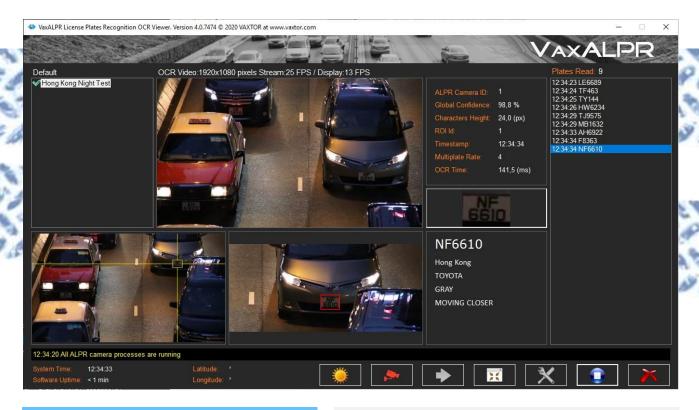
## VaxALPR-PC





### **Multi-Platform OCR Engine**

Windows 32/64 bit (Server 20XX, 8,10), Debian Linux GNI 1.4+, Ubuntu 8.04+, Windows Mobile 6.0, 6.5.3, Windows Phone 7.0+

### **Country-Independent Engine**

Multi Neural-net supports Latin, Arabic & Hebrew Characters.

### **Input Image Format**

BMP24, JPEG, YUY2, RGB, Gray8, 5MB maximum image size.

### **Operating Mode**

Free-flow & Triggered

### **Plate Formats**

Rectangular or square 2/3 line plates Dark character on light background Light character on dark background

### **Character Height**

14 – 70 pixels

### **Direction Reporting**

Towards, Away & Unknown

**VaxALPR** is a license plate recognition application developed by Vaxtor Recognition Technologies for the most demanding scenarios using Vaxtor's powerful proprietary OCR engine.

The application connects to multiple cameras using standard protocols and the ALPR engine recognizes plates in real time on fast-moving vehicles across several lanes simultaneously. In high speed scenarios plates are read from multiple cameras on vehicles travelling at speeds up to 225 Km/h and in access control deployments up to 128 cameras can be connected simultaneously to an appropriate PC.

The engine will report the direction of travel and optional plugins include full Make, Model & Color recognition. Other variants include ADR Plates (Hazardous Cargo), ISO Container recognition and Speed and Red Light detection.

Results can be sent to Helix, Vaxtor's powerful back office, or reported to third-party applications via TCP/IP, HTTP-POST-XML, HTTP-POST-ISON or simply save results to a directory (.csv list of plate events & separate associated jpg images). Most major VMS products are supported including Milestone, Genetec, Network Optix etc.

Vaxtor Recognition Technologies 8 Martinfield, Welwyn Garden City AL7 1HG +441707808650 info.uk@vaxtor.com Vaxtor Recognition USA, 23201 Lake Centre Drive, Suite 211, Lake Forest, CA 92630 8775-VAXTOR info.us@vaxtor.com Vaxtor Asia Pacific, 18 Howard Road, 07-01/11 Singapore 369585 +65-86133554 info.asia@vaxtor.com Vaxtor Spain, Sector Foresta 1, Bldg AKAL, 2nd floor 28760 Tres Cantos, Spain, +34-91-757-2211 info.eu@vaxtor.com

