

MATRIX	Troubleshooting Guide: 2016-2019 7xe & 7xi (Android) Console Troubleshooting Guide	
Prepared by: J.Sleppy	Date Prepared: 9/3/2019	Models Affected: >2016 THURESAC 7xe & 7xi consoles (TM527, EP620, TM528, EP621)

PURPOSE

Use this document to troubleshoot Matrix 7xe & 7xi cardio consoles. The intended users are Matrix (Johnson) Customer Tech Support Representatives & Field Service Techs, but distribution is free.

New information is contained in the Online Remedy Update Center for your model until it can be verified and incorporated here. Always check there if your failure isn't clearly resolved here.

The guide is intended to be used alongside the Master Error Code List (under Troubleshooting Guides)—if you have an error code, begin there.

Instructions for any task directed here can be found in the 7xe/7xi Console Service Guide or specified reference.

Read and understand the [General Troubleshooting](#) and [Using this Guide](#) sections before proceeding further.

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9. [Safety Key/E-Stop \(TM & C\)](#)
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 - Speed/Resistance different than commanded
 - No belt/step movement
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 - My issue isn't found here

GENERAL TROUBLESHOOTING

[ToC](#)

- **UPDATE TO THE LATEST SOFTWARE VERSION, if possible. See Software Box Instructions (under Software Information).**
 - Reference the [Software Update](#) topic if anything unexpected happens.
- Cycling power is recommended as the first attempt to fix most failures, and after major repairs are implemented. Stop pedaling/stepping self-powered equipment to allow it to power down.
- Error Code Log is available in Service Mode (enter 3 0 0 1 enter). The log can provide historical hints on intermittent issues.
- If multiple, identical machines are available, swap suspected failed parts (console, MCB, cables, etc.) and observe if the failure follows.
- If unsure where to begin with degraded console performance, disconnect everything from the UCB (except for the console cable, as this supplies power). Verify expected operation; reconnect parts one at a time until the failure is recreated.
- Before replacing any major part, inspect the cables to/from it. Disconnect and inspect the connectors on both ends, as well as the terminals on the boards. If capable, perform continuity tests to verify all the conductors are intact. If no damage/corrosion noted, carefully reconnect, ensuring proper seating and connection. Request replacement cables if at all suspicious.

PRODUCT PAGE LINK

[ToC](#)

- 7xe Universal ([H U R E S A C\(CS24\)\(CS30\)](#) [ALB](#) 7xe – EP620)
- [7xe Treadmill](#) (T7xe – TM527)
- 7xi Universal ([H U R E S A C\(CS24\)\(CS30\)](#) [ALB](#) 7xi – EP621)
- [7xi Treadmill](#) (T7xi – TM528)

May need to right click-copy hyperlink & paste into a browser that is logged in to Online Remedy.

USING THIS GUIDE

Read & understand the General Troubleshooting section above.

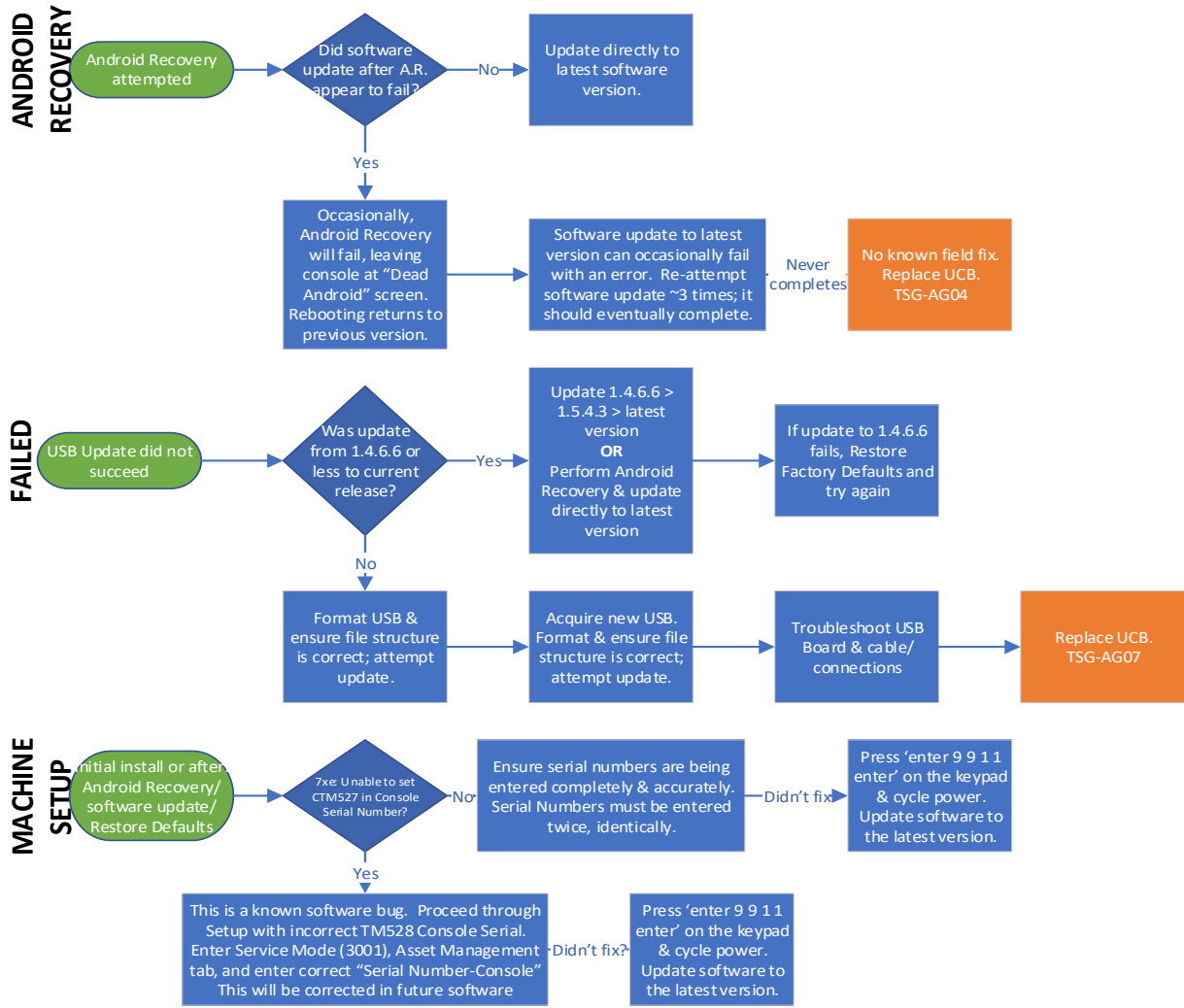
Given a problem description, link to the topic that appears most fitting from the ToC on the first page or Find (ctrl-f) by keyword. Find the **Green** flowchart bubble that best describes the specific issue, and follow the flow through asking questions, taking measurements, and suggesting corrective action. The “Additional Information” section within each topic contains notes and details pertaining to that topic.

After each corrective action is taken, re-evaluate if the failure has been resolved. Some indications have a straightforward order of attempts, and not all steps are always necessary if a lower-level fix resolves the issue.

