Controller troubleshooting

Guide 04 for players coaches and helpers

Use this guide when an **Amulet controller** stops working. The Amulet is the device a player wears or holds. The **spark** is that player's moving pointer on the TV. See **page 12** for equipment photos.

Try one change at a time. Then move the Amulet and watch the spark. A dot or a **4/4** message alone does not prove that it works.

Find your problem

What is happening	Go to
Connected or INVALID, but the spark does not move	Page 2
One player has no working spark	Page 3
All sparks stopped or did not return after a quiz	Page 4
Receiver missing or will not connect	Page 5
A controller will not turn on or keeps stopping	Page 6
Movement is slow, jumpy or fails in one seat	Page 7
The aim is wrong or a different player moves	Page 8
Check that the fix worked	Page 9
Record the problem and ask for help	Page 10
For technical support helpers only	Page 11

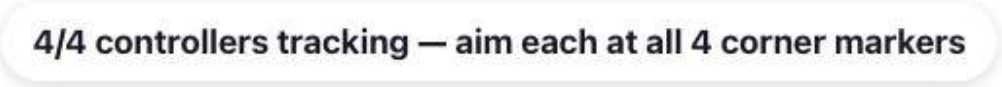
During a match: write down the score and time. Ask the match leader and other team before reloading the game page or unplugging equipment. Reloading opens the page again and may affect the game. The aim-check screen does not stop the clock.

Use the other guides for normal operation

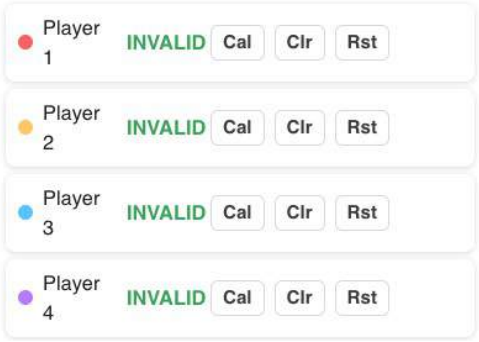
For everyday setup, use **Guide 01 Amulet Use and Care** or **Guide 02 Competition Opticon Setup**. **Guide 03 Super Nova Star Manual** explains play. **Guide 05** covers the separate practice page. **Guide 06 TV Picture and Screen Care** covers the TV.

Connected but no responding spark

Use this page when the screen says **INVALID**, a spark stays still, or the screen counts a controller that will not move its spark.



This real example says 4/4 at the top.



These player rows say INVALID. Even with 4/4 at the top, you must check that each spark moves.

What the words mean

INVALID: the camera cannot give the game a usable aiming position right now. It may be looking away from the TV. **OFFLINE:** the game has not heard from that player recently. A controller may still look connected after it is switched off.

1. Check that the battery is on. Uncover the camera eye. Move fingers, clothing and the neck strap out of its way. Wipe a smudge gently with a clean, soft, dry cloth.

2. Find all four black-and-white squares on the TV. These are the **markers** the camera needs to see. Close any pop-up box covering them. Keep people clear and make sure no square is cut off. See **Guide 06** for TV help.

3. Help the player point the eye toward the middle of the TV. Hold it still briefly. Then move a little left, right, up and down.

4. If the spark still does not move, go to **page 3** for one player or **page 4** if several players stopped together.

Do not keep clicking Cal if nothing moves. Cal centers a spark that already follows the controller. For centering, use **Guide 02**. For a comfortable fit and a clean camera eye, use **Guide 01**.

Ready to continue: the correct spark follows this player’s movements. Point the eye away briefly, then back at the TV. The spark should move again.

One player has no working spark

Use this page when the other players still work. Leave their controllers connected while you check the one that stopped.

1. Read the labels on the controller. Check its kit and player number. Ask everyone else to hold still. Move only this controller.

2. Check that its own battery is charged and on. Check the power plug on the outside of the controller. If it keeps turning off, go to **page 6**.

3. Uncover and clean the camera eye. Point it at the TV with all four corner markers visible. If the screen says **INVALID**, use **page 2**.

