

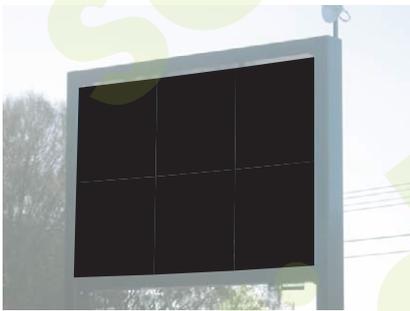
# FOR ELECTRICIANS - quick basic Fault-finding



NOTE: Most Solid LED screens are comprised of multiple LED "cabinets".  
In the case of this screen on the left it consists of 6 cabinets in total. 3 across and 2 high. Each cabinet has a left and right access door at the rear. In some occasions screens do NOT have rear access, these will have other options for servicing. See page 8

**All Solid clubs are instructed during initial training to turn on their LED systems as early as possible on game-days. Hopefully this is the case & this fault finding can be carried out before game time without too much stress.**

To maybe avoid reading all of these pages. First try "Turn everything OFF, then back on again. Every connected part!"



Section 1  
Complete BLACK screen,  
no LED on.  
Go to Page 2



Section 2  
Partial screen on,  
Whole LED cabinets OFF.  
Go to Page 6

Most Solid sports systems have an "emergency" layout option for when the screen may be partially faulty. While repairs are under way try using this layout for basic scores and timer.

Active display

- <No scoreboard layout selected> ▾
- <No scoreboard layout selected>
- <Black screen>
- 1\_Summary
- 1a\_Summary (Sponsors)
- 2\_Big Scores (Msg)
- 3\_Scores + Logos
- z\_Emergency Screen**



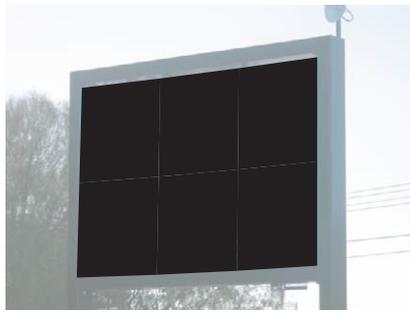
Section 3  
"ODD shape" black, could be an L shape or a smaller block than a full cabinet.  
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Section 4  
Partial horizontal row black or malfunctioning.  
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S.5 Fuzzy entire screen. Page 9 ▶



## Section 1 Complete BLACK screen, no LED on.

### Fault finding:

Proceed down this list until successful. Feel free to call Solid staff on 0458 533 349 for assistance. A photo showing the issue can be helpful to the Solid tech. NOTE: You will need the direct mobile of the Solid tech to send the photo. The number shown above can not accept images.

- 1.a. Confirm that the PC and associated controllers are ON.
- 1.b. Confirm that the LED screen is turned ON.
- 1.c. If YES, then SWITCH OFF everything at both sides and switch back ON Including all miscellaneous equipment:  
Antennas, control boxes, fibre optic boxes, etc.

STILL BLACK? - Check power supply components

- 1.d. Find and check isolators, breakers, surge protectors, contactors.  
Check at the scoreboard end (if they exist)  
AND at the source (club rooms?)
- 1.e. To confirm 100% that the screen is powered up you may need to access the rear panel of the LED screen to check for indicator lights on the power supplies and control cards - SEE Page 4, item 1.I. ★

STILL BLACK? - Check wireless system (if this is a wireless system)

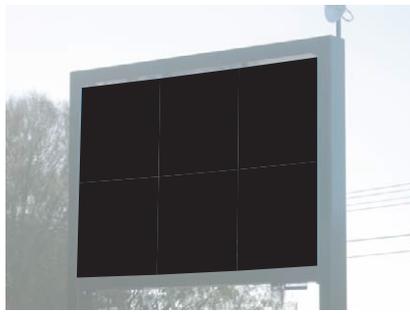
- 1.f. IF the system is WIRELESS check with the operator that the cat cable to the antenna is plugged in correctly.
- 1.g. On most Solid wireless systems there is a [Solid Connect] or similar icon on the desktop.  
This may need to be double clicked to re-initiate the "connection" process.

