



Varia Touch Panels

HControl Protocol Document

HARMAN Pro HControl

The HControl protocol is available for third parties to query certain aspects of the Varia product. HControl is a text-based protocol using a JSON-like syntax. Simple commands can be used to query certain parameters.

GET

The GET command is used to obtain information from the device. A simple get command has the following syntax:

```
get {"path": "$endpoint"}\n
```

All get commands have responses. A response has the following syntax:

```
@get {"path": "$endpoint", "value": "$value"}
```

You can use telnet to experiment with the command/response values. An example is shown below:

```
telnet 10.35.92.85 4197

get {"path": "/configuration/device/name"}\n
@get {"path": "/configuration/device/name", "value": "Test Varia 15"}

get {"path": "/configuration/device/location"}\n
@get {"path": "/configuration/device/location", "value": "Test Bench"}
```

Booleans will return true/false (case sensitive) by default, if no specific format is specified. The format can be specified to return alternate values:

```
get {"path": "/varia/display/wakeonapproach"}\n
@get {"path": "/varia/display/wakeonapproach", "value": true}

get {"path": "/varia/display/wakeonapproach", "format": "string"}\n
@get {"path": "/varia/display/wakeonapproach", "value": "true"}

get {"path": "/varia/display/wakeonapproach", "format": "number"}\n
@get {"path": "/varia/display/wakeonapproach", "value": 1}
```

Enumerations can return either the string value or the index value of the enumerated value. Returns will depend on the format requested. By default the index value is returned:

1 minute:

```
get {"path":"/varia/display/screentimeout"}\n
@get {"path":"/varia/display/screentimeout","value":3}

get {"path":"/varia/display/screentimeout","format":"string"}\n
@get {"path":"/varia/display/screentimeout","value":"1 minute"}
```

SET

Parameters are set via the SET command. SETs generally have an immediate impact. The following command will change the LED color. The SET response will confirm the value that was set.

```
set {"path":"/varia/hardware/sideled/rgb", "value":"#ff00ff"}\n
@set {"path":"/varia/hardware/sideled/rgb","value":"#ff00ff"}
```

Booleans use true/false (case sensitive) in SETs by default, if no specific format is specified. The format can be specified for alternate values:

```
set {"path":"/varia/display/wakeonapproach","value":true}\n
@set {"path":"/varia/display/wakeonapproach","value":true}

set {"path":"/varia/display/wakeonapproach","value":"true","format":"string"}\n
@set {"path":"/varia/display/wakeonapproach","value":"true"}

set {"path":"/varia/display/wakeonapproach","value":1,"format":"number"}\n
@set {"path":"/varia/display/wakeonapproach","value":1}
```

Enumerations can use either the string value or the index value of the enumerated value. The following are equivalent SET commands:

30 seconds:

```
set {"path":"/varia/display/screentimeout","value":2 }\n@set {"path":"/varia/display/screentimeout","value":2}\n\nset {"path":"/varia/display/screentimeout","value":"30 seconds","format":"string"}\n@set {"path":"/varia/display/screentimeout","value":"30 seconds"}
```

In some instances, the SET response may not match the value requested. This is generally due to scaling factors or out-of-range values in things like brightness, audio volume, etc. If the sending app is keeping state, then the local value should be updated to the value in the SET response.

```
set {"path":"/varia/display/brightness","value":101}\n@set {"path":"/varia/display/brightness","value":100}
```

