

ELK-M1XSP Serial Port Expander

Supplementary Instructions & Release Notes for Firmware Version 50.X.X

This version provides M1 Integration to:
INSTEON ** Lighting Control ONLY **

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Firmware and/or bootware releases contain enhancements and/or resolutions for issues found in previous releases.
For the latest Updates refer to the Elk Website. <http://www.elkproducts.com>

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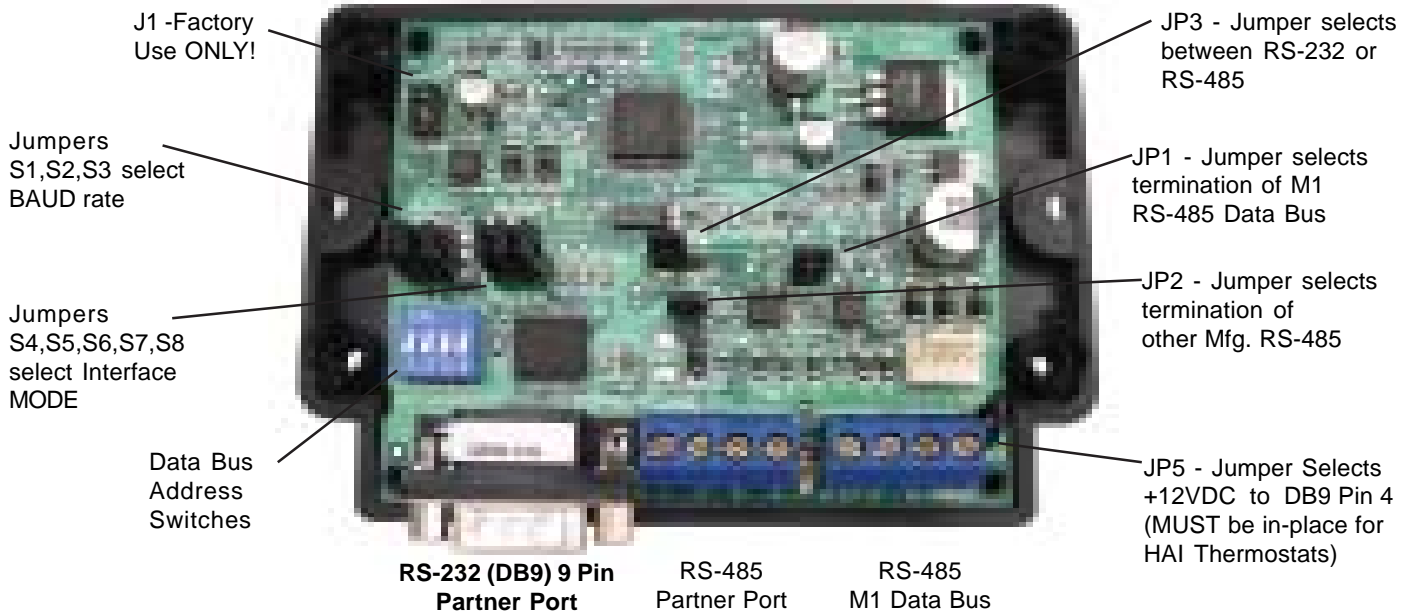


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M1XSP Installation and Setup

INSTALL UNIT * SET ADDRESS AND OPTION JUMPERS * ACTIVATE M1 BUS ENROLLMENT PROCESS



M1XSP Diagnostic LED indicator

Slow blink (1/2 sec.) = Normal communication with M1.

Fast flicker = Communicating with other equipment (Thermostat, Lighting Controller, PC, etc.)

No blink = No communication with M1. Unit might be unplugged or powered off.

1. The M1XSP operates on the M1 Keypad data bus and may therefore be remoted near the equipment being interfaced.
2. Before making any wiring connections, turn Off the M1 Master Power Switch.
3. Connect terminals +12V, A, B, and Neg from the M1XSP to the M1's Keypad Data Bus (terminals +VKP, Data A, Data B, & Neg). **NOTE: Refer to the M1 Installation Manual and the M1DBH information in this manual about proper connections of data bus devices with multiple homerun cables.**
4. There are 4 address switches, each with a position of OFF or ON (binary value 0 or 1) and a decimal equivalent value of (1, 2, 4, or 8). The total decimal value of the "ON" switches equates to the data bus address. As a rule, the first M1XSP should be set to address 1. If more than 1 M1XSP is installed, set each one to a unique (sequential) address (2, 3, etc).

