

Lighting and Ventilation Control System Documentation

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Client Lighting Plan X-10 Address Map

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Reserved Factory Default Address	Front Landscape Circuit 8 TBD Secondary Address	Back Landscape Circuit 9 TBD Primary Address	Back Landscape Scene 3	Pathway Rope Lights Between Level 3 and Level 4 Secondary Address	Level 4 to Level 3 Path	Master Bedroom Wall Scones at Bed Secondary Address	Master Bath Shower Secondary Address	Office Downlights Secondary Address	Dining Ends of Table Secondary Address	Kitchen Island Downlights Primary Address	Theater Downlights at Entry from Foyer Primary Address	Before the Movie Scene	Spare	Small Bath Shower Light Primary Address	Spa Enable
2	Front Landscape Exterior Light above Front Door Primary Address	Front Landscape Scene 1	Back Landscape Circuit 10 TBD Primary Address	Back Landscape Scene 4	Pathway Downlights between Level 3 and Level 4 Secondary Address	Level 4 to Level 2 Path	Master Bedroom Left Reading Light Secondary Address	Master Bath Sink Secondary Address	Office Wall Scones Secondary Address	Living Room Sofa Secondary Address	Kitchen Cook top Downlights Primary Address	Theater Projectorist Spot Primary Address	Spare	Spare	Small Bath Fan Primary Address	Spa Disable
3	Front Landscape Patio Light Primary Address	Front Landscape Scene 2	Back Landscape Scones outside Dining Room Door Secondary Address	Back Landscape All Circuits Scene	Pathway Level 3 Foyer Downlights Secondary Address	Path All Circuits Scene	Master Bedroom Right Reading Light Secondary Address	Master Bathroom Fan Secondary Address	Laundry All Circuits Scene	Living Room Window Seat Downlights Secondary Address	Kitchen Sink Downlights Primary Address	Theater Equipment Cabinet Spot Primary Address	Spare	Exercise Room Downlights near Exit to Pool Primary Address	Small Bath Mirror Light Secondary Address	Pool Cover Open Command
4	Front Landscape Circuit 1 TBD Primary Address	Front Landscape Scene 3	Back Landscape Scones at Exercise Room Exit Door Secondary Address	Pathway Level 4 Wall Scones Primary Address	Pathway Art Accent Lights on Level 3 Secondary Address	Level 4 to Level 1 Path	Master Bedroom Deck Downlights Secondary Address	Master Bath All Circuits Scene	Office All Circuits Scene	Living Room Window Seat Downlights Secondary Address	Kitchen Refrigerator Wall Downlights Primary Address	Theater Downlights over Guest Chairs Primary Address	Spare	Exercise Room Scones Primary Address	Small Bath Shower Light Secondary Address	Pool Cover Close Command
5	Front Landscape Circuit 2 TBD Primary Address	Front Landscape Scene 4	Back Landscape Star Lights Secondary Address	Pathway Rope Lights Between Level 3 and Level 4 Primary Address	Pathway Rope Lights Between Level 2 and Level 3 Secondary Address	Level 4 Scones Medium Dim	Master Bedroom Ceiling Lights Scene	Spare	Spare	Living Room Game Table Downlights Secondary Address	Kitchen Pantry Downlights Primary Address	Theater Rope Lights Primary Address	Guest Bedroom Scones Primary Address	Exercise Room North Downlights Primary Address	Small Bath Fan Secondary Address	Office Fountain Pump Enable
6	Front Landscape Circuit 3 TBD Primary Address	Front Landscape All Circuits Scene	Back Landscape Barbeque Area Lighting Secondary Address	Pathway Downlights between Level 3 and Level 4 Secondary Address	Pathway Downlight at Level 2 Elevator Secondary Address	Level 4 Scones Dimmest	Master Bedroom Scene 2	Spare	Spare	Living Room Elevator and Window Seat Scones Secondary Address	Kitchen Pendants Secondary Address	Theater Screen Downlights Secondary Address	Guest Bedroom Art Downlights Primary Address	Exercise Room Downlights near Exit to Pool Secondary Address	Garage Main Interior Downlights Primary Address	Level 3 Foyer Fountain Pump Request
7	Front Landscape Circuit 4 TBD Primary Address	Back Landscape Scones outside Dining Room Door Primary Address	Back Landscape Pool Lights Secondary Address	Pathway Level 3 Foyer Downlights Primary Address	Pathway Art lights in Foyer on level 2 Secondary Address	Master Bedroom Entry Downlights Primary Address	Master Bedroom Scene 3	Laundry Surface Mounted Fixture Primary Address	Dining Center of Table Primary Address	Living room Deck Downlights Secondary Address	Kitchen Island Downlights Secondary Address	Theater Wall Scones Secondary Address	Guest Bedroom North Reading Light Primary Address	Exercise Room Scones Secondary Address	Garage Elevator Primary Address	Exterior Lighted Fountain On Scene
8	Front Landscape Circuit 5 TBD Primary Address	Back Landscape Scones at Exercise Room Exit Door Primary Address	Back Landscape Spa Heater Secondary Address	Pathway Art Accent Lights on Level 3 Primary Address	Pathway Rope Lights Between Level 1 and Level 2 Secondary Address	Master Bedroom Art Accent Lights Primary Address	Master Bedroom Scene 4	Laundry Light over Sink Primary Address	Dining Ends of Table Primary Address	Living Room North Windows Downlights Secondary Address	Kitchen Cook top Downlights Secondary Address	Theater Downlights at Entry from Foyer Secondary Address	Guest Bedroom South Reading Light Primary Address	Exercise Room North Downlights Secondary Address	Garage Fluorescent Storage Lighting Primary Address	Interior Lighted Fountain On Scene
9	Front Landscape Circuit 6 TBD Primary Address	Back Landscape Star Lights Primary Address	Back Landscape Spa Pump Secondary Address	Pathway Rope Lights Between Level 2 and Level 3 Primary Address	Pathway Wall scones in hall between Level 1 and Level 2 Secondary Address	Glass Block Exterior Light Primary Address	Master Bedroom All Circuits Scene	Laundry Fan Primary Address	Living Room Sofa Primary Address	Dining Table Downlights Scene	Kitchen Sink Downlights Secondary Address	Theater Projectorist Spot Secondary Address	Level 2 North Deck Downlights Primary Address	Exercise Room All Circuits Scene	Garage Exterior Downlights Primary Address	Lighted Fountain Off Scene
10	Front Landscape Exterior Light above Front Door Secondary Address	Back Landscape Barbeque Area Lighting Primary Address	Back Landscape Spa Jets Secondary Address	Pathway Downlight at Level 2 Elevator Primary Address	Pathway Glass Block Interior Downlight Secondary Address	Master Bedroom Wall Scones at Bed Primary Address	Master Bath Scones Primary Address	Master Closet Downlight Primary Address	Living Room Window Seat Downlights Primary Address	Dining Area Scene	Kitchen Refrigerator Wall Downlights Secondary Address	Theater Equipment Cabinet Spot Secondary Address	Guest Bedroom Scones Secondary Address	Spa Mirror Light Primary Address	Garage Main Interior Downlights Secondary Address	Fountain Pump On
11	Front Landscape Patio Light Secondary Address	Back Landscape Pool Lights Primary Address	Back Landscape Spa Heater Secondary Address	Pathway Art Lights in Foyer on Level 2 Primary Address	Level 1 to Level 1 Path	Master Bedroom Left Reading Light Primary Address	Master Bath Tub Primary Address	Office Downlights Primary Address	Living Room Window Seat Monopoints Primary Address	Near Level 3 Foyer Scene	Kitchen Pantry Downlights Secondary Address	Theater Downlights over Guest Chairs Secondary Address	Guest Bedroom Art Downlights Secondary Address	Spa Shower Light Primary Address	Garage Elevator Secondary Address	Fountain Pump Off
12	Front Landscape Circuit 1 TBD Secondary Address	Back Landscape Spa Light Primary Address	Back Landscape Circuit 8 TBD Secondary Address	Pathway Rope Lights Between Level 1 and Level 2 Primary Address	Level 2 to Level 2 Path	Master Bedroom Right Reading Light Primary Address	Master Bath Shower Primary Address	Office Wall Scones Primary Address	Living Room Game Table Downlights Primary Address	Near Elevator Scene	Kitchen Cook top + Fridge Wall Scene	Theater Rope Lights Secondary Address	Guest Bedroom North Reading Light Secondary Address	Spa Fan Primary Address	Garage Exterior Downlights Secondary Address	Bulb Test
13	Front Landscape Circuit 2 TBD Secondary Address	Back Landscape Spa Pump Primary Address	Back Landscape Circuit 9 TBD Secondary Address	Pathway Wall scones in hall between Level 1 and Level 2 Primary Address	Level 2 to Level 1 Path	Master Bedroom Deck Downlights Primary Address	Master Bath Sink Primary Address	Laundry Surface Mounted Fixture Secondary Address	Living Room Elevator and Window Seat Scones Primary Address	Near Window Seat Scene	Kitchen All Circuits Scene	Playing the Movie Scene	Guest Bedroom South Reading Light Secondary Address	Spa Mirror Light Secondary Address	Garage All Circuits Scene	Paric Flash
14	Front Landscape Circuit 3 TBD Secondary Address	Back Landscape Spa Jets Primary Address	Back Landscape Circuit 10 TBD Secondary Address	Pathway Glass Block interior Downlight Primary Address	Level 3 to Level 3 Path	Master Bedroom Entry Downlights Secondary Address	Master Bath Fan Primary Address	Laundry Light over Sink Secondary Address	Living room Deck Downlights Primary Address	Living, Dining Scene TBD	Spare	After the Movie Scene	Level 2 North Deck Downlights Secondary Address	Spa Shower Light Secondary Address	Utility Room Overhead Light	Whole House On
15	Front Landscape Circuit 4 TBD Secondary Address	Back Landscape Spa Heater Primary Address	Back Landscape All-spa Scene	Pathway Fountain Pump in Utility Room Primary Address	Level 3 to Level 2 Path	Master Bedroom Art Accent Lights Secondary Address	Master Bath Scones Secondary Address	Laundry Fan Secondary Address	Living Room North Windows Downlights Primary Address	Living, Dining All Circuits Scene	Theater Screen Downlights Primary Address	Somewhat Brighter Theater Scene	Guest Bedroom North and South Reading Lights Together Scene	Spa Fan Secondary Address	Kitchen Ventilation Request	Whole House Off
16	Front Landscape Circuit 5 TBD Secondary Address	Back Landscape Circuit 8 TBD Primary Address	Back Landscape Scene 2	Pathway Level 4 Wall Scones Secondary Address	Level 3 to Level 1 Path	Master Bedroom Reading Lights Scene	Master Bath Tub Secondary Address	Master Closet Downlight Secondary Address	Dining Center of Table Secondary Address	Kitchen Pendants Primary Address	Theater Wall Scones Primary Address	Spare Theater Scene	Guest All Circuits Scene	Small Bath Mirror Light Primary Address	Theater Ventilation Request	Reserved Possibly Broken

