



ARTECO LPR APPLICATION

Connecting Arteco LPR to Hanwha Techwin NVR

Network Video Recorders manufactured by Hanwha Techwin Techwin can be used in order to record and manage a plate archive.

To do so, you have to configure the camera with Arteco LPR app installed in the Hanwha Techwin NVR and follow the steps below described.

NVR configuration

After configuring the camera in the NVR, it is required to set a plate text “listener” for that camera. In the NVR menu go to Setup → Device → Text → Device and configure the fields surrounded by red as pointed out below.

No.	Device	Use check	CH	Port	Encoding type
1	Plate Lab	Use	CH 1	7001	US-ASCII
2	Plate Gr	Use	CH 2	7002	US-ASCII
3	TEXT 03	Not Use	None	7003	US-ASCII
4	TEXT 04	Not Use	None	7004	US-ASCII
5	TEXT 05	Not Use	None	7005	US-ASCII
6	TEXT 06	Not Use	None	7006	US-ASCII
7	TEXT 07	Not Use	None	7007	US-ASCII
8	TEXT 08	Not Use	None	7008	US-ASCII
9	TEXT 09	Not Use	None	7009	US-ASCII
10	TEXT 10	Not Use	None	7010	US-ASCII
11	TEXT 11	Not Use	None	7011	US-ASCII
12	TEXT 12	Not Use	None	7012	US-ASCII
13	TEXT 13	Not Use	None	7013	US-ASCII
14	TEXT 14	Not Use	None	7014	US-ASCII
15	TEXT 15	Not Use	None	7015	US-ASCII
16	TEXT 16	Not Use	None	7016	US-ASCII

Set a name for the Device and select “Use check” = Use. Take note of the related port for that camera in the column “Port” (in the example above, the port is 7002).

Clicking on table row, a new configuration page will be opened in order to set the parameters of plate information accepted by the NVR. In the interface of picture below the camera has name “Plate Gr” and the check “Use of a device” = Use.



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This interface displays the NVR incoming port ("7002" for camera #2) and the information "Encoding type" = US-ASCII. This information has a starting character = "!" and ending character = "#" that must be configured as described below.