| HControl | Description | Data Type | Get | Set | Example |
|-----------------------------------|---|---|-----|-----|---|
| DISPLAY | | | | | |
| /varia/display/brightness | Display brightness | Integer 1-100 | GET | SET | set {"path":"/varia/display/brightness","value":100}\n @set {"path":"/varia/display/brightness","value":100} |
| /varia/display/adaptivebrightness | Enable/disable adaptive brightness | Boolean | GET | SET | set {"path":"/varia/display/adaptivebrightness","value":false}\n @set {"path":"/varia/display/adaptivebrightness","value":false} |
| /varia/display/screendimtimeout | Set screen dim timeout. This is dependent on /varia/display/screentimeout | Enum ['Never', '15 seconds', '30 seconds', '1 minute', '5 minutes', '15 minutes', '30 minutes', '1 hour', '2 hours', '3 hours', '4 hours', '8 hours'] | GET | SET | 30 seconds: set {"path":"/varia/display/screendimtimeout","value":2}\n @set {"path":"/varia/display/screendimtimeout","value":2} get {"path":"/varia/display/screendimtimeout"}\n @get {"path":"/varia/display/screendimtimeout","value":2} get {"path":"/varia/display/screendimtimeout","format":"string"}\n @get {"path":"/varia/display/screendimtimeout","value":"30 seconds"} |
| /varia/display/screentimeout | Set screen timeout | Enum ['Never Sleep', '15 seconds', '30 seconds', '1 minute', '2 minutes', '5 minutes', '10 minutes', '30 minutes'] | GET | SET | 1 minute: set {"path":"/varia/display/screentimeout","value":3}\n @set {"path":"/varia/display/screentimeout","value":3} get {"path":"/varia/display/screentimeout","format":"string"}\n @get {"path":"/varia/display/screentimeout","value":"1 minute"} |
| /varia/display/wakeonapproach | Enable/disable wake screen on approach/motion | Boolean | GET | SET | set {"path":"/varia/display/wakeonapproach","value":true}\n @set {"path":"/varia/display/wakeonapproach","value":true} |
| HARDWARE | | | | | |
| /varia/hardware/sideled/rgb | Get or Set the side LED color. The updated color is NOT persistent and may be over-written by the application. | String (Hex) 00-FF #RRGGBB | GET | SET | Set to BLUE LED: set {"path":"/varia/hardware/sideled/rgb","value":"#0000ff"}\n @set {"path":"/varia/hardware/sideled/rgb","value":"#0000ff"} |
| APPS / PERSONAS | | | | | |

| HControl | Description | Data Type | Get | Set | Example |
|------------------------------------|--|---|-----|-----|---|
| /varia/config/homeapp | Set the panel persona | Enum "None Selected", "AMX Book", "AMX G5 Control", "Zoom Controller", "Web Kiosk" | GET | SET | Note the home app must be set before any of the persona-specific entries are available. get {"path":"/varia/config/homeapp","format":"string"}\n@get {"path":"/varia/config/homeapp","value":"None Selected"} set {"path":"/varia/config/homeapp","value":"AMX G5 Control"}\n@set {"path":"/varia/config/homeapp","value":"AMX G5 Control"} |
| /varia/system/launchapp | Manually launch an app. | String app.package.name | GET | SET | Launch Zoom Rooms Controller app: set {"path":"/varia/system/launchapp","value":"us.zoom.zrc"}\n@set {"path":"/varia/system/launchapp","value":"none"} |
| DEVICE CONFIGURATION | | | | | |
| /configuration/device/version | OS Version | String | GET | | get {"path":"/configuration/device/version"}\n@get {"path":"/configuration/device/version","value":"1.11.29.0"} |
| /configuration/device/serialnumber | Serial Number | String | GET | | |
| /configuration/device/name | Device Name | String | GET | SET | set {"path":"/configuration/device/name","value":"Engineering Varia 15"}\n@set {"path":"/configuration/device/name","value":"Engineering Varia 15"} |
| DATE & TIME | | | | | |
| /varia/datetime/timezone | Current Time Zone | Enum | GET | SET | Use a get to see the list of available time zones. |
| /varia/datetime/datetime | UTC Time | String | GET | SET | set {"path":"/varia/datetime/datetime","value":"2023-11-08T17:41:00Z"}\n Setting time not available when NTP server is enabled |
| /varia/datetime/ntp/enable | Enable/disable NTP connection | Boolean | GET | SET | |
| /varia/datetime/ntp/server | Value is either a resolvable hostname or IP address Note, setting the NTP server will also enable the NTP server. | String | GET | SET | Setting an NTP server will automatically enable it. Syncing time can take some time. It is generally recommended to reboot once all configuration is complete when changing the time server. set {"path":"/varia/datetime/ntp/server","value":"10.10.26.8"}\n@set {"path":"/varia/datetime/ntp/server","value":"10.10.26.8"} |
| APP VERSIONS | | | | | |
| /varia/config/amxcontrolversion | AMX G5 version currently installed | String | GET | | get {"path":"/varia/config/amxcontrolversion"}\n@get {"path":"/varia/config/amxcontrolversion","value":"1.6.2"} |
| /varia/config/acendobookversion | AMX Book version currently installed | String | GET | | get {"path":"/varia/config/acendobookversion"}\n@get {"path":"/varia/config/acendobookversion","value":"1.6.2"} |