Front Landscape	Back Landscape	Pathway	Master Bedroom	Master Bath	Master Closet, Laundry, Office	Living Room, Dining Room	Kitchen Pantry	Theater	Guest Bedroom	Exercise	Spa, Small Bath	Garage	Miscellaneous Functions
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Front Landscape Programming

Installed	Spreadsheet Revision	Date Programmed	Participating Transmitters				Keypad Programming										
			Original Nancy McCoy Numbering	Device Type	Transmitter Location	Control Mode	Remote Keypad Room Number	Button Brightness	ON	A	B	C	D	OFF	Bright	Dim	
X	81	27-May	B-3	6-Button Transmitter	Inside front door	Scene Control	RM3	A	A10	B2 On	B3 On	B4 On	P15 Off	B4 Off, B3 Off, B2 Off, B6 Off	Bright	Dim	
									Front Landscape All Circuits Scene On	Front Landscape Scene 1	Front Landscape Scene 2	Front Landscape Scene 3	Whole House Off	Front Landscape All Circuits Scene Off			
									Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle	Single Blink No Toggle	Triple Blink (radio buttons)	Triple Blink (radio buttons)	
									A12 On, A13 On, A14 On, A15 On, B6 On	A12 On	A13 On	A14 On	A15 On	A12 Off, A13 Off, A14 Off, A15 Off, B6 Off	Bright	Dim	
									Front Landscape All Circuits Scene On	Front Landscape Scene 1	Front Landscape Scene 2	Front Landscape Scene 3	Front Landscape Scene 4	Front Landscape All Circuits Scene Off			
									Single Blink No Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle	Double Blink (Independent buttons)	Double Blink (Independent buttons)	

Notes

Alternative Programming for switch at front door; use one or the other.

Supports Landscape Circuits 1-4 only; add keypads for individual control of additional circuits.

Installed	Spreadsheet Revision	Date Programmed	Participating Receivers				Scene Programming													
			Original Nancy/McCoy Numbering	Device Type	Receiver Location	Load Location	Worksheet						Universal		Universal	Universal				
							Scene Address			B2	B3	B4	B5	B6	P12	P13	P14	P15		
X	81	27-May	1-A	Dimmer	Office, right of subpanel	Front Landscape Front Door Exterior Light	A2	3 Sec	A10	3 Sec 100%	See Pathway Worksheet Transmitter 1-1					3 Sec 50%	3 Sec 50%	Flashing 100%		3 Sec 0%
X	85	2-Jun	5-F	Dimmer	Office, right of Patio Door	Front Landscape Patio Light	A3	3 Sec	A11	3 Sec 50%	See Office Worksheet Transmitter 1-2/5-1					3 Sec 50%	3 Sec 50%	Flashing 100%		3 Sec 0%
			New	Dimmer	Service Entrance	Front Landscape Circuit 1 TBD	A4	3 Sec	A12	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	Flashing 100%	3 Sec 50%	3 Sec 0%	
			New	Dimmer	Service Entrance	Front Landscape Circuit 2 TBD	A5	3 Sec	A13	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	Flashing 100%	3 Sec 50%	3 Sec 0%	
			New	Dimmer	Service Entrance	Front Landscape Circuit 3 TBD	A6	3 Sec	A14	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	Flashing 100%	3 Sec 50%	3 Sec 0%	
			New	Dimmer	Service Entrance	Front Landscape Circuit 4 TBD	A7	3 Sec	A15	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	Flashing 100%	3 Sec 50%	3 Sec 0%	
			New	Dimmer	Service Entrance	Front Landscape Circuit 5 TBD	A8	3 Sec	A16	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	Flashing 100%	3 Sec 50%	3 Sec 0%	
			New	Dimmer	Service Entrance	Front Landscape Circuit 6 TBD	A9	3 Sec	B1	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	3 Sec 50%	Flashing 100%	3 Sec 50%	3 Sec 0%	

