

## Lutron RadioRA - (Phantoms, Zones, Security Flash/Solid, Master Ctrl Buttons)

Interfacing to a Lutron RadioRA System requires: ELK-M1XSP Interface with **firmware 1.0.14 or greater**, 9 pin Serial Cable, Lutron RA-RS232 Interface, Dimmers, etc.

1. Install the ELK-M1XSP per the instructions on page 3. Be sure to enroll the device into the M1.
2. The M1XSP jumper settings should be: **JP3=232** position and **JP5=ON**, Mode Jumper **S4=1** (not all boards have S4 jumper) **S5=0**, **S6=1**, **S7=1**, and **S8=0**. BAUD jumpers S1, S2, & S3 do not matter as the Lutron baud rate is preset internally.
3. Plug a standard 9-pin Serial Cable (not included) between the Lutron RA-RS232 DB-9F (female) connector and the M1XSP DB-9M (male) connector. The ELK-WO37A cable that is supplied with the M1XSP will not be utilized.
4. Follow the instructions in the Lutron RA-RS232 "Setup and Installation Guide". Activate the RS232 interface (pages 8 & 9). Assign Phantom Buttons as Rooms or Scenes (pages 12 to 25). Assign Zone Numbers if direct control or feedback of an individual zone (device) is desired (pages 26 to 28). Turn Hardware Handshaking OFF by following the instructions on pages 33 and 34. Test the Phantom Button On or Off function locally from the RA-RS232 interface (page 42).
5. Use the ELK-RP software to configure the LIGHTING setup for the M1 to control the Lutron Radio RA devices.

### Operation with Lutron RadioRA

Operation with Lutron RadioRA is based on "mapped" assignments to M1 Lighting Devices 1 to 256. Commands to Lutron include: Phantom Button Presses, Direct Zone Control, and Security Mode activation. An M1 rule OR the Keypad "Automation-Lighting" menu can be used to: A) Turn On or Off any of the phantom buttons 1-15 via M1 Lights 1-15. All Phantoms may be turned On or Off at once via M1 Light 16. B) Turn On or Off any individual Lutron zone 1 to 32 (+32 additional zones with a Lutron "bridged" system). C) Set dimmers to specific levels (via rules only). D) Activate the 5 minute timed Security Flash or Security Solid modes assigned to the 15 phantoms. As for received "status" messages from Lutron zones, they can be used to trigger M1 rules. Received state changes from unused Lutron Master Control unit buttons (limited to 7 button models) can be used to trigger M1 rules, provided they are not assigned to any other function. The chart on the next page and the following paragraphs explain how the M1 Light Devices correspond to various Lutron capabilities.

**M1 Light Devices 1 to 15** correspond to Lutron RA **Phantom Buttons 1 to 15** (Rooms / Scenes) respectively. Whenever one of these 15 M1 Lighting Devices is turned On or Off its corresponding Lutron phantom button is turned On or Off. For each of these devices program the Format to "Serial Expander", the Type to "On/Off Switch", and the Name to describe each phantom button. Each Lutron phantom button (maximum of 15) can control multiple lights.

**M1 Light Device 16** corresponds to Lutron RA **Phantom Buttons 16 and 17** (All On / All Off) respectively. Program the name for light device 16 as "All On/Off". Set the Format to "Serial Expander" and Type to "On/Off Switch". Activating M1 lighting 16 'On' it will send Phantom 16. Activating M1 Lighting 16 'Off' will send Phantom 17.

**M1 Light Devices 17 to 31** correspond to Lutron RA **Security Flash Mode for Phantom Button 1 to 15** respectively. M1 Light 17 can be used to Flash (for 5 minutes) any light(s) assigned to phantom button 1. Phantom 1 will continue flashing for 5 minutes. Program the Format to "Serial Expander", the Type to "On/Off Switch", and the Name describing each phantom.

**M1 Light Device 32** corresponds to Lutron RA **Security Flash Mode All On / All Off** (Phantom Buttons 16 and 17). Activating M1 Light 32 'On' will Flash (for 5 minutes) ALL LIGHTS that are assigned to phantom buttons. Activating M1 Light 32 'Off' will turn off Flash mode and return ALL LIGHTS assigned to phantom buttons to their previous levels. Program the Format to "Serial Expander", the Type to "On/Off Switch", and the Name as "Flash On/Off"..

