Generic Camera Driver Manual

Overview

Generic Camera Driver opens CGI commands and parameters required for camera-NVR integration to all users. In short, users by themselves can make Genius Vision NVR software support all available functionality to almost any IP camera, if the user have the knowledge of SDK documents or camera integration.

Generic Camera Driver is part of a bigger initiative called *Genius Vision Community Platform* that intend to improve global IP camera compatibility. By sharing IP camera connectivity information, you can contribute to the IP video community to help eveyone connecting to the same type of camera you're using. You also benefit from the knowledge shared by others. Visit our official website for more information: http://geniusvision.net/cp

Supported Functionality

Following functions are supported by Generic Camera Driver:

- **Video streaming**
- **Dual stream**
- **PTZ**
- **DIO (digital input or alarm / digital output or relay control)**
- **Motion detection**

Introduction to CGI Arguments

Many CGI commands require one or more arguments. All non-static arguments, e.g., pan/tilt/zoom values, should be provided as tokens so NVR can substitute them with user input from mouse, keyboard, or other input devices. Tokens must be strictly input in this format:

```
@{p1}
@{p2}
@{p3}
@{p4}
...
```

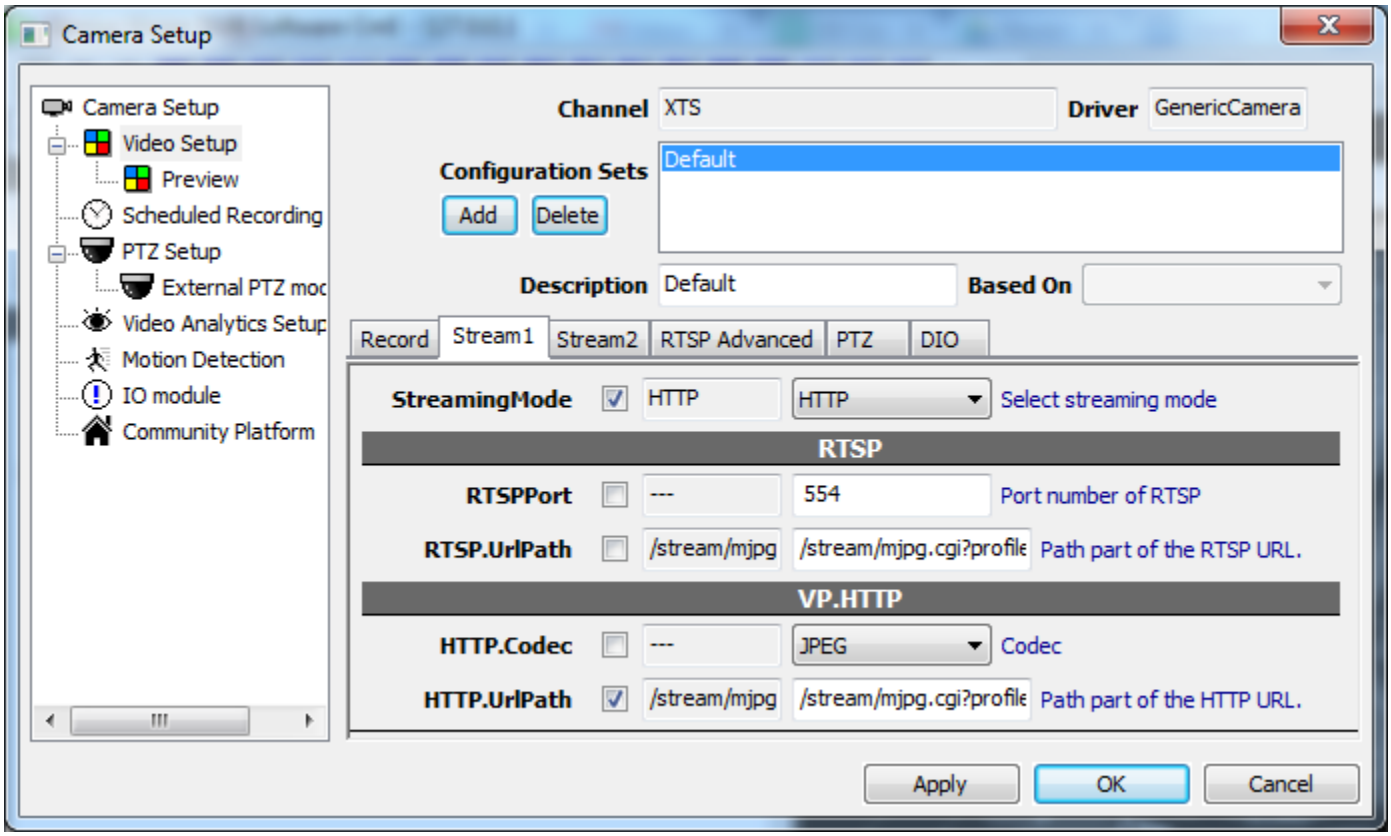
For example:

```
/config/ptz_move_cont.cgi?p=@{p1}&t=@{p2}
```

