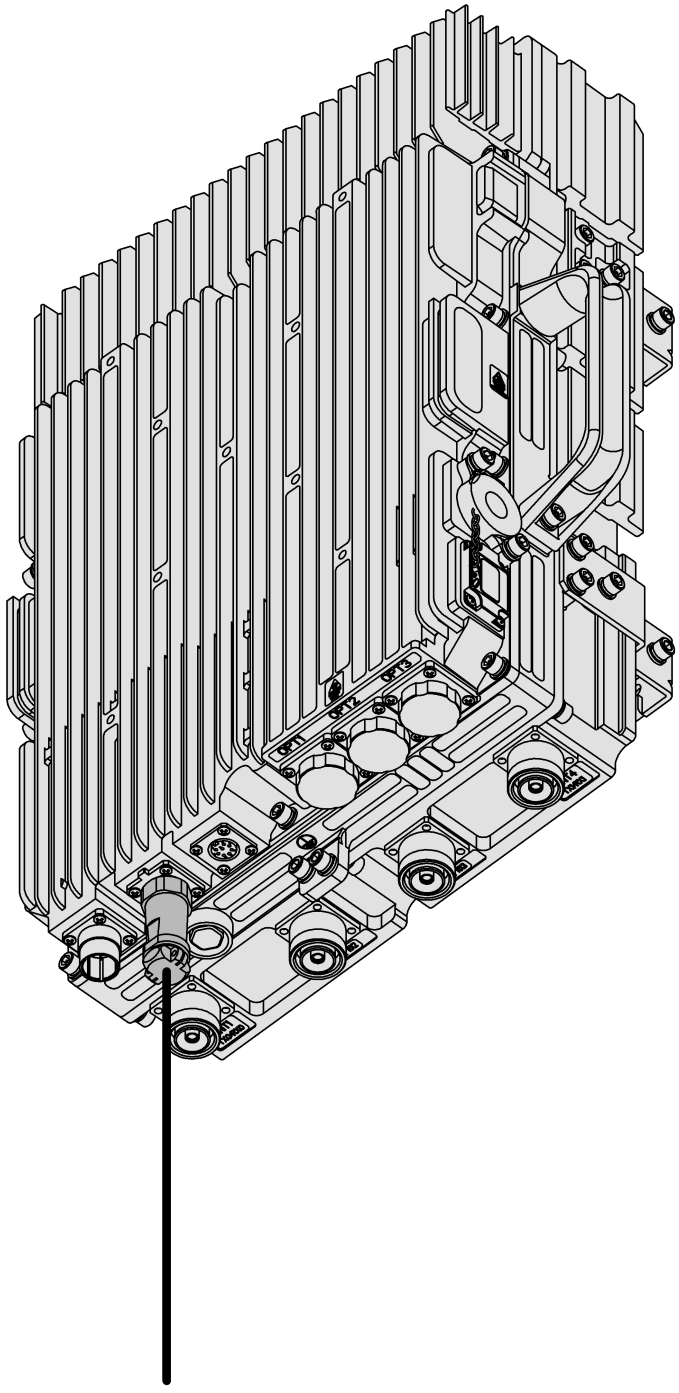
Figure 4-8 Connecting the Monitoring Cable