STILL BLACK? - Check the wireless system P.O.E. box/es (if this is a wireless system)

- 1.h. Sometimes these boxes are at 1 side of the ground, sometimes 2.
- 1.i. Find them and:
  - 1.i.2 Check that they are plugged into a 240v socket. There will be a white or blue light on the top edge. If not then it is faulty.
  - 1.i.3 Check that the 2 cat cables are in the correct ports.  
The cat cable from the PC or the Solid Connect device plugs into the LAN socket.  
The cat to the antenna dish or device plugs into the POE socket.  
NOTE 1: If you plug the wrong cord into the wrong port you can break the computer.  
NOTE 2: if there are changes to the leads or the POE box is powered down then you need to wait 3-4 minutes for the antennas to re-establish their connection with each other.  
If faulty then install the spare part (if available). Otherwise check with Solid to confirm which device is bad.  
On occasions swapping these 2 POE boxes will resuscitate them. Unknown why.  
Contact Solid to order a replacement AND spare part.
  - 1.i.4 Depending on the configuration of your communication system there may still be a possibility of using the Solid scoring system WITHOUT the wireless comms. Contact Solid to discuss.
  - 1.i.5. Some older Solid systems use 2 PCs for a remote connection. Sometimes these PC settings are changed by accident. These are in the Network & Sharing area of the PC. These PCs have "static IP addresses" and may need to be checked. Call Solid for assistance if required.



P.T.O.



## **Section 1 (part 2)** **Complete BLACK screen,** **no LED on.**

### **Fault finding:**

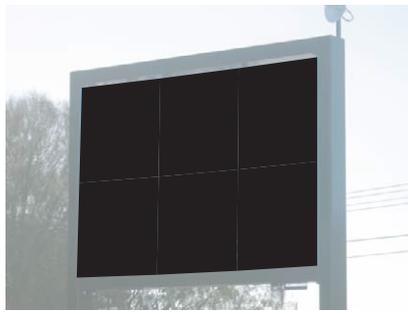
Proceed down this list until successful. Feel free to call Solid staff on 0458 533 349 for assistance. A photo showing the issue can be helpful to the Solid tech. NOTE: You will need the direct mobile of the Solid tech to send the photo. The number shown above can not accept images.

STILL BLACK? - A communication device could need attention

- 1.j. Are all of the cables between devices correct and pushed in well
- 1.j.2. Check the video feed cable between the PC (HDMI?) and the "Sender Box" or "Video Processor"  
If unsure then unplug 1 end of a cable and noting where it was originally push it firmly back in place. Repeat for the other end of the cable.  
IF the Sender Box or video processor is functioning correctly there will be a red and green light at the rear. If there is NO flickering activity then there is an issue with the device or the cable feeding it. In most cases; the red light will be solid and the green light will be flickering.
- 1.j.3. From that device there will be a cat cable coming out (the flickering will be near this). This cat cable sometimes goes directly to the LED screen.  
OR  
goes to a Fibre Convertor for transmission over a longer distance.  
This device also has flickering lights to indicate status.  
IF the green lights are NOT showing any activity then there is an issue.
- 1.j.4. Both of these devices have matching receivers over at the LED screen side.  
These need to be checked to see if they have power and indicator light activity.
- 1.j.5. In the case of the Fibre Convertor not showing activity it could be either
  1. faulty fibre cables
  2. a faulty fibre convertorFor either issue you will need to contact Solid.
- 1.k. On rare occasions the screen can appear black if the operator has changed the screen resolution of the PC monitor.  
To check... right click the desktop (on nothing). Select [Display Settings]  
This screen can appear many ways depending on the comms system in use BUT the most usual settings will be:
  - a rectangle showing 1 / 2 inside it
  - A screen resolution of either 1366 x 768 or 1920 x 1080 pixels
  - 100% scale for 1366 x 768 OR 125% for 1920 x 1080The club operator may have taken note of the correct settings.

STILL BLACK? EVERYTHING HAS CHECKED OUT AT THE CONTROL END?

P.T.O.



**Section 1 (part 3)**  
**Complete BLACK screen,**  
**no LED on.**

**Fault finding:**

Proceed down this list until successful. Feel free to call Solid staff on 0458 533 349 for assistance. A photo showing the issue can be helpful to the Solid tech. NOTE: You will need the direct mobile of the Solid tech to send the photo. The number shown above can not accept images.

STILL BLACK? P.T.O.&  
TIME TO CHECK INSIDE THE LED SCREEN.

**A qualified electrician is required for this work.**

DO NOT ATTEMPT without being qualified .