Table 1: Data Bus Address Switch Settings				LEGEND	
<p>Address 1</p>	<p>Address 2</p>	<p>Address 3</p>	<p>Address 4</p>	<p>ON</p> <p>OFF</p>	<p>M1XSP Data Bus Terminating Jumper JP1 Used to engage a 120 Ohm resistor for terminating the M1 RS-485 Data Bus. See Data bus wiring instructions before use.</p>
<p>Address 5</p>	<p>Address 6</p>	<p>Address 7</p>	<p>For an M1XSP the only valid Data Bus Addresses are 1 thru 7 since the max. number of M1XSPs is 7.</p>		

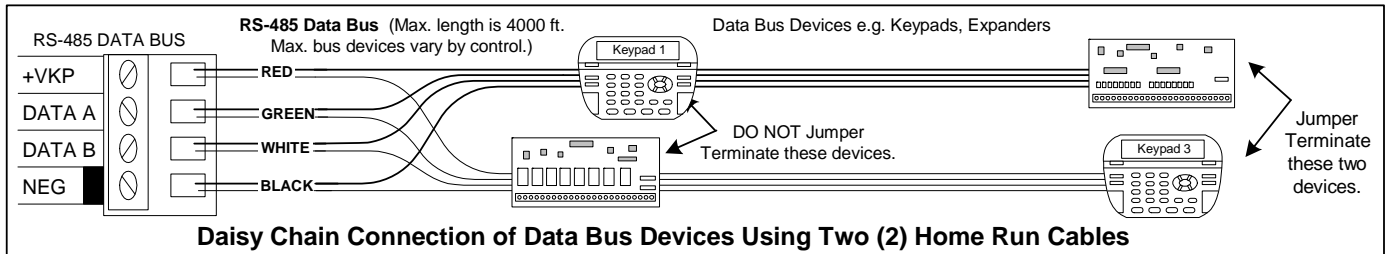
5. Set the "Mode", "Baud", and other necessary jumpers according to the Installation diagrams on previous pages.
6. After all connections are complete, turn On the M1 Master Power Switch.
7. Enroll the M1XSP into the M1 Control. From the Keypad access the Installer level programming and select Menu 01-Bus Module Enrollment. Press the right arrow key to start the enrollment. Once enrollment has completed, press the right arrow key to view results. Enrolled M1XSPs will show up as type 5 (T5) followed by the specific address number.

ELK-M1 Data Bus E.O.L. Termination

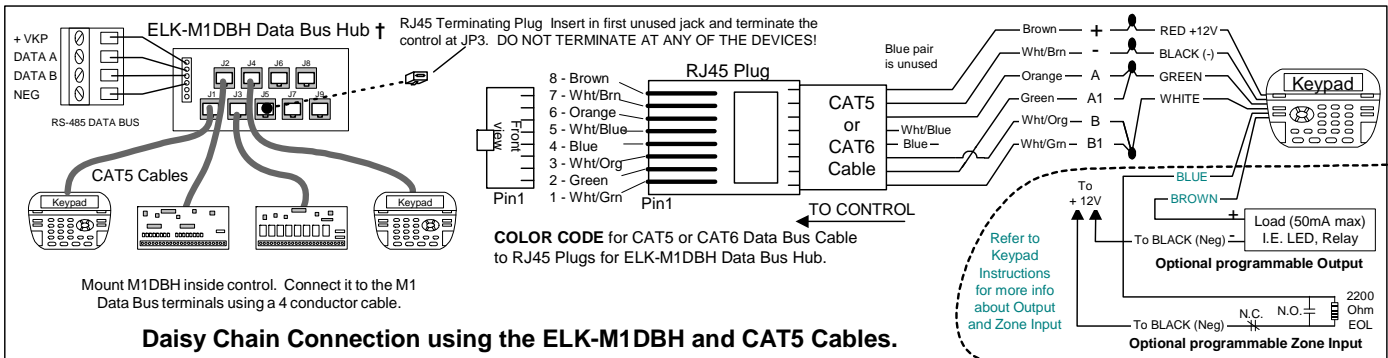
VERY IMPORTANT!

The control uses a RS-485 “differential” data bus operating at 38,400 bits per second. This is relatively high speed by industry standards and ensures fast, accurate communications. EOL data bus terminating resistors are strongly suggested to eliminate the possibility of reflection errors due to varying cable lengths. Every device; keypad, expander, etc. and the control has a built-in bus terminating resistor (120 Ohm) which can be activated via a 2 pin jumper (2 Gold Pins). Two black shorting caps are included in the hardware pack. When one of the shorting caps is placed on the two gold pins, it activates the 120 Ohm terminating resistor across Data Lines A & B. Terminating resistors are marked JP2 on the keypads and JP1 on the expanders. From the factory, no terminating resistors are installed (activated).

