

# 7 Managing Cells

---

## About This Chapter

This function is performed to view and set the cell attributes and the cell extended attributes. It is also used to test all the BTs and RCs of a cell so that they can be locked or unlocked. In addition, it can be performed to check whether the BTs and RCs are functional.

### [7.1 Managing Cell Attributes](#)

The function is performed to view or set the interference level boundary, interference average parameter, connection failure threshold, T200, overload period, starting frame No., CCCH load threshold, CCCH load indicating period, RACH busy determination threshold, RACH load averaging slots, BTS air timer, NY1, BSIC, BCCH ARFCN, and Max. time advance.

### [7.2 Managing Cell Extended Attributes](#)

This function is performed to view or set RF resource indication period, paging times, and access error threshold.

### [7.3 Changing Cell Management States](#)

This function is performed to lock or unlock the BTs and RCs of a cell.

### [7.4 Testing Cell Performance](#)

This function is performed to test all the RCs of a cell and to check whether they are functional.

## 7.1 Managing Cell Attributes

The function is performed to view or set the interference level boundary, interference average parameter, connection failure threshold, T200, overload period, starting frame No., CCCH load threshold, CCCH load indicating period, RACH busy determination threshold, RACH load averaging slots, BTS air timer, NY1, BSIC, BCCH ARFCN, and Max. time advance.

### Prerequisite

You have logged in to the BTS through the Site Maintenance Terminal.

### Context

**Table 7-1** lists the description of the parameter configuration.

**Table 7-1** Parameters in the Cell Attributes Management dialog box

Parameter Name	Meaning	Value Range
Interference level boundary	There are six interference levels. The BTS calculates the interference value of a channel based on the measurement report (MR) sent from an MS, and then determines its level by comparing the calculated value with the six levels.	The six parameters must be listed in an ascending order. The six parameters must be within this range (115–85).
Interference average parameter	Determines the number of measurement reports that the BTS receives before an interference value is calculated.	1–31 (14 is recommended.)
Connection failure threshold	Compares the measurement report and the value of the bit error rate that are reported by an MS with the receive power level to judge whether the connection fails.	0–127 (15 is recommended.)

Parameter Name	Meaning	Value Range
T200	Determines the timer duration for responses after messages are sent in the related channels.	0–1275 (for SDCCH, FACCH full rate, FACCH half rate, SDCCH/SAPI3) and 0–2550 (for SACCH/TCH/SPAI0, SACCH/SDCCH, SACCH/TCH/SAPI3)
Max. time advance	Time advance for the farthest point of the area that the cell covers	0–127 (63 is recommended.)
Overload period	The BTS calculates the channel usage at a fixed interval to check whether the channel is overloaded. The interval is determined by the overloading period.	-
CCCH load threshold	Ratio between the number of successful random access attempts and the total number of access attempts in a unit time.	0–100% (80% is recommended.)
CCCH load indicating period	Determines the duration within which the BTS must report the load on the CCCH to the MSC.	0–255 (15 is recommended.)
RACH busy determination threshold	Determines the level threshold of random access.	–255 dBm–0 dBm
RACH load averaging slots	Measures the average loading timeslot number for random access channel.	-
Cell air-interface timer	Determines the timing length.	0 ~ 2550
NY1	The maximum number of times physical information can be resent. It is related to handover.	0–255 (6 or 4 is recommended.)

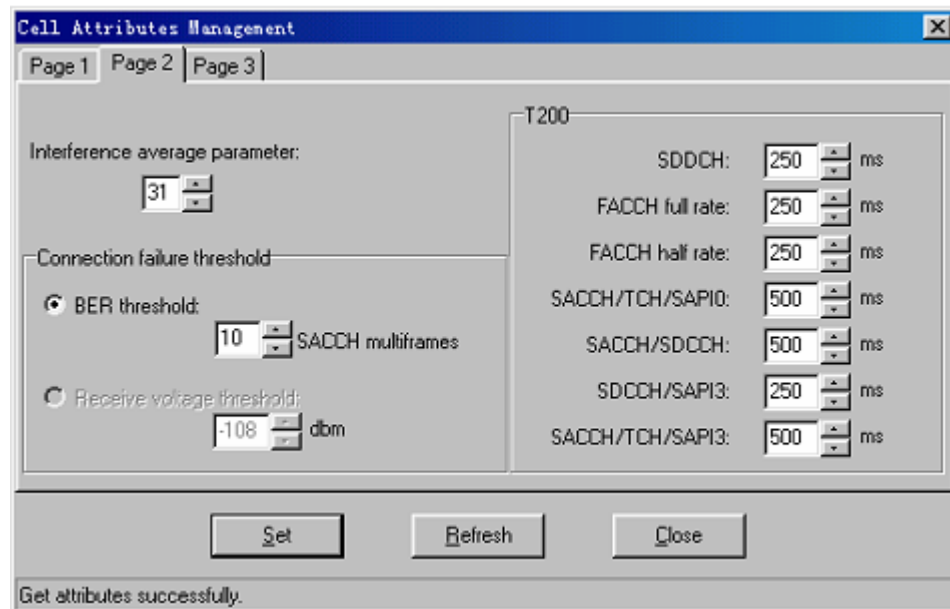
Parameter Name	Meaning	Value Range
BCCH ARFCN	Determines the number of the BCCH frequency. There are 124, 193, 374, and 299 frequencies on the 850 MHz, 900 MHz, 1800 MHz, and 1900 MHz bands respectively.	128–251 (850 MHz); 1–124, 966–1023 (900 MHz); 512–885 (1800 MHz); 512–810 (1900 MHz)
BSIC	The base station identity code (Base station identity code = network color code + base station color code)	0 ~ 63
Starting frame No.	Determines the frame from which this function takes effect.	0–42431
Frame offset	The variance in the number of configured frames for different cells under one BTS.	0–7

