# How to Troubleshoot a Matrix

**Unit is not powering up or showing signs of life:**

- ☐ Is there power going to the outlet powering unit?
- ☐ Has the matrix shown signs of life before? If so, was there any event that occurred since then (power outage, lightning storm, any other equipment fail)?
- ☐ Is there another powersupply of the same voltage/amperage that can be tried with the matrix?
- ☐ Has a factory reset been attempted? How did the matrix respond? (if still no sign of life proceed to next step)
- ☐ Can the external powersupply (if applicable) be tested with a volt meter to verify its outputting voltage? NOTE: Although a PS may show proper voltage on output, it may not provide this voltage under load so if another PS can be tried, this will help verify if the issue is with external power or internal hardware issue.

**Failed output port (no video on one port):**

- ☐ If using a balun at output port, check balun for link light. If possible, swap balun with another one from installation that is confirmed to work.
- ☐ Is the run experiencing issues drastically different from those that are working? (Long CAT run, patch panels, EZ-RJ45 connectors, and reported issues in the past)? If so, document the issues as these may be helpful in the future.
- ☐ Can the cables from the non-working input be connected into another port that does work? Does the issue follow the cable (no video wherever we put this cable run) or does the issue follow the port (cable that worked in one port doesn't work in the port in question).
- ☐ Since many Atlona switchers feature EDID management, its wise to check what the settings for the system are doing. If the EDID of the switch (let's say 1080P) does not match the capabilities of a particular display (720P only), it may have troubles getting signal which will explain certain issues.

**No video on all ports:**

- ☐ Does the matrix have basic signs of life (power is on the front, link lights appear on the matrix and baluns? NOTE: If baluns do not have link lights but appear to get power (POE), check cables for proper termination/pin out.
- ☐ Do the TV's act as if they are seeing any signal or do they just say "no signal"? If TV's appear like they might have a signal but its showing a black screen, try another resolution on the source or another source altogether.
- ☐ Has the matrix been factory reset? Feel free to perform a few times. Resets will clear user settings so take note to perform any EDID/resolution changes after trying reset.
- ☐ Can firmware be reloaded onto the matrix?

□ Can the source being connected into the matrix be taken to one of the outputs that gets its signal from the matrix? If we can bypass the matrix and view the source in question on either the HDMI cables coming out of the matrix and feeing a display or we can take a source physically to that display and verify it does show a picture on the TV without the matrix present.

**Failed input port:**

□ Can the cables from the input source in question be plugged into another input port and tested? Does the issue follow the port or does it follow the cable? Make sure to take a working cable to the port and see if you can get video on it.

□ Can this source be tested directly on a TV and verified to work? Test the cables in the same manor (OK to do at the same time in one test).

□ Are the cables for the port that's not working longer than other ports? NOTE: HDMI cables can have issues with cable runs longer than 30ft.

□ Has EDID been set to this port and all others? Make sure EDID on this port is not different from others (unless desired).

□ Try a factory reset on the matrix to see if the port can be brought back to work

**Random video drop outs / switching delay / unexplainable visual errors:**

□ Note: Switching times of 2-7 seconds are normal. If a matrix uses a scaler, switching time may be delayed a few seconds (closer to 7) where as a pure HDMI in/out matrix may be quicker.

□ Lock EDID down on all inputs (if applicable). Choose one EDID for all inputs to follow (1080p – 2channel audio is most common)

□ Make sure customer is not using EZ-RJ 45 cables, patch panels, connecting blocks or CAT cables that are outside of device specifications. 568a vs 568b is not a major concern but if a customer uses 568a, have them try one 568b cable to see if their 568a format may have been wrong.

□ Does the issue follow a specific output? If so, what is that outputs native resolution/format. If a projector is having issues in an installation of all TV's, a device such as an AT-UHD-SYNC may be used at the display to help correct HDMI issues such as voltage drop outs. An HDMI scaler (AT-HD550) can also be used to format the HDMI signal accordingly.

□ Check firmware on Atlona matrix as well as the devices in the system (source, display, other devices used in the system that process HDMI)

□ If a customer uses an AVR and experiences issues, have them bypass the AVR and see if issues occur without the AVR.

**Issues with control over matrix (IR, RS232, TCP/IP):**

- ☐ How is the customer controlling the matrix? If using a control system, check that proper connecting is made:
- ☐ RS232 uses pins 2,3,5 and may require a null modem depending on customers cables
- ☐ IR from a control system (three wires) will only use IR and Ground (power is not used) on the Atlona system
- ☐ IR routing is based on input/output selection
- ☐ TCP/IP requires the use of a Router with DHCP or a static IP. IP is set up through RS232.
- ☐ For RS232 check baud rate and port settings. NOTE: High comm #'s do not work well (keep comm #'s below 12)
- ☐ If a customer is using RS232 and cannot get communication from a control system into the Atlona matrix, bypass the control system and try direct connection from a PC using a USB to Serial cable and a serial program (Hterm is a free program found through google).
- ☐ Atlona systems require CARRIDGE RETURN, make sure one was properly sent (each control system may have a different designation for CR)
- ☐ If a matrix does not respond to RS232 control via direct connection with PC and null modem has been tried, attempt a TelNet connection via TCP/IP.
- ☐ If a customer cannot get matrix onto a network via TCP/IP have them confirm their router (not switch) has DHCP enabled as well as the Atlona. Default setting for Atlona is DHCP ON however if a customer had changed the settings of the matrix, this may be off.
- ☐ If no IR control, try using the original IR remote that came with the Atlona matrix, does the matrix respond? If not responding, perform a factory reset.
- ☐ If IR routing is not working, make sure customer is using supplied IR receiver that came with the matrix.
- ☐ If IR routing works using supplied IR components but not with a third party system, try using the original remote for the device being controlled and see if the matrix passes this (vs passing the IR from a control system).