SmartWitness CRX

Device Configuration Guide

SMARTWITNESS

This is Video Telematics.

CRX Setup and Configuration

1. Download the CRX configuration tool
2. Install and open the configuration tool:
    1. Insert SD Card into your PC (Max 128GB SD card supported).
    2. Click 'Initialize SD Card'
    3. Select the SD card from File Explorer.
    4. Click "Start" to initialize.
3. Apply your desired settings (or click "Open" to load existing settings).
4. Click "Save" to apply to SD card.
5. Eject Card safely from your PC.

CLICK HERE FOR VIDEO DEMONSTRATION

*SD cards can also be removed from the CRX to review video and data. For this, the SmartWitness PC viewer software is required which you can download here or visit Support.smartwitness.com

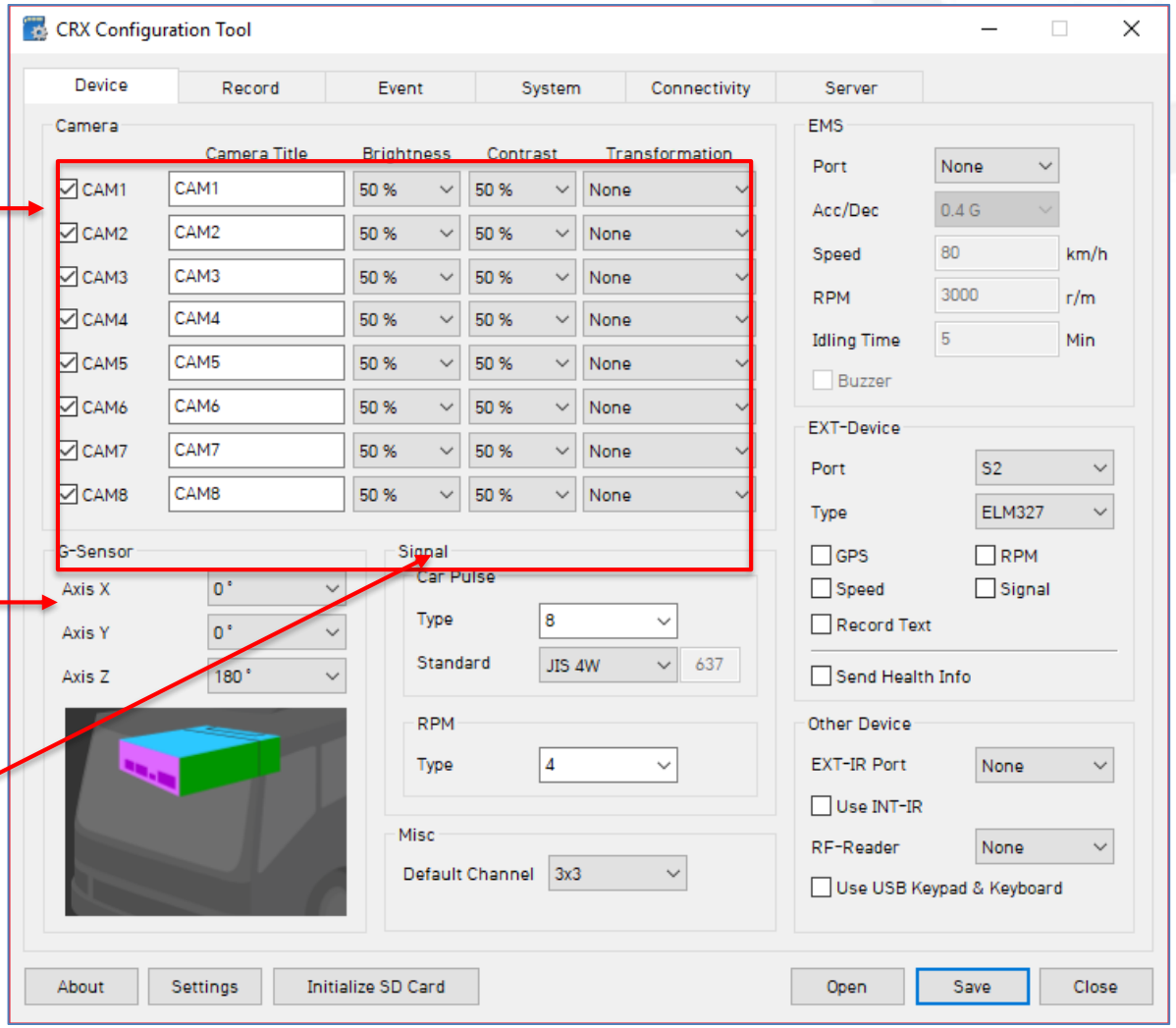
Device Tab - Main

Camera
- Enable the desired camera channels.
- Camera tittle holds up to 10 digits.
- Adjust brightness & contrast levels.
- Specify image transformation as desired (Flip, Mirror, or both).

Misc.
Default Channel: specifies default video output channel

Signal & RPM(Optional)
These are optional input wires on the CRX I/O harness which can connect to tachometer's to receive the vehicle RPM and/or speed.

G-Sensor Axis
Set the CRX's installed position. This is Important for proper G-Sensor calibration and accurate drive data reporting.



