ROCKBLOCK

Web Service user guide

ROCK SEVEN
LOCATION TECHNOLOGY

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Introduction

Thanks for choosing RockBLOCK!

This document describes the web and email services associates with your RockBLOCK. Using these services, you can:

- Have messages sent by your RockBLOCK delivered to your application by HTTP or E-Mail.
- Send messages to your RockBLOCK by HTTP or using our web user interface.
- Purchase line rental and credits for your RockBLOCK, using our web user interface.

Our web user interface is known as "Rock 7 CORE", and will be referred to by this name throughout this document.

Getting Help

If you need any help at all, either with your RockBLOCK device, or with any of our associated web services, please just drop us an email.

support@rock7mobile.com

Service URLs

Rock 7 CORE

Our web user interface, Rock 7 CORE, is accessible at:

https://core.rock7.com

Your account manager will have provided you with login credentials. Rock 7 CORE can be used to add line rental and credit to your account, configure your message delivery destinations and send individual messages to your RockFLEET.

HTTP API

Our API, which can be used to send messages to your RockBLOCK, is accessible at:

https://core.rock7.com/rockblock

Full instructions on this simple API are below.

Email

If you choose to have messages from your RockBLOCK delivered to an email address, these messages will come from:

300123456123456@rockblock.rock7.com

Where the long number is the IMEI of your RockBLOCK.

Receiving Messages from your RockBLOCK

There are two methods that you can choose to have messages delivered by.

HTTP POST to your application

This is the preferred method as it provides guaranteed delivery.

You must first configure the URL(s) of your application, which can be done by logging in to your Rock 7 CORE account.

When a message is sent by your RockBLOCK, we will open an HTTP connection to your application URL. We will POST the parameters in the table below.

Parameter	Description	Example value
imei	The unique IMEI of your RockBLOCK	300234010753370
momsn	The Message Sequence Number set by RockBLOCK when the message was sent from the device to the Iridium Gateway. The value is an integer in the range 0 to 65,535 and is incremented each time a transmit session is successfully completed from the device to the Iridium Gateway. It is a wrap around counter which will increment to 0 after reaching 65535.	12345
transmit_time	The date & time (always UTC) that the message was transmitted.	12-10-10 10:41:50
iridium_latitude	The *approximate* latitude of the RockBLOCK at the time it transmitted.	52.3867
iridium_longitude	The *approximate* longitude of the RockBLOCK at the time it transmitted.	0.2938
iridium_cep	An *estimate* of the accuracy (in km) of the position information in the previous two fields.	8
data	Your message, hex-encoded.	48656c6c6f20576f726c6420526f636b424c4f434b

Your application must respond with an HTTP status 200, to indicate that you have successfully handled the message.

Any other response will cause the message delivery to remain in our delivery queue, and another attempt will be made after 1 minute. After each failure, the backoff period is doubled. After 14 attempts (almost 6 days) the message will be marked as failed and removed from the queue.

Email delivery

Please note that this method of delivery can be less reliable than the HTTP POST method discussed above. Nonetheless, it can be a convenient, and human-readable way to deliver your messages.

You must first configure the email address(es) for delivery, which can be done by logging in to your Rock 7 CORE account.

When a message is sent by your RockBLOCK, we will send an email to your configured addresses. An example of the email format is shown below:

Subject	Message 171 from RockBLOCK 300234010753370
Body:	IMEI: 300234010753370 MOMSN: 171 Transmit Time: 12-10-02 14:59:7 UTC Iridium Latitude: 51.6173 Iridium Longitude: 0.2888 Iridium CEP: 3 km Data: 48656c6c6f20576f726c64 --
Attachment:	**300234010753370-171.bin** (11 bytes)

Your message appears hex-encoded in the body of the email. The unencoded message data is also attached.

Please refer to the table above (HTTP POST parameters) for a description of the other fields.

