LinTech

HTTP API for HBM11

v22

Date: 2021-03-19
Revision: 1

Contents

1 Changes 5

2 Introduction 6

2.1 Versioning 6

2.2 Server 6

2.3 Request Rules 6

2.4 Supported API Endpoints 7

2.5 Sample Request using HTTPS 7

3 Device 8

3.1 Get Device Information 8

3.2 Set Device Name 9

3.3 Factory Reset 10

3.4 Reboot 11

4 Network 12

4.1 Get Network Information 12

4.2 Get AP Mode 15

4.3 Set AP Mode 16

4.4 Get Ethernet Mode 18

4.5 Set Ethernet Mode 20

5 Wi-Fi 22

5.1 Scan 22

5.2 List Networks 24

5.3 Add Network 26

5.4 Add Static Network 28

5.5 Select Network 28

5.6 Remove Network 29

6 Bluetooth 30

6.1 Enable 30

6.2 Disable 31

6.3 Status 32

6.4 Get Properties 33

6.5 Set Properties 35

7 OTA Upgrade 37
7.1 Firmware Update 37
7.2 Firmware Update Status 38
8 Internet Radio 39
8.1 Play Station 39
8.2 Play/Pause (*deprecated*) 40
8.3 Next (deprecated) 41
8.4 Previous (*deprecated*) 42
8.5 Stop (deprecated) 43
8.6 Query (deprecated) 44
8.7 Get Playlist 46
8.8 Save Playlist 47
8.9 Remove Playlist 48
8.10 Play Playlist 49
8.11 Get Favourite Station 50
8.12 Set Favourite Station 51
8.13 Get Favourite Playlist 52
8.14 Set Favourite Playlist 53
9 TIDAL 54
9.1 Credentials 54
9.2 Info 55
9.3 Play Track 56
9.4 Get Playlist 57
9.5 Save Playlist 58
9.6 Remove Playlist 59
9.7 Play Playlist 60
10 Qobuz 61
10.1 Credentials 61
10.2 Info 63
10.3 Play Track 64
10.4 Get Playlist 65
10.5 Save Playlist 66
10.6 Remove Playlist 67

10.7 Play Playlist 68
11 Player 69
11.1 Play 69
11.2 Play/Pause 70
11.3 Next 71
11.4 Previous 72
11.5 Stop 73
11.6 Status 74
12 Songcast :: Sender 78
12.1 Enable 78
12.2 Disable 79
12.3 Status 80
12.4 Play 82
12.5 Stop 83
13 Songcast :: Receiver 84
13.1 Link 84
13.2 Unlink 85
13.3 State 86
13.4 Play 87
13.5 Stop 88
14 LEDs 89
14.1 Get LEDs configuration 89
14.2 Set LEDs configuration 90
15 Line-In 91
15.1 Enable 91
15.2 Disable 92
15.3 Status 93
16 Sound Control 94
16.1 Get Master Volume 94
16.2 Set Master Volume 95
16.3 Get Status Tones Volume 96
16.4 Set Status Tones Volume 97
16.5 Get Channel 98

16.6 Set Channel 99
16.7 Get Equalizer 100
16.8 Set Equalizer 101
16.9 Reset Equalizer 102
17 AirPlay 103
17.1 Enable 103
17.2 Disable 104
17.3 Status 105
17.4 Get AirPlay Version 106
17.5 Set AirPlay Version 107
18 Spotify 108
18.1 Enable 108
18.2 Disable 109
18.3 Status 110
19 UPnP 111
19.1 Enable 111
19.2 Disable 112
19.3 Status 113
20 iPerf 114
20.1 Enable 114
20.2 Disable 115
20.3 Status 116
21 Configure (*deprecated*) 117
21.1 Get Device Status 117
21.2 Wifi Scan 121
21.3 Set Config 123
21.4 Factory Reset 124
21.5 Reboot 125

1 Changes

API Version Number	Introduced in HBM11 Firmware Version	Changes
22	6.3.3	1. Fix action `status` of API endpoint `player`.
22	6.3.0	1. Add {`get`,`set`}`airplayversion` to API endpoint `airplay`.
21	6.2.0	1. Add {`get`,`set`}channel to API endpoint `sound`. 2. Add {`get`,`set`}equal to API endpoint `sound`. 3. Add `inet` and `dns` parameter to action `addnetwork` of API endpoint `wifi` for setting up a static wireless network configuration. 4. Deprecate `wifi/addstaticnetwork`. Use `wifi/addnetwork` instead. 5. Add `network/{get,set}ethmode`.
20	6.1.0	1. Add `Bluetooth` endpoint 2. Add the "`type`" parameter to the line-in endpoint to support both analog and digital input

2 Introduction

The HBM11 HTTP API provides a simple, clean and powerful interface to remotely control the HBM11 module.

The API is consists of sending HTTP requests and receiving HTTP requests.

2.1 Versioning

The current HTTP API version string is:

- v22

All API endpoints are preceded by “api/<VERSION_STRING>”.

2.2 Server

Two options are available for remote access:

a) an unsecured HTTP server
b) a secured HTTPS server.

The servers listen on the following ports:

Protocol	Port
HTTP	8989
HTTPS	4949

For connecting to the HTTPS server, the client needs to accept the self-signed certificate. The recommended security protocol is TLS v1.2, the recommended cipher is “AES256-GCM-SHA384”. You can test the secured connection with the OpenSSL client tool, e.g:

```
openssl s_client –tls1_2 –cipher AES256-GCM-SHA384 –connect 192.168.2.1:4949
```

2.3 Request Rules

For proper operation the following requirements has to be met:

- All HTTP request are 'POST' requests.
- The '`content-type`' is '`application/json`'.
- The '`charset`' is 'UTF-8'.

The syntax for the body parameters description follows the rules for the Extended Backus–Naur Form (EBNF):

- Words inside double quotes (" ... ") represent terminal strings.
- Square brackets ([...]) surround optional items.
- Curly brackets ({ ... }) surround items that can repeat zero or more times.
- A vertical line (|) seperates alternatives.
- `String`: A string is a sequence of zero or more Unicode characters, wrapped in double quotes, using backslash escapes.
- `Integer`: The integer type is used for integral numbers.
- `Object`: JSON object. An object is an unorder set of name/value pairs. An object begins with ‘{‘ (left brace) and ends with ‘}’ (right brace). Each name is followed by ‘:’ (colon) and the name/value pairs are separated by ‘,’ (comma).
- `Null`: JSON data is not defined, indicating missing data

2.4 Supported API Endpoints

The HTTP server is accessed through HTTP requests to one of the following endpoints:

API Endpoint		Description
device.action		Device configuration
network.action		Network configuration
wifi.action		Wi-Fi configuration
bluetooth.action		Bluetooth configuration
upgrade.action		Firmware update over the air
radio.action		Internet radio control
tidal.action		TIDAL track control
qobuz.action		Qobuz track control
player.action		Playback control
songcast	**sender.action**	Songcast sender control
	receiver.action	Songcast receiver control
leds.action		LEDs control
linein.action		Line-In action
sound.action		Sound control
airplay.action		AirPlay control
spotify.action		Spotify control
upnp.action		UPnP control
iperf.action		iPerf3 control
configure.action *[deprecated]*		Device and network configuration

Parameters has to be passed into these endpoints through the request body as a JSON object.

2.5 Sample Request using HTTPS

The sample requests in the HTTP API documentation use the network tool “curl” to provide examples to connect to the HBM11 with the HTTP protocol. To connect the module using HTTPS curl has to be called with the parameter “**-k**” and the URL should be **https**://<IP>:**4949**/..., e.g.

```
curl -k -H 'Content-Type: application/json; charset=UTF-8'
     -d '{"action": "info"}'
     -X POST https://192.168.2.1:4949/api/v22/device.action
```

3 Device

3.1 Get Device Information

Description

Get the information about the device.

Method

POST

URL

http://<IP>:8989/api/v22/device.action

Request Parameters

Parameter	Description	Value
action	Action type	`"info"`

Response Parameters

Parameter	Description	Value
model	Model name	`String`
devicename	Friendly name of the device	`String`
firmware	Firmware version	`String`
hardware	Hardware revision	`String`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "info"}'
     –X POST http://192.168.2.1:8989/api/v22/device.action
```

Sample Response

```
{
   "model": "HBM11",
   "devicename": "Wohnzimmer",
   "firmware": "6.1.0",
   "hardware": "LTH-6510CC-02DAA9A6"
}
```

3.2 Set Device Name

Description

Set a friendly name for the device. The device name is encoded as UTF-8 string. Its maximum length is 50 bytes.

Method

POST

URL

http://<IP>:8989/api/v22/device.action

Request Parameters

Parameter	Description	Value
action	Action type	`"setdevicename"`
devicename	Friendly name of the device *Note: The maximum string length is 50 characters.*	`String`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: New device name was set. error: New device name could not be set.	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{"action": "setdevicename", "devicename": "Wohnzimmer"}'
     -X POST http://192.168.2.1:8989/api/v22/device.action
```

Sample Response

```
{ "returncode": "success" }
```

3.3 Factory Reset

Changelog

Version	Changes
v10	• Initial support

Description

Reset the device to factory settings.

Method

POST

URL

http://<IP>:8989/api/v22/device.action

Request Parameters

Parameter	Description	Value
action	Action type	`"factoryreset"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "factoryreset"}'
     –X POST http://192.168.2.1:8989/api/v22/device.action
```

Sample Response

```
{ "returncode": "success" }
```

3.4 Reboot

Changelog

Version	Changes
v10	• Initial support

Description

Reboot the device.

Method

POST

URL

http://<IP>:8989/api/v22/device.action

Request Parameters

Parameter	Description	Value
action	Action type	`"reboot"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{"action": "reboot"}'
     -X POST http://192.168.2.1:8989/api/v22/device.action
```

Sample Response

```
{ "returncode": "success" }
```

4 Network

4.1 Get Network Information

Changelog

Version	Changes
v10	• Initial support
v19	• Add stationinfo object

Description

Get the network configuration.

Method

POST

URL

http://<IP>:8989/api/v22/network.action

Request Parameters

Parameter	Description	Value
action	Action type	`"info"`

Response Parameters

Parameter	Description	Value
wlan	*Wireless network*	`Object | Null`
└ **mac**	└ MAC address	`String`
└ **mode**	└ Wi-Fi operation mode	`"AP" | "station"`
└ **ssid**	└ Service Set Identifier	`String`
└ **encryption**	└ Encryption type	`"NONE" | "WEP" | "WPA" | "WPA2-PSK"`
└ ***stationinfo***[1]	└ Station info object	`Object | Null`
└ ***[inet]***	└ *List of inet objects*	*`List`*
eth	*Ethernet network*	`Object | Null`
└ **mac**	└ MAC address	`String`
└ ***[inet]***	└ *List of inet objects*	*`List`*

1) ***stationinfo*** *is only present if mode is "station".*

JSON Objects

stationinfo

Parameter	Description	Value
signal	Signal strength in dBm	`Integer`
channelwidth	Channel bandwidth **Parameter** / **Description** 0 – 20 MHz (no HT) 1 – 20 MHz 2 – 40 MHz	`Enum`
bitrate	Bitrate	`Number`

inet

Parameter	Description	Value
family	Internet address family type	`"IPv4" | "IPv6"`
address	IP address	`String`
netmask	Netmask	`String`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "info"}'
     –X POST http://192.168.2.1:8989/api/v22/network.action
```

Sample Response

Sample response for wired connectivity:

```
{
   "eth": {                                          // Ethernet is up
       "mac": "00:23:b1:a4:35:9e"                    // MAC address
       "inet": [                                     // Internet addresses
                   {
                       "family": "IPv4",             // IPv4
                       "address": "192.168.178.102", // IP address
                       "netmask": "255.255.255.0"    // Netmask
                   }
               ]
   }
}
```

Sample response for wireless connectivity and module operating in AP mode:

```
{
   "wlan": {                                        // WLAN is up
       "mac": "00:23:b1:66:ab:94"                   // MAC address
       "mode": "AP",                                // AP mode
       "ssid": "HBM11-AB94",                        // SSID
       "channel": 11,                               // Channel
       "encryption": "NONE",                        // No encryption
       "inet": [                                    // Internet addresses
                  {
                      "family": "IPv4",             // IPv4
                      "address": "192.168.2.1"      // IP address
                      "netmask": "255.255.255.0"    // Netmask
                  }
              ]
   }
}
```

Sample response for wireless connectivity and module operating in station mode:

```
{
   "wlan": {                                        // WLAN is up
       "mac": "00:23:b1:66:ab:94"                   // MAC address
       "mode": "station",                           // station mode
       "ssid": "Home",                              // SSID
       "channel": 6,                                // Channel
       "encryption": "WPA2-PSK",                    // WPA2
       "stationinfo": {
           "signal": -28,                           // Signal strength in dBm
           "channelwidth": 1,                       // 20 MHz
           "bitrate": 65                            // 65.0 Mbps
           },
       },
       "inet": [                                    // Internet addresses
                  {
                      "family": "IPv4",             // IPv4
                      "address": "192.168.2.1"      // IP address
                      "netmask": "255.255.255.0"    // Netmask
                  }
              ]
   }
}
```

4.2 Get AP Mode

Changelog

Version	Changes
v16	• Initial support

Description

Get information about the current AP mode configuration.

Method

POST

URL

http://<IP>:8989/api/v22/network.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getapmode"`

Response Parameters

Parameter	Description	Value
ssid	Current Service Set Identifier	`String`
encrypt	Current encryption mode **Parameter** / **Description** 0 – No encryption (open network) 1 – WPA2-PSK encryption	`Enum`
channel	Current channel used by the AP, *1 <= channel <= 13.*	`Integer`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "getapmode"}'
     –X POST http://192.168.2.1:8989/api/v22/network.action
```

Sample Response

```
{
   "ssid": "HBM11-AB94",                    // SSID
   "channel": 11,                           // Channel
   "encrypt": 0                             // No encryption
}
```

4.3 Set AP Mode

Changelog

Version	Changes
v16	• Initial support

Description

Set-up a new AP mode configuration.

By default, the module operates in AP mode without any encryption. If this is not desirable, the AP mode can be configured to operate with WPA2-PSK encryption.

Additionally, the SSID and the channel can be changed.

Method

POST

URL

http://<IP>:8989/api/v22/network.action

Request Parameters

Parameter	Description	Value
action	Action type	`"setapmode"`
ssid[1]	Service Set Identifier	`String`
encrypt[1]	Encryption mode **Parameter** / **Description** 0 – No encryption (open network) 1 – WPA2-PSK encryption	`Enum`
psk[1]	Pre-shared key whereas the psk length is limited to: *8 <= len(psk) <= 63* Ignored if encryption is set to 0 otherwise required.	`String`
channel[1]	Channel the AP will operate on with *1 <= channel <= 13.*	`Integer`

1) If any of these values is omitted the AP will keep its current setting.

Response Parameters

<table>
<tr><th>Parameter</th><th>Description</th><th>Value</th></tr>
<tr><td>returncode</td><td>Response message<table><tr><th>Parameter</th><th>Description</th></tr><tr><td>success</td><td>AP mode configured successfully</td></tr><tr><td>error</td><td>AP mode could not be configured</td></tr></table></td><td>"success" | "error"</td></tr>
</table>

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "setapmode",
       "ssid": "AP_Wohnzimmer",
       "encrypt": 1,
       "psk": "mysecretpresharedkey"
          }'
     –X POST http://192.168.2.1:8989/api/v22/network.action
```

Sample Response

```
{ "returncode": "success" }
```

4.4 Get Ethernet Mode

Changelog

Version	Changes
v21	• Initial support

Description

Get information about the current Ethernet mode configuration. Possible modes are dynamic (“dhcp”) and static network.

Method

POST

URL

http://<IP>:8989/api/v22/network.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getethmode"`

Response Parameters

Parameter	Description	Value
method	IP address assignment mode **Parameter** / **Description** 0 – Dynamic, using DHCP 1 – Static	`Enum`
inet[1]	*Inet object*	*`Object | Null`*
└ **address**	└ IPv4 address. Format is “X.X.X.X”, where 0 <= X <= 255	`String`
└ **netmask**	└ Netmask. Format is “X.X.X.X”, where 0 <= X <= 255	`String`
└ **broadcast**	└ Broadcast. Format is “X.X.X.X”, where 0 <= X <= 255	`String`
└ **gateway**	└ Gateway. Format is “X.X.X.X”, where 0 <= X <= 255	`String`
dns[2]	*DNS object*	*`Object | Null`*
└ **[domains]**	└ List of domain names	`List`
└ **[nameservers]**	└ List of name servers	`List`

1) *Optional. Only if set in a static IP configuration.*
2) *Optional. Only if set in a static IP configuration.*

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "getethmode"}'
     –X POST http://192.168.2.1:8989/api/v22/network.action
```

Sample Response

Dynamic Ethernet network configuration:

```
{
  "method": 0
}
```

Static Ethernet network configuration:

```
{
  "method": 1,
  "inet": {
    "address": "192.168.1.104",
    "gateway": "192.168.1.1",
    "netmask": "255.255.255.0",
    "broadcast": "192.168.1.255"
  },
  "dns": {
    "domains": [
      "fritz.box"
    ],
    "nameservers": [
      "192.168.1.4",
      "192.168.1.8"
    ]
  }
}
```

4.5 Set Ethernet Mode

Changelog

Version	Changes
v21	• Initial support

Description

Set Ethernet network mode. Possible modes for the IP address assignment are dynamic (“DHCP”) and static.

Method

POST

URL

http://<IP>:8989/api/v22/network.action

Request Parameters

Parameter	Description	Value
method	IP address assignment mode **Parameter** / **Description** 0 – Dynamic, using DHCP 1 – Static	`Enum`
inet[1]	*Inet object*	*`Object | Null`*
└ **address**	└ IPv4 address. Format is “X.X.X.X”, where 0 <= X <= 255	`String`
└ **netmask**[3]	└ Netmask. Format is “X.X.X.X”, where 0 <= X <= 255	`String`
└ **broadcast**[3]	└ Broadcast. Format is “X.X.X.X”, where 0 <= X <= 255	`String`
└ **gateway**[3]	└ Gateway. Format is “X.X.X.X”, where 0 <= X <= 255	`String`
dns[2]	*DNS object*	*`Object | Null`*
└ **[domains]** [4]	└ List of domain names	`List`
└ **[nameservers]** [4]	└ List of name servers	`List`

1) *Optional. If omitted an IP is dynamically requested using DHCP*
2) *Optional. Ignored when “inet” is not set.*
3) *Optional. Default values are used when not set.*
4) *Optional. Ignored when not set.*

Response Parameters

<table>
<tr><th>Parameter</th><th>Description</th><th>Value</th></tr>
<tr><td>returncode</td><td>Response message<table><tr><th>Parameter</th><th>Description</th></tr><tr><td>success</td><td>AP mode configured successfully</td></tr><tr><td>error</td><td>AP mode could not be configured</td></tr></table></td><td>"success" | "error"</td></tr>
</table>

Sample Request

Dynamic Ethernet network configuration:

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{
           "action": "setethmode",
           "method": 0,
         }'
     –X POST http://192.168.2.1:8989/api/v22/network.action
```

Static Ethernet network configuration:

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{
           "action": "setethmode",
           "method": 1,
           "inet": {
             "address": "192.168.1.104",
             "netmask": "255.255.255.0",
             "gateway": "192.168.1.1",
             "broadcast": "192.168.1.255"
           },
           "dns": {
             "nameservers": [
               "192.168.1.4",
               "192.168.1.8"
             ],
             "domains": [
               "fritz.box"
             ]
           }
         }'
     –X POST http://192.168.2.1:8989/api/v22/network.action
```

Sample Response

```
{ "returncode": "success" }
```

5 Wi-Fi

5.1 Scan

Description

Get a list of scanned networks.

Method

POST

URL

http://<IP>:8989/api/v22/wifi.action

Request Parameters

Parameter	Description	Value
action	Action type	`"scan"`

Response Parameters

Parameter	Description	Value
[network]	List of network objects	`List`

JSON Objects

network

Parameter	Description	Value
Channel	Wireless channel	`Integer`
ssid	Service Set Identifier	`String`
bssid	Basic Service Set Identification	`String`
signal	Signal level	`Integer`
***wpa*[1]**	*WPA*	*`Object	Null`*
└ **auth**	└ Authentification	`String`
└ **group_cipher**	└ Group cipher	`String`
└ **pairwise_ciphers**	└ Pairwise ciphers	`String`
***rsn*[1]**	*WPA2*	*`Object	Null`*
└ **auth**	└ Authentification	`String`
└ **group_cipher**	└ Group cipher	`String`
└ **pairwise_ciphers**	└ Pairwise ciphers	`String`

1) *The parameters* wpa *and* rsn *are omitted if the corresponding security protocol is not supported by the access point.*

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{"action": "scan"}'
     -X POST http://192.168.2.1:8989/api/v22/wifi.action
```

Sample Response

```
[
   {                                                  // Encyption with WPA2-PSK
      "channel": 1,
      "ssid": "Lintech1",
      "bssid": "80:2a:a8:51:a4:d1",
      "signal": -8,
      "rsn": {
         "auth": "PSK",
         "pairwise_ciphers": "CCMP",
         "group_cipher": "CCMP"
      }
   },
   {                                                  // Encryption with WPA or WPA2-PSK
      "channel": 4,
      "ssid": "Lintech2",
      "bssid": "00:14:6c:53:4f:52",
      "signal": -78,
      "wpa": {
         "auth": "PSK",
         "pairwise_ciphers": "CCMP TKIP",
         "group_cipher": "TKIP"
      },
      "rsn": {
         "auth": "PSK",
         "pairwise_ciphers": "CCMP TKIP",
         "group_cipher": "TKIP"
      }
   },
   {                                                  // No encryption (Open Network)
      "channel": 8,
      "ssid": "HBM11-BDDF",
      "bssid": "00:90:4c:07:71:12",
      "signal": -24
   }
]
```

5.2 List Networks

Description

List configured Wi-Fi networks. For all networks the ID, SSID and state is given. For statically configured networks an “inet” object is additionaly listed. If no such “inet” object is given, the network uses the default configuration: dynamically IPv4 address assignment.

Method

POST

URL

http://<IP>:8989/api/v22/wifi.action

Request Parameters

Parameter	Description	Value
action	Action type	`"listnetworks"`

Response Parameters

Parameter	Description	Value
[network]	List of configured network objects	`List`

JSON Objects

network

Parameter	Description	Value
id	Network ID	`Integer`
ssid	Service Set Identifier	`String`
flags	Current state flag **Value** / **Description** 0 – Disabled network 1 – Enabled network 2 – Current network	`Enum`
inet	*Inet object*	*`Object | Null`*
└ **address**	└ IPv4 address	`String`
└ **netmask**	└ Netmask	`String`
└ **gateway**	└ Gateway	`String`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "listnetworks" }'
     –X POST http://192.168.2.1:8989/api/v22/wifi.action
```

Sample Response

List of three network configurations, where networks 1 and 2 are dynamically and network 3 is statically managed:

```
[  { "id": 1, "ssid": "Lintech1", "flags": 2 },
   { "id": 2, "ssid": "Lintech2", "flags": 0 },
   { "id": 3, "ssid": "Lintech3", "flags": 1,
               "inet": { "address": "192.168.0.100",
                         "netmask": "255.255.255.0",
                         "gateway": "192.168.0.1" }
   }
]
```

5.3 Add Network

Changelog

Version	Changes
v18	• Add optional **hidden** parameter
v21	• Add optional **inet** and **dns** parameter

Description

Add a new dynamic or static network configuration. By default, a wireless network will request an IP address dynamically using DHCP.

For a static wireless network configuration the parameters “inet“ and “dns” must be used.