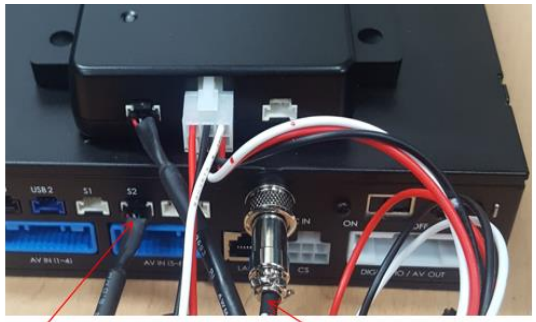
Device Tab - External

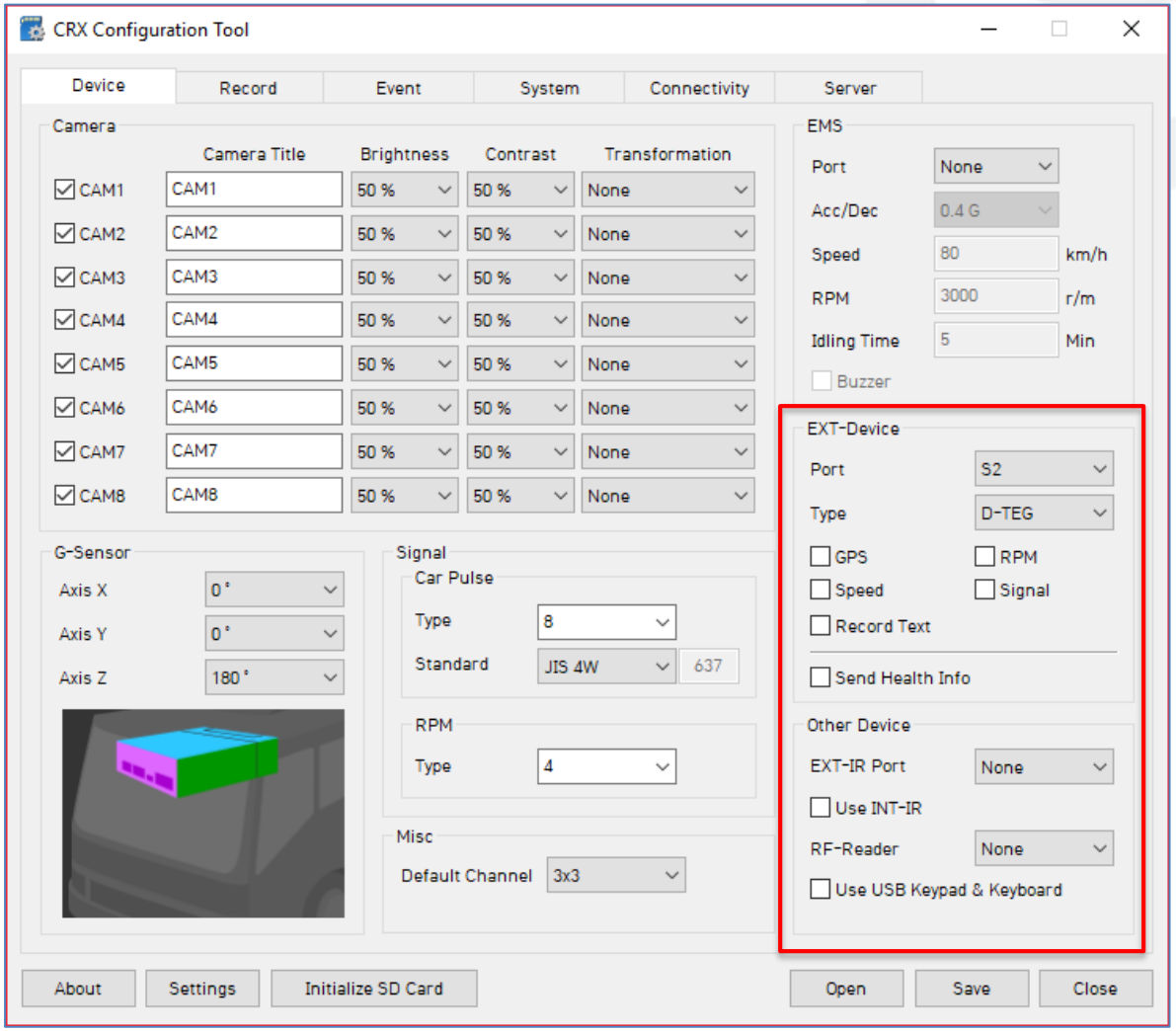
External Devices (Optional)

Used to enable the serial ports in order to connect an external device (such as Battery Backup device, RFID reader, and OBD reader).

- Select from S1~S6
- Choose port type D-TEG/ATBS/ELM327 or OMNICOMM.

If using the BB900 backup battery device, you should set the S2 port as seen in the picture to the right (picture below of BB900 connected to CRX)





Record Tab

Channel

Resolution: chose from CIF, HD1, D1, WD1, HD (720p) or FHD (1080p). If using 1080p camera, it will occupy two channels (i.e. 1080p in Ch1, then Ch2 is not usable
Frame Rate: Choose from 30, 15, 10, 5, 4, 3, 2, or 1.
Quality: Standard, High, or Super. (The lower the quality, the more compressed/lossy the video output).
Audio: enable for cameras with built in mic (Optional).

Record Modes

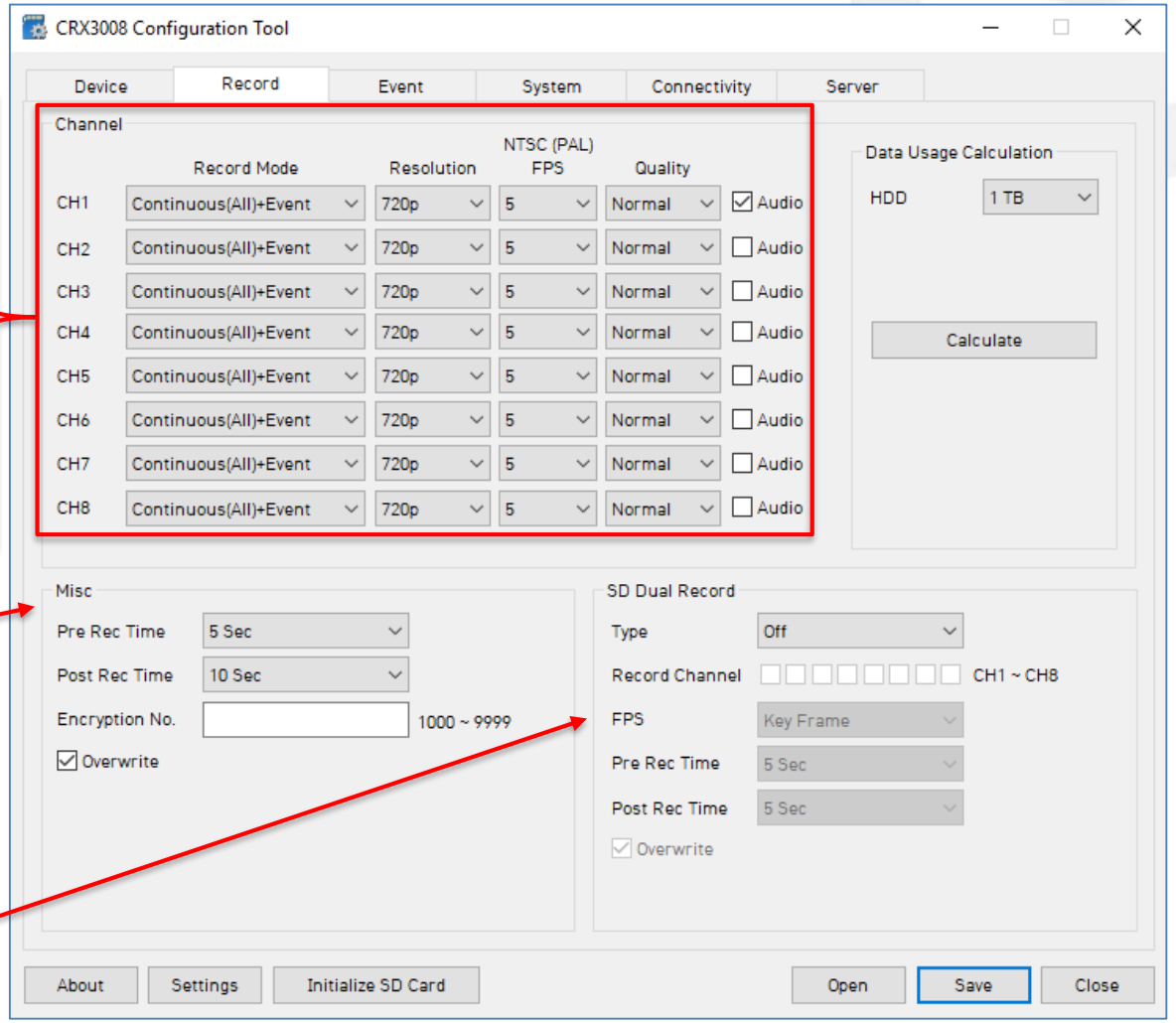
Event: Only events are recorded, event video duration determined by the pre & post event setting.
Continuous: Records video continuously, no events (events can still be sent to Smart API server if configured on the Server tab).
Dual Mode: Records continuous at 1FPS + events at the specified FPS.

Event Recording Duration Settings

Pre Rec-Time: to have a set of pre-recorded data for an event. Select from 0~5 seconds.
Post Rec-Time: to have a set of post-recorded data for an event. Select from 10~3600 seconds.

