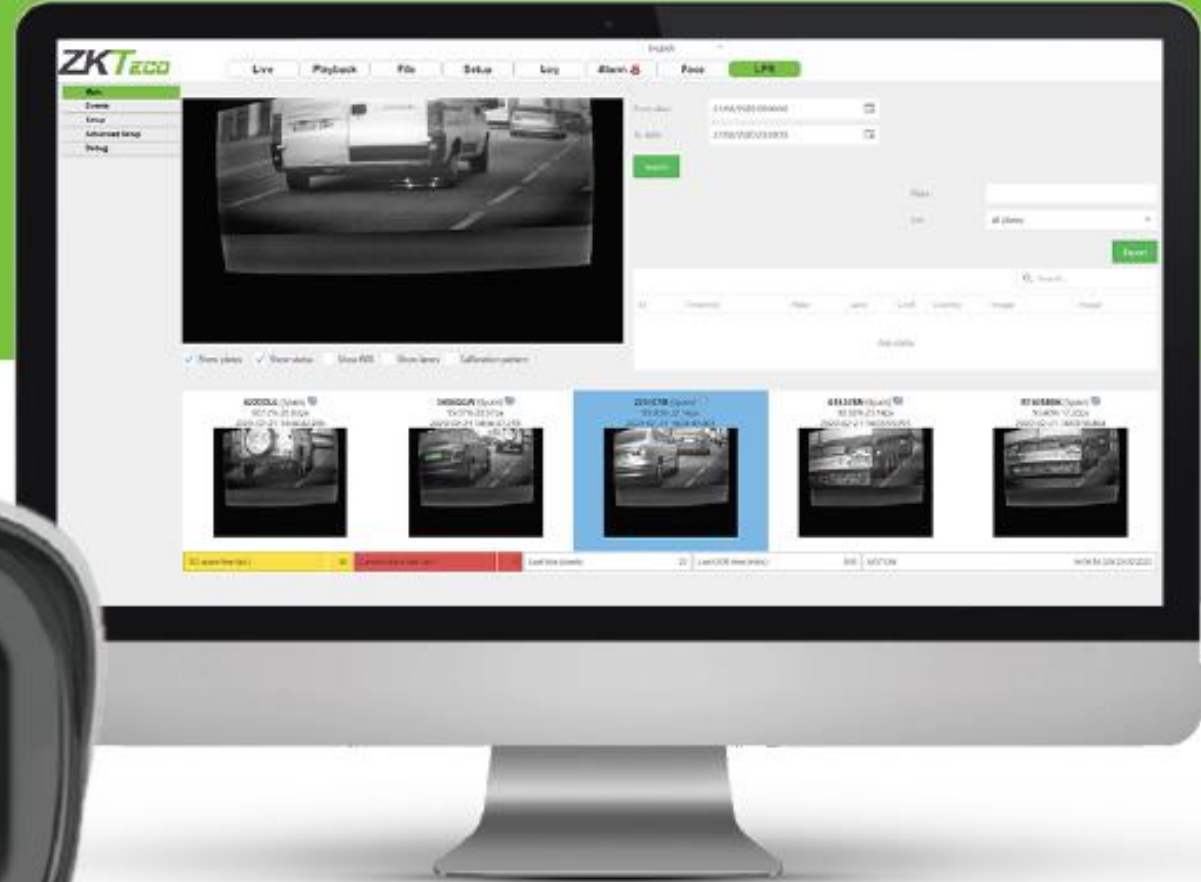


# ZK-LPR Car ID

## License Plate Recognition Camera





## ZK TECO LPR CarID



An embedded, plug and play, master-slave solution for an affordable License Plate Recognition System to track the car.

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# 01 Product Introduction





# 01 | Product Introduction

Easy, Clever & All On Board LPR Standalone Master-Slave Solution  
The Plug&Play solution for car parks

ZKTeco **LPR CarID** is a high-performance embedded license plate recognition system, perfect solution for simple LPR. The license plate recognition algorithm is executed inside the ZKTeco camera avoiding the use of computers in access control, tolling and weighing scenarios.

