



App Note 303

Elk M1 Connection (updated 17-April-23)

To control UPB devices with the ELK M1 security panel you can use the PIM-E as the power line interface. This application note describes another method that instead of the PIM-E uses the “M1 Ethernet (IP) Interface” (ELK part number “ELK-M1EXP”) and the PulseWorx Gateway.

There are several advantages to using the PulseWorx Gateway connected via the optional Elk network interface. These are:

- The M1 is kept up to date as to the status of any device when scene commands are sent by the M1 or by any UPB device in the installation. Using the PIM-E the M1’s status for UPB devices was often incorrect.
- The Gateway can be positioned anywhere a wired network connection is available. This may improve signal propagation in some installations.
- The Gateway can be used by the UPB configuration programs UPStart and PulseWorx-EZ to make changes to the device and scene configuration as needed. The PIM-E can’t be used for that.
- Free mobile apps for iOS and Android are available that directly connect to the Gateway and allow for remote status and control.
- The Gateway has an on-board scheduler that may be easier to use than the Elk facilities for some needs.
- The M1 is limited in the number of devices (192 out of 250) and scenes (64 out of 250) it can control. The Gateway can control all devices and scenes when scheduling and using remote access.

The most important point is that there need to be no changes to the ELK M1 other than the addition of the network interface. Regardless of the firmware version in the M1 this connection works.

NOTE: This is another method to integrate the Elk M1 with UPB Lighting and it involves using the PIM-E. If you are looking for information on that, there is a comprehensive video created by Elk Products that has the information you need. View it on YouTube: <https://www.youtube.com/watch?v=7sVMXCLMC3U>



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Step 1: Use UPStart to get started with the PulseWorx Gateway

UPStart, the UPB configuration program, can use the PulseWorx Gateway as an interface to the power line for control and configuration of any UPB device. Before beginning, you should be familiar with UPStart and the PulseWorx Gateway. The user guides for UPStart and the Gateway are available from the PCS support web site.

UPStart Users Guide

https://cdn.shopify.com/s/files/1/0152/7169/0340/files/UPStartUsersGuide_8_1.pdf

Getting started with UPStart

https://cdn.shopify.com/s/files/1/0152/7169/0340/files/PWX_201_UPStart_For_Beginners.pdf

Gateway Quick Start Guide

<https://cdn.shopify.com/s/files/1/0152/7169/0340/files/PGWQuickStartGuidev1.1.pdf>

Gateway User Guide

https://cdn.shopify.com/s/files/1/0152/7169/0340/files/GatewayUserGuide1_6.pdf

You will also need the latest version UPStart. This can be downloaded from the PCS website.

UPStart Software

- [UPStart Version 8.3 Build 37 for Windows 7/8/10/11](#)
 - [Read Me text file](#)

Step 2: Update the PulseWorx firmware to version 1.12 or later

Before beginning with connecting the Elk M1 to your UPB installation, you may need to update the Gateway firmware to version 1.12 or later. That firmware version has features needed for the integration. An application note is available on how to update the Gateway firmware.

https://cdn.shopify.com/s/files/1/0152/7169/0340/files/PWX_302_Gateway_Firmware.pdf

Step 3: Determine the IP address of the ELK-M1EXP and configure the Gateway to know its address.

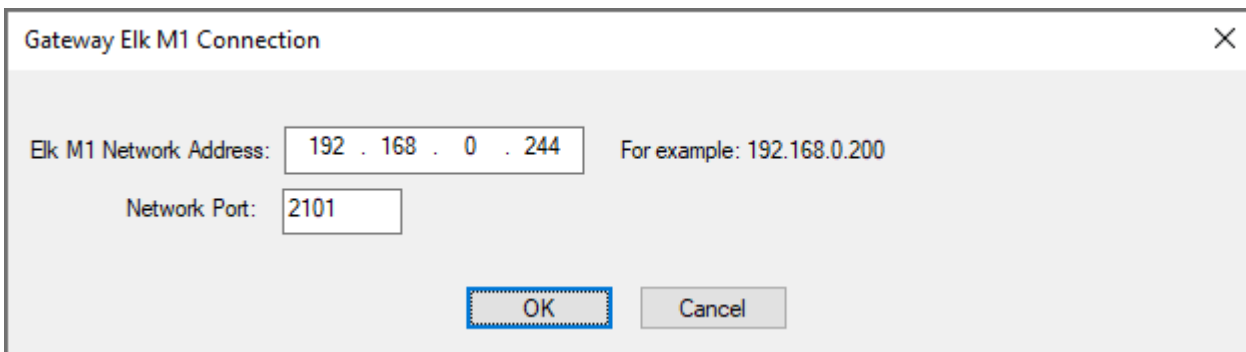
Use whatever method you are familiar with to determine the IP address of the ELK-M1EXP. This could be from the network router device table or other method you are familiar with. Write down the IP address as you will need to tell the Gateway about it.



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At this point, it is also a good idea to utilize whatever feature your router has to ensure that the network interface obtains the same IP address each time on power up. In some routers this is called *IP Reservations*, but other routers have different names. Most routers have this feature somewhere in their configuration.