SD Dual Record: If SD card is connected to CRX, it can be used in the following ways:

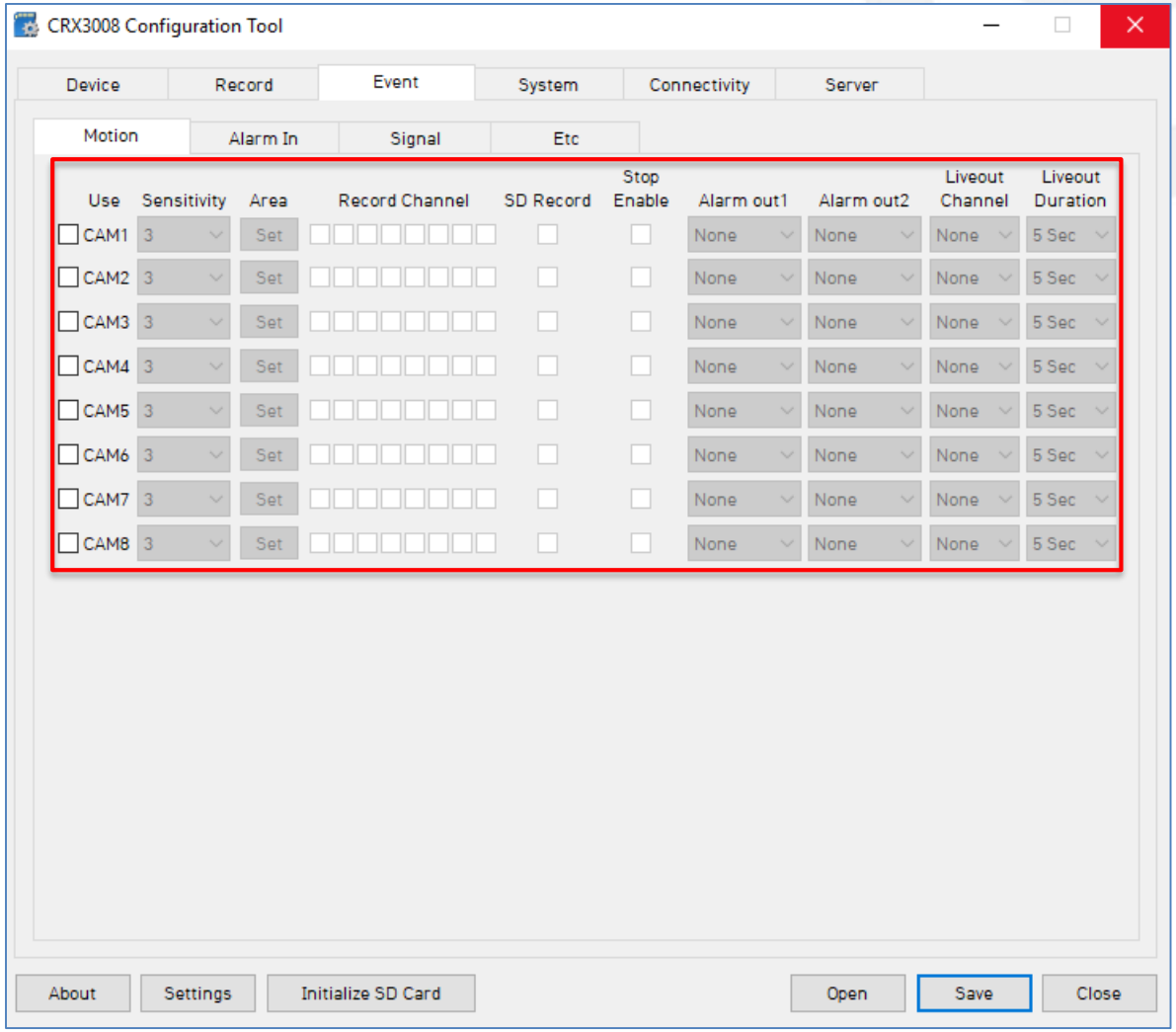
- **Off**: No data is being recorded (set if no SD card if being used)
- **Driving**: only driving data (DRV) is being recorded.
- **Event**: Only Event video is saved to the SD card
- **Continuous**: 1FPS footage of continuous footage is saved to the SD



Event Tab – Motion

Motion

- **Use**: enable the desired cameras to trigger motion.
- **Sensitivity**: adjust sensitivity level (“1” less sensitive ~ “5” more sensitive).
- **Area**: motion trigger area is set as the whole camera view by default, but it can be readjusted.
- **Record Channel**: enable the camera(s) to record when the motion sensor is being triggered.
  - The record channel boxes are CH 1~8 from left to right.
  - Only channels that are selected from ***Device*** tab can be selected.
- Enable SD card record (Optional).
- **Stop/Enable**: the motion trigger.
- Alarm Out1& Alarm Out2 can be enabled if needed.
- Specify the Liveout Channel (In case of having an LCD monitor) & liveout duration.



Event Tab – Alarm In

Alarm In

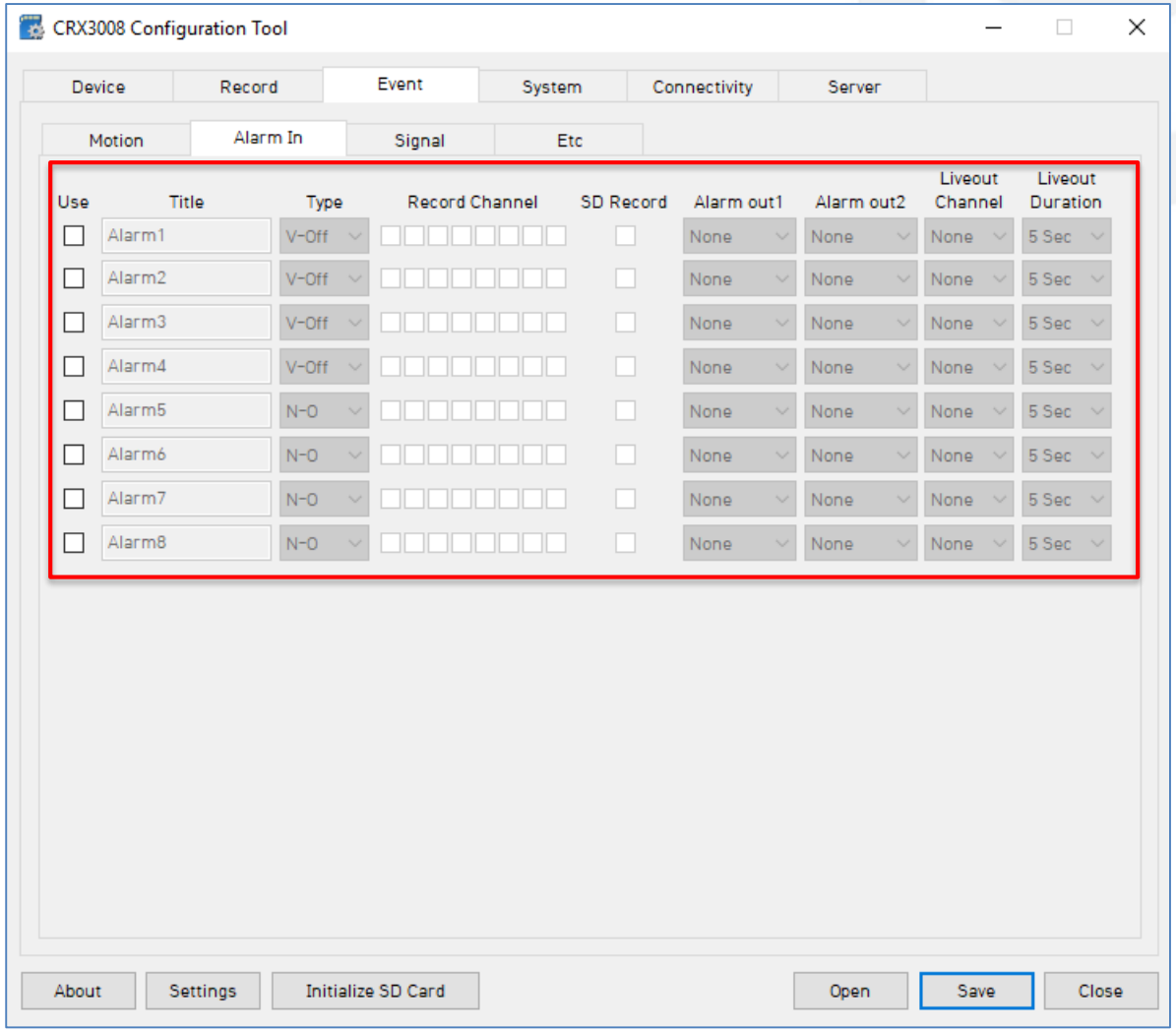
- **Use**: enable the boxes for the alarms that will be used.
- **Tittle**: provide a tittle up to 10 digits (Optional).
- **Type**: specify the voltage type.
  - Alarms (**1~4**) can be set to trigger when (Voltage-Off/Voltage-On).
  - Alarms (**5~7**) can be set to trigger (N-Open/N-Close).
  - *Note*: Panic alarm trigger must be connected to alarm "5".