Modify the text device

No. 2

Device Name

Use of a device Use Not Use

CH All CHs

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Port

Encoding type

Start

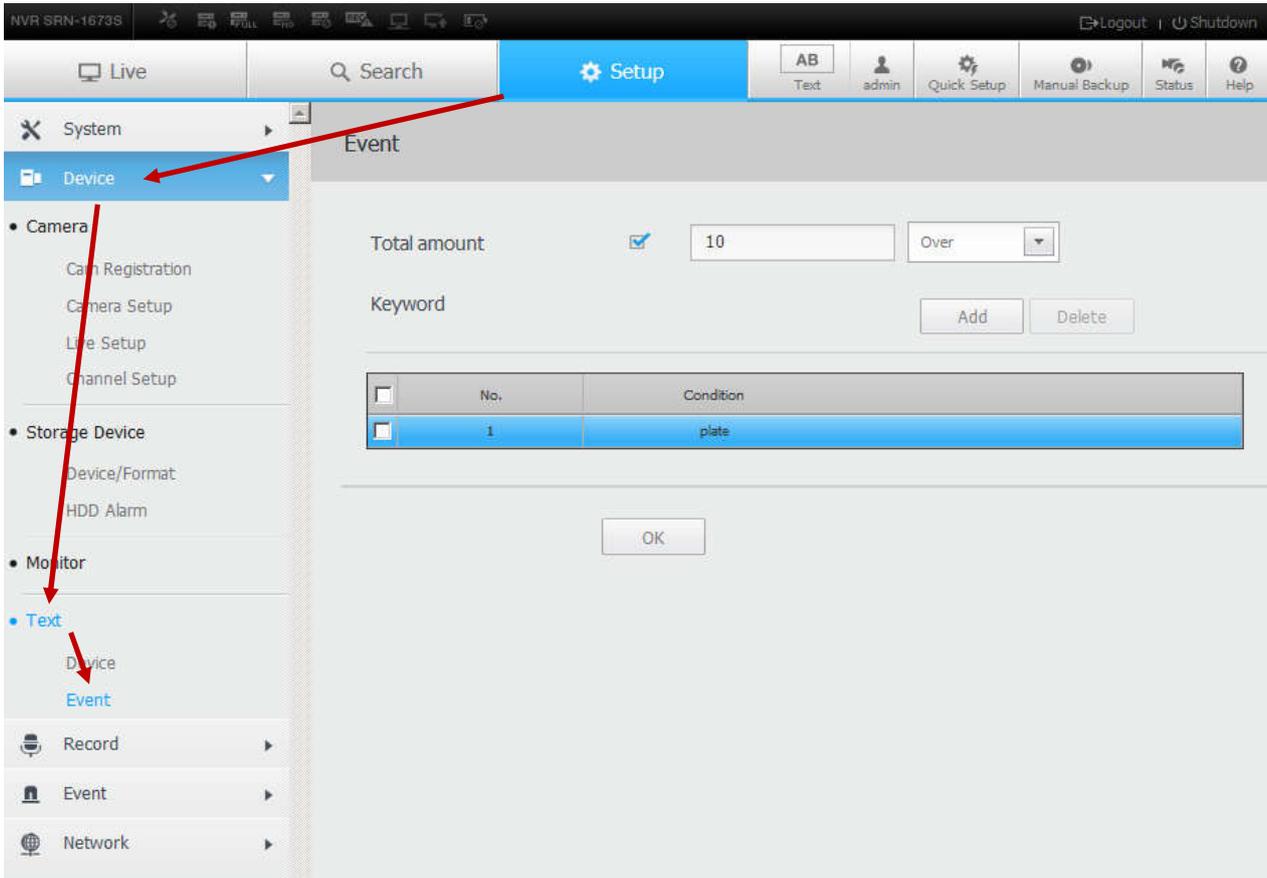
End

Click on "OK" in order to save these settings.

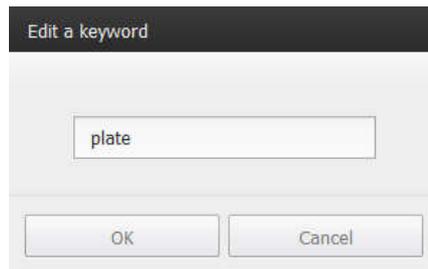
Now, in order to setup NVR for plate queries, go to Setup → Device → Text → Event, click on camera row displayed in the image below:



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A new window will open and you will be allowed to define the keyword to be used for plate queries. As example we suggest to use “plate” as in the picture below:



For both pages click on “OK” in order to save these settings.



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In order to set a proper pre-event timing go to Setup → Device → Record → Record Setup → NVR and set the Pre-event time = 10 sec as in the picture below. Doing so the NVR will begin to play the video recordings related to a plate query, right before the plate will enter in the camera field of view.

The screenshot shows the 'Setup' menu in the Arteco LPR application. The 'Record' menu is expanded, showing 'Recording Schedule', 'Record Setup', 'NVR', and 'Camera'. The 'Record Setup' menu is further expanded to show 'NVR'. The 'NVR' configuration page is displayed, showing a table of recording settings for 14 channels. The 'Pre' event time for channel 5 is set to '10 sec', which is highlighted with a red box. A red arrow points from the 'Setup' button to the 'Record' menu, and another red arrow points from the 'Record' menu to the 'Record Setup' menu.

Total Bitrate (Limit/Max) : 396.8 / 400.0 Mbps Apply to CH

CH	Standard	Event	Frame		Limit	Event		Audio
			FULL	KEY		Pre	Post	
1	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
2	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
3	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
4	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
5	FULL	FULL	-	-	6.2 M	10 sec	1 min	ON
6	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
7	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
8	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
9	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
10	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
11	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
12	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
13	FULL	FULL	-	-	6.2 M	OFF	1 min	ON
14	FULL	FULL	-	-	6.2 M	OFF	1 min	ON



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ARTECO LPR configuration on Hanwha Techwin cameras

In order to enable the APP to send events to NVR, you have to go in the menu Setup → Event action setup and enable TCP for “Plate detected” event in order to receive all the plates read in the NVR.

