UPB in Brief: A powerful feature of UPB is its ability to link multiple UPB devices together using the same Link ID so that when a single Link Packet is transmitted, all linked devices will either activate or deactivate. For example, if several lamp modules are setup to respond to Link ID #7, when an Activate command is transmitted using Link ID #7 (either thru a multi-button in-wall controller or a transceiver switch), all the modules will dim to a predetermined dim level thus creating a "scene".

A software utility called "UPSTART" (downloaded free from "pulseworx.com" or "simply-automated.com") is used to setup and configure all transmitting and receiving UPB devices in the home. Each UPB device contain "Receive Components" which determine the way it responds to different Link Packets received (not Direct Packets). Receive Components" will only respond to the Activate or De-Activate command. Switches and wall controllers also contain "Transmit Components" which determine which UPB code it will transmit when a switch or button is pressed. After adding a UPB device to the home network using "UPSTART", its "Receive and Transmit Components" can then be edited or configured; in the menu select Device>>Edit.

Ways to Transmit UPB Codes:
1) Normal way: Using the software utility "UPSTART", setup each button on a transceiver switch or a multi-button in-wall controller to transmit the UPB code that activates the desired scene or intended device. Before programming an IR trigger, test the device by pressing the button to see if the desired event occurs. Note, buttons on some multi-button controllers toggle commands sent each time the button is pressed, meaning if an "Activate" command is sent one time, the next time the button is pressed, a "Deactivate" command is sent; keep this in mind when programming.
In step 3 under **PROGRAMMING AN IR (INFRARED) TRIGGER**, simply press the button to transmit the UPB code to be associated with an IR trigger.

2) Advanced way: In "UPSTART" under the Tools>>Advanced menu, select UPB Explorer which allows one to transmit any code on any Network to any Direct/Link Address. A full understanding of UPB is recommended before using this feature. Since incorrect use can produce negative results, a enable code (try "UPB1") is needed to activate this feature. All numbers used in UPB Explorer are hexadecimal.
For example, to send an Activate command on network 23h to Link Address 04h, check the "LNK" box, type 23 in the "NID" box, type 04 in the "DID" box , type 20 in the "Send" box and press the "Send" button. "NID" stands for Network ID, "DID" stands for Destination ID, unchecking the "LNK" box will send a Direct Address packet, 20h in the "Send" box is the code for the Activate command and 21h is the code for the De-Activate command.
Before programming an IR Trigger, transmit the UPB code using UPB Explorer to test if it produces the desired results.

Dimming and then Stopping a Light to any desired Level:
Programming 3 IR buttons with UPB's "Fade Start" and "Fade Stop" commands can be used to dim and then stop a light at any desired level. In UPSTART, first find the Network ID of the light to be controlled under the Network>>Properties menu. Also note the Unit ID (both the NID and UID are in decimal format). Second, under the Tools>>Advanced menu, select UPB Explorer and un-check the "LNK" box, type the NID (all numbers in UPB Explorer are now hexadecimal) in the "NID" box, type the UID in the "DID" box. The "Fade Start" command causes the light to go to a specified level and contains 3 numbers: 23 for the command, 00-64 for the level and 00-0f for the ramping rate. Typing "23 64 07" in the "Send" box and pressing the "Send" button will set the light to full brightness at a 20 second ramp rate. Typing "23 00 07" will dim the light to off over 20 seconds. Typing "24" sends the "Fade Stop" command to stop the dimming process. Before programming the IR Module with these 3 UPB codes (one to brighten, one to dim and one to stop), test the codes using the "Send" button.

MONTEREY POOL PRODUCTS OCEANSIDE, CA 92056
760 941-3666

PAGE 4

IR to UPB MODULE

Infrared to UPB Interface

INSTRUCTION MANUAL

The *IR UPB MODULE* allows you to transmit any UPB command, triggered by a single incoming IR (infrared) code from almost any hand-held remote controller. Thus your remote controller can be used to initiate a lighting scene by sending a Link command such as when watching TV. Both IR and UPB codes are learned by the *IR UPB MODULE* from external transmitting devices. The procedure is: 1) place the *IR UPB MODULE* in "learn" mode, 2) press any button (preferably an unused one) on the remote controller to transmit an IR code, 3) transmit a UPB code. The next time the IR code is received, the *IR UPB MODULE* will transmit the UPB code. Up to 48 IR/UPB codes can be learned.

CONTENTS

INSTALLING THE IR UPB MODULE:

1   Plug the Computer Interface Module (CIM) into any 120 volt AC outlet. The CIM is what allows communication between the *IR UPB MODULE* and the AC power line. The yellow light on the CIM indicates power and blinks red when receiving a UPB code, green when transmitting.
2   Connect the provided modular cord and DB9-to-RJ11 Adapter between the CIM and the *IR UPB MODULE* .
3   Plug the 12 volt power adapter into any 120 volt AC outlet and it's cord end into the round power jack hole on the side of the *IR UPB MODULE*.
4   On the front face (see Figure 2) the red power/programming light should light upon connection to power. Next to the red light is the window for the IR (infrared) receiver. Make sure this window is in line of sight of the IR remote controller being used.
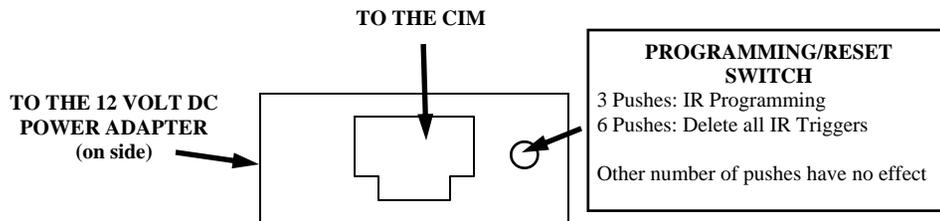
TO THE CIM