4. Ask a helper to hold it where another controller works. Keep the same receiver, the small USB device plugged into the computer. Do not move the player unless they are comfortable doing so.

5. If it works in a helper’s hand but not when worn, adjust the strap height or camera angle using **Guide 01**. Test again from the player’s own seat.

What the comparison tells you

What you find	What to do next
Works in another position	Check the view and fit at the original seat. Tell support which seat works. See page 7.
Does not work anywhere, but another does	Write down its label. Ask support to check this controller and battery.
Moves a different player’s spark	Use page 8. Its label or saved player number may be wrong.

Keep the kit together. Match the controller’s kit label with the receiver’s label. A controller from another kit may not work. Switching one off does not let you replace it with a spare automatically.

Ready to continue: this player moves the correct spark from their own seat. The other players still work.

Still not working? Keep it with its kit. Fill in **page 10** and ask the kit lead, the person responsible for the equipment.

All sparks stopped

Use this page if several players stop at the same time. This may happen after a quiz, a pause or the computer going to sleep.

Write down the score and time. Ask the match leader and other team before reloading or unplugging anything. Opening the aim-check screen does not stop the clock.

1. **Check the TV.** Move the mouse to wake the computer if needed. Wait for the game to return. Check all four corner markers. Ask players to face the TV and hold still.
2. **Check the receiver.** This is the small USB device plugged into the computer. If its plug is firmly in place, leave it there for now.
3. **Check movement.** Open the aim-check screen, also called **calibration**, if available. Move one controller. Look for its spark to follow. A dot or **4/4** message is not enough.
4. **Reload when the match leader is ready.** Click Chrome's circular reload arrow beside the address box at the top of the window. It opens the game page again. Use the browser arrow, not the arrow inside the game.
5. **Connect again if needed.** Rejoin the room if asked. Click **Connect controllers**. Click the same receiver in the list, then **Connect**. If movement has already returned, go to step 6.
6. **Check every player.** Move one controller at a time before continuing. Write down whether reloading and connecting again fixed it.



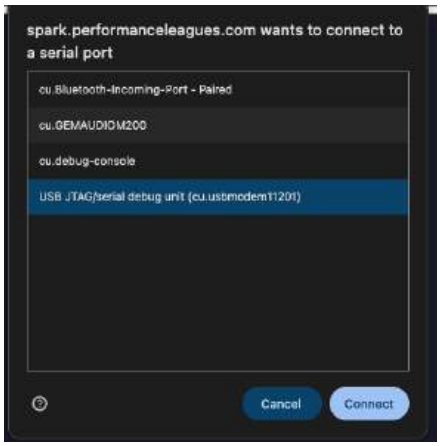
The arrow beside the game timer opens the aim-check screen. It may not reconnect the controllers. For step 4, use Chrome's arrow beside the address box.

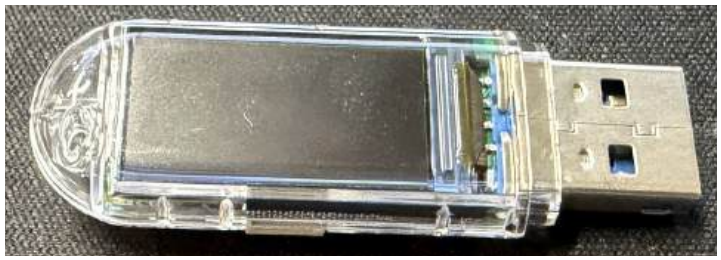
Why try this? The website may stop receiving movement even though it looks connected. Reloading can get it working again. Tell support if the problem returns.

Still not working? Use **page 5** for connection errors. Fill in **page 10**, including what happened just before the sparks stopped.

The USB receiver will not connect

Use this page if the receiver is missing from the connection list, the list is empty, or Chrome shows an error after you click **Connect**.





Left: click the receiver in Chrome's list. Your device name may differ. Right: the receiver. Its metal end goes into the computer. See page 12 for more photos.

1. Use **Google Chrome**, the app for opening websites. Keep one game page open. Close other controller-testing apps. If Arduino is open, close its **Serial Monitor** and **Serial Plotter** windows.