- **Record Channel**: enable the camera(s) to record when the alarm is being triggered.
  - The record channel boxes are CH 1~8 from left to right.
  - Only channels that are selected from ***Device*** tab can be selected.

- Enable SD card record (Optional).

- Alarm Out1 & Alarm Out2 can be enabled if needed.

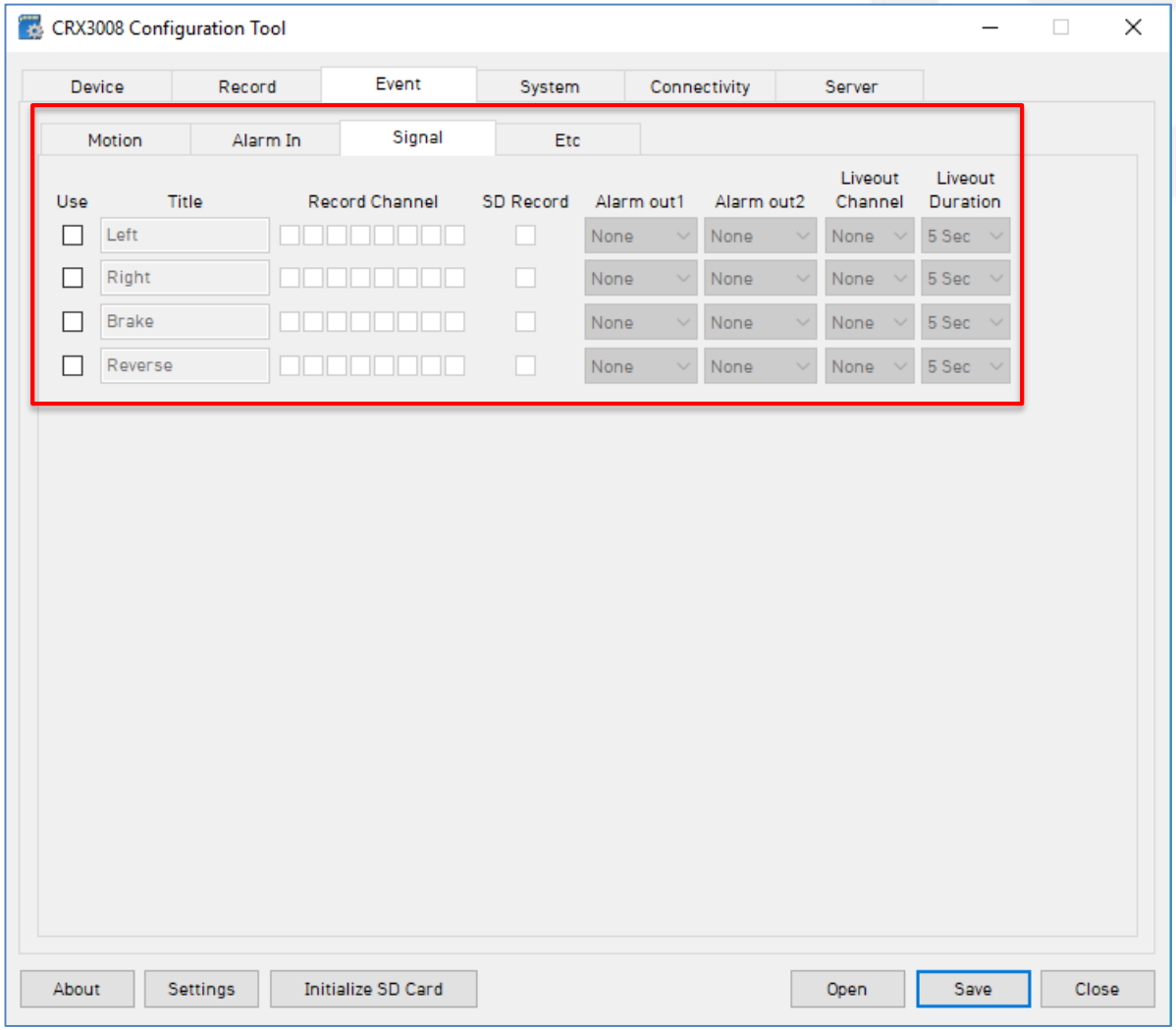
- Specify the Liveout Channel (In case of having an LCD monitor) & liveout duration.



Event Tab – Signal

Signal

- **Use**: enable the boxes for the alarms that will be used.
- **Tittle**: provide a tittle up to 10 digits (Optional).
- **Record Channel**: enable the camera(s) to record when the alarm is being triggered.
  - The record channel boxes are CH 1~8 from left to right.
  - Only channels that are selected from ***Device*** tab can be selected.
- Enable SD card record (Optional).
- Alarm Out1 & Alarm Out2 can be enabled if needed.
- Specify the Liveout Channel (In case of having an LCD monitor) & liveout duration.



Event – Etc.

