

INTRODUCTION

This Application Note describes Stargate-IP and Stargate-Lite support for controlling UPB Powerline devices. These controllers, when connected to the powerline by a UPB Powerline Interface Module, can control a network of up to 250 UPB lighting dimmers and other UPB devices. This application note assumes a working knowledge of UPB and that the UPB devices have been installed and properly configured using the UPStart program (available from PCS or Simply Automated websites).

Support for UPB requires a UPB Powerline Interface Module (PIM), also called a Computer Interface Module (CIM) and a UPB serial adapter and cable. The PIM connects to COM2 or COM3 of the Stargate via the UPB serial adapter cable. Once configured, the UPB devices are fully integrated into Stargate and can be controlled in the same manor as X10 or ALC lighting devices.

Stargate Controllers

NEW Controllers

Stargate-IP and Stargate-Lite controllers shipped with firmware 4.0.0 or later are modified and ready for UPB support. These units are shipped with a UPB serial adapter and cable for connection to a UPB Powerline Interface Module. The UPB Powerline Interface Module is not supplied.

The UPB Powerline Interface Module (PCS PIM) or Computer Interface Module (Simply Automated CIM) are available from various distributors.

NOTE: Your PIM or CIM must be in MESSAGE mode, not PULSE mode, in order for this module to behave correctly. If you are experiencing problems when the PIM or CIM is connected to Stargate, your interface is likely in PULSE mode and needs to be changed to MESSAGE mode. **Simply Automated CIM interfaces ship in PULSE mode**. To change to MESSAGE mode, use the following sequence: 1) Place the CIM in SETUP mode by pressing the program switch (located just above the indicator) five times rapidly using a non-metallic toothpick. The indicator will continuously blink RED. 2) Reset to MESSAGE mode by pressing the program switch ten times. The indicator will continuously blink GREEN. 3) Press the Program Switch twice to exit SETUP mode. **PCS Lighting PIM interfaces (v4.15 and above) ship in MESSAGE mode**. If you happen to have a PCS Lighting PIM in PULSE mode, you can set it to MESSAGE mode using the following sequence: 1) Press the Program pushbutton five times quickly in a row. 2) The LED should start to blink green to indicate it is in setup mode. 3) Press the Program pushbutton ten times quickly in a row. 4) The LED should start to blink red to indicate that factory defaults have been set. 5) Press the Program pushbutton one more time. 6) The LED should stop blinking to indicate that is ready for normal operation.

Older Controllers

Users who have older Stargate controllers (shipped prior to the release of Version 4.00.0) will need to purchase a special UPB adapter cable kit, **Model 001-00729**. This cable comes with an extra power wire that needs to be connected to a source of 12VDC on the Stargate board. See connection diagram.

WinEVM 4.0.0 UPB Device Support

There are important changes with WinEVM version 4.0.0 to support UPB devices. Lighting type devices such as X10, ALC and now UPB are referenced under the more general "**Lighting**" term. The device DEFINE function is now labeled as **Define | Lighting**. This was done to support the more advanced lighting systems such as ALC, UPB, etc., and to allow them to map into the existing WinEVM structure.

There are now 256 "Lighting" devices available for use, numbered 1-256. UPB device ID's use a range from 1-250.

MegaController Lighting Grid

Controlling lighting devices using the WinEVM MegaController grid will require visually mapping the UPB addresses into the current X10 address format display. Refer to Appendix A for a grid map for UPB devices.

X10 Support

The Stargate's X10 power line interface is still functional when using UPB. You can intermix X10, UPB and ALC lighting types in the Define | Lighting grid.