2. Check that the receiver is plugged into the **computer**. A USB socket is the opening its metal plug fits into. Do not use a TV socket.

3. When no match is running, unplug the receiver and plug it back in once. If possible, use a computer socket instead of an extra USB splitter or adapter. Do not press the receiver's buttons while plugging it in.

4. Click **Connect controllers**. Click the receiver in the list so its row changes color. Then click **Connect**. If two names look alike, ask your helper which one to choose.

If an error remains

Connect is gray: click a device in the list first. **Busy** or **cannot open:** another app may be using it. **Access denied:** ask your computer helper to check access. Write down the exact error words.

A dark receiver screen does not prove it is broken. Some receiver software leaves that little screen off. Ask your helper before installing anything or changing computer settings.

Ready to continue: the receiver connects and every player moves their own spark. For the full connection pictures, use **Guide 02 Competition Opticon Setup**.

No power or repeated stopping

Use this page if a controller will not turn on, switches off soon after starting, or starts again when you move it.

1. Find the battery that belongs with this controller. Charge it with the correct charger and its own charging instructions.

2. Check the power cable and plug on the outside. Make sure they are firmly in place. Do not force or bend a loose plug.

3. Switch the battery on using its instructions. **Guide 01** shows the power controls. If your battery is different, ask the kit lead. The photo on **page 12** shows the battery lights.

4. Point the eye toward the TV. Wait for it to start. Move it gently and check whether its spark follows.

5. If it keeps restarting or switches off when moved, stop using it. Ask support to check the battery, cable and camera.

What the signs can tell you

What you notice	What it may mean
Stops when the cable or controller moves	A cable or plug may be loose. Ask support to check it.
Works briefly then switches off	Tell support how long it stays on. Ask them to check its power supply.
Power light stays on but no spark responds	A light alone does not prove the camera works. Also try page 2.

Use a different battery only if support confirms it is the right type. Keep the controller with its own kit. Let support open the case or check inside wires.

Stop using damaged equipment

If a battery is swollen, damaged, unusually hot or smells unusual, stop using and charging it. Ask the equipment lead to follow the battery supplier’s instructions.

Ready to continue: it starts, stays on and moves its spark from the player’s seat. One light or one successful start is not enough.

Slow, jumpy or unreliable movement

Use this page if a spark is slow, jumps, sticks at an edge or works from only some seats.

First, free up the computer

Save work. Close all unneeded tabs, browser windows, other browsers and apps. Tabs are page names at the top of Chrome; click their X to close them. Keep the game and required call or accessibility tools. Hiding a window does not close it.

Reduce glare and compare the view

1. Keep the TV clean using **Guide 06 TV Picture and Screen Care**. Reduce glare as much as possible. Glare means bright reflections. Close blinds or move lamps. Keep the room safely lit.

2. If using a laptop on a stand, tilt its screen partly down so the Amulet sees only the TV's markers. Do not fully close the lid if that makes the TV go blank. See **Guide 06**.

3. Uncover the eye and keep all four TV markers visible. Try slow movements. Have a helper compare holding and wearing it in a place where another controller works.

4. Compare movement on the aim-check screen and in the game. Tell support which one is slow and how many players are using controllers.

Works only near the receiver? Tell support so they can check the wireless connection. Keep the camera's view clear.

What happens	Tell support
Only one controller jumps	Its label, and whether another works in the same spot
Aim-check screen is smooth but game is slow	What the game shows and how many players are playing
Spark sticks only at an edge	Which edge, and whether moving toward the middle helps
All players stop together	Whether the webpage, call video and mouse still work

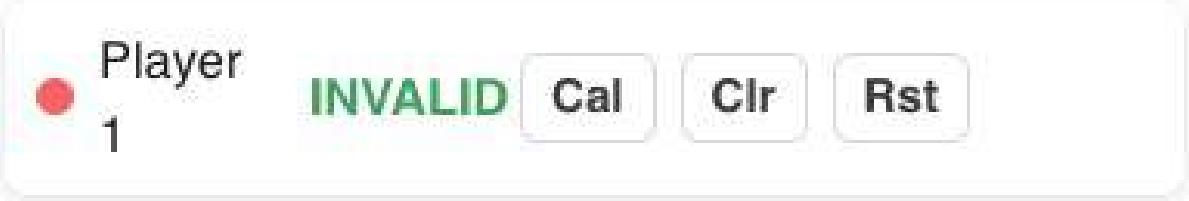
Change one thing at a time. Leave marker pictures, Wi-Fi and Bluetooth settings alone.