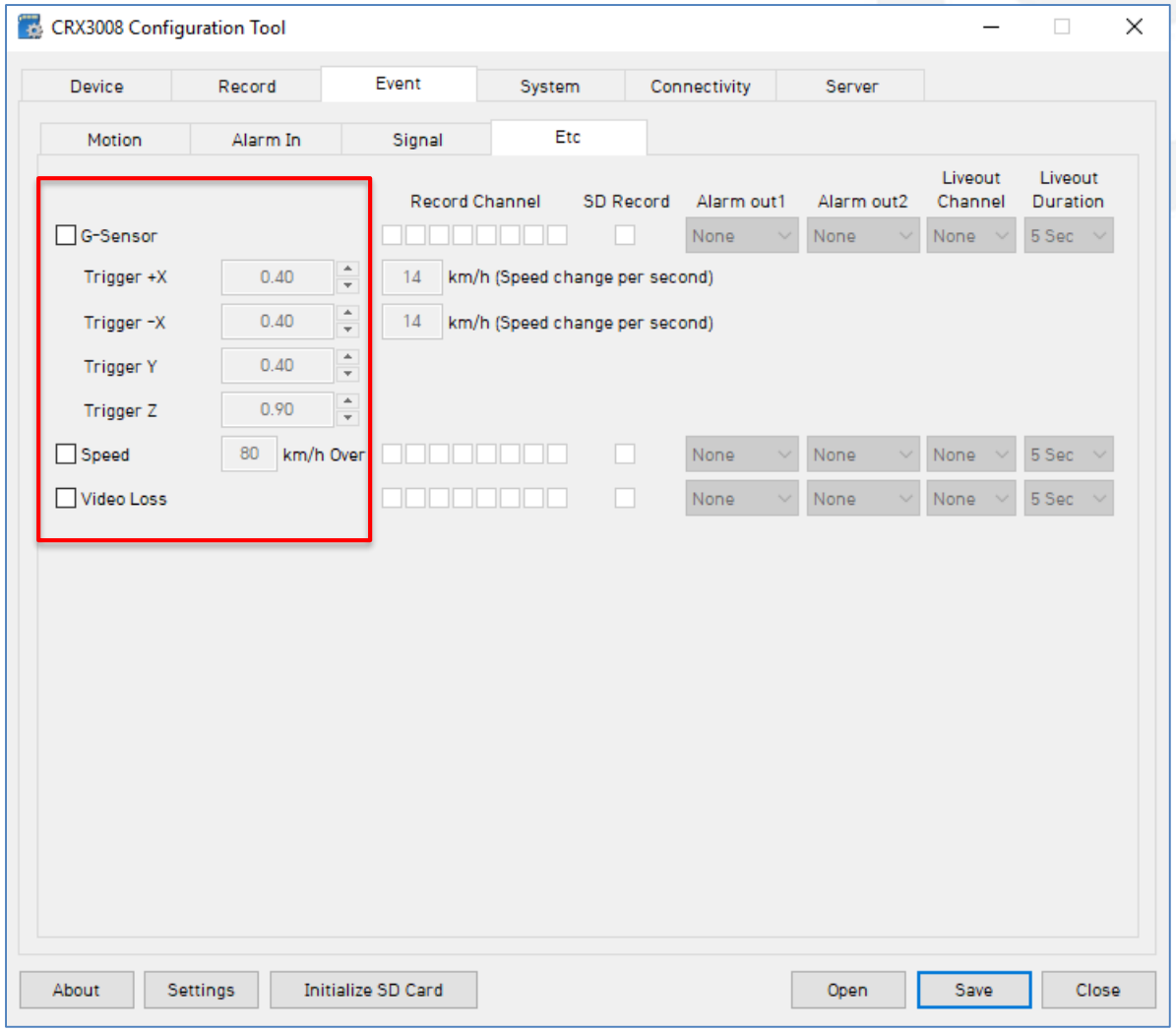
Check the boxes next to each event you want triggered.
You can also set speed thresholds here if you'd like to record over speed events. (This is raw vehicle speed and does not account for road/posted speed limits).

Check "Beep" if you'd like an audible chime to alert the driver when the event occurs.

Specify the G-Sensor values. An event will be triggered when the g-sensor exceeds the pre-set values.

If using the optional alarm input triggers then you need to check the box(s) here and label them according to the input type (i.e. horn, door open, etc.)

Also the input type should be selected (NC/NO, or 12V ON/OFF).

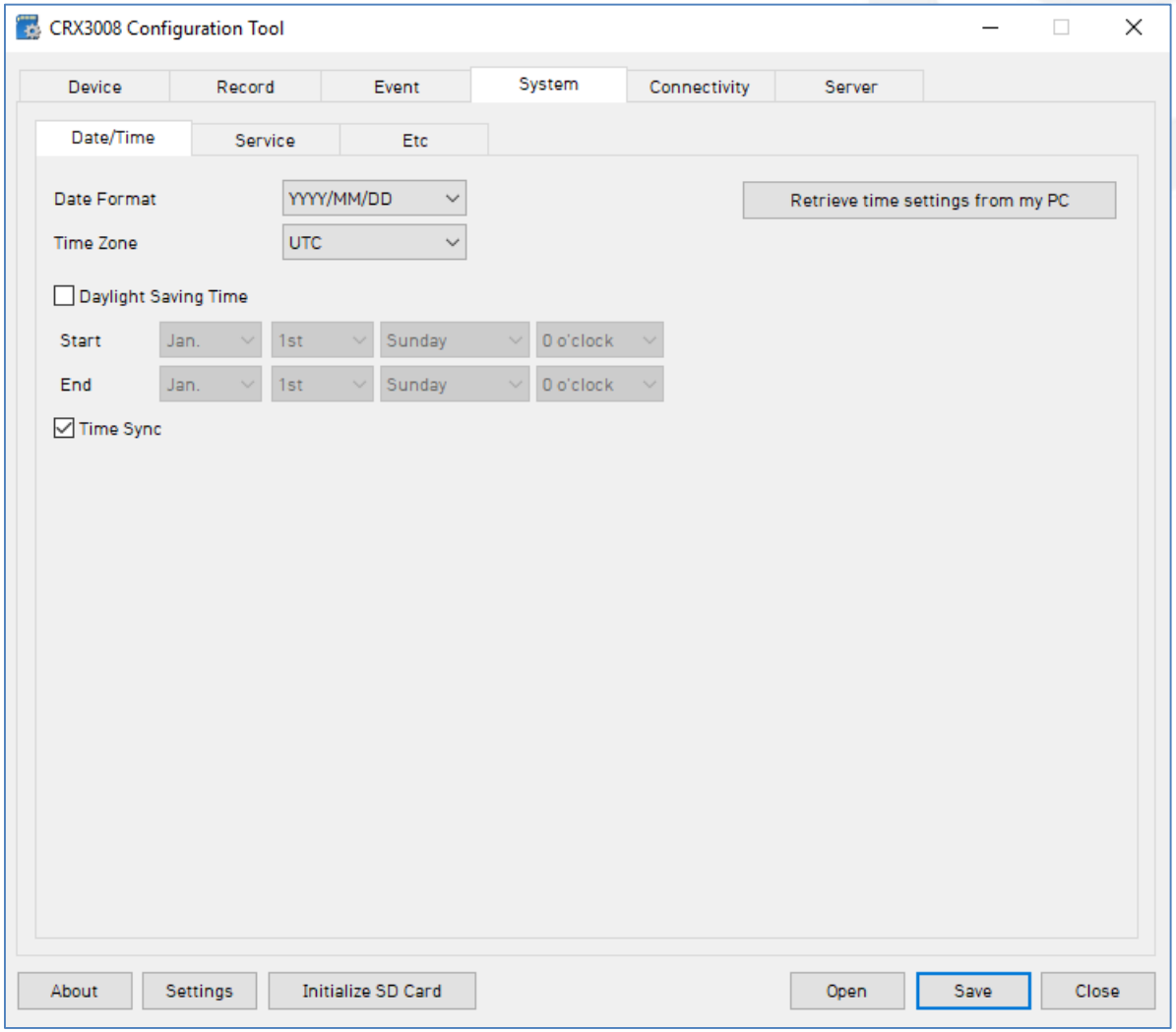


System Tab – Date/Time

Time setting is not necessary as the PC Viewer software and Smart API both adjust the standard UTC time to local time automatically.

DST (Optional)
Check the box to enable the daylight saving time.
Input the start & end date.

*DO NOT USE IF CRX IS CONNECTED TO SMART API



System Tab – Service

Service
- Default values are set as shown.
- Delay power shutdown can be adjusted as desired.

