ATLONA
A division of HARMAN

USB 3.2 Gen 1

Data Extender Kit

JSON-RPC over WebSocket
1.0

AT-USB-EX350-KIT

Atlona Manuals
Extenders

Version Information

Version	Release Date	Notes
1	Mar 2025	Initial release

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Information

Notes on the use of ports and protocols:

Telnet port: 23
SSH port: 22
WS: 80
WSS: 443

Websocket address = `ws://<IP>/ws`
Secure Websocket address = `wss://<IP>/ws`

RS-232 settings: 115200, N, 8, 1 (Default)

This product also supports TCP Proxy to the local RS-232 port with the following port assignment:

TCP Port	Port Description
9001	RS-232

Notes on the use of the ID request identifier in JSON request objects:

Proper use of the ID request identifier in each JSON request object is essential for updating the web client interface in real-time.

The `id` request identifier value must be in the following format: `[NAMESPACE]+[METHOD]+"Results"`.

Example:

For the `Usb.Get` request object, the ID request identifier must be set to `"UsbGetResults"`, as shown in the example below.

```
{
    "jsonrpc": "2.0",
    "id": "UsbGetResults",
    "method": "Usb.Get"
}
```

Including this value for the id request identifier ensures the web client interface updates automatically.

Using any other string will still process the command successfully. However, manually refreshing the web client interface will be required to view the changes.

Request Objects

Display Control

Request Object	Description
DisplayCtrlRs232.Set	Sets the RS-232 parameters for the specified extension port.
DisplayCtrlRs232.Send	Triggers the AT-USB-EX350-KIT to send the command string to the display over the specified extension port.

Network

Request Object	Description
Network.Get	Returns the current network settings of the AT-USB-EX350-KIT.
Network.Set	Configures the network settings of the AT-USB-EX350-KIT.
NetworkCtrlProtocols.Get	Returns the state of the available communication protocols.
NetworkCtrlProtocolsEnable.Set	Controls the activation or deactivation of the allowed communication protocols.
NetworkHostname.Get	Returns the hostname of the AT-USB-EX350-KIT.
NetworkHostname.Set	Assigns a hostname to the AT-USB-EX350-KIT.

System

Request Object	Description
Platform.FactoryReset	Resets the AT-USB-EX350-KIT to factory default settings.
Platform.Reboot	Reboots the AT-USB-EX350-KIT.
System.Get	Returns information about the AT-USB-EX350-KIT.

Time

Request Object	Description
Time.Get	Returns the current time settings of the AT-USB-EX350-KIT.
Time.Set	Sets the system time.
TimeNTP.Set	Sets the NTP settings.
TimeZone.Get	Returns the current time zone setting of the AT-USB-EX350-KIT.
TimeZone.Set	Sets the time zone for the AT-USB-EX350-KIT.

USB

Request Object	Description
Usb.Get	Returns the VBUS setting on the device ports.
UsbDeviceSupport.Get	Returns the current status of USB 2.0 and USB 3.0 support.
UsbDeviceSupport.Set	Enables or disables USB 2.0 and USB 3.0 compatibility.
UsbInfo.Get	Returns information on the Valens VS6320 devices on both ends of the HDBaseT link.
UsbVbus.Set	Sets the VBUS mode for the specified device port.

DisplayCtrlRs232.Set

Configures the settings for the RS-232 port.

Structure
{"jsonrpc":"2.0","id":"X","method":"DisplayCtrlRs232.Set","params":{"baudrate":"Y","parity":"Z","dataBit":"U","stopBit":"V"}}

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	baudrate	9600, 19200, 38400, 57600, 115200
Z	parity	none, even, odd
U	dataBit	7, 8
V	stopBit	0, 1

Example

```
{
    "jsonrpc": "2.0",
    "id": "DisplayCtrlRs232SetResults",
    "method": "DisplayCtrlRs232.Set",
    "params": {
        "baudrate": "9600",
        "parity": "N",
        "dataBit": "8",
        "stopBit": "1"
    }
}
```

Returns

```
{
    "id": "DisplayCtrlRs232SetResults",
    "jsonrpc": "2.0",
    "result": true
}
```

DisplayCtrlRs232Cmd.Send

Triggers the AT-USB-EX350-KIT to send the command string to the display over the RS-232 port.

Structure
`{"jsonrpc":"2.0","id":"X","method":"DisplayCtrlRs232Cmd.Send","params":{"mode":"Y","data":"Z"}}`

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	mode	str, hex
Z	data	String data

Example

```
{
    "jsonrpc": "2.0",
    "id": "DisplayCtrlRs232CmdSendResults",
    "method": "DisplayCtrlRs232Cmd.Send",
    "params": {
        "mode": "hex",
        "data": "74 65 A3 41"
    }
}
```

Returns

```
{
    "jsonrpc": "2.0",
    "id": "DisplayCtrlRs232CmdSendResults",
    "result": true
}
```

Network.Get

Returns the current network settings of the AT-USB-EX350-KIT.