2. Connect end B of the MON cable to an external monitoring device or dry contact.

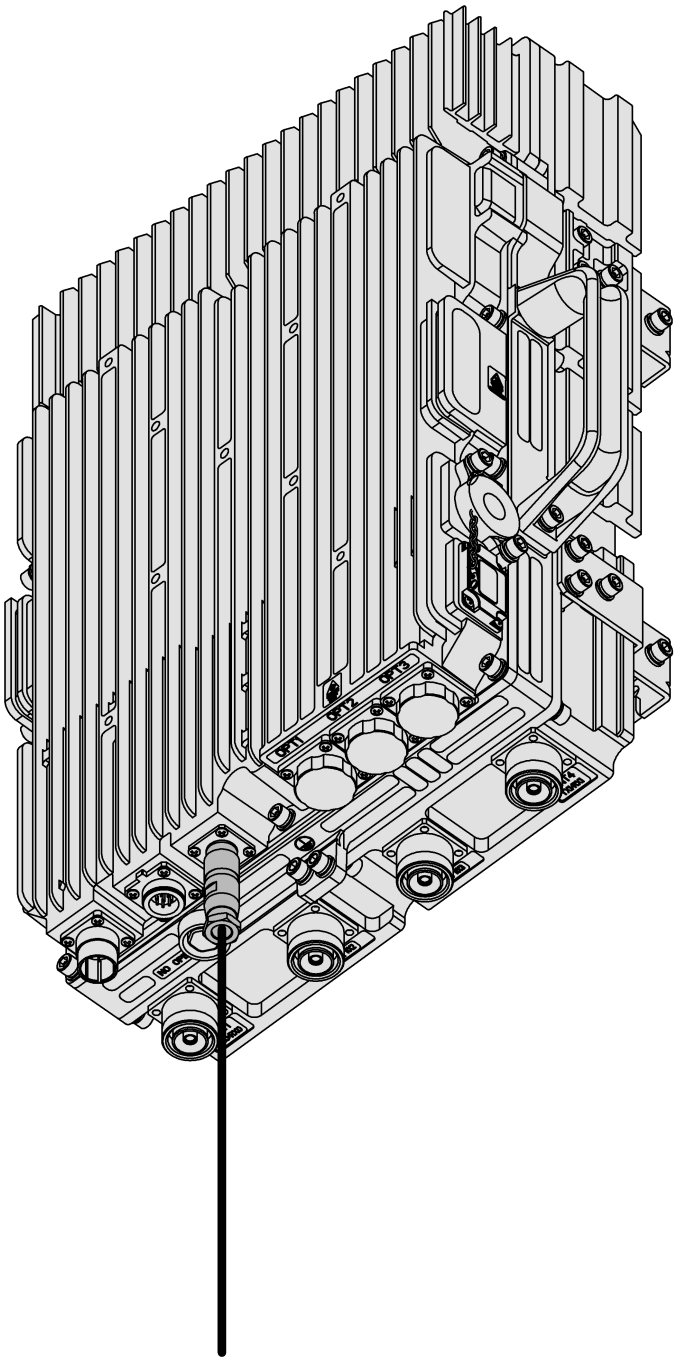
– End of Steps –

4.6 Connecting the AISG Cable

Steps

1. Connect end A of the Antenna Interface Standards Group (AISG) cable to the commissioning interface (AISG) of ZXSDR R8882, and tighten the screw, as shown in Figure 4-9.

Figure 4-9 Connecting the AISG Cable



2. Connect end B of the AISG cable to the control interface of an electrically tuned device and tighten the screw.
3. Waterproof both connectors of the AISG cable.

– End of Steps –

4.7 Connecting the Feeder Jumper

Context

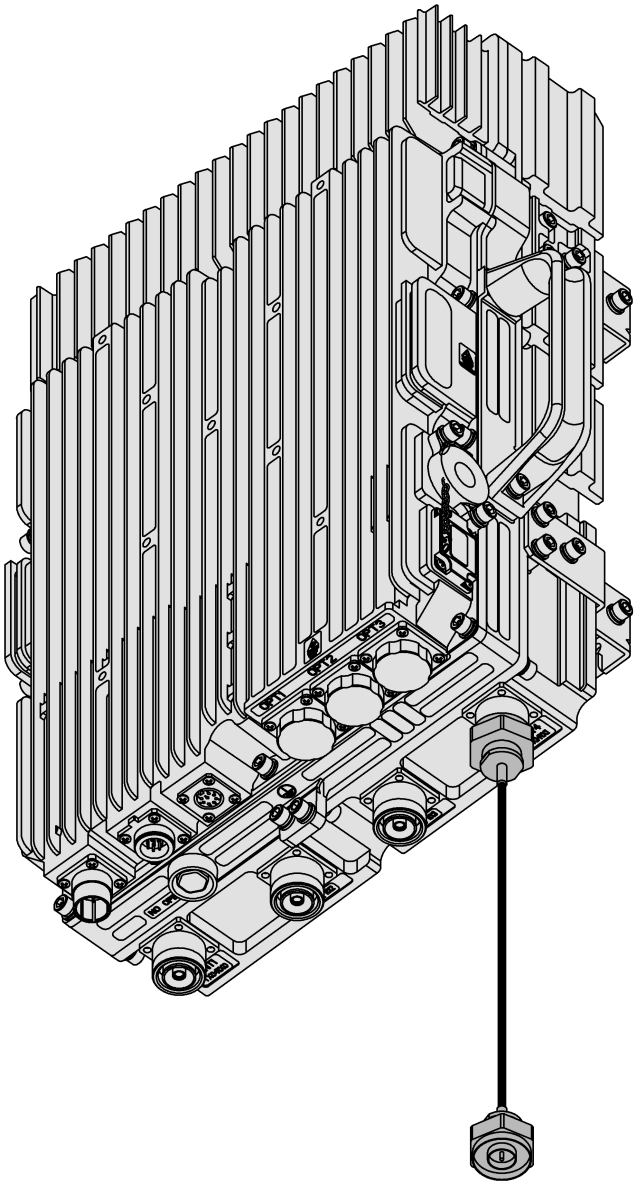
The RF jumper is used to connect the feeder to the feeder interface of ZXSDR R8882. The jumper should be connected after the main feeder is connected.

Normally, use a finished 2 m 1/2" jumper as the RF jumper, or make a jumper as required by the on-site condition, refer to *ZXC10 BSSB CDMA2000 Base Station System Cable Preparation Manual* for Preparing instructions.

Steps

1. Connect the DIN male connector of the RF jumper to the RF antenna interface of the device, as shown in Figure 4-10.

Figure 4-10 Connecting the Feeder Jumper



2. Connect the DIN male connector of the RF jumper to the DIN female connector of the main feeder.
3. Waterproof both connectors of the feeder jumper.