**LPR CarID** is next step in ZKTeco's access control system for an efficient and simply vehicle access technology, delivering, faster & easier set-up and allowing customers to achieve high performance with lower installation, maintenance and off-site programming costs.

**Next Project Stage :** Integration into ZKBiosecurity (parking module)



# 01 | Product Introduction

LPR engine embedded into ZK Ipcam models:

- Dome DL-852Q28B
- Bullet BL-852T28L





# 01 | Product Introduction

- ❑ Trouble-free **plug-and-play setup**: easy installation and configuration. It's easy to use without too many instructions and **it's easy to install and commission**, requiring no in-depth background knowledge about LPR technology and minimum training for that.
- ❑ Embedded technology: ready-for-use solution, **no external devices necessary**. **OCR image conversion directly in the camera**
- ❑ Free run mode: the presence of a vehicle is detected with no need for external sensors like photocells and loops.
- ❑ Direct control of **opening the automatic barriers at entrances and exits**.
- ❑ On board management of **blacklist and white list** in order to consent or deny access to specific users.
- ❑ The system is adaptable to every type of installation needed, working on master-slave mode with reading range up to **15 meters and up to 20 km/h**
- ❑ Recognizing not only Latin characters but also Arabic and Thai, Cyrillic alphabets and many more
- ❑ **Intuitive user interface (GUI)**.
- ❑ Self-optimized operation for best results.
- ❑ **Eliminating time-consuming system integration**.



# 01 Product Introduction

How to place LPR camera:

Recommended vertical angles are approximately  $20^\circ$ . The maximum recommended value is  $35^\circ$ .



Recommended horizontal angles are approximately  $20^\circ$ . The maximum recommended value is  $35^\circ$ .



The angle between the plates and the X axis of the scene must be inferior to  $25^\circ$ .

