




AUTOMATIC SCORING

PINCAM MANUAL

User manual for the PinCam hardware

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Steltronic PinCam Installation (Focus Scoring System)



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The PinCam is the Steltronic name of a Camera used for Pin detections. The PinCam is a CCD Camera mounted on a base support and equipped with 2 photocells to detect the ball passage and speed, one photocell is for the odd lane, and one for the even lane.

Each PinCam could manage one lane or one pair of lanes, for an installation with obstacles between the two lanes of the same pair it's necessary to install one additional PinCam.

The PinCam could replace the Steltronic Sciba, while using the same cable (CA0191), an additional network line must be installed for maintenance. An Antistatic Ground discharge line installation is mandatory for user safety and to prevent devices damages, see the chapter PinCam cable diagram for details.

REMARKS

The Standard PinCam installation has one sensor for each lane.

The ball speed is calculated by the program based on the time of interruption of the photocell beam compared to the bowling ball section detected during the ball rolling on the lane.

For a more accurate detection of the ball speed, it's necessary to set the parameters with the greatest precision possible, in order to compensate for inaccuracies due to the different sensor position; for example: the photocell beam aligned with the lower edge or top of reflector instead of the center which produces a gap on the share set, then has a slight inaccuracy of calculation compared to a lane where the beam is parallel to the lane. When the bowling ball crosses the photocell beam trough the gutter, the speed detected will be less precise because the section of the bowling ball detected is narrower then the center of the ball.

To detect the ball speed with greater precision, you can install a second photocell to each lane (optional), mounted at least 30 cm away from the PinCam Sensor.

The tolerance on the calculation of ball speed is as follows:

Ten pin bowling, the diameter of the bowling ball is 22centimeters

- 1) +/-10% with one sensor installed at 12 centimeters from the lane surface, with the exclusion of a gutter ball, where the ball speed is not indicated and can be configured in Focus to not be displayed.
- 2) +/-5% with two sensors installed at 12 centimeters from the lane surface.

Five pin bowling, the diameter of the bowling ball is 12centimeters

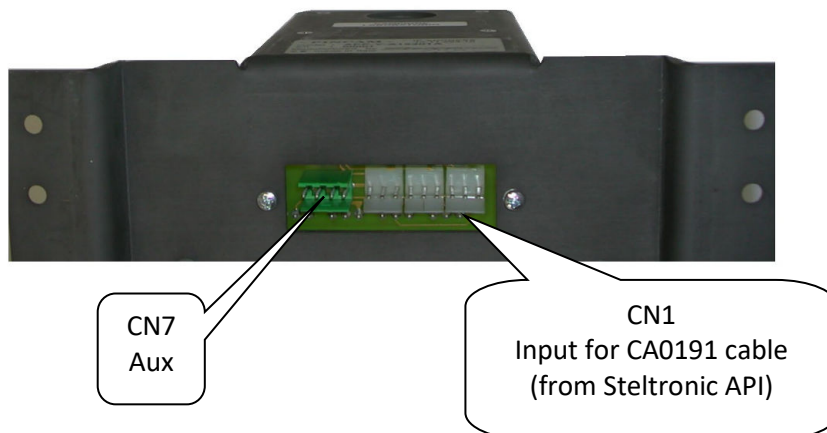
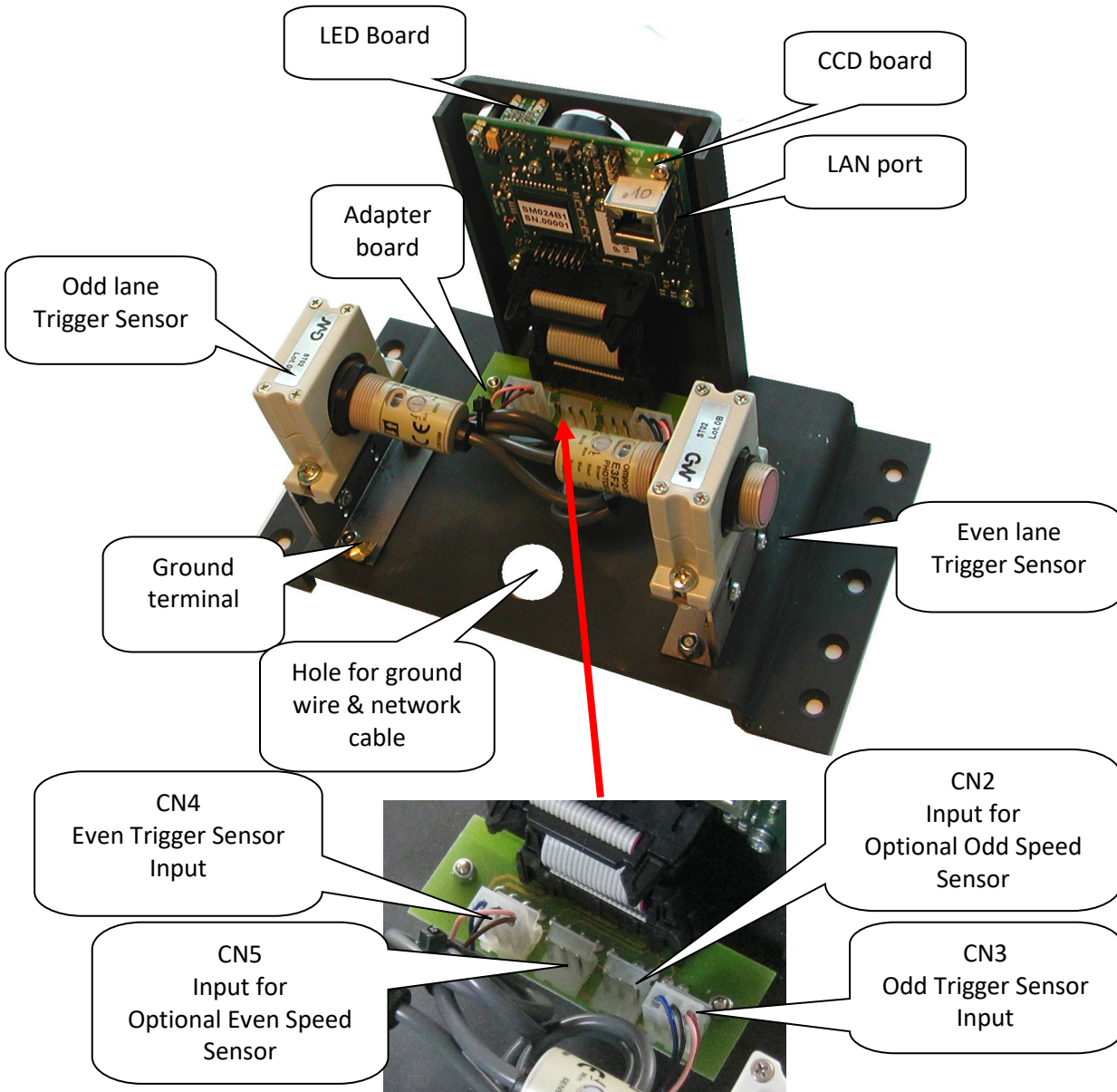
- 1) +/-20% with one sensor installed at 6 centimeters from the lane surface, with the exclusion of a gutter ball, where the ball speed is not indicated and can be configured in Focus to not be displayed.
- 2) +/-10% with two sensors installed at 6 centimeters from the lane surface.

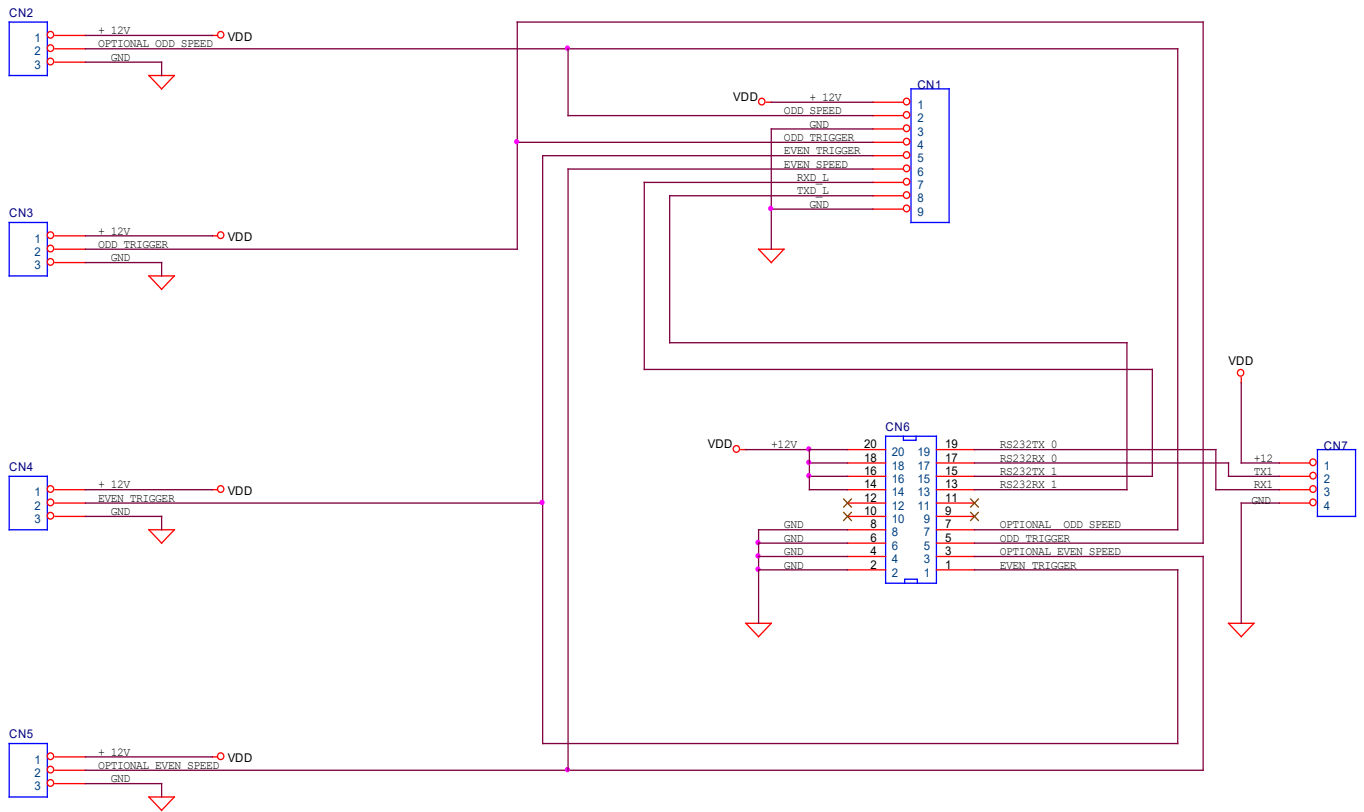
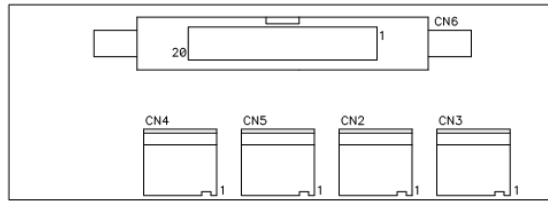
For the right speed detection, the installation with PinCam with one Sensor requires the following API firmware: API Standard (A065)= **UE028FQ** – API 8290XL-XLi (A067)= **UE023FH**

Contact service@steltronic.com for API firmware update.

Installation with I-Retro requires 2 sensors for each lane (4 sensors for each pair of lane)

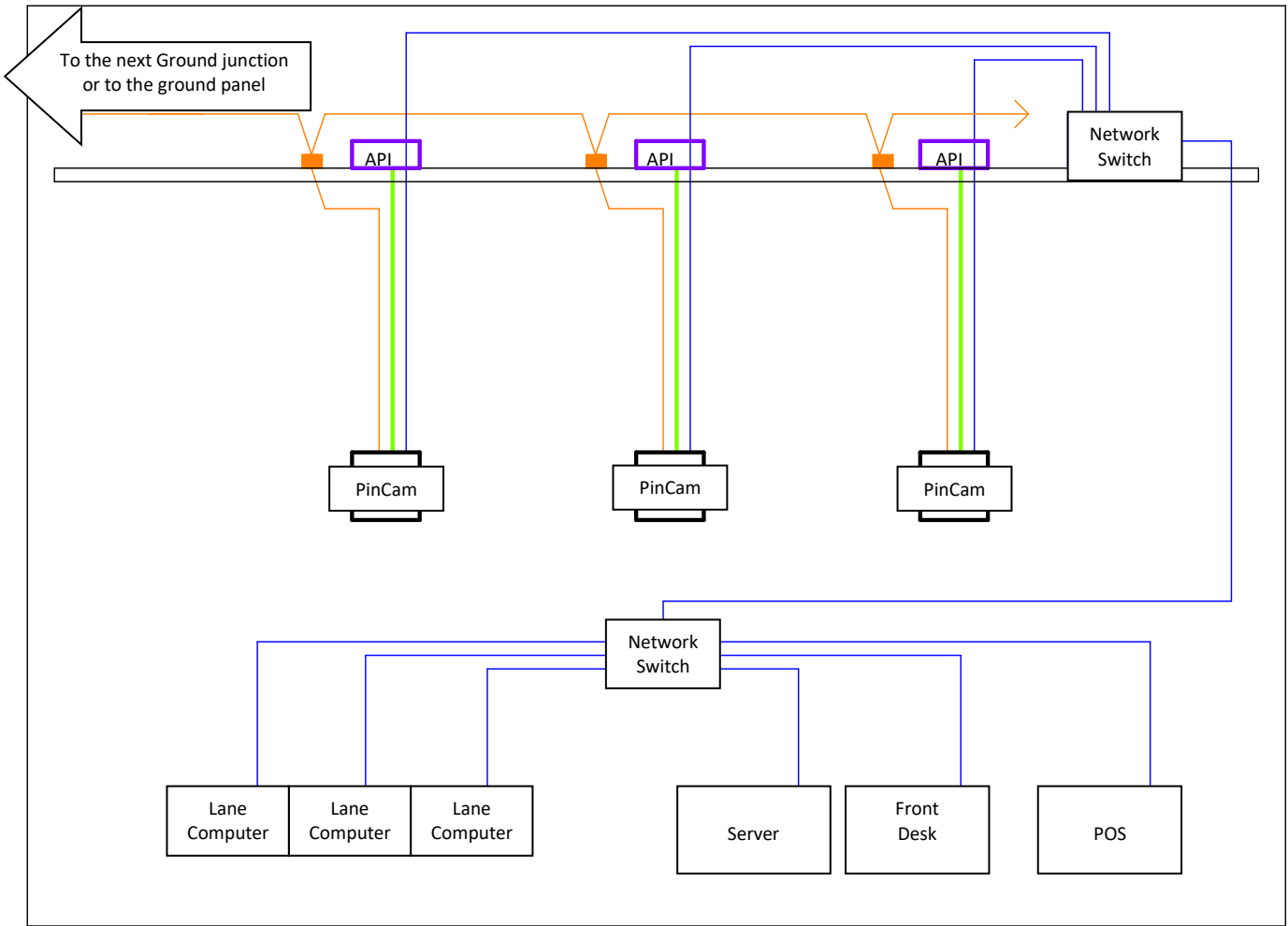
The instructions contained in this manual refer to Focus version 1.7.1.5, Vision 1.202





