

ROBIN

TELECOM DEVELOPMENT



ROBIN Tech Note

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**How-To:
Remote Control the Robin**

About this Tech Note

This Tech Note is meant for the following Robin products:

- Robin SIP
- Robin SV
- Robin CV
- Robin HV

Software release 3.5.0 and higher

Remote Control

The Robin SIP, SV, CV and HV can be controlled using HTTP commands. It's also possible to retrieve data from these Robin devices, such as: call status, streaming video and version info.

You can use:

1. Directly, with HTTP commands (eg. with cURL)
2. The 'Events' option in the web interface

Control the Robin with HTTP commands

The Robin SmartView is controllable with HTTP-commands and it is also possible to retrieve data.

A set of commonly used commands are shown below, in these examples with cURL-commands. To use these commands, the provision of the login credentials of the 'admin' user are mandatory.

! Note: cURL is only one of many ways to send HTTP-commands. For more information about cURL, see: <http://en.wikipedia.org/wiki/CURL> !

Access to the MJPEG-video stream - Only available on Robin products with built-in camera -

The Robin SV, CV and HV are equipped with a high resolution camera. It generates a Motion-JPEG video stream that can be retrieved with the following command:

```
curl -u admin:<password> "http://<address>/pbhelper/stream.mjpeg"
```

- <password> = the password for the -admin- account
- <address> = the Robin SV address

! Note: Multiple simultaneous MJPEG video streams can affect the performance of the Robin negatively. !

You can also set the preferred resolution and compression level, just add the following to the URL:

- ?width=320&height=240 = resolution for the requested video (320x240 pixels) - **MAX resolution = 720x576**
- ?quality=80 = JPEG quality level (80) - **MAX JPEG quality level = 100**

! Note: Low resolution and low MJPEG quality will both result in low bandwidth usage. High resolution and high MJPEG quality will both result in high bandwidth usage. !

Access to the latest video frame

- Only available on Robin products with built-in camera -

The Robin SV, CV and HV not only generate a Motion-JPEG video stream but also individual video frames (JPEG). These frames can be retrieved by using the following command:

```
curl -u admin:<password> "http://<address>/camera/frame.jpeg"
```

- <password> = the password for the -admin- account
- <address> = the Robin SV address

You can also set the preferred resolution and compression level, just add the following to the URL:

- ?width=320&height=240 = resolution for the requested video (320x240 pixels) - **MAX resolution = 720x576**
- ?quality=80 = JPEG quality level (80) - **MAX JPEG quality level = 100**

! Note: Low resolution and low JPEG quality will both result in low bandwidth usage. High resolution and high JPEG quality will both result in high bandwidth usage. !

Making calls using HTTP commands

You can control the Robin to make calls, disconnect calls and retrieve the current call status. The Robin will answer to these commands in JSON.

Command: `curl -u admin:<password> "http://<address>/api/v1/call_setup?number=501"`

Goal: Call extension 501

Answer:

```
{
  "ok" : true
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/call_status"`

Goal: Retrieve the call status of the Robin

Answer:

```
{
  "rv" : {
    "status" : "outgoing call to 501"
  },
  "ok" : true
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/call_hangup"`

Goal: disconnect the call (call hangup)

Answer:

```
{
  "ok" : true
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/api_ping"`

Goal: ping the Robin (to check if it responds)

Answer:

```
{
  "rv" : {
    "pong" : "pong"
  },
  "ok" : true
}
```

! Note: If the HTTP command to dial an extension contains an extension that is already known in the phone book, the Robin dials that extension and will use the profile that is defined for that extension. !

Control the audio mute function using HTTP commands

The audio settings of the Robin can be controlled using http commands. The commands control the mute function of the Robin. It mutes speakers of the Robin.

You can mute three types of audio:

- All incoming tones: Mute all tones from an incoming phone call
- All tones: Mute all tones from incoming and outgoing phone calls
- All audio: Mute the speakers of the Robin. It mutes all tones and voice. Use this option to listen-in on the Robin.

The audio mute can also be disabled using one command.

The Robin will answer to these commands in JSON.

Command: curl -u admin:<password> "http://<address>/api/v1/mute_set?mute=tones_incoming"

Goal: mute all tones from an incoming phone call

Answer: {
 "rv" : {
 "mute": "tones_incoming"
 },
 "ok" : true
}

Command: curl -u admin:<password> "http://<address>/api/v1/mute_set?mute=tones_all"

Goal: mute all tones from incoming and outgoing phone calls

Answer: {
 "rv" : {
 "mute": "tones_all"
 },
 "ok" : true
}

Command: curl -u admin:<password> "http://<address>/api/v1/mute_set?mute=all_audio"

Goal: mute the speakers of the Robin. (mutes all tones and voice)

Answer: {
 "rv" : {
 "mute": "all_audio"
 },
 "ok" : true
}

Command: curl -u admin:<password> "http://<address>/api/v1/mute_set?mute=off"

Goal: disable the audio mute (all sound will be on)

Answer: {
 "rv" : {
 "mute":"off"
 },
 "ok" : true
}

Command: curl -u admin:<password> "http://<address>/api/v1/mute_get"

Goal: retrieve the audio mute status

Answer: {
 "rv" : {
 "mute":"off" / : "all_audio" / : "tones_all" / : "tones_incoming"
 },
 "ok" : true
}

Control the door opener using HTTP commands

- Only available on the Robin SIP and Robin SV -

You can control the Robin to open and close the door and retrieve the status of the door opener. The Robin will answer to these commands in JSON.

Command: `curl -u admin:<password> "http://<address>/api/v1/dooropener_open"`

Goal: Open the door and keep it open (close the relay)

Answer:

```
{
  "ok" : true
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/dooropener_close"`

Goal: Close the door (open the relay)

Answer:

```
{
  "ok" : true
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/dooropener_pulse"`

Goal: Open the door and keep it open for the time set in the GUI. After that, close the door

Answer:

```
{
  "ok" : true
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/dooropener_status"`

Goal: Retrieve the status of the door opener

Answer:

```
{
  "rv" : {
    "status" : "Open"
  },
  "ok" : true
}
```

Control the relay switch(es) using HTTP commands

- Only available on the Robin CV and HV -

You can control the Robin to control the built-in relay switch(es).

- **The Robin CV is equipped with one relay switch, the Robin HV is equipped with two relay switches.** -

The Robin will answer to these commands in JSON.

Command: curl -u admin:<password> "http://<address>/api/v1/switch_set?state=on&switch=1"

Goal: Activate switch no. 1 (close the relay)

Answer: {
 "rv" :
 "ok" : true
}

Command: curl -u admin:<password> "http://<address>/api/v1/switch_set?state=off&switch=1"

Goal: Deactivate switch no. 1 (open the relay)

Answer: {
 "rv" :
 "ok" : true
}

Command: curl -u admin:<password> "http://<address>/api/v1/switch_set?state=pulse&duration=5&switch=1"

Goal: Activate switch no. 1 for the duration of 5 seconds (pulse the relay)

Answer: {
 "rv" :
 "ok" : true
}

'Duration' is a variable value (in seconds)

Command: curl -u admin:<password> "http://<address>/api/v1/switch_get?switch=1"

Goal: Retrieve the state of switch no. 1 (get status of switch)

Answer: {
 "rv" : {
 "state": "off" / "on"
 },
 "ok" : true
}

Use switch=1 for the relay switch on the Robin CV, use switch=1 or switch=2 for the Robin HV.

Configure the SIP-configuration using HTTP commands

The SIP configuration of the Robin can be programmed and read using HTTP commands.

The Robin will answer to these commands in JSON.

Command: `curl -u admin:<password> "http://<address>/api/v1/get_button_count"`

Goal: Retrieve the amount of available buttons on the Robin (1,2,4 or 6) -> Answer=1

Answer:

```
{
  "ok":true,"rv":1
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/get_phonebook"`

Goal: Retrieve the phone book data (in this example: no. 1001, 1002 and 1003)

Answer:

```
{
  "ok":true,"rv":[
    {
      "profile":"---",
      "index":1,
      "description":"Bria",
      "extension":"1003",
      "allow_register":false
    },
    {
      "profile":"---",
      "index":2,
      "description":"Yealink_1",
      "extension":"1001",
      "allow_register":false
    },
    {
      "profile":"---",
      "index":3,
      "description":"Yealink_2",
      "extension":"1002",
      "allow_register":false
    }
  ]
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/add_phonebook_entry?description=Reception&number=101&allow_register=0"`