- 1.l. Leaving the screen power ON open up the first cabinet where the data feeds into. This will usually be the bottom row either extreme left, or right cabinet. Looking from the rear the control cards are usually in the left door of that cabinet. If you cannot see which side the data enters then it is a safe bet to choose the side near a post enclosure or an antenna. The data will daisy-chain to every cabinet.
- 1.m. If no power at all is getting to the screen then it will be black. Use your trade skills to work back to the issue.
- 1.n. If there is power to the 1st cabinet (in the data chain) check to see if there is activity on on the 1st ■ control card. There are many models of control cards but usually a green or red light flashing quickly indicates that all is correct.



**SEE PICTURES ON THE NEXT PAGE TO SEE ITEMS DISCUSSED**

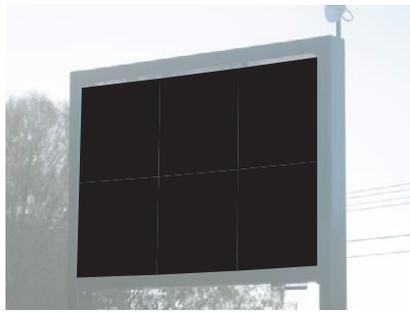
- 1.o. If the card indicator is static or flashing slowly (1 per second) then unplug the cat cable ends and replace firmly. If a cat cable on card #1 was loose then you will see activity. The screen should turn on.
- 1.p. If there are NO indicator lights on the #1 control card then check the power supply that feeds that card. All power supplies will have an indicator light near the terminals. If the power supply is lit then check the output voltage. 5vdc is required. If faulty then ISOLATE the power and replace. The screen should turn on when complete.

----- NOTE: Solid systems are supplied with spare parts on delivery. These spares are usually stored in the bottom few cabinets (sitting on the cabinet internal floor).

Check for spares. If not then order from Solid. If you use the last spare/s then advise your client/club to reorder with Solid.

Please place any BAD spare parts back in the cabinets with red electrical tape around them with notes to the fault by a marker.

- 1.q. If the control card is faulty then this will need to be ordered from Solid. If there is a spare control card then install it carefully. The screen should light up, although it may not look correct. Some models will be OK, so models will require Solid to remotely log on and send a new configuration to the control card.



**Section 1 (part 4)**  
**Complete BLACK screen,**  
**no LED on.**



**#1 cabinet**  
**This one shows a fibre**  
**tray & fibre convertor within**



**Common keys required**  
**for opening cabinets**

**Control card**

**LED cabinets &**  
**components may vary**  
**in appearance**

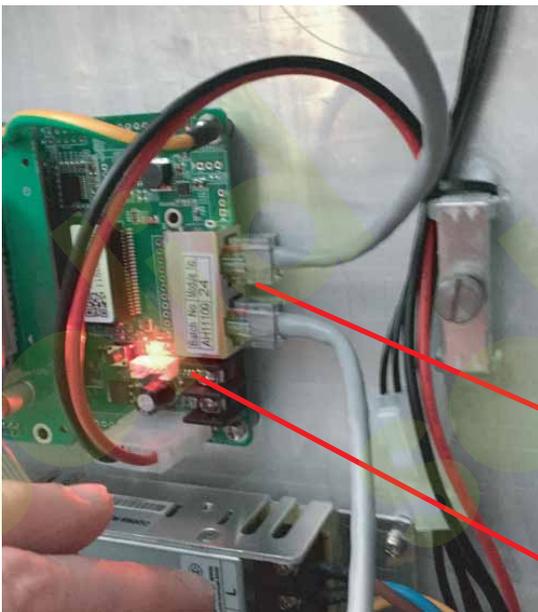


**Power supply indicator lights**

**Data cables, daisy chain around cabinets**  
**(does not matter which ports are used)**

**Power supply indicator lights**

**Control cards and LED modules are safe**  
**to be replaced whilst powered up. 5vdc.**  
**Extreme care to be taken to not come in**  
**contact with 240v from power supplies.**





**Section 2**  
**Partial screen on,**  
**Whole LED cabinets OFF.**

**Fault finding:** Proceed down this list until successful. Feel free to call Solid staff on 0458 533 349 for assistance. A photo showing the issue can be helpful to the Solid tech. NOTE: You will need the direct mobile of the Solid tech to send the photo. The number shown above can not accept images.

**A qualified electrician is required for any work inside of the LED screen.**

DO NOT ATTEMPT without being qualified .

2.a. In this sample case there are 2 cabinets NOT working. Cabinet 1 is where the data enters the screen.



2.a.2 If you were to check the control card in the black cabinets you would see that there is no activity (no flickering light).