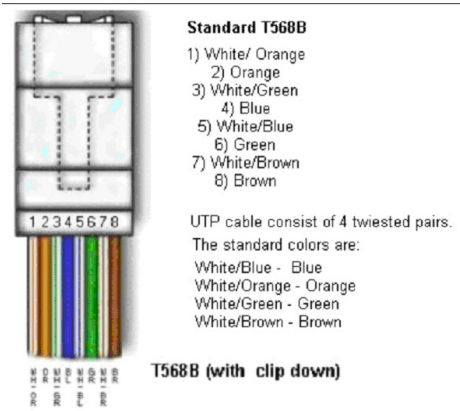
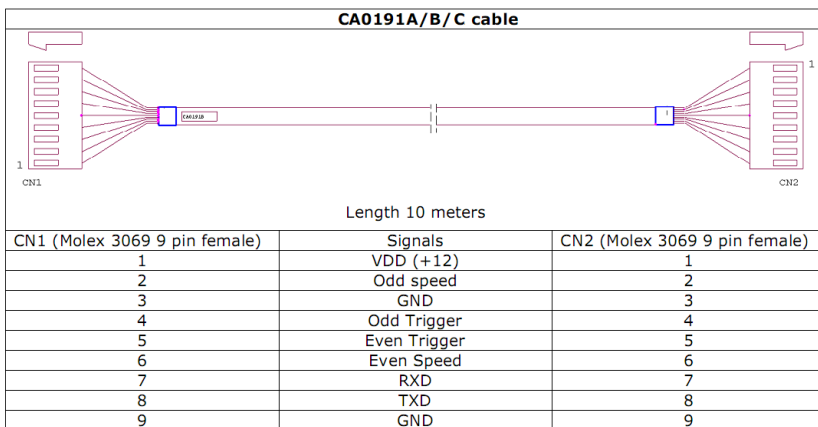
SB010 Adapter board

PinCam Cables diagram



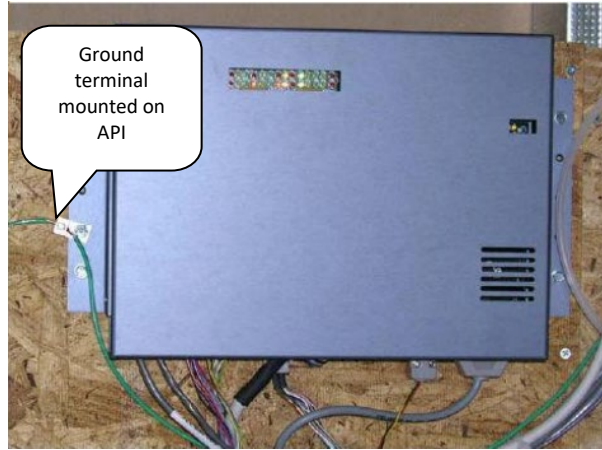
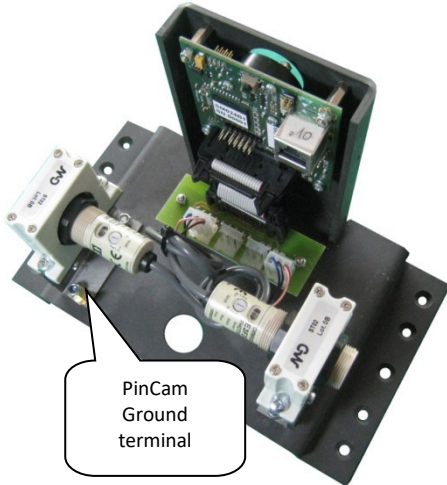
The PinCam receives the 12 VDC power and communicates with the API through the cable CA0191 (same cable used for Sciba installation).

A (100Mb or 100/1GB) network switch must be located on the curtain wall area, all the PinCam need to be connected to the Network Switch that is connected to the central network switch where the lane computer, Server and workstations are connected.



Max length for each segment of network cable:
100 meters, if the distance between devices exceeds the requirement, add another network Switch

Antistatic drain line installation (for PinCam and API)

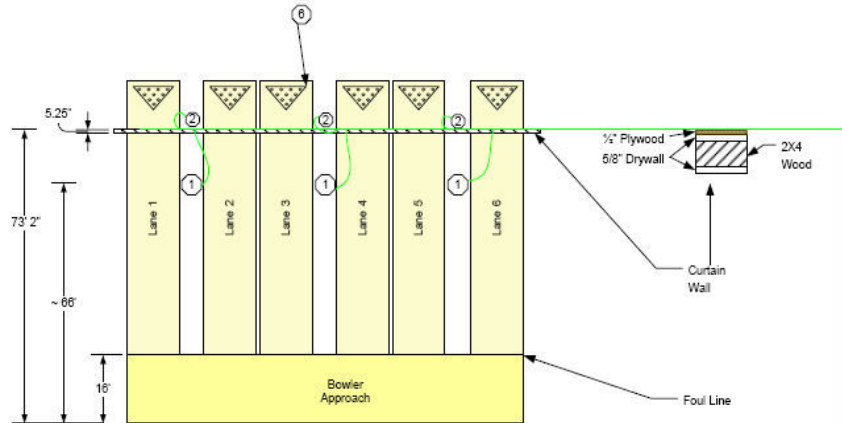


It is required that the electrician installs a static ground discharge line starting on lane 1, and ending on lane X (your last lane). This static discharge line should be a 6 AWG stranded copper wire, and connected to a separate isolated grounding rod. The ground rod should be 5/8" round, and 8' long. This new ground rod should also be tagged and identified that **nothing else in the bowling center should be connected to this ground rod**. Using an additional split bolt, and 12 AWG stranded copper wire, the curtain wall chassis (API Box pictured below) must be attached to the 6 AWG stranded copper wire static discharge line. Using an additional split bolt, the 12 AWG stranded copper wire, and the camera metal base plate (mounted on the ball return capping pictured below) must be attached to the 6 AWG stranded copper static discharge line.

WARNING

Please notice the pictures above have the #12 ground wire attached to our scoring equipment using a grounding lug. Failing to install this anti-static discharge line could result in erratic scoring problems and more importantly **VOID'S** your warranty

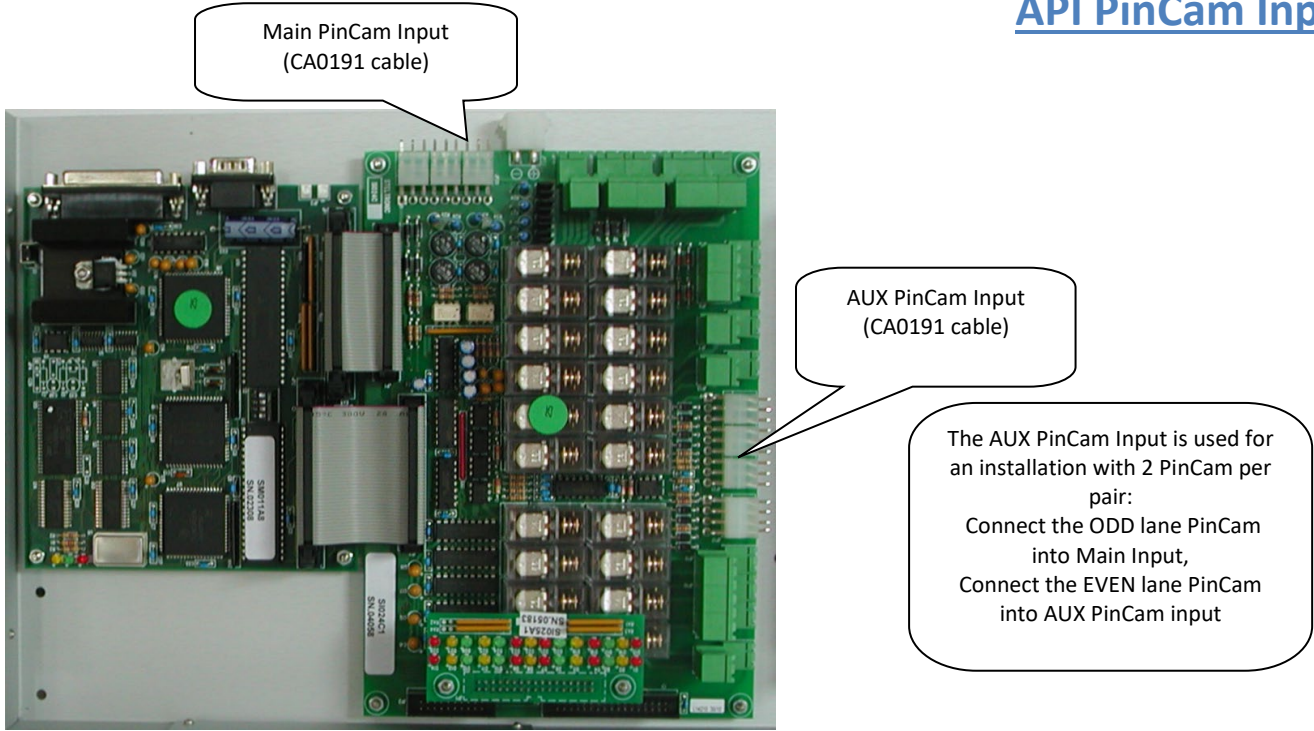
The purpose of this anti-static drain line is to transfer all static electricity generated by bowling balls, tennis shoes on plastic capping, other forms of static electricity and isolate it from the automatic scoring system.



- ① #1 Refers to cameras (supplied and installed by Steltronic) that are installed on the ball return plastic capping approximately 66 feet from the start of the bowlers approach.
- ② #2 Refers to the pinsetter interface blue box (supplied and installed by Steltronic) that is mounted on the curtain wall.
- ③ #3 Refers to the a 5/8" round, 8' long grounding rod.
- ④ #4 Refers to a #6 AWG stranded copper green wire attached to the plywood side of the curtain wall. (Wire supplied and installed by the electricians)
- ⑤ #5 Refers to a #12 AWG stranded copper green wire (supplied and installed by the electrician) attached to the 6 AWG stranded copper green wire (item # 4) using split bolts (supplied and installed by the electricians). Two wires (item #5) per pair of lanes. Each wire will attach to the Steltronic scoring camera (Item 1), and the pinsetter interface box (Item 2), using grounding lugs supplied and installed by the electrician.
- ⑥ #6 refers to the pinsetter machines

