Application Note:

Interfacing HAI Omni Controllers with CentraLite® JetStream™

Overview

This application note describes the equipment and setup needed to interface an HAI Omni LT, Omni II, or OmniPro II system with a CentraLite JetStream system. The interface is made via a RS-232 connection between the HAI controller and the JetStream RS-232 Bridge using HAI Part No. 36A05-4.

 The communication is bi-directional meaning that the HAI system can control CentraLite functions and HAI can react to CentraLite commands.

Equipment Required
- JetStream lighting control system
- JetStream RS-232 Bridge
- JetStream USB Bridge
- HAI Omni II, Omni LT, or Omni Pro II (www.homeauto.com)
- HAI 36A05-4 Serial Connectivity Cable (connects the HAI Controller's RJ11 port to the CentraLite RS-232 Bridge DB9 port).
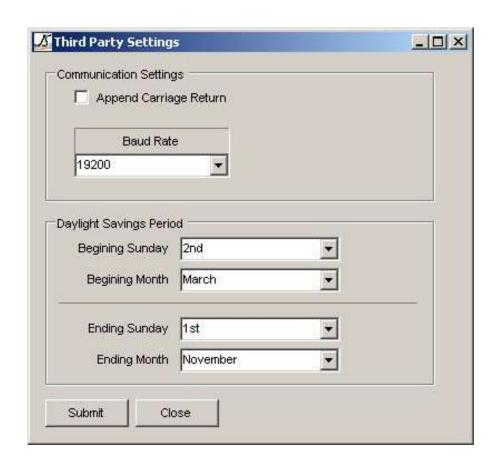
Hardware Setup

The first step in interfacing the two systems is connecting the hardware properly. You must use a HAI 36A05-4 serial connectivity cable. This is a RJ-11 to DB9 adapter cable with the following pin out:

RJ11	DB9
1	5
2	N/C
3	3
4	2

Connect the cable between the CentraLite third party port (DB-9) and the HAI on-board serial ports (RJ-11)

NOTE: The Maximum Baud rate on the Omni system is 9,600. The default Baud rate on the JetStream system is 19,200. You **MUST** set the JetStream RS-232 Bridge third party port to a baud rate of 9,600 baud for the communication to work.
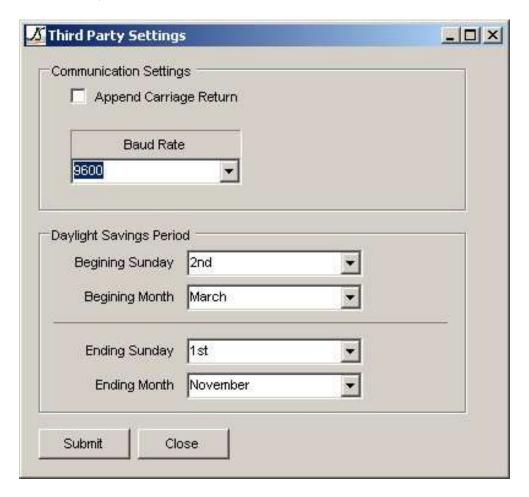
Setting the Baud Rate on the JetStream RS-232 Bridge

Your JetStream RS-232 should already be installed and joined into the JetStream network. If you have not completed the installation process for your RS-232 Bridge, please follow the installation procedure as documented in the JetStream RS-232 User's Guide before attempting to connect to the HAI system.

To set the baud rate on your JetStream RS-232 Bridge, you will need to plug in your USB Bridge to your PC and begin the JetStream programming software.

1.   Select the RS-232 Bridge in the Device List on the left hand side of the JetStream Software.
2.   Click on the "Settings" button in the middle of the page.
3.   Click on the Drop down arrow next to Baud Rate and select 9600.
4.   Then, click the "Submit" button.

HAI Omni System Setup

There are two changes that need to be made in order for the HAI controller to communicate with the CentraLite System. First the on-board serial port module must be set up to use the CentraLite Protocol (Type 9). Then the House codes need to be changed to CentraLite (Type 6).

The on-board HAI serial port must be configured to use the CentraLite protocol.

From an Omni Keypad:
- -Press #(Menu)
- -Press 9(Setup)
- -Enter Installer Code
- -Press #(Inst)
- -Press 7(Exp)

> -Select Appropriate Expansion Module
> -Set Module to CentraLite (9)
> -Press # to enter
> -Scroll Down to Serial 1, 2, or 3 Rate and Verify 9600 Baud
> -Press *(Exit)

Changing House Code from Main Menu on Keypad:

- -Press #(Menu)
- -Press 6(MISC)
- -Press #
- -Scroll Down to CentraLite (6)
- -Press # to enter code.

> **Note:** **The default setting for HC 1-16 Format is 1. Note: Only HC 1-12 can be used for CentraLite.**

The Omni should now be configured to communicate with the CentraLite system. Refer to following Appendix for programming instructions.