Advanced Function Programming														
Soft On	ALO	ALF	AUF	UALO	UALF	UAUF	DIM	Scene En	Rcv Thresh					
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv					
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	51 mv					
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	52 mv					
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	53 mv					
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	54 mv					
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	55 mv					
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	54 mv					
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	55 mv					

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Master Bath Lighting

Installed	Spreadsheet Revision	Date Programmed	Participating Transmitters			Keypad Programming										
			Original Nancy McCoy Numbering	Device Type	Transmitter Location	Control Mode	Remote Keypad Room Number	Button Brightness	ON	A	B	C	D	OFF	Bright	Dim
X	78	26-May	4-1	6-Button Transmitter	Master Bath @ Tub (North) Entry	Independent Control	RM1	A	G15 On, G16 On, H1 On, H2 On, H4 On	G15	G16	H1	H2	H3 Off, H2 Off, H1 Off, G16 Off, G15 Off, H4 Off	Bright	Dim
									All Master Bath Lighting On	Wall sconces	Reading Downlight over Tub	Shower Light	Downlights over sink	All Master Bath Lighting Off		
									Single Blink No Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle		
X	78	26-May	4-2	6-Button Transmitter	Master Bath @ Toilet (South) Entry	Independent Control	RM1	A	G15 On, H2 On, H1 On, G16 On, H4 On	G15	H2	H1	G16	H3 Off, G16 Off, H1 Off, H2 Off, G15 Off, H4 Off	Bright	Dim
									All Master Bath Lighting On	Wall sconces	Downlights over sink	Shower Light	Reading Downlight over Tub	All Master Bath Lighting Off		
									Single Blink No Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle		

Notes
D14 at end to allow scene dimming to operate on whole room scene
Let computer detect scene off and on commands instead of universal on and off commands
ditto

Installed	Spreadsheet Revision	Date Programmed	Participating Receivers			Scene Programming											
			Original Nancy McCoy Numbering	Device Type	Receiver Location	Load Location	Worksheet					Scene Description	Master Bath All-Circuits Scene	Bulb Test	Panic Flash	Whole House On	Whole House Off
							Primary Device Address	Primary Fade Rate	Secondary (preset scene) Address	Secondary Fade Rate and Preset Level	Scene Address						
X	78	26-May	4-E	Dimmer	Office, Right of Subpanel	Sconces	G10	3 Sec	G15	3 Sec 68%	3 Sec 68%	3 Sec 50%	Flashing 100%	3 Sec 50%	3 Sec 0%		
X	78	26-May	4-B	Dimmer	Master Bath @ Tub (North) Entry	Tub	G11	3 Sec	G16	3 Sec 35%	3 Sec 35%	3 Sec 50%		3 Sec 0%			
X	78	26-May	4-A	Dimmer	Master Bath @ Tub (North) Entry	Shower	G12	3 Sec	H1	3 Sec 35%	3 Sec 35%	3 Sec 50%	Flashing 100%	3 Sec 0%			
X	78	26-May	4-C	Dimmer	Master Bath @ Toilet (North) Entry	Sink	G13	3 Sec	H2	3 Sec 35%	3 Sec 35%	3 Sec 50%	Flashing 100%	3 Sec 0%			
X	78	26-May	4-G	Dimmer	Master Bath @ Tub (North) Entry	Fan	G14	Instant	H3	3 Min 68%				3 Sec 0%			
X	N/A	N/A	Slave to 4-G	Slave Dimmer	Master Bath @ Toilet (South) Entry	Fan	N/A										

Advanced Function Programming									
Soft On	ALO	ALF	AUF	UALO	UALF	UAUF	DIM	Scene En	Rcv Thrsh
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
N/A									

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Laundry Bath, Master Closet, and Office Lighting

Installed	Spreadsheet Revision	Date Programmed	Participating Transmitters			Keypad Programming										
			Original Nancy McCoy Numbering	Device Type	Transmitter Location	Control Mode	Remote Keypad Room Number	Button Brightness	ON	A	B	C	D	OFF	Bright	Dim
x	89	4-Jun	5-2	6-Button Transmitter	Laundry room North wall	Independent Control	RM1	A	H13 On, H14 On, I3 On	H13	H14	H9	H16	H16 Off, H15 Off, H14 Off, H13 Off, I3 Off	Bright	Dim
									All Laundry Lighting On	Laundry surface-mounted fixture	Laundry Light over sink	Laundry Fan	Master Closet Downlight	Laundry Lighting Off		
									Single Blink No Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle	Double Blink (Independent buttons)	Double Blink (Independent buttons)
x	101	13-Jun	1-2/5-1	6-Button Transmitter	Office, behind desk	Independent Control	RM1	A	I4 On	I2	F6	F4	P5	P5 Off, I2 Off, I4 Off	Bright	Dim
									Office Lights On	Blend of I2 and I1 Office Lights	Level 4 Sconces Dimmest	Pathway All-Circuits Scene (Ropes)	Fountain Pump Enable	Office Lighting Off		
									Single Blink No Toggle	Single Blink No Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle	Double Blink (Independent buttons)	Double Blink (Independent buttons)

Notes

Fan Control Instant at Keypad Button C but delayed with Off Button.
Master Closet downlight controlled by Occupancy Sensor auxiliary control.

Fountain Scene Enable (F7) allows fountain illumination (E10) to initiate Fountain On and Off Scenes (P8, P9) by means of additional control circuitry in utility room. See Pathway worksheet.