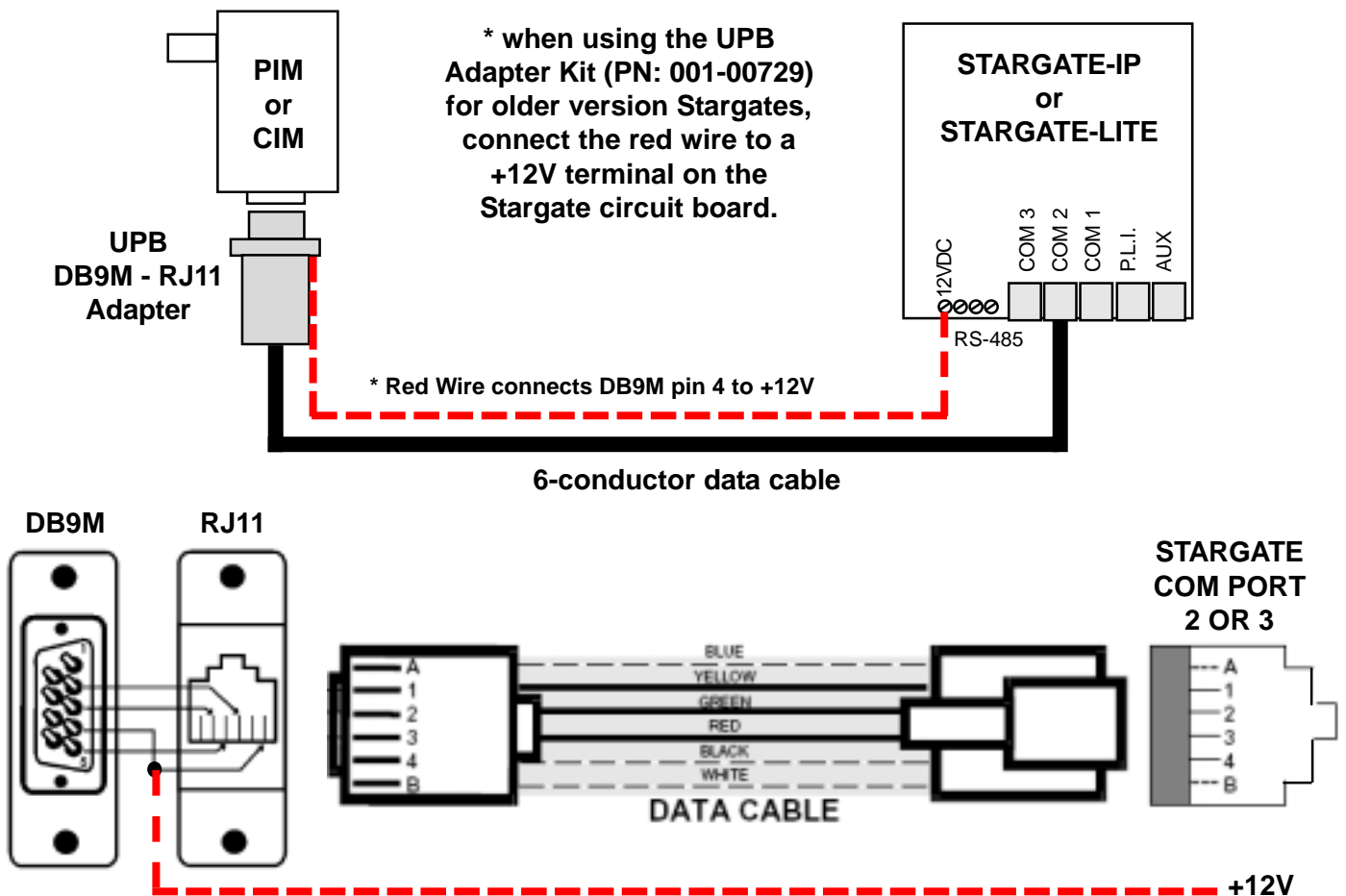
What's Needed

- Stargate-IP or Stargate-Lite controller
- UPB Serial Cable (included with Version 4.0.0 units)
- UPB Adapter Kit p/n 001-00729 (only required for older units) (Not Supplied)
- UPB PowerLine Interface Module - RS232 DB9 version. (Not Supplied)
- UPB Lighting Dimmers or other UPB devices
- UPStart UPB Configuration Software (download from PCS or Simply Automated Websites)

IMPLEMENTATION

HARDWARE

- 1) Setup and configure your UPB devices using the UPStart program. This program is available from either the PCS or Simply Automated web sites. It's essential that UPStart be used; as WinEVM does not attempt to configure the devices, only control them. If you only have one PIM, you will need to move it between the Stargate and your PC as you go from configuring your UPB network with UPStart to controlling your network with Stargate.
- 2) Connect the UPB adapter cable into Stargate's COM2 or COM3 port.
- 3) For older Stargates (3.08.X or earlier), purchase a UPB Adapter Kit (PN: 001-00729). Connect the UPB adapter's external red wire to a source of 12VDC on Stargate. The RS-485 connector's 12VDC terminal is a convenient place to attach this wire. (NOT required for units shipped with Version 4.00.0 or higher)
- 4) Connect the UPB interface cable w/RJ11-DB9M adapter to the PIM.