Appendix I:
Taken From the HAI OMNI PRO II Firmware 2.10 Manual

Controlling CentraLite Units

Use the control menu when controlling CentraLite loads and relays. To enter the control menu, from the top-level display or from the main menu, press the 1 (CTRL) key on the console keypad. OmniPro II will automatically display the first named item in that list. Use the down arrow key to scroll through the list.
After the unit has been selected, press the ' # ' key. For CentraLite units, the console will display:

```
Entry Lights
0=OFF 1=ON 2=DIM 3=BRT ↓

Entry Lights
4=LVL 6=RMP 9=TIM #=STA↑
```

Press the 0 (OFF) to turn the selected unit off or the 1 (ON) key to turn the selected unit on.
The 2(DIM) key and 3 (BRT) key does not affect CentraLite units.
Press the 4 (LVL) key to set the desired lighting level of the selected unit. Enter a number (0-100) to indicate the lighting level (intensity) of the unit.
The 6 (RMP) key does not affect CentraLite units.
Press the 9(TIM) key to time the selected unit (On or Off). Timed commands may be from 1-99 seconds, 1-99 minutes or 1-18 hours.
Press the # (STA) key to see the status (On or Off) of a CentraLite device.

```
Entry Lights
STATUS ON
```

All On / Off
CentraLite devices are not affected by the OmniPro II "All On" or "All Off" command. To achieve this functionality, HAI suggests that you program the "All On" and "All Off" macro to execute All On Scene and All Off Scene on the CentraLite.
If the "House Code All On" or "House Code All Off" setup item is set to "Yes", OmniPro II will change the status of each unit on that House Code according to the setting. If House Code All On is set to "Yes", OmniPro II sets the status of all units on that House Code to "On"(even though it doesn't explicitly send an All On command to those units). If the "House Code All On" or "House Code All Off" setup item is set to "No", OmniPro II will not change the status of each unit on that House Code.

Executing CentraLite Scenes
OmniPro II can turn on and turn off each of the 100 possible CentraLite Scenes. To issue CentraLite Scenes commands, from the top-level display or from the main menu, press the 4 (ALL) key on the console keypad, and then press the 5 (CENLIT)key. You are prompted to enter a Scene (1-100).

```
ENTER SCENE:
1-100
```
Enter the CentraLite Scene number (1-100) followed be the ' # ' key.
```
CENLIT SCENE 1
0=OFF 1=ON
```

When a CentraLite Scene is turned on, all of the devices that are pre-programmed for that scene will go to their preset light levels. When a CentraLite Scene is turned off, all of the devices that are pre-programmed for that scene will turn off.

Programming CentraLite

OmniPro II can be programmed to run macros when a button is pressed on a CentraLite keypad. Likewise, OmniPro II can be programmed to control CentraLite loads and relays (on, off, and setting to a specific level) and execute a CentraLite Scenes.

Edit Programs When

Selecting the 1(WHEN) key, from the *Edit Program* menu, allows button/event activated programs to be created. The display shows:

```
EDIT WHEN
1=TIMED 2=BUTTON
```

Selecting 2 (BUTTON), from the "Edit When" menu, sets up a program to be activated when a macro button is executed or an event occurs. The user is prompted to specify the button/event that activates the program:

```
BUTTON:
ENTER BUTTON #=MENU ↓
```

To program specific event buttons(i.e. when a button is pressed on a CentraLite keypad), press the ' # ' key to bring up a menu of event button types:

```
BUTTON TYPE
1=CTRL 2=SEC 3=ZONE ↓

4=ALL 5=ALARM 6=X-10
7=MISC 8=MSG 9=SWITCH ↑
```

Switch Press Event Buttons (9=SWITCH):

When a button is pressed on a CentraLite keypad, the "When Switch"program is activated. Press the 9 (SWITCH) key to select the "When Command" for a switch pressed activated event.   You are first prompted to enter the switch number:

```
SWITCH NUMBER:
1-127 ↓
```

Enter the switch number followed by the ' # ' key.

Edit Program Command

Selecting 2 (CMD), from the *Edit Program* menu, allows the commanded action for the program to be specified. The following menu is displayed:

```
1=CONTROL 2=SECURITY

3=BUTTON 4=ALL

5=TEMP 6=ENERGY 8=MESSAGE ↑
```

Program Control Commands (1=CONTROL)

Press the 1 (CONTROL) key to control a CentraLite device. If a CentraLite unit is selected:
```
Porch Light (Unit Name)
```

```
0=OFF 1=ON 2=DIM 3=BRT ↓
```

```
            Porch Light (Unit Name)
            4=LVL 6=RMP 9=TIM #=STA↑
```

Specify the desired program command - See **Controlling CentraLite Units** in this document.

Program CentraLite Scene Commands (4=ALL)
OmniPro II can execute a CentraLite Scene command to set a lighting scene. Press the 4
(ALL) key to execute a CentraLite Scenes command.

```
            ALL
            0=OFF 1=ON 2=SCN 3=LINK↓
            ALL
            4=PHANTOM 5=CENLIT ↑
```

When 5 (CENLIT) is selected:

```
            ENTER SCENR
            1-100
```

Enter a CentraLite Scene between 1 and 100, and then press the ' # ' key.

```
            CENLIT SCENE 1
            0=OFF 1=ON
```

When this program is activated, the corresponding CentraLite Scene command is
executed.