Installed	Spreadsheet Revision	Date Programmed	Participating Receivers			Scene Programming										
			Original Nancy McCoy Numbering	Device Type	Receiver Location	Worksheet				Laundry	Office	Universal	Universal	Universal	Universal	
						Scene Address										
						Primary Device Address	Primary Fade Rate	Secondary (preset scene) Address	Secondary Fade Rate and Preset Level	Scene Description	Laundry All Circuits Scene	Office All Circuits Scene	Bulb Test	Panic Flash	Whole House On	Whole House Off
											I3	I4	P12	P13	P14	P15

Advanced Function Programming									
Soft On	ALO	ALF	AUF	UALO	UALF	UAUF	DIM	Scene En	Rcv Thrsh
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv

Laundry																
X	86	3-Jun	5-C	Dimmer	Laundry room North wall	Laundry surface mounted fixture	H7	3 Sec	H13	3 Sec 42%		3 Sec 42%	3 Sec 42%	Flashing 100%	3 Sec 42%	3 Sec 0%
X	86	3-Jun	5-D	Dimmer	Laundry room North wall	Laundry Light over sink	H8	3 Sec	H14	3 Sec 42%		3 Sec 42%	3 Sec 42%			3 Sec 0%
X	86	3-Jun	5-E	Dimmer	Laundry room North wall	Laundry Fan	H9	Instant	H15	3 Min 100%						3 Sec 0%

Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv

Master Closet																
X	86	3-Jun	4-F	Dimmer	Laundry room North wall	Master Closet Downlight	H10	3 Sec	H16	3 Sec 42%				3 Sec 42%		3 Sec 0%
X	86	3-Jun	4-F	Dimmer	Laundry room North wall	Master Closet Downlight	H10	3 Sec	H16	3 Sec 42%				3 Sec 42%		3 Sec 0%

Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
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Office																	
X	86	3-Jun	5-A	Dimmer	Office, behind desk	Office Downlights	H11	3 Sec	I1	3 Sec 42%			3 Sec 42%	3 Sec 42%	Flashing 100%	3 Sec 42%	3 Sec 0%
X	86	3-Jun	5-B	Dimmer	Office, behind desk	Office Wall Sconces	H12	3 Sec	I2	3 Sec 42%			3 Sec 42%	3 Sec 42%	Flashing 100%	3 Sec 42%	3 Sec 0%

Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv

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Kitchen and Pantry Lighting

Installed	Spreadsheet Revision	Participating Transmitters			Keypad Programming										Notes	
		Date Programmed	Original Nancy McCoy Numbering	Device Type	Transmitter Location	Control Mode	Remote Keypad Room Number	Button Brightness	ON	A	B	C	D	OFF		Bright
X ##	16-Jun	7.3	6-Button Transmitter	Inside Living Room Exit Door to Pool	Independent Control	RM4	A	K7 On, K8 On, K9 On, K10 On, K13 On	K7	K8	K9	K10	K10 On, K9 On, K8 On, K7 On, K13 On, K11 On, K12 On	Bright	Dim	
								Kitchen All-Circuits Scene On	Island Downlights	Pendants over North Counter	Sink Counter Downlights	Refrigerator Wall Downlights	Kitchen All-Circuits Scene Off			
								Single Blink No Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle	Double Blink (Independent buttons)	Double Blink (Independent buttons)	
X ##	16-Jun	7.1	6-Button Transmitter	Right Side of Sink	Independent Control	RM1	A	K7 On, K8 On, K9 On, K10 On, K13 On	K7	K8	K10	K9	K8 On, K10 On, K9 On, K7 On, K11 On, K12 On, K13 On	Bright	Dim	
								Kitchen All-Circuits Scene On	Island Downlights	Cooktop Downlights	Refrigerator Wall Downlights	Pendants over North Counter	Kitchen All-Circuits Scene Off			
								Single Blink No Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle	Double Blink (Independent buttons)	Double Blink (Independent buttons)	
X ##	16-Jun	7.2	6-Button Transmitter	Right Side of Pantry Door in Kitchen	Independent Control	RM1	A	K7 On, K8 On, K9 On, K10 On, K13 On	K7	K8	K10	K6	K8 On, K10 On, K9 On, K7 On, K11 On, K12 On, K13 On	Bright	Dim	
								Kitchen All-Circuits Scene On	Island Downlights	Cooktop Downlights	Refrigerator Wall Downlights	Pendants over North Counter	Kitchen All-Circuits Scene Off			
								Single Blink No Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle	Double Blink (Independent buttons)	Double Blink (Independent buttons)	
X 90	5-Jun	New 7.4	6-Button Transmitter	Level 3 Foyer	Independent Control	RM1	A	K7 On, K8 On, K9 On, K10 On, K13 On	K7	K6	K12	K9	K9 On, K10 On, K8 On, K7 On, K11 On, K12 On, K13 On	Bright	Dim	
								Kitchen All-Circuits Scene On	Island Downlights	Pendants over North Counter	Cooktop + Fridge Wall Scene	Sink Counter Downlights	Kitchen All-Circuits Scene Off			
								Single Blink No Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Double Blink Toggle	Single Blink No Toggle	Double Blink (Independent buttons)	Double Blink (Independent buttons)	

Installed	Spreadsheet Revision	Participating Receivers			Scene Programming											
		Date Programmed	Original Nancy McCoy Numbering	Receiver Location	Load Location	Worksheet		Kitchen-Pantry	Kitchen-Pantry	Living Dining	Universal	Universal	Universal	Universal		
		Scene Address			Primary/Device Address	Primary Fade Rate	Secondary (Green) Scene Address	Secondary Fade Rate and Preset Level	Scene Description	Cooktop + Fridge Wall Scene	Kitchen All-Circuits Scene	Dining Area Scene	Bulb Test	Panic Flash	Whole House On	Whole House Off
Kitchen																
X 89	3-Jun	7.A	Dimmer	Pantry	Pendants over North Counter	J16	3 Sec	K6	3 Sec 90%			3 Sec 90%	3 Sec 42%	Flashing 100%	3 Sec 100%	3 Sec 0%
X 89	3-Jun	7.C	Dimmer	Pantry	Island Downlights	K1	3 Sec	K7	3 Sec 84%			3 Sec 84%	3 Sec 42%		3 Sec 100%	3 Sec 0%
X 89	3-Jun	7.D	Dimmer	Pantry	Cooktop Downlights	K2	3 Sec	K8	3 Sec 39%			3 Sec 39%	3 Sec 42%			3 Sec 0%
X 89	3-Jun	7.E	Dimmer	Pantry	Sink Counter Downlights	K3	3 Sec	K9	3 Sec 39%			3 Sec 39%	3 Sec 42%	Flashing 100%		3 Sec 0%
X 89	3-Jun	7.F	Dimmer	Pantry	Refrigerator Wall Downlights	K4	3 Sec	K10	3 Sec 32%			3 Sec 32%	3 Sec 42%			3 Sec 0%
Pantry																
X 89	3-Jun	7.D	Dimmer	Pantry	Right Side of Pantry Entry in Kitchen	K5	3 Sec	K11	3 Sec 65%				3 Sec 42%			3 Sec 0%

Advanced Function Programming									
Self On	ALO	ALF	AUF	UALO	UALF	UAUF	DIM	Scene En	Rev Thresh
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 mv

