LIVEPREMIER™

REST API
Programmer's Guide

For version v2.00

ANALOG WAY®
Pioneer in Analog, Leader in Digital

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1. Presentation

1.1. Description

The REST API for LivePremier™ is a simple way for you to automate your interaction with the LivePremier™ presentation systems. The REST API for LivePremier™ is RESTful and HTTP-based. Basically, this means that the communication is made through normal HTTP requests.

1.2. Server address

The base server address is: http://<ipadress>/api/tpp/v1 where <ipadress> is the IP address of the LivePremier™ presentation system

1.3. HTTP Requests

HTTP requests can be made with tons of tools, each modern programming language has its own HTTP functions and libraries. The REST API for LivePremier™ will handle each request in a meaningful manner, depending on the action required.

Method	Usage
GET	For simple retrieval of information about your screens, multiviewers, etc.., you should use the GET method. API will respond you with a JSON object. Using the returned information, you can eventually form additional requests. All the GET requests are made read-only, which means making a GET requests cannot change the state of any information stored on the LivePremier™ presentation system.
POST	When you want to change an object property or trigger an action on the LivePremier™ presentation system, you should choose POST method. The POST request includes all of the attributes necessary to change the desired object property or trigger the action.

1.4. HTTP Statuses

When you make a request to the API, you will get a response including the data you want with standard HTTP statuses, including error codes.

In case of an unusual event, such as trying to recall a preset memory index that does not exist on the LivePremier™ presentation system, the status code will have an error code. Besides that, the body of the request will contain additional information about the event to provide you the most conventional way to fix the flow. To make it clear, status codes are usually in between 2XX-4XX range.

Code	Message	Description
200	OK	Successful operation (with content)
204	No Content	Successful operation (no content)
400	Bad Request	Syntax invalid
404	Not Found	The specified resource could not be found
405	Method Not Allowed	The specified request method is not allowed
409	Internal Server Error	Error reported by the server

1.5. HTTP Responses

For each successful and unsuccessful request, a JSON-formatted response body will be sent back. If you make a request for a single object, say, for a screen, the resource root will be a single object containing the data you requested. If you request a collection, say, a group of screens, response body will contain a collection.

