# CRFU Maintenance Guide

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# 1 Replacing the CRFU

This describes how to replace the faulty CRFU. The CRFU implements the RF processing function of the BTS.

## Prerequisite

- The following tools and materials are available: the ESD wrist strap, Phillips screwdriver, ESD box or bag, torque wrench, and keys to the front panel and cabinet door.

- The new CRFU is available. Ensure that it is intact and its hardware version is consistent with the faulty CRFU.

## Context

Figure 1- 1 shows cable connections of the CRFU
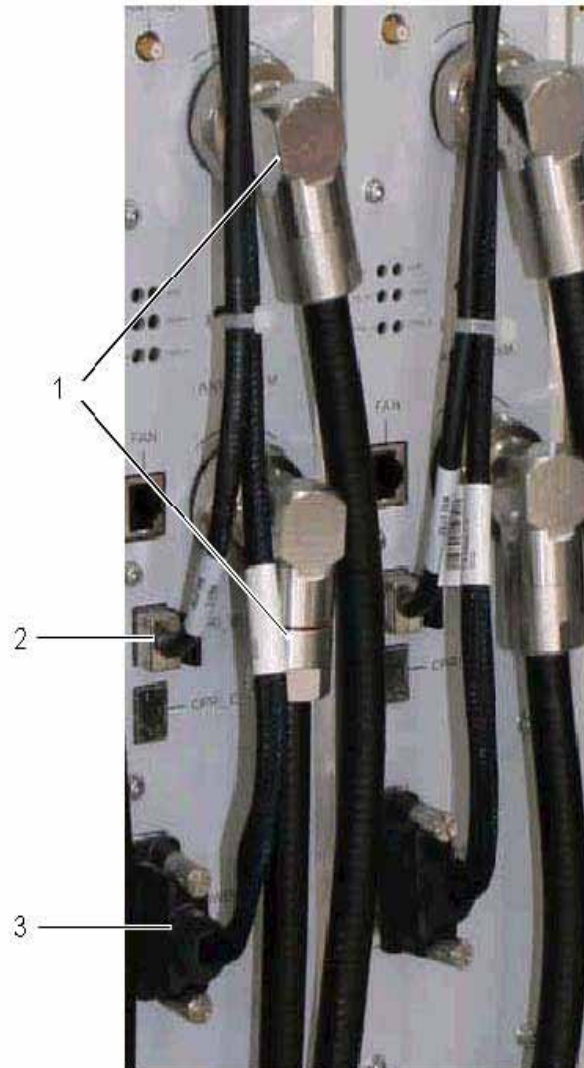
(1) RF jumpers
(2) Cable connected to the CPRI port
(3) (3) Power cable

## Procedure

**Step 1** Record information of the carriers.

Run the **DSP CBTSSECTORCARRIERINFO** command to query the cell IDs, sector IDs, and carrier IDs.

**Step 2** **Block the carriers.**

1. Run the **BLK RES** command to block all carriers of the sectors where the CRFU is located. The recommended priority value is "low".

2. Run the **DSP RES** command to query whether the carriers are blocked. If the carriers are blocked, proceed with the next step.

**Step 3  Power off the AC surge protection box.**

Set the air−break switch controlling the CRFU on the DCDU to OFF.

**Step 4   Remove the faulty CRFU.**

1.    Remove faulty cables of the CRFU.

- Disconnect power cables of the CRFU and attach temporary labels to the removed power cables.

- Use a torque wrench to loosen the DIN 7/16 angle male connector of the RF jumper, disconnect the RF jumper, and attach temporary labels to the RF jumper.

- Remove the CPRI−port cables from the CRFU and attach temporary labels to the CPRI−port cables.

2.    Loosen the CRFU screws.

Use a Phillips screwdriver to loosen the fastening screws of the CRFU.