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Spa Lighting

Installed	Spreadsheet Revision	Date Programmed	Participating Receivers				Path Scene Programming						
			Original Nancy McCoy Numbering	Device Type	Receiver Location	Load Location	Worksheet					Universal	Universal
							Scene Address					P12	P15
							Primary Device Address	Primary Fade Rate	Secondary (preset scene) Address	Secondary Fade Rate and Preset Level	Scene Description	Whole House Bulb Test	Whole House Off
			10-C	Dimmer	Spa	Spa Mirror Light	N10	3 Sec	N13	3 Sec 50%		3 Sec 50%	3 Sec 50%
			10-D	Dimmer	Spa	Spa Shower Light	N11	3 Sec	N14	3 Sec 50%		3 Sec 50%	3 Sec 50%
			10-E	Dimmer	Spa	Spa Fan	N12	Instant	N15	3 Min 0%			3 Sec 50%

Advanced Function Programming										
Soft On	ALO	ALF	AUF	UALO	UALF	UAUF	DIM	Scene En	Rcv Thrsh	
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	

Small Bath Lighting

Installed	Spreadsheet Revision	Date Programmed	Participating Receivers				Path Scene Programming						
			Original Nancy McCoy Numbering	Device Type	Receiver Location	Load Location	Worksheet					Universal	Universal
							Scene Address					P12	P15
							Primary Device Address	Primary Fade Rate	Secondary (preset scene) Address	Secondary Fade Rate and Preset Level	Scene Description	Whole House Bulb Test	Whole House Off
			11-B	Dimmer	Small Bath North Wall	Small Bath Mirror Light	N16	3 Sec	O3	3 Sec 50%		3 Sec 50%	3 Sec 50%
			11-C	Dimmer	Small Bath North Wall	Small Bath Shower Light	O1	3 Sec	O4	3 Sec 50%		3 Sec 50%	3 Sec 50%
			11-G	Dimmer	Small Bath North Wall	Small Bath Fan	O2	Instant	O5	3 Min 0%			3 Sec 50%

Advanced Function Programming										
Soft On	ALO	ALF	AUF	UALO	UALF	UAUF	DIM	Scene En	Rcv Thrsh	
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	
Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	

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Garage Lighting

Installed	Spreadsheet Revision	Participating Transmitters				Keypad Programming										Notes	
		Date Programmed	Original Nancy McCoy Numbering	Device Type	Transmitter Location	Control Mode	Remote Keypad Room Number	Button Brightness	ON	A	B	C	D	OFF	Bright		Dim
X	83	29-May	6.6	4-Button Transmitter	Garage West Wall near Elevator	Independent Control	RL1	A	O10 On, O11 On, O13 On	O10	O8	O12	O11	O14 On, O15 On, O16 On, O17 On, O18 On	Bright	Dim	
X	83	29-May	12.1	4-Button Transmitter	Garage West Wall near House Entrance	Independent Control	RL1	A	O16 On, O17 On, O18 On	O12	O10	O11	P15 Off	O14 On, O15 On, O16 On, O17 On, O18 On	Bright	Dim	Sits next to Scene control, and Garage Occupancy control
X	83	29-May	12.2	4-Button Transmitter	Garage West Wall near House Entrance	Path	RL2	A	O19 On, P2 On, P3 On	O19 On, P3 On	O10 On, E10 On	O10 On, E10 On	O10 On, E11 On	O10 On, P3 On	Bright	Dim	Sits next to Independent Control, and Garage Occupancy Control
				Occupancy Control with 3-Minute Delay	Garage West Wall near House Entrance	Garage Close			O13 On				O13 On				Sits next to Scene and Independent controls
				Occupancy Control with Minute Delay	Garage West Wall near House Entrance	Garage Close			Close On				Close Off				

Installed	Spreadsheet Revision	Participating Receivers				Scene Programming						Advanced Function Programming													
		Date Programmed	Original Nancy McCoy Numbering	Device Type	Receiver Location	Load Location	Primary Device Address	Primary Fade Rate	Secondary (preset scene) Address	Secondary Fade Rate and Preset Level	Scene Description	Garage	Universal	Universal	Universal	Universal	Soft On	ALO	ALF	AUF	UALO	UALF	UAUF	DIM	Scene En
X	83	29-May	12.8	Dimmer	Garage Closet near Elevator	Main Interior Garage Downlights	O8	3 Sec	O10	3 Sec 50%	3 Sec 50%	3 Sec 50%	Flashing 100%	3 Sec 50%	3 Sec 0%	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 ms
X	83	29-May	12.A	Dimmer	Garage Closet near Elevator	Downlight for Elevator	O7	3 Sec	O11	3 Sec 50%	3 Sec 50%	3 Sec 50%		3 Sec 0%		Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 ms
X	83	29-May	New	Dimmer	Garage South Wall at Storage Access	Fluorescent Storage Lighting	O8	Instant	N/A	Instant 100%		Instant 50%		Instant 50%		No	Yes	Yes	Yes	No	No	No	No	Yes	50 ms
X	83	29-May	12.C	Dimmer	Garage West Wall near House Entrance	Exterior Downlights at Garage Door	O9	3 Sec	O12	3 Sec 50%		3 Sec 50%	Flashing 100%	3 Sec 50%	3 Sec 0%	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	50 ms

Utility Room Lighting and Special Control

Installed	Spreadsheet Revision	Participating Transmitters				Keypad Programming										Notes		
		Date Programmed	Original Nancy McCoy Numbering	Device Type	Transmitter Location	Control Mode	Remote Keypad Room Number	Button Brightness	ON	A	B	C	D	OFF	Bright		Dim	
		90	6-Jun	New	4-Button Transmitter	Utility Room	Independent Control	RL1	A	P1 On, P2 On	P12 On	P13 On	P14 On	P15 On	P9 On, P7 On	Bright	Dim	
										P1 On, P2 On	P12 On	P13 On	P14 On	P15 On	P9 On, P7 On			

Installed	Spreadsheet Revision	Participating Receivers				Scene Programming						Advanced Function Programming														
		Date Programmed	Original Nancy McCoy Numbering	Device Type	Receiver Location	Load Location	Primary Device Address	Primary Fade Rate	Secondary (preset scene) Address	Secondary Fade Rate and Preset Level	Scene Description	Garage	Universal	Universal	Universal	Universal	Soft On	ALO	ALF	AUF	UALO	UALF	UAUF	DIM	Scene En	Rev Thrsh
		100	12-Jun	New	Dimmer	Utility Room near door	Utility Room Overhead Light	O14	Instant	N/A	N/A		3 Sec 100%		3 Sec 0%	No	Yes	Yes	Yes	No	No	No	No	No	Yes	50 ms