Structure
`{"jsonrpc":"2.0","id":"X","method":"Network.Get"}`

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
    "jsonrpc": "2.0",
    "id": "NetworkGetResults",
    "method": "Network.Get"
}
```

Returns

```
{
    "id": "NetworkGetResults",
    "jsonrpc": "2.0",
    "result": {
        "gateway": "10.20.20.1",
        "ip_mode": "dhcp",
        "ip_port": 23,
        "ipaddr": "10.20.20.49",
        "mac": "B8:98:B0:0E:F9:B7",
        "netmask": "255.255.255.0"
    }
}
```

Network.Set

Configures the network settings for the AT-USB-EX350-KIT.

Structure
{"jsonrpc":"2.0","id":"X","method":"Network.Set","params":{"ip_mode":"Y","ipaddr":"Z","netmask":"U","gateway":"V","ip_port":W}}

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	ip_mode	autoip, dhcp, static
Z	ipaddr	IP address
U	netmask	Subnet mask
V	gateway	Gateway (router address)
W	ip_port	Port number

Example

```
{
    "jsonrpc": "2.0",
    "id": "NetworkSetResults",
    "method": "Network.Set",
    "params": {
        "ip_mode": "static",
        "ipaddr": "10.20.20.49",
        "netmask": "255.255.255.0",
        "gateway": "10.20.20.1",
        "ip_port": 23
    }
}
```

Returns

```
{
    "id": "NetworkSetResults",
    "jsonrpc": "2.0",
    "result": {
        "gateway": "10.20.20.1",
        "ip_mode": "static",
        "ip_port": 23,
        "ipaddr": "10.20.20.49",
        "netmask": "255.255.255.0"
    }
}
```

NetworkCtrlProtocols.Get

Returns the state of the available communication protocols.

Structure
{"jsonrpc":"2.0","id":"X","method":"NetworkCtlProtocols.Get"}

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
    "jsonrpc": "2.0",
    "id": "NetworkCtlProtocolsGetResults",
    "method": "NetworkCtlProtocols.Get"
}
```

Returns

```
{
    "id": "NetworkCtlProtocolsGetResults",
    "jsonrpc": "2.0",
    "result": {
        "ssh": {
            "enabled": true,
            "timeout": "off"
        },
        "tcp_proxy": {
            "enabled": true
        },
        "telnet": {
            "enabled": true,
            "timeout": "off"
        }
    }
}
```

NetworkCtrlProtocolsEnable.Set

Controls the activation or deactivation of the allowed communication protocols.

Structure
{"jsonrpc":"2.0","id":"X","method":"NetworkCtlProtocolsEnable.Set","params":{"protocol":"telnet","enabled":Z}}

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	protocol	telnet, ssh
Z	enabled	true, false

Example

```
{
    "jsonrpc": "2.0",
    "id": "NetworkCtlProtocolsEnableSetResults",
    "method": "NetworkCtlProtocolsEnable.Set",
    "params": {
        "protocol": "telnet",
        "enabled": false
    }
}
```

Returns

```
{
    "id": "NetworkCtlProtocolsEnableSetResults",
    "jsonrpc": "2.0",
    "result": {
        "enabled": false,
        "protocol": "telnet"
    }
}
```

NetworkHostname.Get

Returns the hostname of the AT-USB-EX350-KIT.

Structure
`{"jsonrpc":"2.0","id":"X","method":"NetworkHostname.Get"}`

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
    "jsonrpc": "2.0",
    "id": "NetworkHostnameGetResults",
    "method": "NetworkHostname.Get"
}
```

Returns

```
{
    "jsonrpc": "2.0",
    "id": "NetworkHostnameGetResults",
    "result": {
        "hostname": "USB-EX350"
    }
}
```

NetworkHostname.Set

Assigns a hostname to the AT-USB-EX350-KIT. If a null string is provided for the hostname, then the default hostname will be used.

Structure
{"jsonrpc":"2.0","id":"X","method":"NetworkHostname.Set","params":"Y"}

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	params	Hostname

Example

```
{
      "jsonrpc": "2.0",
      "id": "NetworkHostnameSetResults",
      "method": "NetworkHostname.Set",
      "params": "UsbExtender"
}
```

Returns

```
{
    "jsonrpc": "2.0",
    "id": "NetworkHostnameSetResults",
    "result": {
        "hostname": "UsbExtender"
    }
}
```

Platform.FactoryReset

Performs a factory-reset of the AT-USB-EX350-KIT.

Structure
{"jsonrpc":"2.0","id":"X","method":"Platform.FactoryReset"}

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
      "jsonrpc": "2.0",
      "id": "PlatformFactoryResetResults",
      "method": "Platform.FactoryReset"
}
```

Returns

```
{
    "id": "PlatformFactoryResetResults",
    "result": true,
    "jsonrpc": "2.0"
}
```

Platform.Reboot

Performs a soft reboot of the AT-USB-EX350-KIT. All routing, system, and network settings are preserved.