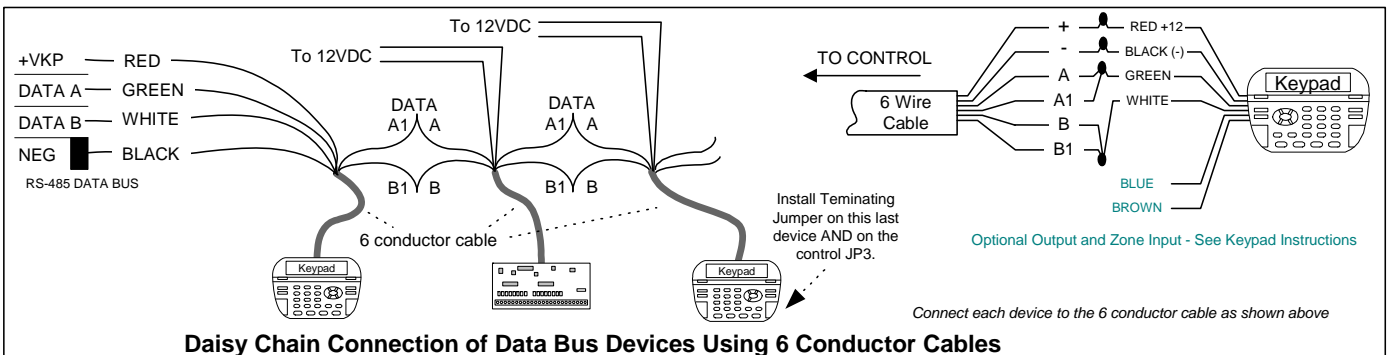
WARNING! The RS-485 Data Bus must NEVER have more than 2 terminating resistors header/jumpers installed.



The M1 should have no more than 2 home run cables but devices can be daisy chained along each. The last device on each home run SHOULD be terminated via the gold 2 pin terminating header/jumper. Placing a shorting cap on the pins will engage a 120 Ohm resistor across data lines A & B. If there is only 1 data bus home run cable then place shorting cap on JP3 of Main Board. See other hookups below.



The optional ELK-M1DBH † Data Bus Hub is suggested if the job must have more than 2 home runs. The M1DBH accepts CAT5 or CAT6 cable with RJ45 plugs. It keeps wires more organized while also providing easy bus termination. Essentially, the M1DBH circuit board daisy chains the devices by series connecting the DATA lines A & B. An plug-in RJ45 terminator is supplied for use in the first unused jack.



Another option for wiring multiple home runs is with 6 conductor cable. This allows devices to daisy chained by making an in and out connection, basically a 3 way splice of the data A (Green) wire to 2 wires of the 6 conductor cable (designated A and A1). Do the same for the data B (White) wire. At the control splice the A1 and B1 wires to the A and B wires going to the next device. Terminate the last wired device and the control JP3 ONLY! The data wires will be in series, but the POS (+) and Neg (-) power wires should be parallel wired to the +VKP and Neg terminals or to an auxiliary Power Supply if the combined current draw exceeds the rated current available from the Control.

INSTEON **** Lighting Control ONLY ****

INSTEON - INSTEON utilizes Powerline Communications (PLC) technology. Numerous device types are available; such as: Light Switches, Lamp Modules, Appliance Modules, Keypad Controllers, etc. A unique feature of INSTEON is the availability of RF signal enhancers or "Bridges" that can extend signal range as well as provide power line signal coupling.

**IMPORTANT! There are 2 methods for interfacing INSTEON with an M1 Control.
Carefully read and understand the following before proceeding.**

Method 1 is to use an **ISY Controller from Universal Devices Inc.** to connect with a **INSTEON Powerline Modem**.

This is a popular and often recommended method as it does not require an ELK-M1XSP AT ALL!!

The ISY connects via IP (LAN) to the M1Control using the Elk M1XEP Ethernet Adapter. Again, no ELK-M1XSP required! The reason this method is so popular is that it provides a more powerful interface with INSTEON, including Computer setup and management of the devices in an easy to use Graphical User environment

Method 2 is to use an ELK-M1XSP Serial Interface to connect with an INSTEON Powerline Modem. See below.

Integration with INSTEON using an M1XSP:

Using the M1XSP an M1 can support up to 192 individually addressable INSTEON Devices and up to 63 Scenes or Groups. Individual addresses 1-192 are mapped into the M1 architecture as lighting devices 1 to 192. Groups 1-63 are mapped in as lighting devices 193-255. For example, to turn on INSTEON Group 1 it would be necessary to turn on M1 Lighting device 193. An attached chart outlines the M1 Lighting devices and their corresponding INSTEON devices.

