

Using Sylva IO-808I-U Boards with HomeVision

Sylva Control Systems makes a series of input/output boards that can be used with HomeVision. These boards provide 8 relay outputs and 8 opto-isolated inputs. Sylva has made three different versions over the years that work with HomeVision. These are:

- **IO-808I.** This is the original version. It connects to HomeVision through the HomeVision Multifunction Expansion Board using a short ribbon cable.
- **IO-808I/485.** This version connects to HomeVision through an add-on HomeVision-Serial RS485 port. This allows the IO-808I/485 board to be located a long distance from the HomeVision unit.
- **IO-808I-U.** This is the newest version and incorporates the capabilities of both of the earlier boards. It can connect to the HomeVision Multifunction Expansion Board or a HomeVision-Serial RS485 port. It can also be controlled from an RS232 port, although HomeVision doesn't directly support this capability.

Sylva provides documentation with the IO-808I-U board, which you should read (although you can ignore the "Serial Protocol" section, as HomeVision takes care of this automatically). This application note provides more specific details on using the IO-808I-U board with HomeVision.

The setup process depends on whether you're connecting to the Multifunction Expansion Board or a HomeVision-Serial port, as detailed below.

Multifunction Expansion Board Connection

In this mode, the IO-808I-U board connects to the HomeVision Multifunction Expansion Board through a 10-pin ribbon cable. The IO-808I-U documentation refers to this as the "I2C" mode. To use this mode, make the following connections/settings on the 808I-U board:

- Connect a 12VDC power supply to the corresponding terminal block.
- Use the address jumpers AD0, 1, 2, and 3 to set the board's address, as follows:
 - Address 0: All jumpers removed
 - Address 1: Jumper 0 installed
 - Address 2: Jumper 1 installed
 - Address 3: Jumpers 0 and 1 installed
- Remove the jumper labeled "I2C" (located right below the address jumpers).
- Remove the jumper labeled "DLY" (located right below the I2C jumper).
- Install the "Reset Cnfg" jumper on the "I2C" side.

Connect the 10-wire ribbon cable to Multifunction Expansion Board connector H2 "I/O Board". Be sure to align pin 1 on the connector with the red wire on the cable. Plug the other end of the cable into either of the 10-pin connectors on the IO-808I-U board. Note that pin 1 (the red wire) goes towards the left edge of the board. If you have multiple IO-808I-U boards, you can chain them together. Use 10-wire ribbon cables to connect the first board to the second board, the second board to the third board, and so on.

You will also need to configure the HomeVision software. In the software, open the Expansion Board Configuration Screen located under the "Configure" menu. Select the "Sylva I/O Boards" tab, then place a checkmark next to the board(s) installed. Select the "Expansion Port" option.

HomeVision-Serial RS485 Connection

In this mode, the 8O8I-U board connects to the HomeVision-Serial RS485 port. To use this mode, make the following connections/settings on the IO-8O8I-U board:

- Connect a 12VDC power supply to the corresponding terminal block.
- Use the address jumpers ADO, 1, 2, and 3 to set the board's address, as follows:
 - Address 0: All jumpers removed
 - Address 1: Jumper 0 installed
 - Address 2: Jumper 1 installed
 - Address 3: Jumpers 0 and 1 installed
- Install the jumper labeled "I2C" (located right below the address jumpers).
- Remove the jumper labeled "DLY" (located right below the I2C jumper).
- Install the "Reset Cnfg" jumper on the "Power Up" side.
- Install the two "Serial Cnfg" jumpers vertically from the middle pins to the lower pins.

Connect the IO-8O8I-U board(s) to HomeVision-Serial. Follow the process described in the "RS-485 two-wire (half-duplex) mode" section of the HomeVision-Serial documentation. The connections are summarized below:

- Connect the HomeVision-Serial TXA position to the IO-8O8I-U board's "RS485 S-" position
- Connect the HomeVision-Serial TXB position to the IO-8O8I-U board's "RS485 S+" position
- Connect the HomeVision-Serial TXA position to the HomeVision-Serial RXA position
- Connect the HomeVision-Serial TXB position to the HomeVision-Serial RXB position
- Connect the HomeVision-Serial Ground position to the IO-8O8I-U board's "G" position (next to the 485 connections). This is required so both boards share the same ground.

The first two connections connect HomeVision-Serial to the IO-8O8I-U board, while the next two tie the HomeVision-Serial transmit and receive lines together (which is required for a two-wire RS-485 connection). If you have more than one IO-8O8I-U board (you can have a maximum of four), connect each to the HomeVision-Serial TXA and TXB positions.

You will also need to configure the HomeVision software as follows:

- Open the Expansion Board Configuration Screen located under the "Configure" menu. Select the "Sylva I/O Boards" tab and configure the Sylva board(s) as follows:
 - Check each board that you are using
 - Select the "Serial Port" option for the "Board connection method"
 - Select the HomeVision serial port the board(s) will be connected to. Each of the four possible HomeVision serial ports is identified by a unique port number, as follows:

- HomeVision built-in port (RS-232):	Port 1
- HomeVision-Phone/Serial port (RS-232):	Port 2
- First HomeVision-Serial port (RS-232 or RS-485):	Port 3
- Second HomeVision-Serial port (RS-232 or RS-485):	Port 4
- Select the "Other" tab and configure the HomeVision serial port as follows:
 - 9600 baud (this is what the IO-8O8I-U boards use)
 - Timeout: None
 - Half-duplex (485 two-wire) mode
 - Board version: Either I or II, depending on which version you have. Note that if your HomeVision-Serial documentation doesn't mention a board version, then it's the earlier version, I.