If the access point does not broadcast its SSID (a so called “hidden network”) the parameter “hidden” has to be set to true. If “hidden” is not set, or is set to “false”, the network is assumed to broadcast its SSID (it is not „hidden“).

Method

POST

URL

http://<IP>:8989/api/v22/wifi.action

Request Parameters

Parameter	Description	Value
action	Action type	`"addnetwork"`
ssid	Service Set Identifier	`String`
psk	Pre-shared key **Note**: Only necessary for encrypted networks. Do not use for open networks.	`String | Null`
inet[1]	*Inet object*	*`Object | Null`*
└ **address**	└ IPv4 address. Format is “X.X.X.X”, where 0 <= X <= 255	`String`
└ **netmask**[4]	└ Netmask, defaults to “255.255.255.0”	`String`
└ **broadcast**[4]	└ Broadcast, defaults to the IPv4 address with last field set to 255, e.g. “X.X.X.255”	`String`
└ **gateway**[4]	└ Gateway, defaults to the IPv4 address with last field set to 1, e.g. “X.X.X.1”	`String`
dns[2]	*DNS object*	*`Object | Null`*
└ **[domains]** [5]	└ List of domain names	`List`
└ **[nameservers]** [5]	└ List of name servers	`List`

hidden[3]	Hidden network **Value** / **Description** **false** *(default)* — Access point does broadcast its SSID. **true** — Access point cloaks itself by not broadcasting its SSID.	`Boolean | Null`

5) Optional. If omitted an IP is dynamically requested using DHCP
6) Optional. Ignored when "inet" is not set.
7) Optional. If omitted the module will scan for the SSID.
8) Optional. Default values are used when not set.
9) Optional. Ignored when not set.

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success — Network was added to the configured network list. error — Network could not be added to the configured network list.	`"success" | "error"`
id	Network ID	`Integer`

Sample Request

Adding a wireless network configuration with dynamic IP address assignment:

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "addnetwork", "ssid": "Home", "psk": "12345678",
           "hidden": false }'
     -X POST http://192.168.2.1:8989/api/v22/wifi.action
```

Adding a wireless network configuration with static IP address assignment:

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "addnetwork", "ssid": "Home", "psk": "12345678",
           "inet": { "address": "192.168.178.100",
                     "netmask": "255.255.255.0",
                     "broadcast": "192.168.178.255",
                     "gateway": "192.168.178.1" },
           "dns": { "domains": [ "fritz.box" ],
                    "nameservers": [ "192.168.1.1", "192.168.1.4" ] },
           "hidden": false }'
     -X POST http://192.168.2.1:8989/api/v22/wifi.action
```

Sample Response

```
{ "returncode": "success", "id": 1 }
```

5.4 Add Static Network

Changelog

Version	Changes
v18	• Initial support
v21	• Deprecated: Use wifi/addnetwork instead.

5.5 Select Network

Description

Select a network from the network list to connect to.

Method

POST

URL

http://<IP>:8989/api/v22/wifi.action

Request Parameters

Parameter	Description	Value
action	Action type	`"selectnetwork"`
id	Network ID	`Integer`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: Valid network ID, starting connection. error: Network ID not valid.	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "selectnetwork", "id": 1 }'
     -X POST http://192.168.2.1:8989/api/v22/wifi.action
```

Sample Response

```
{ "returncode": "success" }
```

5.6 Remove Network

Description

Remove a network from the configured network list. The corresponding network ID must be fetched from calling the action `"listnetworks"` first.

Note, that the IDs returned by `"listnetworks"` might change after a `"removenetwork"` command. That's why it is recommended to run the `"listnetworks"` command after the `"removenetwork"` to get an updated network list.

Method

POST

URL

http://<IP>:8989/api/v22/wifi.action

Request Parameters

Parameter	Description	Value
action	Action type	`"removenetwork"`
id	Network ID	`Integer`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – Network is removed. error – Network is not removed.	`"success" | "error"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "removenetwork", "id": 1 }'
     –X POST http://192.168.2.1:8989/api/v22/wifi.action
```

Sample Response

```
{ "returncode": "success" }
```

6 Bluetooth

6.1 Enable

Changelog

Version	Changes
v21	• Initial support

Description

Enable the Bluetooth module.

Method

POST

URL

http://<IP>:8989/api/v22/bluetooth.action

Request Parameters

Parameter	Description	Value
action	Action type	`"enable"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "enable" }
     -X POST http://192.168.1.159:8989/api/v22/bluetooth.action
```

Sample Response

```
{ "returncode": "success" }
```

6.2 Disable

Changelog

Version	Changes
v21	• Initial support

Description

Disable the Bluetooth module.

Method

POST

URL

http://<IP>:8989/api/v22/bluetooth.action

Request Parameters

Parameter	Description	Value
action	Action type	`"disable"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "disable" }
     -X POST http://192.168.1.159:8989/api/v22/bluetooth.action
```

Sample Response

```
{ "returncode": "success" }
```

6.3 Status

Changelog

Version	Changes
v21	• Initial support

Description

Test if Bluetooth module is enabled.

Method

POST

URL

http://<IP>:8989/api/v22/bluetooth.action

Request Parameters

Parameter	Description	Value
action	Action type	`"status"`

Response Parameters

Parameter	Description	Value
enabled	Bluetooth status **Parameter** / **Description** true – Bluetooth is enabled. false – Bluetooth is disabled.	`Boolean`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "status" }'
     -X POST http://192.168.1.159:8989/api/v22/bluetooth.action
```

Sample Response

```
{ "enabled": true }
```

6.4 Get Properties

Changelog

Version	Changes
v21	• Initial support

Description

Get the properties of the Bluetooth device.

Method

POST

URL

http://<IP>:8989/api/v22/bluetooth.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getproperties"`

Response Parameters

Parameter	Description	Value
pairable	Pairable state **Parameter** / **Description** true: Device is pairable. false: Device is not pairable.	`Boolean`
discoverable	Discoverable state **Parameter** / **Description** true: Device is discoverable. false: Device is not discoverable.	`Boolean`
pairableTimeout	Pairable timeout in seconds. Default is 180 seconds.	`Integer`
discoverableTimeout	Discoverable timeout in seconds. Default is 180 seconds.	`Integer`

Note, if Bluetooth is disable an empty JSON object is returned.

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "getproperties" }'
     –X POST http://192.168.1.159:8989/api/v22/bluetooth.action
```

Sample Response

Bluetooth is disabled:

```
{}
```

Bluetooth is enabled:

```
{
  "pairable": true,
  "discoverableTimeout": 180,
  "discoverable": false,
  "pairableTimeout": 180
}
```

6.5 Set Properties

Changelog

Version	Changes
v21	• Initial support

Description

Set the properties for the Bluetooth device.

Method

POST

URL

http://<IP>:8989/api/v22/bluetooth.action

Request Parameters

Parameter	Description	Value
action	Action type	`"setproperties"`
pairable	Pairable state **Parameter** / **Description** true – Device is pairable. false – Device is not pairable.	`Boolean or Null`
discoverable	Discoverable state **Parameter** / **Description** true – Device is discoverable. false – Device is not discoverable.	`Boolean or Null`
pairableTimeout	Pairable timeout in seconds. Default is 180 seconds.	`Integer or Null`
discoverableTimeout	Discoverable timeout in seconds. Default is 180 seconds.	`Integer or Null`

Note, that is possible to only set certain values, e.g. discoverable. The parameters not set remain their current value.

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – Setting was successful. error – Setting was not successful.	`"success" | "error"`

Sample Request

Set only „discoverable“:

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "setproperties", "discoverable": true }'
     –X POST http://192.168.1.159:8989/api/v22/bluetooth.action
```

Set all properties:

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "setproperties",
           "discoverable": true,
           "pairable": true,
           "discoverableTimeout": 60,
           "pairableTimeout": 60
         }'
     –X POST http://192.168.1.159:8989/api/v22/bluetooth.action
```

Sample Response

```
{ "returncode": "success" }
```

7 OTA Upgrade

7.1 Firmware Update

Description

Start a firmware update by setting an URL from where the device will fetch the firmware. This only works in network client mode.

Method

POST

URL

http://<IP>:8989/api/v22/otaupgrade.action

Request Parameters

Parameter	Description	Value
action	Action type	`"seturl"`
otaaddress	URL where to fetch the update file from	`String`
filesize	File size of the update file	`String`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "seturl"
          "otaaddress": "http://dl.lintech.de/download/upgrade/HBM11/5.0.0"
          "filesize": "25438208"}'
     –X POST http://192.168.1.159:8989/api/v22/otaupgrade.action
```

Sample Response

```
{ "returncode": "success" }                    // Update starts
```

7.2 Firmware Update Status

Description

Requests the firmware update status. This only works in network client mode.

NOTE: Querying the firmware update status should not be done in periods less then 1 second.

Method

POST

URL

http://<IP>:8989/api/v22/otaupgrade.action

Request Parameters

Parameter	Description	Value
action	Action type	"querystatus"

Response Parameters

Parameter	Description
status	Status code: -1: update not running 1: downloading 2: download finished 3: updating 4: checksum verification 5: failure occurred
downfilename	File name currently downloading
downprogress	Download progress in percent
errinfo	Error code: -1: update not running 1: file not exist 2: download error 3: checksum error 4: flash error 5: update error

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "querystatus"}'
     –X POST http://192.168.1.159:8989/api/v22/otaupgrade.action
```

Sample Response

```
{ "status": "1", "downfilename": "airlino.swu", "downprogress": "44",
  "errinfo": "-1" }
```

8 Internet Radio

8.1 Play Station

Changelog

Version	Changes
v10	• Initial support

Description

Starts to play a radio stream (MP3 or Ogg/Vorbis).

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"play"`
station	*Radio station*	
└ **name**	└ Station name	`String`
└ **url**	└ Station URL	`String`
└ **image**[1]	└ Image URL	`String | Null`

1) *The image URL is optional. It is not used by the HBM11, but stored transparently. The image URL is useful when implementing a remote UI.*

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: Plays radio stream error: Radio stream cannot be played, e.g. URL is not valid.	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "play",
           "station": {
               "name": "Inforadio",
               "url": "http://inforadio.de/livemp3",
               "image": "http://cdn-radiotime-logos.tunein.com/s9176q.png"
           } }'
     -X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

```
{ "returncode": "success" }
```

8.2 Play/Pause (*deprecated*)

Changelog

Version	Changes
v16	• Initial support
v19	• Deprecated. Use API endpoint player.action instead.

Description

Toggles between play and pause.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"playpause"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "playpause" }'
     –X POST http://192.168.1.159:8989/api/v22/radio.action
```

8.3 Next (deprecated)

Changelog

Version	Changes
v16	• Initial support
v19	• Deprecated. Use API endpoint player.action instead.

Description

Starts playing next station from a playlist.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"next"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "next" }'
     -X POST http://192.168.1.159:8989/api/v22/radio.action
```

8.4 Previous (*deprecated*)

Changelog

Version	Changes
v16	• Initial support
v19	• Deprecated. Use API endpoint player.action instead.

Description

Start playing previous station from a playlist.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	"prev"

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "prev" }'
     -X POST http://192.168.1.159:8989/api/v22/radio.action
```

8.5 Stop (deprecated)

Changelog

Version	Changes
v10	• Initial support
v19	• Deprecated. Use API endpoint player.action instead.

Description

Stops playback of a radio stream.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"stop"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "stop" }'
     -X POST http://192.168.1.159:8989/api/v22/radio.action
```

8.6 Query (deprecated)

Changelog

Version	Changes
v10	• Initial support
v19	• Deprecated. Use API endpoint player.action instead.

Description

Query the current station.