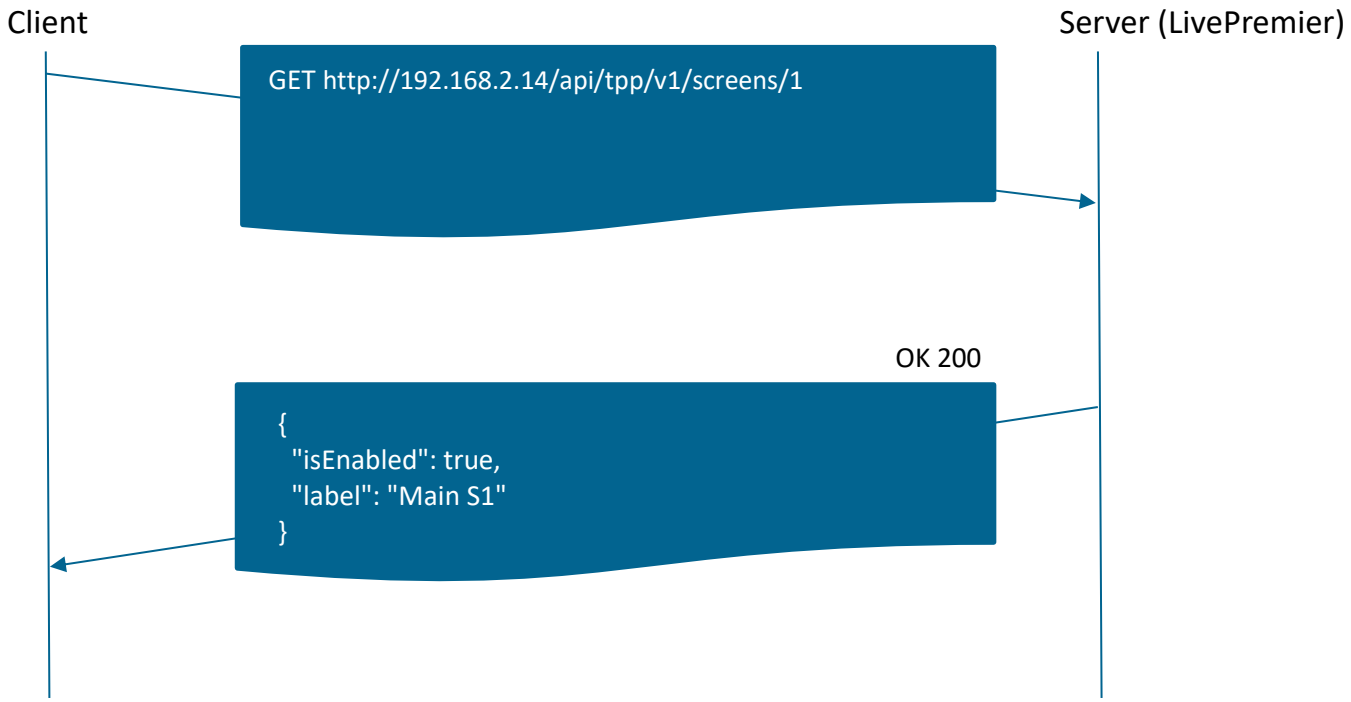
1.6. HTTP Parameters

Most of HTTP GET requests need query string parameters.

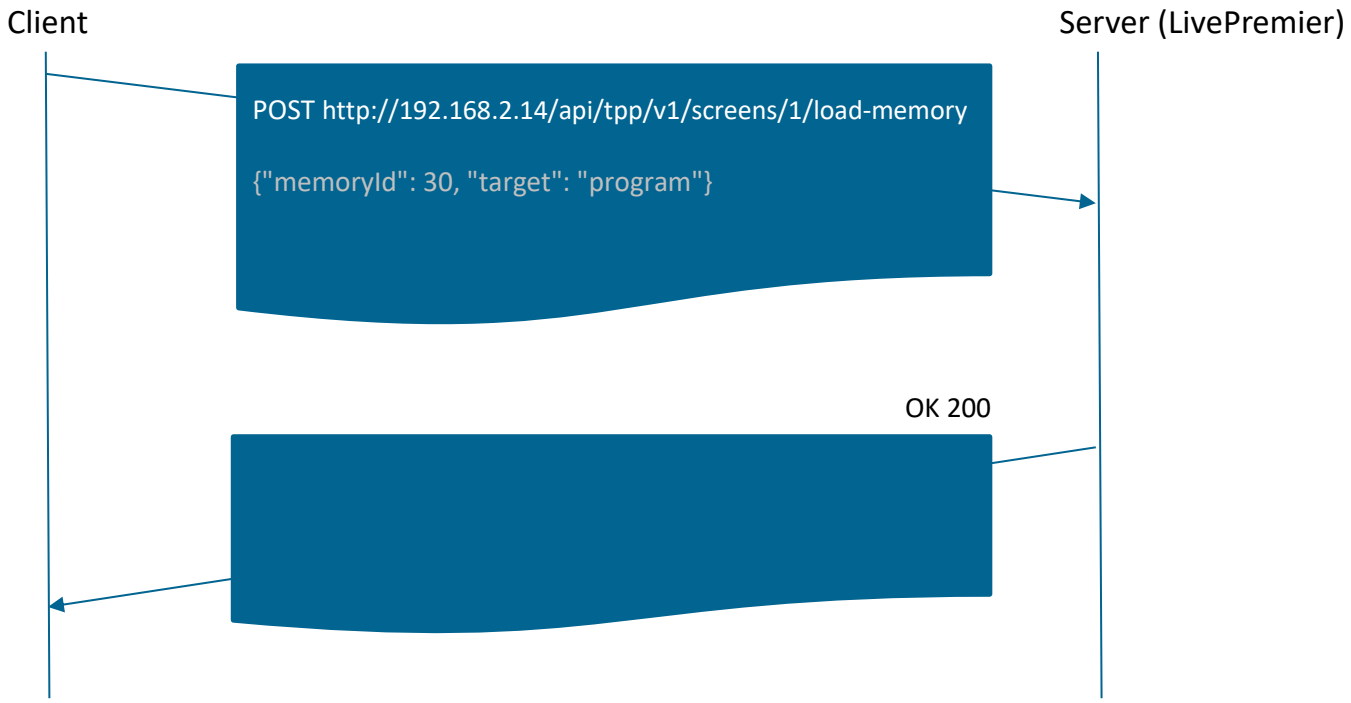
Most of HTTP POST requests need POST body parameters.