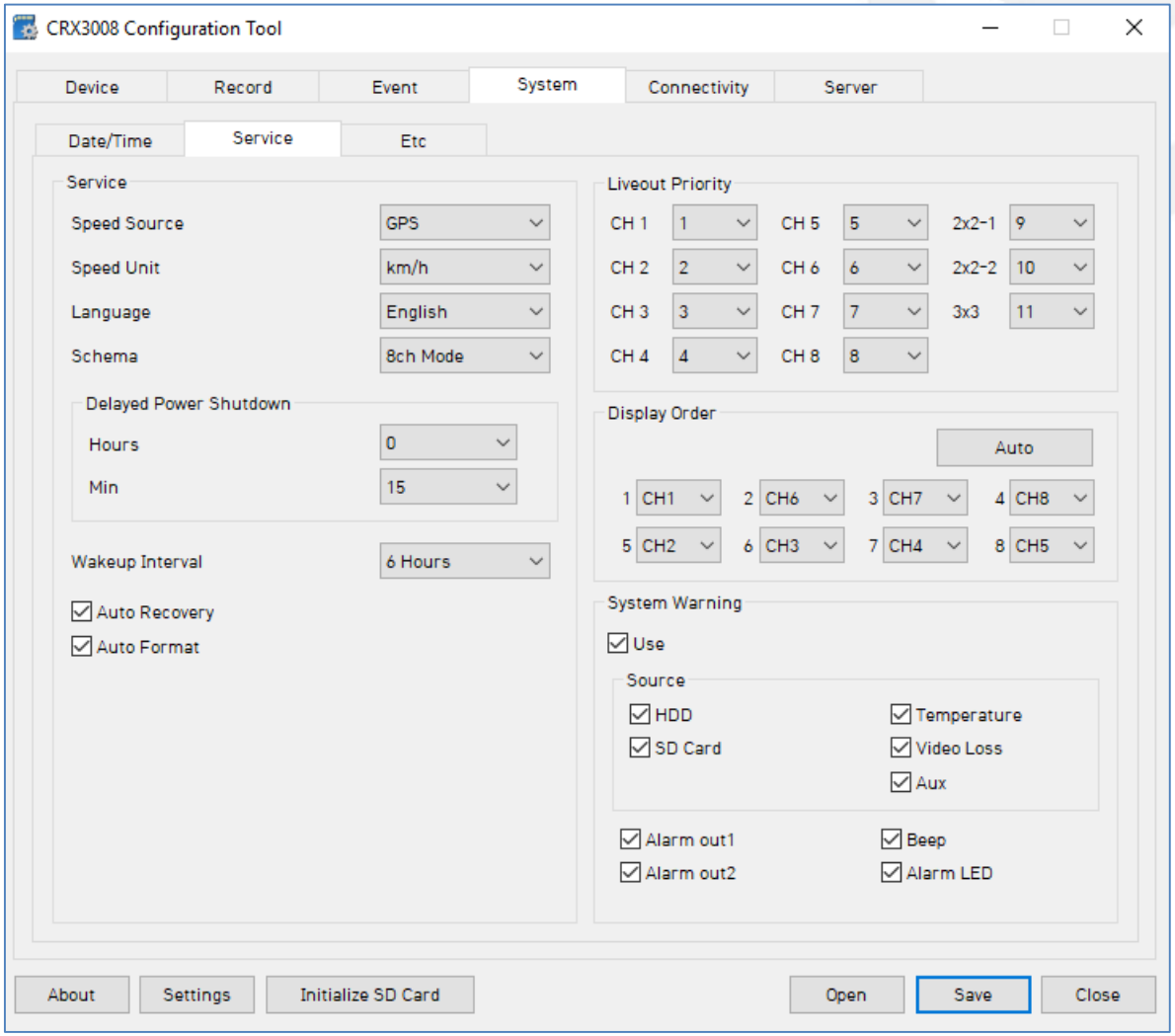
Liveout Priority
- Display on CRX can be prioritized from “1” highest priority ~ “11” lowest priority.

  Example Logic:
  If CH 2 & CH3 both triggered an event the same time, CH2 has the priority to display on the monitor.

System Warning
- Provides an alert for any of the selected sources in case of failure.

Display Order
- The order of cameras as they are displayed on the LCD monitor

1	2	3
4	5	6
7	8	



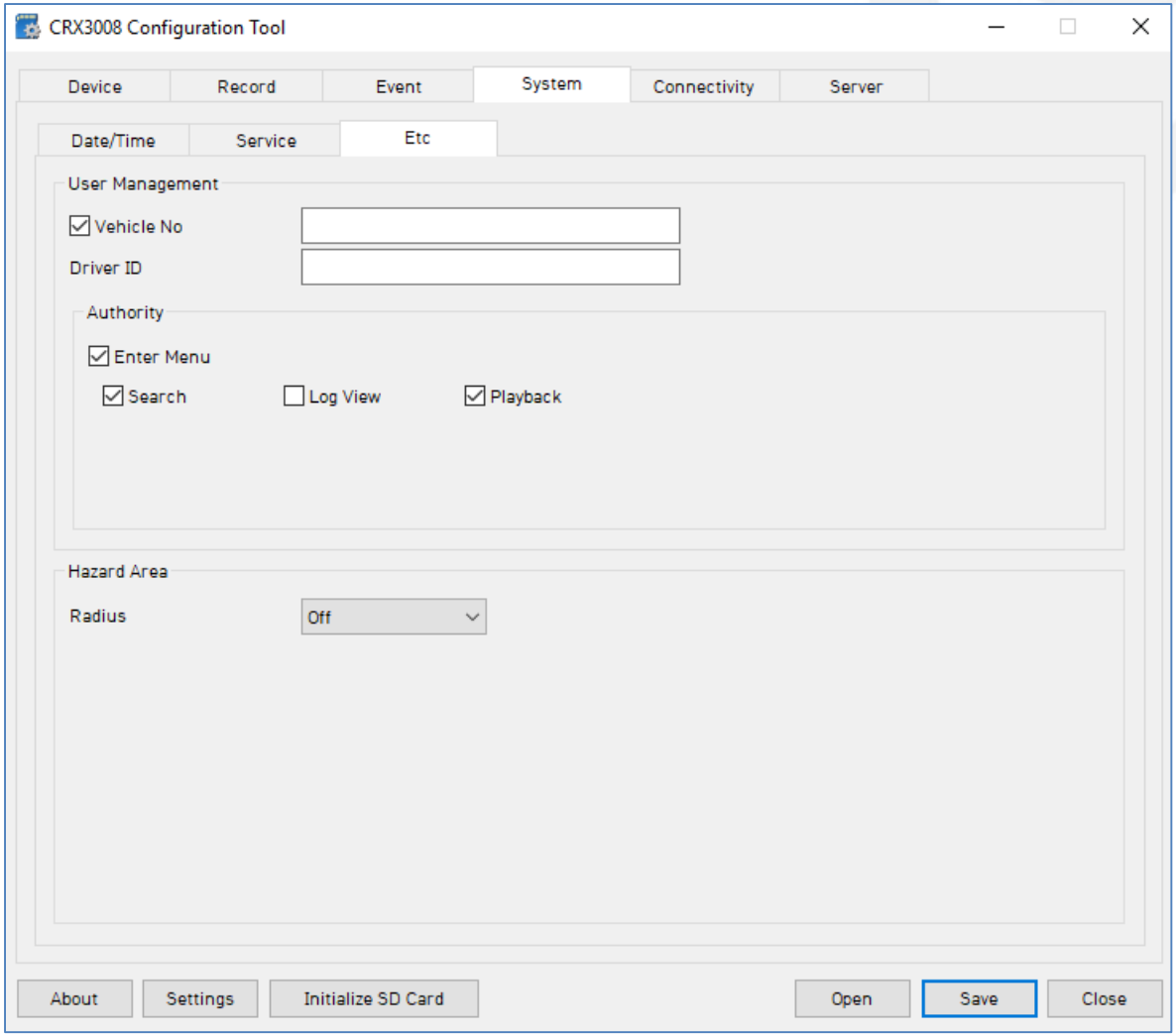
System Tab – Etc.