Matrix CTS: UCB or Console replacements (and some other situations) require additional information to be recorded, [detailed here](#). Within this guide, those directions are filled **Orange**. If you reach that point, note the TSG-XX##. This Troubleshooting Code will be requested in CRM.

If the failure you’re attempting to resolve isn’t described by this document, or the corrective action is attempted and doesn’t resolve the issue, you may need to escalate this case by consulting your Team Lead. Also see section “[Other](#)”

USB, Update, Failed, Detect, Serial, Setup, Initial, First



If your issue persists, [Click here](#).

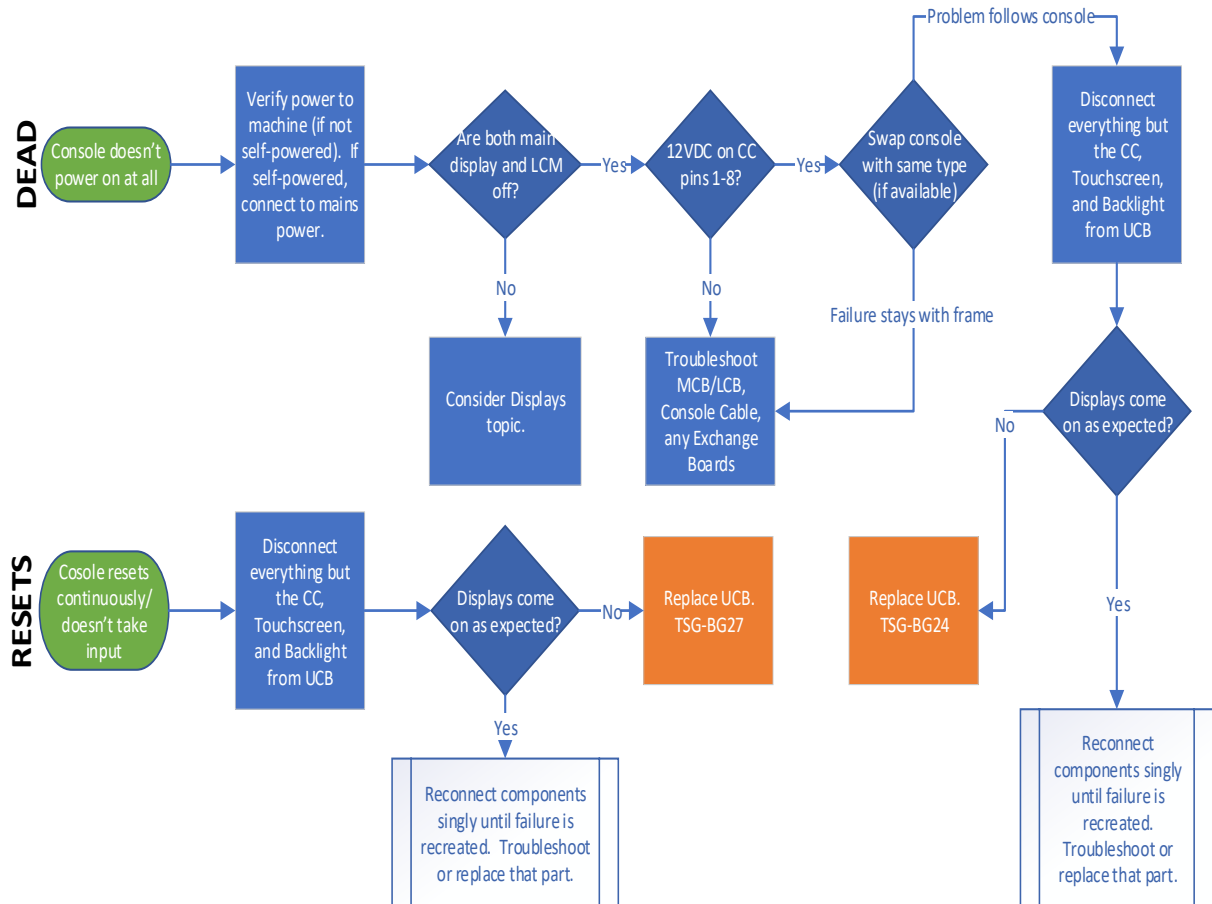
Additional Information

- Updates via USB are recommended over RSCU/internet updates.
- Software updates are best performed with a 2–8 GB USB memory stick, formatted 'FAT32'. Other sizes & formats may work but are not recommended.
- Find USB software update directions and files in the Software Box Instructions (under Software Information).
- If unable to navigate into software update menus, consider Touchscreen, Display, Freezing, or Power failure.
- "Enter 9 9 1 1 Enter" clears the software update history. If automatic updating is enabled, all software will be re-downloaded.
- There is a USB port directly on the UCB, along the bottom edge. Connect to it if the external USB port on the console doesn't seem to work as expected.

POWER ISSUES

ToC

Dead, Off, Reset, Reboot

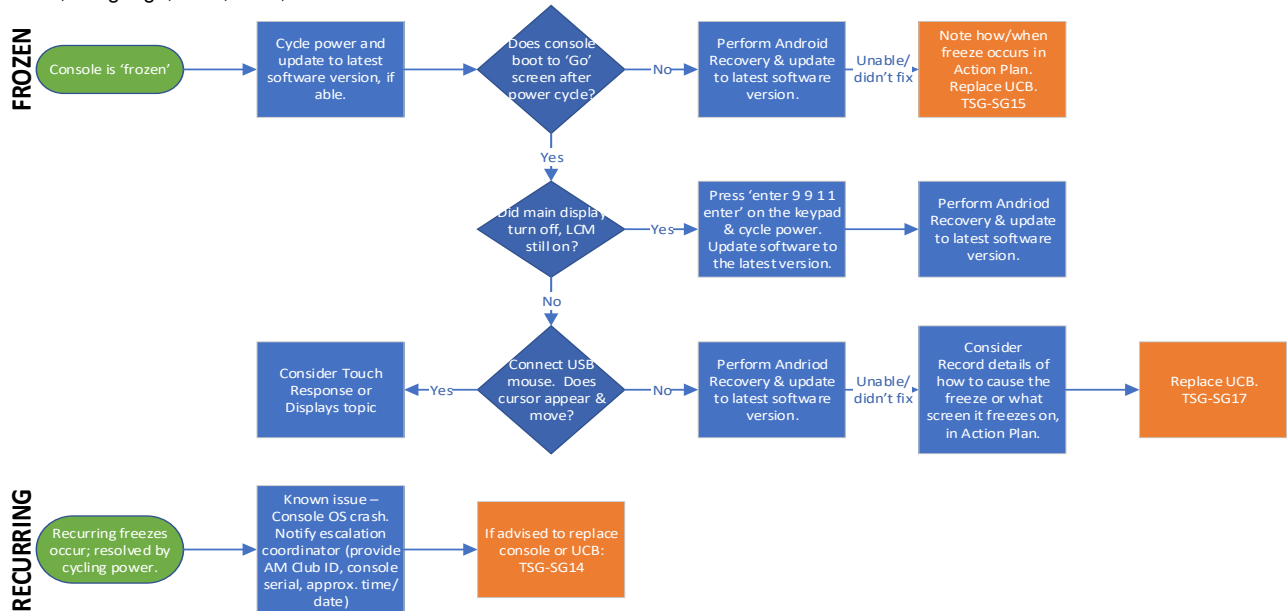


If your issue persists, [Click here](#).