If metadata is available for the current radio station it is appended to the station information. Note that the field *station.name* contains the string set through the HTTP-API, whereas the field *station.meta.name* contains a string fetched from the metadata.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"query"`

Response Parameters

Parameter	Description	Value
state	Radio playback state **Parameter** / **Description**: 1 = Not playing; 2 = Playing; 3 = Playing, but paused	`Integer`
listid	Playlist identification number ***Note**: Only set if the radio station currently being played is part of a playlist.*	`Integer | Null`
station	*Radio station*	`Object`
└ **name**	└ Station name	`String`
└ **url**	└ Station URL	`String`
└ **image**	└ Image URL	`String | Null`
└ ***meta***	└ Station metadata ***Note**: Only set if metadata are available for the current radio station.*	`Object | Null`
└ **now_playing**	└ Now playing	`String`
└ **name**	└ Name	`String`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "query" }'
     –X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

```
{  "state": 2,
   "station": {
       "url": "http://stream.berliner-rundfunk.de/brf/mp3-128/internetradio",
       "name": "Berliner Rundfunk Livestream",
       "image": "http://cdn-radiotime-logos.tunein.com/s24950q.png",
       "meta": {
           "name": "Berliner Rundfunk Livestream",
           "now_playing": "KARAT - DER BLAUE PLANET"
       }
   }
}
```

8.7 Get Playlist

Description

Fetch a playlist from the device's internal memory.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getplaylist"`
listid	Playlist identification number	`Integer`

Response Parameters

Parameter	Description	Value
description	Short description	`String`
stationlist	*List of stations*	
└ **[station]**	└ List of radio station objects	`List`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "getplaylist", "listid": 1 }'
     –X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

Playlist does not exists or is empty:

```
{ }    // empty JSON object
```

Playlist exists:

```
{  "description": "News",
   "stationlist": [
     { "name": "Inforadio",
       "url": "http://inforadio.de/livemp3",
       "image": "http://cdn-radiotime-logos.tunein.com/s9176q.png" },
     { "name": "Deutschlandfunk",
       "url": "http://dradio-ogg-dwissen-l.akacast.akamaistream.net/7/192/
               135496/v1/gnl.akacast.akamaistream.net/dradio_ogg_dwissen_l",
       "image": "http://cdn-radiotime-logos.tunein.com/s42828q.png" }
   ]
}
```

8.8 Save Playlist

Description

Store a radio station playlist to the device's internal memory. A playlist with the same ID will be overwritten.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"saveplaylist"`
listid	List identification number	`Integer`
playlist	*Playlist*	
└ **description**	└ Short description	`String`
└ ***stationlist***	└ *List of stations*	
└ **[station]**	└ List of radio station objects	`List`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: playlist is stored in memory error: playlist was **not** stored, e.g. due to a JSON parser error	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "saveplaylist", "listid": 1,
           "playlist": { "description": "News",
             "stationlist": [
               { "name": "Inforadio",
                 "url": "http://inforadio.de/livemp3",
                 "image": "http://cdn-radiotime-logos.tunein.com/s9176q.png" },
               { "name": "Deutschlandfunk",
                 "url": "http://dradio-ogg-dwissen-l.akacast.akamaistream.net
                        /7/192/135496/v1/gnl.akacast.akamaistream.net/
                        dradio_ogg_dwissen_l"
                 "image": "http://cdn-radiotime-logos.tunein.com/s42828q.png" }
             ] }
         }'
     -X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

```
{ "returncode": "success" }
```

8.9 Remove Playlist

Description

Deletes a specific playlist from the internal memory.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"rmplaylist"`
listid	List identification number	`Integer`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – playlist is removed error – playlist cannot be deleted, e.g. the list does not exist	`"success" | "error"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "rmplaylist", "listid": 1 }'
     –X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

```
{ "returncode": "success" }
```

8.10 Play Playlist

Description

Request to play a specific playlist from the internal memory. Playback will start with the first entry in the list. It is possible to step forward in the list with KEY_NEXT and step back in the list with KEY_PREV. The playlist will be played in repeat mode: if KEY_NEXT is pressed while the last entry of the list is currently played, the first entry in the list will be played next and if KEY_PREV is pressed while the first entry of the list is currently played, the last entry in the list will be played.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"playplaylist"`
listid	List identification number	`Integer`
pos[1]	Position of the station in the list to start playback from, whereby: *1 <= pos <= 255.*	`Integer`

*1) The parameter **pos** is optional. If omitted the playback will start with the first station in the list.*

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – Playback is about to begin error – playlist cannot be played, e.g. the list contains invalid an URL	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "playplaylist", "listid": 1, "pos": 3 }'
     -X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

```
{ "returncode": "success" }
```

8.11 Get Favourite Station

Changelog

Version	Changes
v15	• Initial support

Description

Get the current favourite radio station.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getfavouritestation"`

Response Parameters

Parameter	Description	Value
station	*Radio station*	
└ **name**	└ Station name	`String`
└ **url**	└ Station URL	`String`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "getfavouritestation" }
     –X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

```
{ "name": "Inforadio", "url": "http://inforadio.de/livemp3" }
```

8.12 Set Favourite Station

Changelog

Version	Changes
v15	• Initial support

Description

Set a radio station as the favourite station. This station will always be played when the module is ready after power up and is connected to the network.

To remove the favourite station issue a request with no station object set.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"setfavouritestation"`
station[1]	*Radio station*	
└ **name**	└ Station name	`String`
└ **url**	└ Station URL	`String`

1) *If no **station** is set the current favourite station is removed.*

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: Station was set as favourite error: Station could not set as favourite	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "setfavouritestation",
           "station": {
               "name": "Inforadio",
               "url": "http://inforadio.de/livemp3"
          } }'
     -X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

```
{ "returncode": "success" }
```

8.13 Get Favourite Playlist

Changelog

Version	Changes
v16	• Initial support

Description

Get the current favourite playlist of radio stations.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getfavouriteplaylist"`

Response Parameters

Parameter	Description	Value
listid	ID of the favourite playlist	`Integer`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "getfavouriteplaylist" }'
     -X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

```
{ "listid": 1 }
```

8.14 Set Favourite Playlist

Changelog

Version	Changes
v16	• Initial support

Description

Set a playlist as the favourite playlist. This playlist will always be played when the module is ready after power up and is connected to the network.

Note that if a favourite station is set, too, the favourite playlist will be ignored.

To remove the favourite station issue a request with no station object set.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"setfavouriteplaylist"`
listid[1]	ID of the favourite playlist	`Integer`

*1) If no **listid** is set the current favourite playlist is removed.*

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: Playlist was set. error: Playlist could not be set, e.g. no such playlist stored.	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "setfavouriteplaylist",
           "listid": 1 }'
     -X POST http://192.168.1.159:8989/api/v22/radio.action
```

Sample Response

```
{ "returncode": "success" }
```

9 TIDAL

9.1 Credentials

Changelog

Version	Changes
v19	• Initial support

Description

The credentials are needed to login the TIDAL user account.

Method

POST

URL

http://<IP>:8989/api/v22/tidal.action

Request Parameters

Parameter	Description	Value
action	Action type	`"credentials"`
username	TIDAL user name	`String`
password	TIDAL password	`String`
audioquality	TIDAL Audio Quality **Parameter** / **Description** 0 / LOW 1 / HIGH 2 / LOSSLESS 3 / HI_RES	`Enum`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / Error	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "credentials",
           "username": "TIDAL user", "password" : "Secret TIDAL password"
           "audioquality": 2 };
     -X POST http://192.168.1.159:8989/api/v22/tidal.action
```

Sample Response

```
{ "returncode": "success" }
```

9.2 Info

Changelog

Version	Changes
v19	• Initial support

Description

Get TIDAL user account information.

Method

POST

URL

http://<IP>:8989/api/v22/tidal.action

Request Parameters

Parameter	Description	Value
action	Action type	`"info"`

Response Parameters

Parameter	Description	Value
credentials[1]	*Credentials object*	`Object`
└ **username**	TIDAL user name	`String`
└ **audioquality**	TIDAL Audio Quality **Parameter** / **Description** 1 / LOW 2 / HIGH 3 / LOSSLESS 4 / HI_RES	`Enum`

1) If no credentials have been set, an empty JSON object is returned

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "info" };
     -X POST http://192.168.1.159:8989/api/v22/tidal.action
```

Sample Response

No credentials are set:

```
{ "credentials": { } }
```

Credentials are set:

```
{ "credentials": { "username": "TIDAL user", "audioquality": 2 } }
```

9.3 Play Track

Changelog

Version	Changes
v19	• Initial support

Description

Plays a TIDAL track.

Method

POST

URL

http://<IP>:8989/api/v22/tidal.action

Request Parameters

Parameter	Description	Value
action	Action type	`"playtrack"`
trackid	TIDAL track id	`String`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / Error	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "playtrack",
           "trackid": "68691383" }'
     -X POST http://192.168.1.159:8989/api/v22/tidal.action
```

Sample Response

```
{ "returncode": "success" }
```

9.4 Get Playlist

Changelog

Version	Changes
v19	• Initial support

Description

Fetch a TIDAL tracklist from the device's internal memory.

Method

POST

URL

http://<IP>:8989/api/v22/tidal.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getplaylist"`
listid	Playlist identification number	`Integer`

Response Parameters

Parameter	Description	Value
description	Short description	`String`
playlist	*Playlist*	
└ **description**	└ Short description	`String`
└ ***tracklist***	└ *List of TIDALh tracks*	
└ **[track]**	└ List of track objects	`List`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "getplaylist", "listid": 1 }'
     -X POST http://192.168.1.159:8989/api/v22/tidal.action
```

Sample Response

Tracklist does not exists or is empty:

```
{ }    // empty JSON object
```

Tracklist exists:

```
{  "description": "Top-Title",
   "tracklist": [
     { "trackid": "50811900" },
     { "trackid": "50912495" },
     { "trackid": "49644822" }
   ]
}
```

9.5 Save Playlist

Description

Store a TIDAL list of tracks to the device's internal memory. A playlist with the same ID will be overwritten.

Method

POST

URL

http://<IP>:8989/api/v22/tidal.action

Request Parameters

Parameter	Description	Value
action	Action type	`"saveplaylist"`
listid	List identification number	`Integer`
playlist	*Playlist*	
└ **description**	└ Short description	`String`
└ ***tracklist***	└ *List of TIDAL tracks*	
└ **[track]**	└ List of track objects	`List`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: playlist is stored in memory error: playlist was **not** stored, e.g. due to a JSON parser error	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "saveplaylist",
           "listid": 1,
           "playlist": {
             "description": "Top-Title",
             "tracklist": [
               { "trackid": "50811900" },
               { "trackid": "50912495" },
               { "trackid": "49644822" }
             ]
           }
         }'
     -X POST http://192.168.1.159:8989/api/v22/tidal.action
```

Sample Response

```
{ "returncode": "success" }
```

9.6 Remove Playlist

Description

Deletes a TIDAL playlist from the internal memory.

Method

POST

URL

http://<IP>:8989/api/v22/tidal.action

Request Parameters

Parameter	Description	Value
action	Action type	`"rmplaylist"`
listid	List identification number	`Integer`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – playlist is removed error – playlist cannot be deleted, e.g. the list does not exist	`"success" | "error"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "rmplaylist", "listid": 1 }'
     –X POST http://192.168.1.159:8989/api/v22/tidal.action
```

Sample Response

```
{ "returncode": "success" }
```

9.7 Play Playlist

Description

Plays a TIDAL playlist from the internal memory. Playback will start with the first entry in the list. It is possible to step forward in the list with KEY_NEXT and step back in the list with KEY_PREV. The tracklist will be played in repeat mode: if KEY_NEXT is pressed while the last track of the list is currently played, the first track in the list will be played next and if KEY_PREV is pressed while the first track of the list is currently played, the last track in the list will be played.

Method

POST

URL

http://<IP>:8989/api/v22/tidal.action

Request Parameters

Parameter	Description	Value
action	Action type	`"playplaylist"`
listid	List identification number	`Integer`
pos[1]	Position of the track in the list to start playback from, whereby: *1 <= pos <= 65535.*	`Integer`

*1) Note, the parameter **pos** is optional. If omitted the playback will start with the first track in the list.*

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: Playback is about to begin error: Tracklist cannot be played, e.g. the list contains an invalid trackid	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "playplaylist", "listid": 1, "pos": 3 }'
     -X POST http://192.168.1.159:8989/api/v22/tidal.action
```

Sample Response

```
{ "returncode": "success" }
```

10 Qobuz

10.1 Credentials

Changelog

Version	Changes
v19	• Initial support

Description

The credentials are needed to login the Qobuz user account.