For all API requests, we provide examples calls with .NET C# command and raw TCP. With a single copy and paste, you can always try making a request and see the results.

1.7. GET request diagram



1.8. POST request diagram



2. System commands

2.1. Reading system information

GET /api/tpp/v1/system

Response

produces: application/json

Name	Type	Description
type	string	the type of LivePremier device: 'AQL alpha', 'AQL RS1', 'AQL RS2', 'AQL RS3', 'AQL RS4', 'AQL C' or 'AQL C+'
label	string	the device label
version	json	a JSON object containing the current firmware version (see below)

Field 'version'

produces: application/json

Name	Type	Description
major	integer	firmware major version number
minor	integer	firmware minor version number
patch	integer	firmware patch version number
beta	boolean	true is the firmware version is a beta version, false if not

Response example

```
{
 "type": "AQL RS4",
 "label": "AQUILON",
 "version": {
  "major": 1,
  "minor": 0,
  "patch": 23,
  "beta": false
 }
}
```

Example: Read system information

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/system HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/system");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

2.2. Rebooting the system

POST /api/tpp/v1/system/reboot

Example: Reboot the system

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/system/reboot HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/system/reboot");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   streamWriter.Write("");
   streamWriter.Flush();
}
```

2.3. Shutting down the system

POST /api/tpp/v1/system/shutdown

Body

consumes: application/json

Name	Type	Optional	Description
enableWakeOnLAN	boolean	Yes	true to shut down the system with the Wake-on-LAN (WoL) feature enabled, false to shut down the system without enabling the Wake-on-LAN feature (default value is false)

Example: Shutdown the system with WoL feature enabled

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/system/shutdown HTTP/1.1<CR><LF>Content-Type:
application/json<CR><LF>Content-Length: 26<CR><LF><CR><LF>{"enableWakeOnLAN": true}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"enableWakeOnLAN": true}

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/system/shutdown");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   string json = new JavaScriptSerializer().Serialize(new { enableWakeOnLAN = true });
   streamWriter.Write(json);
}
```

3. Screen commands

3.1. Reading screen information

GET /api/tpp/v1/screens/{screenId}

Request

Name	Type	Description
screenId	integer	the screen number (from 1 to 24)

Response

produces: application/json

Name	Type	Description
isEnabled	boolean	true is the screen is enabled, false if not
label	string	the screen label

Response example

```
{
  "isEnabled": true,
  "label": "Center"
}
```

Example: Read screen 2 information

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/screens/2 HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/screens/2");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

3.2. Recalling a preset from memory to a single screen

POST /api/tpp/v1/screens/{screenId}/load-memory

Request

Name	Type	Description
screenId	integer	the screen number (from 1 to 24)

Body

consumes: application/json

Name	Type	Optional	Description
memoryId	integer	No	the memory index (from 1 to 1000)
target	string	Yes	the destination (“program” or “preview”). Default is “preview”

Example: Recall preset 30 to screen 2 (Preview)

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/screens/2/load-memory HTTP/1.1<CR><LF>Content-Type: application/json<CR><LF>Content-Length: 37<CR><LF><CR><LF>{"memoryId": 30, "target": "preview"}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"memoryId": 30, "target": "preview"}

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/screens/2/load-memory");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   string json = new JavaScriptSerializer().Serialize(new { memoryId = 30, target = "preview" });
   streamWriter.Write(json);
}
```

3.4. Recalling a master preset from memory

POST /api/tpp/v1/load-master-memory

Body

consumes: application/json

Name	Type	Optional	Description
memoryId	integer	No	the memory index (from 1 to 500)
target	string	Yes	the destination (“program” or “preview”). Default is “preview”

Example: Recall master preset 10 to Preview

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/load-master-memory HTTP/1.1<CR><LF>Content-Type:
application/json<CR><LF>Content-Length: 37<CR><LF><CR><LF>{"memoryId": 10, "target":
"preview"}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"memoryId": 10, "target": "preview"}

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/load-master-
memory");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   string json = new JavaScriptSerializer().Serialize(new { memoryId = 10,  target = "preview" });
   streamWriter.Write(json);
}
```