– End of Steps –

This page intentionally left blank.

Chapter 5
Post-Installation Check

Checking the Device Installation

Item	Task	Remark
Checking the device installation	Make sure that the device installation position is in line with the design drawing.	
	Make sure that the device is installed firmly and meets the shockproof requirements.	
	Make sure that the deviation of the device in horizon and vertical is less than 3 mm.	
	Make sure that the device surface is clean and tidy, the paint on the surface is intact, and all parts of the device are in place and undamaged.	
	Make sure that the identifiers of the device are correct, clear, and complete.	
	Make sure that all screws of the device are properly tightened.	
	Make sure that the flat washers and spring washers are installed in correct order.	
	Make sure that the unused connector caps are tightened.	

Checking the Cable Connection

Item	Task	Remark
Verifying that cabling meets the specifications	Make sure that all cables are laid straight without fluctuation and skew and without cross lines and flying lines.	
	Make sure that all cables turn smoothly and the external of each	

Item	Task	Remark
	curve is vertically or horizontally straight.	
	Make sure that all cables are labelled at the both ends, the use of each cable is described, and the contents in the labels at both ends are the same.	
	Make sure that the connection is solid, in good contact, plugged correctly and without break and bend.	
	Make sure that cable ties are evenly spaced and uniformly and properly tied. Make sure that unnecessary section of a cable tie is cut off.	
	Make sure that the terminals of all cables are installed with flat washers and spring washers and waterproof measures are taken to cable connectors and grounding kit.	
Checking the power cable and grounding cable connections	Make sure that the power cable and grounding cable are laid separately from other cables. Make sure that the power cable and signal cables are laid on different cable racks when there are multiple cable racks.	
	Make sure that the horizontal distance between the cables is more than 100 mm when the power cable and signal cable are laid in parallel on a same cable rack.	
	Make sure that the distance between the cables is no less than 300 mm when the AC power cable, DC power cable, and signal cable (such as the antenna feeder) are laid in parallel.	
	Make sure that the power cable and grounding cable are made of the entire cable without joints.	

Item	Task	Remark
	Make sure that only one device is connected to each grounding point on the grounding bar.	
	Make sure that the power cable and grounding cable are not coiled and the unnecessary section is cut off.	
	Make sure that the copper tubular lugs at both ends of the power line or grounding cable are welded or crimped firmly.	
	Make sure that the grounding path is as short as possible.	
	Make sure that the bare wire and lug handle on the connection terminal are wrapped with the insulating tape or tubed in the heat-shrink tube.	
Checking the optical fiber connection	Make sure that the minimal turning radius of an outdoor optical cable is 90 mm and the minimal turning radius of an indoor optical cable is 30 mm.	
	Make sure that the optical fiber is not intertwined.	
	Make sure that the cabling transition is smooth and the distance between every two cable ties is less than 0.5 m.	
	Make sure that the labels at both ends of the optical fiber are clear.	
	Make sure that the connectors at both ends of the optical fiber are tightened.	
	Make sure that the fiber cable is undamaged.	

Item	Task	Remark
Checking the antenna feeder connection	Make sure that the feeder VSWR is less than 1.5.	
	Make sure that the connectors at both ends of the feeder are tightened.	
	Make sure that the DIN-type and N-type connectors are connected correctly.	
	Make sure that the antenna and jumper are connected correctly and the jumper and feeder are connected correctly.	
	Make sure that the water-trap curve is made before the cable is led into the equipment room, and make sure that the lowest point of the water-trap curve is 10 cm–20 cm lower than the lower edge of the entrance in the feeder window.	
	Make sure that the feeder window is sealed with fireproof material.	
	Make sure that the unused antenna feeder cable connectors are covered by caps or tightened by dummy loads.	

Chapter 6
Concluding Routines

Before leaving the site, complete the following:

- Clean up the site and remove objects like wrapping paper and cable pieces.
- Dispose of waste material according to local regulations.
- Complete the site installation report.
- Hand over the Site Installation Documentation to the person responsible for the site.
- If the site is in operation, contact the OMC or NMC to inform that the installation is completed.
- Lock all doors and gates to the site.

This page intentionally left blank.

Appendix A
Waterproofing Outdoor Connectors

Prerequisite

After the whole antenna feeder system has been installed and tested, make sure that the outdoor jumpers and feeder connectors must be waterproof.