| HControl | Description | Data Type | Get | Set | Example |
|--|--|-----------------|-----|-----|--|
| /varia/config/webkioskversion | Web Kiosk version currently installed | String | GET | | get {"path":"/varia/config/webkioskversion"}\n @get {"path":"/varia/config/webkioskversion","value":"1.6.1"} |
| /varia/config/zoomcontrollerversion | Zoom Room Controller version currently installed | String | GET | | get {"path":"/varia/config/zoomcontrollerversion"}\n @get {"path":"/varia/config/zoomcontrollerversion","value":"5.16.5"} |
| NETWORK | | | | | Network endpoints are a bit special in that some must be set in pairs. IP/Netmask/Gateway, for instance, must be set in a single command to avoid dropping the network connection. |
| /configuration/network/interface/1/ipv4/ipaddress | Network IP Address. This must be known in order to run any queries | String | GET | | |
| /configuration/network/interface/1/ipv4/subnetmask | Subnet mask | String | GET | | get {"path":"/configuration/network/interface/1/ipv4/subnetmask"}\n @get {"path":"/configuration/network/interface/1/ipv4/subnetmask","value":"255.255.252.0"} |
| /configuration/network/interface/1/ipv4/gateway | Gateway IP | String | GET | | get {"path":"/configuration/network/interface/1/ipv4/gateway"}\n @get {"path":"/configuration/network/interface/1/ipv4/gateway","value":"192.168.3.1"} |
| /configuration/network/interface/1/ipv4/dhcp | DHCP or Static | Enum | GET | | |
| /configuration/network/interface/1/mac | MAC Address | String | GET | | |
| n/a | IP, Netmask, Gateway, DHCP | Combo | | SET | Set Static: setip {"dhcp":false, "gateway":"192.168.0.1", "ipv4":"192.168.0.113", "subnetmask":"255.255.255.0"}\n Set DHCP: setip {"dhcp":true}\n |
| VNC | | | | | |
| /varia/vnc/enable | Enable/disable VNC server | Boolean | GET | SET | set {"path":"/varia/vnc/enable", "value":true}\n @set {"path":"/varia/vnc/enable", "value":true} |
| /varia/vnc/password | VNC password | String | | SET | set {"path":"/varia/vnc/password", "value":"amx1988!"}\n @set {"path":"/varia/vnc/password", "value":"amx1988!"} |
| /varia/vnc/port | VNC IP port | Integer 1-65535 | GET | SET | set {"path":"/varia/vnc/port", "value":5900}\n @set {"path":"/varia/vnc/port", "value":5900} |
| /varia/vnc/enablegestires | Enable/disable gestures in VNC | Boolean | GET | SET | set {"path":"/varia/vnc/enablegestures", "value":true}\n @set {"path":"/varia/vnc/enablegestures", "value":true} |