3.5. Reading a layer information

GET /api/tpp/v1/screens/{screenId}/layers/{layerId}

Request

Name	Type	Description
screenId	integer	the screen number (from 1 to 24)
layerId	Integer	the layer number (from 1 to 48)

Response

produces: application/json

Name	Type	Description
capacity	integer	The layer capacity (from 1 to 8)
canUseMask	boolean	true if the layer can use a mask, false if not

Response example

```
{
  "capacity": 2,
  "canUseMask": false
}
```

Example: Read layer 4 information on screen 1

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/screens/1/layers/4 HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/screens/1/layers/4");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

3.6. Reading a layer status

GET /api/tpp/v1/screens/{screenId}/layers/{layerId}/presets/{target}

Request

Name	Type	Description
screenId	integer	the screen number (from 1 to 24)
layerId	integer	the layer number (from 1 to 48)
target	string	the destination (“program” or “preview”)

Response

produces: application/json

Name	Type	Description
status	string	the layer status: "off", "open", "close", "cross", "flying", "flying depth", "preempted", "mask", "out of capacity"
sourceType	string	the type of source: "none", "color", "input", "image" or "screen"
sourceId	integer	the source number

Response example

```
{
  "status": "open",
  "sourceType": "input",
  "sourceId": 8
}
```

Example: Read layer 4 current status on screen 1 preview

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/screens/1/layers/4/presets/preview HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest =
(HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/screens/1/layers/4/presets/preview");
var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

3.7. Setting a layer source

POST /api/tpp/v1/screens/{screenId}/layers/{layerId}/presets/{target}/source

Request

Name	Type	Description
screenId	integer	the screen number (from 1 to 24)
layerId	Integer	the layer number (from 1 to 48)
target	string	the destination (“program” or “preview”)

Body

consumes: application/json

Name	Type	Optional	Description
sourceType	string	No	the type of source: "none", "color", "input", "image" or "screen"
sourceId	integer	No	the source number

Example: Set screen 2 layer 3 source to live input 3 (Preview)

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/screens/2/layers/3/presets/preview/source HTTP/1.1<CR><LF>Content-Type: application/json<CR><LF>Content-Length: 38<CR><LF><CR><LF>{"sourceType": "input", "sourceId": 3}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"sourceType": "input", "sourceId": 3}

C#

```
var httpWebRequest =
(HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/screens/2/layers/3/presets/preview/source"
);
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   string json = new JavaScriptSerializer().Serialize(new { sourceType = "input", sourceId = 3 });
   streamWriter.Write(json);
}
```

3.8. Reading background layer status

GET /api/tpp/v1/screens/{screenId}/background-layer/presets/{target}

Request

Name	Type	Description
screenId	integer	the screen number (from 1 to 24)
target	string	the destination (“program” or “preview”)

Response

produces: application/json

Name	Type	Description
status	string	The layer status: "off", "open", "close" or "cross"
sourceType	string	the type of source: "background-set" or "none"
sourceId	integer	the background set number (from 1 to 8)

Response example

```
{
  "status": "open",
  "sourceType": "background-set",
  "sourceId": 2
}
```

Example: Read background layer status on screen 1 preview

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/screens/1/background-layer/presets/preview HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest =
(HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/screens/1/background-
layer/presets/preview");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

3.9. Setting a background layer source

POST /api/tpp/v1/screens/{screenId}/background-layer/presets/{target}/source

Request

Name	Type	Description
screenId	integer	the screen number (from 1 to 24)
target	string	the destination (“program” or “preview”)

Body

consumes: application/json

Name	Type	Optional	Description
sourceType	string	No	the type of source: "background-set" or "none"
sourceId	integer	No	the background source number (from 1 to 10)

Example: Set screen 2 background to background set 8 (Preview)

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/screens/2/background-layer/presets/preview/source HTTP/1.1<CR><LF>Content-Type: application/json<CR><LF>Content-Length: 47<CR><LF><CR><LF>{"sourceType": "background-set", "sourceId": 8}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"sourceType": "background-set", "sourceId": 8}