Additional Information

- By disconnecting everything but the console cable, failed components (i.e. stuck keys, shorted LEDs, bad Wi-Fi board, etc.) no longer cause faults. If the console appears to work as expected with nothing else connected, failure is likely with one of the parts connected to it.
- “Power” issues describe when *nothing* on the console appears to power on. Also consider that the display or LCM can fail individually, or that the console can freeze on a black screen that can appear as not on.

Frozen, Language, Boot, Lock, Crash

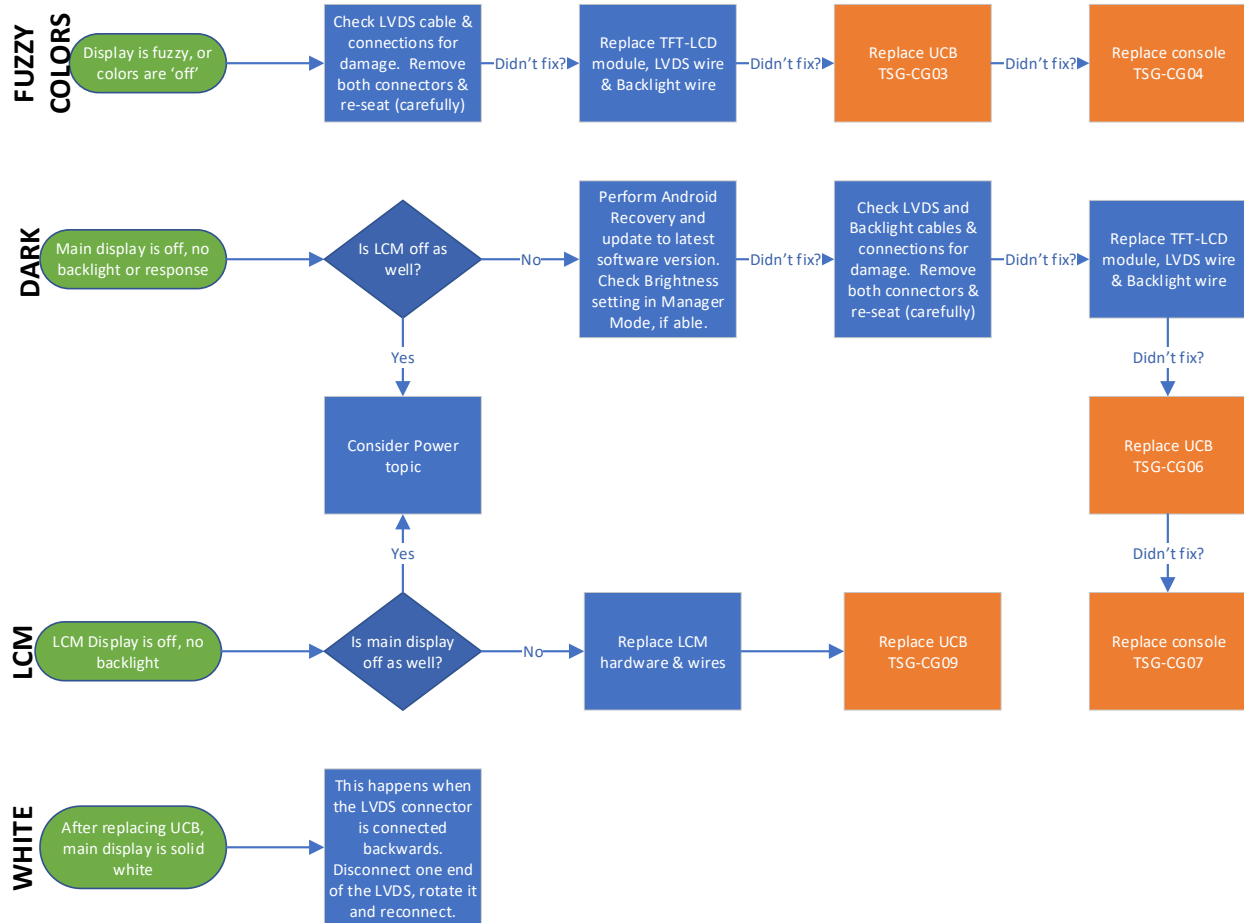


If your issue persists, [Click here](#).

Additional Information

- “Freezing” and “Stalling” (and synonyms) are very general words that mean different things to different people. In this Guide, they are taken to mean the console display is on, objects on the screen may or may not be moving, but no touch or button response is recognized. Be mindful that Touchscreen failures may be reported as freezing.