Ready to continue: all four players move their sparks smoothly from their seats, with required tools still running. Repeat what caused the problem.

The aim or player identity is wrong

The spark moves but is off center

Check that this player's spark follows their movements now. If it does not, use **page 2 or 3**. If it moves but stays too far to one side, try centering it.



Cal means center the aim. It is the first small button after INVALID in this picture. Make sure the spark moves before clicking it.

Follow the centering pictures in **Guide 02 Competition Opticon Setup**. Seat the player comfortably. Point the eye at the middle of the TV. Click **Cal** in that player's row once. Hold still for about two seconds. Then try moving again.

If left and right are reversed, movement looks badly wrong, or one careful retry does not help, ask support. Leave **Clr** and **Rst** for support.

The wrong player moves

1. Read the controller's kit and player labels. Ask the other players to hold still. Move only this controller.

2. Write down which player's spark actually moves. Try once more to check.

3. Ask support to compare the label with the player number saved in the equipment. Do not choose a new number yourself or borrow a controller from another kit.

Works when held but not when worn? Adjust the fit using **Guide 01**, then check again. Changing the strap height or camera angle may change where the spark points.

Ready to continue: the correct player moves their own spark comfortably around the playing area. Check again after adjusting the fit.

Check after a fix

Use the players' actual seats. Wear or hold each controller the way it will be used in the game.

1. Move one controller at a time. Only that player's spark should follow.

2. Try the middle, left, right, up and down. Keep the player comfortable.

3. Point the eye away briefly, then back at the TV. Check that movement returns.

4. Try all four together. Repeat what caused the problem. If it stopped after a quiz, check movement after a quiz again.

Mark every controller in the kit

Write **OK**, **needs help** or **not checked**. An empty box does not mean OK.

Check	Player 1	Player 2	Player 3	Player 4
Correct player moves				
Center and four directions				
Comfortable in actual seat				
Returns after aiming away				
All four work together				

[ ] Saved work and closed all unneeded tabs, windows, browsers and apps. Only the game and required call or accessibility tools remain.

[ ] The TV is clean, glare is reduced, and all four TV markers are clear. The Amulets cannot see a second set on a laptop. See **Guide 06**.

[ ] Every player moves their own spark, including after repeating what caused the problem.

[ ] The match leader and both teams are ready to continue.

After a repair, support should restart the kit outside a match and check each player again. Record failures on **page 10**. Use **Guide 02** for a new match. Do not start a new match just to test the current one.

Record the problem and ask for help

Write down what you saw and what changed. A photo of the error or aim-check screen can help. Leave private game addresses and access codes out of the photo.

Who to contact: your kit lead, the person responsible for the equipment, or your usual support person.

Support name or contact: _____

Date and time: _____

Community or room: _____

Kit label: _____

What stopped working

[ ] One player [ ] Several players [ ] All players

Player or controller labels: _____

What happened just before it stopped?

[ ] Quiz ended [ ] Computer slept [ ] Cable moved
[ ] Controller moved [ ] Something else

Details: _____
_____

Exact words on the screen: _____
_____

What you tried

[ ] Cleaned eye [ ] Checked TV markers [ ] Checked battery
[ ] Changed position [ ] Reloaded page [ ] Connected again

What helped or changed? _____
_____

Does the problem return? _____

Keep the original kit together while waiting for help. Let support handle opening the case, changing saved player assignments or installing controller software.

For technical support

For a technical support helper only. Players and coaches can stop at page 10. Record device labels, installed software versions, what triggered the problem and exact messages before changing saved settings.

Find where the messages stop

The camera sees the TV markers and sends aim wirelessly to the receiver. The receiver sends it to the computer. The website reads it and moves the spark. Check for new information at each step.