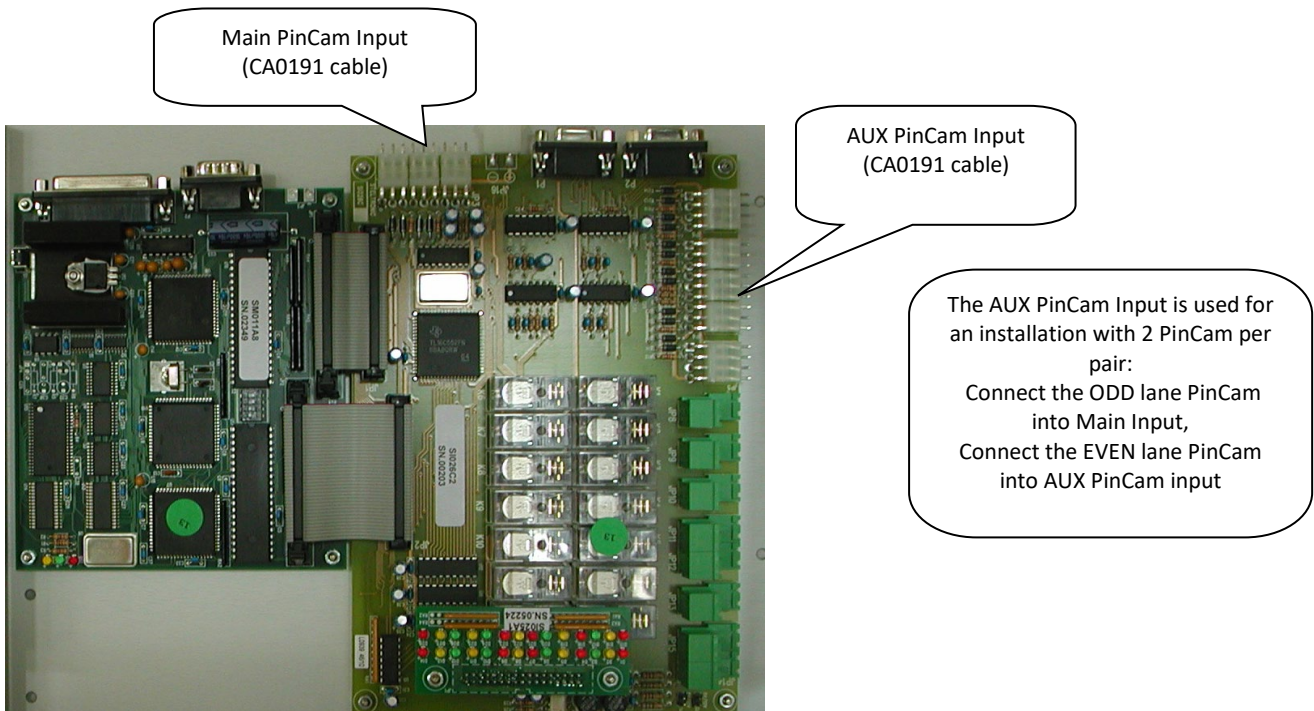


API PinCam Input



API Standard A065 series layout

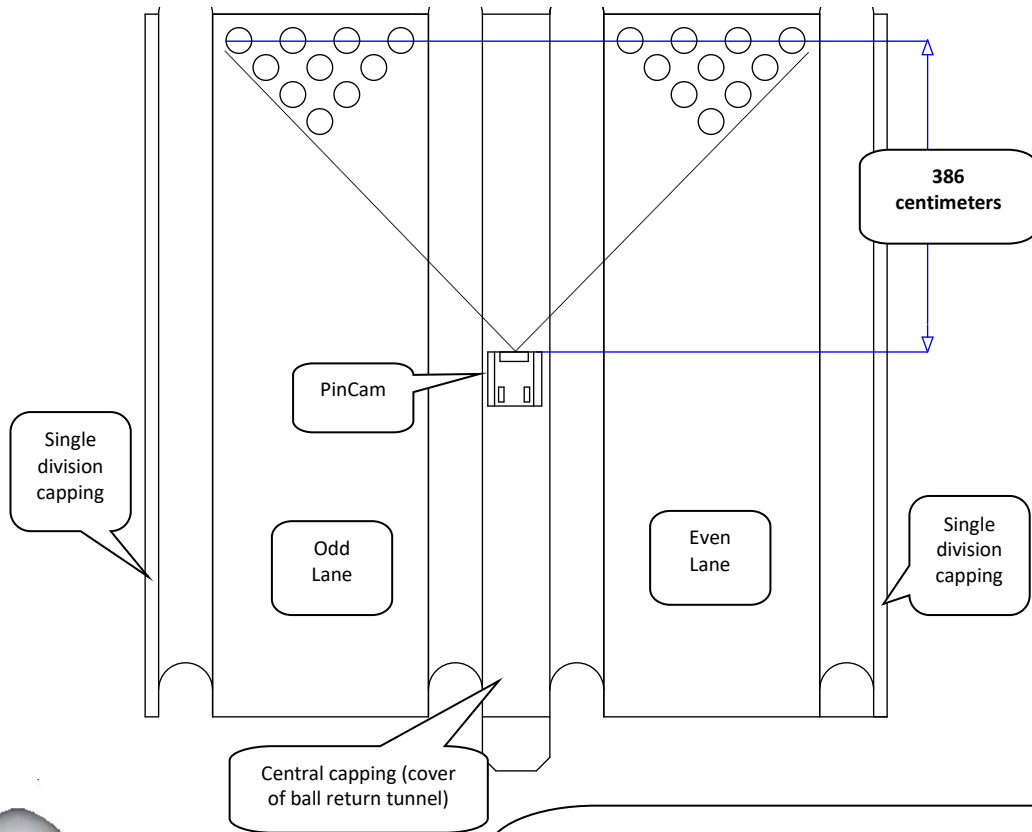
A065 model is used to interface AMF 8230/300/45, AMF 8270 (all types), AMF 8290 First Generation chassis, Brunswick A1/A2, GS10 Red Chassis, Via Bowling MC2, Switch pinsetter, Zhonda, Xima, generic 10 pin pinsetter.



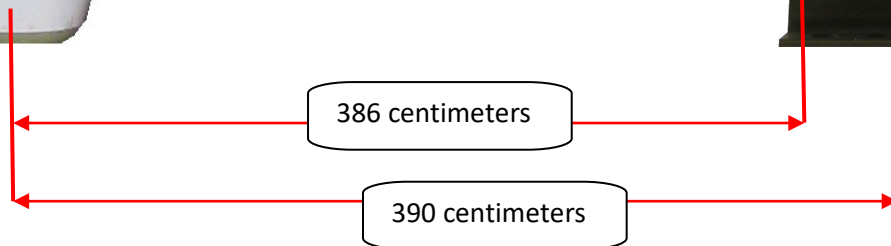
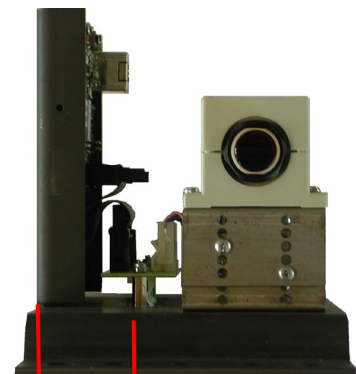
API A067 series layout

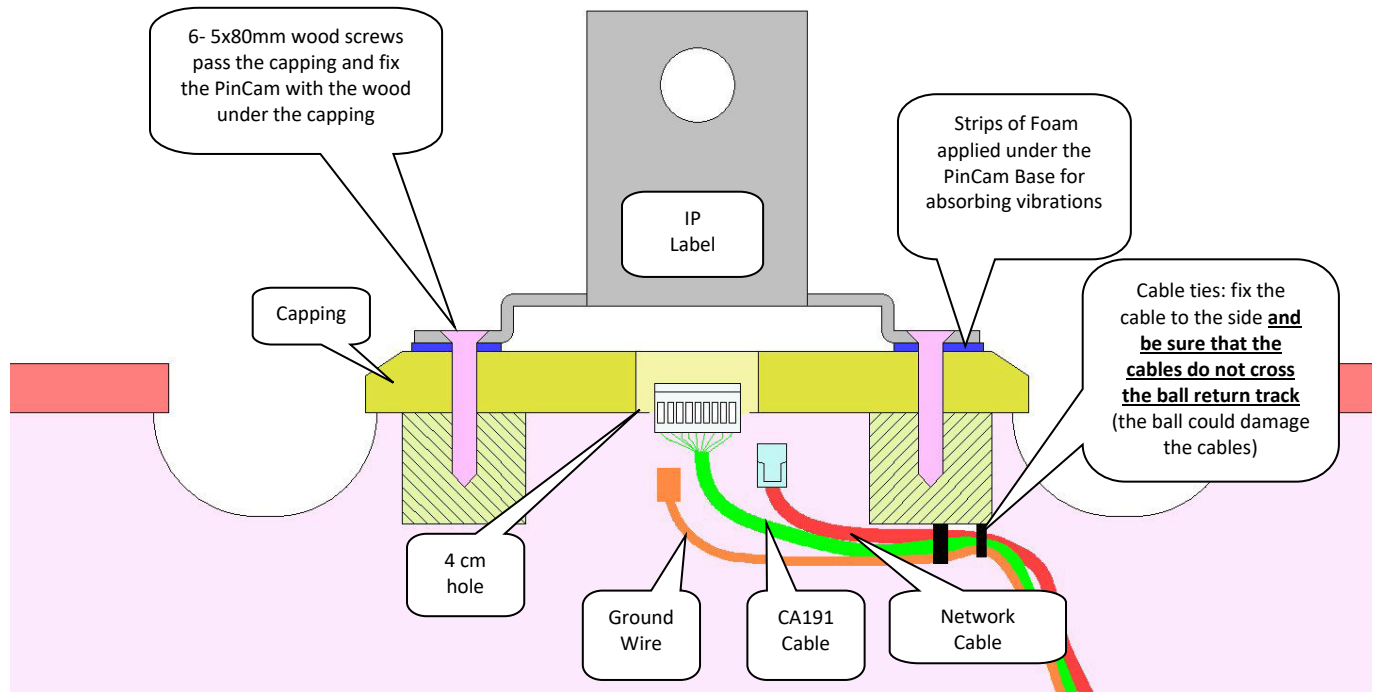
A067 model is used to interface AMF 8290XL –AMF 8290Xli pinsetters

PinCam Standard installation



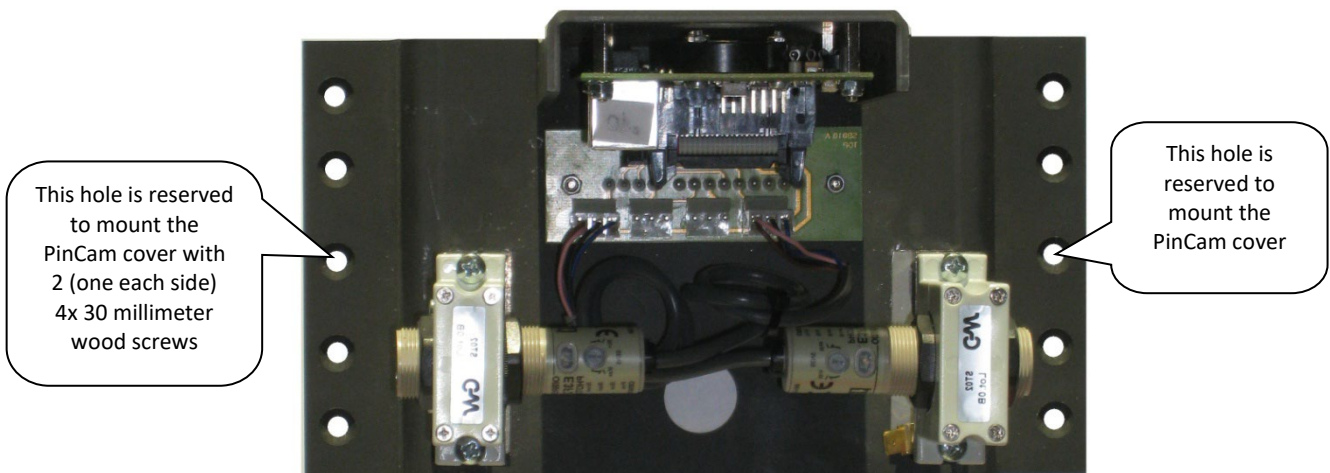
The standard distance between the center of pins 7-8-9-10 and the lense of the PinCam is 386 centimeters. The hole in the center capping for the cable passage which is 4 centimeters over the PinCam edge

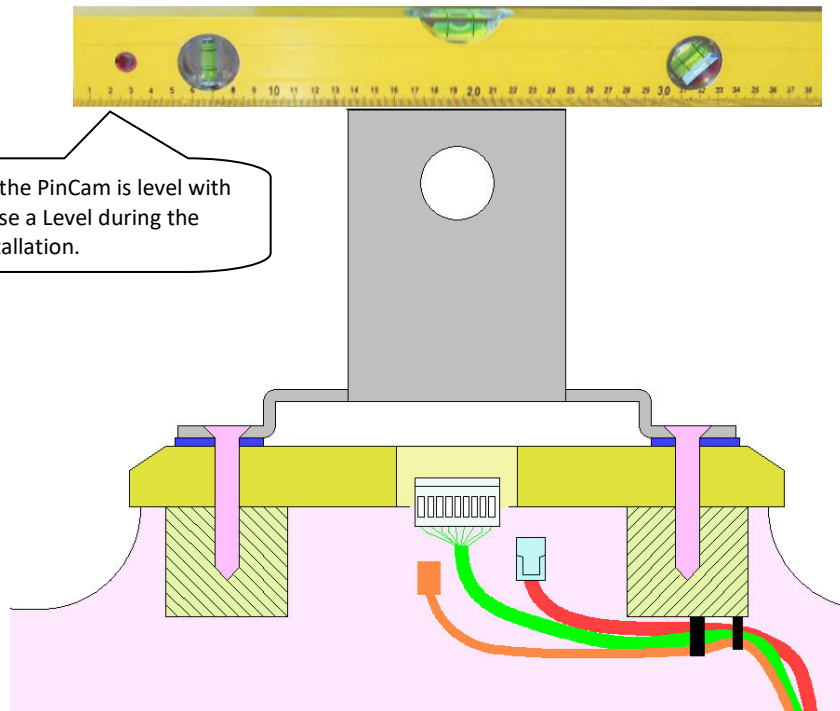




WARNING

All the PinCam need to be mounted on solid stable capping. The capping should be cut in order to accommodate the PinCam and new screws needed to be installed on this new section of the capping. Doing this will avoid the mechanic from lifting a section of capping for an underground ball stuck.





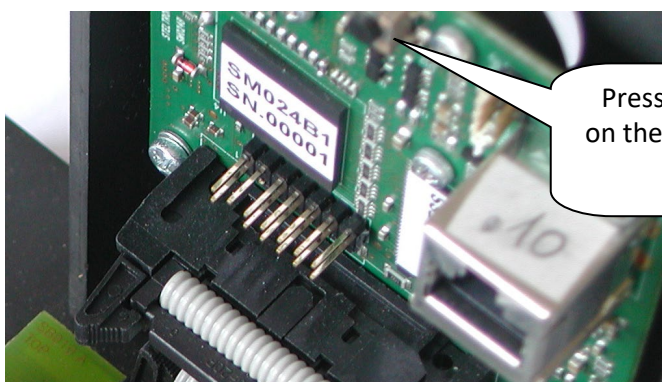
It's important that the PinCam is level with lanes surface, use a Level during the installation.

WARNING

For a proper calibration, the PinCam must be installed exactly in the middle of lane pair (center of the capping). If it's possible, verify the PinCam position using the LED board on top or directly with a Laptop connected to the PinCam, see the next chapter for further details.

