engineering design.

9 Installing Antenna Supports

This part describes the procedure for installing the antenna support on a tower and the precautions for the installation.

10 Assembling Antennas

Before installing an antenna on a tower, you need to assemble the antenna. The antenna to be assembled can be an omnidirectional antenna or a directional antenna.

11 Hoisting Antennas

This part describes how to hoist antennas to the top of the tower.

12 Installing Antennas

This part describes how to install antennas on the tower platform and on the rooftop.

13 Installing the Splitters

Splitters should be installed if multiple antennas are used in one sector in the case of split sectors. Splitters are installed between base stations and antennas using jumpers.

14 Installing RET Antenna Line Devices

The antenna line devices are RCU, SBT, and AISG control cable.

15 Installing Feeders

The feeder installation procedure includes routing feeders, installing feeder grounding kits, and leading feeders into the equipment room.

16 Installing the Jumpers Between the Feeders and the Cabinet

Jumpers are required for the connection between the feeders and the base station. The connection methods for jumpers and ports vary according to the base station equipment. For details, refer to the installation manual of related base station equipment.

17 Testing the Antenna System

This part describes how to test the VSWR of the antenna after the antenna system is installed.

18 Labeling the Antenna System

The engineering labels for an antenna system are categorized into three types: engineering labels for outdoor feeders, engineering labels for indoor feeders, and engineering labels for jumpers.

19 Waterproofing the Feeder Window

Feeder windows are categorized into encapsulation window and glass window. Waterproof the feeder window based on the types of feeder window.






20 Checking the Installation of the RET Antenna System

After the RET antenna system is installed, you must check the installation.

Conventions

1. Symbol Conventions

The following symbols may be found in this document. They are defined as follows

| Symbol | Description |
|--|--|
|  DANGER | Indicates a hazard with a high level of risk that, if not avoided, will result in death or serious injury. |
|  WARNING | Indicates a hazard with a medium or low level of risk which, if not avoided, could result in minor or moderate injury. |
|  CAUTION | Indicates a potentially hazardous situation that, if not avoided, could cause equipment damage, data loss, and performance degradation, or unexpected results. |
|  TIP | Indicates a tip that may help you solve a problem or save your time. |
|  NOTE | Provides additional information to emphasize or supplement important points of the main text. |

2. General Conventions

| Convention | Description |
|-----------------|--|
| Times New Roman | Normal paragraphs are in Times New Roman. |
| Boldface | Names of files,directories,folders,and users are in boldface . For example,log in as user root . |
| <i>Italic</i> | Book titles are in <i>italics</i> . |
| Courier New | Terminal display is in Courier New. |

3. Command Conventions

| Convention | Description |
|-------------------|---|
| Boldface | The keywords of a command line are in boldface . |
| <i>Italic</i> | Command arguments are in <i>italic</i> . |
| [] | Items (keywords or arguments) in square brackets [] are optional. |
| { x y ... } | Alternative items are grouped in braces and separated by vertical bars.One is selected. |
| [x y ...] | Optional alternative items are grouped in square brackets and separated by vertical bars.One or none is selected. |
| { x y ... } * | Alternative items are grouped in braces and separated by vertical bars.A minimum of one or a maximum of all can be selected. |
| [x y ...] * | Alternative items are grouped in braces and separated by vertical bars.A minimum of zero or a maximum of all can be selected. |

4. GUI Conventions

| Convention | Description |
|-----------------|---|
| Boldface | Buttons,menus,parameters,tabs>window,and dialog titles are in boldface . For example,click OK . |
| > | Multi-level menus are in boldface and separated by the ">" signs. For example,choose File > Create > Folder . |

5. Keyboard Operation

| Convention | Description |
|------------------|---|
| Key | Press the key.For example,press Enter and press Tab . |
| Key1+Key2 | Press the keys concurrently.For example,pressing Ctrl+Alt+A means the three keys should be pressed concurrently. |

| Convention | Description |
|------------------|---|
| Key1,Key2 | Press the keys in turn.For example,pressing Alt,A means the two keys should be pressed in turn. |

6. Mouse Operation

| Action | Description |
|--------------|---|
| Click | Select and release the primary mouse button without moving the pointer. |
| Double-click | Press the primary mouse button twice continuously and quickly without moving the pointer. |
| Drag | Press and hold the primary mouse button and move the pointer to a certain position. |