C#

```
var httpWebRequest =
(HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/screens/2/background-layer/presets/preview/source");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   string json = new JavaScriptSerializer().Serialize(new { sourceType = "background-set", sourceId = 8 });
   streamWriter.Write(json);
}
```

3.10. Single TAKE: Transitioning the Preview content to the Program (single screen)

POST /api/tpp/v1/screens/{screenId}/take

Request

Name	Type	Description
screenId	integer	the screen number (from 1 to 24)

Example: TAKE screen 2

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/screens/2/take HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/screens/2/take");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   streamWriter.Write(“”);
}
```

3.11. Global TAKE: Transitioning the Preview content to the Program (multiple screens)

POST /api/tpp/v1/take

Body

consumes: application/json

Name	Type	Optional	Description
screenIds	list	No	list of screen indexes that will be transitioned
auxiliaryScreenIds	list	No	list of auxiliary screen indexes that will be transitioned

Example: Take screen 1, screen 3 and auxiliary screen 5

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/take HTTP/1.1<CR><LF>Content-Type: application/json<CR><LF>Content-Length: 49<CR><LF><CR><LF>{"screenIds": [1, 3], "auxiliaryScreenIds ": [5]}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"screenIds": [1, 3], "auxiliaryScreenIds ": [5]}

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/take");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   var screenIdList = new List<int>() { 1, 3 };
   var auxIdList = new List< int>() { 5 };
   string json = new JavaScriptSerializer().Serialize(new { screenIds = screenIdList, auxiliaryScreenIds = auxIdList });
   streamWriter.Write(json);
}
```

4. Auxiliary screen commands

4.1. Reading auxiliary screen information

GET /api/tpp/v1/auxiliary-screens/{auxId}

Request

Name	Type	Description
auxId	integer	the auxiliary screen number (from 1 to 0)

Response

produces: application/json

Name	Type	Description
IsEnabled	boolean	true is the auxiliary screen is enabled, false if not
label	string	the auxiliary screen label

Response example

```
{
  "isEnabled": true,
  "label": "DSM"
}
```

Example: Read auxiliary screen 3 information

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/auxiliary-screen/3 HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/auxiliary-screen/3");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

4.2. Recalling a preset from memory to a single auxiliary screen

POST /api/tpp/v1/auxiliary-screens/{auxId}/load-memory

Request

Name	Type	Description
auxId	integer	the auxiliary screen number (from 1 to 20)

Body

consumes: application/json

Name	Type	Optional	Description
memoryId	integer	No	the memory index
target	string	Yes	the destination (“program” or “preview”). Default is “preview”

Example: Recall preset 5 to auxiliary screen 3 (Preview)

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/auxiliary-screens/3/load-memory HTTP/1.1<CR><LF>Content-Type: application/json<CR><LF>Content-Length: 15<CR><LF><CR><LF>{"memoryId": 5}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"memoryId": 5}

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/auxiliary-screens/3/load-memory");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   string json = new JavaScriptSerializer().Serialize(new { memoryId = 5 });
   streamWriter.Write(json);
}
```

4.3. Reading the layer capacity of an auxiliary screen

GET /api/tpp/v1/auxiliary-screens/{auxId}/layers/{layerId}

Request

Name	Type	Description
screenId	integer	the auxiliary screen number (from 1 to 20)
layerId	Integer	the layer number (from 1 to 8)

Response

produces: application/json

Name	Type	Description
capacity	integer	The layer capacity (from 1 to 8)

Response example

```
{
  "capacity": 2
}
```

Example: Read auxiliary screen 2 layer capacity

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/auxiliary-screens/2/layers/1 HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/auxiliary-screens/2/layers/1");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

4.4. Reading the layer source of an auxiliary screen

GET /api/tpp/v1/auxiliary-screens/{auxId}/layers/{layerId}/presets/{target}/source

Request

Name	Type	Description
auxId	integer	the auxiliary screen number (from 1 to 20)
layerId	Integer	the layer number (from 1 to 8)
target	string	the destination (“program” or “preview”)

Response

produces: application/json

Name	Type	Description
status	string	the layer status: "off", "open", "close" or "out of capacity"
sourceType	string	the type of source: "none", "input", "image" or "screen"
sourceId	integer	the source number

Response example