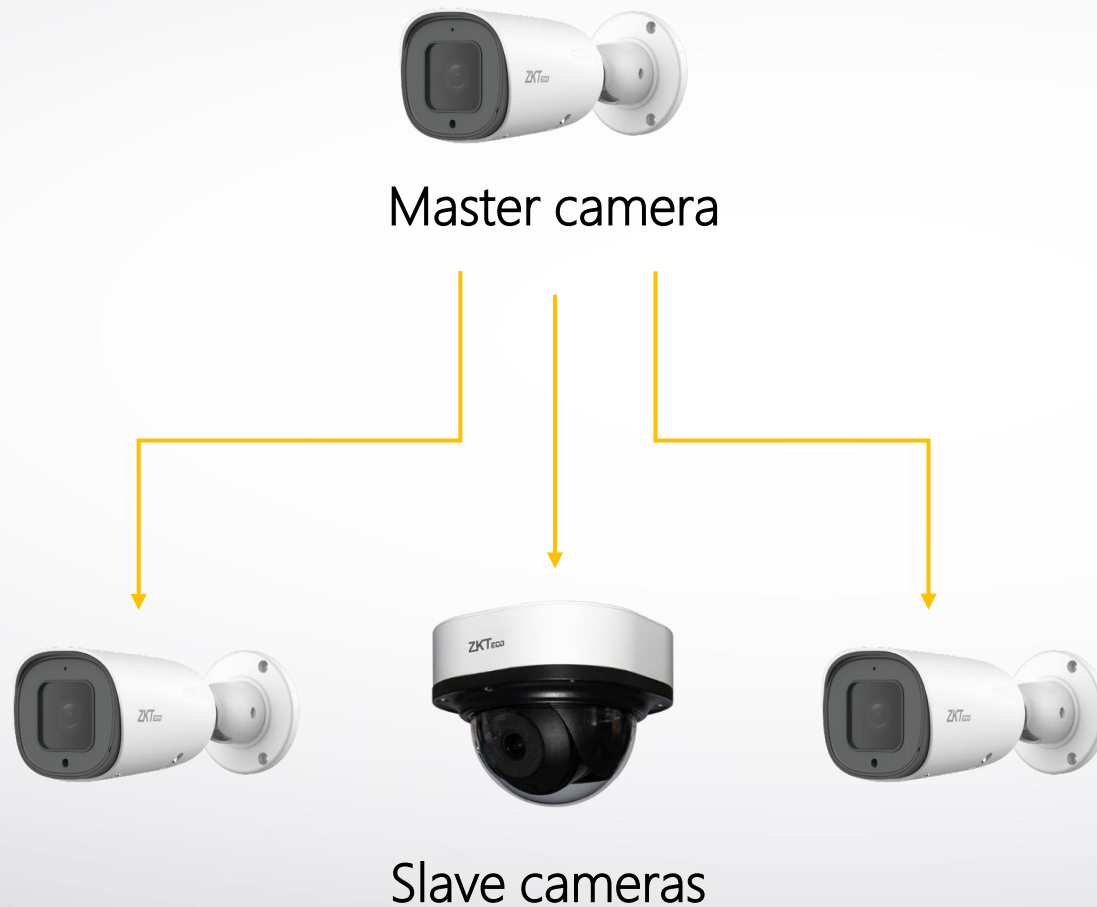






# 01 Product Introduction

Basic LPR's topology (Master-Slave):





## 02 Advantages & Features



# 02 | Features

## Live

### Main Menu supports:

- ❑ Real time visualization
- ❑ Summary status of the system:
  1. Results
  2. SD free space
  3. Camera free space
- ❑ ROI visualization
- ❑ Calibration pattern

**ZKTeco**

English

Live Playback File Setup Log Alarm FaceFace **LPR**

Main  
Lists  
Setup  
Evidence  
LPR Main  
Audit  
Debug

From date: 16/03/2020 00:00:00  
To date: 16/03/2020 23:59:59  
Search

ID	Time(ms)	Plate	Lane	Conf.	Col.
No data					

☒ Show plates ☒ Show status ☐ Show ROI ☐ Show lanes ☐ Calibration pattern

**B8249PV** (Spain)  
[CARRIL 1] 99.90% 23.00px  
2020-03-16 18:19:17.607

**7527CTG** (Spain)  
[CARRIL 1] 99.90% 23.88px  
2020-03-16 18:19:03.091

**B09020X** (Spain)  
[CARRIL 1] 98.23% 18.43px  
2020-03-16 18:19:05.347

**5097FYN** (Spain)  
[CARRIL 1] 99.90% 17.50px  
2020-03-16 18:19:06.600

SD space free (tpc): 92 Camera space free (tpc): 8 Last Size (pixels): 23 Last OCR time (millis): 499 MOTION



# 02 | Features

## Review

### Search Submenu supports:

- ☐ Historical lic. plates recognized
- ☐ Filter by date
- ☐ Filter by number of plate
- ☐ Show crop image of lic. plate
- ☐ Show full image
- ☐ Time stamp
- ☐ Confidence (accuracy)
- ☐ Country

From date

16/03/2020 00:00:00

To date

16/03/2020 23:59:59

Plate

List

all plates

Search

First page

<< Before

Next >>

Last page

Export

Pag. 1/1083

Q

Search...

ID	Time(ms)	Plate	Lane	Conf.	Country	Image	Image
53550	06:21:27.494 16/03/2020	5495DXX	CARRIL 1	99.88	Spain		LPR
53551	06:21:29.184 16/03/2020	2954FRV	CARRIL 1	99.90	Spain		LPR
53552	06:22:14.796 16/03/2020	0176BTH	CARRIL 1	99.90	Spain		LPR
53553	06:22:21.807 16/03/2020	2854CYT	CARRIL 1	96.24	Spain		LPR
53554	06:22:35.852 16/03/2020	9258FPB	CARRIL 1	93.14	Spain		LPR





# 02 Features

Lists (I)

## Lists Menu supports (I):

- ❑ Unlimited number of lists
- ❑ More than 10 different actions for a list:
  1. IO port: triggering aux output (open a barrier)
  2. HTTP/S: sending XML or JSON (3<sup>rd</sup> party)
  3. MILESTONE: sending bookmark to its VMS
  4. Socket and trigger server: sending basic commands (3<sup>rd</sup> party)
- ❑ Activation Scheduler