Limitations with the M1XSP: (With no "third party" hardware/software the following limitations apply)

- INSTEON devices can only be "linked" (learned) into the M1XSP starting at M1 Lighting device 001 (A1). In other words, there is no way to have devices start at a specific location.
- INSTEON devices cannot be removed or re-arranged individually. If it becomes necessary to remove or re-arrange any linked devices the entire memory must be cleared and all devices re-linked (learned) again.
- Once an M1XSP has been linked with INSTEON devices, any updating to the firmware in that M1XSP will cause all memory of linked addresses to be erased, requiring all devices to be re-linked (learned) again.
- INSTEON devices do not initiate a report of their dim level status to the M1. However, they can initiate reports of their full ON or full OFF status changes. Refer to the section titled "Load Status Communications".
- The M1XSP is capable of sending commands to Groups 1 thru 62, but only if you have a way to setup the groups.

A third party hardware/software interface like the Universal Devices Ins. (ISY99) does not have the above limitations.

Setting up the M1XSP and the M1 to communicate with INSTEON

Components required:

- ELK-M1 or ELK-M1EZ8 Controller.
- ELK-M1XSP Serial Port Expander. **The M1XSP must be flashed with firmware version 50.x.x to support INSTEON**
- INSTEON Powerline Modem
- One or more INSTEON lighting devices and/or switches.

1. Install the ELK-M1XSP and set its data bus address per instructions on page 2.
2. Set the M1XSP MODE and BAUD jumpers as follows:
 - S1=1** Is the recommended position. Setting this jumper temporarily to "0" is useful for erasing the INSTEON IDs from the M1XSP memory. See ERASING INSTEON IDs.
 - S2=1** Is the recommended position. Do NOT set this jumper to a "0".
 - S3=1** Is the recommended position. Setting this jumper to "0" enables polling of the INSTEON network for device status. Unfortunately this places a heavy burden on the network and is not generally recommended.
 - S4=1** Is the recommended position. NOTE: Some M1XSPs don't have this jumper at all.
 - S5=0** Is the recommended position. This reserves M1 Lighting devices 193-254 for use with INSTEON Groups 1-63. Setting this jumper to "1" allows M1 Lighting device 193-254 for use with X-10 device codes M01 to P14.
 - S6=1** Normal position for this jumper. Do NOT set this jumper to a "0".
 - S7=0** Normal position for this jumper is "0" which selects compatibility with the INSTEON Powerline Modem. An older and now discontinued Powerline Modem required this jumper to be set to a 1.
 - S8=1** Normal position for this jumper.
3. Set Jumper JP3 to the "232" position. If there is a shorting Jumper plug on JP5 then remove it and discard.
4. Connect a 9-pin serial cable between the M1XSP and serial connector on the Powerline Modem.
5. Power up all the devices and enroll the M1XSP into the M1. **VERY IMPORTANT!**

6. **Update the firmware in the M1XSP to version 50.1.4 (or the latest 50.x.x version).** Download from the Elk website.
7. Use the ELK-RP Software to program the M1 Lighting device attributes for devices 1 through 192 as:
Format = Serial Expander, Type = Dimmer (Type may alternately be On/Off Switch if device does not support dimming).
The first 192 M1 lighting devices may now be "linked" to INSTEON individual addresses.
8. Program the attributes for Lighting devices 193 through 254 as:
Format = Serial Expander, Type = On/Off Switch These 62 lighting devices can be used to control INSTEON Groups.
9. Program the attributes for Lighting devices 255 and 256 as:
Format = Serial Expander, Type = On/Off Switch. Device 255 is reserved for future use. Device 256 is useful for remotely starting and ending the INSTEON "linking" mode. Program the name for device 256 as: **INSTEON LinkMode**. Manually turning device 256 to ON begins the linking mode. Manually turning device 256 to OFF ends then linking mode.

Programming and Linking INSTEON Modules into the M1XSP:

Each INSTEON device has a unique Address ID hardcoded into it. E.G. 00.42.12 Before the M1XSP can send commands to INSTEON devices it must acquire their IDs. This is done by putting both the M1XSP and INSTEON PLM Interface into "linking" mode. During the linking mode each device ID will become mapped to an M1 Lighting Device location in the exact order in which it was linked. I.E. The first linked device will be mapped as M1 Lighting device 1 (A1), the second is 2 (A2), etc. **NOTE:** It is not possible to start INSTEON devices at a chose location. This is only possible with 3rd party, separately purchases hardware/software from such companies as ISY and Powerhome.

1. To start the linking mode:
 - a. From the M1 Keypad press the ELK key followed by the Right arrow key. 1-View/Control Automation Fncts.
 - b. Press the 2 key followed by the right arrow key. 2-Lighting
 - c. Advance to M1 Light number 256 by entering 2 - 5 - 6. Light 256 should be labeled INSTEON LinkMode.
 - d. Turn ON Light 256 by pressing the pound (#) key. The M1XSP will then send a serial command to the M1XSP and PLM Interface and instruct it to begin a 4 minute linking period.