Method

POST

URL

http://<IP>:8989/api/v22/qobuz.action

Request Parameters

Parameter	Description	Value
action	Action type	`"credentials"`
username	Qobuz user name	`String`
password	Qobuz password	`String`
audioquality	Qobuz Audio Quality (format_id) **Parameter** / **Description** 5 – mp3 (320 kbps) 6 – FLAC lossless 7 – FLAC Hi-Res *24 bit, fs =< 96kHz* 27 – FLAC Hi-Res *24 bit, 96 < fs =< 192 kHz*	`Enum`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – Success error – Error	`"success" | "error"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "credentials",
           "username": "Qobuz user",
           "password" : "Secret Qobuz password"
           "audioquality": 6 };
     –X POST http://192.168.1.159:8989/api/v22/qobuz.action
```

Sample Response

```
{ "returncode": "success" }
```

10.2 Info

Changelog

Version	Changes
v19	• Initial support

Description

Get Qobuz user account information.

Method

POST

URL

http://<IP>:8989/api/v22/qobuz.action

Request Parameters

Parameter	Description	Value
action	Action type	`"info"`

Response Parameters

Parameter	Description	Value
credentials[1]	*Credentials object*	`Object`
└ **username**	Qobuz user name	`String`
└ **audioquality**	Qobuz Audio Quality (format_id) **Parameter** / **Description** 5 — MP3 (320 kbps) 6 — FLAC lossless 7 — FLAC Hi-Res *24 bit, fs =< 96kHz* 27 — FLAC Hi-Res *24 bit, 96 < fs =< 192 kHz*	`Enum`

1) If no credentials have been set, an empty JSON object is returned

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "info" };
     -X POST http://192.168.1.159:8989/api/v22/qobuz.action
```

Sample Response

No credentials are set:

```
{ "credentials": { } }
```

Credentials are set:

```
{ "credentials": { "username": "Qobuz user", "audioquality": 6 } }
```

10.3 Play Track

Changelog

Version	Changes
v19	• Initial support

Description

Plays a Qobuz track.

Method

POST

URL

http://<IP>:8989/api/v22/qobuz.action

Request Parameters

Parameter	Description	Value
action	Action type	`"playtrack"`
trackid	Qobuz track id	`String`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / Error	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "playtrack",
           "trackid": "24231270" }'
     -X POST http://192.168.1.159:8989/api/v22/qobuz.action
```

Sample Response

```
{ "returncode": "success" }
```

10.4 Get Playlist

Changelog

Version	Changes
v19	• Initial support

Description

Fetch a Qobuz tracklist from the device's internal memory.

Method

POST

URL

http://<IP>:8989/api/v22/qobuz.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getplaylist"`
listid	Playlist identification number	`Integer`

Response Parameters

Parameter	Description	Value
description	Short description	`String`
playlist	*Playlist*	
└ **description**	└ Short description	`String`
└ ***tracklist***	└ *List of Qobuz tracks*	
└ **[track]**	└ List of track objects	`List`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "getplaylist", "listid": 1 }'
     -X POST http://192.168.1.159:8989/api/v22/qobuz.action
```

Sample Response

Tracklist does not exists or is empty:

```
{ }    // empty JSON object
```

Tracklist exists:

```
{  "description": "Top Tracks",
   "tracklist": [
     { "trackid": "24231270" },
     { "trackid": "24231271" },
     { "trackid": "24231272" }
   ]
}
```

10.5 Save Playlist

Description

Store a Qobuz list of tracks to the device's internal memory. A playlist with the same ID will be overwritten.

Method

POST

URL

http://<IP>:8989/api/v22/qobuz.action

Request Parameters

Parameter	Description	Value
action	Action type	`"saveplaylist"`
listid	List identification number	`Integer`
playlist	*Playlist*	
└ **description**	└ Short description	`String`
└ ***tracklist***	└ *List of Qobuz tracks*	
└ **[track]**	└ List of track objects	`List`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: playlist is stored in memory error: playlist was **not** stored, e.g. due to a JSON parser error	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "saveplaylist",
           "listid": 1,
           "playlist": {
             "description": "Top Tracks ",
             "tracklist": [
               { "trackid": "24231270" },
               { "trackid": "24231271" },
               { "trackid": "24231272" }
             ]
           }
         }'
     -X POST http://192.168.1.159:8989/api/v22/qobuz.action
```

Sample Response

```
{ "returncode": "success" }
```

10.6 Remove Playlist

Description

Deletes a Qobuz playlist from the internal memory.

Method

POST

URL

http://<IP>:8989/api/v22/qobuz.action

Request Parameters

Parameter	Description	Value
action	Action type	`"rmplaylist"`
listid	List identification number	`Integer`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – playlist is removed error – playlist cannot be deleted, e.g. the list does not exist	`"success" | "error"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "rmplaylist", "listid": 1 }'
     –X POST http://192.168.1.159:8989/api/v22/qobuz.action
```

Sample Response

```
{ "returncode": "success" }
```

10.7 Play Playlist

Description

Plays a Qobuz playlist from the internal memory. Playback will start with the first entry in the list. It is possible to step forward in the list with KEY_NEXT and step back in the list with KEY_PREV. The tracklist will be played in repeat mode: if KEY_NEXT is pressed while the last track of the list is currently played, the first track in the list will be played next and if KEY_PREV is pressed while the first track of the list is currently played, the last track in the list will be played.

Method

POST

URL

http://<IP>:8989/api/v22/qobuz.action

Request Parameters

Parameter	Description	Value
action	Action type	`"playplaylist"`
listid	List identification number	`Integer`
pos[1]	Position of the track in the list to start playback from, whereby: *1 <= pos <= 65535.*	`Integer`

*1) Note, the parameter **pos** is optional. If omitted the playback will start with the first track in the list.*

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – Playback is about to begin error – Tracklist cannot be played, e.g. the list contains an invalid trackid	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "playplaylist", "listid": 1, "pos": 3 }'
     -X POST http://192.168.1.159:8989/api/v22/qobuz.action
```

Sample Response

```
{ "returncode": "success" }
```

11 Player

11.1 Play

Changelog

Version	Changes
v19	• Initial support

Description

Starts playback of a stopped item. Note, that initially the playback needs to be started with anj item, e.g. track or URL.

Method

POST

URL

http://<IP>:8989/api/v22/player.action

Request Parameters

Parameter	Description	Value
action	Action type	`"play"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: Playing successfull error: Playing not successfull	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "play" }'
     -X POST http://192.168.1.159:8989/api/v22/player.action
```

Sample Response

```
{ "returncode": "success" }
```

11.2 Play/Pause

Changelog

Version	Changes
v19	• Initial support

Description

Toggles between play and pause.

Method

POST

URL

http://<IP>:8989/api/v22/player.action

Request Parameters

Parameter	Description	Value
action	Action type	`"playpause"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "playpause" }'
     -X POST http://192.168.1.159:8989/api/v22/player.action
```

11.3 Next

Changelog

Version	Changes
v19	• Initial support

Description

Starts playing next item from a playlist.

Method

POST

URL

http://<IP>:8989/api/v22/player.action

Request Parameters

Parameter	Description	Value
action	Action type	"next"

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "next" }'
     –X POST http://192.168.1.159:8989/api/v22/player.action
```

11.4 Previous

Changelog

Version	Changes
v19	• Initial support

Description

Start playing previous item from a playlist.

Method

POST

URL

http://<IP>:8989/api/v22/player.action

Request Parameters

Parameter	Description	Value
action	Action type	"prev"

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "prev" }'
     –X POST http://192.168.1.159:8989/api/v22/player.action
```

11.5 Stop

Changelog

Version	Changes
v19	• Initial support

Description

Stops playback.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	`"stop"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "stop" }'
     –X POST http://192.168.1.159:8989/api/v22/player.action
```

11.6 Status

Changelog

Version	Changes
v19	• Initial support

Description

Get the current playback state and additional status information.

Method

POST

URL

http://<IP>:8989/api/v22/player.action

Request Parameters

Parameter	Description	Value
action	Action type	`"status"`

Response Parameters

Parameter	Description	Value
state	Playback state **Parameter** / **Description** 1 – Stopped 2 – Playing 3 – Paused	`Integer`
queuelength	Number of items in the current playlist queue.	`Integer`
error[1]	Error message	`String | Null`
status[2]	Status object	`Object | Null`

1) In case of success this parameter is Null.
2) In case of an error this parameter is Null.

JSON Objects

status

Parameter	Description	Value
source	Source	"radio" | "tidal" | "qobuz" | "other"
kbitrate	Data rate in kbps	`Integer`
elapsedtime	Number of seconds the current item is played	`Integer`
listid[1]	Playlist identification number	`Integer | Null`
station[2]	*Station object*	`Object | Null`

track[3]	*Track object*	`Object | Null`

1) ***listid*** *is only set if the current playing item is part of a stored playlist.*
2) ***station*** *is only set if source is "radio".*
3) ***track*** *is only set if source is "tidal" or "qobuz".*

station

Parameter	Description	Value
station	*Radio station*	`Object`
└ **name**	└ Station name	`String`
└ **url**	└ Station URL	`String`
└ **image**[1]	└ Image URL	`String | Null`
└ **queuepos**	└ Position index in the current playlist	`Integer`
└ ***meta***[2]	└ Station metadata	`Object | Null`
└ **now_playing**	└ Now playing	`String`
└ **name**	└ Name	`String`
└ ***audioformat***	└ Audio format object	`Object`
└ **bits**	└ Bits per word	`Integer`
└ **samplerate**	└ Sample rate	`Integer`
└ **channels**	└ Number of channels	`Integer`

1) *The image URL is only available if it was set in the station object in the play or saveplaylist command.*
2) *meta is only set if meta data are available for the current radio station.*

track

Parameter	Description	Value
track	*TIDAL track*	`Object`
└ **trackid**	└ TIDAL track id	`String`
└ **image**[1]	└ Image URL	`String | Null`
└ **queuepos**	└ Position index in the current playlist	`Integer`
└ **totaltime**	└ Total time in seconds of the track	`Integer`
└ ***meta***[2]	└ *Meta data*	`Object | Null`
└ **artist**[3]	└ Artist	`String | Null`
└ **title**[3]	└ Title	`String | Null`
└ **album**[3]	└ Album	`String | Null`
└ ***audioformat***	└ *Audio format object*	`Object`
└ **bits**	└ Bits per word	`Integer`
└ **samplerate**	└ Sample rate	`Integer`
└ **channels**	└ Number of channels	`Integer`

1) *The image URL is only available if it was set in the station object in the play or saveplaylist command*
2) *meta is only set if meta data are available for the current track.*
3) *Depending on the track not all meta data items are available.*

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "status" }'
     –X POST http://192.168.1.159:8989/api/v22/player.action
```

Sample Response

Current source is radio:

```
{
   "state": 2,
   "queuelength": 4,
   "status": {
       "source": "radio",
       "listid": 1,
       "kbitrate": 128,
       "elapsedtime": 145,
       "station": {
           "url": "http://stream.berliner-rundfunk.de/brf/
                   mp3-128/internetradio",
           "name": "Berliner Rundfunk Livestream",
           "image": "http://cdn-radiotime-logos.tunein.com/s24950q.png",
           "meta": {
               "name": "Berliner Rundfunk Livestream",
               "now_playing": "KARAT - DER BLAUE PLANET"
           }
           "queuepos": 2,
           "audioformat": {
               "bits": 24,
               "samplerate": 44100,
               "channels": 2
           }
       }
   }
}
```

Current source is tidal:

```
{
   "state": 2,
   "queuelength": 3,
   "status": {
       "source": "tidal",
       "listid": 1,
       "kbitrate": 559,
       "elapsedtime": 16,
       "track": {
           "trackid": "50811900",
           "meta": {
               "artist": "Jarryd James",
               "title ": "Do You Remember"
           }
           "queuepos": 2,
           "totaltime": 234,
           "audioformat": {
               "bits": 16,
               "samplerate": 44100,
               "channels": 2
           }
       }
   }
}
```

An error occured:

```
{
   "state": 1,
   "queuelength": 3,
   "error": "Error from Tidal: Requested quality is not allowed in user's
subscription"
}
```

12 Songcast :: Sender

12.1 Enable

Changelog

Version	Changes
v18	• Initial support

Description

Enable the Songcast sender mode.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/sender.action

Request Parameters

Parameter	Description	Value
action	Action type	`"enable"`
groupname	Group name	`String`
mode	Transmission mode **Parameter** / **Description** 0 *(default)* / Unicast 1 / Multicast Can be set to Multicast if networks supports it and more than four modules are grouped.	`Enum`

Response Parameters

Parameter	Description	Value
uuid	Unique identifier	`String`
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "enable", "groupname": "Home Group", "mode": 0 }'
     -X POST http://192.168.1.159:8989/api/v18/songcast/sender.action
```

Sample Response

```
{ "returncode": "success", "uuid": "c47f4c5f-4935-4c8c-cca5-0023b1e3c315" }
```

12.2 Disable

Changelog

Version	Changes
v18	• Initial support

Description

Disable the Songcast Sender service.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/sender.action

Request Parameters

Parameter	Description	Value
action	Action type	`"disable"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "disable" }'
     -X POST http://192.168.1.159:8989/api/v22/songcast/sender.action
```

Sample Response

```
{ "returncode": "success" }
```

12.3 Status

Changelog

Version	Changes
v18	• Initial support

Description

Test if Songcast Sender is enabled and fetch its UUID, which is needed to link Songcast Receivers to the sender.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/sender.action

Request Parameters

Parameter	Description	Value
action	Action type	`"status"`

Response Parameters

Parameter	Description	Value
enabled	Sender status. **Parameter** / **Description** true: Enabled. The module is in Songcast Sender mode and broadcasting audio data. false: Disabled. The module is in Standalone mode and not streaming any audio data.	`Boolean`
state	Current broadcasting state of the sender. **Parameter** / **Description** 1: Stopped. Sender is enabled, but broadcasting the audio stream is stopped. 2: Playing. Sender is enabled and is broadcasting an audio stream.	`Enum`
uuid	The unique identifier of the Songcast Sender.	`String`
groupname	Group name	`String`

<table>
<tr>
<td>mode</td>
<td>Transmission mode
<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>0 (default)</td><td>Unicast</td></tr>
<tr><td>1</td><td>Multicast</td></tr>
</table>
</td>
<td>Enum</td>
</tr>
</table>

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "status" }'
     –X POST http://192.168.1.159:8989/api/v22/songcast/sender.action
```

Sample Response

```
{
  "enabled": true,
  "groupname": "Home Group",
  "state": 2,
  "uuid": "c47f4c5f-4935-4c8c-cca5-0023b1e3c315",
  "mode": 0
}
```

12.4 Play

Changelog

Version	Changes
v18	• Initial support

Description

Start broadcasting of the audio stream to the linked Songcast Receivers.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/sender.action

Request Parameters

Parameter	Description	Value
action	Action type	`"play"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "play" }'
     -X POST http://192.168.1.159:8989/api/v22/songcast/sender.action
```

Sample Response

```
{ "returncode": "success" }
```

12.5 Stop

Changelog

Version	Changes
v18	• Initial support

Description

Stop broadcasting of the audio stream to the linked Songcast Receivers.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/sender.action

Request Parameters

Parameter	Description	Value
action	Action type	`"stop"`

Response Parameters

Parameter	Description	Value
enabled	Sender status **Parameter** / **Description** true: Enabled. The module is in Songcast Sender mode and broadcasting audio data. false: Disabled. The module is in Standalone mode and not streaming any audio data.	`Boolean`
uuid	The unique identifier of the Songcast Sender.	`String`
mode	Transmission mode **Parameter** / **Description** 0 *(default)*: Unicast 1: Multicast	`Enum`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "stop" }'
     -X POST http://192.168.1.159:8989/api/v22/songcast/sender.action
```

Sample Response

```
{ "enabled": true, "uuid": "c47f4c5f-4935-4c8c-cca5-0023b1e3c315", "mode": 0 }
```

13 Songcast :: Receiver

13.1 Link

Changelog

Version	Changes
v18	• Initial support

Description

Link to a Songcast Sender by its UUID.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/receiver.action

Request Parameters

Parameter	Description	Value
action	Action type	`"link"`
uuid	Unique identifier of the Songcast Sender	`String`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – Success error – An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "link",
           "uuid": "c47f4c5f-4935-4c8c-cca5-0023b1e3c315" }'
     -X POST http://192.168.1.159:8989/api/v22/songcast/receiver.action
```

Sample Response

```
{ "returncode": "success" }
```

13.2 Unlink

Changelog

Version	Changes
v18	• Initial support

Description

Unlink the Songcast Receiver from the Songcast Sender.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/receiver.action

Request Parameters

Parameter	Description	Value
action	Action type	`"unlink"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "unlink" }'
     -X POST http://192.168.1.159:8989/api/v22/songcast/receiver.action
```

Sample Response

```
{ "returncode": "success" }
```

13.3 State

Changelog

Version	Changes
v18	• Initial support

Description

Get the current state of the Songcast Receiver.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/receiver.action

Request Parameters

Parameter	Description	Value
action	Action type	`"state"`

Response Parameters

Parameter	Description	Value
state	Current state of the receiver **Parameter** / **Description** 0 — Off. Receiver is not linked to a sender. 1 — Not playing. Receiver is linked and connected to a sender, but playback is paused or stopped. 2 — Playing. Receiver is linked and connected to a sender and is playing an audio stream. 3 — Disconnected. Receiver is linked to a sender, but could not connect to it.	`Enum`
sender	The UUID of the Songcast Sender in case the receiver is linked to a sender, otherwise omitted.	`String | Null`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "state" }'
     -X POST http://192.168.1.159:8989/api/v22/songcast/receiver.action
```

Sample Response

```
{ "state": 2, "sender": "c47f4c5f-4935-4c8c-cca5-0023b1e3c315" }
```

13.4 Play

Changelog

Version	Changes
v18	• Initial support

Description

Start playing the audio stream received from the Songcast Sender linked to.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/receiver.action

Request Parameters

Parameter	Description	Value
action	Action type	`"play"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "play" }'
     -X POST http://192.168.1.159:8989/api/v22/songcast/receiver.action
```

Sample Response

```
{ "returncode": "success" }
```

13.5 Stop

Changelog

Version	Changes
v18	• Initial support

Description

Stop playing the audio stream received from the Songcast Sender linked to. The Songcast Receiver will still be linked to the Sender. Resuming playback can be done using the “play” action.

Method

POST

URL

http://<IP>:8989/api/v22/songcast/receiver.action

Request Parameters

Parameter	Description	Value
action	Action type	`"stop"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "stop" }'
     –X POST http://192.168.1.159:8989/api/v22/songcast/receiver.action
```

Sample Response

```
{ "returncode": "success" }
```

14 LEDs

14.1 Get LEDs configuration

Changelog

Version	Changes
v14	• Initial support

Description

Get the current LEDs configuration.

Method

POST

URL

http://<IP>:8989/api/v22/leds.action

Request Parameters

Parameter	Description	Value
action	Action type	`"get"`

Response Parameters

Parameter	Description	Value
brightness	LEDs brightness level with: 1 <= *brightness* <= 255	`Integer`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "get" }'
     –X POST http://192.168.1.159:8989/api/v22/leds.action
```

Sample Response

```
{ "brightness": 30 }
```

14.2 Set LEDs configuration

Changelog

Version	Changes
v14	• Initial support

Description

Set the current LEDs configuration.

Method

POST

URL

http://<IP>:8989/api/v22/leds.action

Request Parameters

Parameter	Description	Value
action	Action type	`"set"`
brightness	LEDs brightness level with: 1 <= *brightness* <= 255	`Integer`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success: Success error: An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "set", "brightness": 30 }'\
     -X POST http://192.168.1.159:8989/api/v22/leds.action
```

Sample Response

```
{ "returncode": "success" }
```

15 Line-In

15.1 Enable

Changelog

Version	Changes
v18	• Initial support
v21	• Add `"type"` parameter to the request to support both analog and digital input

Description

Enable the line-in source as an input audio stream.

Method

POST

URL

http://<IP>:8989/api/v22/linein.action

Request Parameters

Parameter	Description	Value
action	Action type	`"enable"`
type	Input type **Value** / **Description** 0 – Analog 1 – Digital (S/PDIF)	`Enum`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – Success error – An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "enable", "type": 1 }
     -X POST http://192.168.1.159:8989/api/v22/linein.action
```

Sample Response

```
{ "returncode": "success" }
```

15.2 Disable

Changelog

Version	Changes
v18	• Initial support

Description

Disable the line-in source as the input audio stream.

Method

POST

URL

http://<IP>:8989/api/v22/linein.action

Request Parameters

Parameter	Description	Value
action	Action type	`"disable"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "disable" }
     -X POST http://192.168.1.159:8989/api/v22/linein.action
```

Sample Response

```
{ "returncode": "success" }
```

15.3 Status

Changelog

Version	Changes
v18	• Initial support
v21	• Add `"type"` parameter to the response to support both analog and digital input

Description

Test if line-in is enabled as the audio input source.

Method

POST

URL

http://<IP>:8989/api/v22/linein.action

Request Parameters

Parameter	Description	Value
action	Action type	`"status"`

Response Parameters

Parameter	Description	Value
enabled	Line-In status **Parameter** / **Description** true – Line-In is enabled. false – Line-In is disabled.	`Boolean`
type[1]	Active input type **Value** / **Description** 0 – Analog 1 – Digital (S/PDIF)	`Enum | Null`

1) type is only set if enabled is true.

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "status" }'
     -X POST http://192.168.1.159:8989/api/v22/linein.action
```

Sample Response

```
{ "enabled": true, "type": 1 }
```

16 Sound Control

16.1 Get Master Volume

Changelog

Version	Changes
v15	• Initial support

Description

Get the current Master volume level.

Method

POST

URL

http://<IP>:8989/api/v22/sound.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getmastervol"`

Response Parameters

Parameter	Description	Value
volume	Master volume level with: 0 <= *volume* <= 255	`Integer`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "getmastervol" }
     –X POST http://192.168.1.159:8989/api/v22/sound.action
```

Sample Response

```
{ "volume": 255 }
```

16.2 Set Master Volume

Changelog

Version	Changes
v15	• Initial support

Description

Set the Master volume to a new value.

Note that the volume is stored periodically. To make sure a volume change withstands an abrupt power-cut a delay of 10 seconds is necessary.

Method

POST

URL

http://<IP>:8989/api/v22/sound.action

Request Parameters

Parameter	Description	Value
action	Action type	`"setmastervol"`
volume	Master volume level with: 0 <= *volume* <= 255	`Integer`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "setmastervol", "volume": 255 }'
     –X POST http://192.168.1.159:8989/api/v22/sound.action
```

Sample Response

```
{ "returncode": "success" }
```

16.3 Get Status Tones Volume

Changelog

Version	Changes
v15	• Initial support

Description

Get the current volume level of the status tones.

Note that the volume is stored periodically. To make sure a volume change withstands an abrupt power-cut a delay of 10 seconds is necessary.

Method

POST

URL

http://<IP>:8989/api/v22/sound.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getstatusvol"`

Response Parameters

Parameter	Description	Value
volume	Master volume level with: 0 <= *volume* <= 255	`Integer`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "getstatusvol" }'
     -X POST http://192.168.1.159:8989/api/v22/sound.action
```

Sample Response

```
{ "volume": 0 }
```

16.4 Set Status Tones Volume

Changelog

Version	Changes
v15	• Initial support

Description

Set the volume for the status tones to a new value.

Method

POST

URL

http://<IP>:8989/api/v22/sound.action

Request Parameters

Parameter	Description	Value
action	Action type	`"setstatusvol"`
volume	Status tones volume level with: 0 <= *volume* <= 255	`Integer`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "setstatusvol", "volume": 0 }'
     -X POST http://192.168.1.159:8989/api/v22/sound.action
```

Sample Response

```
{ "returncode": "success" }
```

16.5 Get Channel

Changelog

Version	Changes
V21	• Initial support

Description

Get the current audio channel configuration.