SD Card auto format feature enables the CRX to perform automatic maintenance on the SD cards when there is an issue. SD cards need to be re-formatted occasionally over time.

This unique feature reduces the administrative burden of managing SD card formatting amongst your fleet.

Note: SD card data will be deleted when an auto-format occurs.

Vehicle No & Driver ID can be added here. These values will be able to be watermarked on the MP4 converted video using the PC software.



Connectivity Tab

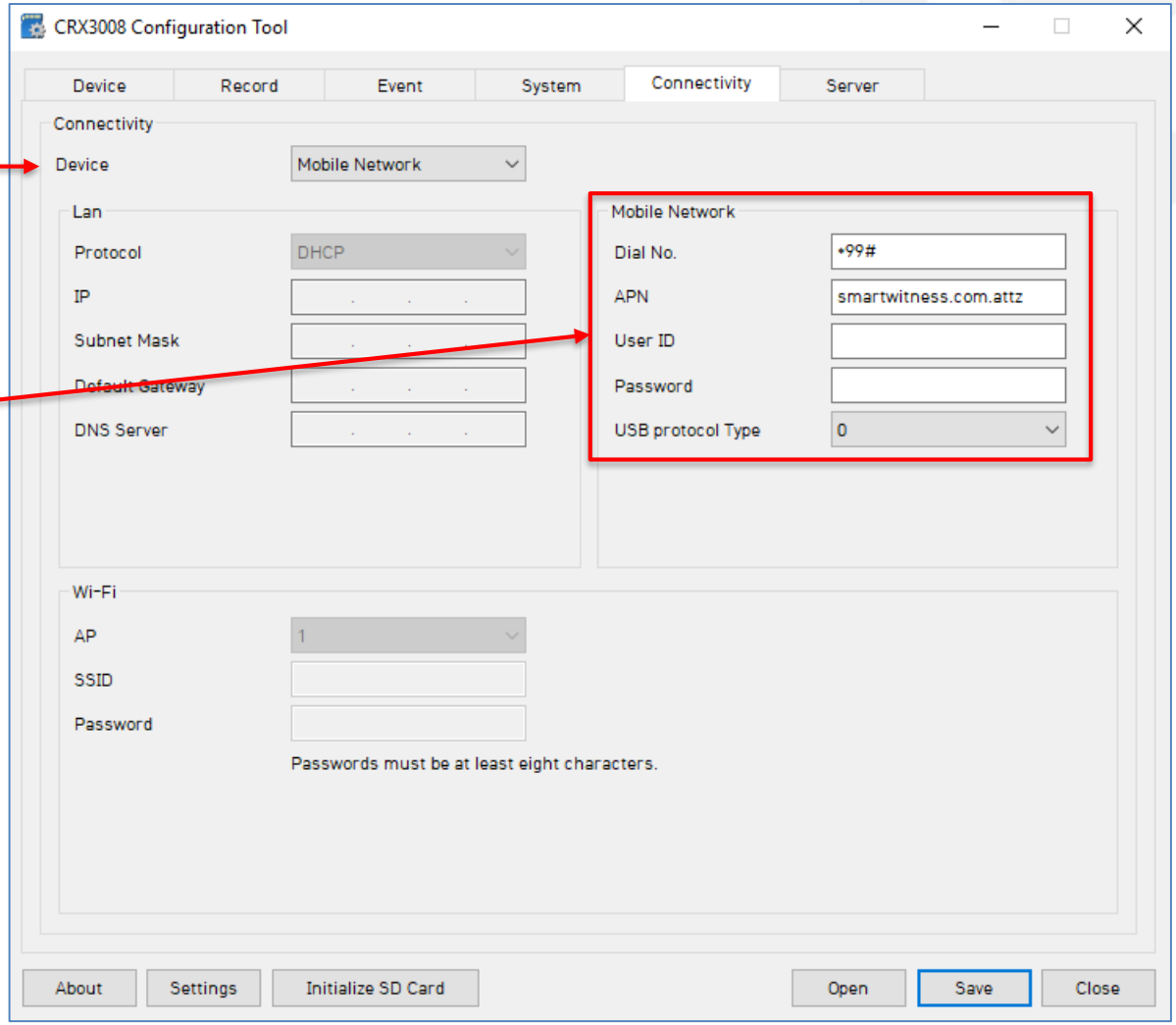
When using CRX as a connected device, “Enable” the connectivity here, and specify the connectivity type (LAN, Mobile Network or Wi-Fi).

If using Mobile Network (USB modem connected to blue USB1 port), you must add Mobile Network provider details here

If using SmartWitness SIM (AT&T), the APN should be as shown

If using SW UK (O2 Arkessa) below

•99#	
arkessa.com	
arkessa	
arkessa	
None	
0	



Server Tab

SmartWitness or your service provider will provide you the URL and (if necessary) the License Key to enter here.

Transmit Live Tracking Data: Check to enable http posts from the CRX to server. Livetrack2 contains GPS coordinates. LiveTrack3 does not.

Transmit Event Data: Check to enable CRX posting event notification and images to the server.

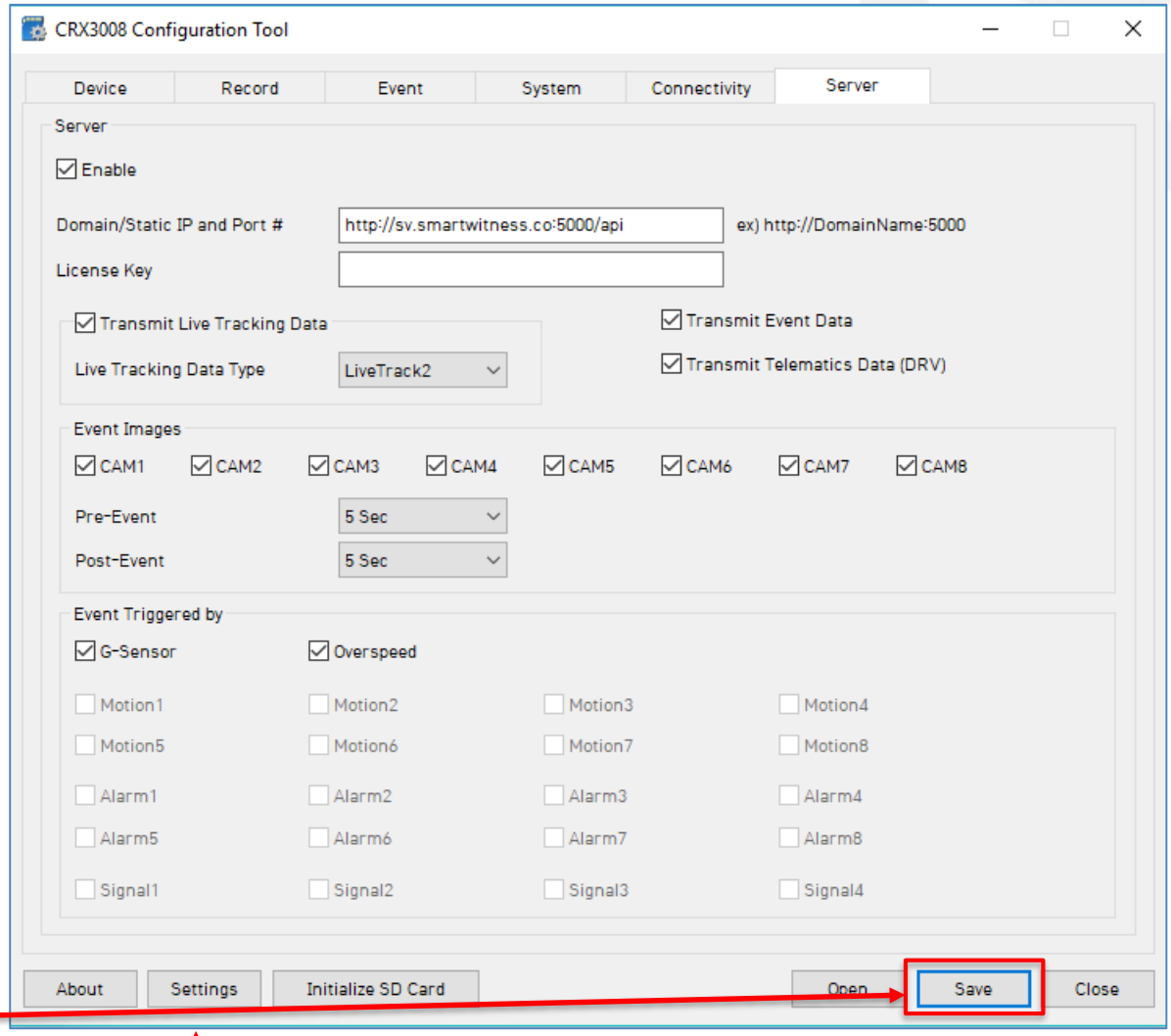
Transmit Telematics Data: Check to enable CRX to send DRV data (static/compressed file containing drive data from every second the vehicle is in operation.

