RUT850 SMS Utilities

☐

Contents

Summary

RUT routers have an extensive amount of various SMS control utilities. SMS Utilities can be used to set/get configurations, monitor and issue commands to the router.

SMS Utilities

Default Rules

The SMS Utilities section contains a list of rules that perform certain actions when they are activated by SMS messages.

The figure above is an illustration of the SMS Utilities rules list. The entire list contains 26 rules but you are also be provided with the possibility to configure custom ones.

All default configuration options are listed below:

- Reboot
- Get status
- Switch mobile data on / off
- Change mobile data settings
- SSH access control
- Web access control
- Restore to default
- GPS coordinates
- GPS on / off
- FW upgrade from server
- Config update from server
- Switch monitoring on / off
- Monitoring status
- UCI API

Execution

To execute a rule, just send an SMS message to the router's SIM card number with the rule's SMS Text, e.g., if you send a message with the text **"reboot"**, the router will reboot provided the selected Authorization method is **"No authorization"**. However, if there is an Authorization method present you will need to include the **"Authorization key"** in the text message. This **"Authorization key"** depends on the chosen **Authorization method**, i.e., if the method is **"By serial"**, the **"Authorization key"** is the router's serial number, if the method is **"By router admin password"**, the "Authorization key" is the router's admin password. The **"Authorization key"** must precede the activation text and they must be separated by a space symbol. For example, if the chosen Authorization method is **"By router admin password"** and the password is **"admin01"**, the entire message should look like this: **"admin01 reboot"**. The same applies to **"By serial"** authorization.

Rule Overview and editing

Every default SMS rule can be edited to your liking. If none of the rules suit your purposes, just click the **Edit** button next to any SMS Utilities rules. This section will contain information on editing every signle SMS Utilities rule.

Reboot

Above is an example of what an **SMS Configuration** window looks like, specifically, **SMS Configuration** for the **Reboot** rule. Below is a table with detailed explanations on how to configure the rule and what each of the fields mean. To avoid redundancy, screenshots for the other rules will not be provided, since the structures, syntax and the overall look of the configuration windows for each rule are very similar. Instead, only tables containing information on how to edit each rule will be provided.

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable SMS reboot function	Allows router restart via SMS
Action	The action to be performed when this rule is met	Reboots the router
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter; Default text: **reboot**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**
Get status via SMS after reboot	Check this to receive connection status via SMS after the reboot	If checked, the router will send a status message once it has rebooted and is operational again. This is both a separate SMS Rule and an option under the SMS Reboot rule. After checking this, the **Send status SMS to other number** field will become available
Send status SMS to other number	Enable this if you want the status message to be sent to another (other than the sender) number (s)	If this is checked, you will be prompted to enter a phone number (s) This field appears only if you have checked **Get status via SMS after reboot**
Message text	Which status information should be included in SMS: Data state, Operator, Connection type, Signal Strength, Connection State, IP	You can select which status elements to display

Status

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable SMS status function	Allows you to get the router's status via SMS. This is both a separate SMS Rule and an option under the SMS Reboot rule
Action	The action to be performed when this rule is met	Returns an SMS message containing information about the status of the router. The type of information contained within the message can be specified in the **Message text** field
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter; Default text: **status**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**
Send status SMS to other number	Enable this if you want the status message to be sent to another (other than the sender) number (s)	If this is checked, you will be prompted to enter a phone number (s)
Message text	Which status information should be included in SMS: Data state, Operator, Connection type, Signal Strength, Connection State, IP	You can select which status elements to display

Switch mobile data ON/OFF

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the Switch mobile data function	Allows mobile control via SMS
Action	The action to be performed when this rule is met	Turn mobile data ON or OFF
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter; Default text: **mobileon** to turn mobile data ON; **mobileoff** to turn mobile data OFF
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**
Write to config	Permanently saves mobile network state	With this setting enabled, the router will keep the new mobile data state even after reboot. If it is not selected, the router will revert the mobile data state after reboot

SSH access Control

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the SSH access control function	Allows SSH access control via SMS
Action	The action to be performed when this rule is met.	Turns SSH access ON or OFF
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **ssh**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**
Enable SSH access	Enables or Disables SSH access from LAN	If this is checked, SMS will enable SSH access from LAN, if not, SMS will disable SSH access from LAN
Enable remote SSH access	Enables or Disables SSH access from WAN	If this is checked, SMS will enable SSH access from WAN, if not, SMS will disable SSH access from WAN

- Note that by default the ssh rule will **enable both local and remote SSH access**. You can

change how the rule acts by clicking the "Edit" button located next to it:

- In the next window you can customize whether the rule will turn local/remote SSH access ON or OFF:

If you are using this rule frequently, we suggest that you create a new custom rule. For example, you can use the default rule to turn SSH access ON and use the custom rule to turn SSH access OFF. You can create new SMS Utilities rules from the **New SMS Rule** section located at the bottom of the SMS Utilities page.