The screenshot displays the ZKTeco software interface. At the top, there is a navigation bar with tabs: Live, Playback, File, Setup, Log, Alarm, FaceFace, and LPR. The 'Lists' menu is selected, showing a list of list types: -2 all plates, -1 not in list, 1 BLACKLIST, and 2 WHITELIST. The 'WHITELIST' list is selected, showing its details: 'List of the license plates: WHITELIST (0)' and 'Action for the list: WHITELIST (2)'. A dropdown menu is open, showing various actions: Socket client, Socket server, IO, FTP, HTTP, MILESTONE, Trigger server, Meypar server, WIEGAND SOYAL, FTP JPG MTT, EMAIL, and a 'Select...' option. Below the list, there is a table with columns 'ID' and 'Description'. The table contains two rows: ID 3 with description 'HTTP' and ID 2 with description 'IO'. At the bottom, there is an 'Activation Scheduler' section with a calendar view showing days of the week (Sun, Mon, Tue, Wed, Thu, Fri, Sat) and a time range from 0:00 to 23:00. A 'Save scheduler' button is visible. The ZKTeco logo and 'Europe' text are in the bottom left corner.



# 02 | Features

## Lists (II)

### Lists Menu supports (II):

- ❑ Export created lists via FTP (.csv file) automatically.
- ❑ Import lists automatically:
  1. From 3<sup>rd</sup> party to Primary camera via FTP (csv/xml file) from 3<sup>rd</sup> party
  2. From Primary to Secondaries cameras: SINCRO functionality
- ❑ Import lists manually: Uploading a csv/xml file

**ZKTeco** English

Live Playback File Setup Log Alarm FaceFace **LPR**

Main  
**Lists**  
Setup  
Evidence  
LPR Main  
Audit  
Debug

▼ List types

ID	Name
-2	all plates
-1	not in list
1	BLACKLIST
2	WHITELIST

▶ List of the license plates: WHITELIST (0)

▼ Action for the list: WHITELIST (2)

ID	Description	Action type	Active
		Select...	Select...
3	HTTP	HTTP	Enabled
2	IO	IO	Enabled

▶ Exports for the list: WHITELIST (0)

▼ Imports for the list: WHITELIST (2)

Select import XML/CSV file or Drop import XML/CSV file here

☐ Delete the list elements at import

ID	Description	Import type	Interval	Active
3	Import from Master camera	SINCRO camera	Hour	Enabled
2	Import from FTP server	FTP list	Hour	Enabled



# 02 | Features

LPR configuration

## Setup Menu supports:

- ☐ Select a Region.
- ☐ Select countries in that region.
- ☐ Function Mode:
  1. Trigger: read after shorting aux. IN
  2. Freeflow: always reading
  3. Motion: read motion detection ON:
    1. Applied by camera
    2. Applied by software
- ☐ Trigger configuration:
  1. Select IN port: 0 or 1
  2. Number of pictures to be processed
  3. Time to be processed

The screenshot shows the ZKTeco LPR configuration web interface. At the top, there's a navigation bar with buttons: Live, Playback, File, Setup, Log, Alarm, FaceFace, and LPR (highlighted in green). Below this is a sidebar menu with options: Main, Lists, Setup (highlighted in green), Evidence, LPR Main, Audit, and Debug. The main content area is titled 'Region:' and shows 'Europe' selected. Below this, 'Countries:' lists 'Spain', 'France', and 'Portugal' with 'X' icons to remove them. 'Function mode:' has three radio buttons: TRIGGER, FREEFLOW, and MOTIONDETECTION (selected). 'Resolution:' has two radio buttons: 1280x720 (selected) and 1920x1080. There are expandable sections: 'Show ROI', 'Show lanes (4922;5242;5242;10000)', 'Expert Options', and 'Trigger options' (expanded). Under 'Trigger options', 'Info:' shows a green button with a question mark. 'Trigger captures:' is set to 1. 'Trigger timeout (mills):' is set to 0. 'Trigger IO device:' has a checked checkbox for 'ZKTECO'. 'Trigger IO port:' has checked checkboxes for '0' and '1'. At the bottom, there's a 'FreeFlow/Motion options' section.



