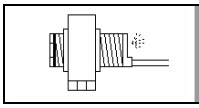


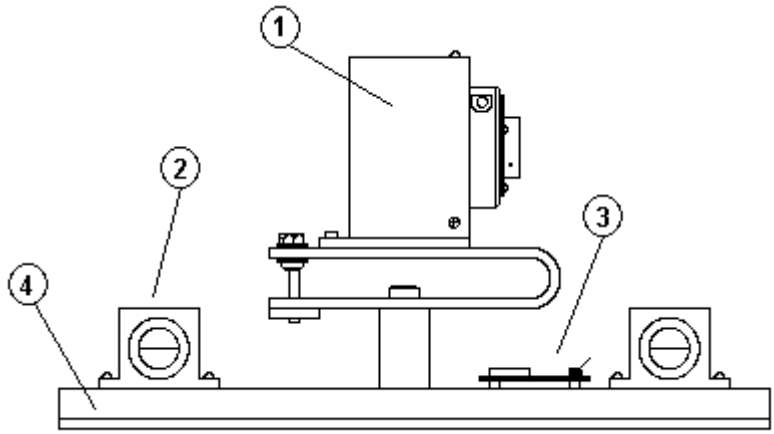
Checking the sensors 11.2

The Sciba is equipped with 4 photocells (2 per lane) which are used to detect the passage of the ball for the ball speed calculation and for the pinsetter commands. The Photocells are usually mounted on the Sciba and in certain conditions directly on the Capping, the reflectors are mounted on the small capping on the opposite side of the lane.
The pinsetter ball cushion micro switch is disconnected so that the pinsetter cycles when the scoring system gives the command.
If the pinsetter does not cycle and the score does not advance, it is probable that the photocell has lost its alignment.
BEFORE GOING TO CHECK THE PHOTOCELL ALIGNMENT CHECK THAT THE PINSETTER IS NOT BLOCKED FOR REASONS THAT ARE NOT CONNECTED TO THE SCORING SYSTEM (cams badly regulated, blocked motors, etc.)

If your system does NOT use the Sciba CCD camera for reading pin fall, (GS10, Vollmer String, Vilati String, KF3000, Spellman string pinsetters) the only photocell is the one used for detecting the ball to calculate the ball speed (except the KF3000, Vilati and Spellman string). If the pinsetter does not cycle check the pinsetter sensors.

ATTENTION! TURN THE PINSETTER POWER OFF BEFORE MAKING THIS CHECK.

Take the Sciba CCD protection cover off.

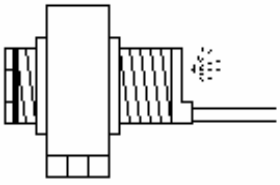


1 = Electronic and optical Sciba CCD block.

2 = Photocells

3 = Signal board

4 = Support base



There is a RED LED behind each photocell: if the Red light id on he photocell is lined up, if the Red Led is off the photocell is not lined up.
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.

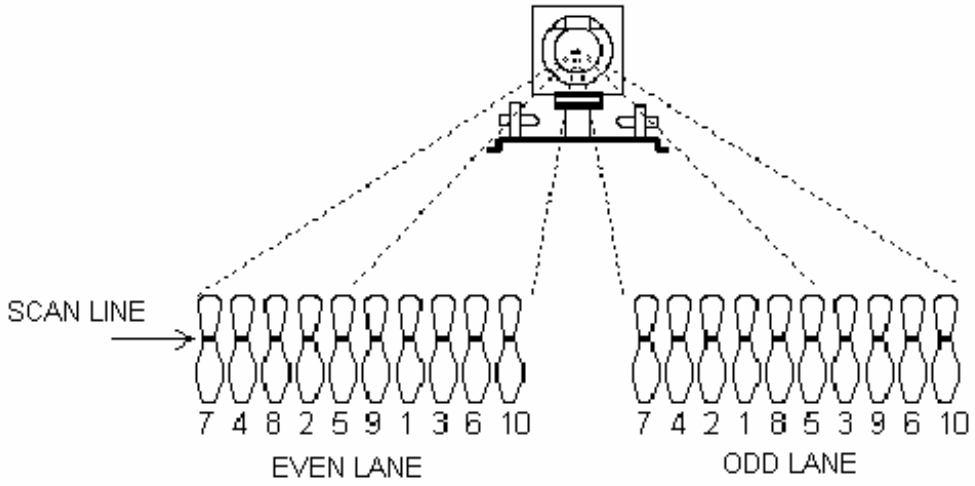
When the Red Led comes on the photocell has been aligned.
For a perfect alignment we advise you to cover the reflector with a piece of paper leaving only a small hole of about 2 cm in diameter in the centre of the reflector visible, in this way you are sure that the photocell is 'looking' at the centre of the reflector. Repeat the operation for all 4 photocells.

If the Red Led goes off after the ball passes even after the photocell has been re-aligned then the photocell may be pointing towards the border of the reflector.

Once the photocells have been checked (from a safe distance) test their functionality.

Checking the Sciba 11.3

By "checking the Sciba CCD" we mean, verify the direction the Sciba is pointing in respect to the position of the pins. This operation is carried out at the Main Desk computer, without any mechanical adjustments to the Sciba CCD itself.



The Sciba CCD is a "Linear camera" which 'reads' the pins on a "ideal line" as can be seen on the above diagram.
All 20 pins (2 lanes) can be seen on the 'ideal line'. The 'ideal line' is at the neck of the pins which, seen from 4 meters, is the point that the pins are furthest from one another.

IN ORDER TO OPTIMISE THE PIN COUNT BY THE SCIBA CCD WE ADVISE:

- Change pins that are damaged or broken at the neck.
- The neon lights on the lane pair must have the same brightness and intensity, any changes to lighting should be made per pair of lanes.
- The Sciba is able to read (up to a certain point) even the 'off spot' pins, we suggest that the pinsetter positioning arms be checked on a regular basis.
- Do not use pins which have black or coloured necks.

Turn the pinsetters on that need to be checked.

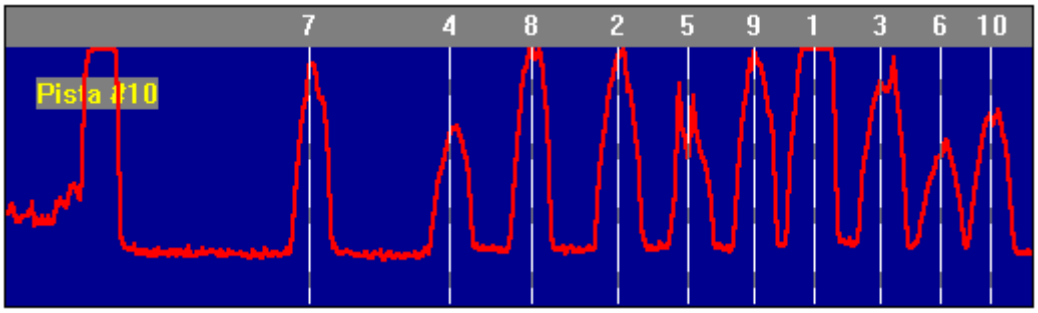
WAIT: the pinsetter pin deck light needs to warm up before giving the correct light.

CHECK THE CALIBRATION

The pinsetters should be on first ball with ALL 10 pins standing on each lane. The Sciba CCD is able to see the red pins, we advise however to make the calibration settings with standard white pins.
Switch the hall lights on just like when there are bowlers; sometimes neon's placed too close to the pins change the light conditions and therefore the pin detection.

Click on the SETUP icon, then on the icon of the Sciba to be checked

Click on the **CALIBRATION** icon and wait for the image to appear.



Example of reading

As you can see in the example the pins are represented by the **'peaks'** of different heights. The height depends on the distance from the neon light the pin is. Pins 1,3,2 and 5 are the highest 'peaks' as these pins are closet to the light, while pins 7,8,9 and 10 are further away and therefore receive less light resulting in lower 'peaks'.
As the example shows the 10 pin 'peak' is half the height of the pin 1 'peak', this is okay but a 'peak' lower than the 10 pin would not be detected.

The white vertical line shows the ideal position of the pin. If the line is on one side of the peak it is necessary to center it: click on the line with the left mouse button, keep the button pressed and drag the line to the centre of the peak. **THE CENTRE IS IN THE MIDDLE OF THE BASE OF THE PEAK.**

At the end of the calibration click on the camera button to save the settings.

It is important that the 'peaks' are a good distance from one another so that the pin detection is good. In cases where it is difficult to get good peaks, move the lines slightly to allow more distance between them.

The higher the peak is the more the peak tends to flatten. This phenomenon is known as IMAGE SATURATION when a pin peak is too saturated the Sciba CCD tends to 'see' the pin even when it has been knocked down.

Set the light that enters into the Camera by changing the INTEGRATION TIME.
If the pin 'peaks' are too high, being saturated with light, the Sciba CCD tends to 'see' them all the time, if the pin 'peaks' are too low the Sciba CCD has a hard time 'seeing' them.

Another parameter to consider is the BRIGHTNESS RATIO.

WHAT IS BRIGHTNESS RATIO

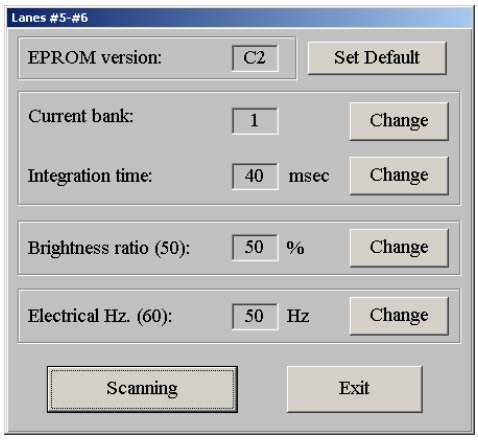
Brightness ratio is the light variation when the pin has been knocked down. In practical terms if the brightness ration is set to 50, the Sciba CCD will detect a pin as fallen when the light, in the area where the pin was when the first photo was taken, varies by at least 50%.

WHAT IS INTEGRATION TIME

Integration time is the value given to the amount of light in the Sciba area. By lifting or lowering this value you let more or less light into the Sciba, just as if it where a standard camera diaphragm.

CHANGING THE INTEGRATION TIME

Just like the first operation, select the current 'bank' which is needed for this calibration. We advise you to calibrate the Sciba CCD for normal day light bowling, so change the 'bank' and look for a integration time value which is correct for 'glow in the dark' bowling.

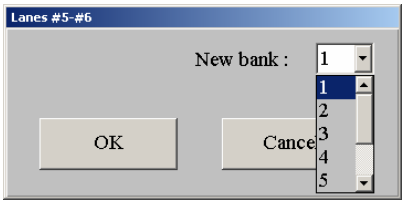


With SET PREDEFINED you can set the predefined parameters. ONLY USE THE FIRST CALIBRATION (WHEN YOU CHANGE THE SCIBA CCD).

Select the **CURRENT BANK**.
Create more 'banks' to save different settings for use with different light situations, with glow lights you need a higher integration time (between 150 and 200).

BANK 2 AND 4 ARE DEDICATED FOR INSTANT GLOW (Pinsetter interface A.P.I. only)

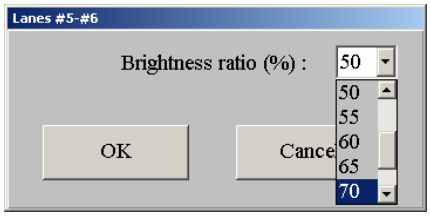
When the light situation changes (for example from daylight to glow bowling) simply select the preset 'bank' there is no need to change the integration time.



Select the **INTEGRATION TIME** for the 'bank' by clicking on the **CHANGE** button beside the current value.

Chose the value and confirm with **OK**.

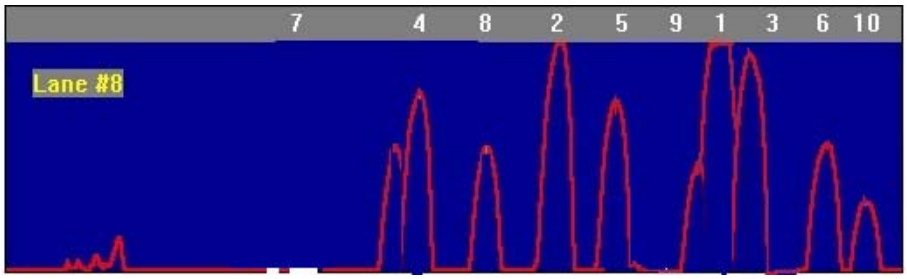
AVERAGE INTEGRATION TIME VALUE FOR STANDARD DAYLIGHT BOWLING = 40
AVERAGE INTEGRATION TIME VALUE FOR 'GLOW IN THE DARK' BOWLING = 90



The **network frequency** refers to the amount of 'Hertz' electricity. It is required to avoid surges caused by using neon lights.

EUROPE = 50 HERTZ
USA = 60 HERTZ
CHINA = 50 HERTZ

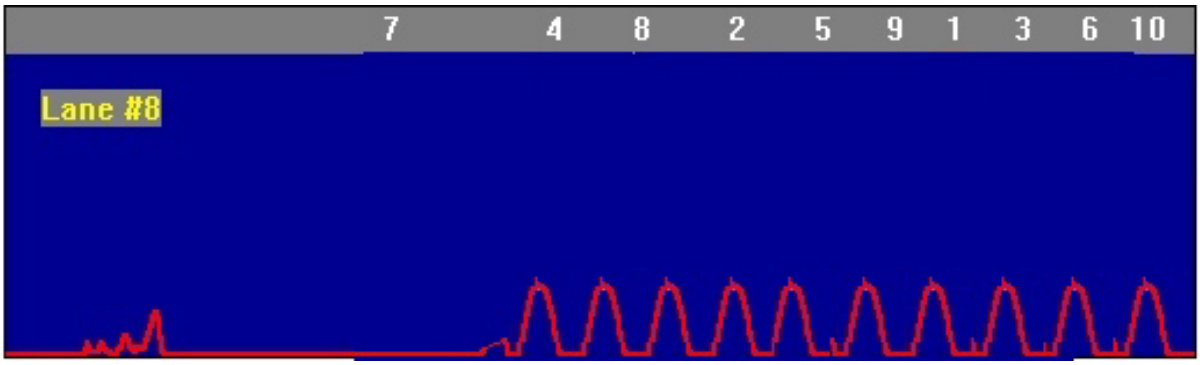
VERIFYING THE PIN SEPARATION



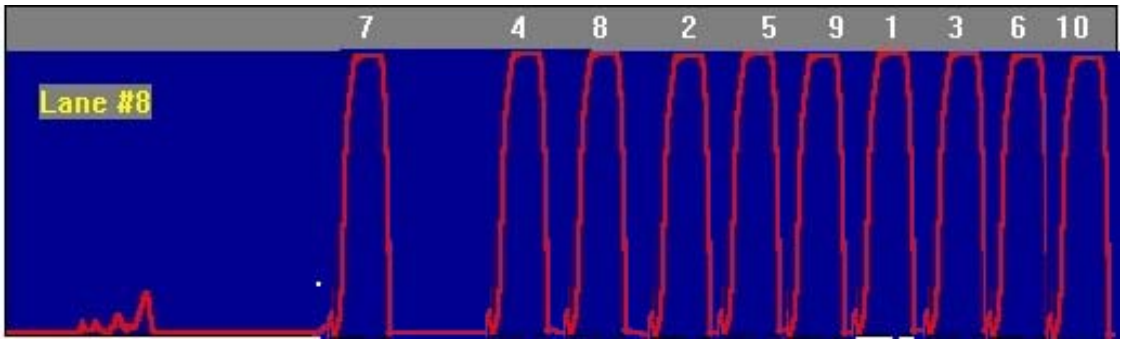
EXAMPLE OF AN IMAGE WITH OVERLAPPED PINS

If the Sciba CCD position is not correct or the 'focus' is out it can be regulated, the worst thing is the overlap of pin peaks, causing the Sciba CCD to detect one pin in place of another on the 'ideal line' and scoring it incorrectly. It is also possible, when the integration time is too high, that the light saturates the lens and the peaks overlap (they tend to become one line at the top). If it is not possible to fix the problem by altering the integration time, you need to MECHANICALLY CALIBRATE THE SCIBA. If this does not work, replace the Sciba CCD.

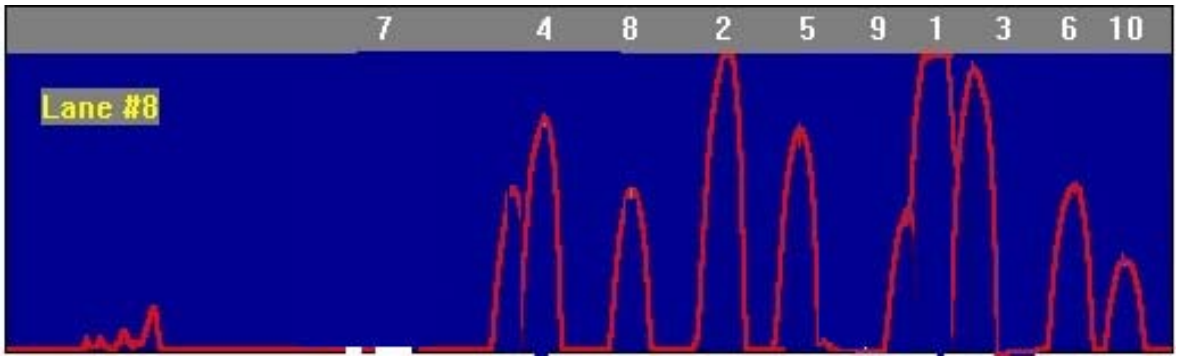
EXAMPLES OF INCORRECT CALIBRATION



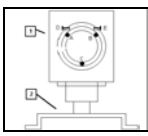
The peaks are too LOW; not enough light is entering the lens and the Sciba does not recognize the pins. **LIFT THE INTEGRATION TIME.**



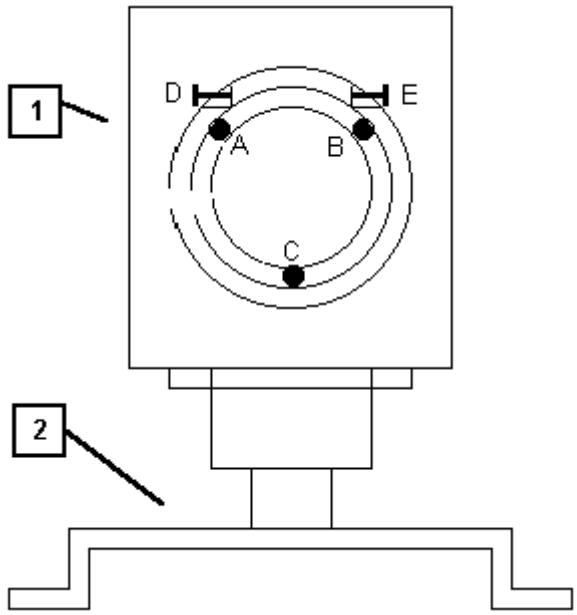
The peaks are too high; too much light is entering the lens; the Sciba recognizes the pins ALL the time, even when they have been knocked down. **DECREASE THE INTEGRATION TIME**.