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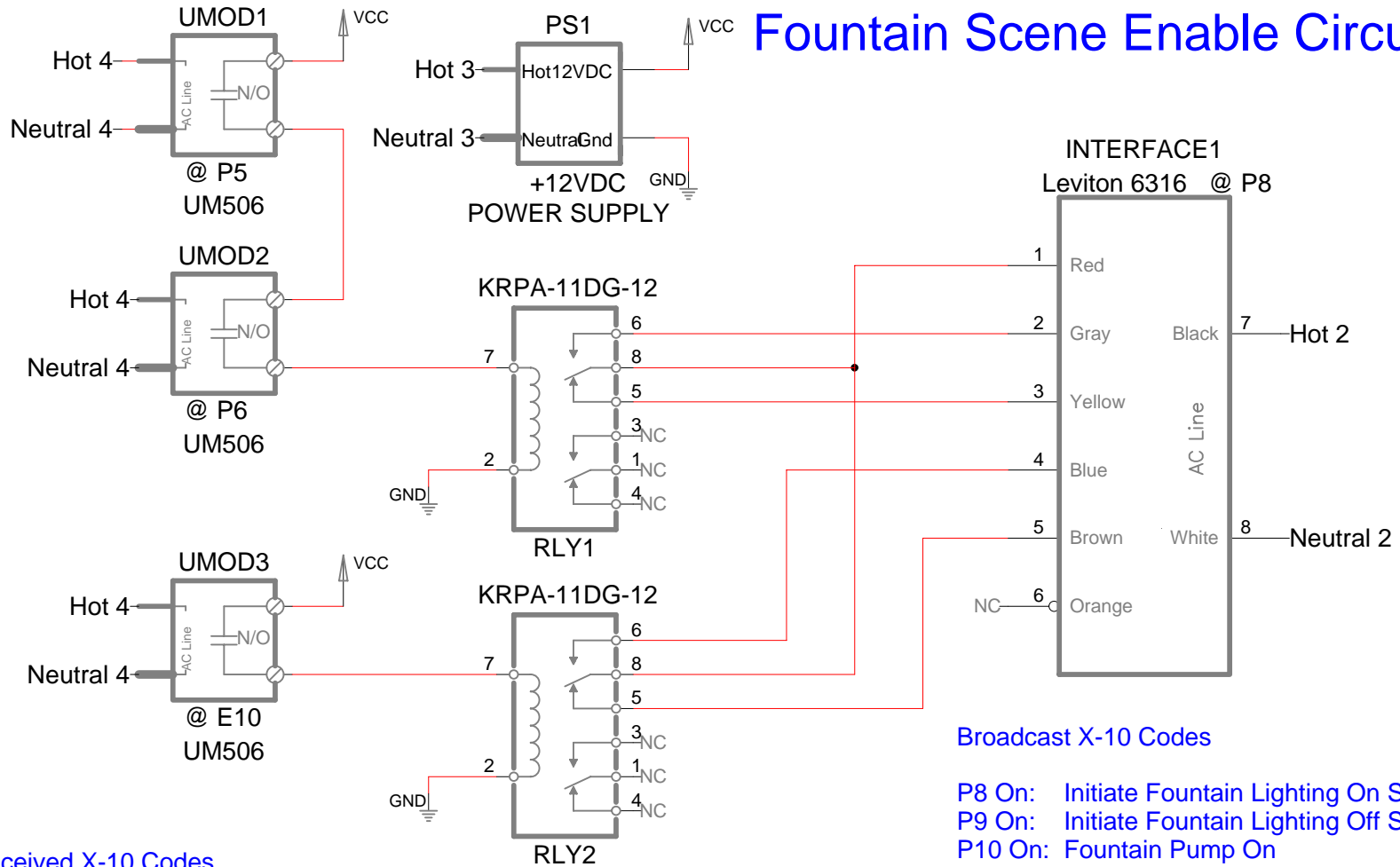
Miscellaneous

Scene																		
Worksheet	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous
Scene Address	O15	O16	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16
Scene Description	Kitchen Ventilation Request	Theater Ventilation Request	Spa Enable	Spa Disable	Pool Cover Open Command	Pool Cover Close Command	Office Fountain Pump Enable	Level 3 Foyer Fountain Pump Request	Exterior Lighted Fountain On Scene	Interior Lighted Fountain On Scene	Lighted Fountain Off Scene	Fountain Pump On	Fountain Pump Off	Bulb Test	Panic Flash	Whole House On	Whole House Off	Reserved Possibly Broken
	Ventilation Control Inputs		Pool and Spa Control Inputs				Fountain Control Inputs		Fountain Control Outputs					Universal Outputs				

Bulb test does not turn on fountain pump or activate pool cover or spa functions

Whole House Off turns off fountain pump and vent fan and disables Spa.

Fountain Scene Enable Circuit



Received X-10 Codes

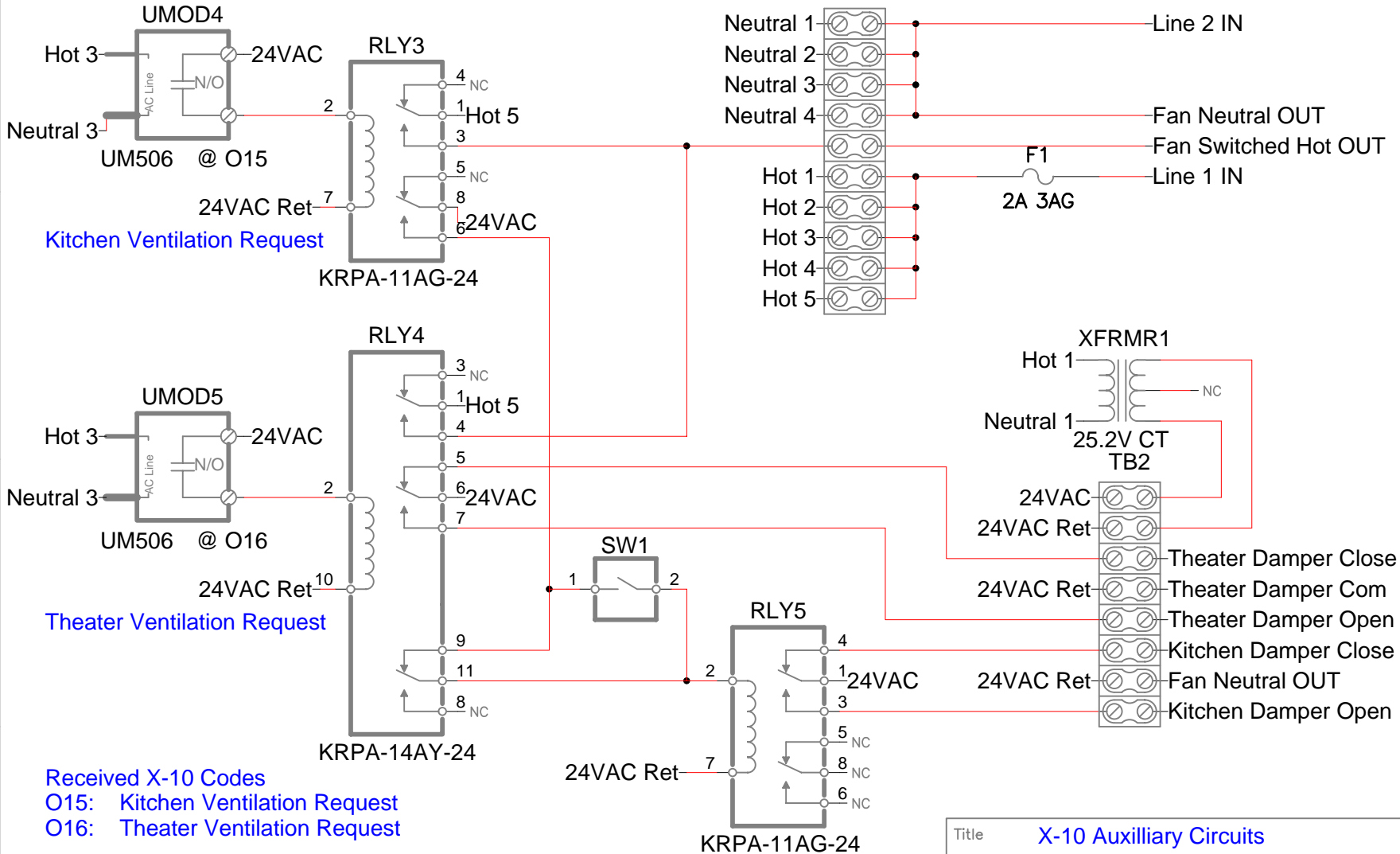
- P5 On: Fountain Pump Enable
- P5 Off: Fountain Pump Disable
- P6 On: Fountain Pump On Request
- P6 Off: Fountain Pump Off Request
- E10 On: Fountain Light On Command
- E10 Off: Fountain Light Off Command