Goal: Add a Phone book entry. In this example: Description=Reception, number=101, Allow register (Peer to Peer) disabled (0)

Answer:

```
{
  "ok":true,"rv":[]
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/delete_phonebook_entry?index=1"`

Goal: Remove entry no. 1 from the phone book.

Answer:

```
{
  "ok":true,"rv":[]
}
```

After removal of a phone book entry, the numbering of the remaining entries will change. Use the 'get_phonebook' command to retrieve the updated entries and numbers.

Command: curl -u admin:<password> "http://<address>/api/v1/get_callprio_list?button=1"

Goal: Retrieve the call list (in this example: 1001, 1002 en 1003, for button 1)

Answer: {
 "ok":true,"rv":
 {"name":"Yealink_1","number":"1001"},
 {"name":"Yealink_2","number":"1002"},
 {"name":"Bria","number":"1003"}
 }

Command: curl -u admin:<password> "http://<address>/api/v1/set_callprio_list?first=name1&second=name2&third=name3&button=2"

Goal: Configure the call list. In this example: First=name1, Second=name2, Third=name3, this is the call list for button no. 2.

Answer: {
 "ok":true,"rv":[]
}

Command: curl -u admin:<password> "http://<address>/api/v1/set_sip_config ?proto=udp&host=192.168.200.202&port=5060&username=test&password=secret®ister=1"

Goal: Configure the SIP settings of the Robin. In this example: SIP protocol=UDP, SIP proxy / Registrar=192.168.200.202, SIP proxy port number=5060, Username=test, Password=secret, Register enabled (1).

Answer: {
 "ok":true,"rv":[]
}

Command: curl -u admin:<password> "http://<address>/api/v1/get_sip_config"

Goal: Retrieve the SIP configuration from the Robin

Answer: {
 "ok":true,"rv":
 {"proto":"udp","secondary_port":5060,"secondary_host":"ip or hostname",
 "host":"192.168.200.202","port":5060,"expires":3600,"register":true,
 "password":"secret","username":"test","secondary":false}}

Go-to-Robin using HTTP commands

Using HTTP commands, the Robin can connect, check the status and close the connection with the GO-to-Robin remote server.

The Robin will answer to these commands in JSON.

Command: `curl -u admin:<password> "http://<address>/api/v1/tunnel_connect"`

Goal: Start the 'Go-To-Robin' connection (to enable remote support access to the Robin)

Answer:

```
{
  "ok":true,"rv":[]
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/tunnel_disconnect"`

Goal: Close the 'Go-To-Robin' connection

Answer:

```
{
  "ok":true,"rv":[]
}
```

Command: `curl -u admin:<password> "http://<address>/api/v1/tunnel_status"`

Goal: Retrieve the connection status of the 'Go-To-Robin' connection - In this example: 'Connected'

Answer:

```
{
  "ok":true,"rv":{"status":"connected"}
}
```

Upgrade software version using HTTP commands

The software of the Robin can be upgraded using HTTP commands. It takes eight steps to upgrade the Robin.

The Robin will answer to these commands in JSON.

! Note: Use an interval time of 5 seconds between each command. !

1. *Check for a new software version:*

Command: `curl -u admin:<password> "http://<address>/api/v1/do_update"`

Goal: Start the check for a new software version.

Answer:

```
{
  "ok":true,"rv":[]
}
```

2. *Check the status during the **update command**. Continue checking until the output is 'empty':*

Command: `curl -u admin:<password> "http://<address>/api/v1/get_upgrade_status"`

Goal: Retrieve the actual status during the update check.

Answer:

```
{
  "ok":true,"rv":"Checking for new versions..." -> busy
or
  "ok":true,"rv":"" -> done
}
```

3. *Retrieve the software versions. Is the "version_available" identical to the "version_installed"? No update available. Is the "version_available" higher than the "version_installed"? New update available, see step 4:*

Command: `curl -u admin:<password> "http://<address>/api/v1/get_versions"`

Goal: Retrieve the software versions.