- If camera messages reach the receiver but usable aim stops, check the camera view, condition and fit. A faulty camera may still send connection messages.
- If camera messages stop, check power, wireless delivery and the saved kit identity. Website activity alone is not proof: the receiver may keep a player looking connected.
- If receiver output continues but the website stops updating, check the website's serial reader. If the website receives new aim but draws it slowly or wrongly, check game state, screen limits and drawing code.

September 24 review finding: the website could stop reading after an error without reconnecting. A repair was prepared but still needed website integration and physical testing. Ask the project owner for its current status. Reloading is a workaround. Updating a receiver does not update the website.

Keep assignments and test the repair

Confirm the device and its installed software first. A locked receiver can keep an absent controller's place reserved. Older receivers, V12I and the separate V13 replacement system use different procedures. Do not guess commands or clear pairings as a general reconnect fix.

Repeat the original failure from the same seat with four players and the usual apps running. Restart the kit and one controller separately; check player identity and movement. Passing software tests does not prove the physical kit works.

References for this guide

For repair commands and release checks, ask the project owner for **Super Nova Controller Troubleshooting Manual**, dated September 24 2026. Archive filename:

Super_Nova_Controller_Troubleshooting_Manual.pdf

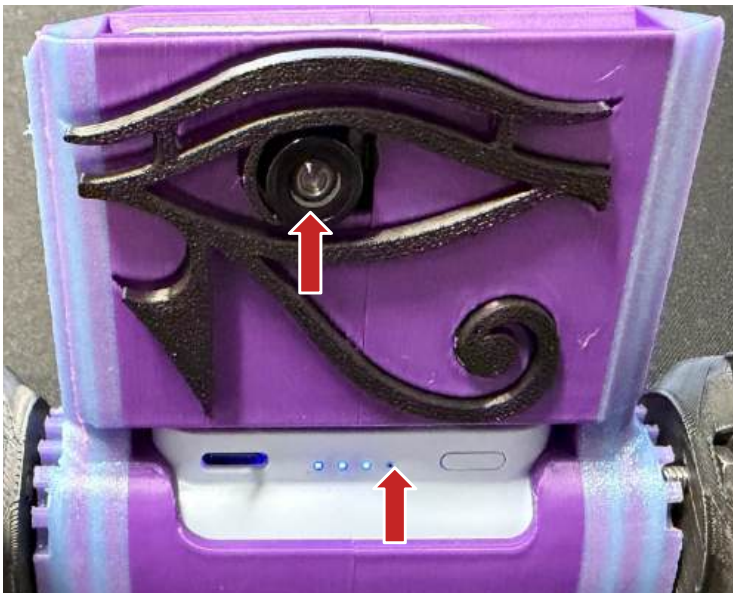
Technical sources and game screenshots were reviewed on September 24 2026, including Camera V18 and Receiver V12I. Check what is installed on the actual kit. Screen labels may change.

Amulet Controller Manual source

Find the parts in the photos

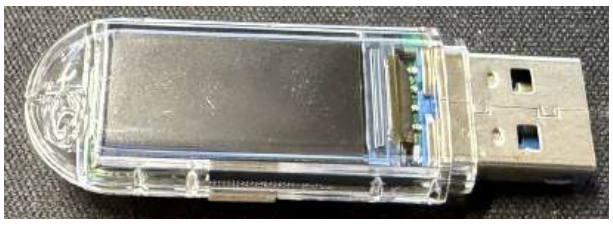
Use these equipment photos to find the parts named in this guide. Your kit may be a different color.

Camera eye and battery lights



Upper arrow: camera eye. Leave it uncovered and point it at the TV. Lower arrow: battery lights. Lights alone do not prove that the spark will move. Use page 2 or page 6.

USB receiver front and back





Left: the little display may stay dark even when the receiver works. Right: the maker's model label. This label does not tell you which kit or player it belongs to. Look for the kit label or ask the kit lead.

Keep the receiver with its own Amulets. Use **page 5** for connection help. Leave opening the case and pressing receiver buttons to support.

Equipment photographs provided by Caleb Thomas: IMG_1024, IMG_1025 and IMG_1026.