PinCam position verification (with LED board)

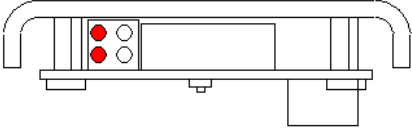
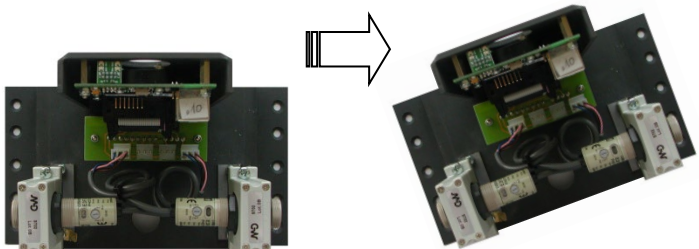
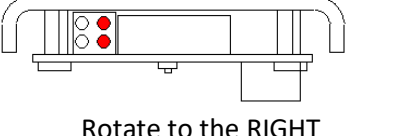
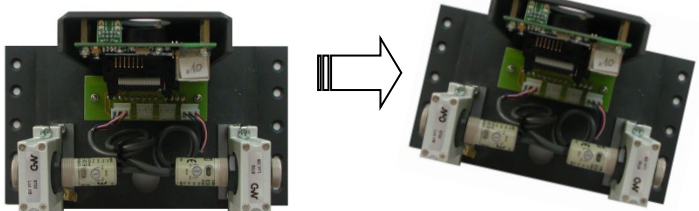
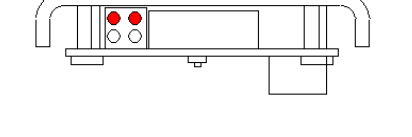
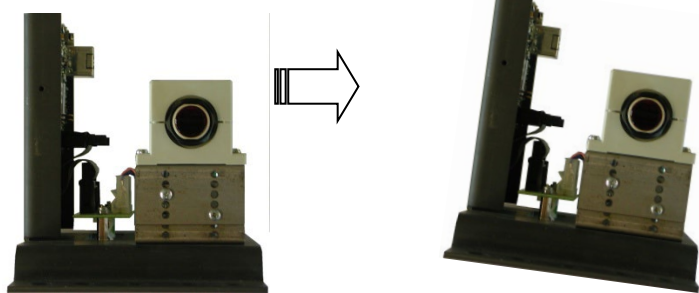
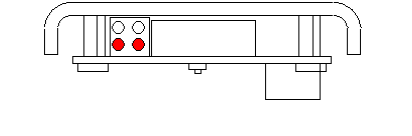
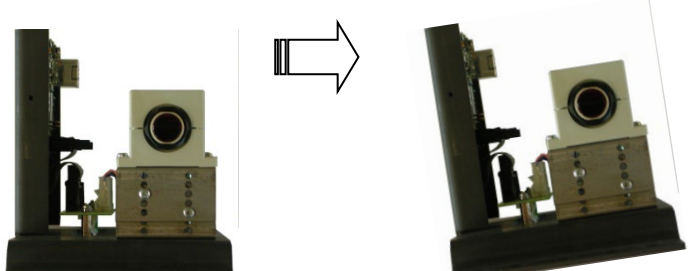
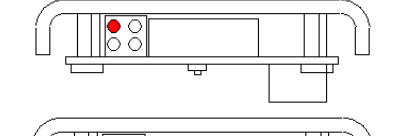
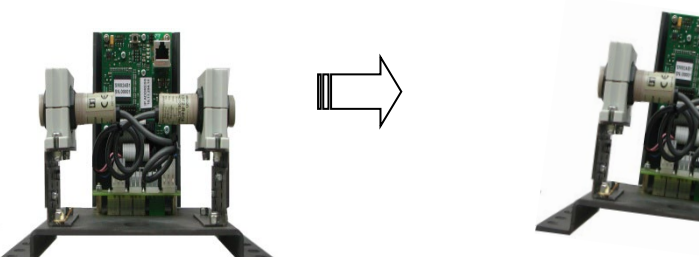
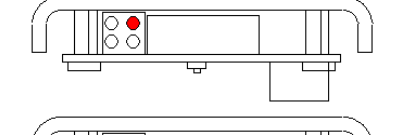
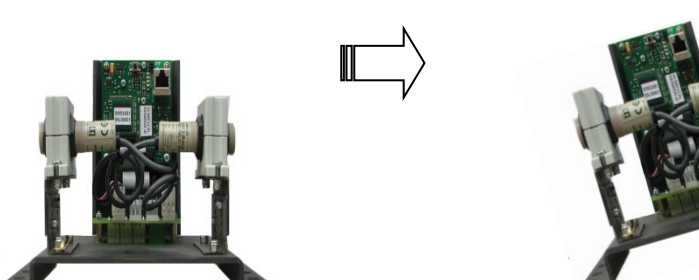
- PinCam must be turned off (turn OFF the VLC)
- Remove the PinCam aluminium cover
- Remove the pins that are damage on the HEAD of the pins
- Turn ON the lane pairs pinsetter with all 20 pins standing on the pin deck – wait until the neon light has a good intensity.
- Switch on the PinCam (turn ON the VLC)

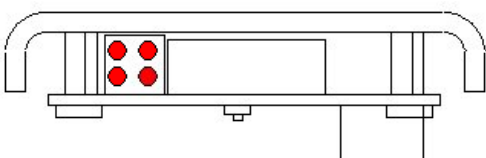


Press the reset button on the CCD board for 4-5 seconds

Mount the PinCam with the screws only after checking the LED board, to avoid mistakes in its position.
Suggestion: screw the PinCam pushing on the strips of foam on each side in order to align the PinCam in the proper position.

If all 4 LED's on the board remain off, the PinCam is totally out of range.

 <p>Rotate to the LEFT</p>	
 <p>Rotate to the RIGHT</p>	
 <p>Raise UP the PinCam</p>	
 <p>Lower DOWN the PinCam</p>	
 <p>Raise the LEFT side</p>	
 <p>Raise the RIGHT side</p>	



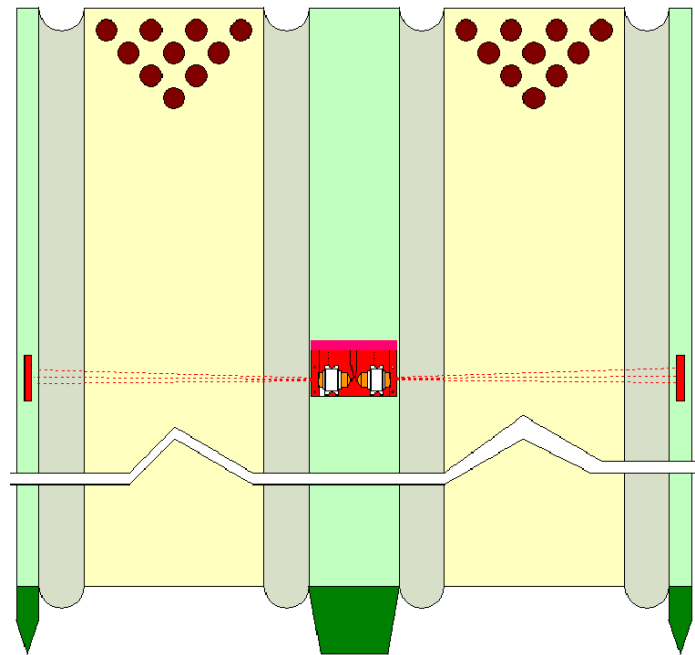
All done! Press the reset button on the PinCam to exit from "adjust mode". Turn off the PinCam (turn off the VLC), replace the aluminium cover then turn on the PinCam (turn on the VLC).

Placing the Reflectors and aligning the Sensors

The Steltronic Sensors are optical devices used to detect the passing of the ball for the triggering and speed. The photocell sends an infrared beam that crosses the lane and the gutters to the reflector which resends the beam back to the photocell; when the ball or any object cuts the beam, the photocell sends the pulse to the A.P.I which calculates the instant of pinsetter triggering and the speed of the ball.

WARNING

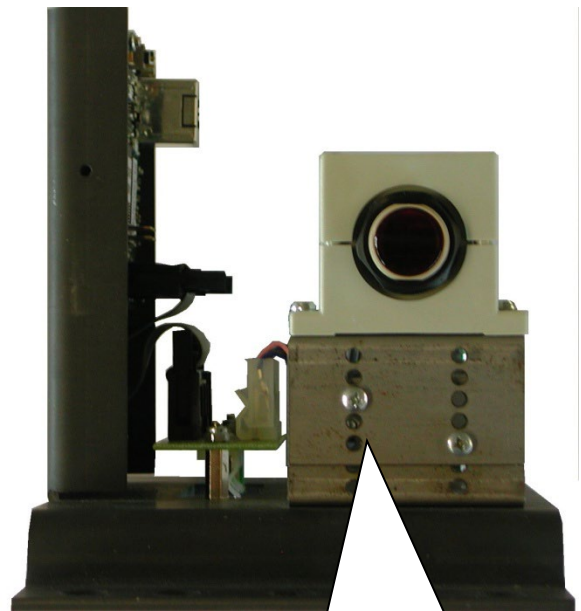
If the Sensors are not aligned correctly, the score does not show and the pinsetter does not cycle



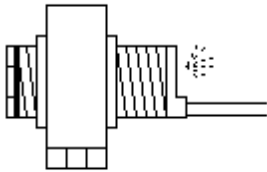
Fix the reflector to the support and fix the support on the single division capping, in line with the sensors

Choose the adequate position of the holes to bypass the Bumpers

Holes for various heights for the reflector



The default position of the Steltronic sensor should be over the bumper line, if not you can raise the sensors using the extra holes



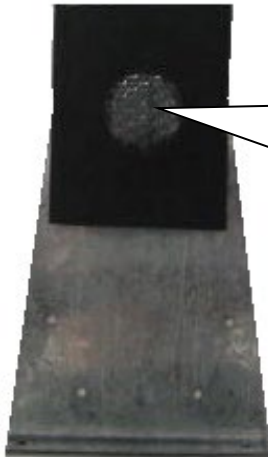
There are two LED's behind each photocell: **Green LED** on means the sensor is powered, **Red LED** on means the photocell is lined up.

Both LED's must be on, if the Red LED is off the photocell is not lined up, if the Green LED is off, the photocell has no power.

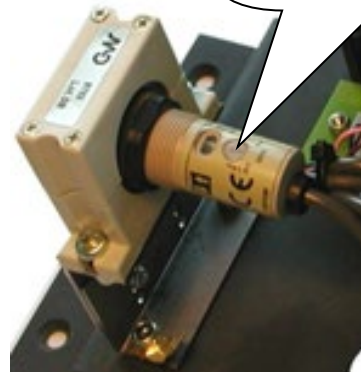
In order to correctly align the photocell, loosen the 4 screws on top of the photocell support and move the photocell, aiming at the reflector on the other side of the lane until the red led comes on.

When the Green LED is stable and Red LED comes on the photocell it has been aligned.

For a perfect alignment:



(1) Mask the reflector leaving a spot with 2 Centimeters in diameter in the center of the reflector.



(2) Increase the Sensor Sensibility rotating to MAX side the "Sens" trigger

(3) Align the sensor beam

(4) When the red led and green led stays on, close the 4 screws on top of Sensor support

(5) Replace the sensor sensibility as before, moving in the middle the "Sens" trigger

(6) Remove the mask on the reflector; make the same operation for the other side

Note: If the Red LED goes off after the ball passes, means that sensor is moved pointing towards the border of the reflector.

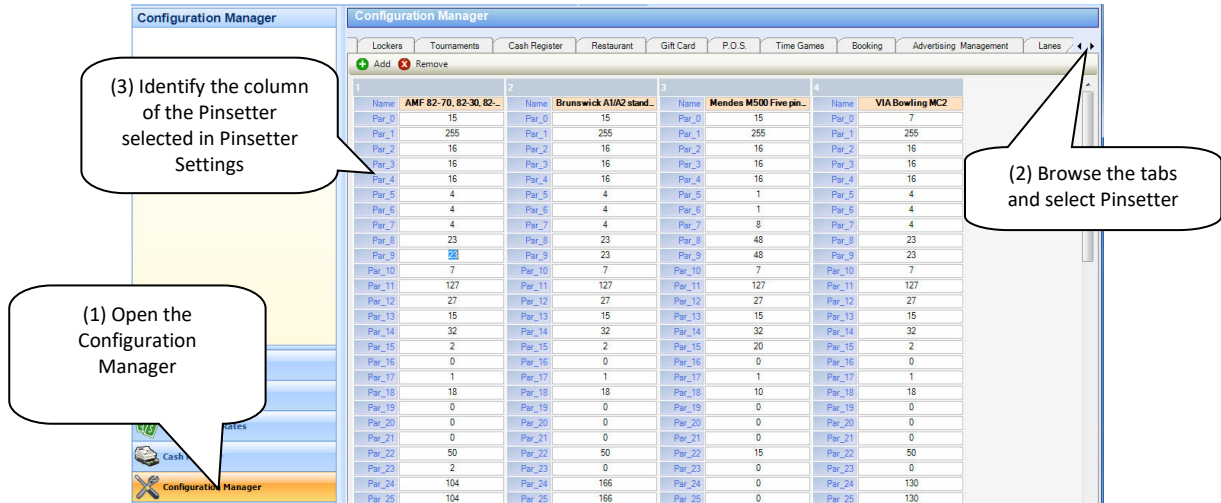
REMARK

At the end of job, close the PinCam with the plastic cover, Mount the plastic cover to the double division capping with 2 4X30 wood screws.