Introduction to Dual Streaming

Streaming configuration enables NVR software to acquire video streaming from cameras. There're 2 pages for streaming configuration; Steam 1 and Stream 2.

Stream 1	For recording. This is mandatory in most cases.
Stream 2	[optional] For live view only. It usually has a lower resolution to reduce the loading of NVR server. NVR displays Stream 2 automatically when appropriate.

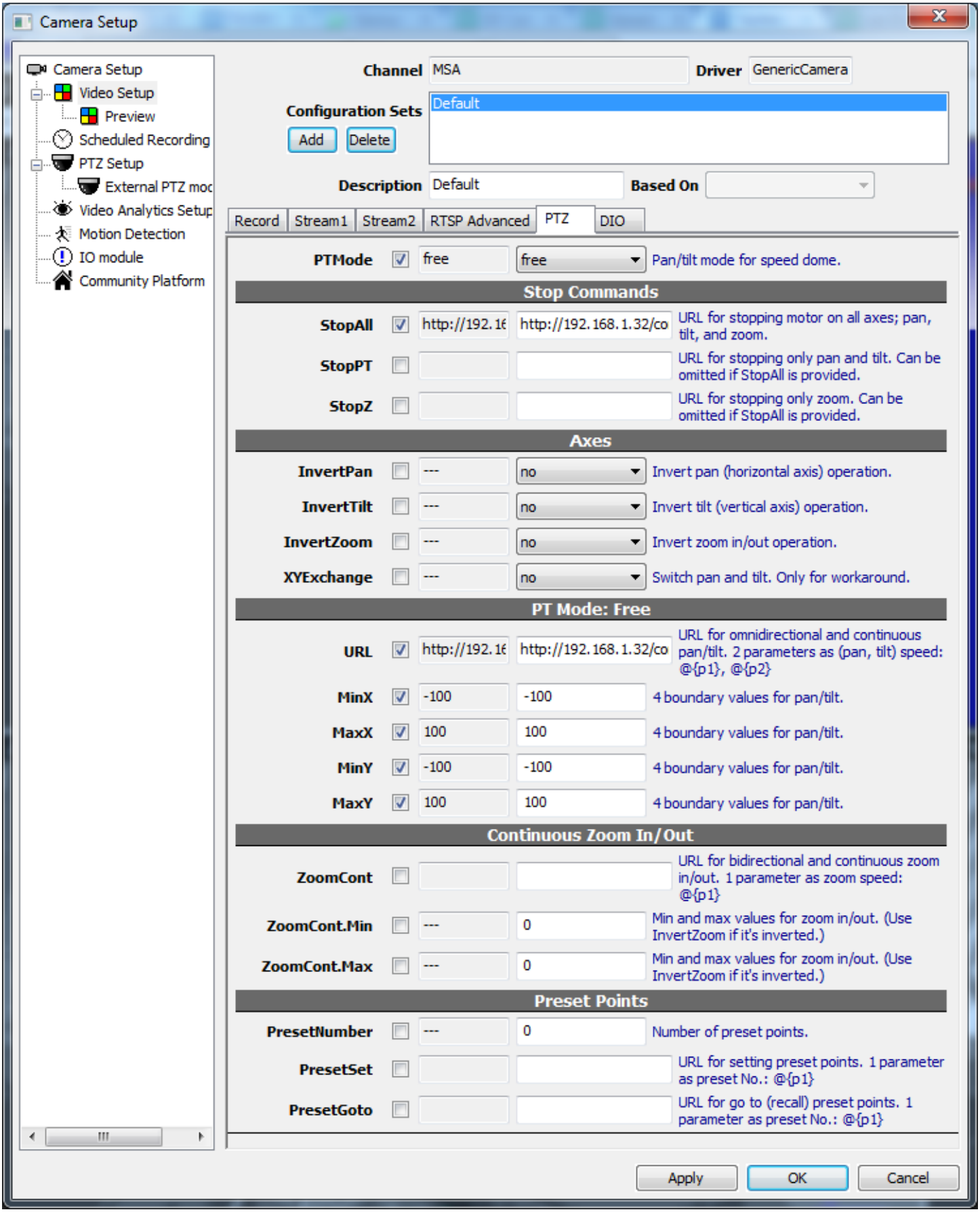


StreamingMode	Select network protocol for streaming: HTTP or RTSP
RTSPPort	Network port for RTSP streaming. 554 for most cameras.
RTSP.UrlPath	URL path for RTSP streaming. Additional arguments may be required using the question mark (?). **Sample:** **rtsph2641080p**
HTTP.Codec	Select the video encoding that matches camera setting. Use IE to log into the camera to see the setting.
HTTP.UrlPath	URL path for HTTP streaming. Additional arguments may be required using the question mark (?). **Sample:** **/stream/mjpg.cgi?profile=1**

Dual Stream

Options for Stream 2 is exactly the same as Stream 1. Note that different URL paths (or different arguments) are required. Request the same video stream twice not only makes no sense and sometimes crash the camera. It's okay for Stream 1 and Stream 2 to use different streaming modes, i.e., HTTP for one and RTSP for the other.