```
{
  "status": "open",
  "sourceType": "input",
  "sourceId": 5
}
```

Example: Read auxiliary screen 2 layer source (Preview)

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET api/tpp/v1/auxiliary-screens/2/layers/1/presets/preview/source HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/auxiliary-screens/2/layers/1/presets/preview/source ");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

4.5. Setting the layer source of an auxiliary screen

POST /api/tpp/v1/auxiliary-screens/{auxId}/layers/{layerId}/presets/{target}/source

Request

Name	Type	Description
auxId	integer	the auxiliary screen number (from 1 to 20)
layerId	Integer	the layer number (from 1 to 8)
target	string	the destination (“program” or “preview”)

Body

consumes: application/json

Name	Type	Optional	Description
sourceType	string	No	the type of source: "none", "input", "image" or "screen"
sourceId	integer	No	the source number (from 1 to x)

Example: Set the layer source of auxiliary screen 2 to image 24 (Preview)

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/auxiliary-screens/2/layers/1/presets/preview/source HTTP/1.1<CR><LF>Content-Type: application/json<CR><LF>Content-Length: 39<CR><LF><CR><LF>{"sourceType": "image", "sourceId": 24}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"sourceType": "image", "sourceId": 24}

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/auxiliary-screens/2/layers/1/presets/preview/source");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   string json = new JavaScriptSerializer().Serialize(new { sourceType = "image", sourceId = 24 });
   streamWriter.Write(json);
}
```

4.6. TAKE: Transitioning the Preview content to the Program (single auxiliary screen)

POST /api/tpp/v1/auxiliary-screens/{auxId}/take

Request

Name	Type	Description
auxId	integer	the auxiliary screen number (from 1 to 20)

Example: Take auxiliary screen 3

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/auxiliary-screens/3/take HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/auxiliary-screens/3/take");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   streamWriter.Write(“”);
}
```

5. Multiviewer commands

5.1. Reading multiviewer output information

GET /api/tpp/v1/multiviewers/{mvwId}

Request

Name	Type	Description
mvwId	integer	the multiviewer output number (from 1 to 2)

Response

produces: application/json

Name	Type	Description
isEnabled	boolean	true is the multiviewer output is enabled, false if not
label	string	the multiviewer output label

Response example

```
{
  "isEnabled": true,
  "label": "MVW1"
}
```

Example: Read multiviewer output 1 information

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/multiviewers/1 HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/multiviewers/1");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

5.2. Recalling a preset from memory to a multiviewer output

POST /api/tpp/v1/multiviewers/{mvwId}/load-memory

Request

Name	Type	Description
mvwId	integer	the multiviewer output number (from 1 to 2)

Body

consumes: application/json

Name	Type	Optional	Description
memoryId	integer	No	the memory index (from 1 to 50)

Example: Recall preset 20 to multiviewer output 1

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/multiviewers/1/load-memory HTTP/1.1<CR><LF>Content-Type:
application/json<CR><LF>Content-Length: 16<CR><LF><CR><LF>{"memoryId": 20}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"memoryId": 20}

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/multiviewers/1/load-memory");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   string json = new JavaScriptSerializer().Serialize(new { memoryId = 20 });
   streamWriter.Write(json);
}
```

5.3. Reading the source of a multiviewer output widget

GET /api/tpp/v1/multiviewers/{mvwId}/widgets/{widgetId}/source

Request

Name	Type	Description
mvwId	integer	the multiviewer output number (from 1 to 2)
widgetId	integer	the widget number (from 1 to 64)

Response

produces: application/json

Name	Type	Description
sourceType	string	the type of source: "none", "input", "image", "screen-program", "screen-preview", "auxiliary-screen-program" or "timer"
sourceId	integer	the source number

Response example

```
{
  "sourceType": "input",
  "sourceId": 2
}
```

Example: Read the source of the widget 10 on multiviewer output 2

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/multiviewers/2/widgets/10/source HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest =
(HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/multiviewers/2/widgets/10/source");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