Method

POST

URL

http://<IP>:8989/api/v22/sound.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getchannel"`

Response Parameters

Parameter	Description	Value
channel	Channel setting: **Parameter** / **Description** 0 – Stereo [L/R] 1 – Left [L/L] 2 – Right [R/R] 3 – Mono	`Enum`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "getchannel" }'
     –X POST http://192.168.1.159:8989/api/v22/sound.action
```

Sample Response

```
{ "channel": 1 }
```

16.6 Set Channel

Changelog

Version	Changes
v21	• Initial support

Description

Set the current audio channel configuration.

Method

POST

URL

http://<IP>:8989/api/v22/sound.action

Request Parameters

Parameter	Description	Value
action	Action type	`"setchannel"`
channel	Channel setting: **Parameter** / **Description** 0 – Stereo [L/R] 1 – Left [L/L] 2 – Right [R/R] 3 – Mono	`Enum`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success – Success error – An error occured	"success" | "error"

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "setchannel", "channel:" 1 }'
     -X POST http://192.168.1.159:8989/api/v22/sound.action
```

Sample Response

```
{ "returncode": "success" }
```

16.7 Get Equalizer

Changelog

Version	Changes
V21	• Initial support

Description

Get the current audio equalizer settings. Each band can be set from -48 to +24 dB, whereas the value 0 corresponds to -48 dB, the value 66 to 0 dB, and the value 100 to +24 dB.

Method

POST

URL

http://<IP>:8989/api/v22/sound.action

Request Parameters

Parameter	Description	Value
action	Action type	`"getequal"`

Response Parameters

Parameter	Description	Value
name[1]	Naming of the setting, e.g. “Rock”	`String | Null`
settings	Equalizer setting **Index** / **Description** / **Value** 0 / 31 Hz / 0 <= x <= 100 1 / 63 Hz / 0 <= x <= 100 2 / 125 Hz / 0 <= x <= 100 3 / 250 Hz / 0 <= x <= 100 4 / 500 Hz / 0 <= x <= 100 5 / 1 kHz / 0 <= x <= 100 6 / 2 kHz / 0 <= x <= 100 7 / 4 kHz / 0 <= x <= 100 8 / 8 kHz / 0 <= x <= 100 9 / 16 kHz / 0 <= x <= 100	`Array of Integers`

1) Optional

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "getequal" }'
     –X POST http://192.168.1.159:8989/api/v22/sound.action
```

Sample Response

```
{ "name:" "Headphone", "equal": [65,54,64,77,75,70,65,57,52,50] }
```

16.8 Set Equalizer

Changelog

Version	Changes
V21	• Initial support

Description

Set an audio equalizer configuration. Each band can be set from -48 to +24 dB, whereas the value 0 corresponds to -48 dB, the value 66 to 0 dB, and the value 100 to +24 dB.

Method

POST

URL

http://<IP>:8989/api/v22/sound.action

Request Parameters

Parameter	Description	Value
action	Action type	`"setequal"`
name	Naming of the setting, e.g. “Rock”	`String | Null`
settings	Equalizer setting **Index** / **Description** / **Value** 0 / 31 Hz / 0 <= x <= 100 1 / 63 Hz / 0 <= x <= 100 2 / 125 Hz / 0 <= x <= 100 3 / 250 Hz / 0 <= x <= 100 4 / 500 Hz / 0 <= x <= 100 5 / 1 kHz / 0 <= x <= 100 6 / 2 kHz / 0 <= x <= 100 7 / 4 kHz / 0 <= x <= 100 8 / 8 kHz / 0 <= x <= 100 9 / 16 kHz / 0 <= x <= 100	`Array of Integers`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "setequal", "name": "Headphones",
           "settings": [65,54,64,77,75,70,65,57,52,50] }'
     -X POST http://192.168.1.159:8989/api/v22/sound.action
```

Sample Response

```
{ "returncode": "success" }
```

16.9 Reset Equalizer

Changelog

Version	Changes
V21	• Initial support

Description

Reset the audio equalizer to its default settings (66 = 0 dB).

Method

POST

URL

http://<IP>:8989/api/v22/sound.action

Request Parameters

Parameter	Description	Value
action	Action type	`"resetequal"`

Response Parameters

Parameter	Description	Value
name[1]	Name of the default setting	`"Default"`
settings	Default equalizer setting **Index** / **Description** / **Value** 0 / 31 Hz / 0 <= x <= 100 1 / 63 Hz / 0 <= x <= 100 2 / 125 Hz / 0 <= x <= 100 3 / 250 Hz / 0 <= x <= 100 4 / 500 Hz / 0 <= x <= 100 5 / 1 kHz / 0 <= x <= 100 6 / 2 kHz / 0 <= x <= 100 7 / 4 kHz / 0 <= x <= 100 8 / 8 kHz / 0 <= x <= 100 9 / 16 kHz / 0 <= x <= 100	[66, 66, 66, 66, 66, 66, 66, 66, 66, 66]

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "resetequal" }'
     –X POST http://192.168.1.159:8989/api/v22/sound.action
```

Sample Response

```
{ "name:" "Default", "settings": [66,66,66,66,66,66,66,66,66,66] }
```

17 AirPlay

17.1 Enable

Changelog

Version	Changes
v17	• Initial support

Description

Enable auto-start of the AirPlay client when booting the device. If the client is currently not running, it will be started.

Method

POST

URL

http://<IP>:8989/api/v22/airplay.action

Request Parameters

Parameter	Description	Value
action	Action type	"enable"

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	"success" | "error"

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "enable" }'
     –X POST http://192.168.1.159:8989/api/v22/airplay.action
```

Sample Response

```
{ "returncode": "success" }
```

17.2 Disable

Changelog

Version	Changes
v17	• Initial support

Description

Stop the AirPlay client. If disabled, the client will not be started while booting the device.

Method

POST

URL

http://<IP>:8989/api/v22/radio.action

Request Parameters

Parameter	Description	Value
action	Action type	"disable"

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	"success" | "error"

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "disable" }'
     –X POST http://192.168.1.159:8989/api/v22/airplay.action
```

Sample Response

```
{ "returncode": "success" }
```

17.3 Status

Changelog

Version	Changes
v17	• Initial support

Description

Returns the status for the client whether it is is enabled to start during the boot process.

Method

POST

URL

http://<IP>:8989/api/v22/airplay.action

Request Parameters

Parameter	Description	Value
action	Action type	"status"

Response Parameters

Parameter	Description	Value
enabled	Auto-start during boot process: **Parameter** / **Description** true – Enabled false – Disabled	Boolean

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "status" }'
     –X POST http://192.168.1.159:8989/api/v22/airplay.action
```

Sample Response

```
{ "enabled": true }
```

17.4 Get AirPlay Version

Changelog

Version	Changes
v22	• Initial support

Description

Returns the AirPlay protocol version number.

Method

POST

URL

http://<IP>:8989/api/v22/airplay.action

Request Parameters

Parameter	Description	Value
action	Action type	"getairplayversion"

Response Parameters

Parameter	Description	Value
version	AirPlay protocol version number **Parameter** / **Description** 1 / AirPlay 1 2 / AirPlay 2	Enum

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "getairplayversion" }'
     –X POST http://192.168.1.159:8989/api/v22/airplay.action
```

Sample Response

```
{ "version": 1 }
```

17.5 Set AirPlay Version

Changelog

Version	Changes
v22	• Initial support

Description

Set the AirPlay protocol version number.

Method

POST

URL

http://<IP>:8989/api/v22/airplay.action

Request Parameters

Parameter	Description	Value
action	Action type	"setairplayversion"
version	AirPlay protocol version number **Parameter** / **Description** 1 / AirPlay 1 2 / AirPlay 2	Enum

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	"success" | "error"

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "setairplayversion", "version": 2 }'
     -X POST http://192.168.1.159:8989/api/v22/airplay.action
```

Sample Response

```
{ "returncode": "success" }
```

18 Spotify

18.1 Enable

Changelog

Version	Changes
v17	• Initial support

Description

Enable auto-start of the Spotify Connect client when booting the device. If the client is currently not running, it will be started.

Method

POST

URL

http://<IP>:8989/api/v22/spotify.action

Request Parameters

Parameter	Description	Value
action	Action type	"enable"

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	"success" | "error"

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "enable" }'
     -X POST http://192.168.1.159:8989/api/v22/spotify.action
```

Sample Response

```
{ "returncode": "success" }
```

18.2 Disable

Changelog

Version	Changes
v17	• Initial support

Description

Stop the Spotify Connect client. If disabled, the client will be not started while booting the device.

Method

POST

URL

http://<IP>:8989/api/v22/spotify.action

Request Parameters

Parameter	Description	Value
action	Action type	"disable"

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	"success" | "error"

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "disable" }'
     –X POST http://192.168.1.159:8989/api/v22/spotify.action
```

Sample Response

```
{ "returncode": "success" }
```

18.3 Status

Changelog

Version	Changes
v17	• Initial support
v21	• Add `"running" to response parameters`

Description

Returns the status for the client whether it is is enabled to start during the boot process.

Method

POST

URL

http://<IP>:8989/api/v22/spotify.action

Request Parameters

Parameter	Description	Value
action	Action type	"status"

Response Parameters

Parameter	Description	Value
enabled	Auto-start during boot process: **Parameter** / **Description** true – Enabled false – Disabled	Boolean

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "status" }'
     –X POST http://192.168.1.159:8989/api/v22/spotify.action
```

Sample Response

```
{ "enabled": true }
```

19 UPnP

19.1 Enable

Changelog

Version	Changes
v17	• Initial support

Description

Enable auto-start of the UPnP/DLNA/OpenHome client when booting the device. If the client is currently not running, it will be started.

Method

POST

URL

http://<IP>:8989/api/v22/upnp.action

Request Parameters

Parameter	Description	Value
action	Action type	"enable"

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	"success" | "error"

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'
     -d '{ "action": "enable" }'
     -X POST http://192.168.1.159:8989/api/v22/upnp.action
```

Sample Response

```
{ "returncode": "success" }
```

19.2 Disable

Changelog

Version	Changes
v17	• Initial support

Description

Stop the UPnP/DLNA/OpenHome client. If disabled, the client will not be started while booting the device.

Method

POST

URL

http://<IP>:8989/api/v22/upnp.action

Request Parameters

Parameter	Description	Value
action	Action type	"disable"

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	"success" | "error"

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "disable" }'
     –X POST http://192.168.1.159:8989/api/v22/upnp.action
```

Sample Response

```
{ "returncode": "success" }
```

19.3 Status

Changelog

Version	Changes
v17	• Initial support
v21	• Add `"running" to response parameters`

Description

Returns the status for the client whether it is is enabled to start during the boot process.

Method

POST

URL

http://<IP>:8989/api/v22/upnp.action

Request Parameters

Parameter	Description	Value
action	Action type	"status"

Response Parameters

Parameter	Description	Value
enabled	Auto-start during boot process: **Parameter** / **Description** true – Enabled false – Disabled	Boolean

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{ "action": "status" }'
     –X POST http://192.168.1.159:8989/api/v22/upnp.action
```

Sample Response

```
{ "enabled": true }
```

20 iPerf

20.1 Enable

Changelog

Version	Changes
v15	• Initial support

Description

Start a iPerf3 server daemon. If enabled, the server will be started at boot up.