The first device must be linked during this 4 minute time period.

2. Press & hold the link mechanism (LampLinc "SET" button / SwitchLinc "PADDLE") on the INSTEON device to be linked.

NOTE: The 4 minute time period will automatically restart each time a device is linked. At this point it is important to work quickly so that the 4 minute timer does not expire. If the timer does expire it will be necessary to repeat step 1d and restart the timer before proceeding with any additional linking.

3. The light "LOAD" being controlled should flash once or twice as indication that it has become linked.

NOTE: The M1XSP status LED should flash ON 3 times and then OFF for 2 seconds at it receives the linking from each INSTEON device. This blink cadence continues until the linking process is manually ended by step 8. **

4. Release the link mechanism. The LED on the device will return to flashing as an indication it is still in the link mode.
5. ***This step is very important!*** With the LED on the device still flashing, momentarily tap the the link mechanism once and verify that the LED stops flashing. This stops the link mode for this device. Be sure the LED has stopped flashing or else the device will remain in the link mode causing it to be cross linked with future linked devices.
6. Repeat steps 2 thru 5 for each INSTEON device to be learned. Each time this is done, the device will be linked to the next incremental M1 Lighting device number (002, 003, 004, etc.). A written record should be kept for future recall.
7. ***Also important!*** To end the linking process... From the M1 Keypad access the lighting menu just as you did in Step 1, only this time Turn OFF Light device 256 by pressing the pound (#) key. (Pound toggles between On and Off) Ending the linking mode will result in the LED on the M1XSP returning to its normal status blink.
8. Test the operation of each light from the ELK-M1 Keypad utilizing the lighting control menu.

** Optional: You may elect to end the linking process after each new device (using step 5) just so the next linked device will be visually confirmed by the start of the special blink process of the M1XSP. Keep in mind if you elect to do this, the linking process must then be restarted (using step 2) prior to proceeding to the next device.

Factory Defaulting INSTEON Devices

During installation or troubleshooting it may be necessary to factory default one or more devices. For example; multiple devices may inadvertently become cross-linked together, making them turn on together when they should be separate. This is caused by accidentally linking one device while another device is still in the link mode. Consult the instructions that came with the device for steps on factory defaulting, including possibly the INSTEON PLM Interface.

Adding (linking) new or additional INSTEON devices at a later date:

Additional devices can be added "linked" at any time by performing the previous steps. The newly linked device(s) will be associated to the M1 starting with the first empty lighting device locations. The maximum number of devices is 192.

Erasing (unlinking) INSTEON IDs from the M1XSP

Should it ever be necessary to erase the linked INSTEON IDs from the M1XSP memory do the following:

1. Power down the M1XSP
2. Set Jumper S1 = "0" (down)
3. Power up the M1XSP and wait 5 seconds.
4. Power down the M1XSP.
5. Set Jumper S1 = "1" (up) and reapply power to the M1XSP.

NOTE: ALL linked devices are now permanently erased. It is not possible to erase (unlink) individual devices.

Grouping:

Lighting devices 193 to 254 are mapped to control INSTEON "Groups" 1 to 62. Unfortunately, while the M1XSP is capable of sending INSTEON group commands, only special "third party" hardware/software products are capable of setting up INSTEON devices into groups. Without this the M1 can only utilize group #1. To setup Group 1 you have to manually place the INSTEON PLM or PLC Interface into the linking mode and then press the Link mode on the INSTEON device, repeating the whole process for each device to be included into Group 1. M1 can then control Group 1 by turning lighting device 193 On/Off.

Operating BOTH INSTEON and X-10 devices:

It is possible for the M1XSP to communicate with both INSTEON and regular X-10 devices via the PLM Interface. Essentially, on activation of a M1Lighting command the M1XSP (with 50.x.x INSTEON Firmware) will send INSTEON commands for the lighting device numbers that have an INSTEON linked address, and it will send X-10 commands for the lighting devices that do not have an INSTEON "linked" address. This helps eliminate the need for a separate X-10 PSC05 or TW523 Interface. The limitations are this: No X-10 devices should have a House/Unit code that conflicts with any present or future linked INSTEON device locations. INSTEON device linking ALWAYS begins at M1 Lighting device 1 (A01) and ENDS at 192 (L16). When setting the House and Unit codes for X-10 devices we recommend NOT using any of the low range numbers.

Special Option - Jumper S5

With the INSTEON version of the M1XSP in default settings no X-10 House or Unit codes can be programmed in the M1 Lighting device locations 193 (M1) to 256 (P16). This is because these locations are reserved for INSTEON Groups and special commands. But there is a special option (selected by Jumper S5) that will convert this range of device numbers from INSTEON Groups to X-10. See notes below.

