

# 3 BTS3012 Hardware Maintenance

BTS3012 hardware maintenance refers to the maintenance of the equipment room environment, cabinets, power supply, grounding system, and antenna system of the BTS3012.

## Maintaining the Equipment Room Environment

**Table 3-1** describes how to maintain the BTS3012 equipment room environment.

**Table 3-1** Maintenance of the BTS3012 equipment room environment

Maintenance Item	Schedule	Operation Guide	Reference Standards
Checking environmental alarms	Every day	Check whether power supply alarms, fire alarms, or smoke alarms are reported.	No power supply alarms, fire alarms, or smoke alarms are reported.
Checking the temperature in the equipment room	Each time site maintenance is performed	Record the temperature on the thermometer in the equipment room.	- 5°C to 45°C
Checking the humidity in the equipment room	Each time site maintenance is performed	Record the humidity on the hygrometer in the equipment room.	5% RH to 95% RH
Checking the illumination in the equipment room	Every two months	Check whether the routine and emergency illumination in the equipment room is normal.	-
Checking sockets	Every two months	Check whether sockets are normal.	-
Checking the air conditioner	Every two months	Check whether the air conditioner works well.	-

Maintenance Item	Schedule	Operation Guide	Reference Standards
Checking protective devices	Every two months	Check whether anti-disaster devices, equipment protection devices, and fire fighting devices are in good condition.	<ul style="list-style-type: none"> <li>There are portable and qualified foam extinguishers in the equipment room.</li> <li>There is no danger of damage to the equipment by rats or insects.</li> </ul>
Cleaning the equipment room	Every two months	Check whether cabinets, equipment housing, equipment interior, tables, floor, doors, and windows are clean.	All the check items are clean.

## Maintaining the Cabinet

**Table 3-2** describes how to maintain the BTS3012 cabinet.

**Table 3-2** Maintenance of the BTS3012 cabinet

Maintenance Item	Schedule	Operation Guide	Reference Standards
Checking the fan box	Every week, every month, or every quarter	Check the fan box.	No alarms related to the fan box are reported.
Checking the air filter	Every quarter	If there is too much dust on the air filter, clean the air filter. For details, refer to <a href="#">8.2 Cleaning the air filter of a BTS3012 cabinet</a> .	-
Checking the exterior of the cabinet	Every month or every quarter	Check whether there are dents, cracks, holes, or corrosion on the surface of the cabinet and whether the cabinet label is legible.	-
Checking the lock and door of the cabinet	Every month or every quarter	Check whether the lock is normal and the door can be opened and closed easily.	-
Checking the cleanliness of cabinets	Every month or every quarter	Check whether the cabinet is clean.	The cabinet surface is clean. The subracks are not dusty.

Maintenance Item	Schedule	Operation Guide	Reference Standards
Checking the cleanliness of the fan box	Every year	If there is too much dust on the surface and inside of the fan box, clean the fan box. For details, refer to <a href="#">8.1 Cleaning the Fan Box</a> .	-
Checking board indicators	Every month or every quarter	Check whether the board indicators are normal.	For details about the status of indicators, refer to the <i>BTS3012 Hardware Description</i> .
Checking the ESD wrist strap	Every quarter	Use one of the following methods: <ul style="list-style-type: none"> <li>Use an ESD wrist strap tester to test the ESD wrist strap.</li> <li>Use a multimeter to test the grounding resistance of the ESD wrist strap.</li> </ul>	If you use an ESD wrist strap tester, the indicator GOOD is on. If you use a multimeter, the grounding resistance is between 0.75 ohm and 10 megohms.

## Maintaining the Power Supply and Grounding System

[Table 3-3](#) describes how to maintain the BTS3012 power supply and grounding system.

**Table 3-3** Maintenance of the BTS3012 power supply and grounding system

Maintenance Item	Schedule	Operation Guide	Reference Standards
Checking power cables	Every month or every quarter	Check the connections of power cables carefully.	The connections are secure. The power cables are in good condition and the connection points are not corroded.
Checking voltage	Every month or every quarter	Use a multimeter to test the voltage of power supply.	The voltage is within normal range.
Checking PGND cables	Every month or every quarter	Check whether the connections of PGND cables are secure.	The connections are secure and the connection points are not corroded. The PGND cables are in good condition and corrosion preventive.
Checking the grounding resistance	Every month or every quarter	Use an earth resistance meter to measure the grounding resistance and record it.	The grounding resistance is less than 10 ohm.

Maintenance Item	Schedule	Operation Guide	Reference Standards
Checking storage batteries	Every year	Check the storage batteries and rectifiers every year.	The battery capacity is within the normal range and the batteries are correctly connected. The performance parameters of rectifiers are normal.

## Maintaining the Antenna System

**Table 3-4** describes how to maintain the BTS3012 antenna system.



### CAUTION

- The BTS antenna system requires periodic maintenance.
- You need to check all the antenna and feeder equipment after a wind of scale eight or above, an earthquake, or other exceptional cases.

**Table 3-4** Maintenance of the BTS3012 antenna system

Maintenance Item	Schedule	Operation Guide	Reference Standards
Checking the tower	Every half year	Check the conditions of the tower, connections of mechanical bolts, and the anti-rust and anti-corrosion conditions.	There is no damage to the tower or sinking of the base, the mechanical bolts are properly connected, and the tower is not rusted or corroded.
Checking the pole	Every half year	Check the installation of pole fasteners, the bearing capacity of the staying wires and anchors, and the anti-corrosion and anti-rust conditions of the pole.	The pole fasteners are secure, the stress of the staying wires and anchors is balanced, and the pole is not corroded or rusted.
Checking the antenna	Every two months	Check whether the antenna is within the coverage area of the lightning rod and the antenna stand is safely installed on the tower or the rooftop.	The antenna is within the area of a 30° deviation downward from the top of the lightning rod. The antenna stand is safely installed on the tower or the rooftop
Checking the feeder	Every two months	Check whether the feeder fixing clips are loose and the feeder is flattened or deformed.	The feeder fixing clips are securely installed and the feeder is in good condition. There is no bare copper wires.