Context

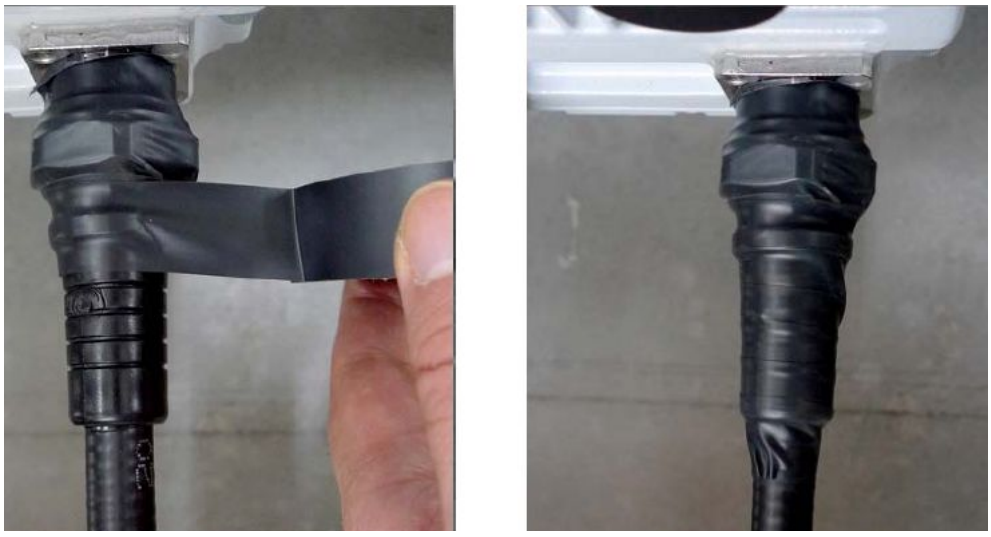
Waterproofing outdoor connectors is a “1+3+3” process, that is, wrapping one layer of PVC insulating tape, three layers of waterproof insulating tape, and three layers of PVC insulating tape around a connector.

The PVC insulating tape is used to prevent connectors from damage, ageing, and water ingress.

Steps

1. Clean the feeder connector and feeder grounding clip.
2. Wrap a layer of PVC insulating tape around the connector.
   After connecting the connector properly, wrap a layer of electrical insulating tape for one and a half circle in the direction of tightening the connector, as shown in Figure A-1. The exceeded wrapping length is 10 mm. During wrapping, do not overstretch the insulating tape.

Figure A-1 Wrapping One Layer of Insulating Tape



3. Wrap three layers of waterproof insulating tape around the PVC tape.

   During wrapping, stretch the self-adhesive tape two times the original length. For each connector, use about 50 cm waterproof tape to wrap three layers, as shown in Figure A-2.

   The wrapping direction must be the same as that of tightening a feeder connector. This prevents the feeder connector from being disconnected during wrapping. After that, grip and pinch the wrapped tape repeatedly to ensure that the tape and feeder or feeder connector are securely adhered.

Figure A-2 Wrapping Three Layers of Waterproof Tape

Note:

Wrap the first layer of insulating tape from bottom to top, the second layer from top to bottom, and the third layer from bottom to top. The upper layer covers 1/3 of the next layer in length. This ensures that the feeder or feeder connector is waterproof. During wrapping, do not cut off the tape. The wrapping length must be 20 mm longer than that of the feeder connector.

4. Wrap three layers of UV resistance tape.

   The wrapping direction must be the same as that of tightening a feeder connector. The upper-layer tape covers 1/2 the bottom-layer tape in length. The wrapping length of the UV resistance tape must be 10 mm longer than that of the waterproof tape. Wrap three layers. After that, grip and pinch both the UV resistance tape and waterproof tape to ensure that they are securely adhered, as shown in Figure A-3.

Figure A-3 Wrap Three Layers of UV Resistance Tape

5. Fasten both ends of the tape.
   Use black UV resistance cable ties to bundle both ends of the tape, as shown in Figure A-4. Cut off the exceeded cable ties and reserve about 3 mm for expansion in high-temperature weather.

Figure A-4 Fixing Both Ends

– End of Steps –

This page intentionally left blank.

Appendix B
Labeling Specifications

ZTE Corporation uses indoor labels and outdoor labels.

- Outdoor labels are hangtags that are delivered with the device.
- Indoor labels are the self adhesive paper-printed labels that may need to be produced at site if necessary.

Labels must meet the following requirements:

- The special paster of ZTE Corporation must be used for paper labels.
- Contents on rack row labels and column labels should meet the engineering design requirements.
- Boards should not be labeled and identifiers on a board should not be altered.
- All labels should be attached to face the same direction. The side that indicates where the cable is connected to should face upward or towards the operation and maintenance position for the convenience of being read.
- All cables such as the power cable, grounding cable, transmission cable, and feeder should be labeled at both ends.
- For optical fibers, network cables, and trunk cables, an indoor label should be pasted 20 mm away from the connector at both ends each.
- Outdoor labels should be secured with cable ties at the same height and direction.