Answer:

```
{
  "ok":true,"rv":{
    "version_available":"dev+3870",
    "version_installed":"dev+3869",
    "version_running":"dev+3869"
  }
}
```

4. Upgrade to the latest version:

Command: `curl -u admin:<password> "http://<address>/api/v1/do_upgrade"`

Goal: Start the software upgrade.

Answer:

```
{
  "ok":true,"rv":[]
}
```

5. Check the status during the **upgrade command**. Continue checking until the output is 'Ok' and the upgrade is finished:

Command: `curl -u admin:<password> "http://<address>/api/v1/get_upgrade_status"`

Goal: Retrieve the actual status during the software upgrade.

Answer:

```
{
  "ok":true,"rv":"Upgrading..." -> busy
or
  "ok":true,"rv":"Ok" -> done
}
```

6. As soon as the upgrade is done, check the status of the upgrade using the 'get_versions' command. Is the "version_installed" higher than the "version_running"? The upgrade was successful and the Robin needs to reboot. See step 7:

Command: `curl -u admin:<password> "http://<address>/api/v1/get_versions"`

Goal: Retrieve the software versions.

Answer:

```
{
  "ok":true,"rv":{
    "version_available":"dev+3870",
    "version_installed":"dev+3870",
    "version_running":"dev+3869"
  }
}
```

7. Reboot the Robin, the reboot procedure can take up to one minute:

Command: `curl -u admin:<password> "http://<address>/api/v1/reboot"`

Goal: Reboot the Robin

Answer:

```
{
  "ok":true,"rv":[]
}
```

8. After the reboot, use the 'get_versions' command to check if the upgrade. Is the "version_running" identical to the "version_installed" and is the "version_available" empty? The upgrade went successfully:

Command: curl -u admin:<password> "http://<address>/api/v1/get_versions"

Goal: Retrieve the software versions.

Answer:

```
{
  "ok":true,"rv":{
    "version_available":"","
    "version_installed":"dev+3870",
    "version_running":"dev+3870"
  }
}
```


Miscellaneous settings using HTTP commands

Use HTTP commands to make miscellaneous settings.

Command: `curl -u admin:<password> "http://<address>/api/v1/reset_defaults"`

Goal: Restore the factory settings. The Robin will automatically reboot.

Answer:

```
{
  "ok":true,"rv":[]
}
```

Recording feature - HTTP commands

The recording feature of the Robin can be controlled using HTTP commands.

The Robin will answer to these commands in JSON.

video_list

The 'video_list' call retrieves a list with all recorded videos. Each entry contains the following fields:

- time: start time of the video (unix timestamp)
- duration: in seconds
- id: video id, a unique string for this video
- url: the url of the videostream
- event_data: the event data of the event that triggered the recording

Arguments:

- button: filters on button number (optional)

Command: curl -u admin:<password> "http://<address>/api/v1/video_list?button=3"

Goal: Retrieve the video list for a specific button - in this case button 3

Answer:

```
{
  "ok": true, "rv": { "video_list": [
    { "call_ids": [
      "c3aa4538"
    ],
      "time": 1394113333,
      "id": "2",
      "duration": 300,
      "url" : "/recording/video-2.m3u8",
      "event_data": {
        "button": 3,
        "type": "button"},
      {
        "call_ids": [
          "970fdfe9"
        ],
        "time": 1394113375,
        "id": "5",
        "duration": 300,
        "url" : "/recording/video-5.m3u8",
        "event_data": {
          "button": 3,
          "type": "button"}
      }
    ]
  }
}
```

```
}  
}
```

Play HLS video

The video file can be accessed via the m3u8 url.

Command: `curl -u admin:<password> "http://<address>/recording/video-5.m3u8"`

Goal: Retrieve the video - In this case it contains four segments

Answer:

```
#EXTM3U  
#EXT-X-TARGETDURATION:10  
#EXT-X-MEDIA-SEQUENCE:0  
#EXTINF:10, no desc  
/recording//2014/03/06/14/20140306144219_00000002_10.ts  
#EXTINF:10, no desc  
/recording//2014/03/06/14/20140306144229_00000003_10.ts  
#EXTINF:8, no desc  
/recording//2014/03/06/14/20140306144239_00000004_8.ts  
#EXTINF:10, no desc  
/recording//2014/03/06/14/20140306144247_00000005_10.ts  
#EXT-X-ENDLIST
```

video_del

Remove a specific video.

