

Visca protocol LARA Driver

Ver. 1.2.0

Installation Manual

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1. Introduction

This document is created to help integrators creating LARA configuration includes PTZ Camera control with Visca protocol. It is possible to define the communication mode and the speed of PTZ movements in this version (1.1.1) of Visca driver of LARA.

The system's main components are:

Lightware UCX/MMX2 Universal Matrix Switcher,

PTZ camera, that can be controlled via Visca protocol (RS232 / Ethernet UDP).

The room automation is done by Lightware Advanced Room Automation (LARA). It is a modular system which includes drivers for the equipment applied in the system. In this case a Visca protocol driver V 1.2.0. is used.

2. Installation and Configuration

2.1. Installation

Minimum equipment requirement for the solution:

- Lightware UCX / MMX2 Universal Matrix Switcher (FW: v2.9.0b6)
- PTZ camera controllable via VISCA protocol
- Ethernet network switch
- Cables

Before uploading and configuring the Visca driver Ver.1.2.0 please download the latest Firmware from <u>https://lightware.com/</u>. Upgrade your UCX/MMX2 Universal Matrix Switcher and activate LARA.

For further information please refer to the user manuals:

https://lightware.com/pub/media/lightware/filedownloader/file/User-Manual/Taurus_UCX_series_Users_Manual.pdf

https://lightware.com/pub/media/lightware/filedownloader/file/User-Manual/LARA_Users_Manual.pdf

https://lightware.com/lara/

2.3. Creating a new configuration with Visca driver

2.3.1. Uploading module to LARA config

Start new, empty configuration in LARA. It can be done with pressing FACTORY RESET:



Create a new UCX/MMX2 module and an instance from it.

CREATE NEW MODULE	
Category:	
	.
Base module:	
taurus-ucx-mmx2-driver	•
Name:	
Short description:	
Version:	

After these steps above please upload the Visca driver V1.2.0. with selecting 'Upload module' menu item and create a new instance from it.

						STATUS BOARD	BROWSE	MODULES
STATUS: O 2								() HELP
MODULES	🕂 EDIT UC	X_DRIVER PARA	METERS				9	1 B
0 3	түре	PARAMETER NAME	LABEL	OPTIONS	DEFAULT	DESCRIPTION		
Search Q		▼ IpAddress	IP address	EDIT OPTIONS	Default	IP address of the d	levice	
UCX_driver 1.0.23 Driver module for controlling LICX/MMV2 devices	# string	connectionType	Connection type	EDIT OPTIONS		Description		
PARAMETERS	# string	authenticationType	Basic suthentication	EDIT OPTIONS		Enable or disable t	asic authenticati	ion
EVENTS	# string	▼ username	Username	EDIT OPTIONS	Default	Username for basi	c authentication	
METHODS RULES	# string	• password	Password	EDIT OPTIONS	Default	Password for basis	authentication	
CUSTOM CODE	O ADD NEW N	NODULE PARAMETER						
INFO								

As the next step the configuration of the existing module can be done.

2.4. Configuration

2.4.1. Setting parameters of PTZ_CAM instance created from Visca Driver:

₩ EDIT PTZ_CAM INSTANCE PARAMETERS
Instance name
PTZ_CAM
CAMERA CONTROL CONNECTION
Interface
Ethernet -
NETWORK SETTINGS
IP Address
192.168.4.90
port number : 52381

It is possible to choose Ethernet (UDP) or RS232 control options.

In case of choosing Ethernet option please set the IP address of the camera.

After choosing to use RS232 option please set the baud-rate matching the camera settings and the port number of UCX/MMX2 to connect the PTZ camera.

SERIAL PORT SETTINGS
Camera ID
1
Using RS232 control - Camera ID [1-7]
Serial port number
P1 -
Serial port number of Lightware device
Baudrate
9600 🗸
Data bits: 8, Start bits: 1, Stop bits: 1, Parity: None, Flow control: None

The PTZ movement speed can be adjusted in the PAN TILT SETTINGS.