Sending Messages to your RockBLOCK

HTTP POST to the RockBLOCK API

You can send a message to your RockBLOCK by making an HTTP POST request to this URL:

https://core.rock7.com/rockblock/MT

The four parameters in the table below are mandatory:

Parameter	Description	Example value
imei	The unique IMEI of your RockBLOCK	300234010753370
username	Your Rock 7 Core username	mrsmith
password	Your Rock 7 Core password	abc1234
data	Your message, hex-encoded.	48656c6c6f20576f7 26c6420526f636b42 4c4f434b

The service will respond with a simple text/plain document, with a single line. In case of success, this line will say:

`OK,12345678`

The number uniquely identifies your message.

In case of failure, the response will be:

`FAILED,15,Textual description of failure`

Where the number is an error code. Possible values are:

Error Code	Description
10	Invalid login credentials
11	No RockBLOCK with this IMEI found on your account
12	RockBLOCK has no line rental
13	Your account has insufficient credit
14	Could not decode hex data
15	Data too long
16	No data

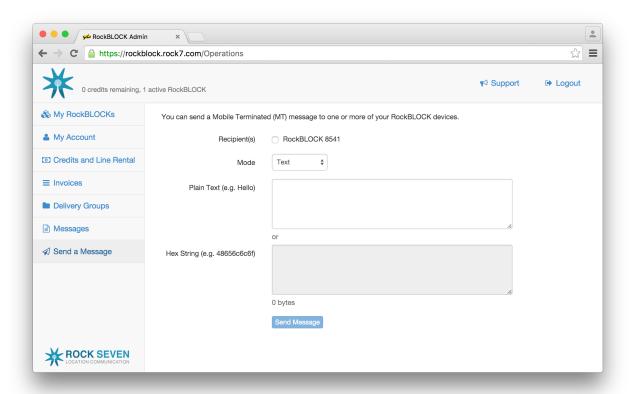| Error Code	Description
99	System Error

Your message will be queued immediately, and will be downloaded by your RockBLOCK when it next initiates an SBD session. If powered on, and has network availability, the RING ALERT signal will be asserted.

From Rock 7 CORE

You can send a message to your RockBLOCK from the Core admin interface. Click the 'Send a message' option to the left-hand side.

You will see a screen (as below) where you can send a message, to your device(s) either in ASCII or Hex format.

Managing your account

Line Rental & Credits

Your account has a credit balance, which you can top-up at any time. Your unit also has line-rental, which allows it to communicate with the satellites.
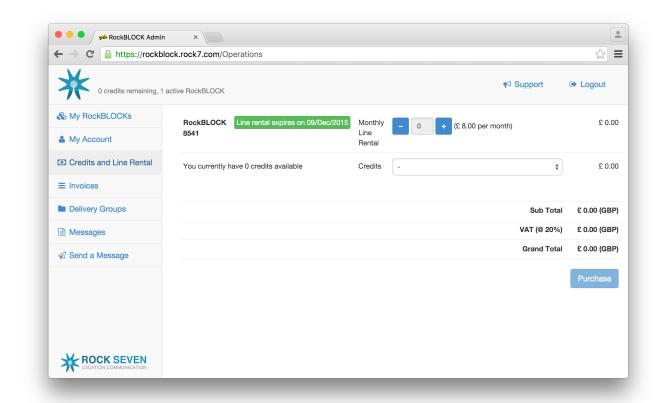
One credit is consumed for every 50 bytes (or part thereof) of data transferred to or from your RockBLOCK.

Without active line rental or credits available, your RockBLOCK will be temporarily deactivated.

Adding line rental and credits is done online, through your Core admin account.

Log in to your account using the details you were provided with on activation, and click on the 'cog' icon next to your account. Then click on the 'Credits and Line Rental' option.

You will see a screen much like the screenshot below, where you can add line rental and credits. Line rental is purchased in blocks of 1 month. Credits can be purchased in various 'pack sizes', the larger the pack of credits the smaller the 'per credit' cost is.

Configuring delivery settings

You can also configure where your RockBLOCK delivers MO messages by logging into your Core admin account.

Log in using the details you were provided with during activation, and click the 'Delivery Groups' option.

Here you can add one or more delivery addresses for your RockBLOCK, either an E-Mail or HTTP web service address (see earlier).