Lines, Dim, Off, Dark, Bright, Color

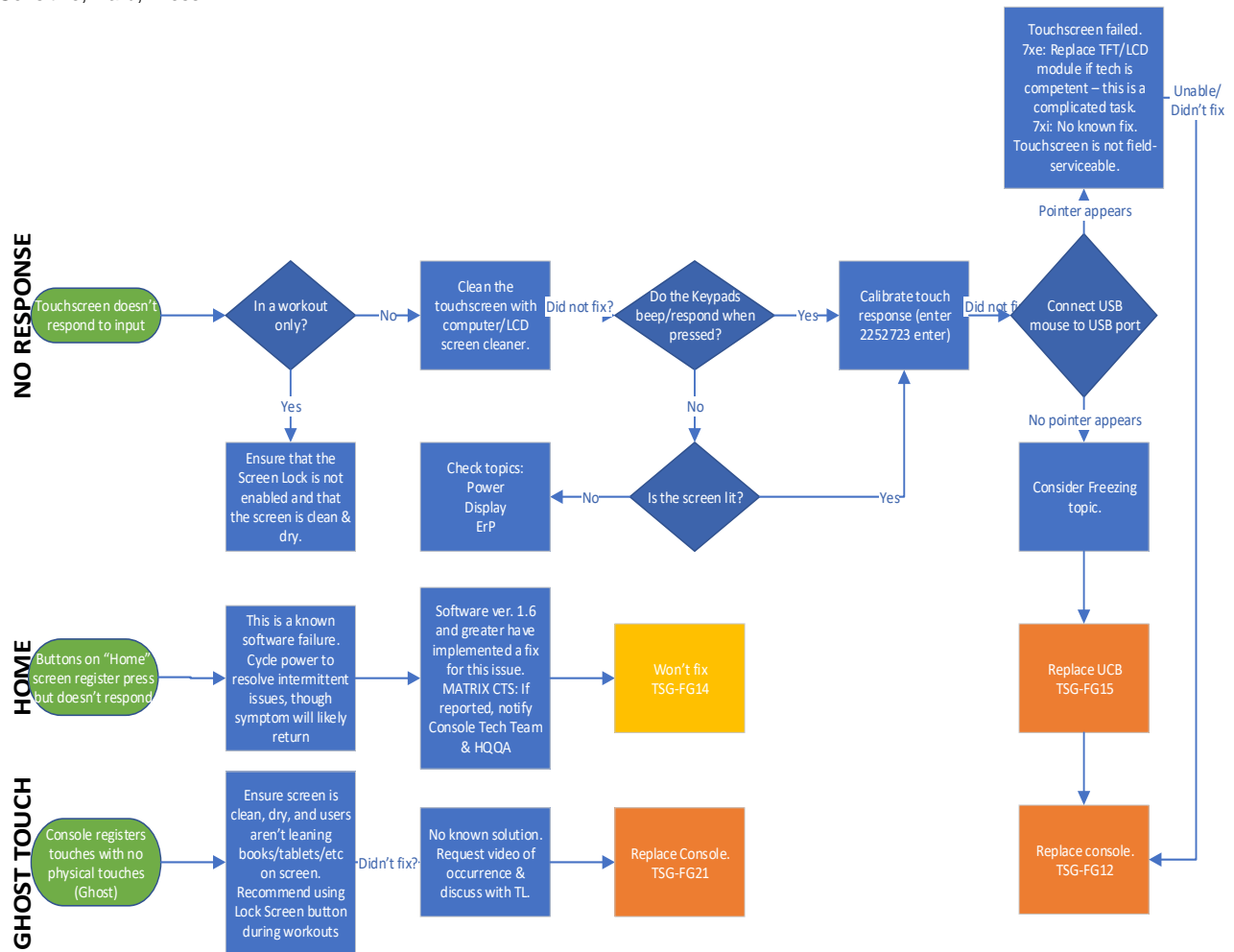


If your issue persists, [Click here](#).

Additional Information

- If possible, check that both ends of the LVDS and backlight cables are secure in their sockets and undamaged.

Sensitive, Hard, Press

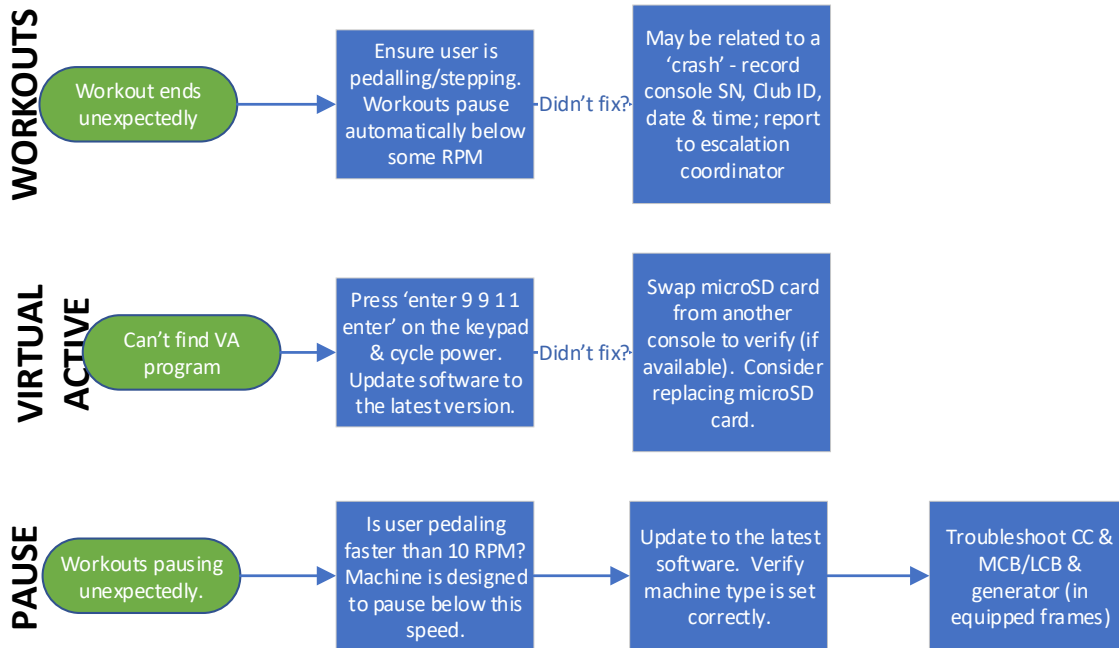


If your issue persists, [Click here.](#)

Additional Information

- Sweat, cleaner, water, and other contaminants on the touchscreen frequently cause apparent failures. Properly cleaning the touchscreen is commonly all that's required to resolve.
- Spraying cleaner directly on the screen is not recommended. Spray cleaner on a cloth and wipe the screen with it.
- 7xi consoles only: the TFT-LCD part **does not control** touch response – it is strictly a display. The 'touch input' part is permanently affixed to the front plastic shell of the console.

Programs, Training, Exercise, Pause

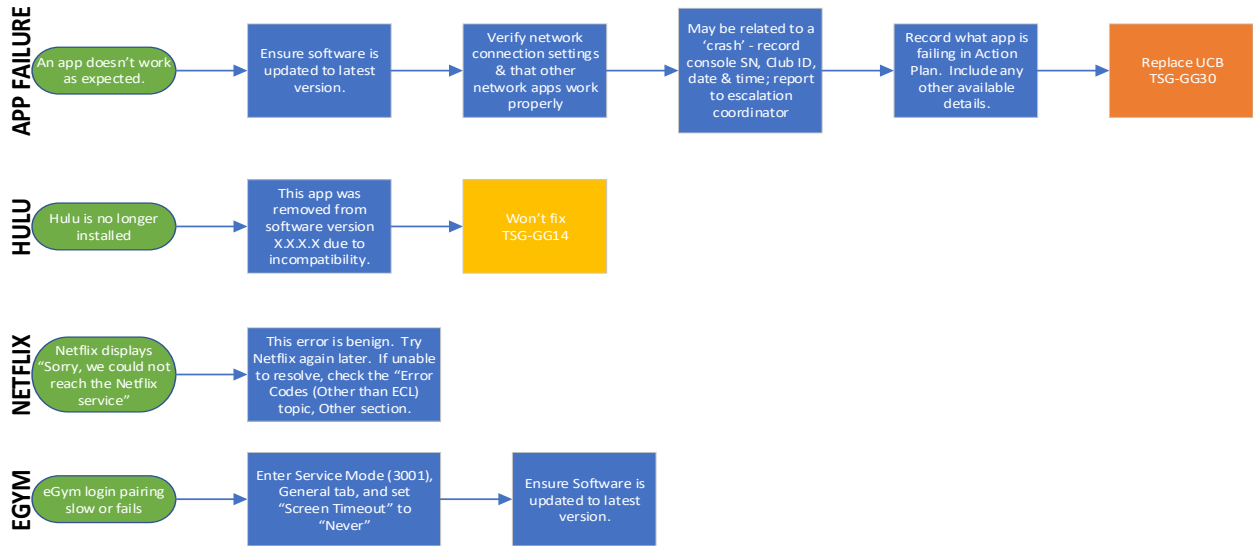


If your issue persists, [Click here](#).

Additional Information

- All workouts are maintained by software. If software updates don't resolve issues, hardware failure is indicated.
- Also consider: is LCB/MCB working properly if workouts pausing or stopping. LCB/MCBs can be swapped between similar frames to troubleshoot.

