Causes of GFCI trips

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***Description*:** This TSB will help explain some reasons why the GFCI trips and the things you can do to troubleshoot a GFCI tripping.

What is a GFCI – a Ground Fault Circuit Interrupter's purpose is to prevent electrocution. A GFCI monitors the difference between the incoming and outgoing current and disconnects the circuit if it sees a difference of 4-6 thousandths of an AMP.

1. Causes of GFCI trips

1. Bad Outlet - The actual outlet the GFI is plugged into is bad.

• To determine if the outlet is the issue, check and see if there is a light box plugged into the same outlet and if it is receiving power then the GFI maybe the issue.

2. Wiring problem – The GFCI may be tripping because it should be! When the electrician inspects the wiring we have found improperly wired or loose wires, all along the wires path, up to and including the plug box in the kiosk.

3. Air Conditioner – We have found many locations where if you unplug the AC the kiosk stops having a problem, it takes a while to be certain, but replacing the AC has been the fix of a lot of these.

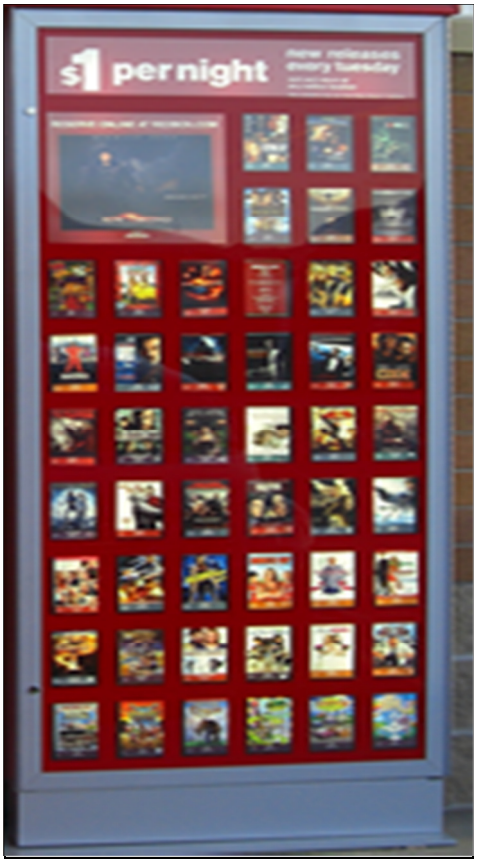
• Unplug the AC unit and try starting up the kiosk and see if the GFI trips. This will help determine if the AC unit is causing the trip

4. GFCI is "bad" – GFCIs are wear items and can start failing over time.

• If you hear a weird clicking sound when resetting the GFI this is a sign the GFI is bad and needs replacement.

5. Machine – we have had to replace machines in the past when we couldn't find the problem, this was at locations where the kiosk would continue to trip when the AC, heater and Light-box were disconnected. Replacing the machine did stop the problem a couple of times.

6. AFCI instead of GFCI is installed – they look very much alike but an AFCI is not code, trips for different reasons and does not protect from electrocution.



7. Light box + Overhead – We have had to have the light-box manufacturer visit the location to inspect/repair the wiring and ballast in the light box.

8. Not a properly wired dedicated circuit – ran the hot from the breaker but shared a neutral that is servicing other circuits.

• This would require an electrician to determine and fix.

9. Ground Quality issue – a problem with the grounding at the store.

• This would require an electrician to determine and fix.

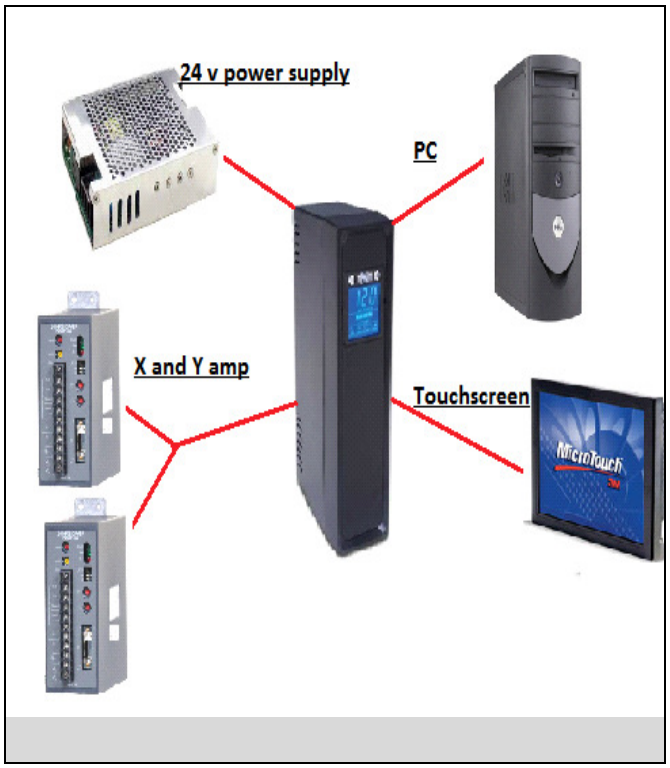
10. Outlet box -Have the electrician take apart the plug box to the left of the QLM and make sure it's wired correctly and all the wires are tight – this has been found to be the cause a couple of times and should be followed up by testing the wiring with a line tester.

The 2 components plugged in to the outlet box are the router and back up battery (and for outdoor kiosks, the AC / Heater).

11. Comms Kit - Temporarily replace the router, aircard and router power supply to see if the tripping stops if it does not reinstall the old kit.

3. Repair Procedure

The kiosk consists of many components that all pull from the circuit. Most troubleshooting is done by disconnecting these components (i.e. AC unit, Heater, Comms Kit…) to determine which hardware is causing the issue and single out the culprit.



There are 4 components plugged into the Back up Battery:

- PC
- Touchscreen
- X and Y amp
- 24v Power Supply - Provides power to all major circuit boards.

Other electrical components:

- Router
- A/C Unit
- Heater Unit
- Light Box

Tools/Parts Needed:

Associated TSB's:

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