In UPStart, select the *PulseWorx Gateway* ribbon category and then press the *Elk M1 Connection* button in the *Tools* panel. In the popup dialog, enter the M1EXP IP address. The port should stay at 2101 unless there are changes in the ELK M1.



Step 5: Get the Gateway and the M1 ready

Before you can start to control devices, it is first necessary to use UPStart to export your UPB network design to the Gateway. This is all described in the Gateway User Guide, but the simple operation is to select *Export* from the PulseWorx Gateway ribbon category. This creates the necessary tables in the Gateway so it can track state for your network.

It is also necessary to export your UPB network to a file as that will be needed when using the ElkRP2 software. From the UPStart application menu select *Export* then *Export to File*. Save the .UPE file someplace where you will not lose it.

Set 6: Configure the M1

The M1 side of the configuration is handled using the ElkRP2 software, and instructions for its use can be found on the Elk website.

BIG Very important thing to remember!

When UPStart is connected to the Gateway, the Elk system can't be connected. Before working with the Elk system, it is necessary to disconnect the Gateway from UPStart – press the *Disconnect* button in the *Network* ribbon category or simply shutdown UPStart. If you forget and leave UPStart connected to the



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Gateway, then the control of UPB devices with the Elk system will not work. Once UPStart finishes with the Gateway then the Elk driver will reconnect. The Gateway mobile apps can operate simultaneously with the Elk system.

A few helpful notes on the RP2 software

The Elk system can only control UPB devices with unit numbers from 1 to 192. If you have a unit with an id greater than that the M1 can't control it.

The Elk system can only control scenes with Ids from 1 to 63. Scene 64 is special, and care should be taken with its use. See the Elk documentation on this.

UPStart doesn't normally show unit ids and scene ids as for UPStart you generally don't need to know what they are. You can enable UPStart to show those numbers by opening *UPStart Options* from the application menu and choose the *UPStart Operation* tab. Tick the box next to the option labeled: "*When displayed suffix device names with the unit number. Also suffix scene names with the scene number*".

To import the UPE file into the RP2 software, Right-click on *Lighting* in the *Automation* tree branch and select *Import Lighting Data* from the popup menu.

When constructing an automation in the M1, the "All lights" commands – All Lights On and All Lights Off" can be used. While these commands function correctly with the Gateway driver, the internal state of the Gateway will not be updated correctly to reflect that all devices have gone on or off. If you want this function – all devices on or all off – the recommended method is to create scene in each device to achieve this and have the RP2 automation using that scene rather than the "All lights" command.

ElkRP - C:\ProgramData\RP\ElkAccts2.mdb - Account: Elk Test (Untitled)

File View Connection Send/Rcv Setup Help

Back Forward Up Find Save New Connection Send/Rcv Log Status Print View Help

Lighting

Folder Items

- Account Details
- Users
- Areas
 - Area 1
- Keypads
 - Keypad 01
- Zones (Inputs)
 - Hardwired - Main Bd
 - Wireless Setup
- Cutoff Timers
- Globals
- Telephones
- Communicator
- Automation
 - Tasks
 - Clear all Lighting
 - Import Lighting Data...
 - Send all Lighting
 - Receive all Lighting
- Thermostats
- Texts
- Rules

Device	Name	Format	Type	Opt	Show	Voice Description
1 (A1)	Theater Gear	Serial Expander *	On/off switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2 (A2)	Kitchen Strip L	Serial Expander *	On/off switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3 (A3)	Theater Keypad	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4 (A4)	Kitchen Counter	Serial Expander *	On/off switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5 (A5)	Kitchen Pantry	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6 (A6)	Outdoor East Li	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7 (A7)	Outdoor West Li	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8 (A8)	Outdoor South L	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9 (A9)	Outdoor North L	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10 (A10)	Outdoor Patio L	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
11 (A11)	Outdoor Fans	Serial Expander *	On/off switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
12 (A12)	Theater Lights	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13 (A13)	Library Display	Serial Expander *	On/off switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
14	Library Reading	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
15	Library Bookcas	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
16	Library Desk	Serial Expander *	Dimmer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Click on any cell to change it.

Send to Control

Not Connected

* Select Serial Expander format to communicate with the following lighting products:
UPB, ALC, CentraLite, EDT, Z-Wave, and Insteon.
A separate Elk/Ness Lighting Interface (M1XSP) must be connected and configured for each product.

An "X" under "Show" means that device will be visible on the keypad and other user interfaces.
An "X" under "Opt" eliminates built-in delays between multiple lighting commands. Mainly for connections on Serial Port 0, NOT M1XSP or X10 interfaces.

Right-click the Opt or Show column headers to check/clear all boxes in that column.



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Step 4: Test your work using the “M1 to go” app and local device control

Once you have exported to the Gateway and defined your lighting devices using the Elk configuration software, you should test your work. There is an application available from Elk called “M1 to go” that lets you control lighting devices. You can install that and use it to verify that your UPB devices are controlled.

##end##