PTZ


Camera Setup
Camera Setup
Video Setup
Preview
Scheduled Recording
PTZ Setup
External PTZ moc
Video Analytics Setup
Motion Detection
IO module
Community Platform
Channel
MSA
Driver
GenericCamera
Configuration Sets
Default
Add
Delete
Description
Default
Based On
Record
Stream1
Stream2
RTSP Advanced
PTZ
DIO
PTMode
free
free
Pan/tilt mode for speed dome.
Stop Commands
StopAll
http://192.16
http://192.168.1.32/co
URL for stopping motor on all axes; pan, tilt, and zoom.
StopPT
URL for stopping only pan and tilt. Can be omitted if StopAll is provided.
StopZ
URL for stopping only zoom. Can be omitted if StopAll is provided.
Axes
InvertPan
---
no
Invert pan (horizontal axis) operation.
InvertTilt
---
no
Invert tilt (vertical axis) operation.
InvertZoom
---
no
Invert zoom in/out operation.
XYExchange
---
no
Switch pan and tilt. Only for workaround.
PT Mode: Free
URL
http://192.16
http://192.168.1.32/co
URL for omnidirectional and continuous pan/tilt. 2 parameters as (pan, tilt) speed: @{p1}, @{p2}
MinX
-100
-100
4 boundary values for pan/tilt.
MaxX
100
100
4 boundary values for pan/tilt.
MinY
-100
-100
4 boundary values for pan/tilt.
MaxY
100
100
4 boundary values for pan/tilt.
Continuous Zoom In/Out
ZoomCont
URL for bidirectional and continuous zoom in/out. 1 parameter as zoom speed: @{p1}
ZoomCont.Min