Broadcast X-10 Codes

- P8 On: Initiate Fountain Lighting On Scene
- P9 On: Initiate Fountain Lighting Off Scene
- P10 On: Fountain Pump On
- P11 On: Fountain Pump Off

Title X-10 Auxilliary Circuits		
Size A	Number	Rev 8
Date Fri Jul 18 2003 16:41:35	Drawn by T. Erickson	
Filename X-10CTR.X.SCH	Sheet 1	of 2

Kitchen and Theater Ventilation Control



Received X-10 Codes
 O15: Kitchen Ventilation Request
 O16: Theater Ventilation Request

Switch 1 Function:
 Open: Theater demand preempts kitchen air supply
 Closed: Independent kitchen and theater damper control

Title X-10 Auxilliary Circuits		
Size A	Number	Rev 8
Date Fri Jul 18 2003 16:41:44	Drawn by T. Erickson	
Filename X-10CTR.X.SCH	Sheet 2 of 2	

User Interface Guidelines for Client Lighting System

The chief design requirements for the lighting system user interface are uniformity and simplicity, hiding from the user the underlying complexity. This document attempts to explain a manageable interaction between the user and the lighting system.

There are a few types of controls in the system with which the user will interact: Decora-style rocker-switch dimmers, 6-button keypads, occupancy sensors, and an IR remote control.

Decora-style rocker-switch dimmers

Dimmers control individual lighting circuits, such as a single reading light or a group of wall sconces in a single room. Dimmers may have been placed close to the lighting circuits they control, or, in many cases, may have been grouped remotely in banks found in the office, pantry, or utility rooms. In every case where the dimmer is remote from the lighting circuit that it controls, we will add a switch to provide independent local control. In addition to providing independent control of lighting circuits, the dimmers can also participate in scene lighting groups. In two locations, the garage upper storage fluorescents, and the fountain motor control, the rocker switches will not have dimming enabled; these two controls will function only to turn their loads completely on or off.

The dimmers which control the stairway rope lights must be disconnected from their loads when the system is being programmed, using the load-disconnect switches mounted directly above these dimmers in the Level 2 Utility Room, to prevent burning out these dimmers..

6-button transmitter keypads

6-button transmitter keypads have buttons labeled by default “On”, “A”, “B”, “C”, “D”, and “Off”, in addition to small Bright, and Dim buttons. The user will usually interact with the “On”, “A”, “B”, “C”, “D”, Bright, and Dim buttons when entering an area of the house, and the “Off” button when leaving an area. During system setup, we will assign descriptive temporary labels to the buttons. After establishing that the system is programmed appropriately, these labels should be replaced by permanent labels.

6-button transmitter keypads have two different modes of operation: Independent Control and Scene Control. A given keypad will normally participate exclusively in one mode or the other.

Scene Control Keypads located

1. outside the master bedroom door,
2. at the front door,
3. at the bottom of the stairs at Level 3,
4. in the Level 2 foyer at the entrance to the theater,

5. at the bottom of the stairs at the entrance to the garage,
6. and in the garage at the entrance to the house

implement pathways of light from each keypad to the various levels of the house.

Scene Control Keypads located at the front door and the exits to the pool area on level 2 and 3 will control landscape lighting. Although the landscape lighting is not yet designed, these three Scene Control Keypads will generate pre-allocated scene codes, and their associated dimmers can be later set up for participation in these scenes.

Scene Control Keypads located at the master bedroom bedside and in the theater will allow scene control within these rooms.

The remaining keypads will be used to independently control lighting circuits near each keypad. The user will be able to control each and every lighting circuit in the house by means of a local dimmer or, alternatively, by means of a button on a keypad placed within view of the lighting circuit that it controls. Regardless of whether the 6-button transmitter is programmed for Independent Control or Scene Control, the “On” button will be used to establish a comfortable level of lighting throughout the area surrounding the keypad. When the “On” button is pressed, each affected lighting circuit will return to an “On” lighting level remembered from the last time the light was on, whether as a participant in a scene or individually controlled. The “On” button may control additional lighting circuits beyond those controlled by the “A” through “D” buttons, or it may control a subset of those circuits.

In a keypad programmed for Independent Control, the “A”, “B”, “C”, and “D” buttons will each control individual lighting circuits (or fixed combinations of circuits) near the keypad. A given key toggles a given lighting circuit (or group of circuits) between the “Off” state and a programmed “On” level. The keys will generally be arranged so that “A” controls the closest or most frequently used lighting circuit; “D” controls the furthest or least frequently selected lighting circuit. Each key cap will be labeled to indicate which lighting circuit(s) it controls. Independent Control Mode functions similarly to checkbox control in a Windows dialog box.

In a keypad programmed for Scene Control, the “A”, “B”, “C”, and “D” buttons will each select a single scene from an offering of four lighting scenes. A scene is a set of preprogrammed lighting levels assigned to an arbitrary group of corresponding lighting circuits. Each lighting circuit participating in a scene is programmed to permanently remember a distinct lighting level for each selectable scene “A” through “D”. However, after scene selection, any circuit’s level can be temporarily modified by its Dimmer (which may be remote) or by the bright and dim buttons on a nearby Independent Control mode keypad. Each key cap will be labeled to indicate which scene it selects. Scene Control Mode functions in a manner similar to radio-button control in a Windows dialog box. After initial setup, we will need to adjust the brightness of the collection of lamps in each scene, some evening after dark.

The Bright and Dim buttons will adjust the lighting level for the most recently accessed lighting circuit or scene.

The “Off” button will turn off all the lights in the area the user is leaving, generally the same set of circuits controlled by the “On” button.

Occupancy Sensors and Motion Control

The principle justification for occupancy sensors is that they automatically turn lighting circuits off after illumination is no longer needed. Occupancy sensors will control the master bedroom closet, guest bedroom closet, kitchen pantry, garage closet and main garage lighting. Motion controls may also control path lighting and lighting exterior to the entrances to the house, TBD.