The peaks are overlapped; the Sciba recognizes one pin in place of another, or worse it recognizes the pin in place of the one next to it. The Sciba may be out of focus. **LOWER THE INTEGRATION TIME**. IF THE OPERATION IS NOT SUCCESSFUL MAKE A MECHANICAL CALIBRATION.



SUBSTITUTING A SCIBA 11.4



The Sciba CCD is made up of two parts:

The **HEAD [1]** that contains the electronics and lens.

The **BASE [2]** which supports the photocells and the interface board.

More often than not it is not necessary to change the entire Sciba CCD assembly, nor the entire Sciba head.

If done carefully it is possible to change the electronic part only without doing a mechanical calibration.

TO CHANGE THE SCIBA ELECTRONICS WITH LENS

ATTENTION! Turn the power off to the lane computer or turn the I-Retro off (only if I-Retro with direct power model)

Take the plastic cover off (use a screwdriver to disconnect the 9 pole plug). Remove the aluminium lid by unscrewing the 4 lateral screws. Remove the 3 screws (A, B and C) that hold the lens ring. SLIGHTLY loosen ONE of the 2 fixing bolts (D or E). DO NOT LOOSEN THEM BOTH SO THAT YOU MAINTAIN THE CALIBRATION POSITION.

Carefully remove the electronic boards from the back of the block, if necessary loosen one the bolts a little more.

INSERT THE NEW BLOCK (lens + electronic boards), turn it until it positions itself against the bolt (D or E) which you did NOT loosen, then tighten the loose bolt firmly.

Replace the lens ring and tighten the 3 screws tightly, without exaggerating replace the lid.

Before calibrating the Sciba from the Main Desk computer click on the SET PREDEFINED button on the Sciba settings screen to load the original settings.

Proceed with the calibration from the Main Desk computer. If, during the replacement, the Sciba has moved, return to the mechanical calibration.

It is advisable, once checked that the position of the Sciba is correct, to use ordinary nail varnish to block the bolts and screws. Don't use substances which 'permanently' fix the screws and bolts as this will make it impossible to service when required.

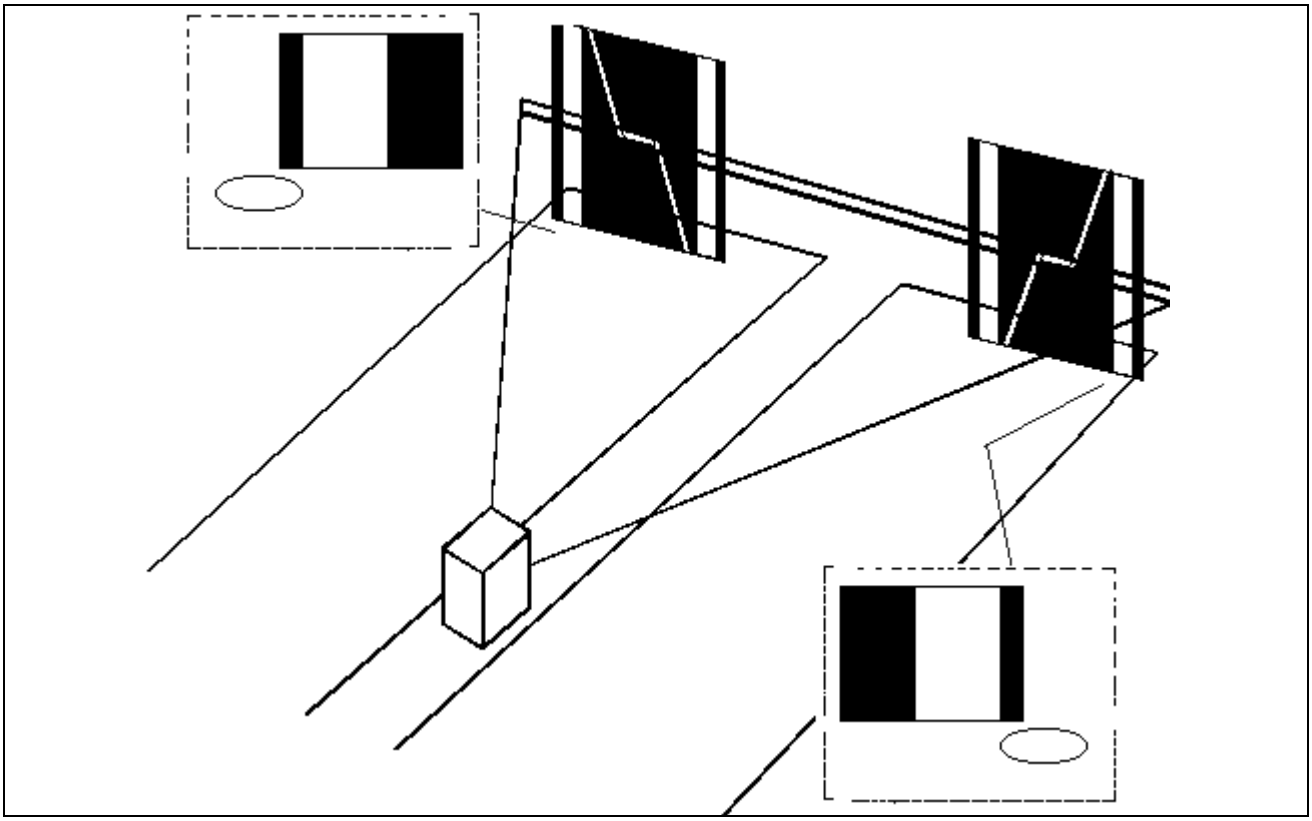
MECHANICAL CALIBRATION

This type of calibration is necessary if the Main Desk Computer calibration has failed because you are not able to find an ideal position for the vertical pin lines (sign that the Sciba has moved or needs to be replaced)

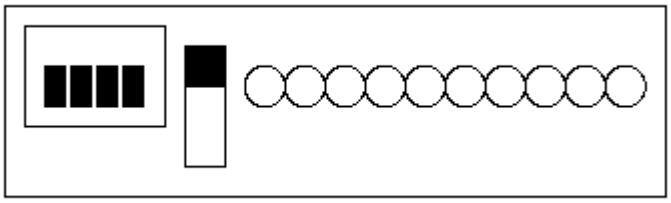
BEFORE DOING THIS TYPE OF OPERATION ASK FOR ADVISE FROM YOUR SUPPLIER OR FROM YOUR AUTHORIZED SERVICE CENTER.

BLOCK THE PINSETTER MOTORS!

Take the pins off the pin deck and position the calibration boards supplied during installation. Check if the pinsetter neon is switched ON and that the light conditions are the same as when there are bowlers. Obscure any lights that may effect the pins which are not usually present.
These calibration boards need to be positioned on the symmetrically in the center of the lanes so that they are in the position shown on the diagram below:



STANDARD POSITION FOR THE CALIBRATION TEMPLATE

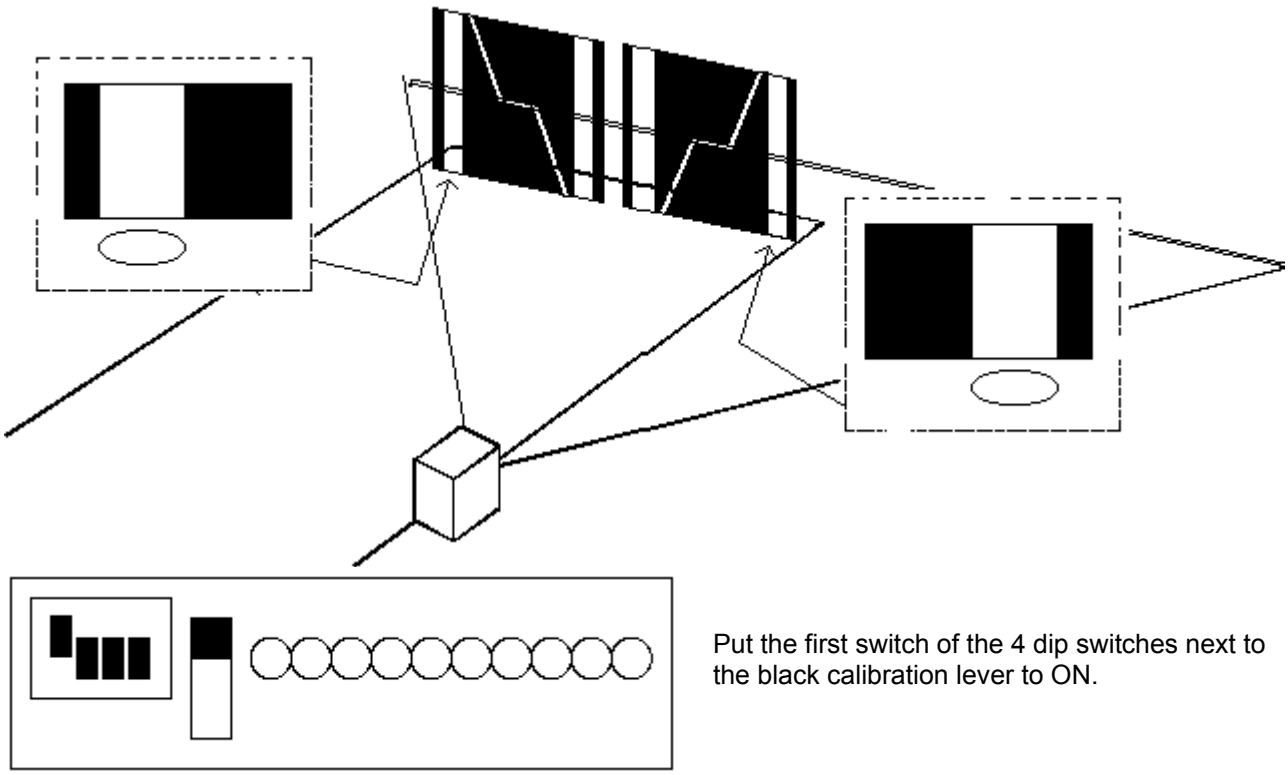


Switch the Sciba to **CALIBRATION**, to do this position the black leaver in the UP position.

When the Sciba is in **CALIBRATION**, it does NOT answer to commands from the Main Desk computer.

When the Sciba is in calibration the number 10 LED flashes, while the other LED's signal the adjustments to be made. The correct aim is achieved when all 10 LED's are ON and stay ON.

POSITION OF THE CALIBRATION BOARDS WHEN USING A SINGLE SCIBA



Put the first switch of the 4 dip switches next to the black calibration lever to ON.

ATTENTION! When the Sciba is single change the pinsetter interface parameters…

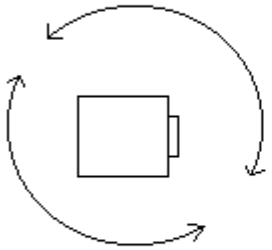
THE AIM IS REGULATED USING ALL THREE MOVEMENTS

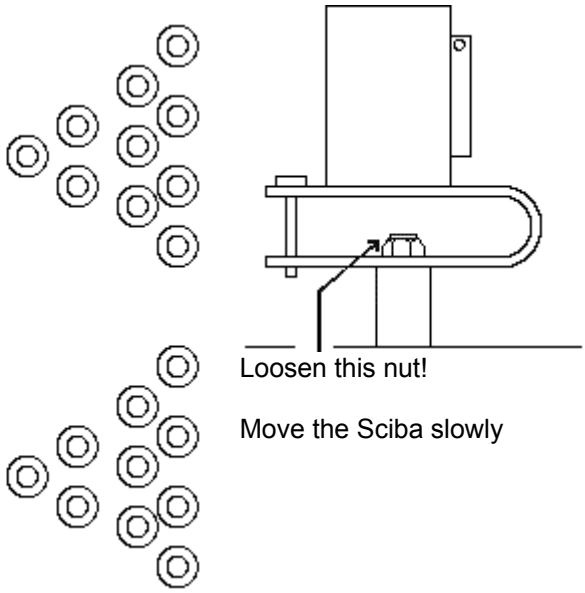
1. VERTICAL ROTATION.
2. CLOCKWISE OR ANTICLOCKWISE LENS ROTATION.
3. LIFT OR LOWER THE DETECTION LINE.

When you proceed with the Sciba regulation loosen the bolts and screws one at a time for each type of regulation (loosening all the screws would make it impossible).

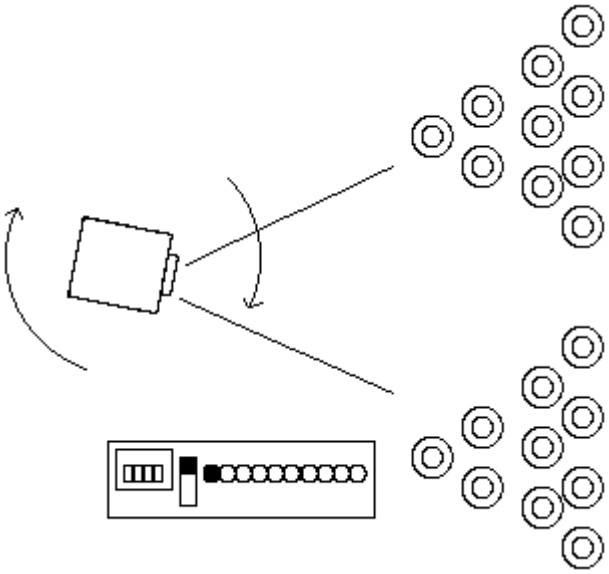
After having set each position it is advisable to tighten the bolts or screws which are loose.

VERTICAL ROTATION

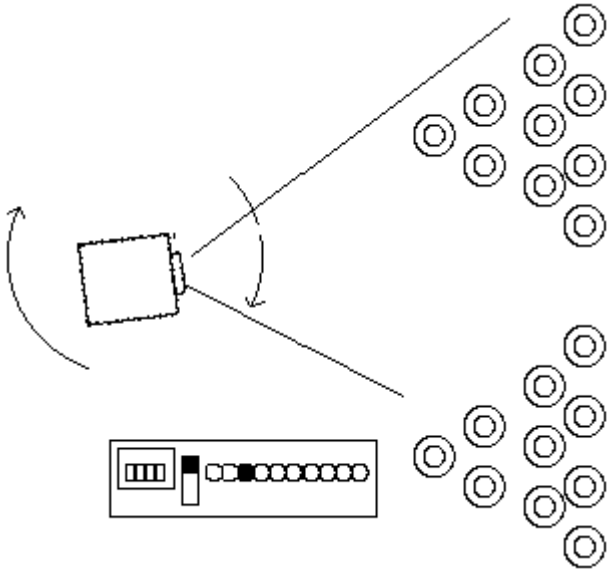




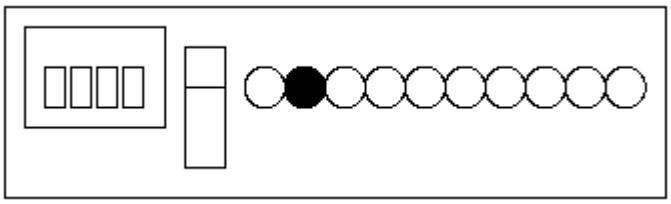
1^ REGULATION

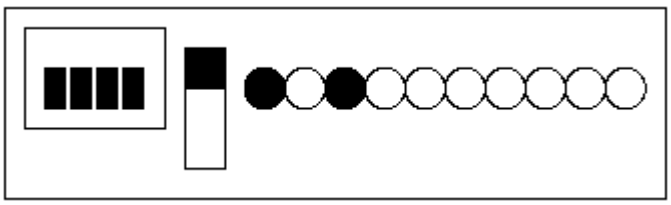


ROTATE TO RIGHT



ROTATE TO LEFT





OK! The position is correct, tighten the nut.

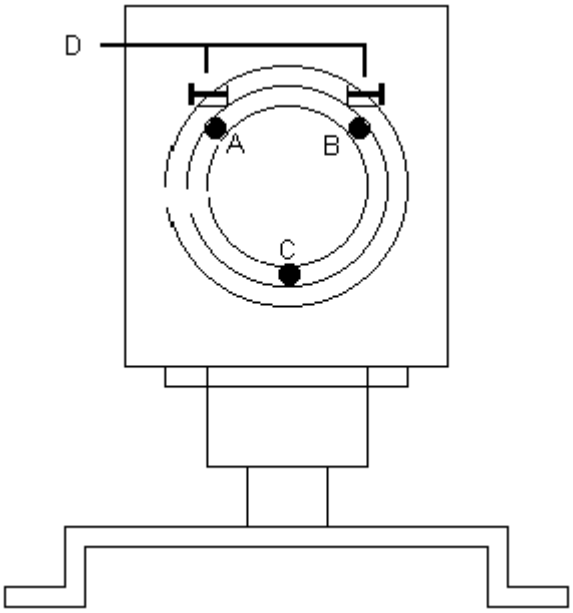
Proceed with the clockwise, anticlockwise lens rotation.

IF BOTH LED'S REMAIN RED WITHOUT ANY SIGN OF THE GREEN LED:

1. The Sciba distance is incorrect.
2. The integration time is wrong (too high or low).

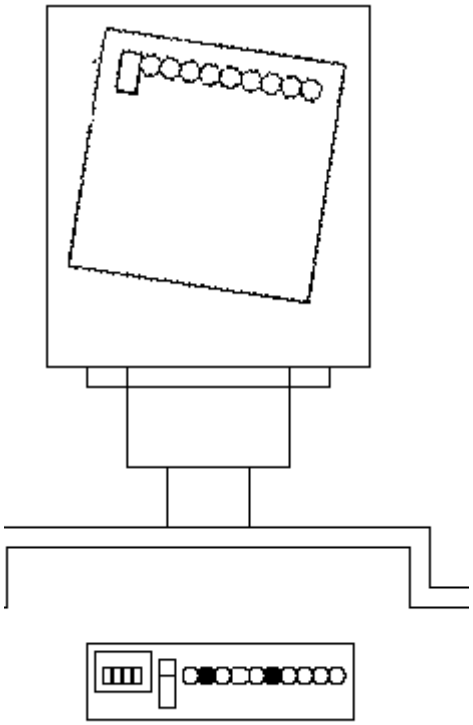
To change the integration time position the black calibration leaver back to it's normal position, down and change the integration time from the Main Desk computer.