**M1 Light Devices 33 to 64** correspond to the first 32 Lutron RA **Lighting Dimmer/switch Zones (1 to 32)** in a single "unbridged" system (S1). It is possible to expand Lutron RA with a second system (S2) using a term call "bridging". Consult Lutron for more information. In a "bridged" environment, **M1 Light Devices 65 to 96** correspond to the second 32 Lutron RA **Lighting Dimmer/Switch Zones (1 to 32)**. For each zone to be utilized, program the Format to "Serial Expander", the Type to "Dimmer", and the Name to represent the zone being controlled. NOTE: While Lutron does not specifically recommend or require zone number assignment, the advantage of zoning is that it provides direct individual control including On, Off, and Dim, as well as status respond/feedback which can be also be used by M1 to trigger rules.

**M1 Light Devices 97 to 111** correspond to Lutron RA **Security Solid Mode for Phantom Buttons 1 to 15** respectively. M1 Light 97 can be used to turn On Solid (for 5 minutes) any light(s) assigned to phantom button 1. They remain On for 5 minutes. Program the Format to "Serial Expander", the Type to "On/Off Switch", and the Name describing each phantom.

**M1 Light Device 112** corresponds to Lutron RA **Security Solid Mode All On / All Off** (Phantom Buttons 16 and 17). Activating M1 Light 112 'On' turns On Solid (for 5 minutes) ALL LIGHTS that are assigned to phantom buttons. Activating M1 Light 112 'Off' turns Off Solid mode and returns ALL LIGHTS assigned to phantom buttons to their previous levels. Program the Format to "Serial Expander", the Type to "On/Off Switch", and the name as "Solid On/Off".

**M1 Light Devices 113 thru 144** correspond to the first 32 Lutron RA **Window Treatment Zones (1 to 32)** in a single "unbridged" system (S1). In a "bridged" environment, **M1 Light Devices 145 to 176** correspond to the second 32 Lutron RA **Window Treatment Zones (1 to 32)**. For each zone to be utilized, program the Format to "Serial Expander", the Type to "Dimmer", and the Name to represent the zone being controlled.

## Lutron - (continued)

**M1 Light Devices 177 thru 248** correspond to Lutron RA buttons on Master Control units 1 thru 12. Unused (unassigned) buttons can be used, with restrictions, to initiate rule triggers in the M1. Buttons that are already assigned to activate or display phantoms or zones SHOULD NOT BE USED as rule triggers simply because the state of the button can be out-of-sync with the M1, preventing a transition change from occurring. NOTE: Master Control units buttons are Receive ONLY. The M1 cannot directly activate or control any of the Master Control unit buttons.