0
Min and max values for zoom in/out. (Use InvertZoom if it's inverted.)
ZoomCont.Max

0
Min and max values for zoom in/out. (Use InvertZoom if it's inverted.)
Preset Points
PresetNumber

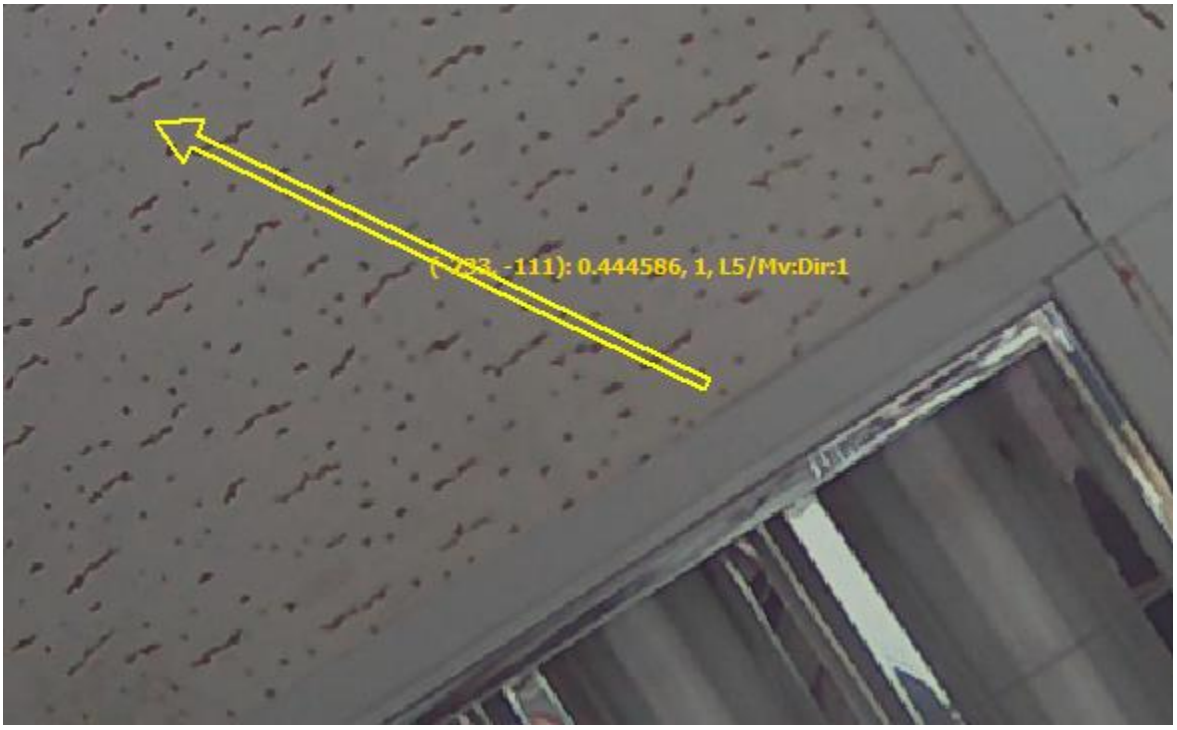
0
Number of preset points.
PresetSet
URL for setting preset points. 1 parameter as preset No.: @{p1}
PresetGoto
URL for go to (recall) preset points. 1 parameter as preset No.: @{p1}
Apply
OK
Cancel

PTZ configuration enables users to control camera motors in NVR (usually with a mouse). Most motorized models have 3 axes; pan, tilt, and zoom. These kinds of camera are called "speed dome" in video surveillance industry. Some models have only 2 axes; pan and tilt, or rarely, one axis; zoom.

Speed domes have many different operation modes and different cameras support different modes. As of version <Upcoming> only "free" mode is supported. In free mode the camera can go any directions with 2 arguments provided: X, Y as pan and tilt respectively.

PTMode	Modes for pan/tilt. Cameras do not always support all modes. Please refer to camera SDK. free: In this mode camera goes any direction with X, Y supplied. click: Not supported yet. 4way: Not supported yet. 8way: Not supported yet.

Free mode must be used with a mouse or joystick. It provides 360° with continuously variable speed. When dragging mouse on player, the yellow arrow indicates the direction and speed.