STARGATE UPB CONFIGURATION

Configuring Stargate controllers for UPB support is a 2-step process. The WinEVM PC program provided with the Stargate controller is used to setup and configure the units for UPB support. The steps are:

- 1) Configuring the Stargate controller to communicate with the UPB Powerline Interface Module
- 2) Defining the UPB Network and Devices.

REMEMBER: You cannot configure the UPB Devices themselves with WinEVM. You must use the UpStart program available from PCS or Simply Automated web sites.

Configuring the Stargate to communicate with UPB Powerline Interface Module

Select Define – UPB System.

Set the following UPB parameters:

Serial Port Used: Select the physical Com port (Com2 or Com3) the PIM is connected to.

Network ID: The Network ID created with the UPStart program.

Link Name: Link names created with the UPStart program.

Import from UPStart: You can also import UPB information (Network ID, Devices, Links) into WinEVM instead of manually entering the information:

- 1) Export the information from the UPStart program – (UPStart) Select **File | Export**. Remember where you place the file on your computer.
- 2) Import the information into WinEVM – (WinEVM) Select **Define | UPB System**, select the **“Import from UPB”** button.
- 3) Navigate to where you saved the file and select it. WinEVM will read in the file, replace the Network ID, any defined Links and any defined devices into the Lighting database.
- 4) Press OK, WinEVM will download the information to Stargate (if connected).

Defining your UPB Devices

- 1) Select **Define | Lighting**. If you have imported a file from UPStart, your lighting devices will automatically be defined. Review the Lighting Define table to confirm the file import was correct.
- 2) If you do not import an UPStart file, then you need to individually select and set the Lighting Device's Type to **“UPB”** for each UPB device you have. The Lighting Devices are numbered 1 to 250. This corresponds to the Unit-IDs used by the UPB devices and set with the UPStart program.
- 3) Press the APPLY button to download the Lighting Device information to Stargate. This step is necessary for Stargate to properly control the lighting devices.

UPB Device Setup

When setting up devices with the UPStart program follow these rules:

1. Limit UPB device names, locations and Link Names to 16 characters as used in WinEVM. WinEVM will only import the first 16 characters.
2. Under the device setup **Options** tab, select the “**Report light level after rocker switch is pressed**” checkbox. This will allow Stargate to track the state when the switch is manually turned on or off.

Device Status When Using Link Commands

UPB devices do not report their status when changed using a Link command. Stargate will not be able to track their state when this occurs. If you need to track the state of a device create an Event that looks for the Link command, then use the “Set State” feature in the Lighting Action to set the device’s state.

TESTING

- 1) Configure a UPB device with UPStart program.
- 2) Connect the UPB powerline interface module to the controller.
- 3) Connect a PC to the controller COM1.
- 4) Start WinEVM and open the MegaController window.
- 5) Click on the MegaController Lighting Grid address location for the UPB device to test.
- 6) UPB lighting dimmers should toggle on and off with each click on the MegaController address location.

TROUBLESHOOTING

If the UPB devices do not respond to commands sent by Stargate, verify the following:

- Serial Port configuration is valid for “UPB” and 4800: N81
- PIM is connected to Stargate (not the PC as required to use UPStart)
- Your Network ID is correct
- All Cables/Connections are still intact
- Run Stargate’s Self-Test* to test COM2/COM3 functionality.

*** NOTE: After the Self-Test you will need to re-download your schedule!**

“TOUT #1” Display in MegaController Log

If you see “TOUT #1” or similar in the Mega Controller log when trying to send UPB commands from the Mega Controller Grid, you may have one of the following problems:

1. UPB com port not defined
2. UPB com port not configured correctly
3. UPB cable not connected or not correctly wired
4. UPB Powerline Interface Module not plugged in or outlet not powered
5. You have an older controller board that requires the UPB adapter cable with the extra red wire to be connected to 12VDC.

Appendix A

WinEVM MegaController Lighting Grid

Lighting Device Address Grid Conversion for UPB Device Addresses

UPB device ID range is 1 to 250

A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
D	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
E	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
G	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112
H	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
I	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144
J	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
K	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176
L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208
N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224
O	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	241	242	243	244	245	246	247	248	249	250	NA	NA	NA	NA	NA	NA

REFERENCES

PowerLine Control Systems, Inc.

19201 Parthenia St., Suite J
 Northridge, CA 91324
 Support: (818) 701-9831
support@pcslighting.com
www.pcslighting.com

Simply Automated, Inc.

5825 Avenida Encinas, Suite 101
 Carlsbad, CA 92008-4401
 Support: 800-630-9234 x138
upbhelp@simply-automated.com
www.simply-automated.com