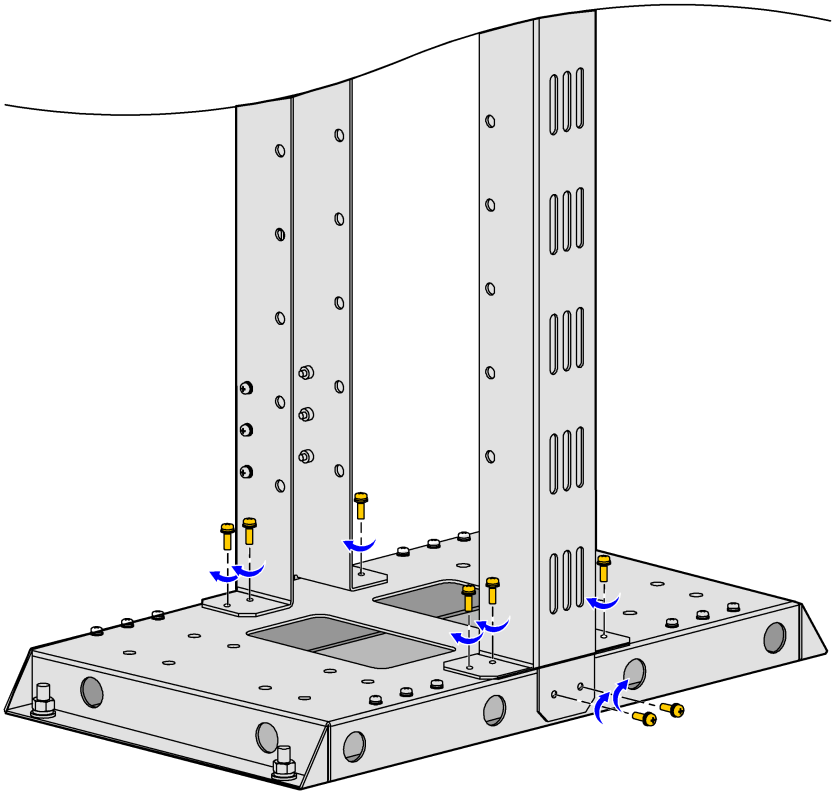
This page intentionally left blank.

Appendix C
Assembling the Portal Frame

Steps

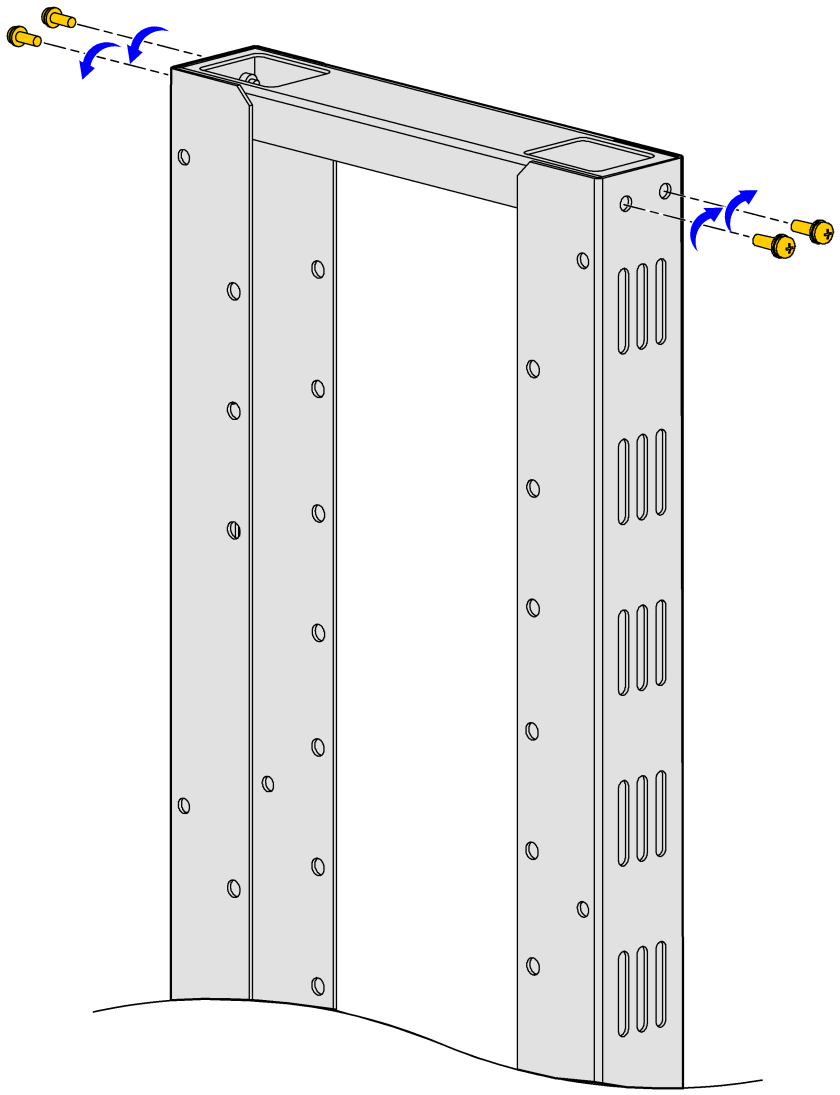
1. *Assemble the upright posts and base plate:* Secure the upright posts on the base plate with M5×16 screws, as shown in Figure C-1.