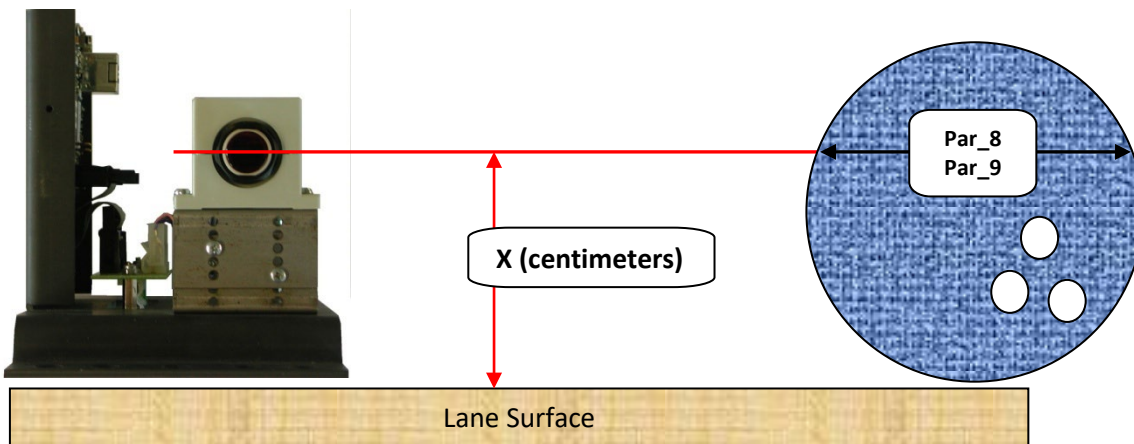
Set the Pinsetter parameters for ball speed detection

WARNINGS

The installation of a single photocell for ball speed detection requires careful setting of the parameters in the database. In the Focus Database, the parameters should remain as default, change only the Par_8 (odd lane) and Par_9 (even lane) of the selected pinsetter to adjust the "X" distance between the sensors



Modify the Par_8 (odd lane) and Par_9 (even lane) as follows:



Ten pin bowling (bowling ball diam. 22 centimeters)

X (centimeters)	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	9,5	10	10,5	11	11,5	12	12,5
Par_8- Par_9	15	15	16	17	18	18	19	19	19	20	20	20	20	20	20	21	20	20	20

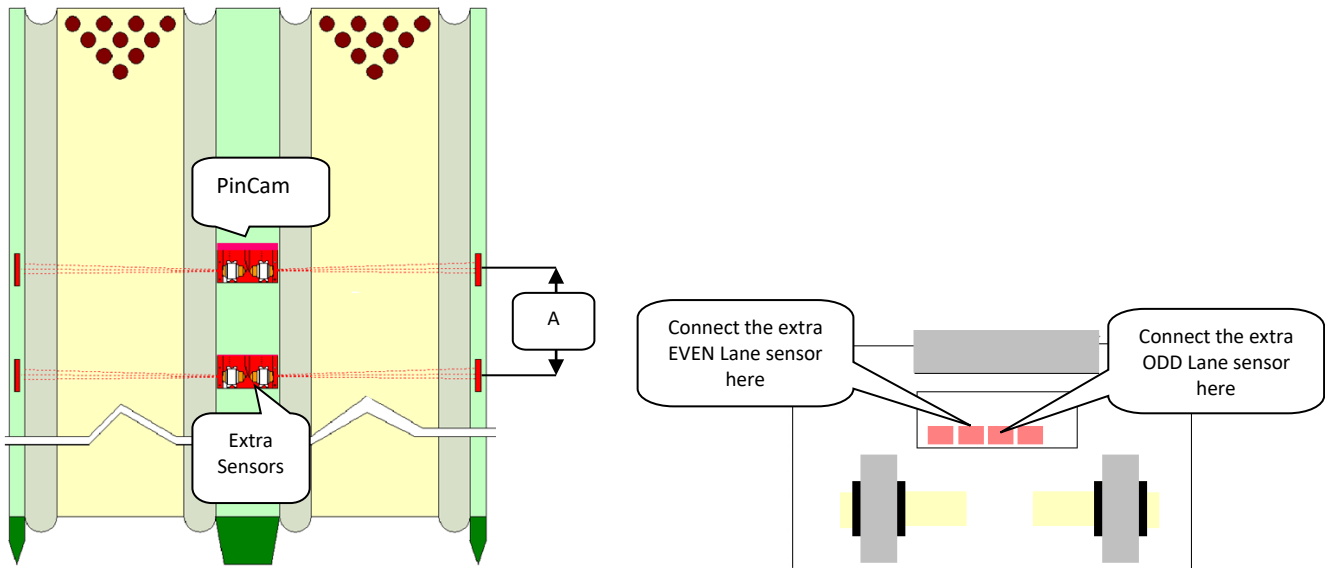
Five pin bowling (bowling ball diam. 12 centimeters)

X (centimeters)	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8	8,5	9	
Par_8- Par_9	10	10	10	11	11	11	11	11	11	11	10	10	10

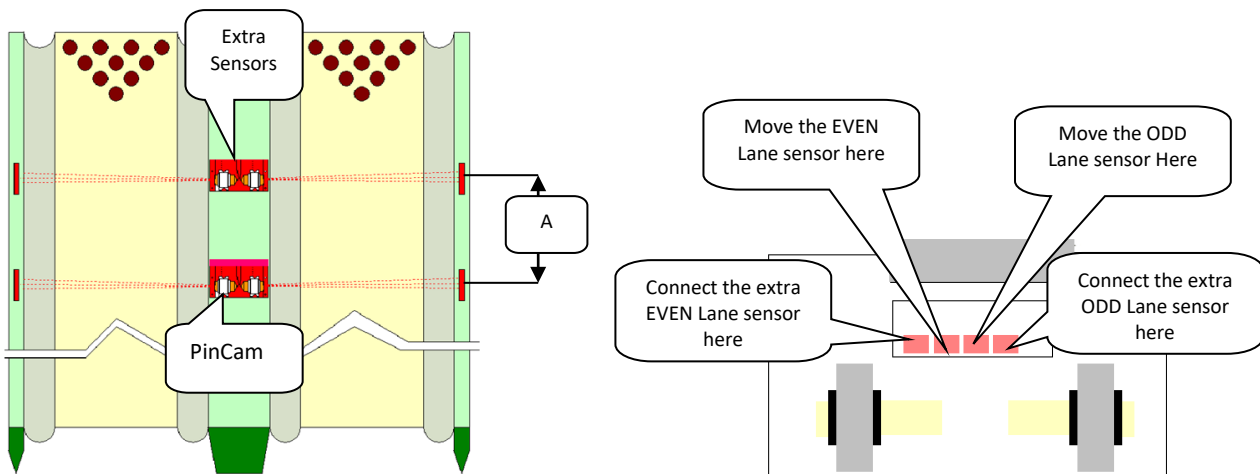
Save the Database changes by clicking on the Save button. To apply the new settings, from the Lane manager, click on Pinsetter settings and click on send to lane.

Installation of Additional speed sensors

If you substitute a PinCam from Sciba with an I-Retro pinsetter interface, or if the customer wishes for greater accuracy reading the ball, install two additional photocells, one for each lane. You can locate the extra sensors behind or in front of the PinCam:



Additional Sensor behind the PinCam must be a min= 23 centimeters



Additional Sensors placed in front of the PinCam must be a min= 23 centimeters

In the pinsetter table (configuration manager) only the Par_8 (odd lane) and Par_9 (even lane) changes distance (In centimeters, default is 23)

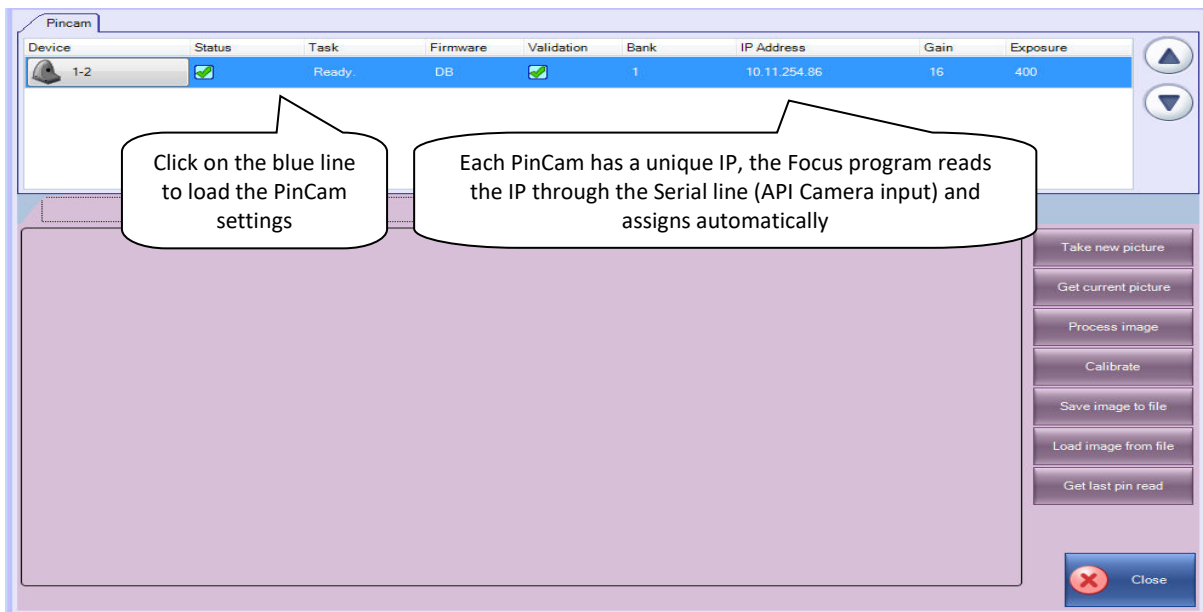
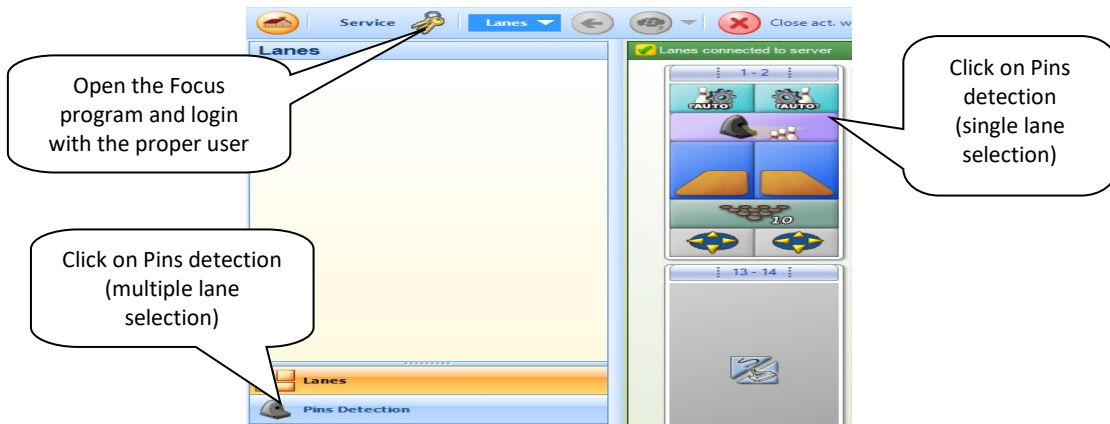
Name	Par_0	Par_1	Par_2	Par_3	Par_4	Par_5	Par_6	Par_7	Par_8	Par_9	Par_10	Par_11	Par_12	Par_13	Par_14	Par_15	Par_16	Par_17	Par_18	Par_19	Par_20	Par_21	Par_22	Par_23	Par_24	Par_25
AMF 82-70, 82-30, 82-...	15	255	16	16	4	4	4	4	23	18	7	127	27	16	32	2	0	1	18	0	0	0	50	23	104	104
Brunswick A1A2 stand...	15	255	16	16	4	4	4	4	23	23	7	127	27	16	32	2	0	1	18	0	0	50	23	104	104	104
Mendes M500 Five pin...	15	255	16	16	1	1	1	8	48	48	7	127	27	16	32	20	0	1	10	0	0	15	0	0	0	0
VIA Bowling MC2	7	16	16	16	4	4	4	4	23	23	7	127	27	16	32	2	0	1	18	0	0	50	23	130	130	130

Save the Database changes by clicking on the Save button. To apply the new settings, from the Lane manager, click on Pinsetter settings and click on send to lane.

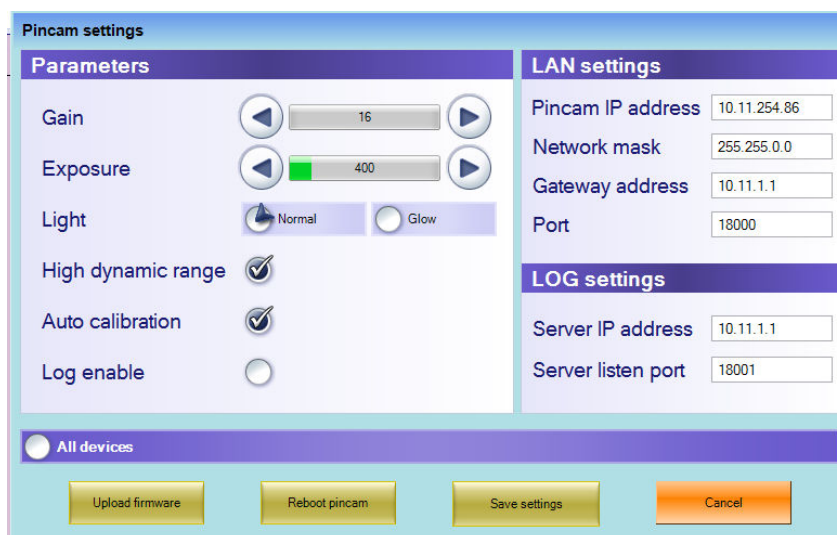
Focus Scoring System: Calibrate the Pin Position from Front Desk

Checking list:

- Remove the pins that are damage on the pin heads
- Turn ON the pairs pinsetters with all pins standing on the pin deck – wait until the neon light has a good intensity.
- The Network switch where the PinCam is connected must be online and accessible from the Front Desk
- Even if the PinCam recognizes the red and glow pins, it is recommended to calibrate with white lights, then check the calibration with the glow light



The Gain, Exposure and most of the PinCam Settings are pre-defined by Factory, change only if necessary.



