



API doc ROCKI Play

API document version: 1.1

CGI API Version: 1.1

Protocol: HTTP GET & HTTP POST (both can be used)

1 API workflow

1.1 UPnP vs API

ROCKI uses the UPnP:1 profile (<http://upnp.org/specs/av/av1/>) for music playback, control, and managing music metadata. The UPnP software can be controlled by any device that implements the UPnP Control Point profile.

In addition, we have created an API layer that provides additional control of ROCKI-specific features. For more information about UPnP, check chapter 8

1.2 Setting the ROCKI name

Because the ROCKI firmware is developed by two teams, some API calls overlap.

Please note: in the current firmware release, setting the name of the ROCKI requires two API calls.

First of all you need to set Devicename, by making a request to `router-info.cgi?Devicename=<name>.....` (see chapter 2)

Secondly, you need to make a request to `rocki.cgi?Name=<name>` (see chapter 3)

This will be fixed in an upcoming firmware release, so that we can reduce this to one API call.

1.3 Playing music

Directly playing and controlling music is done through UPnP AV Transport. In addition to the UPnP AV transport method, we've also created an API call to playback music directly to the MPlayer software embedded in ROCKI Play.

2 Wireless Settings - router-info.cgi

2.1 SSID / Security / Password and Name

SET: <rocki>/cgi-bin/cgi-bin/router-info.cgi?Devicename=<**rockiname**>
&Username=<**ssid**>
&Security Mode=<**securitymode**>
&Password=<**password**>
&ApUsername=<**hotspotname**>
&ApPassword=<**ApPassword**>
&devdefault=no
&appautoupdate=yes

Parameter	Datatype	Description	Possible values
<i>Devicename</i>	String	Name of ROCKI. This needs to be a String type starting with "ROCKI_", then its name. NOTE: You also need to set name in rocki.cgi! See paragraph 2.2	ROCKI_ + name <i>Example:</i> <i>router-info.cgi?Devicename=ROCKI_Kitchen.... etc</i>
<i>Security Mode</i>	String	Security mode of network	<ul style="list-style-type: none">• No Encryption• WEP• WPA/WPA2 <i>Example:</i> <i>router-info.cgi?Security%20Mode=No%20Encryption&Devicename=ROCKI_Kitchen.... etc</i>
<i>Password</i>	String	Wireless Network password	Password String
<i>ApUsername</i>	String	ROCKI Access point SSID, should be kept empty for now!	Empty!string. Example: <i>router-info.cgi?ApUsername=&Devicename=ROCKI_Kitchen.... etc</i>
<i>ApPassword</i>	String	Leave empty , for now we'll use the default password (87654321)	
<i>devdefault</i>	String	Factory reset. Always use "no"	Always use String value "no"
<i>appautoupdate</i>	String	Turn auto updating on or off Should not be turned off, always use value "yes"	Only use String value "yes"

2.2 Router-info.cgi Notes & Warnings (IMPORTANT!)

- The **devdefault** value should **always** be “**no**”. If you set **devdefault** to “yes”, **factory reset** will be triggered!
- Changing the wireless settings will **reboot** the ROCKI
- **Always** make sure a request to router-info.cgi contains **ALL** parameters. Leave parameters empty if you don't want to use them, for example:
Devicename=ROCKI_Kitchen&Username=&Security%20Mode=&Password=...
- **appautoupdate** must always be “**yes**” for now. We rely on auto update to release new firmware and API features. For now, never disable auto updating!

3 ROCKI settings - rocki.cgi

3.1 Name

SET: <rocki>/cgi-bin/rocki.cgi?Name=<parameter>

GET: <rocki>/name

Parameter	Datatype	Description	Possible values
SET: Name GET: name	String	Name of the ROCKI device. This needs to be a String type starting with "ROCKI_", then its name. NOTE: You also need to set name in router-info.cgi! See paragraph 2.2	ROCKI_ + name <i>Example:</i> <i>rocki.cgi?Name=ROCKI_Kitchen</i>

3.2 Color

SET: <rocki>/cgi-bin/rocki.cgi?Color=<parameter>

GET: <rocki>/color

Parameter	Datatype	Description	Possible values
SET: Color GET: color	String	Color of the ROCKI	<ul style="list-style-type: none">• GREEN• YELLOW• PINK• PURPLE• RED• ORANGE• BLACK• DONS• SKIP

3.3 Enable/disable Voice Feedback

SET: <rocki>/cgi-bin/rocki.cgi?VoiceFeedback=<parameter>

GET: <rocki>/voice

Parameter Value: "on" or "off"

Example: <rocki>/cgi-bin/rocki.cgi?VoiceFeedback=on

3.3.1 Voice Feedback Notes & warnings

This API call takes some seconds in order to move files. If you directly reboot the ROCKI after setting the voice feedback, this process might fail.