# VaxALPR-PC



### **VaxALPR-PC CPU & RAM Recommendations**

<b>5</b> VAXTOR	Total amount of ALPR cameras that can be managed per PC using <u>VaxALPR only (1)</u>										
	Approximate Maximum Vehicle Speed for 1 lane ALPR					Approximate Maximum Vehicle Speed for 2 lanes ALPR					
	Stop & Go Cam: 2 FPS	30 Km/h 20 Mph Cam: 10 FPS	100 Km/h 60 Mph Cam: 20 FPS	160 Km/h 100 Mph Cam: 30 FPS	250 Km/h 150 Mph Cam: 50 FPS	Stop & Go Cam: 2 FPS	30 Km/h 20 Mph Cam: 10 FPS	100 Km/h 60 Mph Cam: 20 FPS	160 Km/h 100 Mph Cam: 30 FPS	250 Km/h 150 Mph Cam: 50 FPS	
i5: (2.70-3.30) GHz 2 Cores - 4 Threads Intel Core i5-4570TE	12	4	4	0	0	8	4	2	0	0	
i7: (2.00-3.80) GHz 4 Cores - 8 Threads Intel Core i7-7700T	24	16	8	4	0	24	16	8	0	0	
i7: (3.70-4.70) GHz 6 Cores - 12 Threads Intel Core i7-8700K	48	36	24	12	6	48	24	12	6	3	
i9: (3.10-4.40) GHz 16 Cores - 32 Threads Intel Core i9-9960X	128	96	64	32	16	128	64	32	16	8	

#### (1) Further Considerations

Cam. Mount Fixed

RAM Base 8 GB RAM add +1 GB additional per ALPR instance

Hard Disk No special consideration

1 lane 1280x720 video resolution

2 lanes 1920x1080 video resolution

Cam. Angles 0 Km/h - 30 Km/h: Horizontal: < 30°, Vertical: < 30°

30 Km/h -160 Km/h: Horizontal: < 20°, Vertical: < 25° 160 Km/h -250 Km/h: Horizontal: < 5°, Vertical: < 20°

### **ALPR OCR Settings**

Instance ID	1	]	OCR Complexity High ~	List of Countries		List of USA States	
Min. global confidence	70	96	Find plate depth Low V	Afghanistan Albania Algeria	^	Alabama Alaska Arizona	ĺ
Min. character confidence	50	%	Plate back mode Dark on Li V	American Samoa		Arkansas California	
Min. character height	14	pixels		Angola		Colorado	
Max. character height	70	pixels	Operating mode Free Flow V	Anguilla Antarctica		Connecticut Delaware	
Min. number of characters	5		CPU Resources: 80%	Antigua and Barbuda Argentina		District Columbia Florida	
Max. number of characters	9			Armenia Aruba		Georgia Hawaii	
Max. slope angle	20	deg	•	Australia Austria	~	Idaho Illinois	
Same plate timeout	60	s	OCR Debug mode		Add		Add
Maximum plates distance	2	i	☐ Grammar Strict				
Max recognition period	500	ms	☐ Motion Detection	Selected Countries United Kingdom	۸	Selected USA States	
Min. plate occurrences	2		☐ Multiple Countries Balanced	France Belgium			
Max. plate occurrences	20	1	☑ Double Line Plates	Netherlands Germany			
Image Rotation	0 ~	deg		demany	Ų.		
Reported image	Middle v			Up Down F	Remove	Up Down	Remove

### Lane-Independent Settings

Each connected video stream can be independently configured for optimum OCR performance.

### Country-Independent

The engine contains four neuralnets meaning that the same ALPR product can operate almost anywhere in the world.

### **VaxALPR-PC Export Options**

The program has multiple output options including:

TCP/IP Sockets, Plain TCP/IP Sockets, HTTP-POST XML & HTTP(s)-POST JSON in addition to local disk storage.

Results can also be sent several VMS products as events & bookmarks including: Genetec Security Centre, Milestone XProtect, Network Optix nx Witness VMS, Genetec Security Centre, Exacq, March Networks and many more.

For more information on any of Vaxtor's ALPR products contact any of the Vaxtor offices below.

Vaxtor Recognition Technologies 8 Martinfield, Welwyn Garden City AL7 1HG +441707808650 info.uk@vaxtor.com

Vaxtor Recognition USA, 23201 Lake Centre Drive, Suite 211, Lake Forest, CA 92630 8775-VAXTOR info.us@vaxtor.com Vaxtor Asia Pacific, 18 Howard Road, 07-01/11 Singapore 369585 +65-86133554 info.asia@vaxtor.com Vaxtor Spain, Sector Foresta 1, Bldg AKAL, 2nd floor 28760 Tres Cantos, Spain, +34-91-757-2211 info.eu@vaxtor.com