PAN TILT SETTINGS
Pan movement speed
10
Speed of pan movement [0 15]
Tilt movement speed
12
Speed of tilt movement [015]
Zoom movement speed
5
Speed of zoom movement [07]

These parameters define the speed of PTZ movement in case of using methods of Visca driver.

	panLeft: no return value panLeftspeed: number	Pan speed [0-15]
н	panRight: no return value panRightspeed: number	Pan speed [0-15]
	pantilt_STOP: no return value	
	tiltUp: no return value tiltUpspeed: number	Tilt speed [0-15]
	tiltDown: no return value tiltDownspeed: number	Tilt speed [0-15]

Console output settings enables the LARA console log messages. It helps following the operation, and helps debugging.

SETTINGS
Console Output
true
Enables logging in LARA log window.

If the configuration runs, and the IP address settings are properly done all of the status sign should be green on the left side of each instance's status section like in this example:

LARA 1.1.665				STATUS BOAR	D BROWS	SE MODULES
STATUS: O	DOWNLOAD PARAMETER CSV	UPLOAD CONFIGURATION			CTORY RESET	() HELP
SINSTANCES						
DRIVER						~
Instance: UCX	Module: UCX_Driver	Base	e module: taurus-ucx	-mmx2-driver	11 🧭	0
Connection: Connected Package version: v2.2.0b4 01 output signal present: false 02 output's source: 1	Product name: MMX2-4x3-H20 3 O2 output connected: false	Overall health status: OK 01 02 output signal present: false	l output's source: 12 01 o	output connected:	false cted: false	
O3 output signal present: false						
Instance: PTZ_CAM Connected: true	Module: Visca_driver				18 🖉 6	i) 🗊
USER PANEL						~
Instance: PTZ_Control_Panel	Module: Userpanel_PTZ) 🕕 🖉 🤅	•
Instance: Preset_Control_Panel	Module: Userpanel_CAM	_Presets		e) 🕕 🖉 🤅	8 🗊
LOGIC						~
Instance: PTZ_ctrl_Logic	Module: Logic_module				11 🖉 🕯	ð 🛈

Now the demo system is ready to start to control the PTZ camera.

3. Operation

3.1. PTZ movement and Camera Preset functions

3.1.1. PTZ operation

PAN movement example:

Create a rule in the PTZ control panel which is triggered by pressing the 'PAN left' button on a touch panel:

EDIT USERPANEL_P	PTZ RULES		2 ±	Ô
RULES	G ADD RULE	PAN LEFT DETAILS		^
Filter rules	_	Rule name		
D L-f		Pan Left		
panLeft_release				
		EVENT	CREATE EVENT	×
		Instance		
		PTZ_Control_Panel (Userpanel_PTZ)	· · · · · · · · · · · · · · · · · · ·	-
		Event name		
		panLeft_release		•
		PANLEFT_RELEASE EVENT PARAMETERS		
		There are no parameters in the event's callback function.		
		ACTION		~
		ACTION WIZARD	CODE EDITOR	
		If you want to add steps please notice that the code in the Code Editor will be ov	erwritten.	
			O ADD RULE ACTION STEP	·
		# Calling Pan left method of Visca driver		
	Ŧ			Ŧ
		You have unsaved changes. These won't show up in the	running service and won't be saved when you leave the page. Make sure to save regularly.	AVE

With the help of ACTION WIZARD create a RULE ACTION STEP:

EDIT STEP		
Name		
Calling Pan left method of Visca driver		
Description		
Select action step		
Invoke method		-
Select instance		
PTZ_CAM (Visca_driver)		-
Select method		
panLeft (panLeftspeed: number)		-
Pan speed [0-15]		
panLeftspeed		
12		
	SAVE	CANCEL

In this example: PTZ_CAM is the name of the instance created from the Visca Driver.

EDIT USERPANEL_PT	TZ RULES		2 4	. 0
RULES	O ADD RULE	PAN LEFT DETAILS		Â
Filter rules		Rule name Pan Left		
paneer (release		EVENT	CREATE EVENT	~
		PTZ_Control_Panel (Userpanel_PTZ)		-
		Event name panLeft_release		
		PANLEFT_RELEASE EVENT PARAMETERS		
		There are no parameters in the event's callback function.		
		ACTION		~
		ACTION WIZARD CODE EDITOR		
		If you want to edit the code please notice that the steps in the Action Wizard will be deleted. 1 await instanceani getInstanceBVId('PIT (CAW') nani eff(12):		11
	Ŧ	• onoit instance, getinstance, intervent, pancer(12);		Ţ
		You have unsaved changes. These won't show up in the running service and won't be saved when you leave the page. Make s	ure to save regularly.	AVE

It is possible to create this RULE ACTION STEP in the CODE EDITOR SECTION as well:

In this example: PTZ_CAM is the name of the instance created from the Visca Driver.