2.a.3 Check the control card in cabinet 5. IF there is no indicator light lit at all then there is a bad power supply feeding the control card. Look for the attached power supply, you should see that there is also NO light showing on one of the power supplies. Isolate the power and replace the power supply.



One data cable will be from the previous cabinet

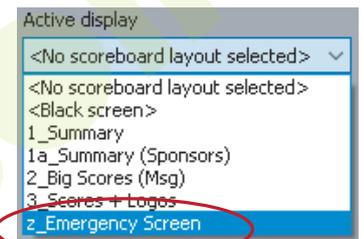
The other will go to the next cabinet

Activity light on control card

----- NOTE: Solid systems are supplied with spare parts on delivery. These spares are usually stored in the bottom few cabinets (sitting on the cabinet internal floor). Check for spares. If not then order from Solid. If you use the last spare/s then advise your client/club to reorder with Solid. Please place any BAD spare parts back in the cabinets with red electrical tape around them with notes to the fault by a marker.

2.a.4 Check the control card indicator light in cabinet 5. IF there is a static light or a slow very flashing light there is a data issue.

1. Pull out & then reinsert the 2 data leads.  
If activity resumes then it is fixed, if not...
2. Open the previous cabinet (Cabinet 4).  
Pull out & then reinsert the 2 data leads.  
If activity resumes then it is fixed, if not...
3. There is either a data cable problem (unusual) or a bad control card.  
Contact Solid for advice.



for during repairs

Some Solid screens have 2 separate data feeds (feeding from both directions).  
If you have this extra backup feed the issue on this page should not occur.



**Section 3**  
**“ODD shape” black, could be an L shape or a smaller block than a full cabinet.**

**Fault finding:**

Proceed down this list until successful. Feel free to call Solid staff on 0458 533 349 for assistance. A photo showing the issue can be helpful to the Solid tech. NOTE: You will need the direct mobile of the Solid tech to send the photo. The number shown above can not accept images.

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DO NOT ATTEMPT without being qualified .

- 3.a. Open the cabinet door behind the fault. Look for a power supply that does NOT have an indicator light glowing. Isolate the power and replace the power supply.
- 3.b. IF all power supplies are showing an indicator light then check voltages with a multi-meter. They should be outputting 5v



----- NOTE:

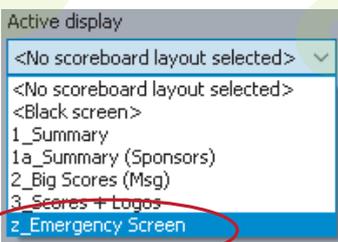
Solid systems are supplied with spare parts on delivery. These spares are usually stored in the bottom few cabinets (sitting on the cabinet internal floor).

Check for spares. If not then order from Solid. If you use the last spare/s then advise your client/club to reorder with Solid.

Please place any BAD spare parts back in the cabinets with red electrical tape around them with notes to the fault by a marker.

LED cabinets & components may vary in appearance

Power supply indicator lights



During repairs you can try displaying this layout through the Solid app. Depending where the fault is it may provide enough score detail for the current game. ie. points, timer



## Section 4 Partial horizontal row black or colour or malfunctioning.

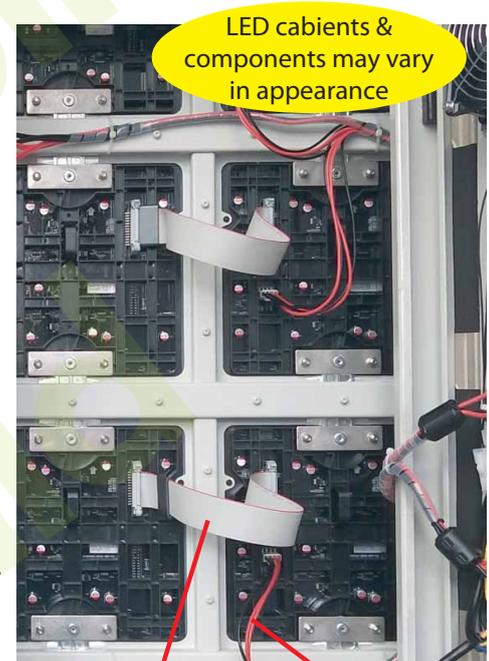
### Fault finding:

Proceed down this list until successful. Feel free to call Solid staff on 0458 533 349 for assistance. A photo showing the issue can be helpful to the Solid tech. NOTE: You will need the direct mobile of the Solid tech to send the photo. The number shown above can not accept images.