CLOCKWISE OR ANTICLOCKWISE LENS ROTATION

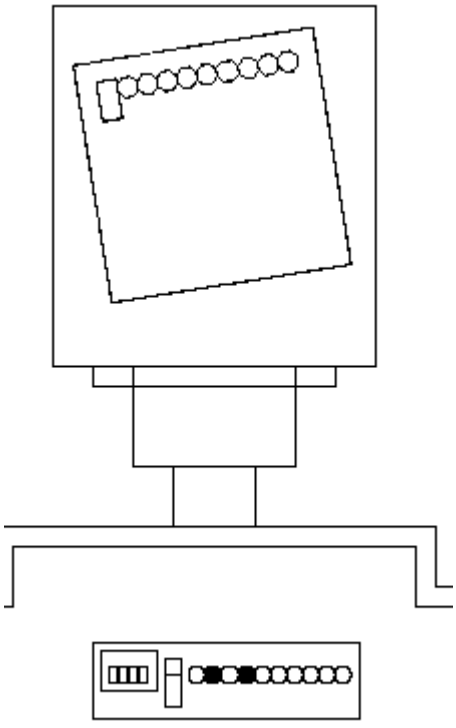


Loosen the 3 screws on the lens ring.

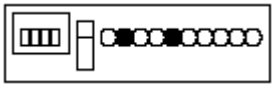
Use the D bolts to move the lens block clockwise or anticlockwise.



Rotate clockwise

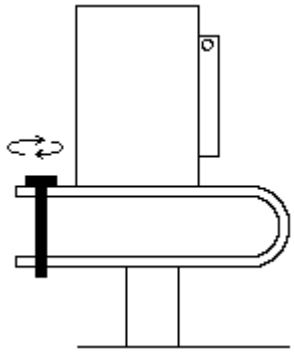


Rotate anti-clockwise

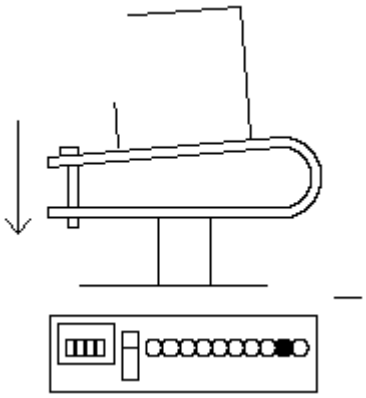


OK! The rotational position has been found, tighten the bolts.

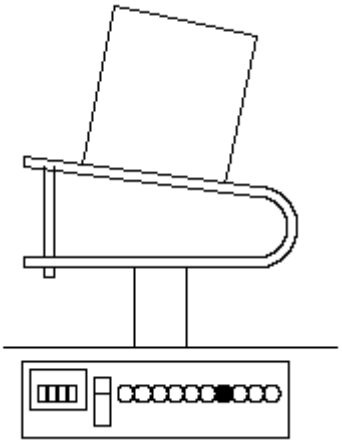
LIFT OR LOWER THE DETECTION LINE



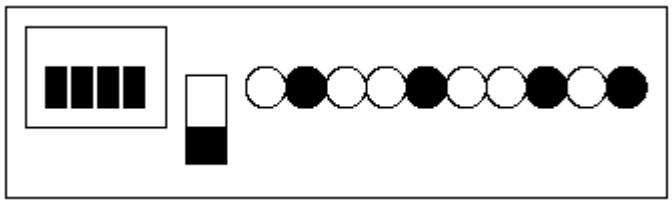
Rotate the bolt to lift or lower.



tighten to lift



loosen to lower



ALL OK!

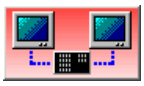
The Sciba mechanical calibration is complete.
All 4 LED's are on.

- Remove the Sciba calibration boards.
- Use nail varnish to block the screws and bolts.

REMEMBER TO MOVE THE BLACK CALIBRATION LEVER TO THE NORMAL POSITION, DOWN.
IF YOU FORGET TO DO THIS, WHEN YOU TRY TO USE THE SCIBA ICON ON THE MAIN DESK COMPUTER YOU WILL ONLY SEE THE TIME OUT MESSAGE.

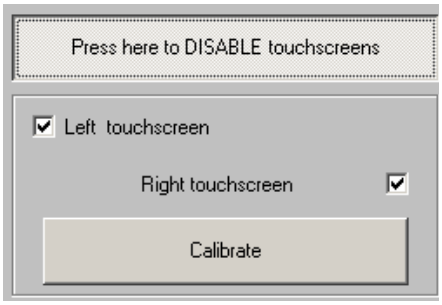
CALIBRATING THE BOWLER CONSOLE TOUCH SCREENS 11.5

Close the scoring on the lanes to be calibrated, verify that the "SCROLLING BACKGROUNDS" have been selected for the lane.

Click on the  buttons on the SET-UP menu (same lane computer as is actually installed).

Verify that the touch screen is enabled then carry out the calibration by clicking on the **CALIBRATE** button and following the instructions.

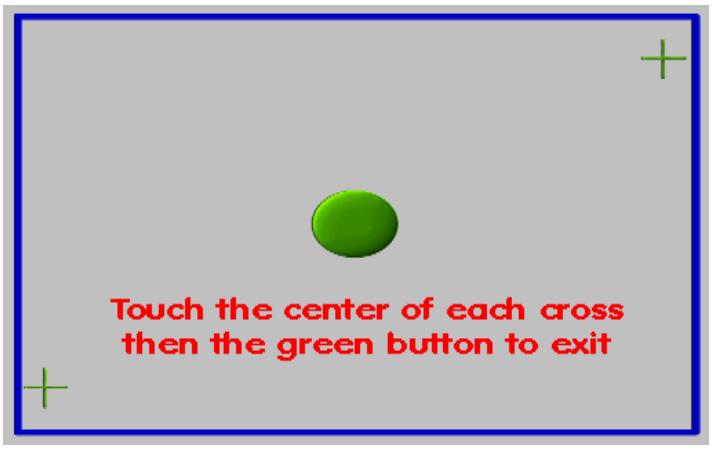
Execute the calibration from the bowler console.



PRESS HERE TO ENABLE TOUCH SCREENS

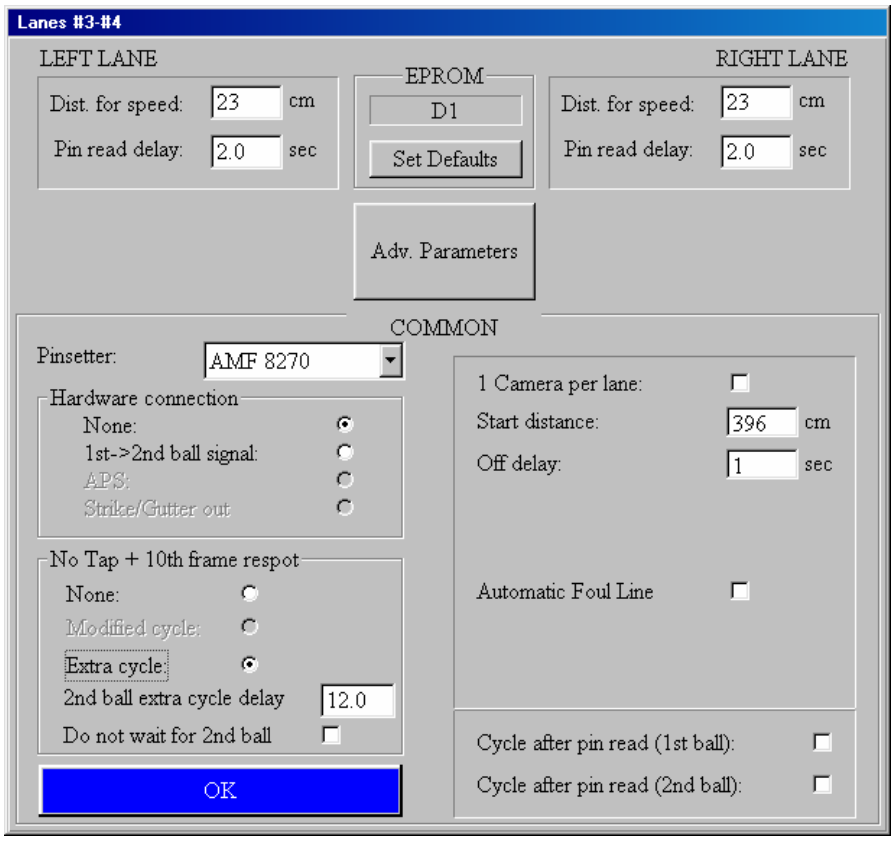
This button enables the TOUCH SCREEN function on the bowler consoles with 14" monitors; indicate which touch screen by clicking on **RIGHT TOUCHSCREEN** and **LEFT TOUCHSCREEN.**

The **CALIBRATION** button allows you to send the calibrate boiler console touch screen signal to the lane.



SETTING THE PINSETTER INTERFACE PARAMETERS. (A.P.I.) 11.6

The parameters for the pinsetter Interface are configured by the installers. Modify them only if absolutely necessary. Before modifying, inform the service center of the reason for modifying the settings.



Click on the **PINSETTER INTERFACE** button on the **SETUP** menu for the pair of lanes you need to check and WAIT until the communication starts. If necessary, vary the parameters directly on the screen. First operation: Select the **PINSETTER** from the list, then click on the **SET DEFAULT** button to load the most common parameters, finally, modify them as you wish. *Selection based on the Pinsetter and Hardware type:*

HARDWARE CONNECTION

NONE installations with 82/30/3000/45 or 82/70 with solid state chassis without modified APS or Brunswick A1/A2 and 82/70 uP without APS circuit.

1ST 2ND BALL SIGNAL, installations with pinsetters which have had a ball change button installed.

APS on 82/70 Up or 82/90 First Generation and 82/30 pinsetters with Steltronic APS modified chassis.

STRIKE/GUTTER OUT Enable the signal out (N.O. relays) only for Yangji pinsetters

DISTANCE FOR SPEED

Measure the distance between the START photocell and the SPEED TRIGGER photocell, in centimetres. On standard installations using standard Sciba CCD's with both photocells mounted on the base plate the distance is 23cm.

PIN READ DELAY

Time, in seconds, that the Sciba CCD **'waits'** to take the picture from when the ball passes the START photocell. This parameter is not used when the Sciba CCD is not installed (because the pinsetter does not require a camera).

START DISTANCE

Measure the distance between the pinsetter START photocell and the LAST ROW (7,8,9,10) in centimetres. In standard installations the distance is 396cm.

OFF DELAY

Time, in seconds, which the system 'waits' before switching the pinsetter OFF from when the STOP GAME END sign appears on the lane monitor.

NO-TAP + 10TH FRAME RESPOT

NEVER no cycle to reset pinsetter in case of spare + non strike thrown in 10th frame.

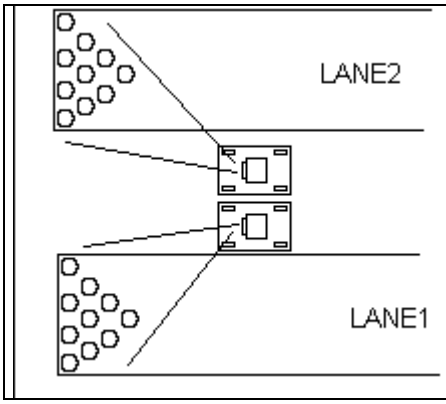
MODIFIED CYCLE is used with APS. Simulates a strike and avoids an unnecessary cycle.

SECOND BALL EXTRA CYCLE DELAY time, in seconds, which passes between the 2nd ball light coming on and the pinsetter cycle signal being sent.

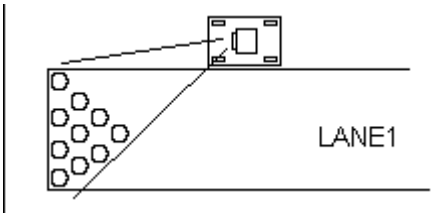
DO NOT WAIT FOR 2ND BALL special cycle for KF3000 pinsetter. When enable, the time in 2nd ball extra cycle" starts the countdown from last trigger.

SETTING ONE SCIBA PER LANE

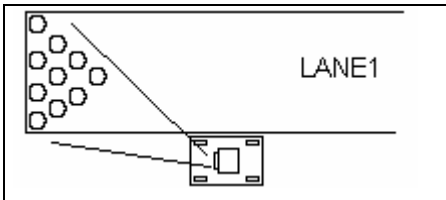
When 2 Sciba are mounted for two lanes, is necessary setup the I-Retro parameters in right way, as follows:



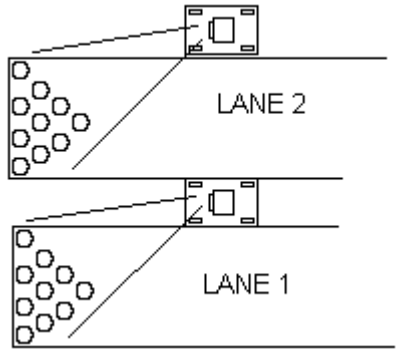
LEFT	**RIGHT**
NEVER	NEVER
STANDARD	**STANDARD**
CROSSED	CROSSED

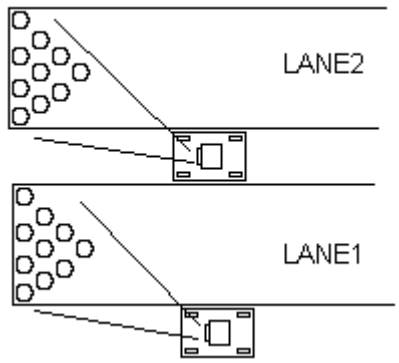


LEFT	**RIGHT**
NEVER	**NEVER**
STANDARD	STANDARD
CROSSED	CROSSED



LEFT	**RIGHT**
NEVER	**NEVER**
STANDARD	STANDARD
CROSSED	CROSSED

	**LEFT**	**RIGHT**
	NEVER	NEVER
	STANDARD	STANDARD
	CROSSED	**CROSSED**

	**LEFT**	**RIGHT**
	NEVER	NEVER
	STANDARD	**STANDARD**
	CROSSED	CROSSED

WORKSTATION TOUCH SCREEN CALIBRATION 11.7

Calibrating the computer monitor touch screen in necessary when the cursor does not follow the commando given with the finger correctly. Calibrate the monitor after it has been moved as well.

Attention! If the Touchscreen monitor was switched on AFTER the computer had already loaded Windows the TOUCH function is DISABLED. Restart Windows to re-activate the Touchscreen.

The touchscreen models in use are ELOTOUCH or MICROTOUCH. Both of these models could be serial (connected to the computers COM 1) or USB.

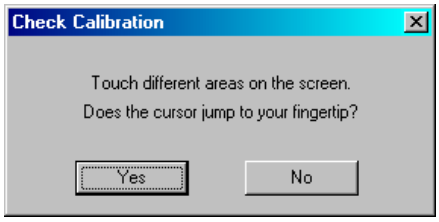
Before proceeding with the calibration, clean the screen with a slightly damp clean cloth, then set the screen to the adequate size.

CALIBRATING A MONITOR WITH ELOTOUCH INSTALLED

Click on the ELO TOUCHSCREEN icon found in the control panel of Windows (route: START→SETTINGS → CONTROL PANEL).

Click on the **CALIBRATE** button to activate the menu.

Touch the target, while standing directly in front of the monitor.
Repeat the operation with all the targets the system presents.



The next message asks you to touch the screen in various places to see if the cursor responds accurately.

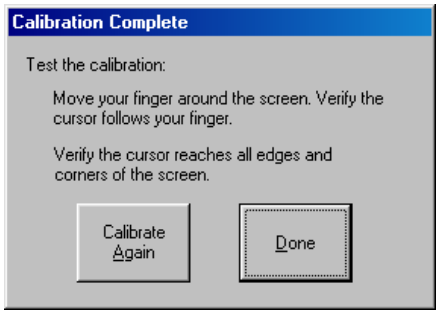
Click on **YES** to confirm or on **NO** to calibrate again.

CALIBRATING MONITORS WITH MICROTOUCH INSTALLED

Click on the MICROTOUCH TOUCHSCREEN icon found in the control panel of Windows (route: START→SETTINGS → CONTROL PANEL).

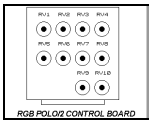
Click on the **CALIBRATE** button to activate the menu.

Touch the target, while standing directly in front of the monitor.
Repeat the operation with all the targets the system presents.



The next message asks you to touch the screen in various places to see if the cursor responds accurately.

Click on **DONE** to confirm or on **CALIBRATE AGAIN** to repeat the operation.



REGULATING – SUBSTITUTING LANE MONITORS 11.8

The lane monitors are set during installation. In time, it becomes necessary to regulate the brightness and contrast, sometimes even the screen dimensions. We recommend that the monitors be cleaned regularly, both screen and electrical parts.

For all types of monitor board, all monitors are made from two parts:

PICTURE TUBE where the de-magnetizing cable is placed as well as the earth cable.
The picture tube is fixed to the frame with 4 bolts in the corners.

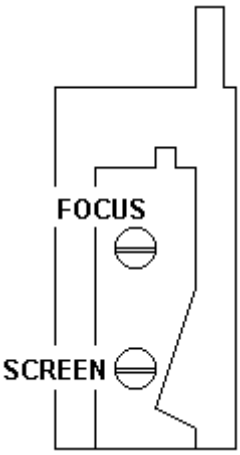
MONITOR BOARD made up of one or more electronic boards.

It is very rare that the Picture tube goes faulty, the component that is changed most frequently is the Monitor board.

There are different types of monitor. In this manual we talk about the Hantarex Multistandard and Polo monitors. For information on the Sharp Image monitors sold in the USA use the original factory manual included.

Every time you change the monitor board it is necessary to regulate the screen settings. The same operation is necessary if, in time, you see some white transparent lines overlapping the score grids.

Attention! For all types of monitors use plastic screwdrivers. Take off all rings, bracelets watches or other metal objects which could cause a short circuit.



*The **SCREEN** and **FOCUS** settings are located on a component called **LINE TRANSFORMER** mounted on the monitor board.*

To find this component follow the cable which is connected to the rubber seal attached to the back of the picture tube.

TO REGULATE THE SCREEN proceed in the following way:

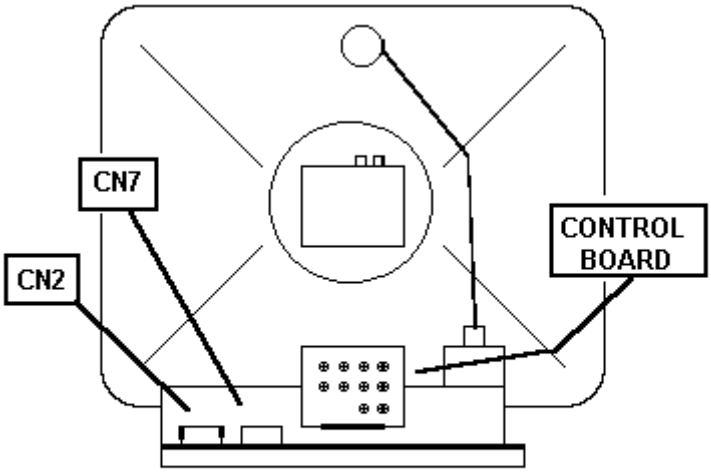
Lower the brightness, contrast and colour to the minimum.

