



Note: Please attach all programming information along with correct panel load schedules with this completed installation worksheet. Email completed forms to controls@jrclight.com

Site Contact: _____

PAGE _____ OF _____

Project Name: _____ Today's Date: _____

To ensure your project is installed properly and started up on time, we need you to evaluate the following. If you have any questions please call 1-801-972-3970 and our controls department will be glad to assist you.

System Readiness Review:

- All panels are completely installed with power to the control transformer and easily accessible.
- All CAT5 cables are terminated with RJ45 connectors using T568B Ethernet terminations.
- All CAT5 cable and connections have been tested using an Ethernet testing device.
- All switches have been installed and terminated using RJ45 connectors.
- All device addresses and their location in the project are documented.
- If applicable--All indoor photocells have been installed in the recommended location determined (Locations established during preconstruction meeting with a JRC Controls specialist).
- If applicable—Exterior photocell is installed outside facing NORTH.
- If applicable—All indoor occupancy sensors are wired back to the appropriate DIGILINK card and clearly identified per zone of sensors.
- Blue terminators sent with equipment have been installed in the first and last device in the daisy chain.
- System network has been installed per factory documentation provided in JRC submittal or accompanying LC&D documentation
- All loads have been terminated and labeled in each relay panel and "As built" documentation is available to technician. (JRC recommends that this documentation accompany this check list when it is turned in).
- Programming requirements are complete and available to the onsite technician. (JRC recommends that this documentation accompany this check list when it is turned in).
- Scheduled events such as open/close times will be supplied at time of startup. (JRC recommends that this documentation accompany this check list when it is turned in).
- Labeling/engraving information for each button has been determined. (JRC recommends that this documentation accompany this check list when it is turned in).

The following test MUST be performed by the contractor prior to Startup visit!!

- Bus Test on accompanying pages has been performed and PASSED per LC&D standards listed.

Programming Information:

Programming information attached with this document? Yes No # of pages attached? _____

Correct panel load schedules attached with this document? Yes No # of pages attached? _____

Startup includes training for owner/operator personnel on the actual operation of the system. Please ensure the availability of those desiring to be trained on the agreed upon date.

Prior to the Technician going onsite, the following checklist must be completed:

- 1. Were all devices fully installed?

YES	NO

- 2. Were all CAT5s in place, terminated with RJ-45 connectors, and connected to the system?

YES	NO

- 3. Was each run of CAT5 tested with a LAN Cable Tester? And Passed?

YES	NO

- 4. Are all loads landed and connected to the relays according to the panel schedule?

YES	NO

- 5. Was the FINAL ACTIVATION CHECKLIST performed?
If this is a multi-bus system, FAC has to be performed on each bus and on the backbone bus.

YES	NO

Final Activation Checklist

Bus #	
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These tests must be accomplished with a Digital Volt Meter capable of reading resistance up to the Mega Ohm range.

Use the "BUS CHECKER CARD" to measure across terminals (Gnd , A , B , +12V)

- Step 1 Plug in the "DATA POWER JUMPER" on the last device.
Measure Resistance on the following.

	Reading
Gnd to A	
Gnd to B	
A to +12	
B to +12	

refer to chart on right
should be > 1K ohms
should be > 1K ohms
refer to chart on right

"Gnd to A" and "B to +12"

Length	Resistance in Ohms
100 ft	3 Ω to 6 Ω
500 ft	12 Ω to 20 Ω
1000 ft	34 Ω to 40 Ω
2000 ft	68 Ω to 80 Ω
3000 ft	102 Ω to 120 Ω
4000 ft	130 Ω to 160 Ω

This test will measure the length of the bus. If the readings are 10% off from the chart on the right...CHECK YOUR CAT-5!!!

- Step 2 Make sure the system is OFF and all terminators are removed. Measure for shorts/continuity.

Check for Continuity	Continuity?
Gnd to A	
Gnd to B	
Gnd to +12	
A to B	
A to +12	
B to +12	

Reading
should be > 1K ohms
should be > 1K ohms
should be > 1K ohms
should be > 1K ohms
should be > 1K ohms
should be > 1K ohms

if you are using an ohm meter with a beep test for continuity, it should not beep

IF THIS STEP FAILS, CHECK YOUR CAT-5!!!

- Step 3 Earth Ground Test

Terminal	Reading
G	
A	
B	
+12V	

All these terminals if measured across earth ground should be infite or open. If you don't get these reading correct... CHECK YOUR CAT-5!!!

- Step 4 Remove the "DATA POWER JUMPER" & "BUS CHECKER CARD" and plug in the terminators on the first and last device.

For questions, please call 1-801-972-3970

www.irclight.com

JRC LC&D STARTUP Terms & Conditions

STARTUP consists of:

- One on-site visit of a predetermined maximum number of consecutive days by a certified JRC technician during normal business hours.
- Visit must be scheduled a minimum of two weeks in advance (Accompanying checklists and testing documentation is required prior to scheduling startup visit).
- Completed LC&D startup documents are required prior to scheduling startup visit. Worksheet must be completed by electrical contractor.
- Accuracy of worksheet will be verified by startup technician, who will not be held responsible for time spent troubleshooting installation errors by electrical contractor. JRC reserves the right to back charge the contractor at the current rate per day plus expenses for additional days spent on site troubleshooting installation errors (including, but not limited to mis-wired CAT-5 terminations). If a second site visit is required, full initial daily cost will apply.
- JRC does not provide PC's for the end user unless specifically noted in the BOM. (Note: PC's as are not required on most systems and will only operate with very specific systems generally covered in the lighting control specification) If the LC&D system installed on the particular project requires a PC and it is provided by someone other than JRC, all liability for that PC and its operation will be the responsibility of the party that provided it.
 - Please note that JRC requires that all Windows operating components be installed prior to agent visit. ONLY software pertaining to the particular system will be installed by the JRC technician.
- If static IP addresses are required for remote access and networking, they must be provided to prior to arrival on site.
- Failure to complete any of these steps may result in postponement of site visit, or additional startup days to be billed. If a second site visit is required, full initial daily cost will apply.
- Visit includes a complete system function test as well as basic system operation and maintenance instruction.
- Depending on network design, customer requests, and time limitations, tasks performed by startup Technician may include the following:
 - Verify accuracy of the LC&D startup checklist
 - Verify discovery of all network devices
 - Set-up user schedules
 - label switch buttons (if labeling information is supplied)
 - Edit default operation
 - Perform any necessary firmware updates
 - Perform system backup
 - ½ day of training of network administrator or facility management personnel on basic operation. (Additional training time or follow up training visits can be purchased separately). Prior to arrival, a list of all Attendees for training must be provided to startup Technician.
- Refunds for unused days not given if startup tasks requires less than maximum number of days quoted.

TRAINING consists of (unless otherwise defined by the specifier):

- One half (1/2) day of follow up instruction by a certified JRC technician during normal business hours.
- Visits must be scheduled two weeks in advance
- Prior to arrival, a list all attendees for training must be provided to startup Technician.

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