

# 26am

## Creative Studio

API Translator Installation and Usage Guide  
Version 1.1.1

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# Table of Contents

Product Description .....	4
Installation Instructions .....	5
Introduction to JSON .....	6
Commands and Responses .....	7
API Commands .....	7
Example Error Response .....	11
End User Software License Agreement.....	12

# Product Description

The API Translator is a system developed by 26am to allow Crestron and AMX control systems to interface with HaiVision's FURNACE™ API. FURNACE provides an XML REST API for controlling many of the tasks that can be accomplished through the admin web portal. From the perspective of a touch panel control system, of primary interest among those functions are the NVR commands for controlling a recording.

**The API Translator serves as a proxy interface that accepts simple commands from a control system over a telnet connection, translates the commands into REST calls to the FURNACE API, and returns an easy to parse response back to the control system.**

This simple command and response system running over telnet makes NVR controls accessible in a way that Crestron and AMX programmers are already familiar with.

# Installation Instructions

For the API Translator to function, it must be installed on a Linux server on the same network as the FURNACE server. The simplest way to achieve this is to install it directly on the FURNACE server. It is also necessary for the target server to be connected to the internet during the installation process. Listed below are the installation steps, assuming installation onto the FURNACE server:

1. Copy your `license.dat` file to `/opt/api_translator/licenses/license.dat` (creating folders as necessary)
2. Extract `api_translator.tar.gz` on the FURNACE server
3. After extracting the files, run the following commands:
  - a. `cd api_translator`
  - b. `./install`

# Introduction to JSON

The API Translator uses JSON to format commands and responses. JSON serves a similar purpose as XML, but is more light-weight, and easier for both humans and machines to read and generate. **An understanding of JSON is not required for the use of this tool**, but having a general awareness of JSON will help in understanding why commands and responses are formatted the way they are.

For the purposes of this tool, JSON is a series of key - value pairs, separated by a colon, where both the key and the value are wrapped in double quotes: "key": "value"

Multiple key - value pairs are separated by commas: "key1": "value1", "key2": "value2"

A command is composed of one or more key - value pairs, wrapped with curly braces:

```
{"key1": "value1", "key2": "value2"}
```

Several commands can be passed in the same string by combining commands using commas, and wrapping the full string with square brackets:

```
[{"key1": "value1", "key2": "value2"}, {"key1": "value1", "key2": "value2"}]
```

A full description of JSON can be found at <http://www.json.org/>, but the concepts explained above are the only aspects of JSON used in this tool.

# Commands and Responses

## API Commands:

The API Translator supports all the commands necessary for controlling a recording using the on-demand (aka "Crash") NVR recording system. All commands must be terminated by a newline character (`\n`).

### Start Recording:

A single recording can be started by sending the following string:

```
{"action":"start","source_url":"uuid:00015f9e-0000-0000-0000-000000000000","max_duration":"86399","title":"OR-10: Room Cam","description":"John Doe's open heart surgery."}
```

A "start" command has the following key - value pairs:

`action`: Required. This will always be "start".

`source_url`: Required. This value corresponds to the source URL of the encoder you wish to record. Please refer to HaiVision documentation for how to determine the source URLs of your encoders.

`max_duration`: Optional. This parameter determines how long the NVR will record before stopping automatically. Value is given in seconds. Maximum value is 24 hours, default value is "86399".

`title`: Required. Populates the recording's Title metadata field.

`description`: Required. Populates the recording's Description metadata field.

`tracks`: Optional. When recording a multi-track station, you may specify a subset of tracks to record. Argument is a comma separated list of track ids. Example command specifying one track:

```
{"action":"start","source_url":"uuid:00015f9e-0000-0000-0000-000000000000","max_duration":"86399","title":"OR-10: Room Cam","description":"Open heart surgery.,","tracks":["00015f9e-0000-0000-0000-000000000001"]}
```

To start multiple recordings simultaneously, send multiple start commands joined by a comma and wrapped with square brackets:

```
[{"action":"start","source_url":"uuid:00015f9e-0000-0000-0000-000000000000","max_duration":"86399","title":"OR-10: Room Cam","description":"Open heart surgery."}, {"action":"start","source_url":"uuid:00015f9e-0000-0000-0000-000000000000","max_duration":"86399","title":"OR-10: Endo Cam","description":"John Doe's open heart surgery."}]
```

**NOTE:** If your title or description contain a double quote character, it must be escaped with a backslash. I.e. "I like to \"quote\" people."

### Start Response:

If a single start command was sent, the response will look like the following:

```
{"response":"success","link":"http://129.49.142.164/apis/recorders/recorder-842b2b06c506-4909-0/recordings/recording-f2f37951-2c1e-474e-93a9-3a4f4e5a223d"}
```

The response includes the following key - value pairs:

**response:** If the command was successful, the value will be "success". If there was a problem, the value will be "error" (see Example Error Response).

**link:** The link value is a full URL to the recording which was started. This value should be stored for use in later commands (hotmark, stop, etc).