## Procedure

**Step 1** In left pane of the **Site Maintenance Terminal System** window, select **Cell**. In right pane of the window, double-click **Cell Attributes Management**.

The **Cell Attributes Management** dialog box is displayed, as shown in [Figure 7-1](#).

**Figure 7-1** Cell attributes management



**Step 2** Enter different values for each attribute.

 **NOTE**

The parameters displayed on the terminal are the activated parameters on the BTS. You can adjust their values.

**Step 3** Click **Set**.

The attribute is set successfully. The result is displayed on the status bar in the **Cell Attributes Management** dialog box.

**Step 4** Click **Refresh**.

The attribute is set successfully. The result is displayed on the status bar in the **Cell Attributes Management** dialog box, as shown in [Figure 7-1](#).

 **NOTE**

The configure operation enables the site maintenance terminal to activate the parameters on the BTS. The refresh operation enables the site maintenance terminal to obtain the latest data from the BTS. You can perform the refresh operation to confirm the accuracy of data.

---End

## 7.2 Managing Cell Extended Attributes

This function is performed to view or set RF resource indication period, paging times, and access error threshold.

### Prerequisite

You have logged in to the BTS through the Site Maintenance Terminal.

### Context

[Table 7-2](#) lists the description of the parameter configuration.

**Table 7-2** Parameters in the Cell Extended Attributes Management dialog box

Parameter Name	Meaning	Value Range
RF resource indication period	Interval at which the BTS reports the RF resource to the MSC	1–31
Paging times	This parameter is used for the BTS to determine whether a paging message is resent. The paging times configured in the BTS and that configured in the MSC together control the number of retransmissions of the paging message. The total paging times is approximately equivalent to the multiplication of the configuration in the BTS with the configuration in the MSC.	0–4

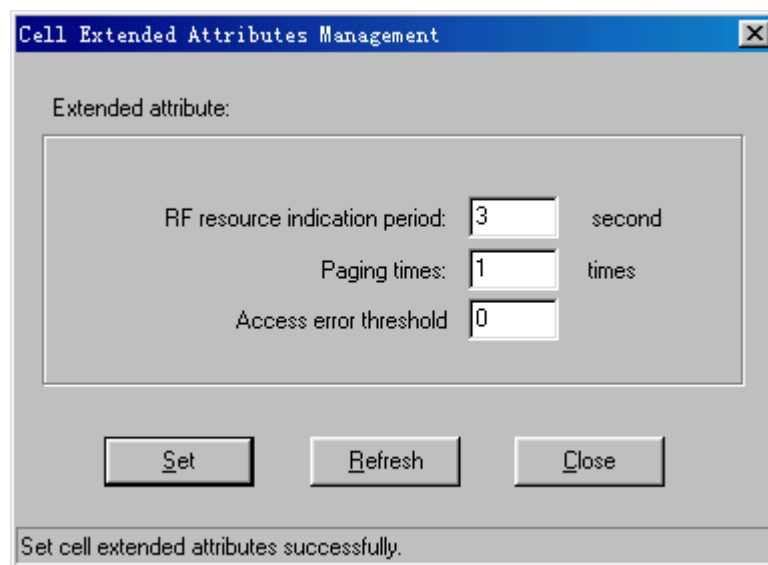
Parameter Name	Meaning	Value Range
Access error threshold	Defines the dependency of the training sequence. If the value of this parameter is too small, the error tolerance of the random access signal is high. Therefore, the MS random access is easy, however, the probability of invalid random access being detected is high. If the value of this parameter is too large, the probability of invalid random access being detected is low, however, a normal access is difficult to be reported.	0-255

## Procedure

**Step 1** In the left pane of the **Site Maintenance Terminal System** window, select **Cell**. In the right pane of the window, double-click **Cell Extended Attributes Management**.

The **Cell Extended Attributes Management** dialog box is displayed, as shown in [Figure 7-2](#).

**Figure 7-2** Cell extended attributes management



**Step 2** Modify the parameters of the cell extended attributes based on your actual situation.

**NOTE**

The parameters displayed on the terminal are the activated parameters on the BTS. You can adjust their values.