Regulate the screen SLOWLY until you see the horizontal lines.

Turn in the opposite direction until you make them disappear again.

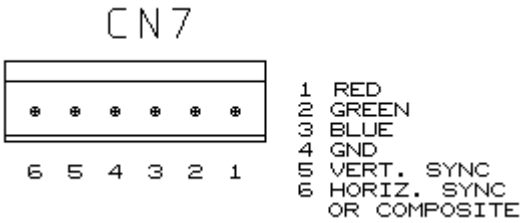
Attention!! If you regulate incorrectly turning more clockwise even when the lines appear, the monitor may turn itself off (auto save function): in this case take the regulation back to the point you started from, then turn the monitor off and back on with the power switch on the monitor board. Regulate the brightness, contrast and colour, also the focus if needed.

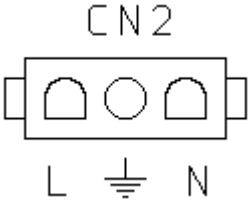
MONITOR HANTAREX POLO/2 28"



HANTAREX RGB POLO/2

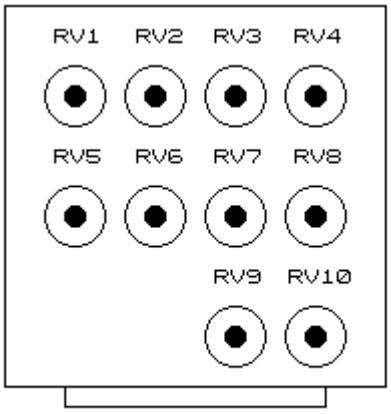
The CONTROL BOARD is used to regulate the image.





AC IN CONNECTOR

RGB signal connector



RGB POLO/2 CONTROL BOARD

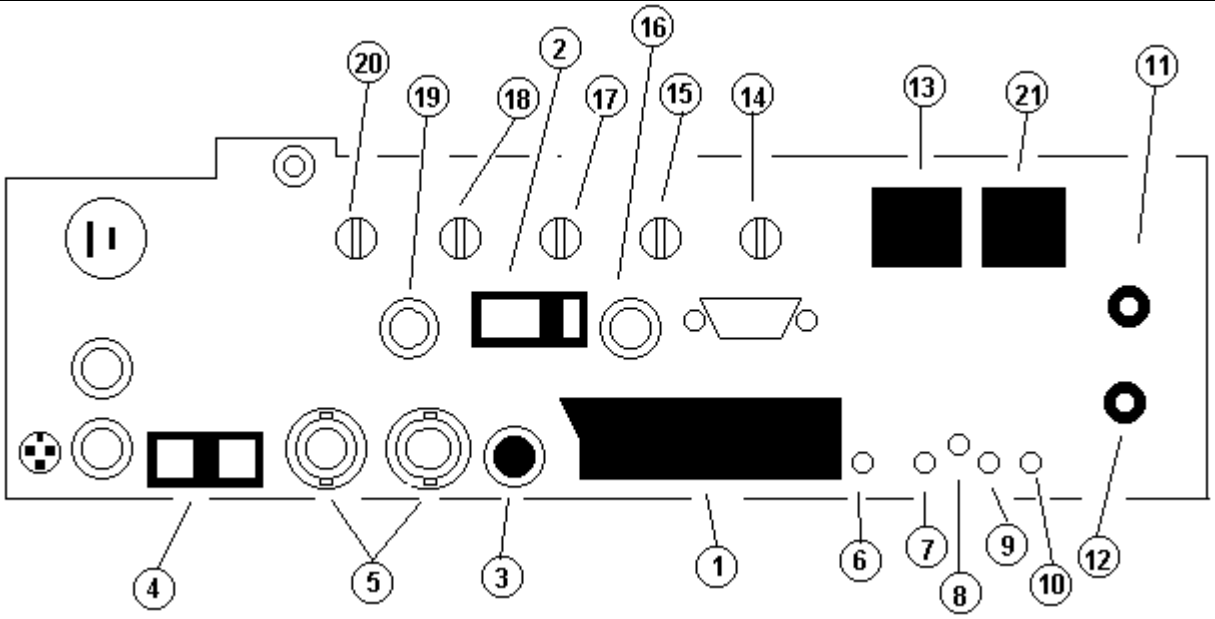
RV1 = Brightness
RV2 = Trapezio
RV3 = Horizontal pitch
RV4 = Vertical pitch
RV5 = Contrast
RV6 = Cushion
RV7 = Horizontal phase
RV8 = Vertical movement
RV9 = Horizontal frequency.

The screen settings are on the monitor board.

The fuses are on the monitor board near the CN2 connectors.

ATTENTION! The POLO/2 monitor boards are installed on 28" and 14" monitors but they are NOT compatible! The boards for the 28" have different components. Specify which model you have when requesting spares.

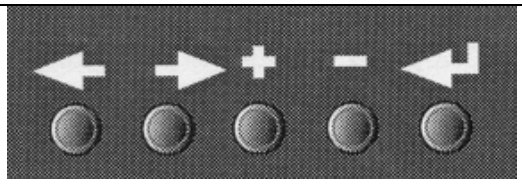
HANTAREX QUADRISTANDARD 28" EQ/2



1 EUROSCART connector
2 PRIORITY selector
3 75 Ohm switch (pressed = load inserted)
4 S-VHS, RGB, VIDEO selector
5 CVBS in –out
6 Horizontal phase
7 Vertical frequency
8 Vertical pitch
9 Vertical phase
10 Horizontal pitch
11 Focus
12 Screen
13 ON/OFF switch
14 COLOUR NTSC(ONLY)
15 COLOUR regulation
16 ANALOGUE – TTL selector (not used)
17 CONTRAST regulation
18 BRIGHTNESS regulation
19 Positive – negative Synchronism selector
20 Audio regulation (not used)
21 AC entry. In the base there is a drawer for storing fuses (T2A 250V)

2 & 4 = RGB, 19 negative SYNC

HANTAREX MULTISTANDARD 28" EQ/3



CONTROL PANEL

Press the ↵ button for 3 seconds to access the "on screen display" menu.

Use the ← → button to move from one function to the next.

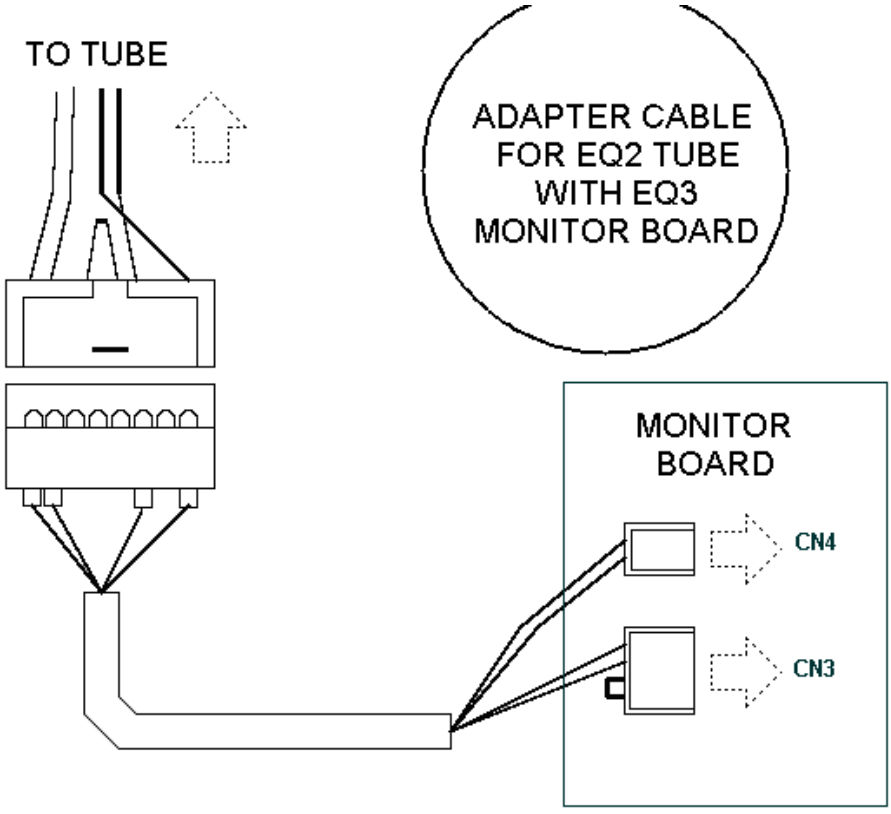
Use the + - buttons to change the values.

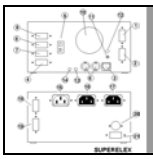
Attention! If no changes are made for 30 seconds, the monitor goes back to normal operation.

Lower the contrast, color and brightness to the minimum.

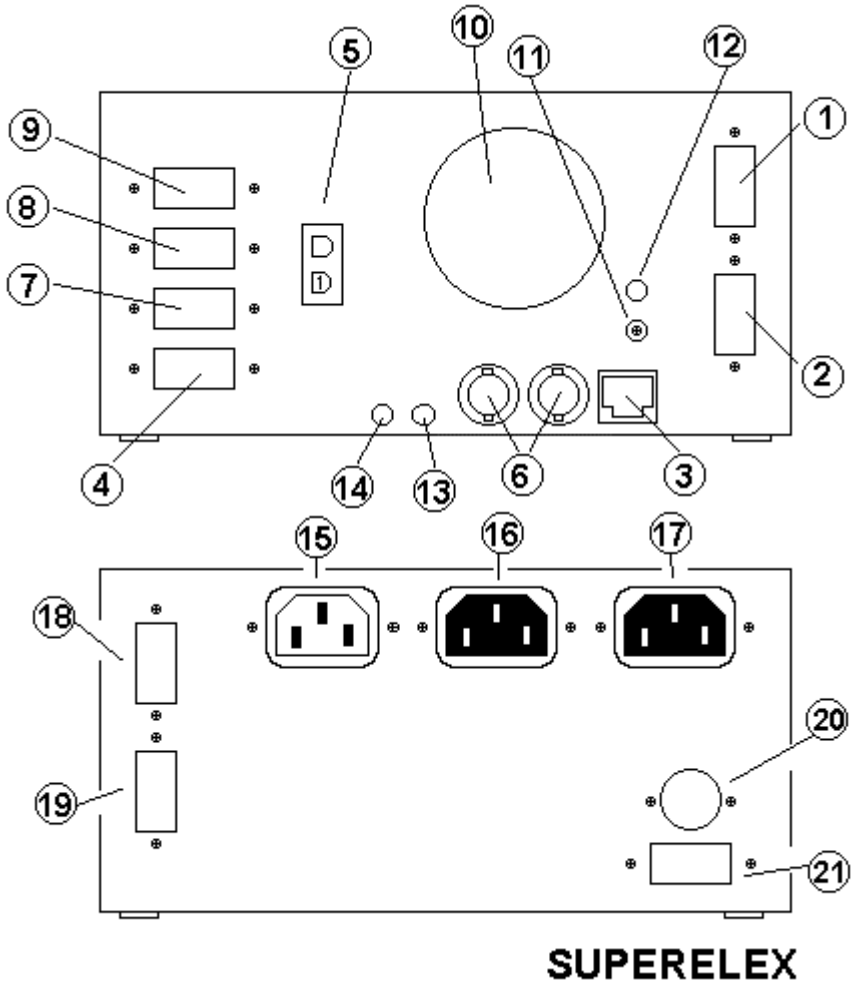
The RGB settings are already made by the factory.

FOR FURTHER INFORMATION READ THE MONITOR MANUAL .





EXCHANGING A LANE COMPUTER 11.9

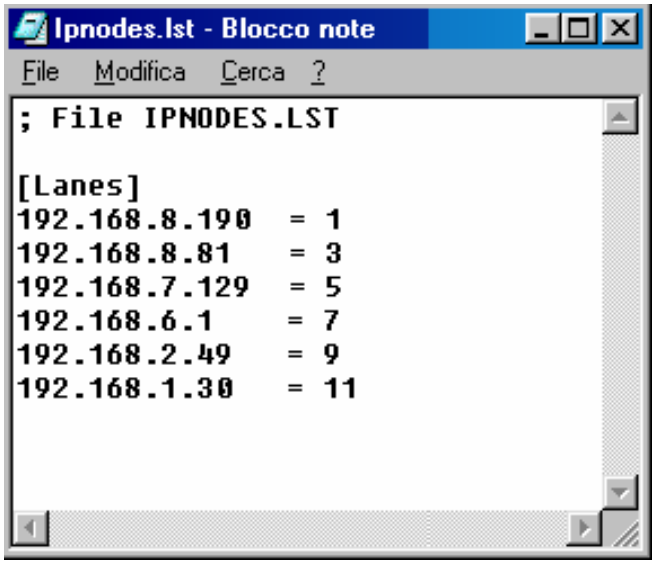


1 RGB out for Odd 14" bowler console monitor
2 RGB out for overhead odd monitor
3 Network in 10 base T
4 COM1 (to CA0092A cable)
5 12 VDC out (to CA0092A cable)
6 CVBS in/out
7 COM2 (optional touch screen driver)
8 COM3
9 COM4
10 Fan Speed
11 Led network
12 Optional reset button
13 Even Audio OUT
14 Odd Audio OUT
15 AC IN (110 –240)
16 AC OUT for ODD overhead monitor
17 AC OUT for EVEN overhead monitor
18 RGB out for even 14" bowler console monitor
19 RGB out for overhead even monitor
20 Keyboard in (maintenance only)
21 VGA out (maintenance only)

Before installing the new lane computer, take note of the number written on the IP ADDRESS label.

FROM THE MAIN DESK COMPUTER

Click on START -> PROGRAMS -> STELTRONIC -> IPADDRESS EDIT to open the file containing the "nodes".

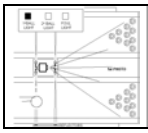


The network nodes are inserted as lines whose reference is an odd lane number. For example as you can see in the image the node of lane 1 and 2 - 192.168.8.190.

Replace the old network node with the taken from the new lane computer.

We recommend that you maintain all the spacing, after the node number there are two spaces then the = and then the lane number.

Once finished click on **FILE,** then **SAVE** and **EXIT.**

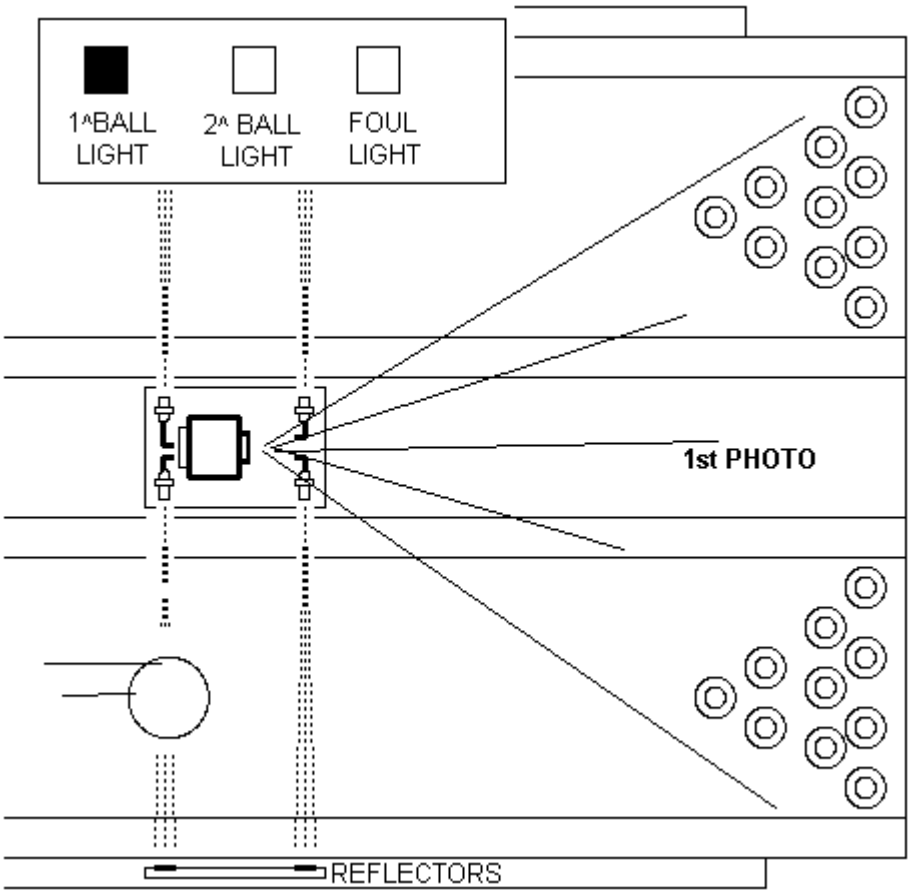


Score cycles 11.10

The following are some hints to how the scoring works:

FIRST BALL CYCLE

The pinsetter is on and ready for the first ball to be thrown.
ONLY the first ball light is on. IF THE SECOND BALL LIGHT IS ON THE SCORING WILL NOT COUNT THE THROW.



The bowler throws a ball.

The ball goes past the photocells.

The Sciba CCD takes a picture (sample).

The I-Retro 'score delay' time setting starts.

The I-Retro gives the START signal to the pinsetter.

The ball hits the pins

Before time runs out (in any case before the pinsetter picks up the pins left standing) the Sciba takes the first photo.

The score is sent to the lane computer.

The pinsetter completes the cycle and switches the 2nd ball light on.

FAST CYCLE FOR GUTTER BALL (SWEEP REVERSE)

For pinsetters with APS or similar function enabled, the scoring system is able to skip the sweep operation, for 82/70 uP the sweep which was dropped as guard will be lifted. This is used to save the pinsetter an unnecessary cycle, which saves wear, energy and time.