Figure C-1 Assembling the Upright Posts and Base Plate



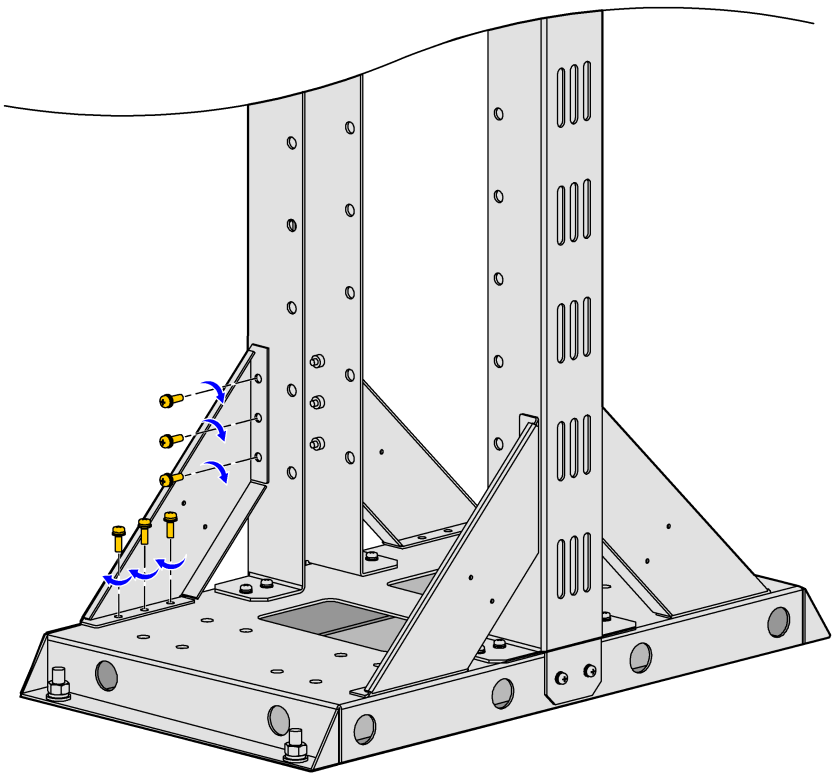
2. *Secure the cover plate between the upright posts:* Secure the cover plate between the upright posts with M5×16 screws, as shown in Figure C-2.

Figure C-2 Securing the Cover Plate Between the Upright Posts



3. *Assemble the side supports:* Secure the side supports with M5×16 screws, as shown in Figure C-3.

Figure C-3 Installing the Side Supports

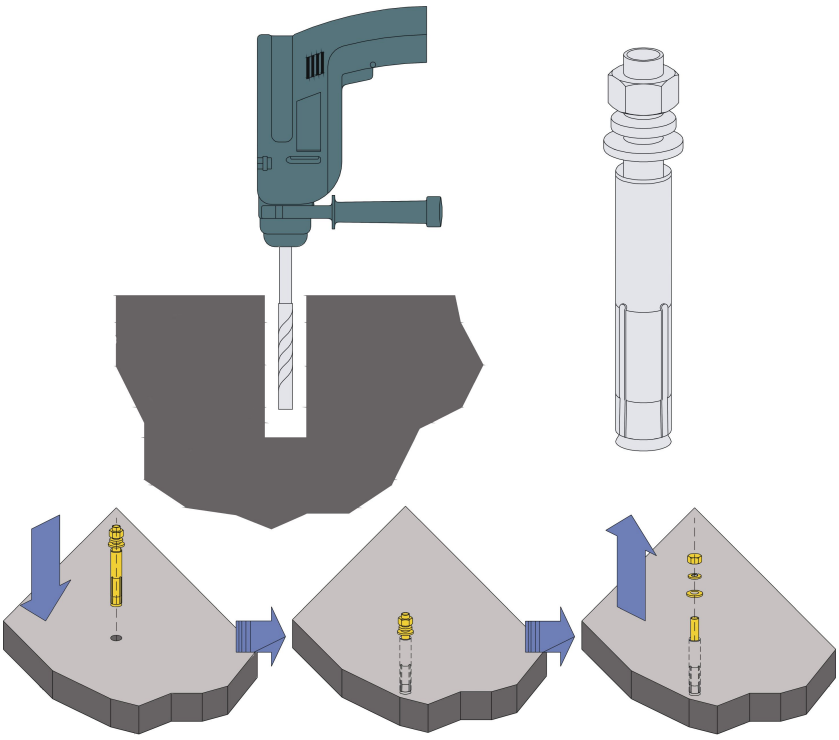


4. *Drill holes and tighten the expansion bolts/screws:*

   a. Use the drilling template and mark the drilling positions with a marker.