IR Remote Control

A remote control keypad is furnished with the system. All 6-button keypads respond to signals generated by the remote, but the principle use for the keypad is control over theater scene lighting. When several 6-button keypads are placed next to each other, the keypads will be set up to respond, from left to right, as RM1, RM2, RM3, RM4. The IR Remote should train the Theater’s universal remote, so that only one control is needed for theater control.

Whole House and Buried Functions

Shortly after completion of installation of the dimmers and keypads, it is Provident Construction’s intention to provide an additional Black Box control providing the following functionality:

From the master bedroom, garage, and front door, the user will be able select a button which will turn off every light in the house, as well as the fountain pump.

From a keypad in the utility room certain other functions affecting the whole house may be selected:

Bulb Test, every light on in the house

Whole House On, selected lighting throughout the house

Whole House Off, every lighting circuit off

Emergency Flash, selected lights flashing to scare off intruders and make the house visible to emergency workers. The code which causes this mode should also be generated by the house alarm system.

In order to make it less likely that the Fountain Pump will be inadvertently turned on at the Level 3 Foyer, toggling a second button, inside the office doorway, will be required to enable the Fountain Pump.

The ventilation system which provides fresh outside air to the dining area from a vent in the kitchen counter toe kick and to the theater via a vent next to the couch is also controlled by keypad toggle pushbuttons in the kitchen and theater, respectively. If either of these pushbuttons is "On", the ventilation fan will run. A relay circuit in a grey box in the utility room directs the flow of air to the kitchen and theater by controlling damper motors installed in the ductwork running to these locations. This control box has a single user accessible switch which selects one of these two modes of operation:

Mode 1: The dampers operate independently. Requesting air at the kitchen keypad opens the damper within the dining room duct, whether or not the theater is also requesting fresh air. If the theater requests fresh air simultaneously, both dampers will open and the fresh air will be shared between the two rooms.

Mode 2: A request for fresh air in the theater overrides the request for fresh air in the kitchen, and all the fresh air is diverted to the theater. Even if the kitchen is requesting fresh air, its damper will be forced closed by a request for fresh air from the theater.

Similarly, user-defined sequences of On, Off, or other arbitrarily chosen button-presses in conjunction with the pool lighting keypads on the second and third levels may be used to control pool and spa lighting in later stages of the project.

Firewalls and the addition of Non-lighting Loads

The lighting system control signals travel on the same wires that provide power to the lights. Noises sources and certain loads which act as signal sinks degrade the signaling capacity of the system. Therefore, the lighting system employs firewalls which isolate the lighting circuits from noise and control signals generated outside of the house as well as internal sources of noise on adjacent non-lighting branch circuits. The firewalls also employ amplifiers and repeaters to bolster the control signals traveling among branch circuits within the lighting system.

Non-lighting loads may also be added to the system, if desired. However, this would require additional branch circuits to be re-routed through the firewall panels installed in the utility areas. There are several spare firewall circuits available for system expansion.

End-user Programming

The whole system will initially be programmed in accordance with a spreadsheet design, in consultation with the owner, using a PC running the SceneMaster utility provided by PCS Lighting, the manufacturer of the dimmers and keypads. Scene lighting level modification may be performed easily with an X-10 keypad, without a computer.

Documentation

Provident Construction will leave complete, modifiable documentation for all aspects of the lighting project, and will provide backup support to modify or extend the system as the owner desires.

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Modifications and Extensions to Lighting and Ventilation Control System

Here are instructions for adding a dimmer to the lighting design. If you only need to adjust lighting levels, skip steps 5-10. It is very important to keep the SceneMaster .HCA files synchronized with the Lighting Design Spreadsheet, or the system will rapidly become un-maintainable.

1. Open the Lighting System XXX.xls spreadsheet found in the Lighting System Design folder. **Save file with the next sequentially numbered filename prior to modification, so that backtracking is possible.** Check that any planned changes are consistent with the address map sheet and make the changes in both the address map and the zone sheet.
2. **Turn off the load-disconnect switches above the Rope Light Dimmers in the Utility room to avoid burning them out.**
3. Connect the computer to the X-10 system at any of the following locations: garage West wall receptacle, Level 2 utility room outlet near firewall, Master Bath receptacle near Hot Tub, Office receptacle in Dimmer bank. Plug an extension cord into the receptacle, the LynX-10 adapter into the cord, a serial-to-USB adapter into the LynX-10, and the USB plug into the computer.
4. Launch the PCS/HCA SceneMaster Setup Tool. Verify communications with the LynX-10 within the Powerline/Interface Selection dialog box. Open the relevant .HCA setup file corresponding to the zone to be modified. **Save it, prior to modification under a new filename including the version of the current spreadsheet, so that backtracking will be possible.**
5. If only adjusting lighting levels, skip to Instruction 11. If adding a dimmer to the zone, select Lighting/Add. Create a name for the zone prefixed by its address and a colon, e.g. D4: Level 4 Wall Sconces. Select a Version 3 dimmer, either 600W or 1000W. The default is a Version 2 dimmer, which will not program correctly in this system. Set the device address: House and Unit codes. Click OK to close the dialog.
6. Double-click newly created device to bring up the device Programming dialog box. Select the New Device tab. Carefully proceed through steps 1-6, exactly following the instructions under the help buttons that show how to put the dimmer in programming modes 1 and 5. **Any mistake at this point will prevent the switch from programming, but you won't realize that anything is wrong till the end of the programming sequence.**
7. Unless you wish to change the primary ramp rate, proceed to Instruction 8. Otherwise select the Primary Properties tab, verify the information you see on the page and go to step 4 to change the primary address ramp rate.
8. Select the Properties tab. Only if you want to program a dimmer to control a non-dimming load such as a non-dimming fluorescent lamp, check the Ramp On and Off and Dim boxes and select their respective Disable radio buttons in step 2. You must check the Master Scene Option and its associated Enable radio button in step 3 in order to program scenes into the dimmer. **If you fail to take this step, you may not get any feedback that something is wrong until you are finished and nothing works.**

9. Select the Scenes tab and click the Modify Scenes button. Add Scene Addresses, Ramp Rates (including Flashing), Channel Enables, and descriptive Scene Names. Click the Program Scenes button and go get some coffee. Eventually, close the dialog when it is done programming scenes.
10. Repeat Instructions 5-9 until all new dimmers are added.
11. Select the Scene Lighting Levels tab. Follow steps 2-4 iteratively for each scene in the Step1 drop-down box. As each scene is programmed, it is important to update the spreadsheet (opened in Instruction 1) to reflect the changes. Close the dialog.
12. Save and close the .HCA file, (using a filename which includes the version of the corresponding Lighting Design Spreadsheet, from Instruction 4). Save and close the Spreadsheet file (using the newly numbered filename, from Instruction 1).
13. Undo step 2, so that the rope lights work.
14. Test the scene lighting levels at the keypads.

For instructions on programming the keypads, refer to the PCS document:
6-button Keypad Setup Guide.pdf in the
5 PCS Docs--Switch Manufacturer Installation Instructions folder.

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