

Application Note

Controlling an iPlayer 2 from a Lutron Homeworks Interactive System

Last update: 13 December 2001

The Color Kinetics iPlayer 2 can be easily interfaced to the Lutron (www.lutron.com) HomeWorks Interactive® (HWI) system via an RS-232 serial connection. Through this interface the HWI system can command the iPlayer 2 to switch between up to 225 different shows, as well as set the overall brightness level. This application note describes the hardware requirements and configuration parameters for the HWI system.

Hardware

Any RS-232 communication link on the HWI system can be used to interface to the RS-232 serial port on the iPlayer 2. Typically link 7 is used for interfacing to external equipment.

Both the HWI and the iPlayer 2 have female DB9 connectors, so you will need a male-male cross over cable. The pinout is:

DB9M	DB9M
2	3
3	2
5	5

The other pins are not used.

One simple way to achieve this wiring is to use two adapters from Radio Shack connected end to end: RS-231 *Male DB9 to Male DB9 Gender Adapter* and RS-264B *Female DB9 to Male DB9 Null Modem Adapter*.

Note: Jumper JP1 inside the iPlayer 2 should be removed for proper operation. JP1 is located directly behind the DB9 connector. JP1 only needs to be installed when using the Color Kinetics Controller Keypad (it provides power to pin 4 of the DB9 connector).

Configuring Device Driver

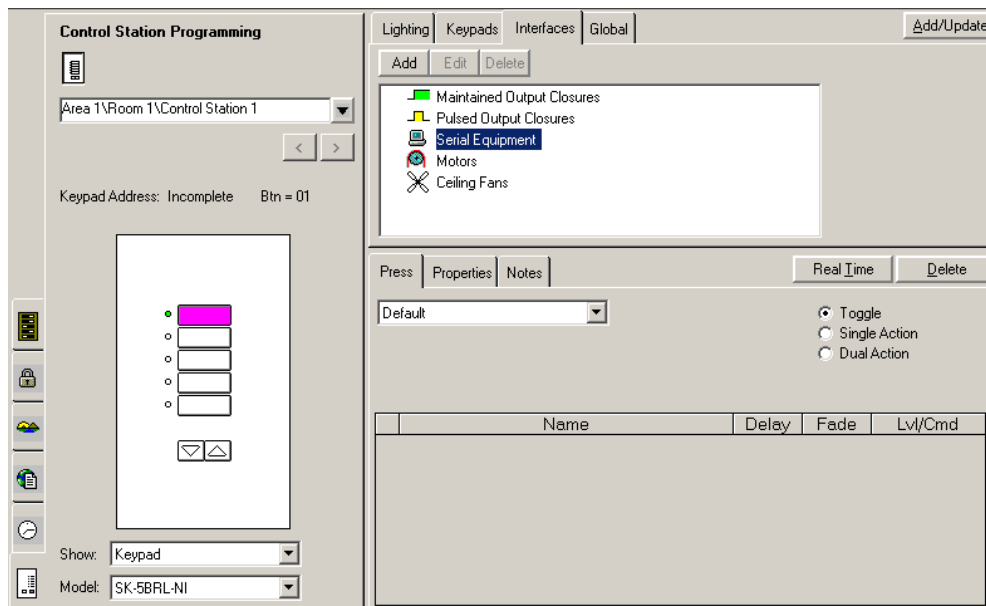
Prior to programming iPlayer 2 functions on the HWI you must first configure the HWI software to communicate properly with the iPlayer 2. The following steps illustrate how this is done.

1. Obtain a copy of the iPlayer 2 Device Driver. This HWI specific file defines iPlayer 2 commands and their corresponding RS-232 serial strings. Don't confuse this file with the Windows operating system device driver.

The device driver file is a simple Excel spreadsheet. If necessary you can edit this file to define additional commands (to access more shows, for example). Refer to the "iPlayer 2 Serial Protocol" application note for the format of the commands.

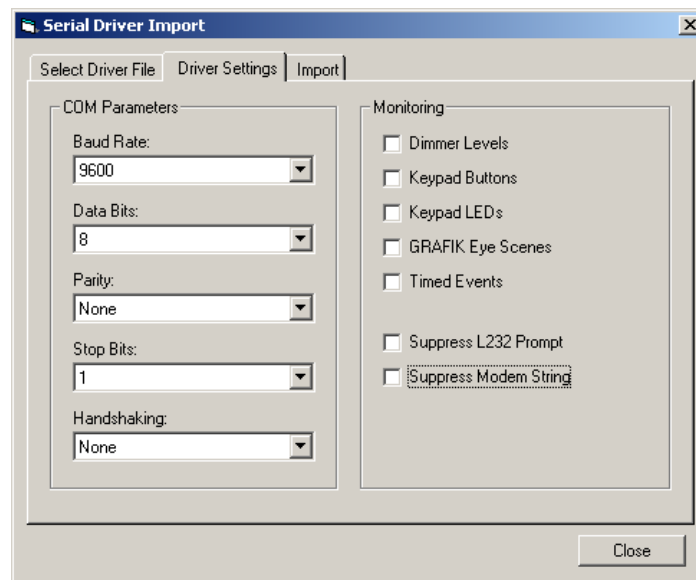
You can download a copy of the device driver from: <http://www.colorkinetics.com/support/appnotes/iplayer/lutron-hwi/ColorKinetics-iPlayer2.xls>. Save this file on your PC.