Fail, Hulu



If your issue persists, [Click here.](#)

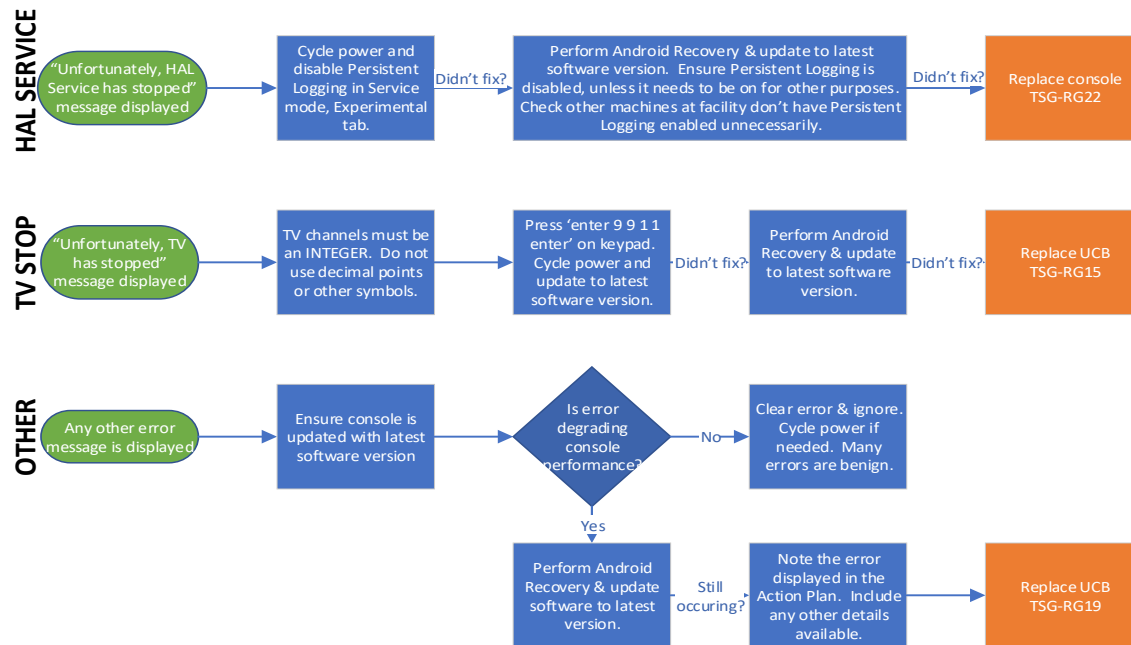
Additional Information

- All apps are maintained by software. If software updates don't resolve issues, hardware failure is indicated.
- **Netflix** requires connection to internet with minimum download speed of 5MB/sec to function properly. At present, there is no way to measure Wi-Fi/LAN speed on the console (various apps or websites can check *available* WiFi network speed from mobile/laptop).
- **Hulu** no longer supports Matrix devices starting 5/15/2019, and the app is removed from current software. If a customer finds the Hulu app icon present and non-functional, please reference the [Hide Hulu Application](#) service bulletin.

ERRORS (OTHER THAN ECL ERRORS)

[ToC](#)

Unsupported, Model, HAL

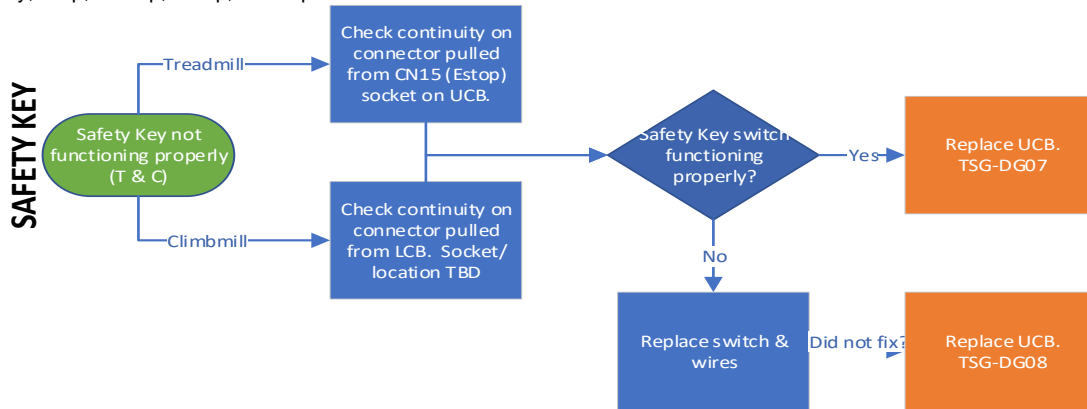


If your issue persists, [Click here](#).

Additional Information

- Error Codes with a standardized 4-character alphanumeric ID are described in the Error Code List and typically relate to hardware failures. This topic relates to software error messages.
- HAL Service errors are caused by a memory management fault in software. This is fixed in 1.6.x.x and later versions.
- Recurring ‘**stacks**’ of various errors are all related to HAL Service failure. Even if the console doesn’t repeatedly show “Unfortunately, HAL Service has stopped” but shows other errors that degrade performance, follow troubleshooting steps for “HAL SERVICE”.

Emergency, Stop, E-Stop, Estop, All Stop

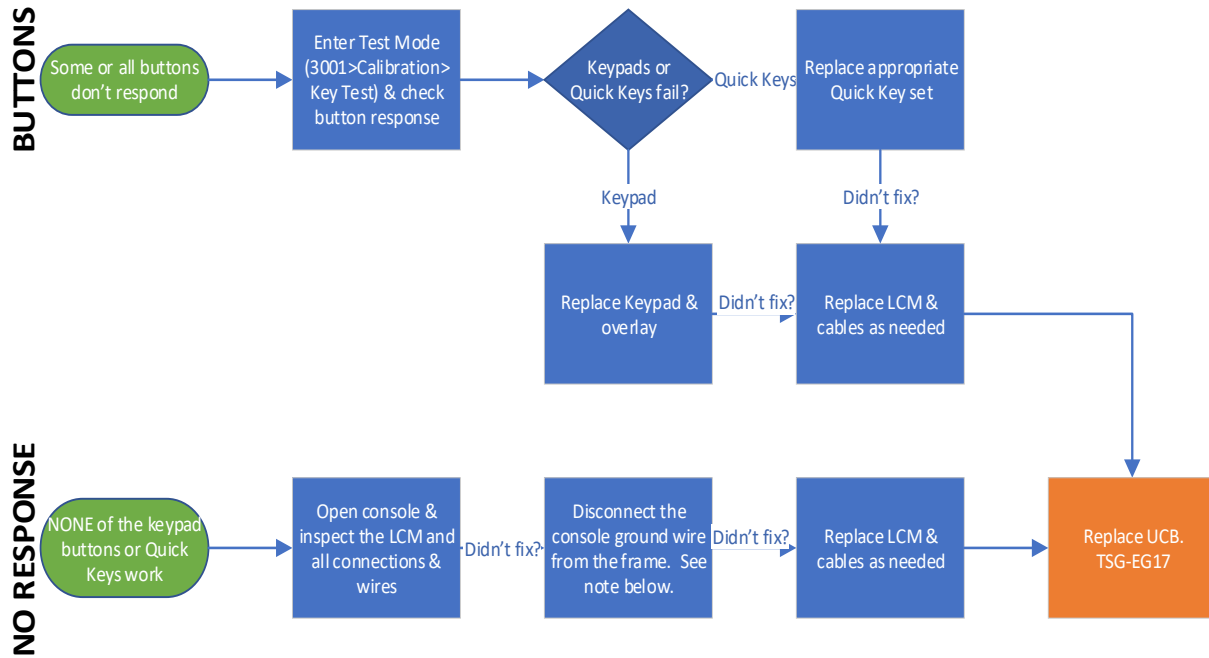


If your issue persists, [Click here](#).

