



July 30, 2015

LUTRON LIGHTING SYSTEM ESTIMATE 2
Centralized and Decentralized Dimming devices

Mr. Richard Kahn

Re: 9 East 71st Street
 New York NY

Equipment	\$134,762
Labor	111,100
NY Sales Tax	n/a
Total	\$245,862

Below is a list of components required for a system conversion from a Lutron analog DP panel based system to a digitally controlled Homeworks QS system. Centralized keypad controlled dimming is scheduled for all common areas as replacements to the analog keypads. Selective decentralized "smart dimmers" are included for key areas such as office and security room.

ITEMIZED EQUIPMENT AND LABOR

<u>Qty</u>	<u>Brand</u>	<u>Model</u>	<u>Description</u>
8	Lutron	HQR-REP-120	RF system repeaters
2	Lutron	HQP6-120	QS series Homeworks microprocessor with RF link
1	Lutron	HQ-LV21-120	21" Enclosure for processor and power supply
4	Lutron	HWA-8P-15	59" Enclosure, Feed through AFCI breaker panel - holds 8 RPM
3	Lutron	HWI-PNL-5	32" Enclosure, Feed through panel - holds 5 RPM (emergency)
7	Lutron	HWI-MI-120	Module interface for PNL enclosures
40	Lutron	HW-RPM-4A	Powered module with 4 centralized dimming zones
2	Lutron	QSPS-DH-1-60	Din rail power supplies for processors and keypads
1	Lutron	QSGR-6P	QS Graphic Eye 6 load dimming module
1	Lutron	QSE-IO	QS contact closure board for relay
4	Lutron	QSW-LB	Wire landing board and terminal blocks
63	Lutron	HQWA-xBRL	Wired seeTouch x Button Unit Keypad & Engraving
12	Lutron	PHPM-PA-120	Phase Adaptive Power Module
41	Lutron	ST-xx	Custom metal plates
18	Lutron	HQRD-6NA-WH	RF Maestro-Style 600W Auto sensing Dimmer (quantity tbd)

Miscellaneous supplies: hardware, mounting supplies,

Lutron Equipment Total	<u>134,762</u>
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INSTALLATION

*Replacement of electrical panels using existing feeder	39,800
*Replacement of electrical interface modules where required (allotment)	9,500
Wall framing for new PNL panels	13,800
System discovery and engineering including full wire ID and termination	13,500
Installation and programming of selected "smart" switches	17,250
Installation and programming of all keypads including full engraving schedules	<u>17,250</u>
Sub Total	245,862
Capitol improvement form required	n/a
Lutron QS Estimate 1	\$245,862



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OPTIONAL EQUIPMENT DESCRIPTION

The addition of direct replacement "smart dimmers" will allow for all rooms to be included in the Lutron lighting control system. The options are installing a "smart dimmer" in locations where standard dimmers are located or adding pushbutton keypad control in addition to the smart feature. This could be very useful in locations where lighting control is desired and only dimmers are available.

SCOPE OF WORK

This estimate is to replace an existing 25 year old Lutron DP analog lighting control system with a digitally controlled Lutron Homeworks QS system. There are currently three customized DP panels operating both normal and emergency lighting loads. Replacement panels will be segmented to include normal and emergency lighting loads as well. Panels will be removed and the locations reframed to accommodate the new panels. Plastering and painting will be by others.

All lighting keypads will be removed and wiring will be tested and identified for proper communication. Wiring between Lutron panels is essential and every effort will be made to verify that wiring exists or can be easily added. Additional equipment will be required if panel to panel wiring does not exist or cannot be installed. The new style keypads are sized as single gang devices. Included are additional keypads in areas where double gang switching occurs. It is strongly recommended that this condition be discussed as soon as possible as custom cover plates, especially metal, can be costly and have very long lead times.

ASSUMPTIONS & CONDITIONS:

- Lighting loads are as listed in Lutron Job document 012-8144-R7. This document is approximately 25 years old and changes to the load schedule may affect the estimate.
- All wiring to low-voltage keypads will pass a full continuity test.
- Low voltage digital keypads are able to transmit and receive data over existing unshielded wiring.
- If unshielded wire cannot transmit data conversion to wireless keypads will be required and accepted should existing wiring fail as a digital communication propagation method. (approximately \$5000 additional hardware cost)
- Existing communication wiring between Lutron electrical equipment throughout the residence is required for single Lutron processor operation and for whole home control to be effective. Additional processors will be required. (\$4000-\$7000) pending existing wire conditions.
- Existing Keypad cover plates are oversized. Custom cover plates will be required in some locations. Pricing
- The Keypads in this estimate include a screw-less plastic cover plate. Metal screw-less cover plates are available from Lutron as a custom order product.
- Project will require a minimum of 3 weeks for substantial completion of the system conversion.
- Additional programming and engraving time will be required pending aforementioned assumptions and conditions.
- Light loads connected to the Lutron panels will not be functional for the majority of the upgrade.
- Unknown conditions may cause cost overages and require additional time to completion.