5.4. Reading the status of a multiviewer output widget

GET /api/tpp/v1/multiviewers/{mvwId}/widgets/{widgetId}

Request

Name	Type	Description
mvwId	integer	the multiviewer output number (from 1 to 2)
widgetId	integer	the widget number (from 1 to 64)

Response

produces: application/json

Name	Type	Description
isEnabled	boolean	true if the widget is enabled, false if not

Response example

```
{
  "isEnabled": true
}
```

Example: Read the status of the widget 10 on multiviewer output 2

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/multiviewers/2/widgets/10 HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest =
(HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/multiviewers/2/widgets/10");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

5.5. Setting the source of a multiviewer output widget

POST /api/tpp/v1/multiviewers/{mvwId}/widgets/{widgetId}/source

Request

Name	Type	Description
mvwId	integer	the multiviewer output number (from 1 to 2)
widgetId	integer	the widget number (from 1 to 64)

Body

consumes: application/json

Name	Type	Optional	Description
sourceType	string	No	the type of source: "none", "input", "image", "screen-program", "screen-preview", "auxiliary-screen-program" or "timer"
sourceId	integer	No	the source number

Example: Set the source of the widget 10 to input 7 on multiviewer output 2

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
POST /api/tpp/v1/multiviewers/2/widgets/10/source HTTP/1.1<CR><LF>Content-Type: application/json<CR><LF>Content-Length: 38<CR><LF><CR><LF>{"sourceType": "input", "sourceId": 7}
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

Important: the *Content-Length* header field value must contain a decimal number representing the number of bytes found in the payload of the message {"sourceType": "input", "sourceId": 7}

C#

```
var httpWebRequest =
(HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/multiviewers/2/widgets/10/source");
httpWebRequest.ContentType = "application/json";
httpWebRequest.Method = "POST";

using (var streamWriter = new StreamWriter(httpWebRequest.GetRequestStream()))
{
   string json = new JavaScriptSerializer().Serialize(new { sourceType = "input", sourceId = 7 });
   streamWriter.Write(json);
}
```

6. Source commands

6.1. Reading input information

GET /api/tpp/v1/inputs/{inputId}

Request

Name	Type	Description
inputId	integer	the input number (from 1 to 24)

Response

produces: application/json

Name	Type	Description
isEnabled	boolean	true is the screen is enabled, false if not
capacity	integer	the input capacity (from 1 to 8)
label	string	the input label
isValid	boolean	true is the input signal is valid, false if not
isFrozen	boolean	true is the input is frozen, false if not

Response example

```
{
  "isEnabled": true,
  "capacity": 2,
  "label":  "Cam PTZ",
  "isValid": true,
  "isFrozen": false
}
```

Example: Read input 2 information

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/inputs/2 HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/inputs/2");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

6.2. Reading still image information

GET /api/tpp/v1/images/{imageId}

Request

Name	Type	Description
imageId	integer	the image number (from 1 to 48)

Response

produces: application/json

Name	Type	Description
IsEnabled	boolean	true is the screen is enabled, false if not
capacity	integer	the input capacity (from 1 to 8)
label	string	the input label
isValid	boolean	true is the input signal is valid, false if not

Response example

```
{
  "isEnabled": true,
  "capacity": 2,
  "label":  "Logo 4K",
  "isValid": true
}
```

Example: Read still image 16 information

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/images/16 HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest = (HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/images/16");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

6.3. Reading background set information

GET /api/tpp/v1/screens/{screenId}/background-sets/{backgroundSetId}

Request

Name	Type	Description
screenId	integer	the screen number (from 1 to 24)
backgroundSetId	integer	the background set number (from 1 to 8)

Response

produces: application/json

Name	Type	Description
IsEmpty	boolean	true is the background set empty, false if not
isValid	boolean	true is the background set is valid, false if not

Response example

```
{
  "isEmpty": false,
  "isValid": true
}
```

Example: Read background set 5 information for screen 2

Raw TCP socket (connected on port 80 of 192.168.2.140)

```
GET /api/tpp/v1/screens/2/background-sets/5 HTTP/1.1<CR><LF><CR><LF>
```

<CR> replace with Carriage Return ASCII code: 13 (0x0D) <LF> replace with Line Feed ASCII code: 10 (0x0A)

C#

```
var httpWebRequest =
(HttpWebRequest)WebRequest.Create("http://192.168.2.140/api/tpp/v1/screens/2/background-sets/5");

var httpResponse = (HttpWebResponse) httpWebRequest.GetResponse();
using (var streamReader = new StreamReader(httpResponse.GetResponseStream()))
{
   var responseText = streamReader.ReadToEnd();
}
```

7. Using thumbnails

7.1. Introduction

Thumbnails of live inputs, still images, outputs and multiviewer outputs are available. These thumbnails are regularly refreshed (except still images thumbnails which are refreshed only on change).