The fast cycle is available when:
ONLY pin 7 is knocked down.
ONLY pin 10 is knocked down.
ONLY pins 7 and 10 are knocked down
A gutter ball is thrown (no pins hit)

STRIKE CYCLE

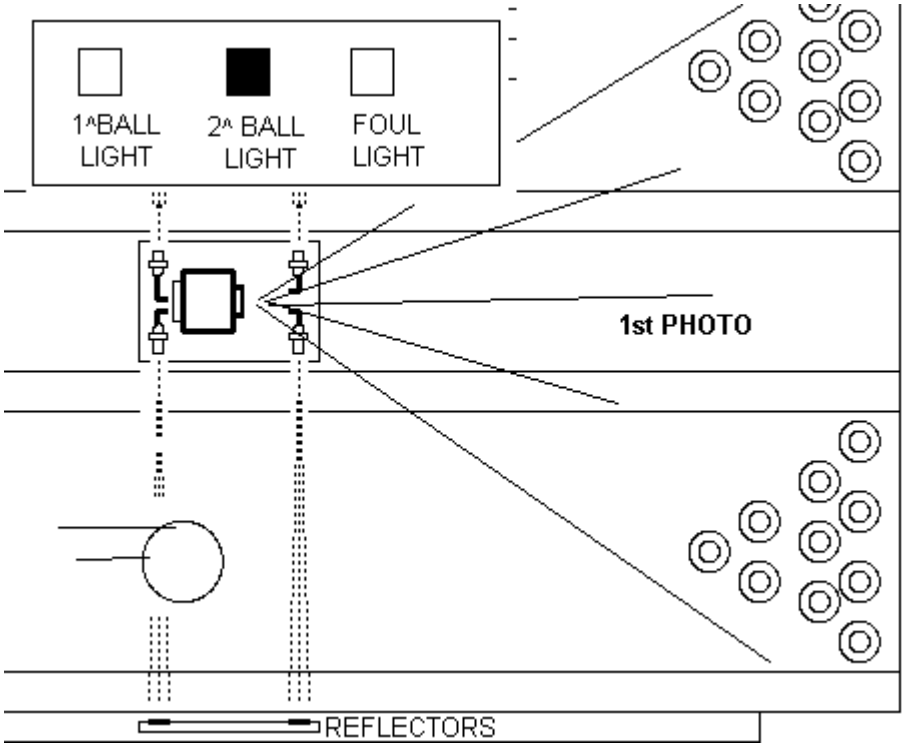
The strike cycle is only made on first ball.
The second ball light MUST be switched off before the pins are detected.
The Sciba detects a STRIKE (= all pins knocked down) and sends the score to the lane computer.

FAST STRIKE CYCLE

For pinsetters with APS or a similar function enabled, the scoring is able to skip the table operation; the sweep goes down and sweeps all the pins knocked down, the table loads and lowers all 10 new pins without coming down.

SECOND BALL CYCLE

The pinsetter is on and waits of the second ball to be thrown.
The second ball light is ON, if the light is off or goes off before the photo is taken the scoring system will NOT count the throw.



The bowler throws the ball

---

the ball passed the photocells

The Sciba CCD takes a picture (sample).

The I-Retro 'score delay' time setting starts.

The I-Retro gives the pinsetter the START signal.

The ball hits the pins

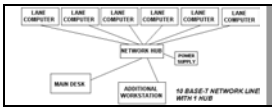
Before time runs out (in any case before the pinsetter picks up the pins left standing) the Sciba takes the first photo.

The score is sent to the lane computer.

The pinsetter completes the cycle and re-loads the pins, then it turns the second ball light off.

FOUL CYCLE

The bowler who is bowling passes the foul line making the system activate the foul signal.
The pinsetter sends the foul signal to the scoring system.
The signal MUST remain active until the ball passes the photocells.
The I-Retro sends the foul command (throw not valid) to the lane computer.

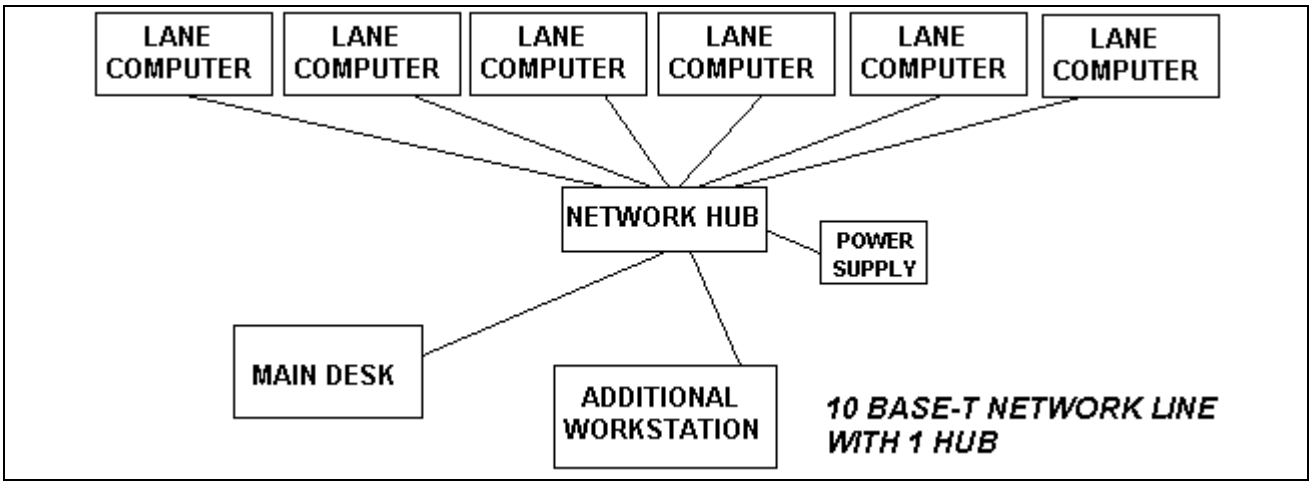


Wins Diagrams 11.11

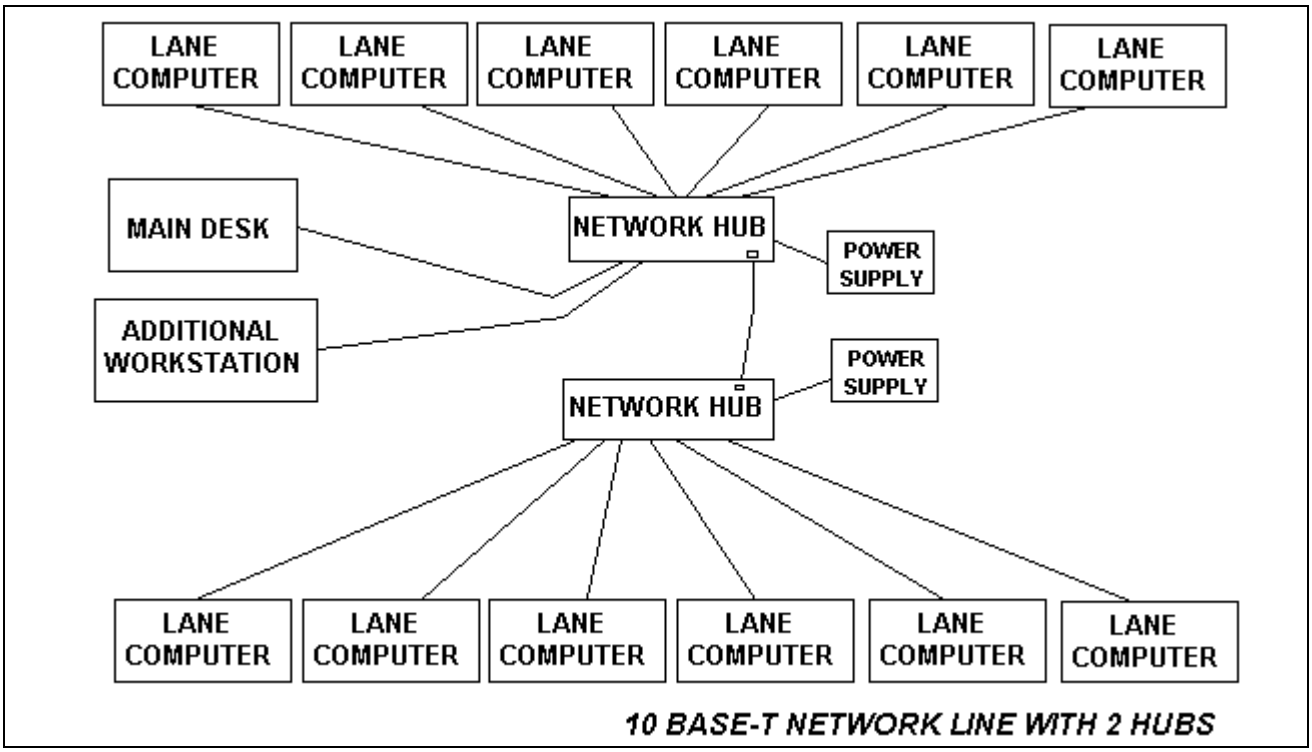
The attached diagrams refer to the most common installation configurations. Some installations may be different due to varying interfaces used. Technical terms may in English for practical reasons. Always refer to the codes indicated for when acquiring spares. If there are any doubts, contact your local authorised service centre.

NOTE FOR ORDERING SPARES: the hardware and cable codes change if the item has been modified or upgraded, it remains compatible in most cases, check before you purchase by having your existing codes ready to inform the service center when asked.

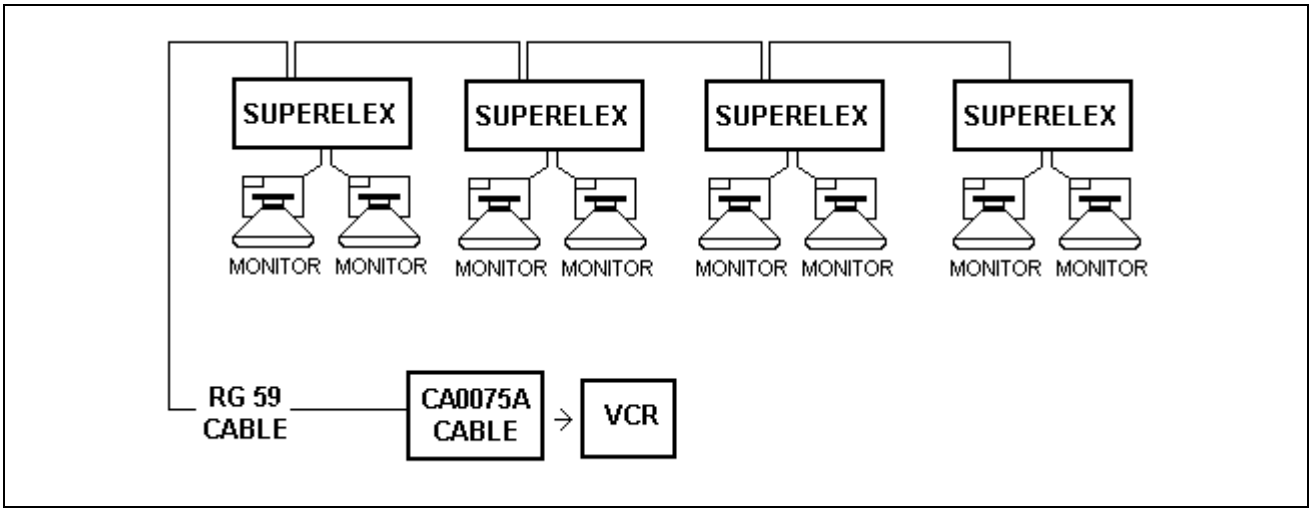
NETWORK CONNECTION WITH A SINGLE HUB/SWITCH



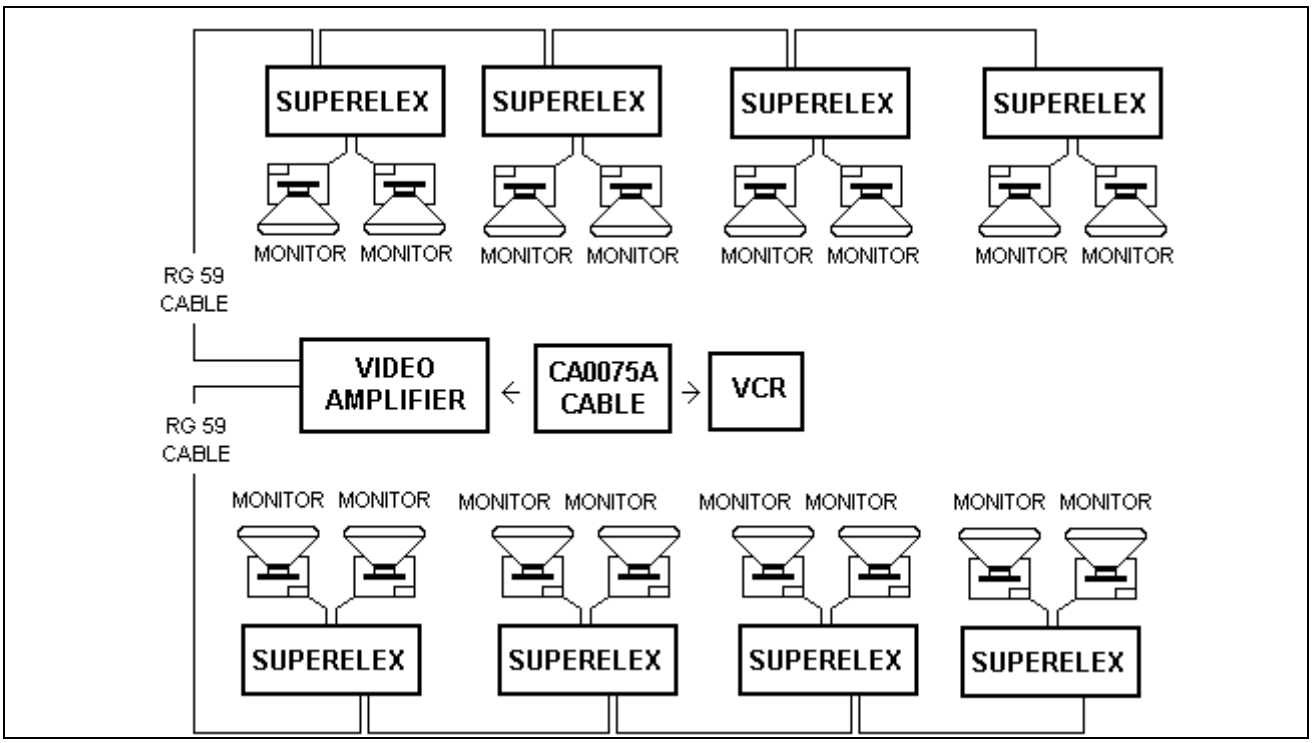
NETWORK CONNECTION WITH A TWO HUB



CVBS LINE



CVBS LINE WITH 2 SEGMENT



ELECTRICAL CONNECTIONS

Steltronic USA, Inc. -Electrical Requirements

The Steltronic Automatic Scoring System consists of overhead monitors at each pair of lanes and a Cash Control System at the Front Desk computer workstation. Each of these units contain computer components that require clean, dedicated, insulated and isolated electrical circuits. The electrical requirements described in this document are essential to prevent electrical noise from entering the grounding circuit.

Warning: All electrical service must be installed by a licensed electrician and must meet all local and national codes. Failure to comply with the instructions contained in this document will void all failure warranties due to electrical noise. If you need written certification that your electrical wiring meets these guidelines, you should have the installing licensed electrician provide the required documents. Steltronic USA assumes no responsibility in determining the correctness of your electrical responsibilities.

Steltronic USA, Inc. is not responsible for damage or improper operation of The Steltronic Automatic Scoring which is caused by improper installation or faulty electrical service. When installing the electrical service conduit, wiring and receptacles, the following guidelines must be strictly adhered to. Also see Diagram Two (2)

- The Scoring System electrical panel must have its own separate circuit branched from the primary service panel. It cannot share electrical service with any other electrical equipment.

- All plug-in receptacles must be isolated from the conduit. Conduit cannot be used as a ground.

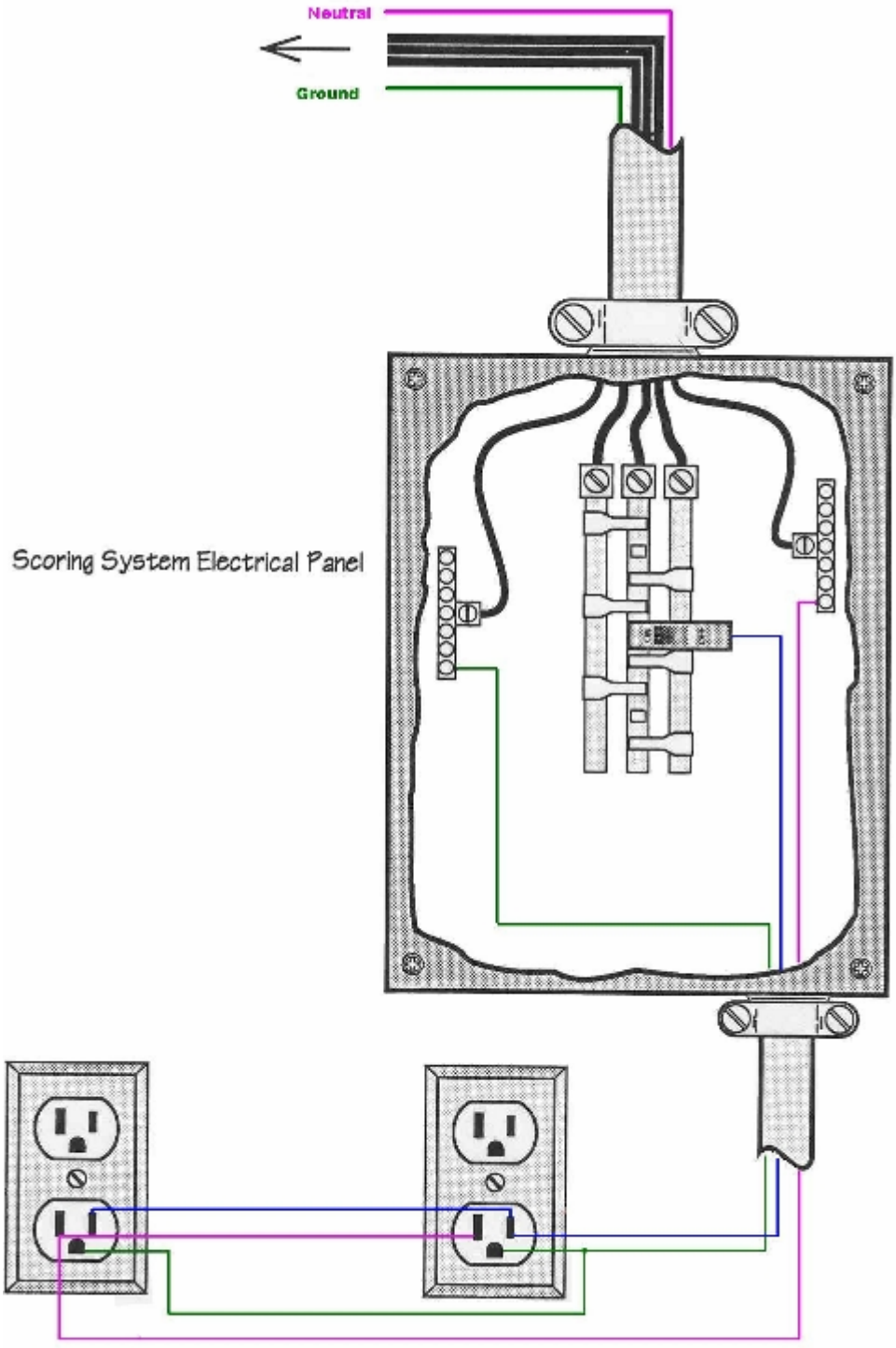
- **ALL** circuits to The Steltronic Automatic Scoring equipment must share a common insulated/isolated ground. Improper grounding, multiple grounds or grounding loops can cause erratic behavior and sometimes actual damage to the scoring equipment.