Stop Commands	Stop Commands is mandatory for "free" mode and any other continuous mode. By "continuous", it means that the motor keeps moving after receiving moving commands, until receiving stopping commands.
StopAll	CGI command to stop all movements; pan, tilt, and zoom. **Sample:** **/config/ptz.cgi?action=stop**
StopPT	CGI command to stop pan and tilt. This is not used if StopAll is already provided. **Sample:** **/config/ptz_move_cont.cgi?p=0&t=0**
StopZ	CGI command to stop zoom. This is not used if StopAll is already provided. **Sample:** **/config/ptz_move_cont.cgi?z=0**

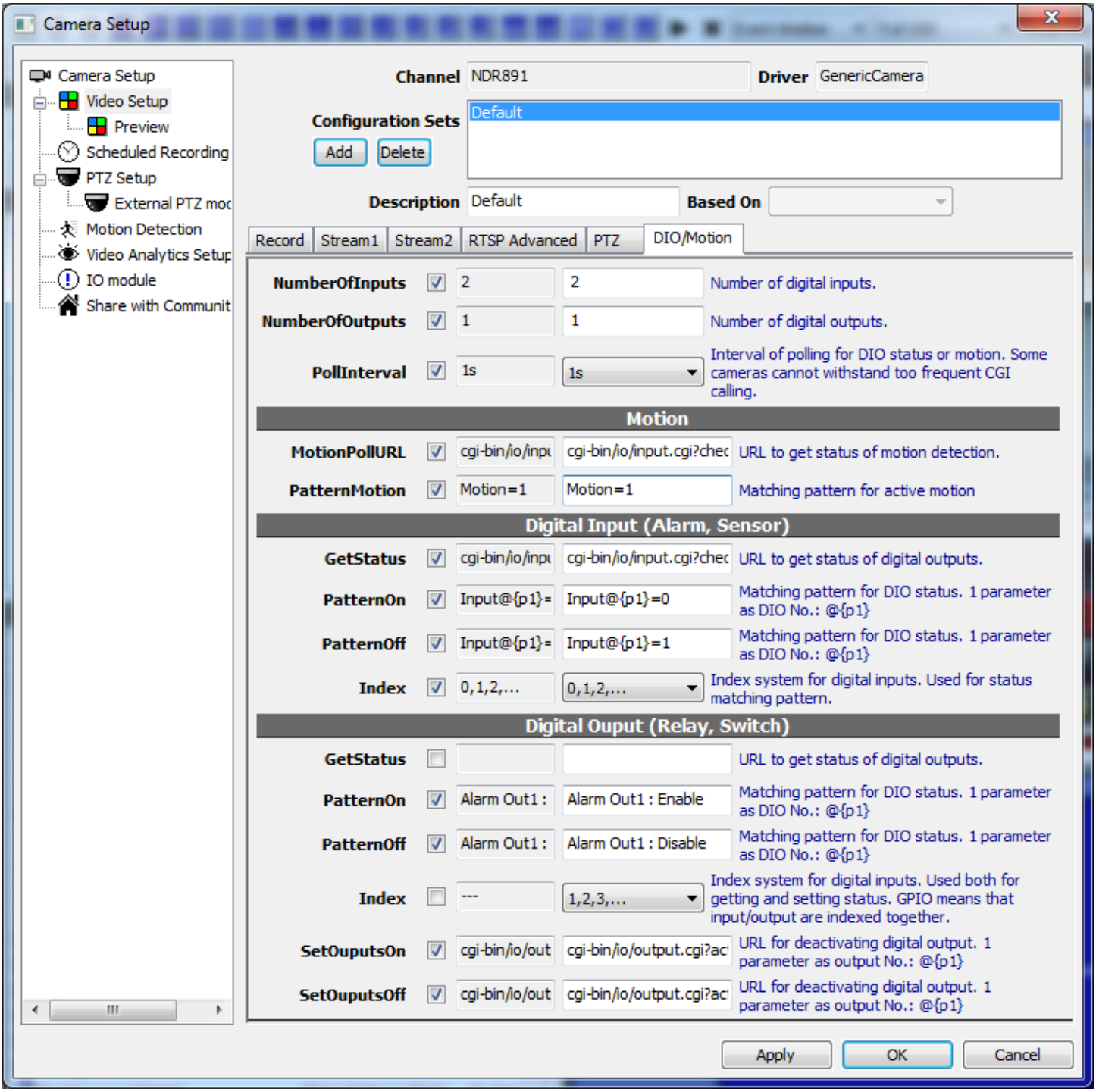
Axes	[optional] These are workaround options for axes issues.
InvertPan	Enable this if tilt control is upside down.
InvertTilt	Enable this if pan control is mirrored.
InvertZoom	Enable this if zoom control is reversed.
XYExchange	Enable this if pan and tilt are interchanged.