TO THE 12 VOLT DC POWER ADAPTER
(on side)

PROGRAMMING/RESET SWITCH
3 Pushes: IR Programming
6 Pushes: Delete all IR Triggers

Other number of pushes have no effect

FIGURE 1: *IR UPB MODULE* REAR PANEL WIRE CONNECTION DIAGRAM

POWER/PROGRAMMING INDICATOR LIGHT:
ON: Normal transmitting mode, power on
BLINKING: In programming mode; waiting for an entry of an IR trigger.
OFF: In programming mode; waiting for an UPB code to be entered (or power off)
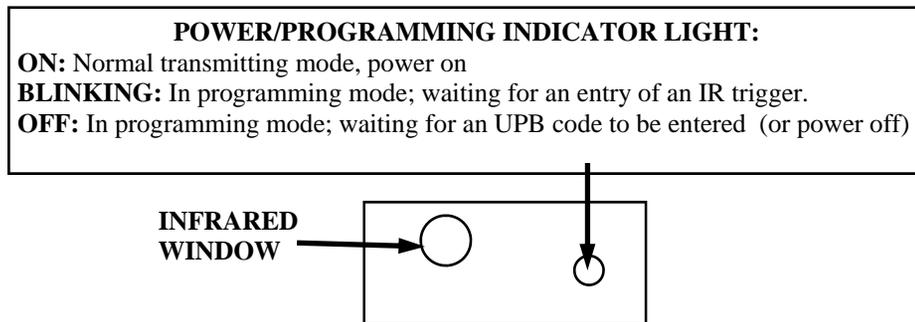
INFRARED WINDOW

FIGURE 2: VIEW OF FRONT FACE OF *IR UPB MODULE*

Testing The CIM & *IR UPB MODULE*:

   Try transmitting an UPB code from any UPB controller. Each time a UPB code is received by the CIM, the yellow light on it will blink red momentarily. If it does not, either the UPB code never transmitted, the UPB signal is too weak due to long distances from the transmitter to the CIM, or the CIM is faulty. Signal bridges near the circuit breaker help considerably.
   When transmitting an UPB code using the *IR UPB MODULE*, the yellow light on CIM Power Line Interface will blink green with every code transmitted. If it does not, the *IR UPB MODULE* may have been programmed incorrectly.

PROGRAMMING AN IR (INFRARED) TRIGGER:

   An IR "trigger" is a term used to describe a received infrared signal that causes the *IR UPB MODULE* to transmit a **single** UPB code. The *IR UPB MODULE* can learn IR codes from most later model IR remote controllers. To have the *IR UPB MODULE* "learn" an IR code as a trigger and then transmit an UPB code, proceed with the following steps:
1   Press the program switch **three** times, wait one second and the red light on the *IR UPB MODULE* will **blink** indicating it is in programming mode.
2   Pick a button on your IR remote (preferably one that is not used), aim the remote at the front face of the *IR UPB MODULE* and press the button. If the IR code can be recognized, the red light will stop blinking and turn off, proceed to step 3. If the red light turns back on, either the *IR UPB MODULE* did not recognize that particular IR code or the CIM is in "Pulse" mode and not in "Message" mode; programming will end. In the 1st case, the transmitted IR code was either corrupted somehow or too complicated; start over with step 1 and try again using the same IR code, or try a different IR code. If the red light continues to blink, this usually means either no IR code was transmitted or it was too weak. In the 2nd case, make sure the CIM is in "Message" mode: press the button on the CIM 5 times & the light will blink red, then press the button 10 times & the light will blink green, then press the button once to finish. Now start over with step 1 above.
3   Now transmit the UPB code to be associated with the IR trigger code (see Ways to Transmit UPB Codes page 4). When received, the red light will turn on again.

Note: when in the IR programming mode, the *IR UPB MODULE* will automatically return to normal playback mode in 4 minutes if no programming activity occurs, the red light will then stop blinking. The CIM has 2 modes: Message or Pulse mode; and must be in Message Mode to operate. If there is a doubt as to which mode the CIM is in, the CIM can be reset to Message mode by first pressing its side button 5 times until the light blinks red, then press the button 10 times until the light blinks green, then press the button 2 times, the light will stop blinking.

Testing The IR UPB MODULE:
Press the button on the infrared remote controller for the IR code just learned while aiming it at the front of the *IR UPB MODULE*. The red light on the *IR UPB MODULE* will blink off momentarily and the UPB code will transmit.

DELETING INFRARED TRIGGERS individually or as whole:
   To delete a selected IR trigger: press the program switch three times to enter the IR programming mode. After the red light starts blinking, transmit from your IR remote controller the IR trigger to be deleted. After the red light stops blinking and turns off, press the program switch three times to exit the IR programming mode.
   To delete all IR triggers: press the programming switch **6** times. The red light will blink off momentarily to indicate all IR triggers have been deleted.

Note: If the IR trigger being programmed already exists in memory, the UPB code associated with the IR trigger will be overwritten with the new UPB code. If memory is full, the oldest IR trigger is used next for programming.