Arguments:

- id: id of the video (see video_list)

Command: `curl -u admin:<password> "http://<address>/api/v1/video_del?id=6"`

Goal: Remove the video with -in this case- id: 6

Answer:

```
{  
  "ok":true,"rv":[]  
}
```

call_log

Retrieve the call log.

Arguments:

- id: id of a specific call

Command: curl -u admin:<password> "http://<address>/api/v1/call_log"

Goal: Retrieve the call log

Answer:

```
{
  "ok": true,"rv": {"call_log": [
    {
      "number": "101@10.0.0.26",
      "direction": "incoming",
      "time": 1386753209,
      "id": "55826c80",
      "duration": 44
      "result": "hangup"
      "answered": true},
    {
      "number": "101@10.0.0.26",
      "direction": "incoming",
      "time": 1386753970,
      "id": "19b46a5f",
      "duration": 10
      "result": "busy"
      "answered": false},
    {
      "number": "101@10.0.0.26",
      "direction": "incoming",
      "time": 1386754004,
      "id": "483ae77c",
      "duration": 3
      "result": "error"
      "answered": false}
  ]
}
```

Control the Robin using Events

The 'Events' method can be used to control functions of the Robin with custom commands. Use this if the direct HTTP commands don't fit your needs.

The first step is to create a 'Source', this will be the activator of the event. The second step is to create an 'Action' that will follow the 'Source'.

Log on to the Robin web interface and navigate to: -System-Events-, click on 'Add source'.

The screenshot shows the Robin SV web interface. At the top left is the logo "ROBIN TELECOM DEVELOPMENT" and "Robin SV". At the top right, it says "version 1.0.0-3469" and "Logged in as 'admin' (logout)". Below the header is a navigation menu with links: "Telephony", "Audio", "Video", "Network", "System", "Device", "Clock", "Events", "Security", "Advanced SIP", "Software", "Switch", "Tones", "Info", "Debug", "Logs". The "Events" link is highlighted. The main content area shows a "Delete Source" form with the following fields: "Name" (text input), "Enable" (checkbox, checked), "Active" (checkbox, unchecked), "Type" (dropdown menu, set to "Http"), "min duration" (text input, "1" followed by "seconds"), and "HTTP path" (text input, "call"). There is an "Apply settings" button at the bottom left of the form. At the bottom center of the page, there is a copyright notice: "© Copyright 2009-2012 Robin Telecom".

- Define a name for 'Source', eg. 'Demo'.
- Select as 'Type': Http
- Create a unique Http-path, eg. 'demo'
- Apply settings

The HTTP request to use will be:

`http://<address>/evmgr/<path>`

- <address> = the address of the Robin
- evmgr = event manager
- <path> = the path that is defined in 'Source'

Next, create an 'Action' to go with the 'Source'. To do this, click on 'Add action'.

The screenshot shows the Robin SV web interface. At the top left is the logo 'ROBIN TELECOM DEVELOPMENT' and 'Robin SV'. At the top right, it says 'version 1.0.0-2469' and 'Logged in as 'admin' (logout)'. Below the header is a navigation menu with items: 'Telephony', 'Audio', 'Video', 'Network', 'System' (highlighted), 'Device', 'Clock', 'Events', 'Security', 'Advanced SIP', 'Software', 'Switch', 'Tones', 'Info', 'Debug', 'Logs'. The main content area is titled 'Delete Action' and contains a form with the following fields:

- Name:
- Enable:
- Event:
- Edge:
- Type:
- Call extension:

At the bottom of the form is an 'Apply settings' button. Below the form, there is a small copyright notice: '© Copyright 2009-2012 Robin Telecom'.

- Define a name for this 'Action'
- As 'Event', select the just created 'Source'
- As 'Type', select 'Call' (the Robin will start an outgoing call when triggered)
- As 'Call extension', select the default extension to dial
- Apply settings

If the following HTTP request is received by the Robin:

`http://<address>/evmgr/demo`

The Robin SV will dial the default extension that is set in the 'Action'.