Method

POST

URL

http://<IP>:8989/api/v22/iperf.action

Request Parameters

Parameter	Description	Value
action	Action type	`"enable"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'                    \
     -d '{ "action": "enable" }'                                           \
     -X POST http://192.168.1.159:8989/api/v22/iperf.action
```

Sample Response

```
{ "returncode": "success" }
```

20.2 Disable

Changelog

Version	Changes
v15	• Initial support

Description

Stop the iPerf3 server daemon. If disabled, the server will not be started at boot up.

Method

POST

URL

http://<IP>:8989/api/v22/iperf.action

Request Parameters

Parameter	Description	Value
action	Action type	`"disable"`

Response Parameters

Parameter	Description	Value
returncode	Response message **Parameter** / **Description** success / Success error / An error occured	`"success" | "error"`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'                    \
     -d '{ "action": "disable" }'                                          \
     -X POST http://192.168.1.159:8989/api/v22/iperf.action
```

Sample Response

```
{ "returncode": "success" }
```

20.3 Status

Changelog

Version	Changes
v15	• Initial support

Description

Get information if the iPerf3 server is enabled.

Method

POST

URL

http://<IP>:8989/api/v22/iperf.action

Request Parameters

Parameter	Description	Value
action	Action type	`"status"`

Response Parameters

Parameter	Description	Value
enabled	Server status **Parameter** / **Description** true – Server is enabled false – Server is not enabled	`Boolean`

Sample Request

```
curl -H 'Content-Type: application/json; charset=UTF-8'                    \
     -d '{ "action": "status" }'                                           \
     -X POST http://192.168.1.159:8989/api/v22/iperf.action
```

Sample Response

```
{ "enabled": true }
```

21 Configure (*deprecated*)

Note that the configure API endpoint is deprecated since API v16 and may be removed in the future. As a replacement, the API endpoints “device”, “network” and “wifi” shall be used.

21.1 Get Device Status

Description

Get the current device and network configuration.

Method

POST

URL

http://<IP>:8989/api/v22/configure.action

Request Parameters

Parameter	Description	Value
action	Action type	`"query"`

Response Parameters

Parameter	Description	Value
networkinfo	*Wireless network information*	
└ ***apinfo***	└ *AP mode information*	`Wifi object`
└ ***clientinfo***	└ *Client mode information*	`Wifi object`
└ **wifimode**	└ Current wifi mode	`"ap" | "client"`
└ ***ipaddressinfo***	└ *IP information*	`IPAddress object`
ethinfo	*Ethernet network information*	
└ ***ipaddressinfo***	└ *IP information*	`IPAddress object`
deviceinfo	*Device information*	`DeviceInfo object`

JSON Objects

Wifi

Parameter	Description	Value
wifissid	Service Set Identifier	`String`
wifipwd	Authentification password	`String`
encrypt_type	Encryption type **Parameter** / **Description** NONE — No encryption WEP — WEP encrypted WPA — WPA2 or WPA encrypted	`"NONE" | "WEP" | "WPA"`

encrypt_subtype	Encryption subtype **Parameter** / **Description** WPA2 / WPA2 only WPA / WPA only WPA2 WPA / WPA2 and WPA	`"WPA2" | "WPA" | "WPA2 WPA"`
group_cipher	Group cipher	`String`
pairwise_ciphers	Pairwise cipher	`String`

IPAddress

Parameter	Description	Value
type	IP address assignment method	`"DHCP"`
subnetmask	Subnet mask	`Reserved`
primarydns	Primary DNS	`Reserved`
seconddns	Second DNS	`Reserved`
gateway	Gateway	`Reserved`
ipaddress	IP address	`Reserved`

DeviceInfo

Note that ethaddress is only present for HBM11-ETH devices and was included in API v16.

Parameter	Description	Value
model	Model name	`String`
devicename	Friendly name of the device	`String`
softwarever	Firmware version	`String`
macaddress	Wifi MAC address	`String`
ethaddress*	Ethernet MAC address	`String`
configured	Wifi interface is integrated into a network	`"true" | "false"`
serialnumber	Serial number	`Reserved`
hardwarever	Hardware revision	`String`
airplaypwd	AirPlay password	`Reserved`
devicepwd	Device password	`Reserved`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "query"}'
     –X POST http://192.168.2.1:8989/api/v16/configure.action
```

Sample Response

AP mode

```
{
    "networkinfo": {
        "apinfo": {
            "wifissid": "HBM11-AB94",               // SSID
            "wifipwd": "",
            "encrypt_type": "",
            "encrypt_subtype": "",
            "group_cipher": "",
            "pairwise_ciphers": ""
        },
        "clientinfo": {
            "encrypt_type": "",
            "encrypt_subtype": "",
            "wifipwd": "",
            "group_cipher": "",
            "wifissid": "",
            "pairwise_ciphers": ""
        },
        "wifimode": "ap",                           // AP mode
        "ipaddressinfo": {
            "type": "",
            "subnetmask": "",
            "secondarydns": "",
            "gateway": "",
            "primarydns": "",
            "ipaddress": ""
        }
    },
    "ethinfo": {
        "ipaddressinfo": {
            "type": "DHCP",                         // DHCP (Dynamic IP)
            "subnetmask": "",
            "seconddns": "",
            "gateway": "",
            "primarydns": "",
            "ipaddress": "192.168.178.101"          // IPv4 address
        }
    },
    "deviceinfo": {
        "airplaypwd": "",
        "serialnumber": "2976295828",               // Serial number
        "hardwarever": "R8EM49490B1",               // Hardware version
        "macaddress": "00:23:b1:66:ab:94",          // MAC address
        "model": "HBM11",                           // Model name
        "devicepwd": "",
        "configured": "false",                      // Device is not configured
        "devicename": "HBM11",                      // Device name
        "softwarever": "4.2.0"                      // Software version
    }
}
```

Client mode

```
{
    "networkinfo": {
        "apinfo": {
            "encrypt_type": "",
            "encrypt_subtype": "",
            "wifipwd": "",
            "group_cipher": "",
            "wifissid": "",
            "pairwise_ciphers": ""
        },
        "clientinfo": {
            "wifissid": "My Home",                  // SSID
            "wifipwd": "",
            "encrypt_type": "WPA2-PSK",             // Encryption
            "encrypt_subtype": "",
            "group_cipher": "TKIP",                 // Group cipher
            "pairwise_ciphers": "CCMP"              // Pairwise cipher
        },
        "wifimode": "client",
        "ipaddressinfo": {
            "type": "DHCP",                         // DHCP (Dynamic IP)
            "subnetmask": "",
            "seconddns": "",
            "gateway": "",
            "primarydns": "",
            "ipaddress": ""
        }
    },
    "ethinfo": {
        "ipaddressinfo": {
            "type": "DHCP",                         // DHCP (Dynamic IP)
            "subnetmask": "",
            "seconddns": "",
            "gateway": "",
            "primarydns": "",
            "ipaddress": "192.168.178.101"          // IPv4 address
        }
    },
    "deviceinfo": {
        "airplaypwd": "",
        "serialnumber": "2976295828",               // Serial number
        "hardwarever": "R8EM49490B1",               // Hardware version
        "macaddress": "00:23:b1:66:ab:94",          // MAC address
        "model": "HBM11",                           // Model name
        "devicepwd": "",
        "configured": "true",                       // Configured
        "devicename": "HBM11",                      // Device name
        "softwarever": "4.2.0"                      // Software version
    }
}
```

21.2 Wifi Scan

Description

Get a list of scanned networks.

Method

POST

URL

http://<IP>:8989/api/v22/configure.action

Request Parameters

Parameter	Description	Value
action	Action type	`"wifiscan"`

Response Parameters

Parameter	Description	Value
aplist	*List of scanned networks*	
└ **[network]**	└ List of network objects	`List of Network objects`

JSON Objects

Network

Parameter	Description	Value
bss	Basic Service Set Identification	`String`
ssid	Service Set Identifier	`String`
channel	Wireless channel	`String`
signal_level	Signal level	`String`
encrypt_type	Encryption type **Parameter** / **Description** NONE — No encryption WEP — WEP encrypted WPA — WPA2 or WPA encrypted	`"NONE" | "WEP" | "WPA"`
encrypt_subtype	Encryption subtype **Parameter** / **Description** WPA2 — WPA2 only WPA — WPA only WPA2 WPA — WPA2 and WPA	`"WPA2" | "WPA" | "WPA2 WPA"`
group_cipher	Group cipher	`String`
pairwise_ciphers	Pairwise cipher	`String`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "wifiscan"}'
     –X POST http://192.168.2.1:8989/api/v22/configure.action
```

Sample Response

```
{
    "aplist": [
        {
            "encrypt_type": "NONE",                 // Open network
            "encrypt_subtype": "",
            "ssid": "Some SSID 1",                  // SSID
            "group_cipher": "",
            "pairwise_ciphers": "",
            "bss": "00:12:23:34:45:56",             // MAC address
            "signal_level": "-46",                  // Signal level in dBm
            "channel": "6"                          // Channel
        },
        {
            "encrypt_type": "WPA",                  // Secured network
            "encrypt_subtype": "WPA2 WPA",          // WPA+WPA2
            "ssid": "Some SSID 2",                  // SSID
            "group_cipher": "TKIP",                 // Group cipher
            "pairwise_ciphers": "CCMP TKIP",        // Pairwise cipher
            "bss": "00:14:6c:53:4f:52",             // MAC address
            "signal_level": "-24",                  // Signal level in dBm
            "channel": "6"                          // Channel
        }
    ]
}
```

21.3 Set Config

Description

Configure the device

Method

POST

URL

http://<IP>:8989/api/v22/configure.action

Request Parameters

<table>
<tr><th>Parameter</th><th>Description</th><th>Value</th></tr>
<tr><td>action</td><td>Action type</td><td>"setconfig"</td></tr>
<tr><td>deviceinfo</td><td>Device information</td><td></td></tr>
<tr><td>└ devicename</td><td>└ Device name</td><td>String</td></tr>
<tr><td>networkinfo</td><td>Network information</td><td></td></tr>
<tr><td>└ wifimode</td><td>└ Wifi mode</td><td>"client"</td></tr>
<tr><td>└ clientinfo</td><td>└ Network client configuration</td><td></td></tr>
<tr><td>└ encrypt_type</td><td>└ Encryption type
<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>NONE</td><td>No encryption</td></tr>
<tr><td>WEP</td><td>WEP encrypted</td></tr>
<tr><td>WPA</td><td>WPA2 or WPA encrypted</td></tr>
</table></td><td>"NONE" | "WEP" | "WPA"</td></tr>
<tr><td>└ wifipwd</td><td>└ Wifi password</td><td>String</td></tr>
<tr><td>└ wifissid</td><td>└ SSID name</td><td>String</td></tr>
<tr><td>└ ipaddressinfo</td><td>IP address information</td><td></td></tr>
<tr><td>└ type</td><td>└ IP address type</td><td>"DHCP"</td></tr>
</table>

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "setconfig",
          "deviceinfo": {"devicename": "Kitchen"},
          "networkinfo": {"wifimode": "client",
                          "clientinfo": {"encrypt_type": "WPA",
                                         "wifipwd": "12345678",
                                         "wifissid": "MyHomeNetwork"},
                          "ipaddressinfo": {"type": "DHCP"}}}'
     –X POST http://192.168.2.1:8989/api/v22/configure.action
```

Sample Response

```
{ "returncode": "success" }
```

21.4 Factory Reset

Description

Reset the device to factory settings.

Method

POST

URL

http://<IP>:8989/api/v13/configure.action

Request Parameters

Parameter	Description	Value
action	Action type	`"resetdefault"`

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "resetdefault"}'
     –X POST http://192.168.2.1:8989/api/v22/configure.action
```

Sample Response

```
{ "returncode": "success" }
```

21.5 Reboot

Description

Reboot the device.

Method

POST

URL

http://<IP>:8989/api/v22/configure.action

Request Parameters

Parameter	Description	Value
action	Action type	"reboot"

Sample Request

```
curl –H 'Content-Type: application/json; charset=UTF-8'
     –d '{"action": "reboot"}'
     –X POST http://192.168.2.1:8989/api/v22/configure.action
```

Sample Response

```
{ "returncode": "success" }
```