Note: The frequency interval of LiveTrack and DRV uploads are controlled by the server.

Select the events here which the CRX will transmit to the server in real-time. These events will transmit instantly even if CRX is set as "Continuous" record mode

Click 'Save' and select the "AVFILE3" SD drive when prompted. This will save your configuration to the card. Wait for the software to confirm the settings have been applied to the SD Card.

You can now eject the SD from your PC and insert into CRX and power on.



You can also save the settings as default to the config tool software by clicking "settings" and "Save current settings as default"

CRX G-Sensor Threshold Table

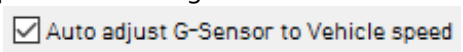
Low Speed Table

Level	axis	ACCSENX		ACCSENY				ACCSENZ	
		Impact		Sudden start/ sudden stop1		Sudden start/ sudden stop2		Quick Turn	
		G(mg)	Hz	G(mg)	Hz	G(mg)	Hz	G(mg)	Hz
1 (less sensitive)	X	950	1	450	8	500	5~7	-	-
	Y	950	1	-	-	-	-	350	15
	Z	1050	1	-	-	-	-	-	-
2	X	900	1	420	8	470	5~7	-	-
	Y	900	1	-	-	-	-	340	15
	Z	1000	1	-	-	-	-	-	-
3	X	850	1	390	8	440	5~7	-	-
	Y	850	1	-	-	-	-	320	15
	Z	950	1	-	-	-	-	-	-
4	X	800	1	360	8	410	5~7	-	-
	Y	800	1	-	-	-	-	310	15
	Z	900	1	-	-	-	-	-	-
5	X	750	1	330	8	380	5~7	-	-
	Y	750	1	-	-	-	-	300	20
	Z	850	1	-	-	-	-	-	-
6	X	700	1	310	8	360	5-7	-	-
	Y	700	1	-	-	-	-	280	20
	Z	800	1	-	-	-	-	-	-
7	X	650	1	240	10	-	-	-	-
	Y	650	1		-	-	-	230	20
	Z	750	1	-	-	-	-	-	-
8	X	600	1	190	10	-	-	-	-
	Y	600	1	-	-	-	-	190	15
	Z	700	1	-	-	-	-	-	-
9	X	550	1	170	10	-	-	-	-
	Y	550	1	-	-	-	-	170	15
	Z	650	1	-	-	-	-	-	-

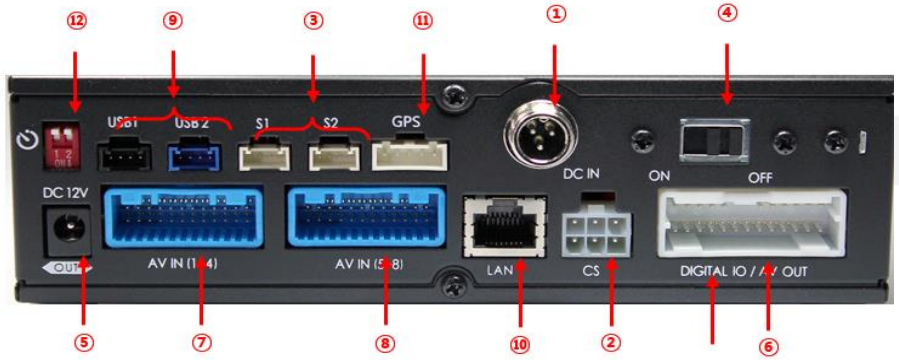
High Speed Table

Level	axis	ACCSENX		ACCSENY				ACCSENZ	
		impact		Sudden start/ sudden stop1		Sudden start/ sudden stop2		Quick Turn	
		G(mg)	Hz	G(mg)	Hz	G(mg)	Hz	G(mg)	Hz
1 (less sensitive)	X	1350	1	480	10	-	-	-	-
	Y	1350	1	-	-	-	-	420	15
	Z	1450	1	-	-	-	-	-	-
2	X	1300	1	450	10	-	-	-	-
	Y	1300	1	-	-	-	-	410	15
	Z	1400	1	-	-	-	-	-	-
3	X	1250	1	420	10	-	-	-	-
	Y	1250	1	-	-	-	-	380	15
	Z	1350	1	-	-	-	-	-	-
4	X	1200	1	390	10	-	-	-	-
	Y	1200	1	-	-	-	-	370	15
	Z	1300	1	-	-	-	-	-	-
5	X	1150	1	360	10	-	-	-	-
	Y	1150	1	-	-	-	-	340	20
	Z	1250	1	-	-	-	-	-	-
6	X	1100	1	340	10	-	-	-	-
	Y	1100	1	-	-	-	-	320	20
	Z	1200	1	-	-	-	-	-	-
7	X	1050	1	270	10	-	-	-	-
	Y	1050	1		-	-	-	270	20
	Z	1150	1	-	-	-	-	-	-
8	X	1000	1	190	10	-	-	-	-
	Y	1000	1	-	-	-	-	220	15
	Z	1100	1	-	-	-	-	-	-
9	X	950	1	170	10	-	-	-	-
	Y	950	1	-	-	-	-	200	15
	Z	1050	1	-	-	-	-	-	-

Speed Mode: When auto adjust G-Sensor to vehicle speed is checked, G-Sensor threshold will increase to levels specified in the right table when the vehicle reaches 20 KMh. The threshold will go back to settings in the left table when vehicle goes below 10 KMh.



CRX Hardware



1. Power Connector.
2. Car Signal Connector.
3. Serial Ports.
4. Main Power Switch.
5. Power Output.
6. Digital IO/AV out Connector.
7. AV in (1~4) Connector.
8. AV in (5~8) Connector.
9. USB Connector.
10. Ethernet Connector.
11. GPS Connector.
12. Power On Delay Dip Switch.

Alarm I/O Trigger Harness and & A/V Output for connecting an LCD monitor

Installation guide can be downloaded at http://install.smartwitness.com

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This is Video Telematics.