Reminder: M1 Lighting devices start at 1 (A01) and go up to 256 (P16). See the chart on the next page.

- N1. M1XSP Jumper **S5 = 0** (factory setting) - The M1XSP supports 62 INSTEON Groups mapped as M1 Lighting device locations 192 to 254. It **cannot** support any X-10 devices using a House/Unit code of M01 or above.
- N2. M1XSP Jumper **S5 = 1** This will disable INSTEON groups and permit X-10 House/Unit codes to occupy M1 Lighting device locations 192 (M01) to 254 (P14). **INSTEON Groups are disabled when S5 = 1.**
- N3. Please note that INSTEON RF Signal Enhancers DO NOT provide phase bridging for X-10 transmissions, nor do they improve or extend the range of X-10 transmissions. A X-10 bridge/coupler is still required for this purpose.
- N4. When controlling INSTEON together with X-10 through the PLM Interface and the ELK-M1XSP it is important to understand that all M1 Lighting Devices should be set as "**Serial Expander**" regardless of whether they are INSTEON or X-10. Do not set the Option box, but be sure to set the Format, Type, Show, and to program an applicable Name.
- N5. Transmitted X-10 commands are limited to On, Off, and Preset Dim (provided the X-10 devices support preset). Received X-10 commands passed from the INSTEON Interface to the M1XSP are limited to On and Off states ONLY.

Load Status Communications:

INSTEON devices can send their On or OFF status to the M1 when a User turns the load On or Off. However, In order for Load Status "On or Off" tracking to be enabled, the LampLinc or SwitchLinc devices must have the Interface's address linked into their database. To do this, activate linking mode at the LampLinc or SwitchLinc by pressing and holding the set button or paddle for 10 seconds. The LED will blink on the LampLinc or SwitchLinc. Now press and hold the set button on the INSTEON Interface for 10 seconds. The LED on the LampLinc or SwitchLinc should go solid to indicate they have been successfully linked to the Interface.

NOTE: INSTEON devices DO NOT initiate a report of their dim level status to the M1 when a device is changed by the User to a new level (eg:100% to 50%), only On or Off. However, the latest M1XSP firmware does send a command to request the level of a switch whenever it hears a switch has been pressed.

INSTEON - (continued)