Structure
{"jsonrpc":"2.0","id":"X","method":"Platform.Reboot"}

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
      "jsonrpc": "2.0",
      "id": "PlatformRebootResults",
      "method": "Platform.Reboot"
}
```

Returns

```
{
    "id": "PlatformRebootResults",
    "result": true,
    "jsonrpc": "2.0"
}
```

System.Get

Displays the current system information.

Structure
{"jsonrpc":"2.0","id":"X","method":"System.Get"}

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
       "jsonrpc": "2.0",
       "id": "SystemGetResults",
       "method": "System.Get"
}
```

Returns

```
{
    "id": "SystemGetResults",
    "jsonrpc": "2.0",
    "result": {
        "FwVer": "0.0.1.7",
        "HwVer": "V0.1",
        "OnTime": "5-22:54:36",
        "Rxdevice": {
            "McuVer": "8.0.1",
            "VsVer": "1.0.7",
            "model": "AT-USB-EX350-DV",
            "serialnumber": ""
        },
        "Txdevice": {
            "ARMVer": "0.0.1.7",
            "VsVer": "1.0.7",
            "model": "AT-USB-EX350-HS",
            "serialnumber": "09503356240812000009"
        },
        "model": "AT-USB-EX350-KIT",
        "network": {
            "hostname": "USB-EX350",
            "ipaddress": "10.20.20.49",
            "macaddress": "B8:98:B0:0E:F9:B7"
        },
        "receiverlink": true,
        "serialnumber": "0950335624081200009",
        "standby": false
    }
}
```

Time.Get

Returns the current time setting of the AT-USB-EX350-KIT.

Structure
{"jsonrpc":"2.0","id":"X","method":"Time.Get"}

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
    "jsonrpc": "2.0",
    "id": "TimeGetResults",
    "method": "Time.Get"
}
```

Returns

```
{
    "id": "TimeGetResults",
    "jsonrpc": "2.0",
    "result": "2024-09-05 07:43:45"
}
```

Time.Set

Sets the system time. The `params` object must be formatted as: `YYYY-MM-DD[SPACE]hh:mm:ss`.

Structure
{"jsonrpc":"2.0","id":"X","method":"Time.Set","params":"Y"}

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	params	Time

Example

```
{
    "jsonrpc": "2.0",
    "id": "TimeSetResults",
    "method": "Time.Set",
    "params": "2024-09-27 08:37:00"
}
```

Returns

```
{
    "jsonrpc": "2.0",
    "id": "TimeSetResults",
    "result": true
}
```

TimeNTP.Set

Sets the NTP settings.

Structure
{"jsonrpc":"2.0","id":"X","method":"TimeNTP.Set","params":{"enabled":"Y","hostname":"Z"}}

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	enabled	true, false
Z	hostname	NTP server hostname or IPv4 address

Example

```
{
    "jsonrpc": "2.0",
    "id": "TimeNTPSetResults",
    "method": "TimeNTP.Set",
    "params": {
        "enabled": "true",
        "hostname": "10.20.20.1"
    }
}
```

Returns

```
{
    "id": "TimeNTPSetResults",
    "jsonrpc": "2.0",
    "result": true
}
```

TimeZone.Get

Returns the current time zone setting of the AT-USB-EX350-KIT.

Structure
`{"jsonrpc":"2.0","id":"X","method":"TimeZone.Get"}`

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
    "jsonrpc": "2.0",
    "id": "TimeZoneGetResults",
    "method": "TimeZone.Get"
}
```

Returns

```
{
    "id": "TimeZoneGetResults",
    "jsonrpc": "2.0",
    "result": {
        "settings": {
            "Time/NTPEnabled": true,
            "Time/NTPHostname": "pool.ntp.org",
            "Time/TimeZone": "UTC"
        }
    }
}
```

TimeZone.Set

Sets the time zone for the AT-USB-EX350-KIT. The `params` object must include country or continent and city, and must be formatted as `COUNTRY(CONTINENT)/CITY`.