2. Start the HomeWorks Interactive program and open your project. Enter the "Programming" view.
3. Select the "Control Station Programming" tab on the left of the window, and the "Interfaces" tab on the top.



4. Select "Serial Equipment" from the list of interfaces. Click the "Add" button.

5. In the Serial Output Definition window enter "Color Kinetics iPlayer 2" in the Name field. Click the "Driver List" button.
6. In the Driver Commands window click the "Global Drivers" button. Then click the "Import From Excel" button.
7. In the Serial Driver Import window start with the Select Driver File tab. Select the "ColorKinetics-iPlayer2.xls" file that you downloaded in step 1.
8. Move on to the Driver Settings tab. Set the COM parameters to 9600 baud, 8 data bits, no parity, 1 stop bit, and no handshaking. Un-check all of the Monitoring bits.

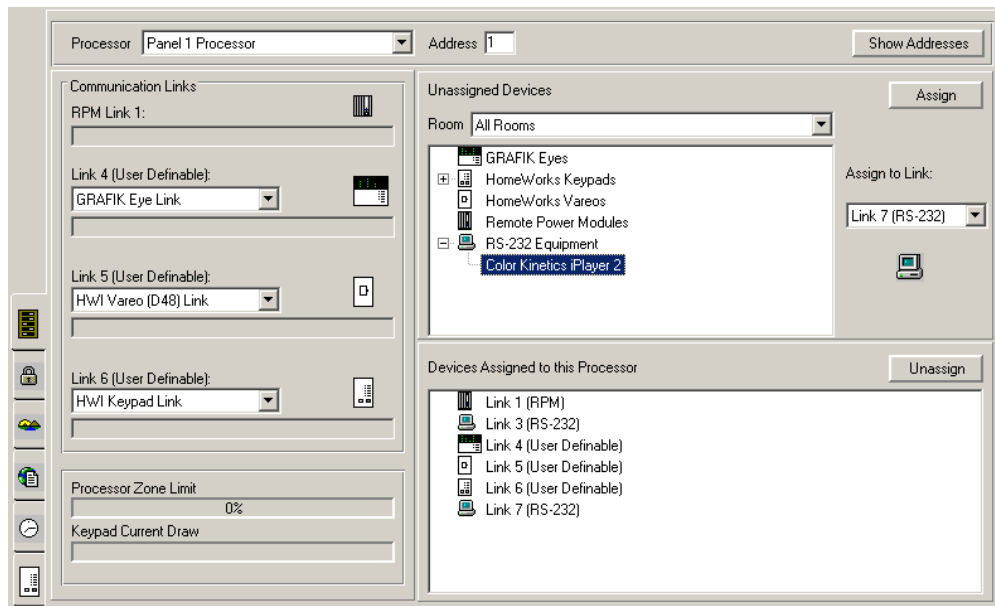


9. Move on to the Import tab. Enter "Color Kinetics iPlayer 2" in the Driver Name field. Click the "Import" tab. The driver should now be loaded. Click the "Close" button to dismiss the window.
10. Back in the Driver Commands window, select "Color Kinetics iPlayer 2" from the right side Global Driver List, then click "<< To Project" button to make the driver available to the project. Click the "Close" button to dismiss the window.
11. Finally, back in the Serial Output Definition window, select "Color Kinetics iPlayer 2" from the pull-down list of drivers. Click "Ok." The iPlayer 2 should appear as an available interface under Serial Equipment.

Assigning iPlayer 2 to HWI link

The HomeWorks Interactive software now has the information on how to communicate with the iPlayer 2. The next step is to assign the iPlayer 2 to a link on the HWI processor, by following these steps:

1. Still in the Programming view, select the Processor tab on the left side of the window (the dip switch icon).
2. In the Unassigned Devices list, open RS-232 Equipment and select the iPlayer 2.
3. In the "Assign to Link" drop down list (just to the right of the Unassigned Devices list) select "Link 7 (RS-232)."
4. Click the "Assign" button.



Programming iPlayer 2 actions

At this point you are now ready to program HWI actions such as button presses or time clock events to trigger the iPlayer 2. This is also done in the Programming view, back in the Control Station Programming tab. Here is one example, programming the first button on a keypad to select iPlayer 2 show number 1:

1. Select the appropriate control station from the pull-down list, then highlight the button you want to program.
2. Select the Interfaces tab.

3. Choose the iPlayer 2 interface (under Serial Equipment).
4. From the Command/Level pull-down list select the iPlayer 2 command – in this case “Set Show 1.”
5. Click the “Add/Update” button in the top right of the window.
6. The button is now programmed!