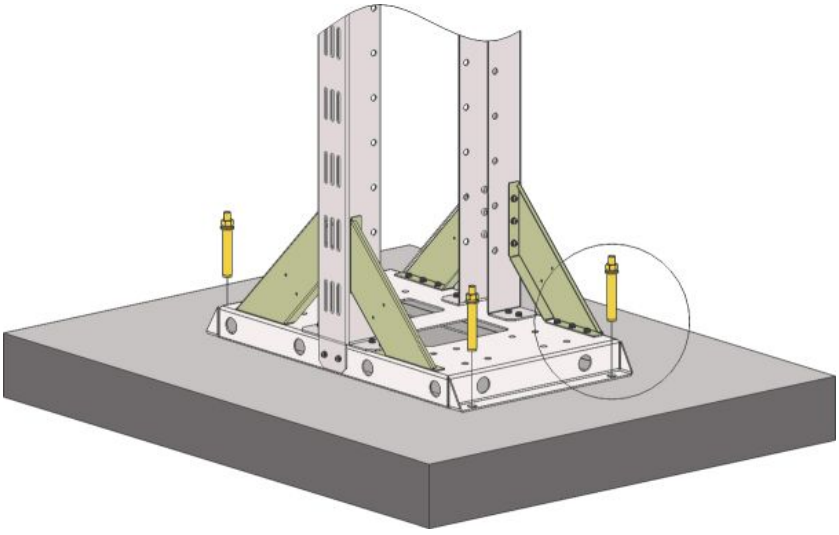
   b. Drill holes at the marked drilling positions by using an electric percussion drill (Φ12 drill bit), and tighten the expansion bolts/screws, as shown in Figure C-4. Use a vacuum cleaner to clean the dust when drilling holes.

Figure C-4 Installing the Expansion Bolts



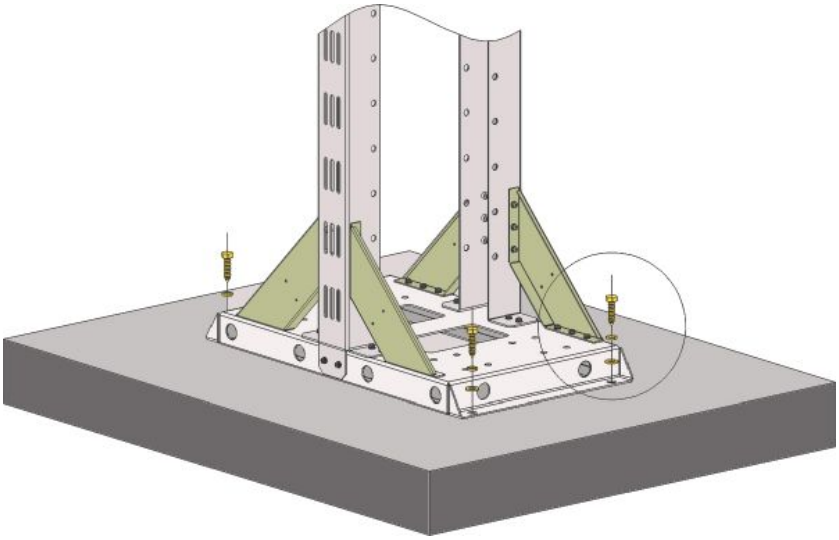
c. If installing the portal frame on a cement floor, secure it with M10×100 expansion screws, as shown in Figure C-5.

Figure C-5 Securing the Portal Frame on a Cement Floor



d. If installing the portal frame in a shelter, secure it with M10×40 tapping screws, as shown in Figure C-6.

Figure C-6 Securing the Portal Frame in a Shelter



– End of Steps –

This page intentionally left blank.

Figures

Figure 1-1 ZXSDR R8882 1-1
Figure 1-2 Recommended Space for Installing ZXSDR R8882 (Unit: mm) 1-4
Figure 1-3 Minimum Space for Installing ZXSDR R8882 (Unit: mm) 1-5
Figure 1-4 Flowchart of Installing ZXSDR R8882 1-8
Figure 2-1 PIMDC Appearance 2-1
Figure 2-2 Securing the PIMDC Mounting Base on the Front of the Device 2-2
Figure 2-3 Securing the PIMDC on the Front of the Device 2-2
Figure 2-4 Securing the PIMDC Mounting Base on the Side of the Device 2-3
Figure 2-5 Securing the PIMDC on the Side of the Device 2-3
Figure 3-1 Drilling Positions 3-7
Figure 3-2 Securing the Wall Mounting Assembly 3-8
Figure 3-3 Install Device Hooks (Two U-shaped Hooks) 3-9
Figure 3-4 Mounting the Device on the Wall Mounting Assembly 3-9
Figure 3-5 Securing the Device 3-10
Figure 3-6 Drilling Positions 3-11
Figure 3-7 Securing the Wall Mounting Assembly 3-12
Figure 3-8 Installing the RRU Mounting Base on the Back of the Device 3-12
Figure 3-9 Mounting the Device 3-13
Figure 3-10 Securing the Device 3-13
Figure 3-11 Attaching the Wall Mounting Assembly to the Pole Mounting Piece 3-14
Figure 3-12 Securing the Pole Mounting Piece 3-15
Figure 3-13 Securing Two Sets of Installation Assemblies Back to Back 3-15
Figure 3-14 Installing the Extension Pieces and Wall Mounting Assembly 3-16
Figure 3-15 Install Device Hooks (Two U-shaped Hooks) 3-16
Figure 3-16 Mounting and Securing the Device 3-17
Figure 3-17 Installing the RRU Mounting Base on the Back of the Device 3-18
Figure 3-18 Mounting the RRU Mounting Base on the Side of the Device 3-18
Figure 3-19 Securing the Pole Mounting Assembly 3-19
Figure 3-20 Installing the Parallel Mounting Base 3-19
Figure 3-21 Front-Mounting the Device (Single-Unit Solution/Double-Unit Solution) 3-20