If more than one start command was sent, the response string will contain the same number of responses as there where commands, joined by a comma and wrapped with square brackets:

```
[{"response":"success","link":"http://129.49.142.164/apis/recorders/recorder-842b2b06c506-4909-0/
```

```
recordings/recording-f2f37951-2c1e-474e-93a9-3a4f4e5a223d"}, {"response": "success", "link": "http://129.49.142.164/apis/recorders/recorder-842b2b06c506-4909-1/recordings/recording-acea3c37-96b9-4254-b213-3724af035321"}]
```

---

### Insert Hotmark:

A hotmark command has the following format:

```
{"action": "hotmark", "link": "http://129.49.142.164/apis/recorders/recorder-842b2b06c506-4909-0/recordings/recording-f2f37951-2c1e-474e-93a9-3a4f4e5a223d", "title": "My Hotmark", "type": "TAG", "time": "60000"}
```

A "hotmark" command has the following key - value pairs:

**action:** Required. This will always be "hotmark".

**link:** Required. This value specifies which recording to hotmark. This is the link value you stored previously from the response of the "start" command.

**title:** Required. What the hotmark will say.

**type:** Optional. May be one of: TAG (for normal HotMarks) or CHAPTER (for discontinuity/Chaptermarks). Defaults to TAG.

**time:** Optional. Offset **in milliseconds** from the beginning of the recording at which to place the hotmark. If omitted, `time` will be the moment the command is sent. For greater accuracy, send the offset time at which the user pressed the hotmark button.

As with all commands, multiple hotmark commands can be sent simultaneously.

### Hotmark Response:

The response from a "hotmark" command will look like the following:

```
{"response": "success", "link": "http://129.49.142.164/apis/recorders/recorder-842b2b06c506-4909-0/recordings/recording-f2f37951-2c1e-474e-93a9-3a4f4e5a223d"}
```

The response includes the following key - value pairs:

**response:** If the command was successful, the value will be "success". If there was a problem, the value will be "error" (see Example Error Response).

**link:** The link value is a full URL to the recording which was hotmarked.

---

### **Pause / Resume Recording:**

A pause\_resume command has the following format:

```
{"action": "pause_resume", "link": "http://129.49.142.164/apis/recorders/recorder-842b2b06c506-4909-0/recordings/recording-f2f37951-2c1e-474e-93a9-3a4f4e5a223d"}
```

A "pause\_resume" command must include the following required key - value pairs:

**action:** Required. This will always be "pause\_resume".

**link:** Required. This value specifies which recording to stop. This is the link value you stored previously from the response of the "start" command.

As with all commands, multiple pause\_resume commands can be sent simultaneously.

### **Pause / Resume Response:**

The response from a "pause\_resume" command will look like the following:

```
{"response": "success"}
```

The response includes the following key - value pairs:

**response:** If the command was successful, the value will be "success". If there was a problem, the value will be "error" (see Example Error Response).

---

### **Stop Recording:**

A stop command has the following format:

```
{"action": "stop", "link": "http://129.49.142.164/apis/recorders/recorder-842b2b06c506-4909-0/recordings/recording-f2f37951-2c1e-474e-93a9-3a4f4e5a223d"}
```

A "stop" command must include the following required key - value pairs:

`action`: Required. This will always be "stop".

`link`: Required. This value specifies which recording to stop. This is the link value you stored previously from the response of the "start" command.

As with all commands, multiple stop commands can be sent simultaneously.

### **Stop Response:**

The response from a "stop" command will look like the following:

```
{"response": "success"}
```

The response includes the following key - value pairs:

`response`: If the command was successful, the value will be "success". If there was a problem, the value will be "error" (see Example Error Response).

---

### **Publish Recording:**

A publish command has the following format:

```
{"action": "publish", "link": "http://129.49.142.164/
apis/recorders/recorder-842b2b06c506-4909-0/
recordings/recording-f2f37951-2c1e-474e-93a9-
3a4f4e5a223d"}
```

A "publish" command must include the following required key - value pairs:

`action`: Required. This will always be "publish".

`link`: Required. This value specifies which recording to publish. This is the link value you stored previously from the response of the "start" command.

As with all commands, multiple publish commands can be sent simultaneously.

### **Publish Response:**

The response from a "publish" command will look like the following:

```
{"response": "success", "link": "http://129.49.142.164/
apis/recorders/recorder-842b2b06c506-4909-0/
recordings/recording-f2f37951-2c1e-474e-93a9-
3a4f4e5a223d"}
```

The response includes the following key - value pairs:

`response`: If the command was successful, the value will be "success". If there was a problem, the value will be "error" (see Example Error Response).

`link`: The `link` value is a full URL to the recording which was published.

---

## Example Error Response:

Error responses from all commands follow the same format:

```
{"response": "error", "message": "Explanation of what went wrong."}
```

The response includes the following key - value pairs:

`response`: "error".

`message`: The `message` value will contain a human readable reason why the command failed.

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