### **A qualified electrician is required for any work inside of the LED screen.**

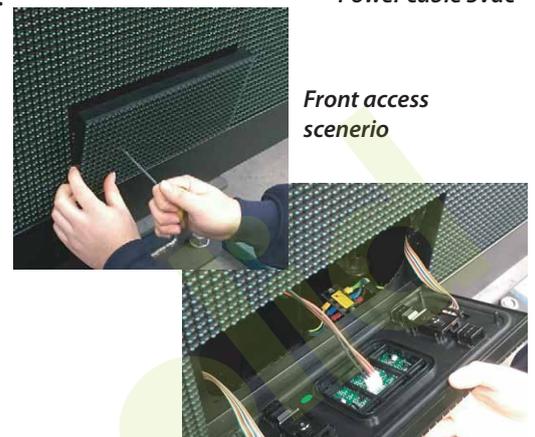
DO NOT ATTEMPT without being qualified .

- 4.a. This is usually an issue with
  1. An individual LED module
  2. A ribbon data cable that feeds LED modules
- 4.b. Open the cabinet and locate the faulty module. If you are unsure which module then it is safe to unplug the ribbon cable feeding a module. Then view from the front to see if the faulty module is now black. Note that all modules following in that row will also be black.
- 4.c. Once located, swap some of the closeby data ribbon cables with others.
- 4.d. If the problem is fixed then it was a loose ribbon cable.
- 4.e. If the problem has moved then a ribbon cable needs to be replaced.
- 4.f. If the problem exists in the same location then replace the LED module. Depending on the model you may need various tools to release the module. Re-seat 5v cable first. Check is 5v @ end and cable not damaged.
- 4.g. If you are working from the rear then carefully push the module forward (holding firmly), then twist the module to retrieve it through the rear. Some odd models will not fit through the rear and might have to be lowered to the ground (attach string/cord). An option could possibly be to remove the module next to it.
- 4.h. If you are working from the front (on a "front access" model) then use the hex head tool to release the module. Carefully unplug the power and data cables.
- 4.i. Replace the module and test. The first module in a bad row is usually the fault. Once replaced the following modules should appear correct. NOTE: on odd occurrences you will find the fault remains, displaying the same fault on a new module. IN THESE CASES the fault could be from PREVIOUS module in the row. Due to a "bad out" port. In this case. Clearly mark this as "BAD OUT" and move the module to the last position in that row (where the "out" port is not required).



Ribbon data cable

Power cable 5vdc



Front access  
scenerio



If you have a faulty row of modules replace the right (red) module first. This faulty module is likely to be sending bad data to the row.

Faulty module (red)



## Section 5 Fuzzy entire screen

### **Fault finding:**

Proceed down this list until successful. Feel free to call Solid staff on 0458 533 349 for assistance. A photo showing the issue can be helpful to the Solid tech. NOTE: You will need the direct mobile of the Solid tech to send the photo. The number shown above can not accept images.

### **A qualified electrician is required for any work inside of the LED screen.**

DO NOT ATTEMPT without being qualified .

### **POSSIBLE SOLUTIONS FOR A FUZZY SCREEN In order of likelihood...**

- 5.a. Loose cables attached to the PC - push in firmly
- 5.b. Loose cables in other gear at the PC end - push in firmly
- 5.c. Equipment needs a restart (likely to be at PC end, but restart all equipment by powering ALL components down, ie. all devices including antennas)
- 5.d. The graphics properties on the PC may have been changed accidentally  
To check... right click the desktop (on nothing). Select [Display Settings]  
This screen can appear many ways depending on the comms system in use BUT the most usual settings will be:
  - a rectangle showing 1 / 2 inside it
  - A screen resolution of either 1366 x 768 or 1920 x 1080 pixels
  - 100% scale for 1366 x 768 OR 125% for 1920 x 1080The club operator may have taken note of the correct settings.
- 5.e. Faulty sending card (within the Sender Box or the Video Processor, near PC)  
Will need to be replaced by Solid
- 5.f. Faulty Video Graphics card in PC
  - If a box style PC then request repair by Solid (or local PC repairer)
  - If a laptop, then it might be easier to replace the laptop



*If you need help from Solid staff then a photo of the issue will be of assistance.  
Note: the 24/7 number does not accept txt messages.  
Ask the Solid tech for the correct number.*