M1 Lighting Devices Mapped to Lutron Radio RA											
ELK Light Device	PLC (X-10) Ref.	Lutron Phantom Buttons	ELK Light Device	PLC (X-10) Ref.	Expanded Zones 2nd Sys as Lights (S2)	ELK Light Device	PLC (X-10) Ref.	Zones 1st Sys as Shades (S1)	ELK Light Device	PLC (X-10) Ref.	Lutron Master Ctrl Buttons
1	A01	Phantom 1	65	E01	Lighting Z1 (S2)	129	I01	Shade Z17 (S1)	193	M01	MC3 All On/Off
2	A02	Phantom 2	66	E02	Lighting Z2 (S2)	130	I02	Shade Z18 (S1)	194	M02	MC4 Btn 1
3	A03	Phantom 3	67	E03	Lighting Z3 (S2)	131	I03	Shade Z19 (S1)	195	M03	MC4 Btn 2
4	A04	Phantom 4	68	E04	Lighting Z4 (S2)	132	I04	Shade Z20 (S1)	196	M04	MC4 Btn 3
5	A05	Phantom 5	69	E05	Lighting Z5 (S2)	133	I05	Shade Z21 (S1)	197	M05	MC4 Btn 4
6	A06	Phantom 6	70	E06	Lighting Z6 (S2)	134	I06	Shade Z22 (S1)	198	M06	MC4 Btn 5
7	A07	Phantom 7	71	E07	Lighting Z7 (S2)	135	I07	Shade Z23 (S1)	199	M07	MC4 All On/Off
8	A08	Phantom 8	72	E08	Lighting Z8 (S2)	136	I08	Shade Z24 (S1)	200	M08	MC5 Btn 1
9	A09	Phantom 9	73	E09	Lighting Z9 (S2)	137	I09	Shade Z25 (S1)	201	M09	MC5 Btn 2
10	A10	Phantom 10	74	E10	Lighting Z10 (S2)	138	I10	Shade Z26 (S1)	202	M10	MC5 Btn 3
11	A11	Phantom 11	75	E11	Lighting Z11 (S2)	139	I11	Shade Z27 (S1)	203	M11	MC5 Btn 4
12	A12	Phantom 12	76	E12	Lighting Z12 (S2)	140	I12	Shade Z28 (S1)	204	M12	MC5 Btn 5
13	A13	Phantom 13	77	E13	Lighting Z13 (S2)	141	I13	Shade Z29 (S1)	205	M13	MC5 All On/Off
14	A14	Phantom 14	78	E14	Lighting Z14 (S2)	142	I14	Shade Z30 (S1)	206	M14	MC6 Btn 1
15	A15	Phantom 15	79	E15	Lighting Z15 (S2)	143	I15	Shade Z31 (S1)	207	M15	MC6 Btn 2
16	A16	B16/17 All On/Off	80	E16	Lighting Z16 (S2)	144	I16	Shade Z32 (S1)	208	M16	MC6 Btn 3
		<b>Security</b>	81	F01	Lighting Z17 (S2)			<b>Zones 2nd Sys as Shades (S2)</b>	209	N01	MC6 Btn 4
		<b>Flash Mode</b>	82	F02	Lighting Z18 (S2)				210	N02	MC6 Btn 5
17	B01	Phantom 1	83	F03	Lighting Z19 (S2)	145	J01	Shade Z1 (S2)	211	N03	MC6 All On/Off
18	B02	Phantom 2	84	F04	Lighting Z20 (S2)	146	J02	Shade Z2 (S2)	212	N04	MC7 Btn 1
19	B03	Phantom 3	85	F05	Lighting Z21 (S2)	147	J03	Shade Z3 (S2)	213	N05	MC7 Btn 2
20	B04	Phantom 4	86	F06	Lighting Z22 (S2)	148	J04	Shade Z4 (S2)	214	N06	MC7 Btn 3
21	B05	Phantom 5	87	F07	Lighting Z23 (S2)	149	J05	Shade Z5 (S2)	215	N07	MC7 Btn 4
22	B06	Phantom 6	88	F08	Lighting Z24 (S2)	150	J06	Shade Z6 (S2)	216	N08	MC7 Btn 5
23	B07	Phantom 7	89	F09	Lighting Z25 (S2)	151	J07	Shade Z7 (S2)	217	N09	MC7 All On/Off
24	B08	Phantom 8	90	F10	Lighting Z26 (S2)	152	J08	Shade Z8 (S2)	218	N10	MC8 Btn 1
25	B09	Phantom 9	91	F11	Lighting Z27 (S2)	153	J09	Shade Z9 (S2)	219	N11	MC8 Btn 2
26	B10	Phantom 10	92	F12	Lighting Z28 (S2)	154	J10	Shade Z10 (S2)	220	N12	MC8 Btn 3
27	B11	Phantom 11	93	F13	Lighting Z29 (S2)	155	J11	Shade Z11 (S2)	221	N13	MC8 Btn 4
28	B12	Phantom 12	94	F14	Lighting Z30 (S2)	156	J12	Shade Z12 (S2)	222	N14	MC8 Btn 5
29	B13	Phantom 13	95	F15	Lighting Z31 (S2)	157	J13	Shade Z13 (S2)	223	N15	MC8 All On/Off
30	B14	Phantom 14	96	F16	Lighting Z32 (S2)	158	J14	Shade Z14 (S2)	224	N16	MC9 Btn 1