The screenshot displays the ARTECO LPR application interface. The left sidebar shows the navigation menu with 'Setup' selected. The main content area is titled 'Event action setup' and contains a table of event types and their configurations. The 'TCP' row is highlighted with a red circle. Below the table, there are settings for 'Event filter', 'Filter management', 'Match accuracy', and 'Email'. At the bottom, the 'TCP' section is expanded, showing the 'Protocol' set to 'Samsung NVR' and the 'Address / port' set to '192.168.10.77 : 7002', both of which are circled in red. An 'Apply' button is located at the bottom right of the configuration area.

Type	Disabled	Plate detected	List match	List no match
> FTP	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
> Mail	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
> TCP	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
> Open gate	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Settings

Event filter Filter consecutives matches of same plate

Filter management Reset filter after 0 seconds

Match accuracy Allow maximum mismatch chars 0

Email Maximum 1 emails every 3 minutes

TCP

Protocol Samsung NVR

Address / port 192.168.10.77 : 7002

Apply

Also set in TCP menu the “Hanwha Techwin NVR” protocol and set the same port provided from NVR in the page Setup → Device → Text → Device.

After changing parameters click on “Apply” and confirm the changes.



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NVR live display

When all previous settings are done, you will be able to receive plate readings in the Live display page of Hanwha Techwin NVR by enabling the “Text AB” menu as in the picture below.

In order to select which device plates you want to display, just click on the appropriate checks of “Text” menu as pointed out in the image below in the top right column.