M1 Lighting Devices Mapped to INSTEON											
ELK Light Device #	PLC (X-10) Ref.	INSTEON	ELK Light Device #	PLC (X-10) Ref.	INSTEON	ELK Light Device #	PLC (X-10) Ref.	INSTEON	ELK Light Device #	PLC (X-10) Ref.	INSTEON
											The PLC column is for reference only.
1	A01	Device 1	65	E01	Device 65	129	I01	Device 129	193	M01	Group 01
2	A02	Device 2	66	E02	Device 66	130	I02	Device 130	194	M02	Group 02
3	A03	Device 3	67	E03	Device 67	131	I03	Device 131	195	M03	Group 03
4	A04	Device 4	68	E04	Device 68	132	I04	Device 132	196	M04	Group 04
5	A05	Device 5	69	E05	Device 69	133	I05	Device 133	197	M05	Group 05
6	A06	Device 6	70	E06	Device 70	134	I06	Device 134	198	M06	Group 06
7	A07	Device 7	71	E07	Device 71	135	I07	Device 135	199	M07	Group 07
8	A08	Device 8	72	E08	Device 72	136	I08	Device 136	200	M08	Group 08
9	A09	Device 9	73	E09	Device 73	137	I09	Device 137	201	M09	Group 09
10	A10	Device 10	74	E10	Device 74	138	I10	Device 138	202	M10	Group 10
11	A11	Device 11	75	E11	Device 75	139	I11	Device 139	203	M11	Group 11
12	A12	Device 12	76	E12	Device 76	140	I12	Device 140	204	M12	Group 12
13	A13	Device 13	77	E13	Device 77	141	I13	Device 141	205	M13	Group 13
14	A14	Device 14	78	E14	Device 78	142	I14	Device 142	206	M14	Group 14
15	A15	Device 15	79	E15	Device 79	143	I15	Device 143	207	M15	Group 15
16	A16	Device 16	80	E16	Device 80	144	I16	Device 144	208	M16	Group 16
17	B01	Device 17	81	F01	Device 81	145	J01	Device 145	209	N01	Group 17
18	B02	Device 18	82	F02	Device 82	146	J02	Device 146	210	N02	Group 18
19	B03	Device 19	83	F03	Device 83	147	J03	Device 147	211	N03	Group 19
20	B04	Device 20	84	F04	Device 84	148	J04	Device 148	212	N04	Group 20
21	B05	Device 21	85	F05	Device 85	149	J05	Device 149	213	N05	Group 21
22	B06	Device 22	86	F06	Device 86	150	J06	Device 150	214	N06	Group 22
23	B07	Device 23	87	F07	Device 87	151	J07	Device 151	215	N07	Group 23
24	B08	Device 24	88	F08	Device 88	152	J08	Device 152	216	N08	Group 24
25	B09	Device 25	89	F09	Device 89	153	J09	Device 153	217	N09	Group 25
26	B10	Device 26	90	F10	Device 90	154	J10	Device 154	218	N10	Group 26
27	B11	Device 27	91	F11	Device 91	155	J11	Device 155	219	N11	Group 27
28	B12	Device 28	92	F12	Device 92	156	J12	Device 156	220	N12	Group 28
29	B13	Device 29	93	F13	Device 93	157	J13	Device 157	221	N13	Group 29
30	B14	Device 30	94	F14	Device 94	158	J14	Device 158	222	N14	Group 30
31	B15	Device 31	95	F15	Device 95	159	J15	Device 159	223	N15	Group 31
32	B16	Device 32	96	F16	Device 96	160	J16	Device 160	224	N16	Group 32
33	C01	Device 33	97	G01	Device 97	161	K01	Device 161	225	O01	Group 33
34	C02	Device 34	98	G02	Device 98	162	K02	Device 162	226	O02	Group 34
35	C03	Device 35	99	G03	Device 99	163	K03	Device 163	227	O03	Group 35
36	C04	Device 36	100	G04	Device 100	164	K04	Device 164	228	O04	Group 36
37	C05	Device 37	101	G05	Device 101	165	K05	Device 165	229	O05	Group 37
38	C06	Device 38	102	G06	Device 102	166	K06	Device 166	230	O06	Group 38
39	C07	Device 39	103	G07	Device 103	167	K07	Device 167	231	O07	Group 39
40	C08	Device 40	104	G08	Device 104	168	K08	Device 168	232	O08	Group 40
41	C09	Device 41	105	G09	Device 105	169	K09	Device 169	233	O09	Group 41
42	C10	Device 42	106	G10	Device 106	170	K10	Device 170	234	O10	Group 42
43	C11	Device 43	107	G11	Device 107	171	K11	Device 171	235	O11	Group 43
44	C12	Device 44	108	G12	Device 108	172	K12	Device 172	236	O12	Group 44
45	C13	Device 45	109	G13	Device 109	173	K13	Device 173	237	O13	Group 45
46	C14	Device 46	110	G14	Device 110	174	K14	Device 174	238	O14	Group 46
47	C15	Device 47	111	G15	Device 111	175	K15	Device 175	239	O15	Group 47
48	C16	Device 48	112	G16	Device 112	176	K16	Device 176	240	O16	Group 48
49	D01	Device 49	113	H01	Device 113	177	L01	Device 177	241	P01	Group 49
50	D02	Device 50	114	H02	Device 114	178	L02	Device 178	242	P02	Group 50
51	D03	Device 51	115	H03	Device 115	179	L03	Device 179	243	P03	Group 51
52	D04	Device 52	116	H04	Device 116	180	L04	Device 180	244	P04	Group 52
53	D05	Device 53	117	H05	Device 117	181	L05	Device 181	245	P05	Group 53
54	D06	Device 54	118	H06	Device 118	182	L06	Device 182	246	P06	Group 54
55	D07	Device 55	119	H07	Device 119	183	L07	Device 183	247	P07	Group 55
56	D08	Device 56	120	H08	Device 120	184	L08	Device 184	248	P08	Group 56
57	D09	Device 57	121	H09	Device 121	185	L09	Device 185	249	P09	Group 57
58	D10	Device 58	122	H10	Device 122	186	L10	Device 186	250	P10	Group 58
59	D11	Device 59	123	H11	Device 123	187	L11	Device 187	251	P11	Group 59
60	D12	Device 60	124	H12	Device 124	188	L12	Device 188	252	P12	Group 60
61	D13	Device 61	125	H13	Device 125	189	L13	Device 189	253	P13	Group 61
62	D14	Device 62	126	H14	Device 126	190	L14	Device 190	254	P14	Group 62
63	D15	Device 63	127	H15	Device 127	191	L15	Device 191	255	P15	Reserved for future use
64	D16	Device 64	128	H16	Device 128	192	L16	Device 192	256	P16	Linking Mode (On/Off)

Updating/Replacing Firmware in the ELK-M1XSP

The M1XSP stores its operating firmware in "Flash" memory. This state-of-the-art memory allows electronic field updates and eliminates the old fashion method of changing IC chips or shipping boards back to the factory. As new firmware updates become available, they will be posted on ELK's website found at www.elkproducts.com. **NOTE: Firmware updating can only be done through the M1 Control using a Direct to PC Com port connection or an optional Ethernet Network connection. Dial-up connections cannot be used to perform firmware updates.**