# 02 | Features

## Evidence

### Evidence Menu supports:

- ❑ Add standard IPC Cameras to collect snapshots triggered after processing license plate recognition.
- ❑ Http connection for evidence IPCs.
- ❑ LPR picture + surrounding ones

The screenshot displays the ZKTeco software interface. At the top, there is a navigation bar with buttons for Live, Playback, File, Setup, Log, Alarm, FaceFace, and LPR (highlighted in green). On the left side, a sidebar menu lists options: Main, Lists, Setup, Evidence (highlighted in green), LPR Main, Audit, and Debug. The main content area is titled 'Evidence cameras' and contains a table with two columns: ID and Name. The table has one row with ID '2' and Name 'camera external'. Below the table, there is a 'Details' section. It includes a 'Connection type:' dropdown set to 'HTTP', a 'Login' field with the value 'user', a 'Password:' field with the value 'password', and a 'Uri:' field with the value 'http://192.168.1.89/video.jpg'.

ID	Name
2	camera external

Details

Connection type: ☒ HTTP

Login: user

Password: password

Uri: http://192.168.1.89/video.jpg

Copyright 2019





# 02

## Features

General configuration

### LPR Main configuration supports:

- ❑ Purge service for automatically deletion of Database registers.
- ❑ Purge handled by number of register or free space (SD card/camera)
- ❑ Logs service for technical support
- ❑ Maintenance options:
  1. Uploading license
  2. Upgrade versions
  3. Show current info

The screenshot shows the ZKTeco LPR Main configuration interface. The top navigation bar includes buttons for Live, Playback, File, Setup, Log, Alarm, FaceFace, and LPR (which is highlighted). The left sidebar contains a menu with options: Main, Lists, Setup, Evidence, LPR Main (highlighted), Audit, and Debug. The main content area is titled 'LPR Main' and contains several configuration sections:

- Expert Options**
- Log options**
- Purge options**
  - Purge Interval:** MINUTE (selected), HOUR, DAY, WEEK, MONTH
  - Type of purge database:** DISABLED, DAYS, NUMREGISTERS, FREESPACE (selected)
  - Delete database before (days):** 60
  - Delete database before (registers):** 15000
  - Delete files before (days):** 30
  - Delete files before (registers):** 5000
  - Delete files and DB on SD below (tpc):** 50
  - Delete files and DB on CAMERA below (tpc):** 9
- Maintenance Options**



## 03 Scenarios & Markets





## Private estates/Residential Condominiums –

A safe parking situation can be achieved at multifamily communities. Control unauthorized Vehicles and guest parking for the most effective residential parking enforcement



## Gas Stations -

Solution to combat fuel drive-offs as well as grow recurring business through identifying high value customers such as truck and trade operators.





The ZKTeco logo is displayed in a stylized font, with 'ZKT' in grey and 'eco' in green. It is positioned within a white circular graphic element on the left side of the image.


ZKTeco

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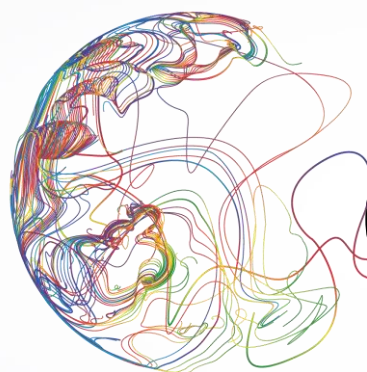
### All types of public parking lots – Shopping Centers, Hospitals, Airports

Thanks to blacklist with registered license plates of vehicles that, for certain reasons, should be turned away at the entrance.

Enjoy from automatization of vehicle access for employees, suppliers, customers and visitors with the possibility of controlling access per driver vehicle and audit and report.

The background image shows the entrance to Lincoln Center. A blue overhead structure features the text 'Welcome to Lincoln Center' in white. A red SUV is driving through the entrance, and yellow bollards line the sides of the road. The scene is captured from a low angle, looking down the entrance.