PT Mode: Free	These options are used only if "free" mode is selected for PTMode.
URL	CGI command for free mode pan and tilt. In this mode only one command is required for all directions. **Sample:** **/config/ptz_move_cont.cgi?p=@{p1}&t=@{p2}**
MinX	Minimum value for pan.
MaxX	Maximum value for pan.
MinY	Minimum value for tilt.
MaxY	Maximum value for tilt.

Continuous Zoom In/Out	These are required only if zoom is supported by camera.
ZoomCont	CGI command for continuous zoom. Continuous zoom usually uses one command for both zoom in and zoom out. **Sample:** **/config/ptz_move_cont.cgi?z=@{p1}**
ZoomCont.Min	Minimum value for zoom.
ZoomCont.Max	Maximum value for zoom.

Preset Points	These are required only if preset is supported by camera.
PresetNumber	Number of presets that camera supports.
PresetSet	CGI command to set current view as preset. One argument must be provided as preset No.. **Sample:** **/config/ptz_preset.cgi?name=@{p1}&act=add**
PresetGoto	CGI command to recall preset point. One argument must be provided as preset No.. **Sample:** **/config/ptz_preset.cgi?name=@{p1}&act=go**

DIO / Motion



Generic Camera Driver only supports cameras with CGI commands to poll DIO or motion states. States embedded in multipart HTTP stream cannot be read with Generic Camera Driver.

NumberOfInputs	Total number of digital inputs.
NumberOfOutputs	Total number of digital outputs.
PollInterval	Interval between each polling. DIO in NVR is more real-time with a short time. But some cameras can't withstand too frequent CGI calling and may hang or crash.

MotionPollURL	<TBW>
PatternMotion	<TBW>

Digital Inputs	Alarms or sensors.
GetStatus	CGI command to get states of digital inputs.
PatternOn	Text pattern to match for active digital inputs. One argument must be provided as port index if there're more than one ports. **Sample:** **Input@{p1}=0**
PatternOff	Text pattern to match for inactive digital inputs. **Sample:** **Input@{p1}=1**
Index	DIO ports are indexed differently in camera models. It's either 0 based or 1 based. Select the indexing system matches that of camera.

Digital Outputs	Relays or switches.
GetStatus	[optional] CGI command to get states of digital outputs. Can be omitted if inputs and outputs share the same CGI command.
PatternOn	Text pattern to match for active digital outputs. One argument must be provided as port index if there're more than one ports. **Sample:** **Alarm Out@{p1} : Enable**
PatternOff	Text pattern to match for inactive digital outputs. **Sample:** **Alarm Out@{p1} : Disable**
Index	DIO ports are indexed differently in camera models. It's either 0 based or 1 based. Digital outputs may be indexed independently or mixed with inputs. Select "GPIO" indexing system if they are mixed with inputs. For example, Outputs indexed independently looks like this: **Relay1, Relay2, Relay3...** Outputs mixed with inputs: **1:in, 2:in, 3:out, 4:in, 5:out...**
SetOutputsOn	CGI command to set digital output on. One argument must be provided as port index if there're more than one ports. **Sample:** **/cgi-bin/io/output.cgi?port=@{p1}&action=1**
SetOutputsOff	CGI command to set digital output off. **Sample:**

	/cgi-bin/io/output.cgi?port=@{p1}&action=0

To verify DIO operation, use Tree View in left panel.