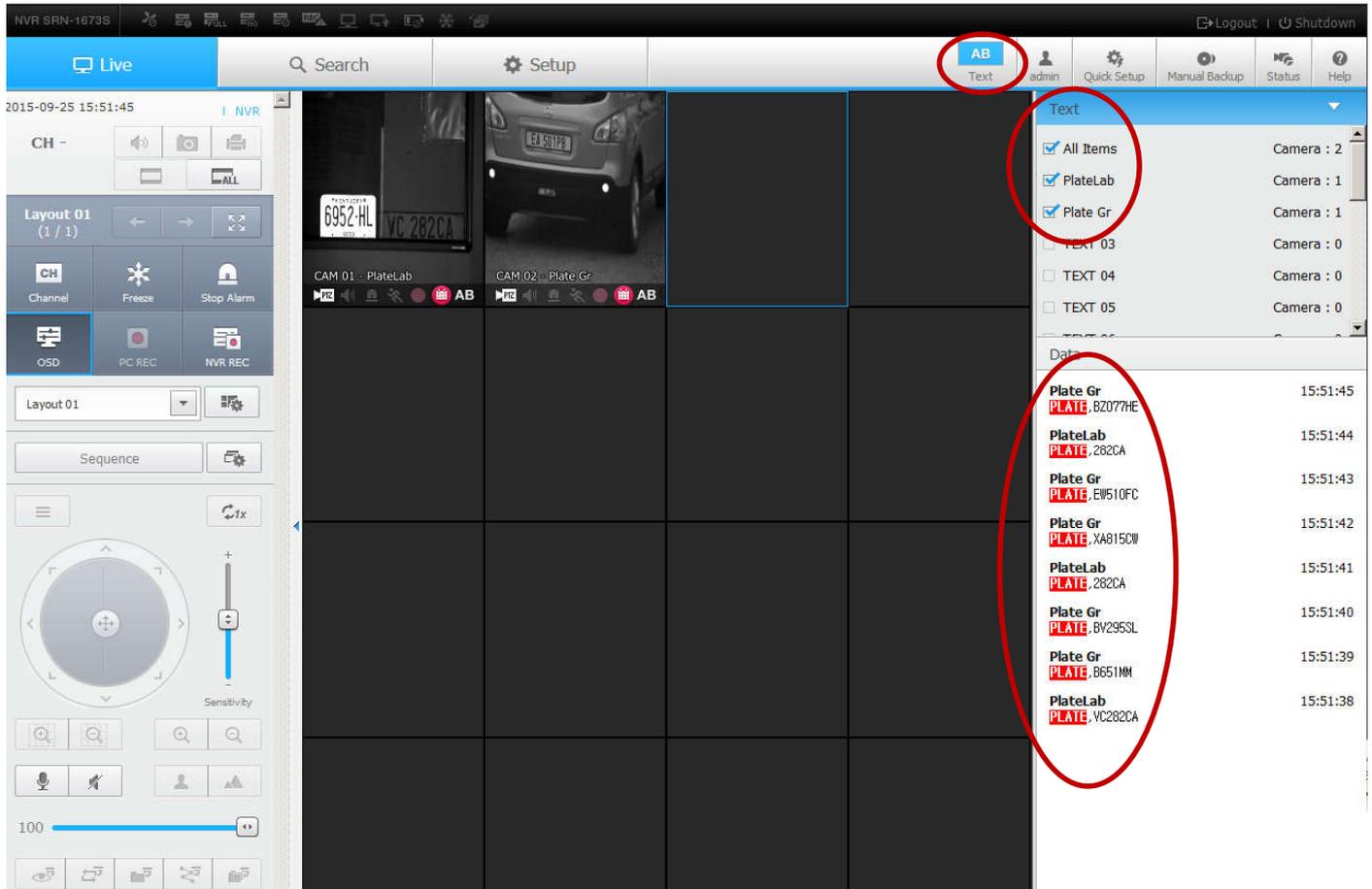


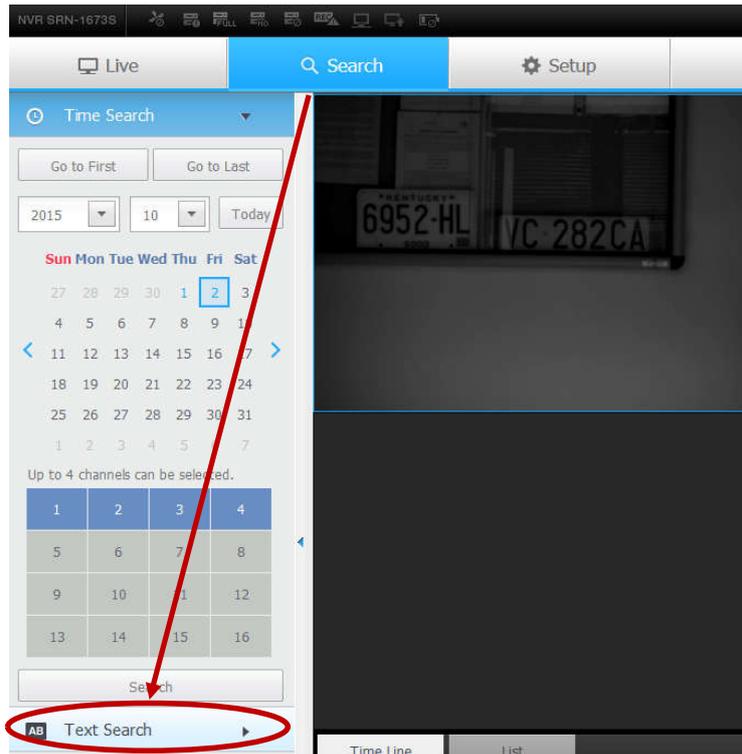
Plate data will flow and scroll in the right column, as the camera will send them to the NVR.



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NVR plate search queries

In order to retrieve a recorded plate, you need to know at least a part of the plate, "DE" for instance, and the NVR will return all plates fully or partially matching that string "DE", allowing you to play the related recorded video. Go to menu Search → Text Search and click on "Text Search" as pointed in picture below:



A new interface will open and you will be able to type the string of the plate you want to retrieve as represented in the image below.

Clicking on "Search" will query the plate to the NVR database that will return the list of plates partially or fully matching the string, as shown below.



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The screenshot displays the Arteco LPR application interface. The top navigation bar includes 'Live', 'Search', 'Setup', and 'AB'. The left sidebar contains search filters: 'Time Search', 'Text Search' (selected), and 'Event Keyword'. The 'Text Search' section has a search condition field containing 'de', which is circled in red. Below it are checkboxes for 'Case Sensitive' and 'Whole Word'. A 'Search' button is also present. The main area shows a video feed of a car with a license plate 'DE-...VL'. The right sidebar displays 'Data' for 'Plate Gr' with a timestamp of 14:29:31. At the bottom, a 'Text item' table shows search results, with the 'de' keyword in the third row circled in red. The table has columns for No., Device, CH, Time, and Keyword.

No.	Device	CH	Time	Keyword
14	Plate Gr	2	2015/9/25 14:46:20	de
15	Plate Gr	2	2015/9/25 14:46:19	de
16	Plate Gr	2	2015/9/25 14:29:31	de
17	Plate Gr	2	2015/9/25 13:54:41	de