Welcome to Lincoln Center



## 04 Active countries



# 04 | Active Countries

## Part 1 - Europe



Plate	Code	Country	Plate	Code	Country
LOC_CODE_ESP	101	Spain	LOC_CODE_NOR	117	Norway
LOC_CODE_PRT	102	Portugal	LOC_CODE_DNK	118	Denmark
LOC_CODE_FRA	103	France	LOC_CODE_SWE	119	Sweden
LOC_CODE_ITA	104	Italy	LOC_CODE_FIN	120	Finland
LOC_CODE_GBR	105	United Kingdom	LOC_CODE_GBZ	121	Gibraltar
LOC_CODE_GRC	106	Greece	LOC_CODE_CHE	122	Switzerland
LOC_CODE_IRL	107	Ireland (ROI)	LOC_CODE_AUT	124	Austria
LOC_CODE_DEU	108	Germany	LOC_CODE_SVN	127	Slovenia
LOC_CODE_AND	109	Andorra	LOC_CODE_HUN	128	Hungary
LOC_CODE_POL	110	Poland	LOC_CODE_CZE	129	Czech Republic
LOC_CODE_BGR	111	Bulgaria	LOC_CODE_BLR	130	Belarus
LOC_CODE_NLD	112	Netherlands	LOC_CODE_UKR	131	Ukraine
LOC_CODE_EST	113	Estonia	LOC_CODE_HRV	132	Croatia
LOC_CODE_BIH	114	Bosnia & Herzegovina	LOC_CODE_LTU	133	Lithuania
LOC_CODE_ROU	115	Romania	LOC_CODE_LVA	134	Latvia
LOC_CODE_BEL	116	Belgium			



# 04 Active Countries

## Part 2 - SouthAmerica



Plate	Code	Country	Plate	Code	Country
LOC_CODE_CHL	201	Chile	LOC_CODE_GTM	212	Guatemala
LOC_CODE_COL	202	Colombia	LOC_CODE_PAN	215	Panama
LOC_CODE_BRA	203	Brazil	LOC_CODE_PRY	216	Paraguay
LOC_CODE_ARG	204	Argentina	LOC_CODE_CRI	217	Costa Rica
LOC_CODE_MEX	205	Mexico	LOC_CODE_DOM	218	Dominican Republic
LOC_CODE_ECU	206	Ecuador	LOC_CODE_HND	219	Honduras
LOC_CODE_VEN	207	Venezuela	LOC_CODE_NIC	220	Nicaragua
LOC_CODE_PER	208	Peru	LOC_CODE_BMU	221	Bermuda
LOC_CODE_SLV	209	El Salvador	LOC_CODE_TTO	222	Trinidad and Tobago
LOC_CODE_BOL	210	Bolivia	LOC_CODE_BRB	223	Barbados
LOC_CODE_URY	211	Uruguay	LOC_CODE_JAM	224	Jamaica