Lane settings (Do not edit)

Exposure: brightness, defines the amount of light received by the camera, the value should be around 400 for white light, and 1000-1225 for glow light

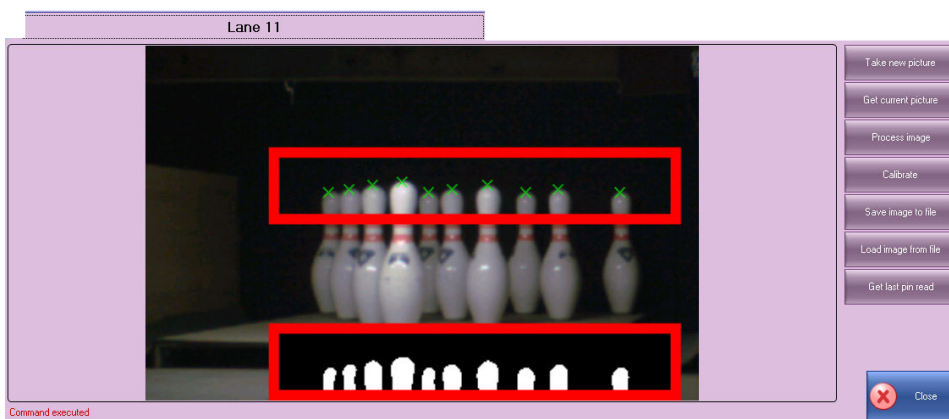
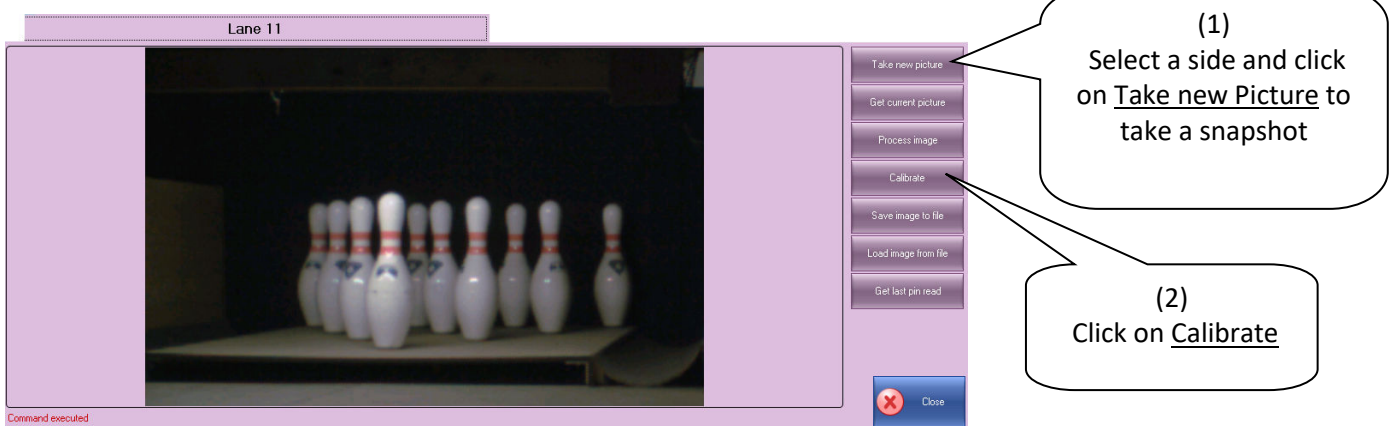
Gain: picture contrast, the value should be 16 for white light, and 50 for glow light

High dynamic range: leave enabled (camera will auto-balance the picture)

Auto Calibration: leave enabled (the will camera auto-adjust the position in case of vibration).

Log enable: when on, the PinCam saves all the photos taken in a folder for pin detection (1000 photo each side), this feature is used for debugging Pin detection problems (note: saving of the photos does not affect the systems speed)

Calibrate:

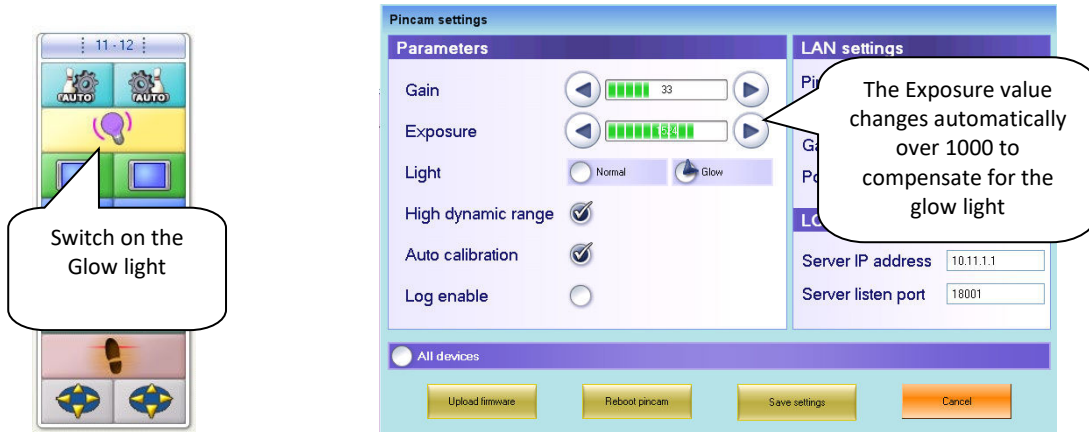


(3) All Done! The program shows the X on the pins head and gives the results of image processing.

In case of a calibration problem, the program will display Calibration failed instead of “command executed”; If an error comes up, check the camera position and the light conditions.

Now select the other lane and repeat the same steps to calibrate the other side of the camera.

Focus Scoring System: Checking the pins detection with Glow light



Switch on the Glow light

The Exposure value changes automatically over 1000 to compensate for the glow light

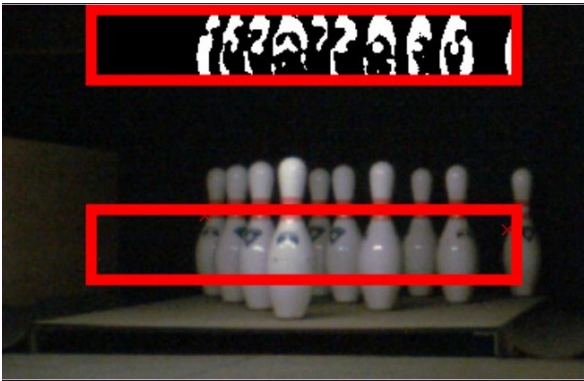


Take a picture and try to calibrate. In case of calibration failure, raise the Exposure value and repeat the calibration test. Repeat the test for the other lane.

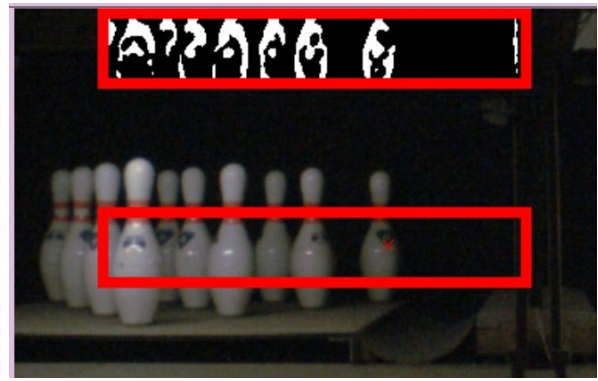


A good calibration is reached when the heads of the pins are separated and white (which represents each pin) with no black patches, normally a sign of overexposure. The camera auto calibrates and is looking for the best value of calibration; the calibration fails in case of errors of positioning or abnormal conditions of light or error in the values of exposure and gain.

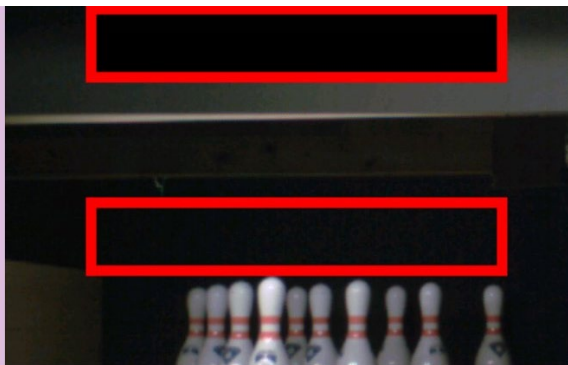
Examples of Wrong Calibration



Calibration failed because the Camera is looking too much to left side.



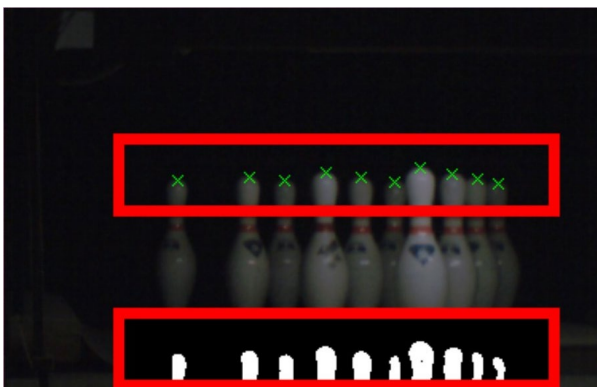
Calibration failed because the Camera is looking too much to right side.



Calibration failed because the Camera is looking to high.



Calibration failed because the Camera is looking too low.



Calibration is succesful but the light is too low; the camera could not recognized some pins when moving. Check the pinsetter light and if necessary raise the exposure level

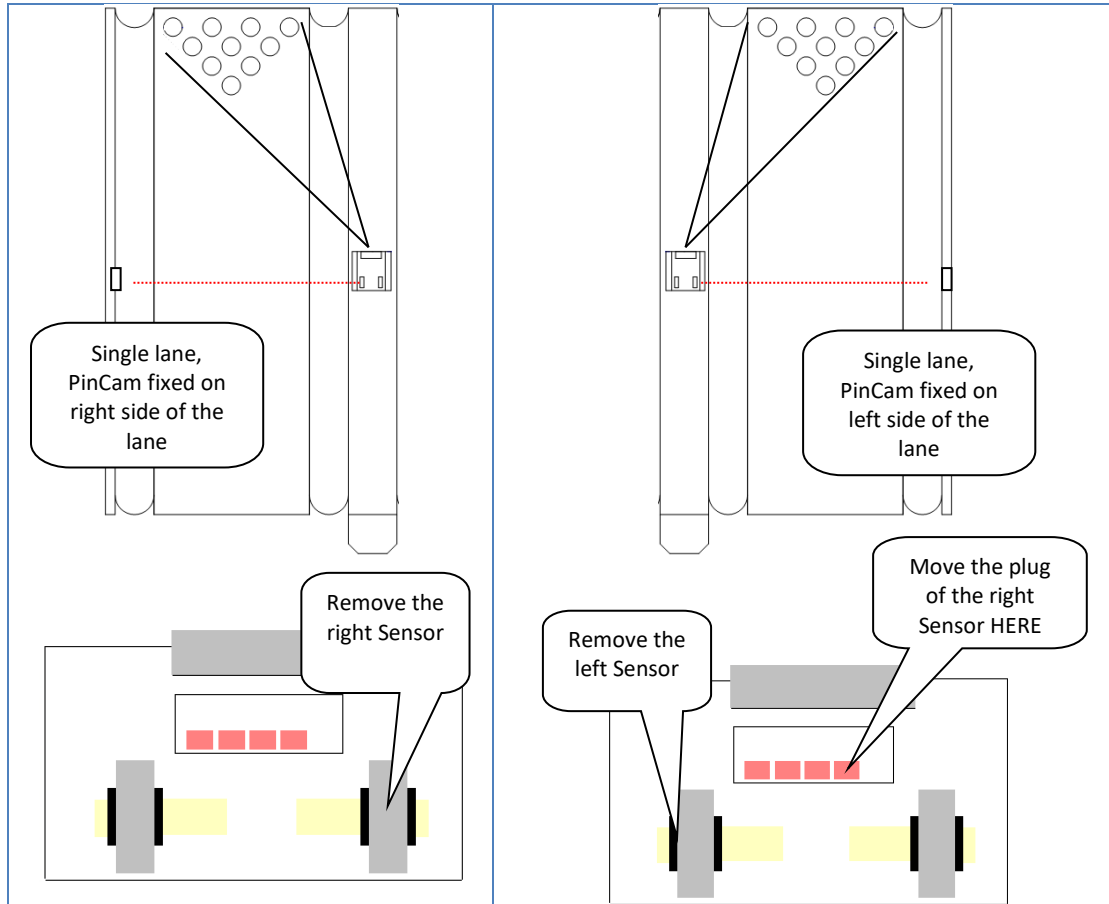


Calibration is succesful but the light is too much; the camera could see pins even when knocked down. Lower the exposure level

PinCam Installation on a single Lane

WARNING

The positioning of a single PinCam must be performed manually or using the calibration program from a Laptop (see chapter [PinCam position verification with PinCam client software](#)),
It is not possible to use the PinCam Led to check the positioning.