Web access Control

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the Web access control function	Allows Web access control via SMS
Action	The action to be performed when this rule is met.	Turns access to WebUI ON or OFF
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **web**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**
Enable HTTP access	Enables or Disables HTTP access from LAN	If this is checked, SMS will enable HTTP access from LAN, if not, SMS will disable HTTP access from LAN
Enable remote HTTP access	Enables or Disables HTTP access from WAN	If this is checked, SMS will enable HTTP access from WAN, if not, SMS will disable HTTP access from WAN
Enable remote HTTPS access	Enables or Disables HTTPs access from WAN	If this is checked, SMS will enable HTTPS access from WAN, if not, SMS will disable HTTPS access from WAN

- Note that by default the web rule will **enable both local and remote HTTP access** as well as **remote HTTPS access**. You can change how the rule acts by clicking the "Edit" button located next to it:

- In the next window you can customize whether the rule will turn local/remote HTTP/HTTPS access ON or OFF:

If you are using this rule frequently, we suggest that you create a new custom rule. For example, you can use the default rule to turn HTTP/HTTPS access ON and use the custom rule to turn HTTP/HTTPS access OFF. You can create new SMS Utilities rules from the **New SMS Rule** section located at the bottom of the SMS Utilities page.

Restore to default

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the Restore to default function	Allows you to restore the router to its default settings via SMS
Action	The action to be performed when this rule is met.	Executes a router Reset, which means the router will reboot after this rule is executed and all custom configurations will be deleted and restored to default
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **restore**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**

GPS Coordinates

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the GPS coordinates function	Allows you to get GPS coordinates via SMS
Action	The action to be performed when this rule is met.	Sends you GPS coordinates of the router
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **gps**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**

GPS ON/OFF

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the GPS ON/OFF function	Allows you to control GPS via SMS
Action	The action to be performed when this rule is met.	Turns GPS ON or OFF
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **gpson** to turn GPS ON; **gpsoff** to turn GPS OFF
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**

Force FW upgrade from server

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the FW upgrade from server function	Allows you to upgrade the router's FW via SMS
Action	The action to be performed when this rule is met.	Upgrades your router's current Firmware to the one uploaded and assigned to your router in FOTA. The router will reboot and be unreachable for a couple of minutes after this rule is executed
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **fw_upgrade**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**

Force Config update from server

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the Config update from server function	Allows you to load a different configuration file on to your router via SMS
Action	The action to be performed when this rule is met.	Upgrades your router's current Configuration to the one uploaded and assigned to your router in FOTA. The router will reboot and be unreachable for a couple of minutes after this rule is executed
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **config_update**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**

Switch monitoring ON/OFF

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the Switch monitoring function	Allows you to control monitoring status via SMS
Action	The action to be performed when this rule is met.	Turns remote monitoring ON or OFF
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **monitoringon** to turn remote monitoring ON; **monitoringoff** to turn remote monitoring OFF;
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**

Monitoring status

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the Monitoring status function	Allows you to get monitoring status via SMS
Action	The action to be performed when this rule is met.	Returns a text message containing information about remote monitoring status
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **monitoring_status**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**

NOTE: No default **SMS text** is provided for this rule. It can be created via the **New SMS Rule** tab.

Change mobile data settings (cellular) rule

The Change mobile data settings rule is exceptional to most of the other rules as it does not perform a single action like turning specific services On/Off or getting status updates. It designed to change mobile data settings and it's **SMS text** can't be described by a single string because the message depends on what configurations you want to change. For example, you can send a message that will change your APN only, you can send a message that will change APN and mobile service mode, or even a message that will change every single mobile setting.

Change mobile data settings

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the Change mobile data settings function	Allows you to change mobile settings via SMS
Action	The action to be performed when this rule is met.	Changes the specified mobile settings
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default: **cellular** **Detailed explanations on how to use this function are presented in the table below**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**

The default **SMS text** for the Change mobile data settings rule is **cellular** but it is only an indication text and does not include any specific parameters to be changed. The list of parameters that can be changed and explanations on how to incorporate them into the **"cellular"** message is presented in the table below.

Mobile Settings via SMS parameters

PARAMETER	VALUE	DESCRIPTION	DEFAULT MESSAGE EXAMPLE
apn=	e.g., internet.gprs	Sets APN	**cellular apn=internet.gprs**
dialnumber=	e.g., *99***1#	Sets Dialing number	**cellular dialnumber=*99***1#**
auth_mode=	none | pap | chap	Sets Authentication method	**cellular auth_method=pap**
service=	2gonly | 3gonly | 4gonly | auto	Sets the mobile Service mode	**cellular service=auto**
username=	e.g., user	Sets the user name for PAP or CHAP authentication	**cellular username=user**
password=	e.g., pass	Sets the password for PAP or CHAP authentication	**cellular password=pass**
roaming=	**0** for OFF; **1** for ON	Turn Mobile data roaming ON or OFF	**cellular roaming=0**

Each of the above examples contain a single parameter but you can send out multiple parameters in one message. For example, **"cellular apn=internet.gprs service=3gonly"**. This message would set your APN to "internet.gprs" and you Service mode to 3G Only. You can also send a message that would include all of the parameters above: **"cellular apn=internet.gprs dialnumber=*99***1# auth_mode=pap service=3gonly username=user password=pass"**

UCI API rule

The UCI rule lets you set or get any parameter from the router's configuration files.