**Step 3** Click **Set**.

The extended attribute is set successfully. The result is displayed on the status bar in the **Cell Extended Attributes Management** dialog box, as shown in [Figure 7-2](#).

**NOTE**

Through the Site Maintenance Terminal System, the set parameters are sent to the BTS and are validated. The configured cell extended attributes cannot be refreshed.

----End

## 7.3 Changing Cell Management States

This function is performed to lock or unlock the BTs and RCs of a cell.

### Prerequisite

You have logged in to the BTS through the Site Maintenance Terminal.

### Context



#### CAUTION

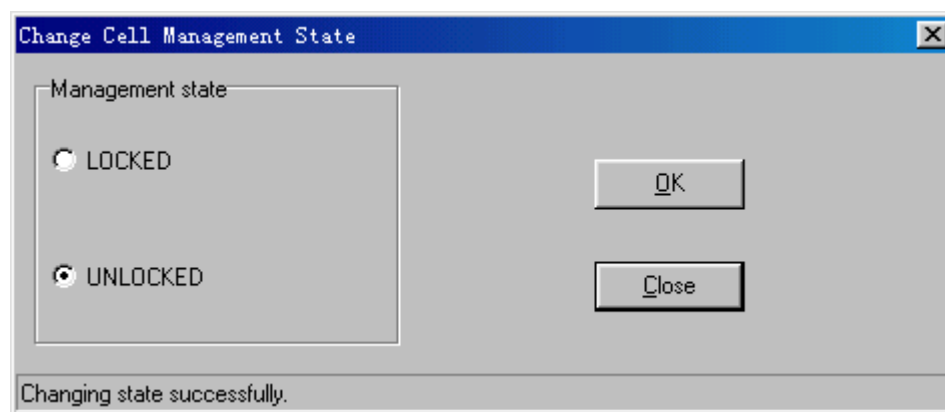
When the cell management state is changed to Locked, all the channels in the cell are in out of service state. That is, the cell cannot provide any service when it is locked. Therefore, you should perform this function carefully.

---

### Procedure

- Step 1** In the left pane of the **Site Maintenance Terminal System** window, select **Cell**. In the right pane of the window, double-click **Change Cell Management State**.  
The **Change Cell Management State** dialog box is displayed, as shown in [Figure 7-3](#).

**Figure 7-3** Changing the cell management state



- Step 2** Select the management state you need.



#### NOTE

The parameters displayed on the terminal are the activated parameters on the BTS. You can adjust their values.

- Step 3** Click **OK**.

The cell management state is changed successfully. The result is displayed on the status bar in the **Change Cell Management State** dialog box, as shown in [Figure 7-3](#).

----End

## 7.4 Testing Cell Performance

This function is performed to test all the RCs of a cell and to check whether they are functional.

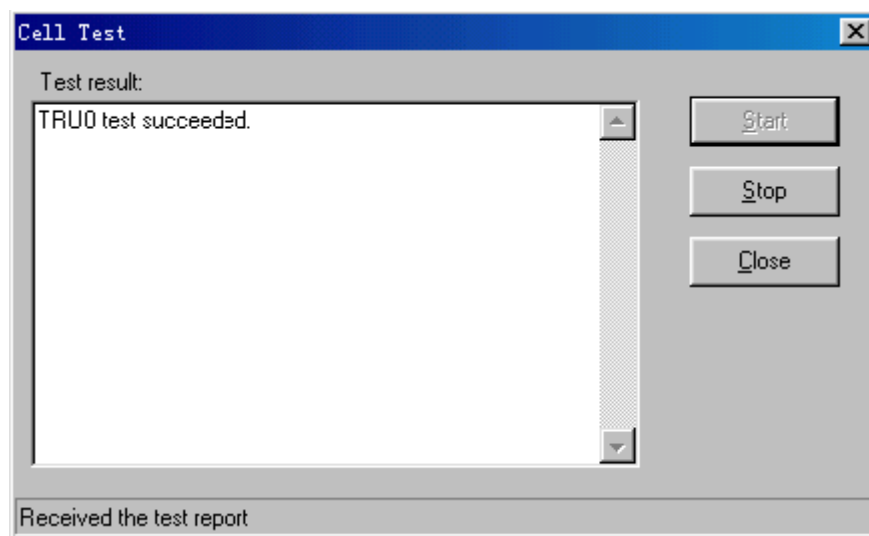
### Prerequisite

You have logged in to the BTS through the Site Maintenance Terminal.

### Procedure

- Step 1** In the left pane of the **Site Maintenance Terminal System** window, select **Cell**. In the right pane of the window, double-click **Cell Performance Test**. The **Cell Test** dialog box is displayed, as shown in **Figure 7-4**.

**Figure 7-4** Cell performance test



- Step 2** Click **Start**.

The test report is obtained. The result is displayed in the **Cell Test** dialog box. If the test is successful, the BT and the RC are functional, as shown in **Figure 7-4**.

 **NOTE**

During the test, if you click **Stop**, the test is stopped. The result is displayed in the **Cell Test** dialog box.

----**End**