Figure 3-22 Front-Mounting the Device (Triple-Unit Solution) 3-21
Figure 3-23 Side-Mounting the Device (Triple-Unit Solution) 3-22
Figure 3-24 Side-Mounting the Device (Quadro-Unit Solution) 3-22
Figure 3-25 Securing the Device 3-23
Figure 3-26 Installing the Universal Sheet-Metal Kit 3-24
Figure 3-27 Install Device Hooks (Two U-shaped Hooks) 3-24
Figure 3-28 Mounting the Device 3-25
Figure 3-29 Securing the Device 3-25
Figure 3-30 Mounting the Adaptor Plate 3-26
Figure 3-31 Mounting the Pole Mounting Clamp 3-26
Figure 3-32 New Type of Protection Shade 3-27
Figure 3-33 Installing the Protection Shade 3-28
Figure 4-1 Flowchart of Connecting External Cables 4-1
Figure 4-2 Connecting the Protective Grounding Cable 4-2
Figure 4-3 Inserting the Power Cable Into the Sealing Component 4-3
Figure 4-4 Installing the Power Cable Into the Terminal Hole 4-4
Figure 4-5 Fixing the Power Cable 4-5
Figure 4-6 Connecting the DC Power Cable 4-6
Figure 4-7 Connecting the Optical Fiber 4-8
Figure 4-8 Connecting the Monitoring Cable 4-10
Figure 4-9 Connecting the AISG Cable 4-11
Figure 4-10 Connecting the Feeder Jumper 4-13
Figure A-1 Wrapping One Layer of Insulating Tape A-1
Figure A-2 Wrapping Three Layers of Waterproof Tape A-2
Figure A-3 Wrap Three Layers of UV Resistance Tape A-3
Figure A-4 Fixing Both Ends A-3
Figure C-1 Assembling the Upright Posts and Base Plate C-1
Figure C-2 Securing the Cover Plate Between the Upright Posts C-2
Figure C-3 Installing the Side Supports C-3
Figure C-4 Installing the Expansion Bolts C-4
Figure C-5 Securing the Portal Frame on a Cement Floor C-4
Figure C-6 Securing the Portal Frame in a Shelter C-5

Tables

Table 1-1 ZTE Parts and Equipment List for a RRU 1-2
Table 1-2 Tools and Meters List..... 1-3
Table 3-1 Installation Positions Supported by the Installation Assemblies of ZXSDR R8882 3-1
Table 3-2 Installation Assembly of Mounting Kit 1 (Wall-Mounted)..... 3-2
Table 3-3 Installation Assemblies of Mounting Kit 2 (Wall-Mounted) 3-3
Table 3-4 Installation Assemblies of Mounting Kit 1 (Pole-Mounted)..... 3-3
Table 3-5 Installation Assemblies of Mounting Kit 2 (Pole-Mounted)..... 3-4
Table 3-6 Installation Assemblies of the Mounting Kit 1 (Portal Frame-Mounted) 3-5
Table 3-7 Installation Assemblies of Mounting Kit 2 (Portal Frame-Mounted) 3-6

This page intentionally left blank.

Index

A

Acceptance 1-7
appearance 1-1

C

Cabling 4-1
Concluding Routines 6-1
Connecting the DC Power Cable 4-5
Connecting the Optical Fiber 4-7
Counting Goods 1-5

D

Delivery 1-7

E

Environment Inspection 1-2

H

Handover 1-7

I

Inspection 1-7
Installation Assemblies 3-2
Installation Flow 1-7
Installation Overview 1-1
installation positions 3-1

L

Labeling Specifications B-1

M

Materiel Description 1-2
Meters 1-2
Mount the Device on a Wall 3-7
Mounting Kit 1 3-14
Mounting Kit 2 3-17

P

PIMDC 2-1
pole 3-14
portal frame 3-23
Post-Installation Check 5-1
Preparation for Installation 1-2
protection shades 3-27

S

Space Requirement 1-3

T

tools 1-2

U

Unpacking Carton 1-6
Unpacking Crate 1-6

W

Waterproofing outdoor connectors A-1
Waterproofing Outdoor Connectors A-1

This page intentionally left blank.

Glossary

AISG

- Antenna Interface Standards Group

MON

- Monitor

PVC

- Polyvinyl Chloride

RRU

- Remote Radio Unit