3. Dismantle the CRFU Use the key to the front panel to dismantle the CRFU, as shown in Figure 1−2.

Figure 1- 2 Use the key to the front panel to dismantle the CRFU
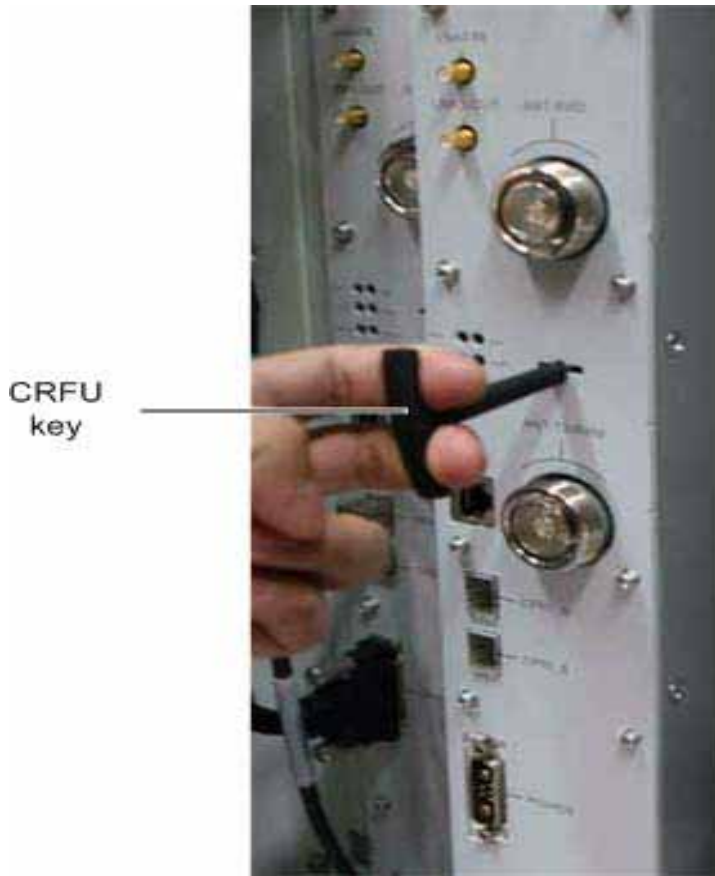
CRFU
key

**Step 5    Install the new CRFU.**

1.    Install the CRFU.

Push the new CRFU along the guide rail into the subrack.

2.    Fasten the CRFU screws.

3.    Connect the CRFU cables.

●    Insert the connector of the CPRI−port cable into the CPRI_0 port of the CRFU according to the temporary labels.

- Insert the DIN 7/16 angle male connector of the RF cable into the ANT port of the CRFU and use a torque wrench to tighten the DIN angle male connector. The force moment ranges 25 N・m to 35 N・m.

- Install power cables of the CRFU and tighten the screws.

**Step 6  Power on the AC surge protection box.**

Set the air−break switch controlling the CRFU on the DCDU to ON.

**Step 7    Load the CPU software and FPGA software of the RRU3606.**

- If the automatic loading function is enabled for the RRU3606, the RRU3606 automatically loads software from the BAM.

- If the auto−loading function of the RRU3606 is disabled, run the **DLD CBTSSW** command to load the software.

**Step 8** **Unblock the carriers.**

Run the **UBL RES** command to unblock the carriers.

**Step 9** **Ensure that the new CRFU module is functional.**

RUN indicator: ON for 1s and OFF for 1s.


−−−−End

## Postrequisite

After replacing the CRFU, perform the following steps:

1. Record the software version, board name, slot number, and site name of the faulty board.
2. Check whether there is visible physical damage on the board, for example, mechanical parts or plug−ins are distorted, pins are bent or missing, or the board is burnt.
3. Record the information about the fault location process, including the cause of the fault, fault symptoms, alarm name, status of indicators on the board panel, and detailed procedures for identifying and clearing the fault on site.
4. Place the faulty board in an antistatic bag. Then, place the onsite fault record and the antistatic bag in the board box, and store them properly.