How to Update:

1. Physically connect the Computer and Control using either the RS-232 Serial Port 0 or the M1XEP Ethernet Interface.
2. Open ElkRP and the account belonging to the control. Click on the Connection menu icon and establish a connection. Use either the **Direct using Com_ OR Network** options.
3. On the Send/Rcv menu icon there is a selection that allows the firmware to be updated.
4. Select the device to be updated. In this case it is a Serial Expander. Select the update firmware option.
5. Display will show: Device name, current Firmware, Hardware, and Bootware version, and a pull down window for selecting the update firmware. NOTE: All update (.bin) files downloaded or received should be stored in a directory on your computer. Refer to the Options tab under the Setup menu in RP. It will indicate what directory is used for the update files.
6. Click on the check box for "Update". If "Reprogram" or "Rollback" is displayed the firmware file is the same as OR older that what is in the control. Reprogramming with the same firmware is a waste of time but was included for factory testing purposes. Rollback is not recommended except under the guidance of Elk Technical Support.

Firmware Release Notes

Version 50.1.4 released Jan 20, 2009

Changes effective with this new application firmware:

NOTE: Updating will ERASE ALL linked Insteon devices!

1. Found and resolved an issue when using a rule to turn on a light for a timed period using the Insteon PowerLinc MODEM. The timer associated with the light would be erased, resulting in the light never turning off.

IMPORTANT REMINDER ABOUT THE POWERLINC MODEM:

For persons using PowerHome's "Elk Insteon Device Loader" there is a new version required for use with this firmware and the Powerlinc Modem (PLM). Refer to Elk's website under Partner Manufacturers page for a link to the PowerHome software.

Version 50.1.2 released Jan 5, 2008

Changes effective with this new application firmware:

NOTE: Updating will ERASE ALL linked Insteon devices!

1. Added support for the new INSTEON PowerLinc Modem which replaced the now obsolete older PLC interface. For at least the time being this version continues to provide support for the obsolete PLC interface.

Version 50.0.28 released June 2, 2008

Changes effective with this new application firmware:

NOTE: Updating will ERASE ALL linked Insteon devices!

1. Found a reported problem of the M1XSP occasionally defaulting itself (erasing all enrolled devices) upon power up. Added a 1 second debounce timer upon power-up before reading the state of Jumper S1.
2. **New feature** - It is now possible to tell the M1XSP to totally ignore X-10 type commands heard from the M1 or from the Insteon PLC by setting Jumper S8 to "0". I.E. X-10 can still travel on the X-10 connector located on the M1G board while Insteon commands travel on the M1XSP without clashing or interfering with one another.

Version 50.0.26 released Mar 9, 2007

Changes effective with this new application firmware:

NOTE: Updating will ERASE ALL linked Insteon devices!

1. Polling for status after a manual switch press - Added a new routine to make the M1XSP poll a device if it detects release of the on or off switch. This should improve the ability for the M1 to get the level (instead of just on and off) of the light after a local switch press.
2. Polling for status after a group command - Added a new routine to make the M1XSP poll devices that were controlled by the group command AS LONG AS the controller sends the group cleanup messages. CAUTION! Not all controllers send the cleanup messages. Also, if another command needs to be sent the cleanup messages are generally discarded.
3. Reports of the M1XSP losing the programmed Insteon ID numbers after a power reset - A modification has been made to the flash memory write routine to provide additional protection against this possibility.
4. Reports of lights changing levels a short period after the light is manually changed - It was found that this could be caused after the PLC receives a group command. A modification has been made to the way the data is parsed which should resolve this possibility.

Version 50.0.22 released June 23, 2006

Changes effective with this new application firmware:

NOTE: Updating will ERASE ALL linked Insteon devices!

1. Added support for "Powerhome" software (available from: <http://www.myx10.com>). Powerhome can now be used for programming and managing Insteon address IDs in the M1XSP. This includes: reading Insteon address IDs from the M1XSP into the PC software, and reading (discovery) of the M1 Lighting device names (text) which are stored inside the M1 by way of the M1XSP. This process requires a direct serial port connection directly from the PC to the M1XSP, temporarily disconnecting the M1XSP from the Insteon Powerline interface.
2. Added a text string "LINK^M" to be transmitted from the M1XSP to the M1 whenever the link mode is activated (lighting device 256 ON) and a valid link is received from the Insteon Powerline interface. This is helpful during the manual linking mode. An M1 rule can be written to blink an output, make an announcement, etc. whenever a new device is linked into the Insteon Powerline interface. Be certain to program this exact text into the ElkRP Automation/Text string locations in order for it to be available in the rules engine.
3. Improved the receiving of certain commands from the Powerline interface during the manual link mode.