Snapshot request rate must not be more than 1 per second.

Picture size is 256 pixels (width) by up to 256 pixels (height). Black borders are automatically added, depending on aspect ratio. Picture type is PNG.

7.2. Live inputs thumbnails URL

http://<ipadress>/api/device/snapshots/inputs/1
up to
http://<ipadress>/api/device/snapshots/inputs/24

The number is depending on machine type and configuration.

7.3. Still images thumbnails URL (does not work for timers thumbnails)

http://<ipadress>/api/device/snapshots/images/1
up to
http://<ipadress>/api/device/snapshots/images/48

The number is depending on machine type and configuration.

7.4. Outputs thumbnails URL

http://< ipadress>/api/device/snapshots/outputs/1
up to
http://<ipadress>/api/device/snapshots/outputs/20

The number is depending on machine type and configuration.

7.5. Multiviewer outputs thumbnails URL

http://<ipadress>/api/device/snapshots/multiviewers/1
up to
http://<ipadress>/api/device/snapshots/multiviewers/2

7.6. Timers thumbnails URL

http://<ipadress>/api/device/snapshots/timers/1

up to

http://<ipadress>/api/device/snapshots/timers/4

8. Waking the LivePremier™ device (over LAN)

8.1. Description

When the device has been shut down with the Wake on LAN feature enabled (‘sleep’ state), the only way to wake this device is to send a broadcast message over the network (‘magic packet’).

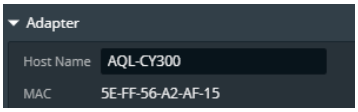
8.2. Wake on LAN and Magic Packet

Wake on LAN (or WOL) is the ability to send a signal over a local area network (LAN) to wake up a device. When the device is powered off with the Wake-On-LAN feature enabled, no operating system is running and there is no IP address assigned. Luckily, the MAC (Media Access Control) address being hardcoded in the network adaptor remains usable to identify a device in all states.

Using this MAC address, another system on the network may send to the sleeping device a wake-up signal. The wake up signal is a specific data frame, called ‘magic packet’, containing the MAC address of the remote network card. The magic packet is sent to all devices on the network (UDP broadcast) but is caught only by the device owning the matching MAC Address.

8.3. LivePremier™ device MAC address

You can get the LivePremier™ device MAC address using the Web RCS: Click the Information button located in the top right corner then select the Network option:



You can also retrieve the MAC address from the front panel menu: CONTROL -> Network.

8.4. Programming example

This .NET C# example sends a ‘magic packet’ for MAC address 00:25:90:3D:11:4A.

```
void SendWOLPacket(byte[] macAddress)
{
  // WOL 'magic' packet is sent over UDP.
  using (UdpClient client = new UdpClient())
```

```
  {
      // Send to: 255.255.255.0:9 over UDP (port number 9: Discard)
     client.Connect(IPAddress.Broadcast, 9);

     // Two parts to a 'magic' packet:
     // First is 0xFFFFFFFFFFFF,
     // Second is 16 * MACAddress.
     byte[] packet = new byte[17 * 6];

     // Set to: 0xFFFFFFFFFFFF.
     for (int i = 0; i < 6; i++)
       packet[i] = 0xFF;

     // Set to: 16 * MACAddress
     for (int i = 1; i <= 16; i++)
     {
         for (int j = 0; j < 6; j++)
             packet[i * 6 + j] = macAddress[j];
     }
     // Send WOL 'magic' packet.
     client.Send(packet, packet.Length);
   }
}

byte[] macaddress = new byte[] {0x00, 0x25, 0x90, 0x3D, 0x11, 0x4A};
WakeOnLan(macaddress);
```

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Connect with us on