Structure
`{"jsonrpc":"2.0","id":"X","method":"TimeZone.Set","params":"Y"}`

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	params	Time zone name

Example

```
{
      "jsonrpc": "2.0",
      "id": "TimeZoneSetResults",
      "method": "TimeZone.Set",
      "params": "America/Los_Angeles"
}
```

Returns

```
{
    "id": "TimeZoneSetResults",
    "result": true,
    "jsonrpc": "2.0"
}
```

Usb.Get

Returns the VBUS setting on the device ports.

Structure
{"jsonrpc":"2.0","id":"X","method":"Usb.Get"}

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
    "jsonrpc": "2.0",
    "id": "UsbGetResults",
    "method": "Usb.Get"
}
```

Returns

```
{
    "id": "UsbGetResults",
    "jsonrpc": "2.0",
    "result": [
        {
            "usb_device_port": 1,
            "vbus": "always high"
        },
        {
            "usb_device_port": 2,
            "vbus": "always low"
        },
        {
            "usb_device_port": 3,
            "vbus": "follows host"
        },
        {
            "usb_device_port": 4,
            "vbus": "follows host"
        }
    ]
}
```

UsbDeviceSupport.Get

Returns the current status of USB 2.0 and USB 3.0 support, indicating whether each is enabled or disabled.

Structure
`{"jsonrpc":"2.0","id":"X","method":"UsbDeviceSupport.Get"}`

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
    "jsonrpc": "2.0",
    "id": "UsbDeviceSupportGetResults",
    "method": "UsbDeviceSupport.Get"
}
```

Returns

```
{
    "id": "UsbDeviceSupportGetResults",
    "jsonrpc": "2.0",
    "result": {
        "USB2.0": true,
        "USB3.0": true
    }
}
```

UsbDeviceSupport.Set

Enables or disables USB 2.0 and USB 3.0 compatibility.

Structure
{"jsonrpc":"2.0","id":"X","method":"UsbDeviceSupport.Set","params":{"USB3.0":"Y","USB 2.0":"Y"}}

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	USB3.0, USB2.0	true, false

Example

```
{
    "jsonrpc": "2.0",
    "id": "UsbDeviceSupportSetResults",
    "method": "UsbDeviceSupport.Set",
    "params": {
        "USB3.0": true,
        "USB2.0": false
    }
}
```

Returns

```
{
    "id": "UsbDeviceSupportSetResults",
    "jsonrpc": "2.0",
    "result": {
        "USB2.0": false,
        "USB3.0": true
    }
}
```

UsbInfo.Get

Returns information on the Valens VS6320 devices on both ends of the HDBaseT link.

Structure
{"jsonrpc":"2.0","id":"X","method":"UsbInfo.Get"}

Identifier	Request Identifier	Argument
X	id	ID (optional)

Example

```
{
      "jsonrpc": "2.0",
      "id": "USBInfoGetResults",
      "method": "UsbInfo.Get"
}
```

Returns

```
{
    "id": "USBInfoGetResults",
    "jsonrpc": "2.0",
    "result": {
        "TAConf.USB.DevicesInfo": "0101020007080202020 3abcd12340903000000000000000000000
00010309020201000 5e3061000010000000204020100000000",
        "TAConf.USB2.Available_Endpoints": "0d0c0f0f",
        "TAConf.USB3.GetDevicesTree": "0202010007040101000 5e3062600000000010000000000000
0000000009040101008564100000000001100000000000000",
        "TotalUsbDeviceCurrent": 187,
        "UsbDeviceConnection": [
            {
                "connection": true,
                "usb_device_port": 1
            },
            {
                "connection": false,
                "usb_device_port": 2
            },
            {
                "connection": true,
                "usb_device_port": 3
            },
            {
                "connection": false,
                "usb_device_port": 4
            }
        ],
        "UsbHostLink": true,
        "UsbOvercurrentProtection": false
    }
}
```

UsbVbus.Set

Sets the VBUS mode for the specified device port.

Structure
{"jsonrpc":"2.0","id":"X","method":"UsbVbus.Set","params":{"usb_device_port":Y,"vbus":"Z"}}

Identifier	Request Identifier	Argument
X	id	ID (optional)
Y	port	1...4
Z	vbus	follows host, always high, always low

Example

```
{
    "jsonrpc": "2.0",
    "id": "UsbVbusSetResults",
    "method": "UsbVbus.Set",
    "params": {
        "usb_device_port": 4,
        "vbus": "always low"
    }
}
```

Returns

```
{
    "id": "UsbVbusSetResults",
    "jsonrpc": "2.0",
    "result": {
        "usb_device_port": 4,
        "vbus": "always low"
    }
}
```