| HControl | Description | Data Type | Get | Set | Example |
|------------------------------------|--|---|-----|-----|--|
| /varia/vnc/enablesettingskey | Enable/disable [Home] key to enter Panel Settings | Boolean | GET | SET | set {"path": "/varia/vnc/enablesettingskey", "value":true}\n @set {"path": "/varia/vnc/enablesettingskey", "value":true} |
| /varia/vnc/longholdtime | Configure hold time (seconds) | Integer 1-100 | GET | SET | set {"path": "/varia/vnc/longholdtime", "value":5}\n @set {"path": "/varia/vnc/longholdtime", "value":5} |
| AMX G5 CONTROL (Controller) | | | | | |
| /amxcontrol/config/status | Indicates whether or not the panel is online with the controller | Enum 'Connected', 'Disconnected' | GET | | |
| /amxcontrol/config/deviceid | NetLinx Device ID | Integer | GET | SET | get {"path":"/amxcontrol/config/deviceid","value":0}\n @get {"path":"/amxcontrol/config/deviceid","value":0}\n set {"path":"/amxcontrol/config/deviceid","value":"10001"}\n @set {"path":"/amxcontrol/config/deviceid","value":"10001"} |
| /amxcontrol/config/url | Controller URL | String | GET | SET | get {"path":"/amxcontrol/config/url"}\n @get {"path":"/amxcontrol/config/url","value":"192.168.0.1"}\n set {"path":"/amxcontrol/config/url","value":"10.35.92.1"}\n @set {"path":"/amxcontrol/config/url","value":"10.35.92.1"} |
| /amxcontrol/config/devicename | NetLinx Device Name | String | GET | SET | get {"path":"/amxcontrol/config/devicename"}\n @get {"path":"/amxcontrol/config/devicename","value":"Device 16384"}\n set {"path":"/amxcontrol/config/devicename","value":"Eng Varia 15"}\n @set {"path":"/amxcontrol/config/devicename","value":"Eng Varia 15"} |
| AMX BOOK | | | | | |
| /acendo/room/statusled | Red or Green | Boolean (true = red/booked) | GET | | |
| /acendo/calendar/calendartype | Scheduler Calendar Type | Enum 'Microsoft Exchange', 'Office 365', 'Google Calendar' | GET | | |
| /acendo/room/name | Name of the room | String | GET | | |
| WEB KIOSK | | | | | |

| HControl | Description | Data Type | Get | Set | Example |
|-------------------|-------------|-----------|-----|-----|--|
| /kiosk/config/url | Startup URL | String | GET | SET | <pre>set {"path":"/kiosk/config/url","value":"www.amx.com"}\n @set {"path":"/kiosk/config/url","value":"www.amx.com"} get {"path":"/kiosk/config/url"} @get {"path":"/kiosk/config/url","value":"www.amx.com "}</pre> |
| /kiosk/url | Jump to URL | String | | SET | <pre>set {"path":"/kiosk/url","value":"www.amx.com/varia"}\n @set {"path":"/kiosk/url","value":"www.amx.com/varia"}</pre> |

Executing Commands

EXEC

Example: Advanced Settings

```
exec {"path": "/varia/system/", "command": "advancedsettings"}
```

| HControl | Description | Data Type | Arguments / Example |
|--------------------------------|---------------------------|-----------|---|
| SETTINGS | | | |
| /varia/system/advancedsettings | Open Advanced Settings | command | |
| /varia/system/androidsettings | Open Android Settings | command | |
| REBOOT & RESET | | | |
| /varia/system/reboot | Reboot panel | command | |
| /varia/system/factoryreset | Reset to Factory Firmware | command | |
| FIRMWARE | | | |
| /varia/system/fwupdate | Firmware Update Path | command | Example: fwupdate {"arguments": "https://adn.harmanpro.com/softwarewares/2141_1690923881/SW_AMX-Varia-OS_v1.11.29.zip"}\n |
| FILE TRANSFER | | | |
| /varia/system/httptransfer | HTTP Transfer | command | Example: exec {"path": "/varia/system/", "command": "httptransfer", "arguments": {"url": "http://commondatastorage.googleapis.com/gtv-videos-bucket/sample/ElephantsDream.mp4"}}\n |