- In no instance may wires which supply power to The Steltronic Automatic Scoring system share conduit with wires leading to any other equipment.

- Take extreme care to insure that the ground wire and neutral wires from the Scoring System Electrical Panel are not crossed. Voltage measured between the neutral and hot, ground and hot, or between the neutral and ground wires cannot differ more than 0.2 to 0.7 VAC. A higher differential may cause computer failure.

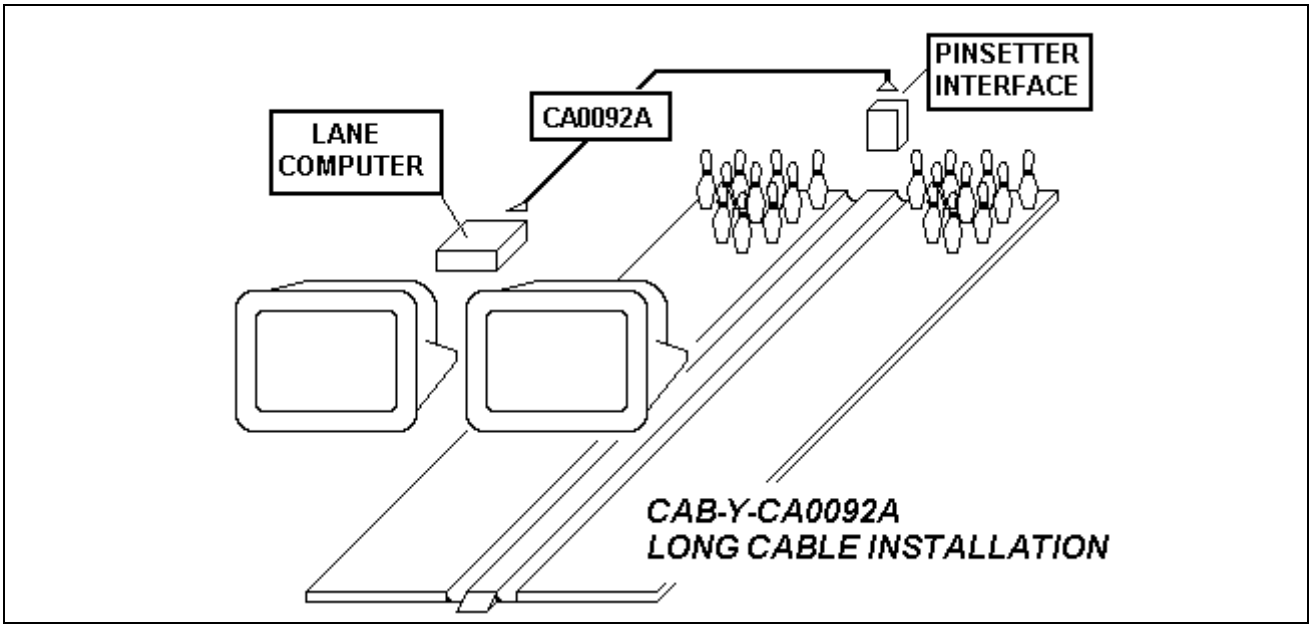
- Connect the Neutral and Ground at the Primary Service only. ALL circuits to The Steltronic Automatic Scoring equipment must share a common ground. Improper grounding can cause erratic behavior and sometimes damage to the equipment. DO NOT connect equipment other than The Steltronic Automatic Scoring to this panel or branch circuits.

- Use only Hubbell IG 5261 or IG 5262 receptacles (or equivalent).

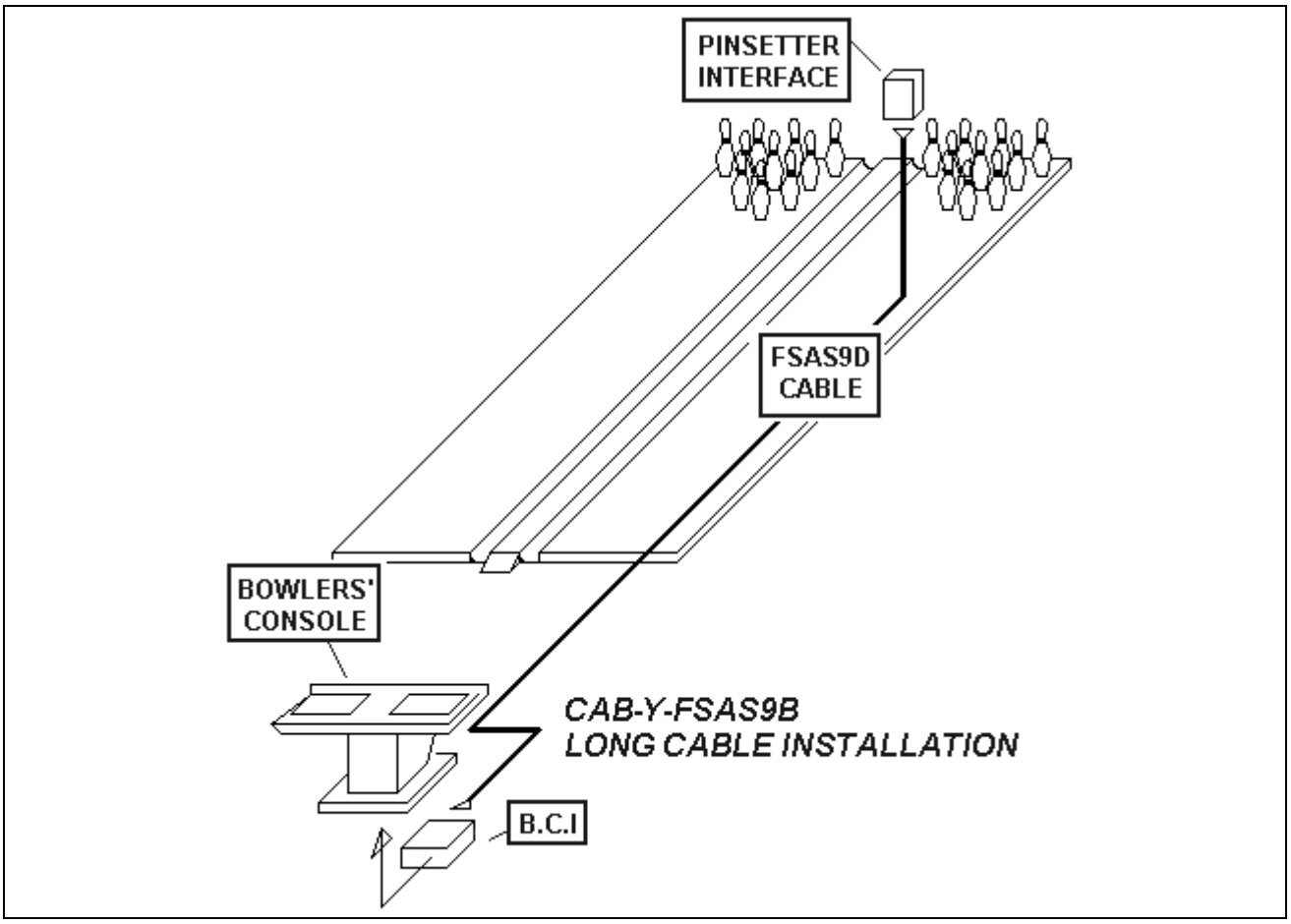

Neutral
Ground
Scoring System Electrical Panel

"LONG" CABLE

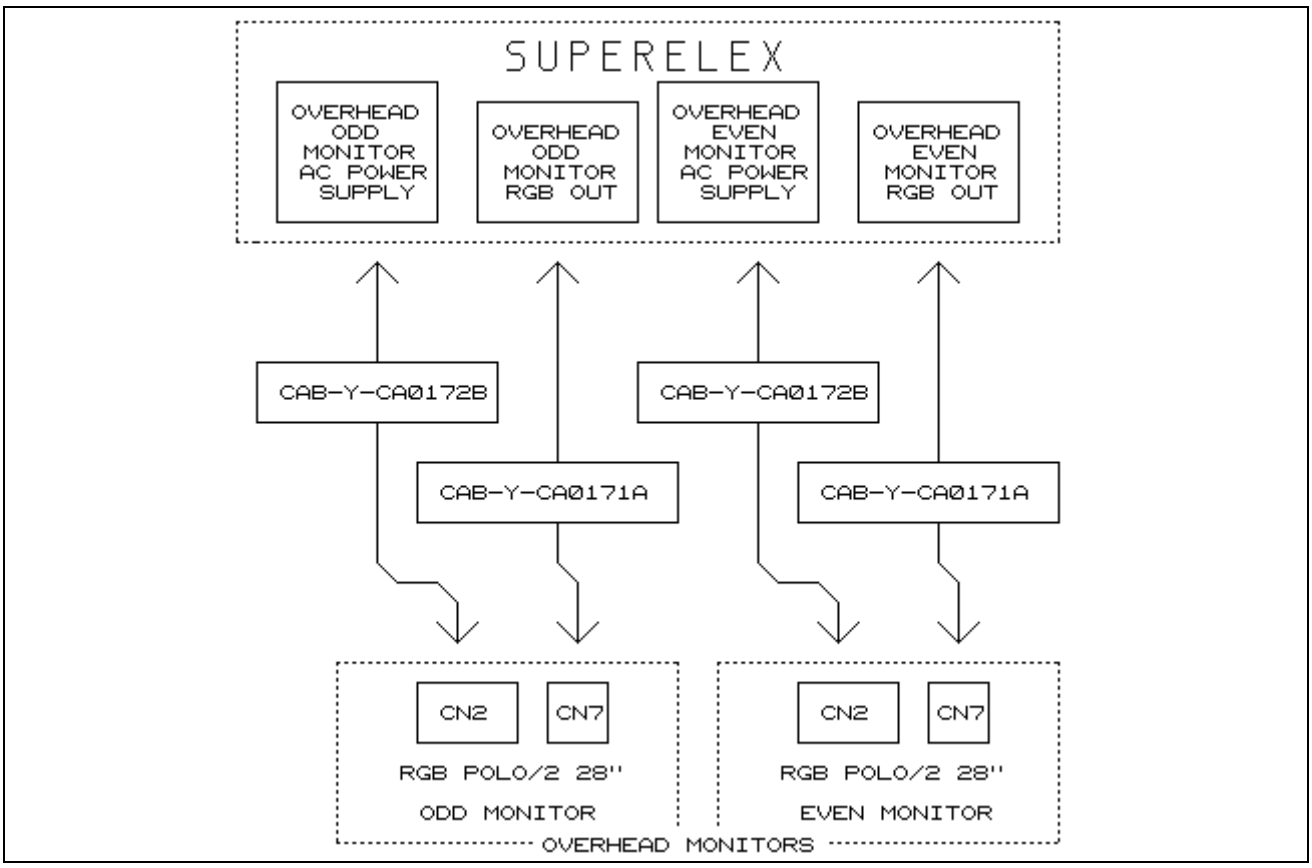
The **CAB-Y-CA0092A** cable connects the lane computer to the pinsetter interface. The is a universal cable for all models of lane computers and pinsetter interfaces. The standard length is 30 meters. If necessary it can be lengthened up to a maximum of 35 / 40 meters.



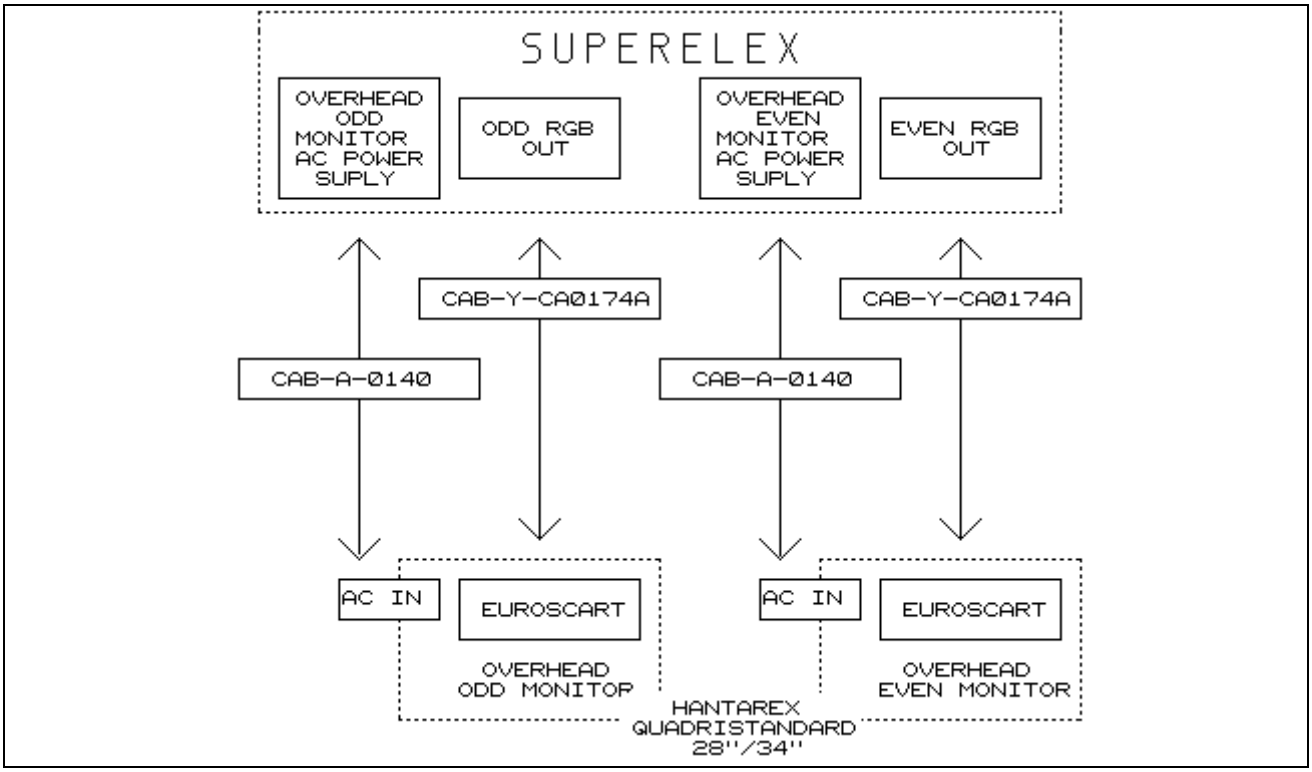
The **CAB-Y-FSAS9A** cable is used to connect the pinsetter interface with the Bowler console interface, no matter what type of control the console has (Joystick, button or membrane keyboard). This cable is not required with WIRELESS BOWLER'S CONSOLE OR TOUCH SCREEN BOWLER'S CONSOLE.



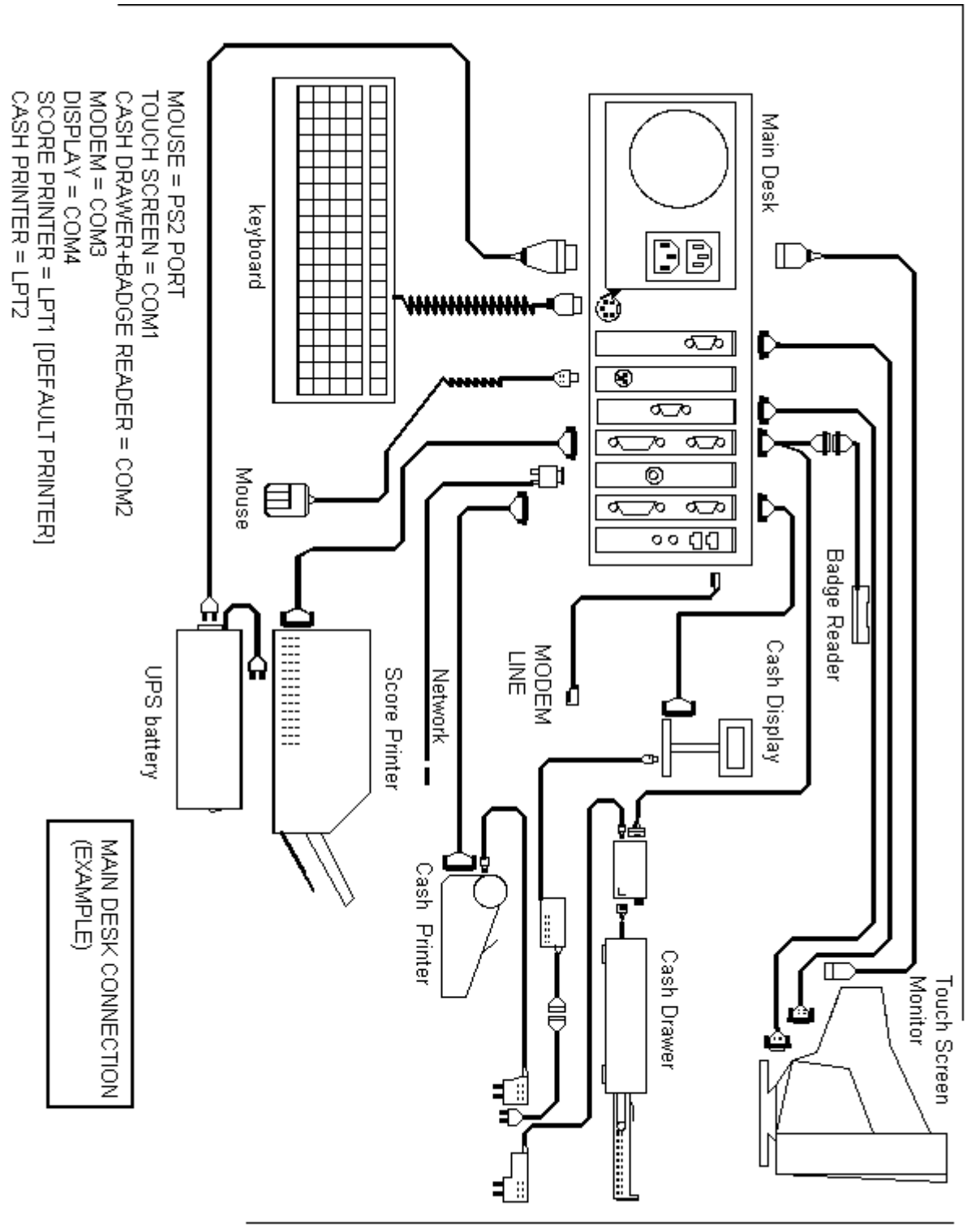
SUPERELEX <> RGB MONITOR (HANTAREX RGB POLO)