3.4 Playback music URL

Only for test purposes is not supported anymore please use AVTransport layer

SET: <rocki>/cgi-bin/rocki.cgi?Play=<parameter>

Parameter Value: fiully qualified URL to music file

Example: <rocki>/cgi-bin/rocki.cgi?Play=<http://www.example.com/test.mp3>

Playback MP3 file directly by mplayer software in ROCKI Play. Currently can't be controlled through UPnP

4 LED control - rocki.cgi

4.1 Red Led control (on / off / blink)

SET: <rocki>/cgi-bin/rocki.cgi?RedLed=<parameter>

Parameter	Datatype	Description	Possible values
SET: RedLed	String	Color of the LED	<ul style="list-style-type: none">• <i>on</i>• <i>off</i>• <i>blink</i>

4.2 Green Led control (on / off / blink)

SET: <rocki>/cgi-bin/rocki.cgi?GreenLed=<parameter>

Parameter	Datatype	Description	Possible values
SET: GreenLed	String	Color of the LED	<ul style="list-style-type: none">• <i>on</i>• <i>off</i>• <i>blink</i>

5 System functions - rocki.cgi

5.1 Firmware Version name

The current firmware version can be retrieved by making a request to /versionname

GET: <rocki>/versionname

5.2 Reboot

SET: <rocki>/cgi-bin/rocki.cgi?Reboot=true

Rocki will directly reboot and disconnect from the client application. *(takes about 30 seconds)*

Remember to give proper feedback to the user

5.3 Standalone Mode (Hotspot Mode)

SET: <rocki>/cgi-bin/rocki.cgi?APMode=on

Rocki will directly reboot in hotspot mode. *(takes about 30 seconds)*

Remember to provide proper feedback that the user needs to change the wireless settings in order to reconnect the client to the ROCKI device.

5.4 Factory Reset

SET: <rocki>/cgi-bin/rocki.cgi?FactoryReset=true

Factory reset will revert ROCKI back to stock firmware, and will eventually reboot into hotspot mode.

In order to factory reset, the firmware flash procedure will be started, which will flash the original firmware.

(takes about 1 minute)

Remember to provide proper feedback that the user needs to change the wireless settings in order to reconnect the client to the ROCKI device.

6 Supported UPnP calls

6.1 About the UPnP software stack

ROCKI Play uses GMediaRenderer as the UPnP software stack, you can find info about GMediaRenderer here: <http://gmrender.nongnu.org/>.

GMediaRenderer uses the UPnP:1 profile. For more information, please refer to the following UPnP documentation: <http://upnp.org/specs/av/av1/>

6.2 Playing back music

ROCKI Play implements the AVTransport specification to transfer music metadata.

6.3 Playback control

6.3.2 Play (unpause)

To play music we use the Play method of the AVTransport specification

6.3.3 Pause

To pause music, we use the default UPnP AVTransport Pause method

6.3.4 Seek

Seek uses the absolute time seek mode to seek through tracks, using the hh:mm:ss timestamp.

6.3.5 Playback position

To retrieve the current song position we retrieve the position info by calling the GetPositionInfo method of the AVTransport service and subsequently retrieving the CurrentTrackDuration

6.3.6 Playback status

In order to check whether a song is playing or has been paused, we request the GetTransportInfo method of the AVTransport specification

7 UPnP tips and example

About UPnP:

Cling Workbench: <http://4thline.org/projects/cling/workbench/>

Ideal to see how UPnP Works with any UPnP Device

For PHP there is <https://github.com/mkweb/pupnp/>

For Python there is <https://code.google.com/p/miranda-upnp/>

UPnP Is after all nothing more then a POST Request with a SOAP Body **Play**

```
<?xml version="1.0"?>
<s:Envelope s:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body>
<u:Play xmlns:u="urn:schemas-upnp-org:service:AVTransport:1">
<InstanceID>0</InstanceID>
<Speed>1</Speed>
</u:Play>
</s:Body>
</s:Envelope>
```

OR Your PLAY :-p URL:

```
<?xml version="1.0"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
s:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
  <s:Body>
    <u:SetAVTransportURI
xmlns:u="urn:schemas-upnp-org:service:AVTransport:1">
      <InstanceID>0</InstanceID>
      <CurrentURI>"YOUR URL"</CurrentURI>
      <CurrentURIMetaData>
        <DIDL-Lite
xmlns="urn:schemas-upnp-org:metadata-1-0/DIDL-Lite/"
xmlns:upnp="urn:schemas-upnp-org:metadata-1-0/upnp/"
xmlns:dc="http://purl.org/dc/elements/1.1/"
xmlns:dlna="urn:schemas-dlna-org:metadata-1-0/" xmlns:sec="http://www.sec.co.kr/">
          <item
upnp:class>object.item.audioItem.musicTrack</upnp:class>
            <res
protocolInfo="http-get:*:audio/mpeg:DLNA.ORG_PN=MP3;DLNA.ORG_OP=01;DLNA.ORG_FLAG
S=01700000000000000000000000000000" size="FILE LENGTH" duration="0:00:00"></res>
          </item>
        </DIDL-Lite>
      </CurrentURIMetaData>
    </u:SetAVTransportURI>
  </s:Body>
</s:Envelope>
```