Additional Information

- Safety Key switch should measure electrically Open when Safety Stop is triggered/engaged and electrically Short when in normal operating position.
- DO NOT bypass the Safety Key (other than for testing function). This is an essential safety device and must operate properly.

Press, Touch, Key

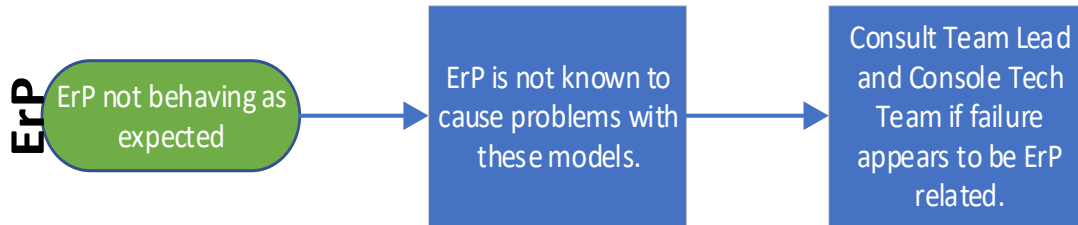


If your issue persists, [Click here](#).

Additional Information

- Improper grounding of the console may cause keypad/button failures. Disconnect all green/yellow ground connection wires from the frame, at the rear of the console. Re-check if performance has changed; these wires can be left disconnected.

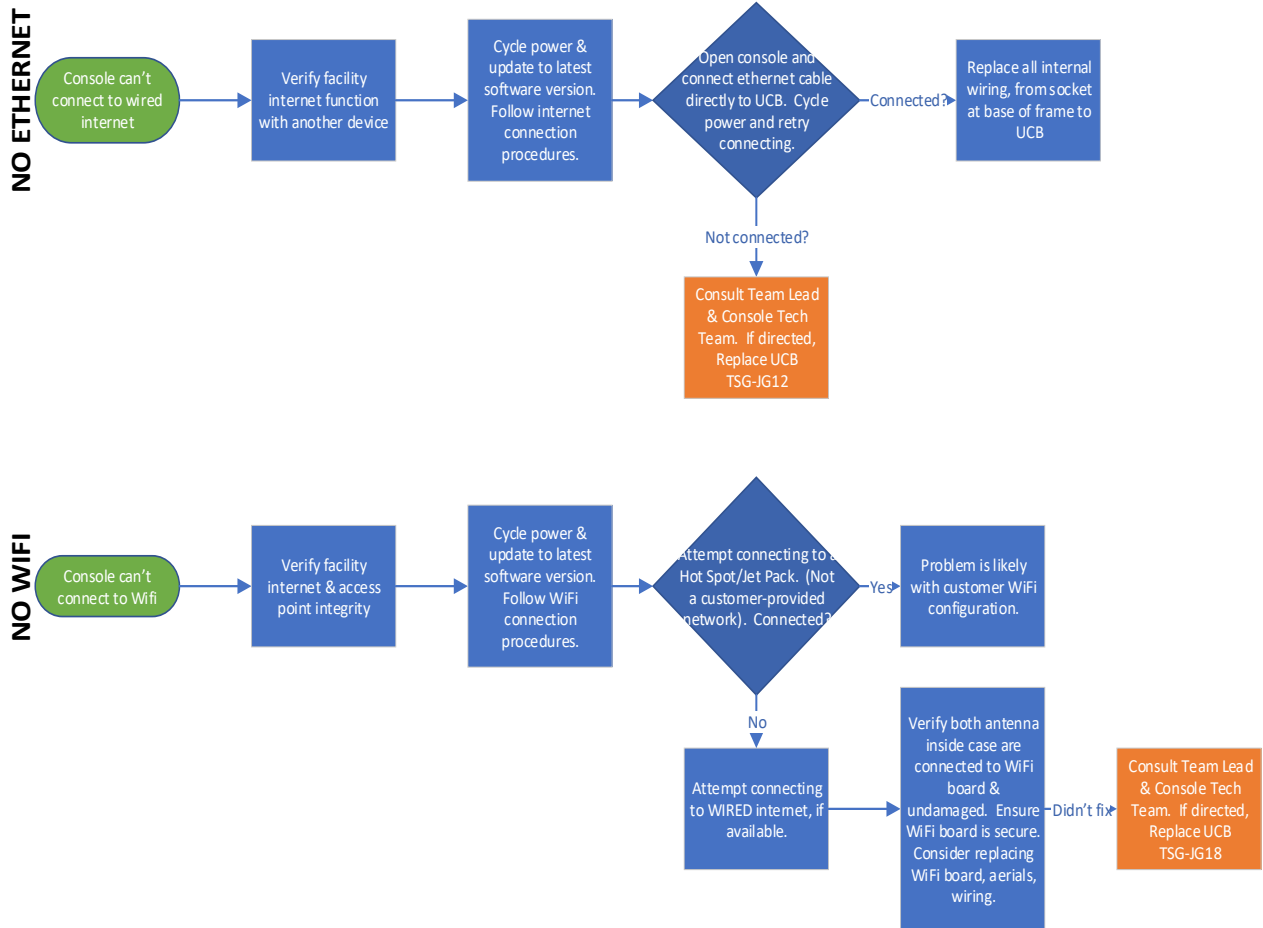
Wake



If your issue persists, [Click here](#).

Additional Information

Wi-Fi, Signal, Network



If your issue persists, [Click here](#).