UCI API

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	This check box will enable or disable the UCI API function	Allows you to set or get any configurations from the router
Action	The action to be performed when this rule is met.	Sets or sends you any specified configurations of the router
SMS text	SMS text that will trigger the rule	SMS text can contain letters, numbers, spaces and special symbols. Capital letters also matter Default text: **uci** **Detailed explanations on how to use this function are presented in the table below**
Authorization method	What kind of authorization to use for SIM management	Possible values: No authorization | By serial | By router admin password; Default: **By router admin password**
Allowed users	White list of allowed users	Possible values: From all numbers | From group | From single number; Default: **From all numbers**

The following are syntax examples for the UCI API rule:

UCI API syntax

SYNTAX	DESCRIPTION	DEFAULT MESSAGE EXAMPLE
uci get config.section.option"	Returns config option value	**uci get network.wan.ipaddr** - returns the router's WAN IP address
uci set config.section.option="value"	Sets config option	**uci set wireless.wifi-iface.key="12345678"** - sets WiFi interface's password to 12345678
uci show config	Returns the contents of a config file	**uci show openvpn** - returns the contents of the openvpn config file
uci show config.section	Returns the exact part of a config file (either section or the exact option value)	**uci show network.ppp** - returns the contents of the ppp interface section from the network config file

As you can see, the UCI API rule requires that you know the names of the configuration files and the names of the sections and parameters that they hold. Therefore, it is generally used by advanced users. To find out the configuration file names and their contents, you will need to login to router via SSH or CLI.

Custom Rules

If default rules do not suit your purposes, you can also configure custom SMS rules. To do so, go to the bottom of the SMS Utilities page, where you will find the **New SMS Rule** tab. Select an Action and press the **Add** button located next to it.

Configuring a new rule is very similar to editing default rules: you are provided with a list of **Actions**, other fields are generated in accordance with which **Action** you choose.

Call Utilities

Just like SMS Utilities, Call Utilities provide you with the possibility to issue certain commands to the router from your mobile phone. The list of possible rules is of course shorter because you can only make one type of call. Keep that in mind when creating Call Utilities rules because one call will trigger all of the enabled rules at once.

There is only one default rule (Reboot) configured and it is disabled. To make a new rule click the **Edit** button located next to the one default rule or make an entirely new entry for you Call Rules list by adding a rule from the New Call Rule tab.

Call Configuration

The **Call Configuration** window is similar to **SMS Configuration**, but less complex.

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Enable	yes | no; Default: **no**	Allows router's Call rules
Action	Reboot | Send status | Send WiFi | Send mobile data | Send output; Default: **Reboot**	The action to be performed when this rule is met
Allowed users	From all numbers | From group | From single number; Default: **From all numbers**	White list of allowed users
Get status via SMS after reboot	yes | no; Default: **no**	If checked, the router will send a status message once it has rebooted and is operational again
Message text	string; Default: **Router name - %rn; WAN IP - %wi; Data Connection state - %cs; Connection type - %ct; Signal Strenght - %ss; New FW available - %fs;**	Which status information should be included in SMS: Data state, Operator, Connection type, Signal Strength, Connection State, IP

User Groups

User Groups provides you with the possibility to group phone numbers for SMS management purposes. You can then later use these groups in all related SMS and call functionalities. This option

helps if there are several Users who should have the same roles when managing the router via SMS or calls. You can create a new user group by entering a name in the **Group name** text field and clicking the **Add** button located next to it in the **Create New User Group** section. After this you will re redirected get to the **Modify User Group** section.

FIELD NAME	DESCRIPTION	EXPLANATION, NOTES
Group name	string; Default: " "	Name of the group of phone numbers. Used for easier management purposes
Phone number	phone number; Default: " "	Add numbers to the user group. Must match international format. You can add more phone number fields by clicking on the green (✕) symbol

SMS Management

With the help of the **SMS Management** window you can read and send SMS messages.

Read SMS

In the **Read SMS** tab you can read and delete received/stored SMS messages. The layout is simple, there is a list of received SMS messages and you can choose how many entries of that list should visible at one time with SMS per page drop box in the top left corner of the page and there is a Search field to help you navigate more efficiently through the list of messages in the top right corner of the page.

Send SMS

The Send SMS tab lets you send SMS messages from the router's SIM card.

All you have to do is enter the recipient's phone number, type in your message and hit the **Send** button. If everything went well, a green bar saying **Message sent** should appear (image below).

Storage

The Storage tab shows you how much SIM card memory space is used and how much is still available. You can also chose the option for the router to not delete messages. If this option is not used, the router will automatically delete all incoming messages after they have been read. Message status **read/unread** is examined every 60 seconds. All **read** messages are deleted.

Statistics

The Statistics page represents information about sent and received SMS messages. The counter can be reset by clicking the **Reset** button.