The installation position is the same as the standard installation; 386 centimeters between the center of pins 7-8-9-10 and the PinCam lense. To set the PinCam for the single lane, proceed as follows:

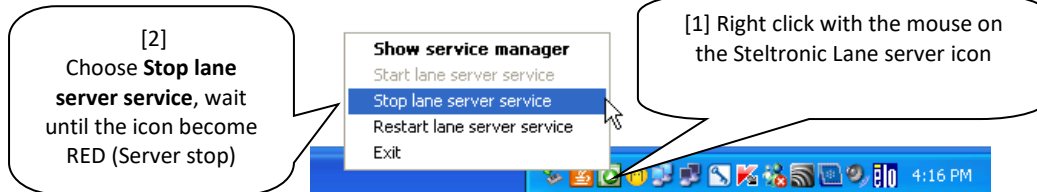
- (a) Turn off the VLC connected to the single lane
- (b) Stop the Steltronic Lane server
- (c) Open the SQL Manager Studio and change the PinDetectionConfiguration record in the table Lanepairs
- (d) Start the Steltronic Lane server
- (e) Focus configuration manager: create a new pinsetter type for the single lane
- (f) Edit the Parm_23 for choose the PinCam position
- (g) Turn on the VLC connected to the single lane
- (h) Select the new pinsetter type for the single lane
- (i) Proceed with the single lane calibration

(a) Turn off the VLC installed on the single lane

(b) Stop the Steltronic Lane Server

WARNING

This operation can be performed from the Steltronic Server only

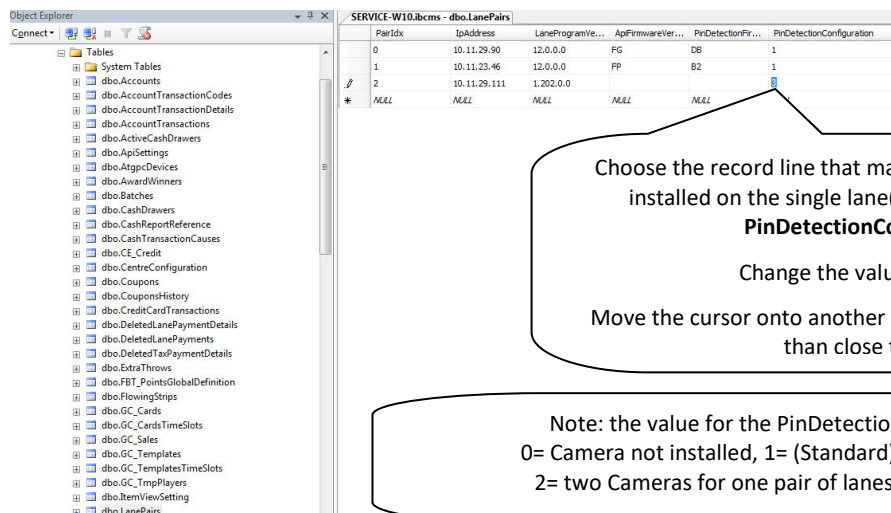


If the Lane Server icon is not visible in the windows task bar, type **services.msc** on the prompt line, browse the services list, highlight Steltronic Lane Server, click with the right mouse button and choose **STOP**.

(c) Open the SQL Manager Studio and change the Pins Configuration in the table LanePairs

From the Server, launch the SQL Studio Express tool manager. As Server name, leave a default name (IBCMS) or type a dot for the local sever, select for authentication mode Windows mode.

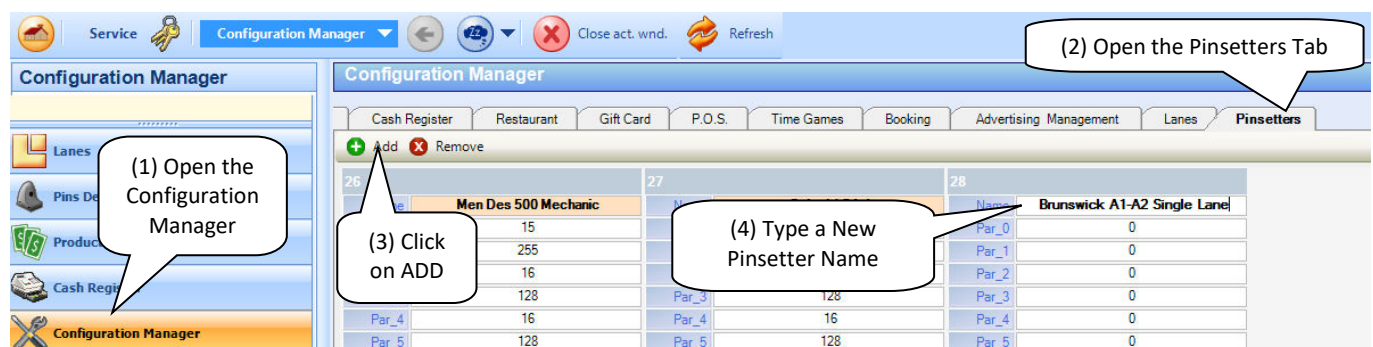
Open Database → IBCMS → Tables, click with the right mouse button on **dbo.LanePairs** and choose Open Table (SQL 2008 = edit Top 200 rows).



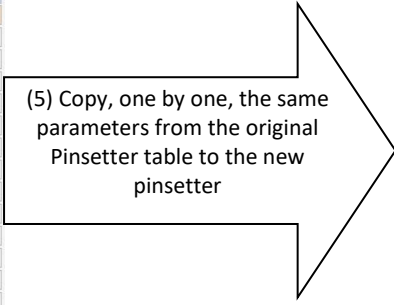
(d) Close the SQL Manager Studio and Restart the Steltronic Lane Server.

(e) Create a new pinsetter type

In the Focus database, a new pinsetter type need to be created with parameter 23 modified:



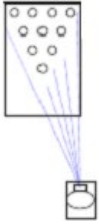
2	
Name	Brunswick A1/A2 standard
Par_0	15
Par_1	255
Par_2	16
Par_3	16
Par_4	16
Par_5	4
Par_6	4
Par_7	4
Par_8	23
Par_9	23
Par_10	7
Par_11	127
Par_12	27



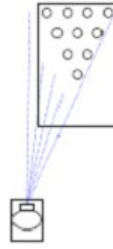
(5) Copy, one by one, the same parameters from the original Pinsetter table to the new pinsetter

28	
Name	Brunswick A1-A2 Single Lane
Par_0	15
Par_1	255
Par_2	16
Par_3	16
Par_4	0
Par_5	0
Par_6	0
Par_7	0
Par_8	0
Par_9	0
Par_10	0
Par_11	0
Par_12	0

(f) Edit the Par 23 for choose the PinCam position



Single lane,
PinCam fixed on right side of the lane
PAR_23 =24



Single lane,
PinCam fixed on left side of the lane
PAR_23 =56

Click on SAVE button to save the new Pinsetter type

(g) Turn on the VLC installed on the single lane

(h) Select the new pinsetter type for the single lane

(2) In Advanced 1, choose the new pinsetter type that you have created

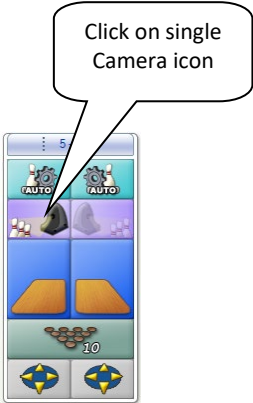


(1) Select the Pinsetter Settings of the single lane

(3) Fill all settings (same value of the other lanes) and click on Send to lane

(4) Fill (same value of the other lanes) the settings for the Basic & Advanced 2 tabs, click on Send to lane and close to finish.

(i) Proceed with the single lane calibration



Click on single Camera icon

This tab is for the single lane, but procedure did not change, proceed with the calibration in the same way for the double lane.

Installation of 2 PinCam's for one pair of lanes

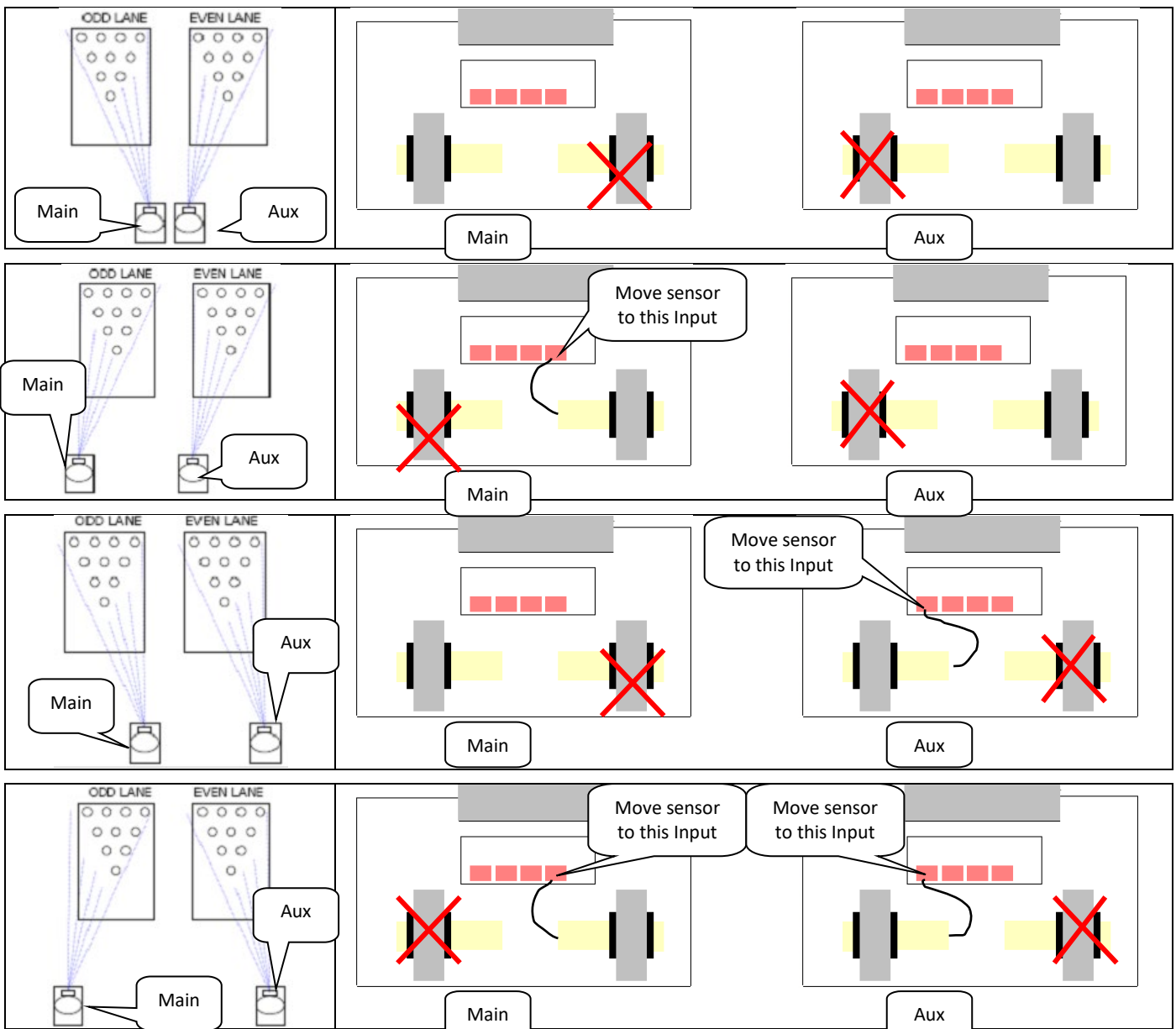
Some installations require 2 cameras for pin detection for a pair of lanes, for example, where a pillar or any obstacles bigger than 20 centimeters divide the odd and even lane of the same pairs.

WARNING

The positioning of 2 PinCam's for the same lane pair must be performed manually or using the calibration program from a Laptop (see chapter [PinCam position verification with PinCam client software](#)), It is not possible to use the PinCam Led to check the positioning.

There are many positions to install two PinCam, depends on the side where the PinCam is mounted to the lanes, anyhow keep in mind about the following:

- The PinCam installed for the ODD lane must be plug in the Main PinCam API input
- The PinCam installed for the EVEN lane must be plug in the AUX PinCam API input
- From each PinCam, remove the "blind" sensor, connect the sensor for ball detection in the input as shows in the following table:



To set the system for the double PinCam installation, proceed as follows:

- (a) Turn off the VLC connected to the double PinCam installation
- (b) Stop the Steltronic Lane server
- (c) Open the SQL Manager Studio and change the PinDetectionConfiguration record in the table Lanepairs
- (d) Start the Steltronic Lane server
- (e) Focus configuration manager: create a new pinsetter type for the double PinCam installation
- (f) Edit the Parm_23 for PinCam's installation type
- (g) Turn on the VLC connected to the double PinCam installation
- (h) Select the new pinsetter type
- (i) Proceed with the lane calibration

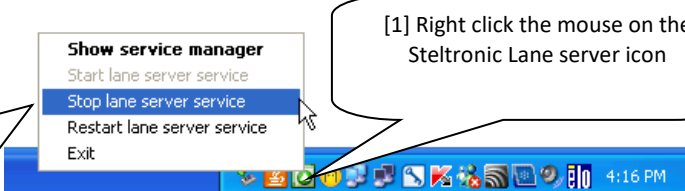
(a) Turn off the VLC....

(b) Stop the Steltronic Lane Server

WARNING

This operation can be performed from the Steltronic Server only

[2] Choose **Stop lane server service**, wait until the icon become **RED** (Server stop)



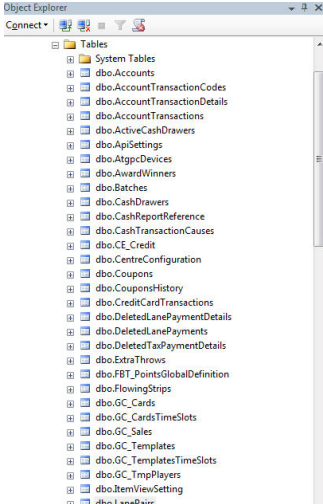
[1] Right click the mouse on the Steltronic Lane server icon

If the Lane Server icon is not visible in the windows task bar, type **services.msc** on the prompt line, browse the services list, highlight Steltronic Lane Server, click with the right mouse button and choose **STOP**.