# 04 Active Countries

## Part 3 – North America



Plate	Code	Country	Plate	Code	Country
LOC_CODE_USA_WA	501	Washington (USA)	LOC_CODE_USA_KY	527	Kentucky (USA)
LOC_CODE_USA_FL	502	Florida (USA)	LOC_CODE_USA_ND	528	North Dakota (USA)
LOC_CODE_USA_MS	503	Mississippi (USA)	LOC_CODE_USA_OH	529	Ohio (USA)
LOC_CODE_USA_NY	504	New York (USA)	LOC_CODE_USA_CO	530	Colorado (USA)
LOC_CODE_USA_TX	505	Texas (USA)	LOC_CODE_USA_AZ	531	Arizona (USA)
LOC_CODE_USA_MA	506	Massachusetts (USA)	LOC_CODE_USA_UT	532	Utah (USA)
LOC_CODE_USA_IL	507	Illinois (USA)	LOC_CODE_USA_WV	533	West Virginia (USA)
LOC_CODE_USA_CA	508	California (USA)	LOC_CODE_USA_CT	534	Connecticut (USA)
LOC_CODE_USA_OK	509	Oklahoma (USA)	LOC_CODE_USA_HI	535	Hawaii (USA)
LOC_CODE_USA_LA	510	Louisiana (USA)	LOC_CODE_USA_IA	536	Iowa (USA)
LOC_CODE_USA_NM	511	New Mexico (USA)	LOC_CODE_USA_KS	537	Kansas (USA)
LOC_CODE_USA_AR	512	Arkansas (USA)	LOC_CODE_USA_SC	538	South Carolina (USA)
LOC_CODE_USA_NJ	513	New Jersey (USA)	LOC_CODE_USA_OR	539	Oregon (USA)
LOC_CODE_USA_DC	514	District of Columbia (USA)	LOC_CODE_USA_MT	540	Montana (USA)
LOC_CODE_USA_IN	515	Indiana (USA)	LOC_CODE_USA_AL	541	Alabama (USA)
LOC_CODE_USA_ME	516	Maine (USA)	LOC_CODE_USA_TN	542	Tennessee (USA)
LOC_CODE_USA_NE	517	Nebraska (USA)	LOC_CODE_USA_RI	543	Rhode Island (USA)
LOC_CODE_USA_MO	518	Missouri (USA)	LOC_CODE_USA_NH	544	New Hampshire (USA)
LOC_CODE_USA_NV	519	Nevada (USA)	LOC_CODE_USA_DE	545	Delaware (USA)
LOC_CODE_USA_MI	520	Michigan (USA)	LOC_CODE_USA_VT	546	Vermont (USA)
LOC_CODE_USA_VA	521	Virginia (USA)	LOC_CODE_USA_WI	547	Wisconsin (USA)
LOC_CODE_USA_NC	522	North Carolina (USA)	LOC_CODE_USA_SD	548	South Dakota (USA)
LOC_CODE_USA_GA	523	Georgia (USA)	LOC_CODE_USA_MD	549	Maryland (USA)
LOC_CODE_USA_PA	524	Pennsylvania (USA)	LOC_CODE_USA_WY	550	Wyoming (USA)
LOC_CODE_USA_AK	525	Alaska (USA)	LOC_CODE_USA_ID	551	Idaho (USA)
LOC_CODE_USA_MN	526	Minnesota (USA)	LOC_CODE_CAN ;	561	Canada



# 04 Active Countries

## Part 4 - Asia



Plate	Code	Country	Plate	Code	Country
LOC_CODE_TUR	302	Turkey	LOC_CODE_IND	312	India
LOC_CODE_VNM	303	Vietnam	LOC_CODE_TWN	313	Taiwan
LOC_CODE_IDN	304	Indonesia	LOC_CODE_BHR	314	Bahrain
LOC_CODE_PHL	305	Philippines	LOC_CODE_UAE_AD	315	Abu Dhabi
LOC_CODE_MYS	306	Malaysia	LOC_CODE_UAE_DB	316	Dubai
LOC_CODE_SGP	307	Singapore	LOC_CODE_AZE	322	Azerbaijan
LOC_CODE_ISR	308	Israel	LOC_CODE_KWT	323	Kuwait
LOC_CODE_LBN	309	Lebanon	LOC_CODE_QAT	324	Qatar
LOC_CODE_HKG	310	HongKong	LOC_CODE_OMN	325	Oman



# 04 Active Countries

## Part 5 - Africa



Plate	Code	Country
LOC_CODE_ZAF	401	South Africa
LOC_CODE_MAR	402	Morocco
LOC_CODE_TUN	403	Tunisia
LOC_CODE_AGO	404	Angola
LOC_CODE_SEN	405	Senegal
LOC_CODE_NGA	406	Nigeria
LOC_CODE_UGA	407	Uganda
LOC_CODE_BFA	408	Burkina Faso
LOC_CODE_TZA	409	Tanzania
LOC_CODE_TZA	410	Kenya
LOC_CODE_BWA	411	Botswana
LOC_CODE_GHA	412	Ghana
LOC_CODE_CMR	413	Cameroon



## 04 Active Countries

### Part 6 - Australia



Plate	Code	Country
LOC_CODE_AU_NSW	602	New South Wales (Australia)
LOC_CODE_AU_QLD	603	Queensland (Australia)
LOC_CODE_AU_SA	604	South Australia (Australia)
LOC_CODE_AU_TAS	605	Tasmania (Australia)
LOC_CODE_AU_VIC	606	Victoria (Australia)
LOC_CODE_AU_WA	607	Western Australia (Australia)
LOC_CODE_AU_NT	608	Northern Territory (Australia)
LOC_CODE_NZL	615	New Zealand





# Thank You!

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