31	B15	Phantom 15			<b>Security</b>	159	J15	Shade Z15 (S2)	225	O01	MC9 Btn 2
32	B16	B16 All On/Off			<b>Solid Mode</b>	160	J16	Shade Z16 (S2)	226	O02	MC9 Btn 3
		<b>Zones 1st Sys as Lights (S1)</b>	97	G01	Phantom 1	161	K01	Shade Z17 (S2)	227	O03	MC9 Btn 4
			98	G02	Phantom 2	162	K02	Shade Z18 (S2)	228	O04	MC9 Btn 5
33	C01	Lighting Zn1 (S1)	99	G03	Phantom 3	163	K03	Shade Z19 (S2)	229	O05	MC9 All On/Off
34	C02	Lighting Zn2 (S1)	100	G04	Phantom 4	164	K04	Shade Z20 (S2)	230	O06	MC10 Btn 1
35	C03	Lighting Zn3 (S1)	101	G05	Phantom 5	165	K05	Shade Z21 (S2)	231	O07	MC10 Btn 2
36	C04	Lighting Zn4 (S1)	102	G06	Phantom 6	166	K06	Shade Z22 (S2)	232	O08	MC10 Btn 3
37	C05	Lighting Zn5 (S1)	103	G07	Phantom 7	167	K07	Shade Z23 (S2)	233	O09	MC10 Btn 4
38	C06	Lighting Zn6 (S1)	104	G08	Phantom 8	168	K08	Shade Z24 (S2)	234	O10	MC10 Btn 5
39	C07	Lighting Zn7 (S1)	105	G09	Phantom 9	169	K09	Shade Z25 (S2)	235	O11	MC10 All On/Off
40	C08	Lighting Zn8 (S1)	106	G10	Phantom 10	170	K10	Shade Z26 (S2)	236	O12	MC11 Btn 1
41	C09	Lighting Zn9 (S1)	107	G11	Phantom 11	171	K11	Shade Z27 (S2)	237	O13	MC11 Btn 2
42	C10	Lighting Zn10 (S1)	108	G12	Phantom 12	172	K12	Shade Z28 (S2)	238	O14	MC11 Btn 3
43	C11	Lighting Zn11 (S1)	109	G13	Phantom 13	173	K13	Shade Z29 (S2)	239	O15	MC11 Btn 4
44	C12	Lighting Zn12 (S1)	110	G14	Phantom 14	174	K14	Shade Z30 (S2)	240	O16	MC11 Btn 5
45	C13	Lighting Zn13 (S1)	111	G15	Phantom 15	175	K15	Shade Z31 (S2)	241	P01	MC11 All On/Off
46	C14	Lighting Zn14 (S1)	112	G16	B16 All On/Off	176	K16	Shade Z32 (S2)	242	P02	MC12 Btn 1
47	C15	Lighting Zn15 (S1)			<b>Zones 1st Sys as Shades (S1)</b>			<b>Master Control Buttons</b>	243	P03	MC12 Btn 2
48	C16	Lighting Zn16 (S1)							244	P04	MC12 Btn 3
49	D01	Lighting Zn17 (S1)	113	H01	Shade Z1 (S1)	177	L01	MC1 Btn 1	245	P05	MC12 Btn 4
50	D02	Lighting Zn18 (S1)	114	H02	Shade Z2 (S1)	178	L02	MC1 Btn 2	246	P06	MC12 Btn 5
51	D03	Lighting Zn19 (S1)	115	H03	Shade Z3 (S1)	179	L03	MC1 Btn 3	247	P07	MC12 All On/Off
52	D04	Lighting Zn20 (S1)	116	H04	Shade Z4 (S1)	180	L04	MC1 Btn 4	248	P08	
53	D05	Lighting Zn21 (S1)	117	H05	Shade Z5 (S1)	181	L05	MC1 Btn 5	249	P09	
54	D06	Lighting Zn22 (S1)	118	H06	Shade Z6 (S1)	182	L06	MC1 All On/Off	250	P10	
55	D07	Lighting Zn23 (S1)	119	H07	Shade Z7 (S1)	183	L07	MC2 Btn 1	251	P11	
56	D08	Lighting Zn24 (S1)	120	H08	Shade Z8 (S1)	184	L08	MC2 Btn 2	252	P12	
57	D09	Lighting Zn25 (S1)	121	H09	Shade Z9 (S1)	185	L09	MC2 Btn 3	253	P13	
58	D10	Lighting Zn26 (S1)	122	H10	Shade Z10 (S1)	186	L10	MC2 Btn 4	254	P14	
59	D11	Lighting Zn27 (S1)	123	H11	Shade Z11 (S1)	187	L11	MC2 Btn 5	255	P15	
60	D12	Lighting Zn28 (S1)	124	H12	Shade Z12 (S1)	188	L12	MC2 All On/Off	256	P16	
61	D13	Lighting Zn29 (S1)	125	H13	Shade Z13 (S1)	189	L13	MC3 Btn 1			
62	D14	Lighting Zn30 (S1)	126	H14	Shade Z14 (S1)	190	L14	MC3 Btn 2			
63	D15	Lighting Zn31 (S1)	127	H15	Shade Z15 (S1)	191	L15	MC3 Btn 3			
64	D16	Lighting Zn32 (S1)	128	H16	Shade Z16 (S1)	192	L16	MC3 Btn 4			