Please follow steps above for creating other action steps for another PTZ movements by calling other methods of Visca driver of LARA:

LARA 1.1.665		
STATUS: 🥥 🛛 🔳		DOWNLOAD PARAMETER CSV UPLOAD CONFIGU
HODULES	EDIT VISCA_DRIVER METHODS	
O ± Search Q	panLeft: no return value panLeftspeed: number	Pan speed [0-15]
Logic_module 1.1.0 \$ PTZ camera control using Visca protocol	panRight: no return value panRightspeed: number	Pan speed [0-15]
	pantilt_STOP: no return value	
UCX_Driver 1.0.23 Driver module for controlling UCX/MMX2 devices	tiltUp: no return value tiltUpspeed: number	Tilt speed [0-15]
Visca_driver 1.1.0 PTZ Camera control - Visca protocol	tiltDown: no return value tiltDownspeed: number	Tilt speed [0-15]
EVENTS	zoomin: no return value zoominspeed: number	Zoom speed [0-7]
RULES CUSTOM CODE	zoomOut: no return value zoomOutspeed: number	Zoom speed [0-7]
INFO	zoomStop: no return value	

3.1.2. PTZ Preset functions

Store preset example:

Create a rule in a PTZ control panel which is triggered by pressing the 'STORE' button on a touch panel:

EDIT USERPANEL_CAM_PRESETS RULES			2	Ŧ	Ô	
RULES	ADD RULE	STORE CAMERA PRESET 1 DETAILS				^
Filter rules		Rule name Store Camera Preset 1				
** store 1 pressed		EVENT	• c	REATE EVEN	п 🗸	L
		Instance Preset_Control_Panel (Userpanel_CAM_Presets)			•	
		Event name				
					•	
		There are no parameters in the event's callback function.				
		ACTION			*	
		ACTION WIZARD	CODE EDITOR			
		If you want to add steps please notice that the code in the Code Editor will	be overwritten.			
			G ADD RUL	E ACTION S	TEP	
		# Store Camera Preset 1				

With the help of ACTION WIZARD create a RULE ACTION STEP:

EDIT STEP	
Name	
Store Camera Preset 1	
Description	
Select action step	
Invoke method	*
Select instance	
PTZ_CAM (Visca_driver)	-
Select method	
storePreset (presetNum: number)	•
presetNum	
1	
Preset number [0127]	

In this example: PTZ_CAM is the name of the instance created from the Visca Driver.

It is possible to create this RULE ACTION STEP in the CODE EDITOR SECTION as well:

EDIT USERPANEL_CAM_PRESETS RULES			2	Ł	Ì
RULES	ADD RULE	STORE CAMERA PRESET 1 DETAILS			^
Filter rules Store Camera Preset 1 store 1 pressed		Rule name Store Camera Preset 1			
		EVENT	G CREATE EVENT	~	
		Preset_ControLPanel (Userpanel_CAM_Presets) Event name		•	
		store 1 pressed		-	
		STORE 1 PRESSED EVENT PARAMETERS			
		There are no parameters in the event's callback function.			
		ACTION		~	
		ACTION WIZARD CODE EDITOR			
		1 If you want to edit the code please notice that the steps in the Action Wizard will be deleted.			
		<pre>1 await instanceApi.getInstanceById('PTZ_CAM').storePreset(1);</pre>			

In this example: PTZ_CAM is the name of the instance created from the Visca Driver.

Please follow steps above for creating action steps for recalling preset function by calling the other method of Visca driver of LARA:

EDIT VISCA_DRIVER METHODS	
 storePreset: no return value presetNum: number	Preset number [0127]
 recallPreset: no return value presetNum: number	Preset number [0127]

4. Appendix

4.1. Document history

Rev.	Release date	Changes	Editor	
v1.0	27-09-2022	Initial version	Péter Szabó 3	
v1.1	04-05-2023	Speed parameters added to PTZ function	Péter Szabó 3	
v1.1.1	11-05-2023	Minor updates	Péter Szabó 3	
v1.2.0	12.02.2024	LARA v1.2 compatible version	Péter Szabó 3	

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