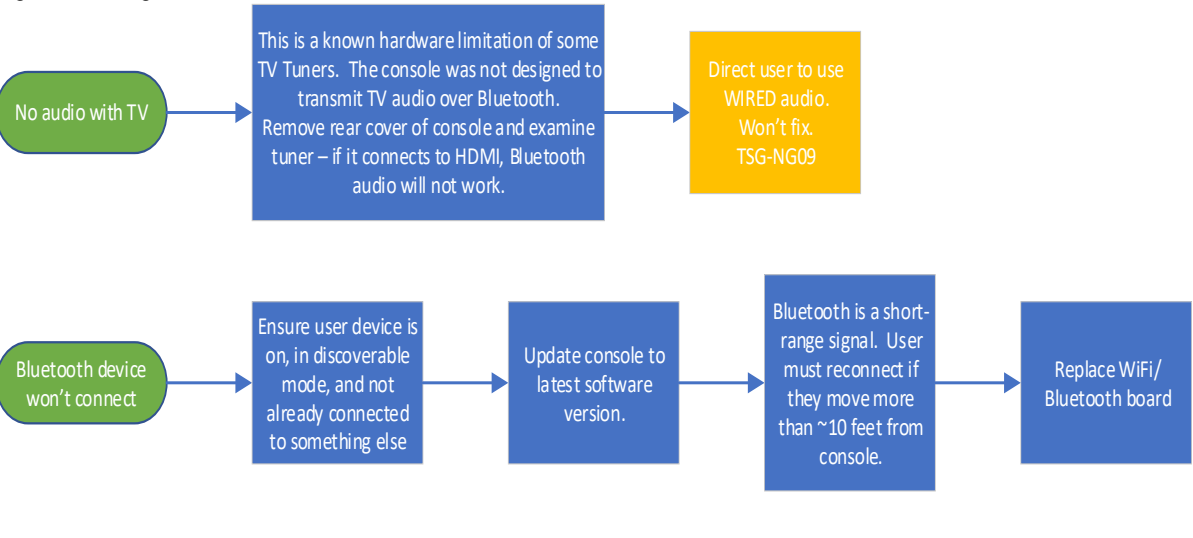
Additional Information

- Internet issues are difficult, because we can't be responsible for the internet at customer sites. Failures are frequently with the network, and not related to our equipment.
- Consoles are programmed to automatically connect to npwireless or rd02. Matrix Tech Support can provide the password, if appropriate. Facilities may have their own networks installed.
- Reference for Wi-Fi signal symbols:

Symbol	Meaning
	No internet connection
	Wifi connected. DAPI is not connected
	Wifi connected: 25% connection strength
	Wifi connected: 50% connection strength
	Wifi connected: 75% connection strength
	Wifi connected: 100% connection strength
	Ethernet connected. DAPI is not connected
	Ethernet connected

BT, Signal, Pair, Login

TV AUDIO
WON'T CONNECT

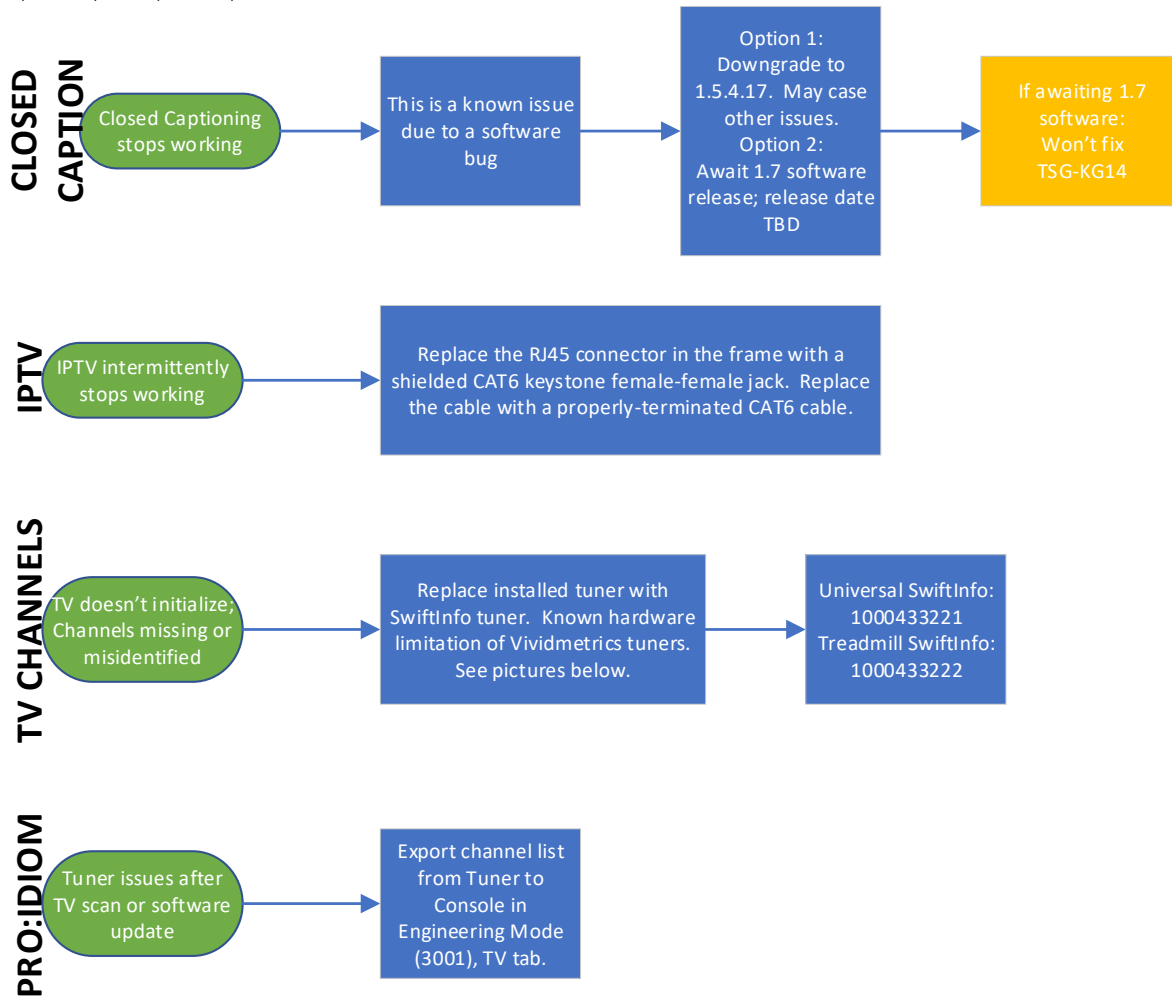


If your issue persists, [Click here](#).

Additional Information

- Bluetooth issues are difficult, because we can't be responsible for the integrity of the device the customer is attempting to connect. Consider that failures may be with the other device – not our equipment.
- **Apple AirPods** may not be compatible with Matrix consoles. Conflicting reports have been received and further research is necessary.
- For RFID issues, refer to this [RFID Troubleshooting Guide](#).
- Reference [Pairing Bluetooth Devices](#) for further Bluetooth instructions.

Static, Whine, Quiet, Sound, TV



If your issue persists, [Click here](#).

Additional Information

- Bluetooth TV problems may arrive at this topic – depending on the tuner installed, TV audio may not work over Bluetooth headphones. See [Bluetooth](#) topic for details.
- “Unfortunately, TV has stopped” message may arrive at this topic. This is detailed in the [Error Codes](#) topic.