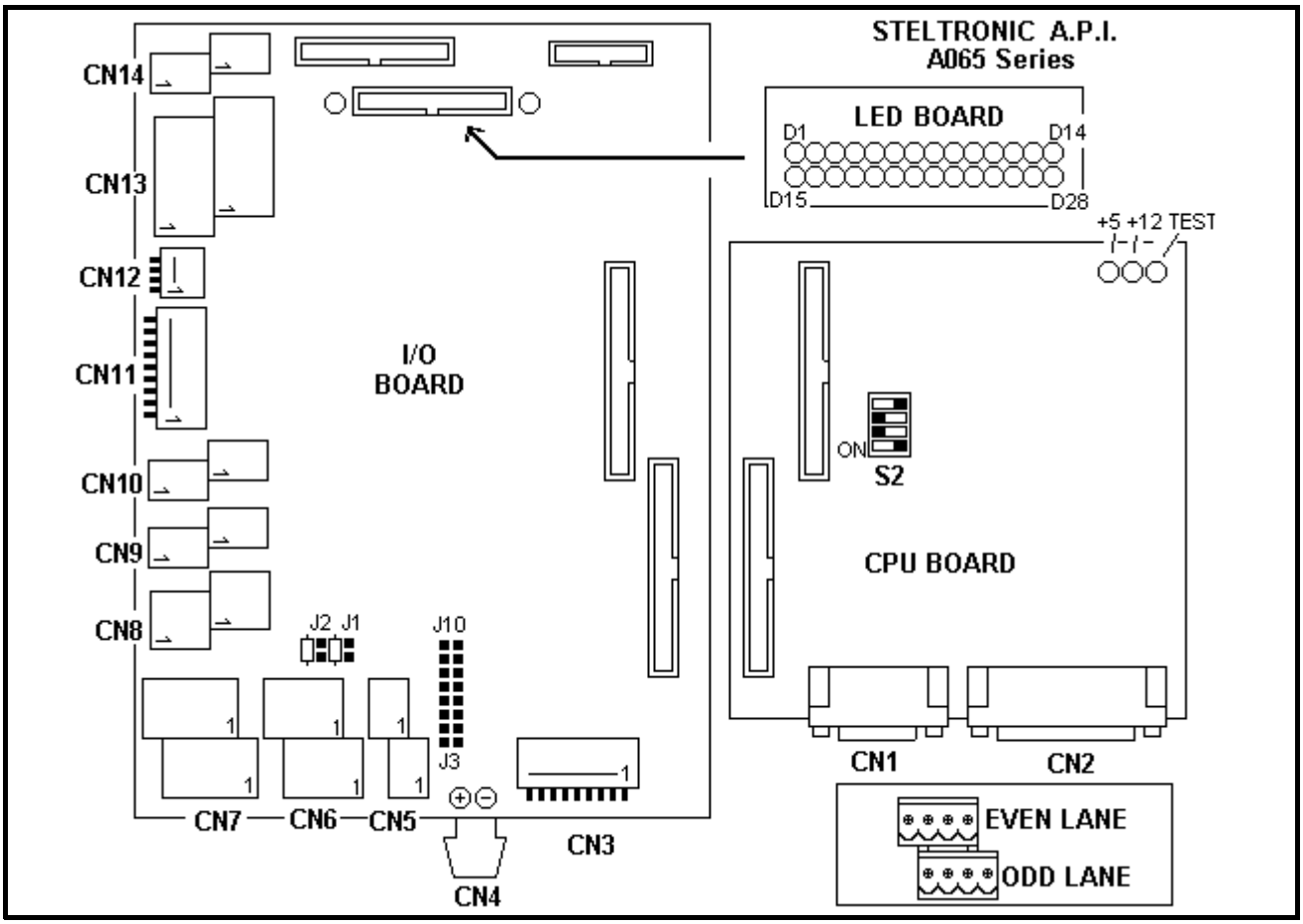
SUPERELEX <> EQ MONITOR (HANTAREX QUADRISTANDARD)



WORKSTATION CONNECTION



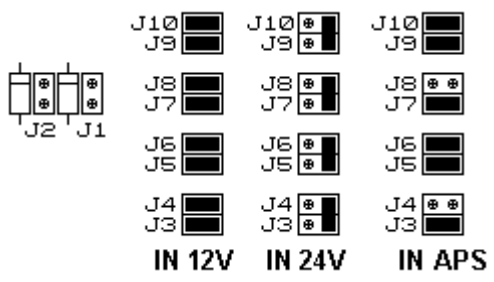
A.P.I. (PINSETTER INTERFACE) STANDARD SERIES A065



CN1	RS232 to lane Computer	CN2	RS232 to Bowlers Console	CN3	Sciba with sensors
CN4	VDC in	CN5	Instant glow connector	CN6	2nd – Foul in (even/odd)
CN7	Cycle – Mgr (even/odd)	CN8	APS (even/odd)	CN9	Bumper out (even/odd)
CN10	Maintenance out (even/odd)	CN11	Auxiliary Sciba	CN12	Shoevision
CN13	Output On/Off (low voltage) Foul line / Ball return / Back end motor			CN14	1st 2nd ball change(even/odd)

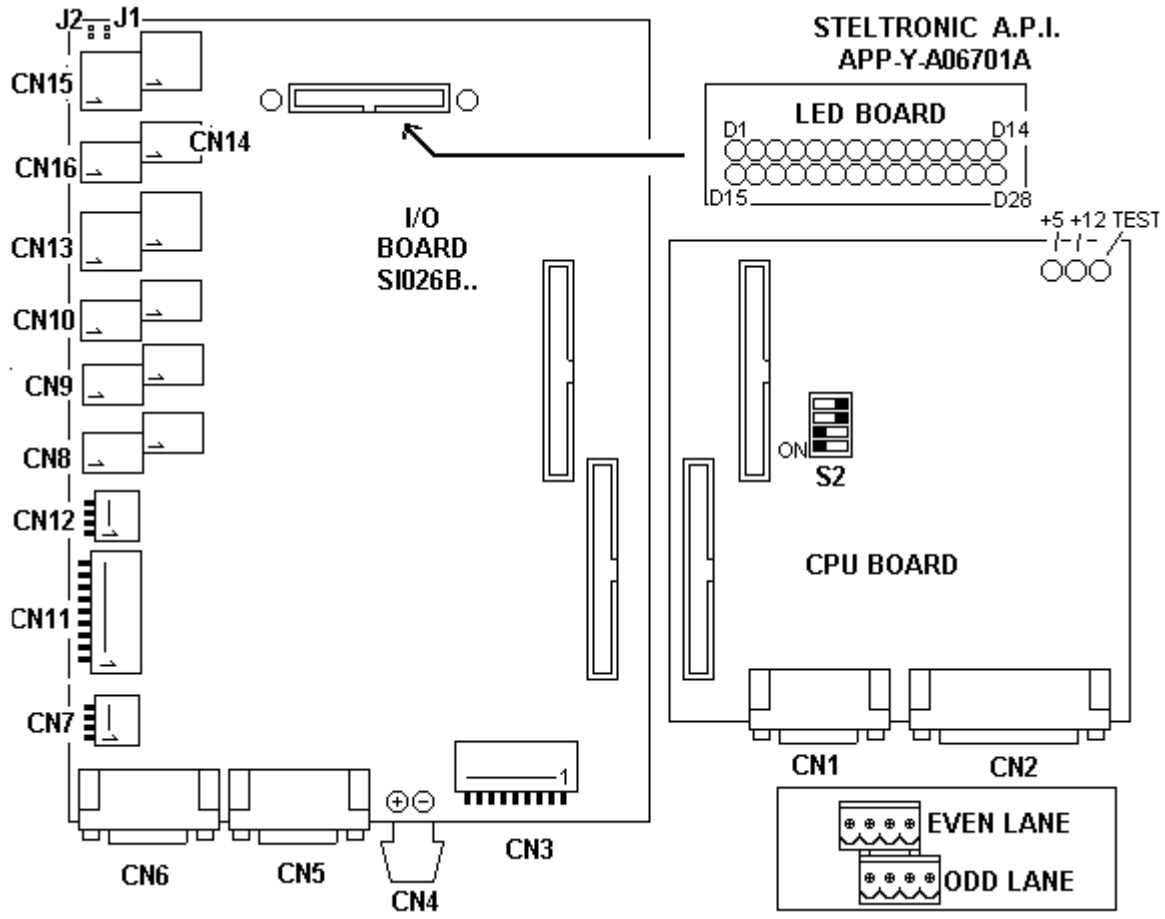
LED INDICATION					
D1	ODD FOUL [IN]	D2	ODD SPEED [IN]	D3	ODD TRIGGER [IN]
D4	ODD 2ND BALL [IN]	D5	ODD CYCLE [OUT]	D6	ODD CHANGE BALL [OUT]
D7	ON/OFF FOUL LINE [OUT]	D8	ODD BACK-END [OUT]	D9	ODD BAR CALL [OUT]
D10	ODD MGR ON [OUT]	D11	ODD MGR PRACTICE [OUT]	D12	ODD BUMPER [OUT]
D13	ODD INSTANT GLOW [OUT]	D14	ODD MAINT. CALL [OUT]	D15	EVEN FOUL [IN]
D16	EVEN SPEED [IN]	D17	EVEN TRIGGER [IN]	D18	EVEN 2ND BALL [IN]
D19	EVEN CYCLE [OUT]	D20	EVEN CHANGE BALL [OUT]	D21	ON/OFF BALL RETURN [OUT]
D22	EVEN BACK-END [OUT]	D23	EVEN BAR CALL [OUT]	D24	EVEN MGR ON [OUT]
D25	EVEN MGR PRACTICE [OUT]	D26	EVEN BUMPER [OUT]	D27	EVEN INSTANT GLOW [OUT]
D28	EVEN MAINT. CALL [OUT]				

JUMPER SETTINGS



J1	ODD MGR DIODE	Default OPEN (Diode on)
J2	EVEN MGR DIODE	Default OPEN (Diode on)
J3		
J4	ODD 2nd BALL LIGHT SETTING	
J5		
J6	ODD FOUL LIGHT SETTING	
J7		
J8	EVEN 2nd BALL LIGHT SETTING	
J9	EVEN FOUL LIGHT SETTING	

A.P.I. FOR 8290 XL BOARD LAYOUT

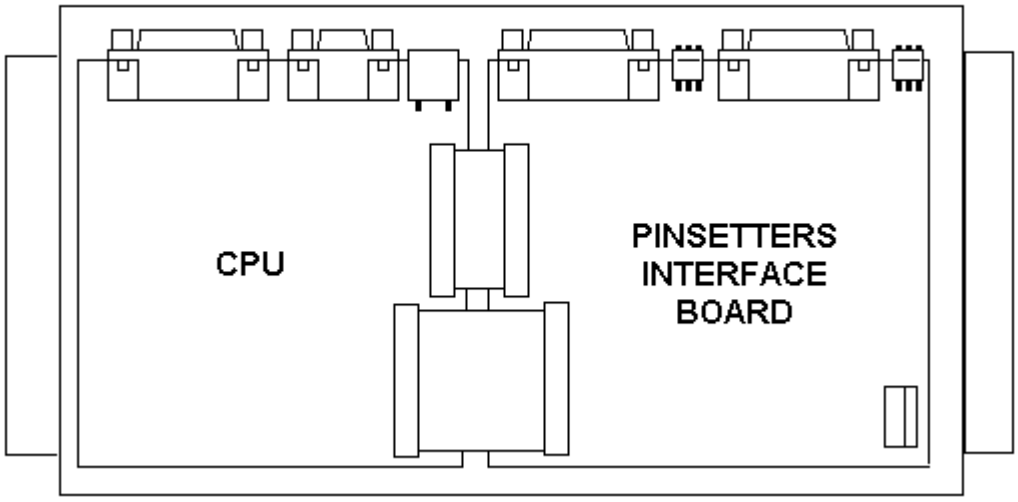


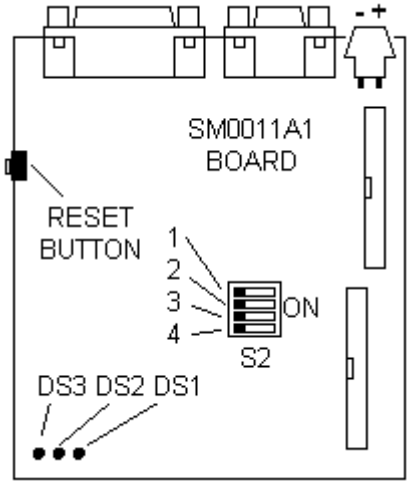
CN1	RS232 to lane Computer	**CN2**	RS232 to Bowlers Console		Sciba with sensors
CN4	VDC in	**CN5**	To 8290 chassis (SCORING)	**CN6**	To 8290 chassis (MCU)
CN7	Bumper feedback input	**CN8**	Pinsetter cycle (even/odd)	**CN9**	Bumper out (even/odd)
CN10	Instant glow (even/odd)	**CN11**	Auxiliary Sciba	**CN12**	Shoevision in
CN13	Main-Bar call (even/odd)	**CN14**	Ball return switch out	**CN16**	Foul line switch out
CN15	2nd ball input – Mgr (even/odd)				

LED INDICATION					
D1	-	**D2**	ODD SPEED [IN]		ODD TRIGGER [IN]
D4	ODD 2nd BALL [IN]	**D5**	ODD CYCLE [OUT]		-
D7	ODD SHOEVISION [IN]	**D8**	AUX A [IN]		ODD BAR CALL [OUT]
D10	ODD POWER ON [OUT]	**D11**	FOUL LINE ON [OUT]		ODD BUMPER [OUT]
D13	ODD INSTANT GLOW [OUT]	**D14**	ODD MAINT. CALL [OUT]		-
D16	EVEN SPEED [IN]	**D17**	EVEN TRIGGER [IN]		EVEN 2nd BALL [IN]
D19	EVEN CYCLE [OUT]	**D20**	-		EVEN SHOEVISON [IN]
D22	AUX B [IN]	**D23**	EVEN BAR CALL [OUT]		EVEN POWER ON [OUT]
D25	BALL RETURN PWR [OUT]	**D26**	EVEN BUMPER [OUT]		EVEN INSTANT GLOW [OUT]
D28	EVEN MAINT. CALL [OUT]				

JUMPER SETTINGS	
J1	Open = 7-12 VDC
J2	Close = 5 VDC

A.P.I. INTERFACE FOR STRING PINSETTERS





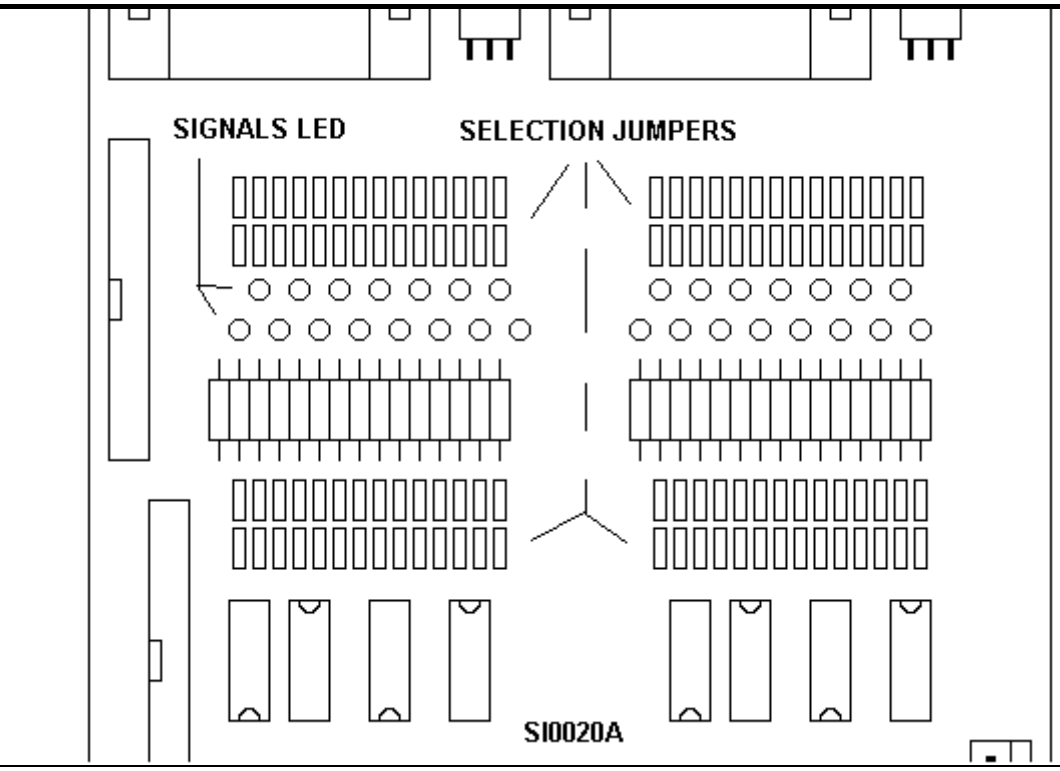
CPU

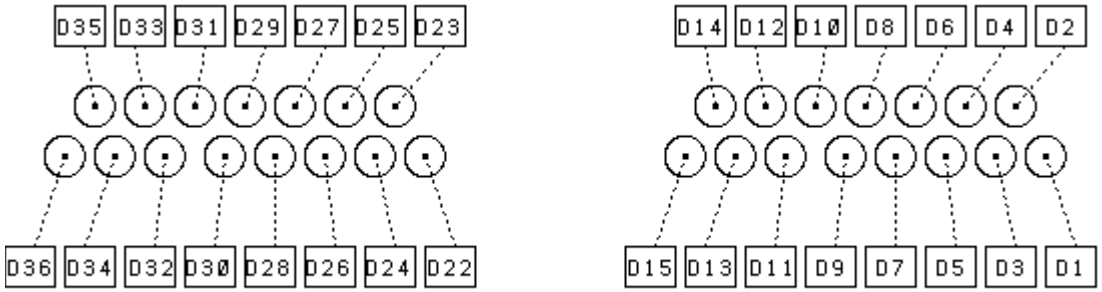
S2 Dipswitch setting

4 3 2 1	(X = not used - 0= off – 1=ON)
X 0 0 0	VILATI
X 0 0 1	SPELLMAN STRING
X 1 0 0	VOLLMER STRING
X 0 1 0	BRUNSWICK GS10
X 0 1 1	AMF 890 XL NEXT GEN.