(c) Open the SQL Manager Studio and change the Pins Configuration in the table Lanepairs

From the Server, launch the SQL Studio Express tool manager. As Server name, leave a default name (IBCMS) or type a dot for the local sever, select for authentication mode Windows mode.

Open Database → IBCMS → Tables, click with the right mouse button on **dbo.LanePairs** and choose Open Table (SQL 2008 = edit Top 200 rows).



PairIdx	IpAddress	LaneProgramVer...	ApFirmwareVer...	PinDetectorFr...	PinDetectionConfiguration
0	10.11.29.90	12.0.0.0	FG	DB	1
1	10.11.23.46	12.0.0.0	FP	B2	1
2	10.11.29.111	1.202.0.0			
#	N/A	N/A	N/A	N/A	N/A

Choose the record line that matches with the IP of the VLC installed on the single lane(s) and move on the field **PinDetectionConfiguration**.

Change the value from 1 to 2

Move the cursor onto another field to confirm the changes, than close the table

Note: the value for the PinDetectionConfiguration is the following:
 0= Camera not installed, 1= (Standard) one Camera for one pair of Lanes,
 2= two Camera for one pair of lanes, 3= one Camera for a single lane

(d) Close the SQL Manager Studio and Restart the Steltronic Lane Server.

(e) Create a new pinsetter type

In the Focus database, a new pinsetter type need to be created with parameter 23 modified:

(1) Open the Configuration Manager

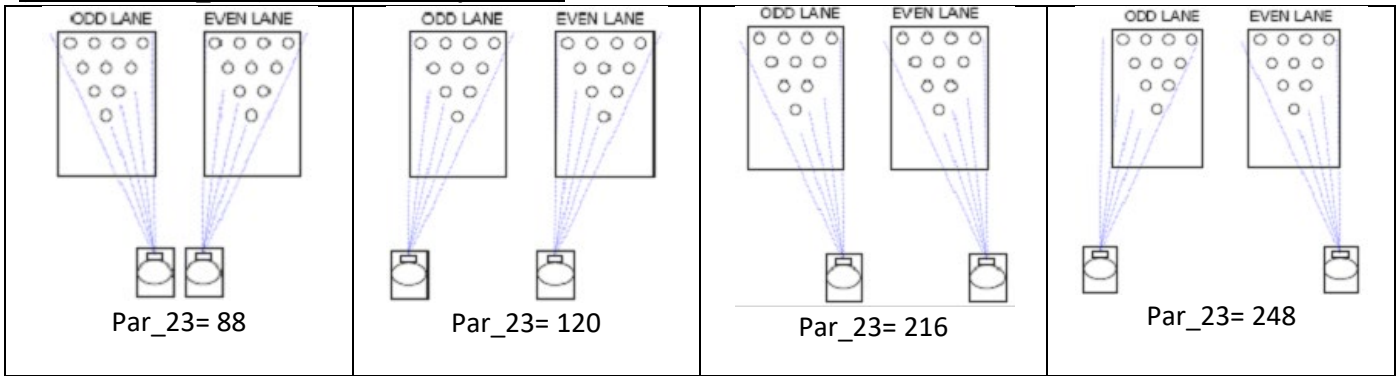
(2) Open the Pinsetters Tab

(3) Click on ADD

(4) Type a New Pinsetter Name

(5) Copy, one by one, the same parameters from the original Pinsetter table to the new pinsetter

(f) Edit the Par 23 (see the PinCam position)



Click on SAVE button to save the new Pinsetter type

(g) Turn on the VLC installed on the single lane

(h) Select the new pinsetter type for the single lane

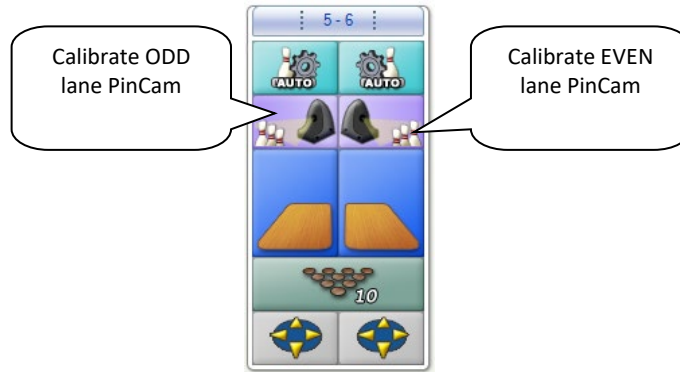
(1) Select the Pinsetter Settings of the double PinCam

(2) In Advanced 1, choose the new pinsetter type that you have created

(3) Fill all settings (same value of the other lanes) and click on Send to lane

(4) Fill (same value of the other lanes) the settings for the Basic & Advanced 2 tabs, click on Send to lane and close to finish.

(i) Calibrate each lane



PinCam

Device	Status	Task	Firmware	Validation	Bank	IP Address	Gain	Exposure
5		Waiting for settings	D8		1	10.11.254.71	0	0

Lane 5

Take new picture
Get current picture
Process image
Calibrate
Save image to file
Load image from file
Get last pin read

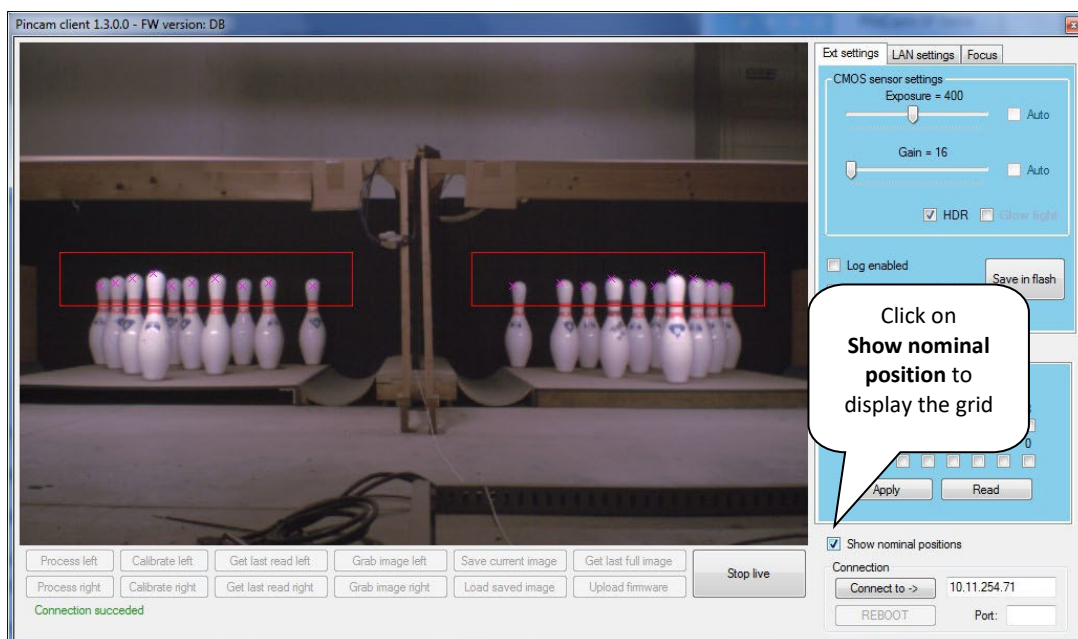
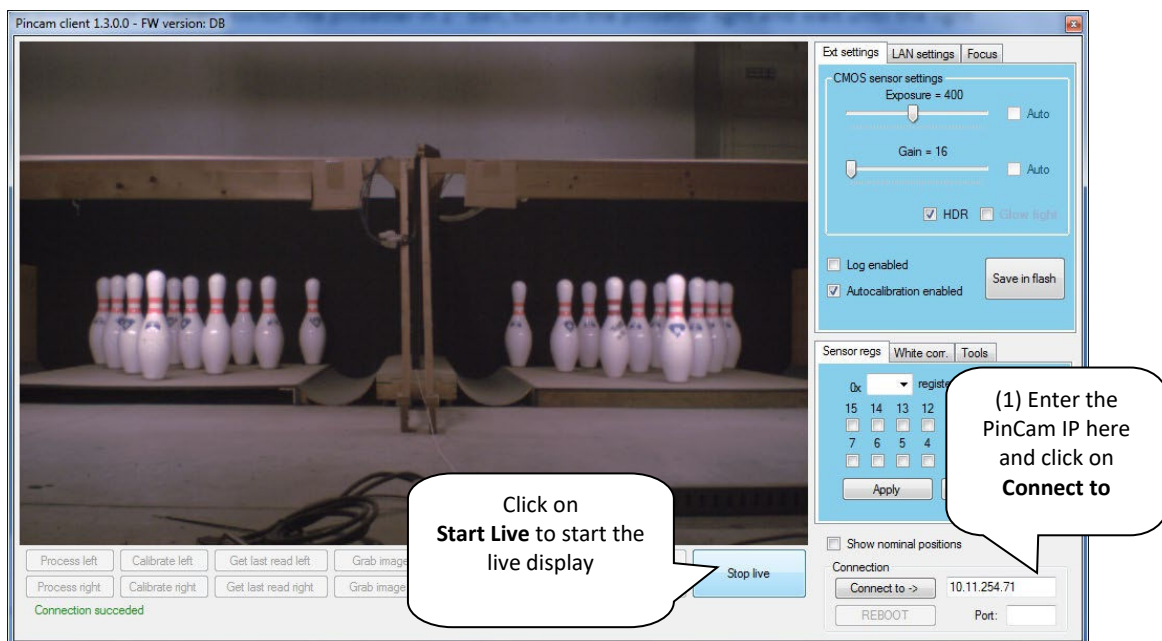
Close

This tab is for each lane (One for odd, one for even), But procedure does not change; proceed with the calibration in the same way for a double lane calibration of odd and even side.

PinCam position verification (with PinCam client software)

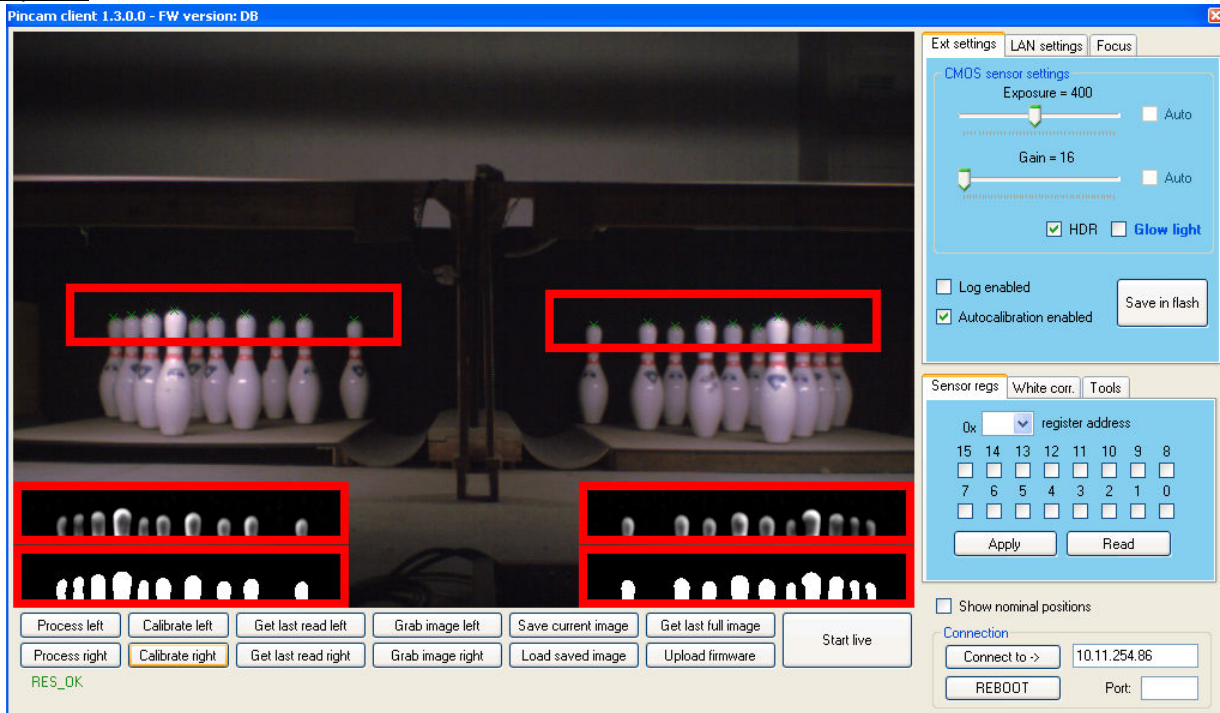
Download from [PinCam Client Software](#)

- Copy and extract the Zip file on a Laptop
- Set the Laptop network board as follows: IP 10.11.1.10 SubNet mask 255.255.0.0
- Turn off the Laptop
- Turn off the VLC where the PinCam is connected
- Unplug the Network cable from the PinCam
- Connect the Laptop to the PinCam Network output using a standard UTP cable
- Turn on the VLC where the PinCam is connected
- Turn on the Laptop
- Place all the pins on the deck, switch the pinsetter in 1st ball, turn on the pinsetter light and wait until the light is bright.
- From the Laptop, launch \\PincamClient v1.3\PinCamClient.exe



The nominal position is an “ideal PinCam” position that may not match exactly with the installation, anyhow move the PinCam as best until the all the “X” crosses are centered on the Top of each pin, possibly at the center of each pin.

After mounting the PinCam with screws, remove the tag in the check box "Show nominal position" and click on the Stop Live button.



If is necessary, Calibrate directly with the program, by clicking on Calibrate Left and/or Calibrate right.

Other commands:

Grab image left – Grab image right = grab a picture from the of left or right area

Get last read left – get last read right = load the picture of the last pins detection

Save current image = save image as a file on the hard drive

Load saved image = load the file of a saved image

Process left – process right = verify the nominal position with the actual position.