Swift TV Tuner



Vividmetrics TV Tuner

HEART RATE

[ToC](#)

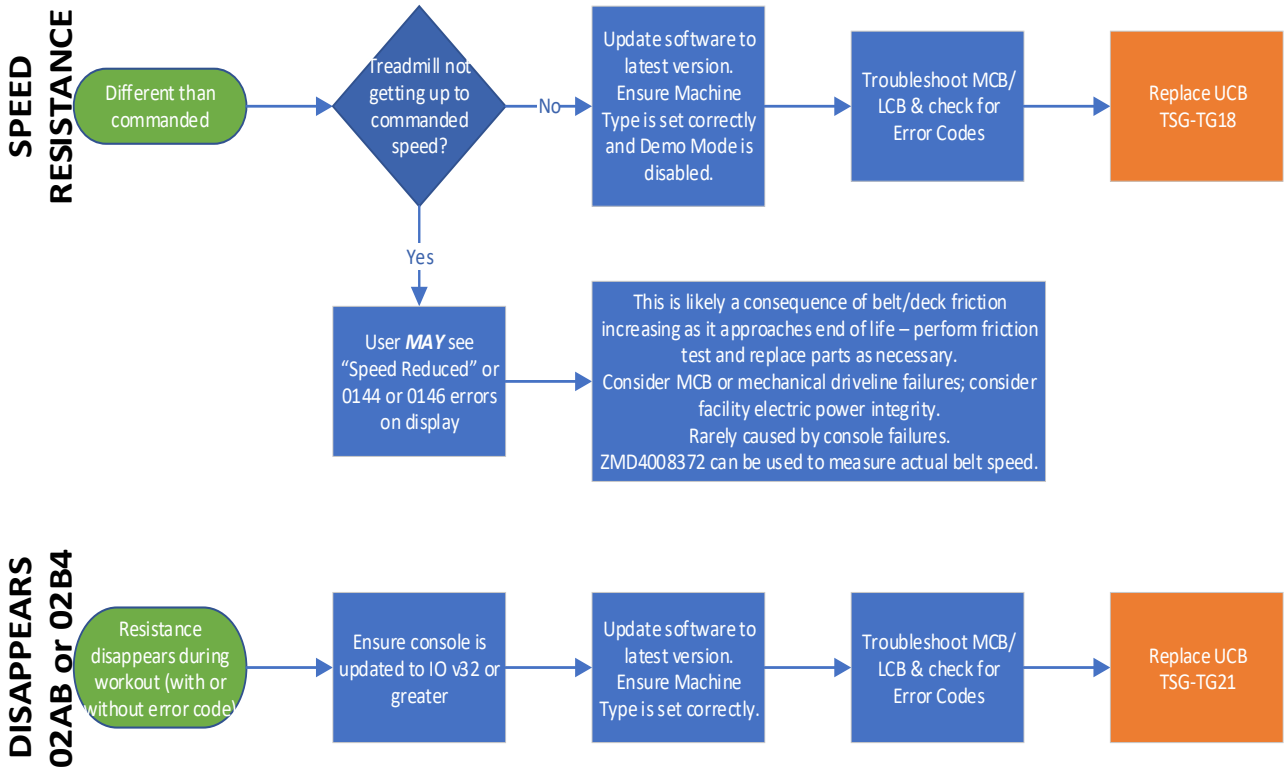
Please reference these documents: Heart Rate Flow Chart (treadmills, under Troubleshooting Guides) or [Heart Rate Check Points](#) (HURESAC).

If your issue persists, [Click here](#).

Additional Information

- Cold or dry hands can cause Heart Rate to read wrong or not at all. Warm and moisten hands.
- Dirty sensors, jewelry, and electrical interference from the environment can cause Heart Rate display errors.

Belt, Step, Level

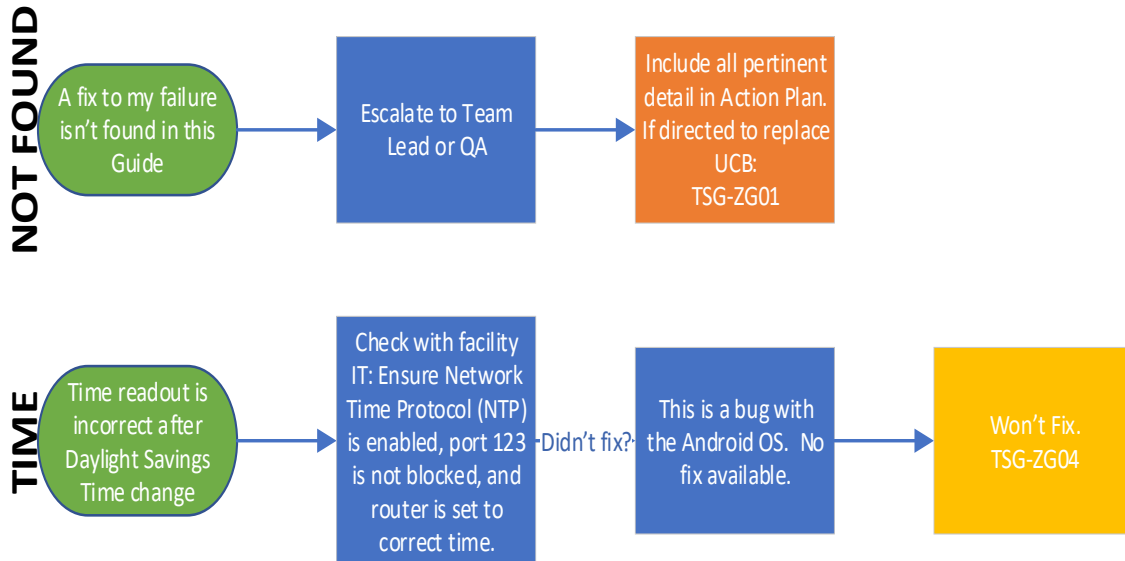


If your issue persists, [Click here](#).

Additional Information

- Speed Errors & Resistance Errors are rarely related to console failures without an accompanying error code. Reference MCB/LCB troubleshooting documentation or the Error Code List.
- Treadmills place a very heavy load on facility electrical installations. Long wire runs, undersized conductors, looped grounds, non-isolated circuits, user weight, speed and deck incline all affect electrical load. As treadmill belt/deck pairs wear out the friction between them increases, dramatically increasing the electrical needs of the machine and likelihood of “Speed” errors. These are very rarely caused or corrected by the console.

Not Found, Time



If you cannot find a resolution to your observed or reported failure in this document, you may have discovered a new failure!

If a console is replaced after referencing this page, your “Why” reason **likely will not be** “Directed by TSG/ECL”

Discuss this case with your Team Lead.

Team Lead: Verify you agree with everything your Rep has done to this point.

You may need to involve R&D & QA. This document may need to be revised.

Do you have suggestions/ideas about this document?

Email contentmanagement@johnsonfit.com or jake.sleppy@johnsonfit.com.

CHANGELOG[ToC](#)

Rev#	Date	Author	Changes
1	5/13/19	J.Sleppy	Document created. Aligned with 5x & XerXir guides.
2	9/3/19	J.Sleppy	Multiple technical & clarity edits after technical review.
3	10/9/19	J.Sleppy	Added Bluetooth reference doc. "Machine Setup" steps, "Android Recovery" info added to Software Updates topics. "eGym" steps added to Apps topic. Integer TV channel note added to Errors topic. Multiple edits to Freezing topic. "Pro:idiom" steps added to Entertainment topic. Up to date with NB-1701007 ver.13.
4	11/13/19	J.Sleppy	Tuners info added to Entertainment topic. White Display added to Display topic.