DIP 4 ON = DEBUG MODE

Leds
DS1 ON = 5 V OK
DS2 ON = 12 V OK
DS3 BLINKING = PROGRAM RUN. * Alwys ON: reset the CPU



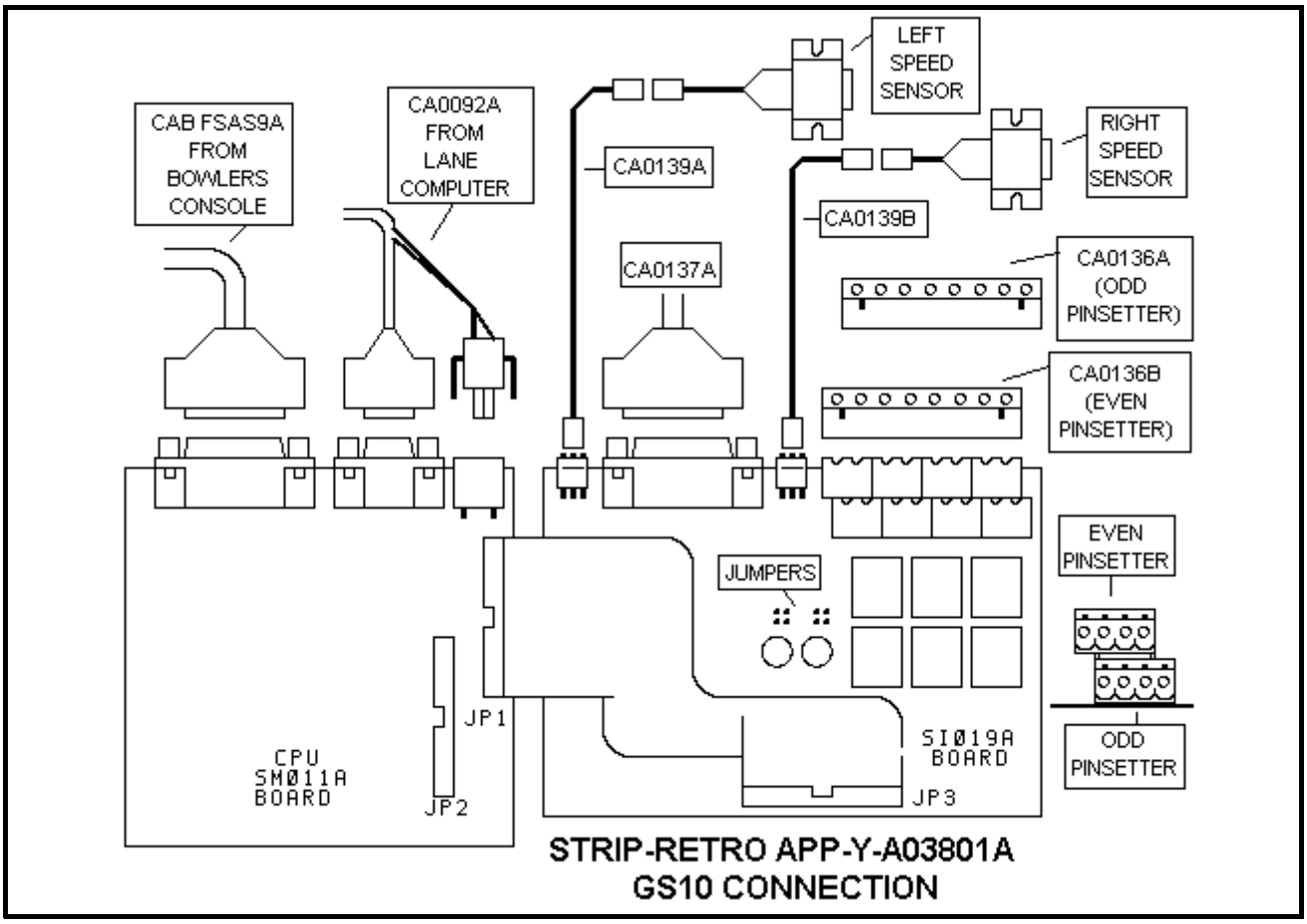


LED DESCRIPTION'S

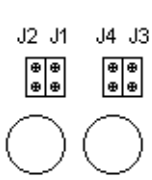
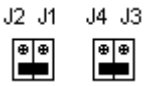
D1	PIN 1	D22	PIN 1
D2	PIN 2	D23	PIN 2
D3	PIN 3	D24	PIN 3
D4	PIN 4	D25	PIN 4
D5	PIN 5	D26	PIN 5
D6	PIN 6	D27	PIN 6
D7	PIN 7	D28	PIN 7
D8	PIN 8	D29	PIN 8
D9	PIN 9	D30	PIN 9
D10	PIN 10	D31	PIN 10
D11	UPPER	D32	UPPER
D12	TRIGGER	D33	TRIGGER
D13	FOUL	D34	FOUL
D14	2^ BALL	D35	2^ BALL
D15	+ 24 VDC	D36	+ 24 VDC

JUMPER SETTINGS DEPEND BY PINSETTERS MODEL.

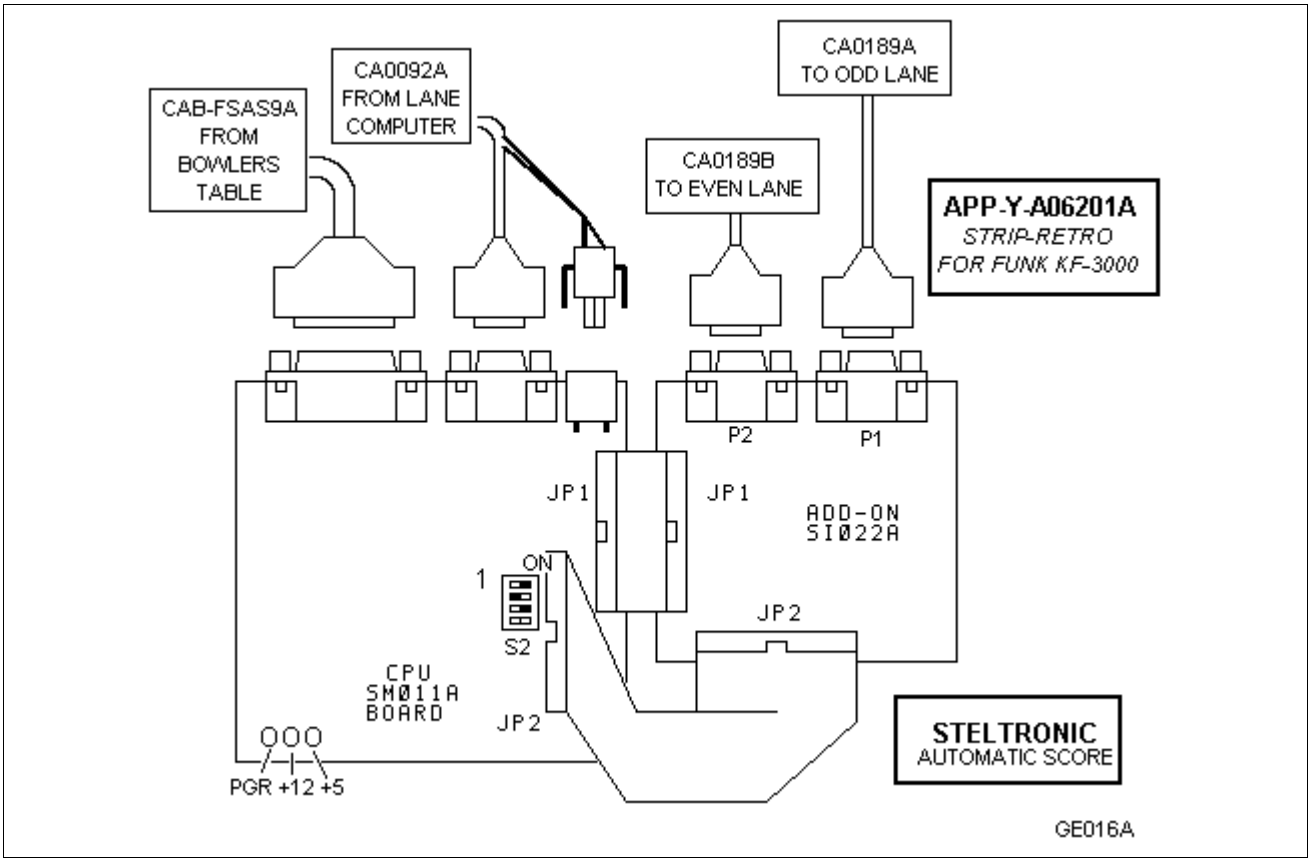
A.P.I. INTERFACE FOR GS10 PISETTER (GAMESETTER SERIES)



S2 DIP SWITCH SELECTION FOR GS10 PINSETTER			
1	2	3	4
OFF	ON	OFF	OFF

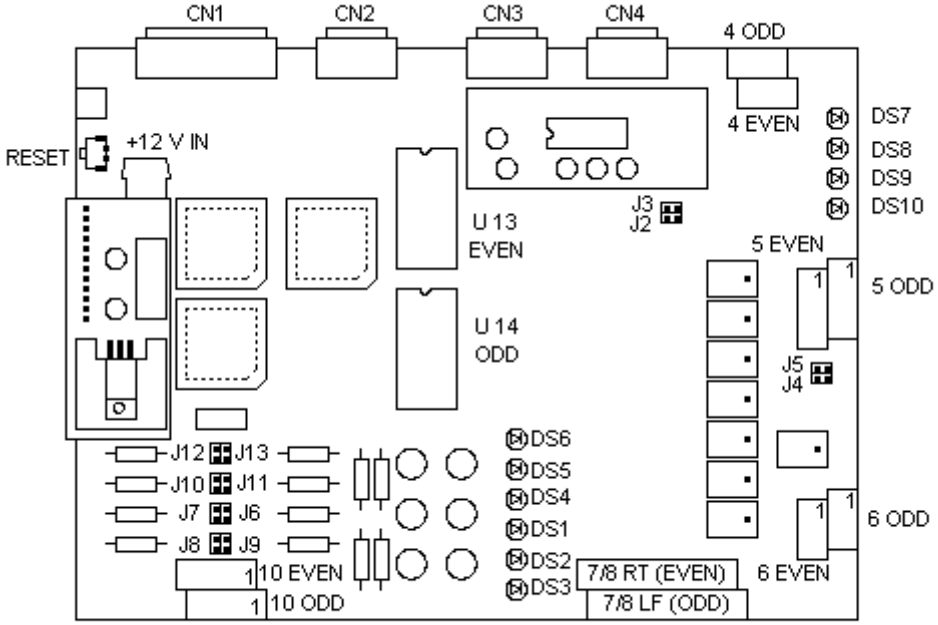
JUMPERS SETTINGS FOR SI019A/B BOARD	
	 2^ Ball light input 24V

A.P.I. INTERFACE FOR KF 3000 PINSETTER

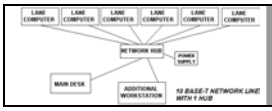


FUNK KF 3000 PLC DRIVER

I-RETRO CONNECTION (PREVIOUS VERSION OF A.P.I.)



CONNECTOR	CONNECTION
CN 1	To bowler's console
CN 2	To lane computer
CN 3	Standard Sciba
CN 4	Auxiliary Sciba
4 ODD	Odd APS
4 EVEN	Even APS
5 ODD	Odd MGR
5 EVEN	Even MGR
6 ODD	Odd cycle
6 EVEN	Even cycle
7/8 RT [EVEN]	Sciba sensors
10 EVEN	Odd MASK input
10 ODD	Even MASK input
Led	**Signal**
DS 1	Odd SECOND BALL
DS 2	Odd STRIKE (n.c.)
DS 3	Odd FOUL
DS 4	Even SECOND BALL
DS 5	Even STRIKE (n.c.)
DS 6	Even FOUL
DS 7 + DS 8	Power On Auto Test
DS 9	+ 12 V Power Led
DS 10	+ 5 V Power Led
JUMPERS	**SETTINGS**
J3	DEFAULT = Close
J2	DEFAULT = Open
J4	DEFAULT = Open
J5	DEFAULT = Open
J6 + J7	JUMPERS for second ball
J8 + J9	JUMPERS for second ball
J10 + J11	NC .
J12 + J13	NC.



ERROR IN CASH DESK CONFIGURATION
Wrong accessory parameters
Click START followed by PROGRAMS then STELTRONIC and DESK CONFIGURATION to disable the peripherals. Save the file and reload Wins, then enable the peripherals one by one to see which of the parameters is wrong.

ILLEGAL CONSOLE ID
Entry denied
A non authorized attempt has been made to enter Wins with a non valid Console or Utility number. Contact the service center.

ACCESS DENIED
Illegal or forced configuration file.
Contact the service center.

NOT ALL MONITORS LOAD THE PROGRAM
The Console if Off or Faulty
Check the Console and network cables. Make sure the HUB is on, If all is okay try to restart the console.

THE CONSOLE IS OKAY BUT THE PROGRAM DOES LOAD ONTO THE LANES
The Winserv application is closed
Check to see if the button with Winserv written on it is present on the bottom task bar. If not, restart the console.

THE CONSOLE IS OKAY AND THE CABLES ARE TOO, BUT THE PROGRAM DOES NOT LOAD ONTO THE LANES
The cable is damaged or, if there is a network repeater, it may be off or broken.
Check the cables and see if the network repeater (when present) is on and working.

THE CONSOLE DOES NOT START
The uninterrupted power supply may be off or the console may be off or broken.
Check the power supply: if it is okay the green light stays on all the time. Check the power cables and the console. Check the console power switch.

THE CONSOLE DOES NOT LOAD WINDOWS
Load the menu in safety mode.
Run a Scan Disk (if using Windows OSR2) or start the system in safety mode and then restart the console once started.

TIME OUT!
Sciba not respond
Check that the Sciba is not in 'calibration' mode. If the fault persists exchange the Sciba. Reset the I-Retro using the reset button, if the fault persists exchange the I-Retro.

THE BOWLER CONSOLES DON'T WORK
The bowler console has been disabled or the interface is faulty.
Check in the multiple settings function if the bowler console is enabled.
Switch 2 bowler console interfaces to verify if they are faulty or not, if it is the problem will move with the interface.

THE PINSETTER DOES NOT CYCLE AND THE SCORE DOES NOT MOVE ON
The start photocell is not lined up correctly
Remove the Sciba cover.
Verify that the red LED on the photocell is on; if the photocell is not lined up correctly (aiming at the centre of the reflector) it is off. Realign the photocell.

THE PINSETTER DOESN'T CYCLE, THE SCORE MOVES ON

The chassis or the I-Retro is faulty

Press the manual cycle button: if the pinsetter cycles the chassis is okay. Check t he cables form JP4 (I-Retro) to the pinsetter.

THE PINSETTER AND SCORE MOVE FORWARD ONLY FOR ONE THROW

The start photocell has not been aligned correctly.

Remove the Sciba cover.

Verify that the red LED; if not aligned it is off. Realign the photocell making sure you aim at the center of the reflector.

THE BALL SPEED IS NOT SHOWN

The speed photocell is not lined up

Remove the Sciba cover. Verify that the red LED is on; is not aligned it is off. Align the photocell.

THE BALL SPEED IS WRONG

The start photocell is pointing at the wrong reflector or it is not aligned correctly

Remove the Sciba cover.

Cover the start photocell reflector.

Verify that the red LED is on; if not aligned it is off. Align the photocell.

THE BALL SPEED IS STILL WRONG

The distance set in the parameters of the I-Retro is wrong.

Measure the distance between the photocells. Click on the SET-UP ("doctor" icon) on the main Menu. Click on the

I-Retro to be corrected and insert the correct distance.

THE BALL SPEED IS CORRECT FOR ONE THROW ONLY

The speed photocell has not been aligned correctly

Remove the Sciba cover. Verify that the red LED is on: if not aligned it is off. Align the making sure you aim at the center of the reflector.

THE SYSTEM DOES NOT SCORE ON FIRST BALL

The pinsetter chassis keeps the second ball light on constantly.

Verify, by resetting the pinsetter, that the second ball light goes on and off when the pinsetter cycles. Exchange the pinsetter chassis if necessary.

THE SCORE DOES NOT COUNT THE SECOND THROW

The pinsetter chassis never turns the second ball light on.

Verify, by resetting the pinsetter, that the second ball light comes on. If it does, check the cables from the J10 (on the I-Retro). Exchange the pinsetter chassis if necessary. For BRUNSWICK pinsetters: check that the 1st and 2nd micro switch lever, it may not be regulated correctly.

THE SYSTEM DOES NOT SCORE BUT THE PHOTOCELLS AND PINSETTERS ARE OKAY

The Sciba CCD does not work correctly.

Check the Sciba; you may have forgotten the calibration lever in the ON position.

Verify that the console in set-up does not give a TIME OUT signal. Turn the lane off and on and reset the Sciba. If this does not work, exchange the Sciba.

THE SYSTEM SCORES EVEN WHEN NOBODY BOWLS

The demo is ON.

Click on the CNT button in the multiple commands area, click on Demo and take away the tick in the check box to de-activate the Demo.

THE SYSTEM SCORES EVEN WHEN NOBODY BOWLS AND THE DEMO IS OFF.

The Sciba is faulty

Exchange the Sciba.

THE SYSTEM ALWAYS SCORES A FOUL
The foul line or the pinsetter chassis is faulty.
Check the foul line and the chassis.

THE SCORES ARE WRONG
The Sciba is not calibrated
Press the SET-UP button. Press the Sciba button followed by the Calibration. Place the pin lines into the correct positions.

THE SYSTEM SHOWS PIN 1 AS ALWAYS PRESENT
The integration time is too high.
Press the SET-UP button. Press the Sciba button. Change the integration time to a lower value.

THE SYSTEM DOES NOT SHOW THE LAST LINE OF PINS
The integration time it too low or the photo is taken at the wrong time.
Press the SET-UP button. Press the Sciba button. Change the integration time to a higher value.
If there is no change, press the I-Retro and lift the pin read delay time.

THE SCORES SEES A STRIKE OR THE WRONG SCORE IN FIRST THROW.
The sweep covers the pins in the guard position.
Reset the sweep position

THE SYSTEM MAKES A MISTAKE AND TAKES THE PICTURE AS SOON AS THE BALL PASSES
The pin read delay is zero.
Click on SET-UP. Click on the I-Retro and correct the pin read delay time.

ONE OF THE MONITORS REMAINS OFF
The switch is off.
Switch the monitor on.

ONE OF THE MONITORS STILL REMAINS OFF.
The monitor board is faulty.
Exchange the monitor board.

BOTH MONITORS ON A PAIR OF LANES ARE OFF
The switch is off or the lane computer is faulty
Check the power switches, power cables and if necessary exchange the lane computer.

Notes:

Wins 6.1 – user manual (UK-US version) Steltronic Sr.l. March 2003
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