

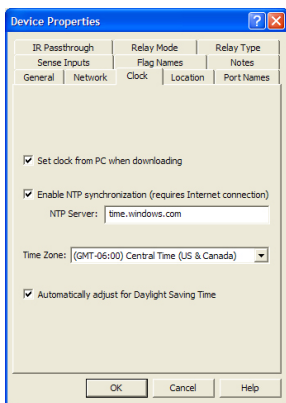


Programming Events with XP-8 Processor

The XP-8 Advanced Control Processor allows for commands to be sent to equipment based on the status of the sensing inputs as well as for timed events using the built-in astronomical clock. All RTI handheld and in-wall products can communicate with the XP-8 processor to take advantage of the event control options. This document will illustrate the various event control options available when incorporating an XP-8 processor into a system. *Note that you must be using Integration Designer to program the XP-8 processor.*

XP-8 Clock Setup

1. Add XP-8 System Processor to the System Workspace of Integration Designer.
-Right click on XP-8>Select "Properties"

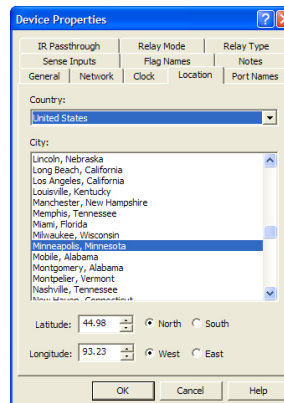


-Select "Clock"

-By default, the astronomical clock will be set automatically during programming download.

-If the XP-8 is connected to the Internet, an NTP Server will be periodically contacted to ensure accurate time keeping.

-Be sure to set correct time zone information for your area.



-Select "Location"

The XP-8 allows for events to occur at sunrise and/or sunset. These events will occur at different times, based on the actual location of the XP-8, therefore it is important to enter the precise location of the XP-8 installation.

Option 1: Choose a country and city from the list included in the software. If your city is not listed, it is acceptable to choose a nearby city (within roughly 50 miles).

Option 2: Enter the exact latitude and longitude of your city. (Tip: Here's a website that can help you quickly locate your exact coordinates: <http://www.satsig.net/maps/lat-long-finder.htm>)

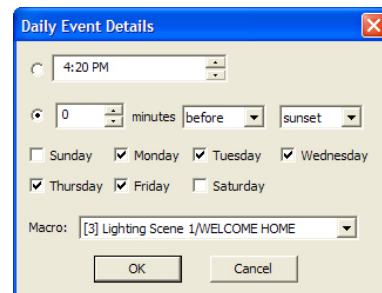
Timed Events

Adding Events: Daily Event

A daily event can occur at a specified time or at a time interval in relation to sunrise or sunset, on any or all days of the week. An unlimited amount of daily events may be programmed into a single XP-8 processor.

To Create a Daily Event:

- Step 1: Create System Macro on XP-8 Processor
- Step 2: After completing System Macro, Click "Add Event">"Add Daily Event"
- Step 3: Select for event to occur at a specified time, or in relation to sunrise or sunset.
- Step 4: Select days of the week for event to occur
- Step 5: Select System Macro to be associated with the Daily Event.

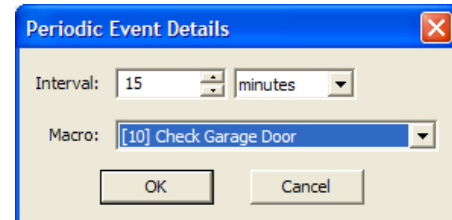


Adding Events: Periodic Events

Periodic Events allow the XP-8 to execute commands in intervals as short as 1 second, to as long as 360 minutes. An unlimited amount of Periodic Events can be created on a single XP-8 processor.

To add a Periodic Event:

- Step 1: Create System Macro on XP-8 Processor
- Step 2: After completing System Macro, Click "Add Event">"Add Periodic Event"
- Step 3: Select time interval, being sure to designate seconds or minutes.
- Step 4: Select System Macro to be executed at selected time interval.



Adding Events: Startup Event

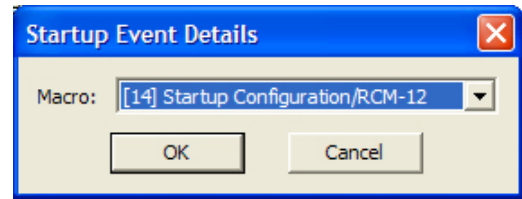
In addition to daily events, the XP-8 can initiate a System Macro when the XP-8 is powered on, reset, or a program download is performed. This is known as a "Startup Event". Only one Startup Event is allowed, however the Startup Event Macro may contain as many steps as is necessary.

To add a Startup Event:

- Step 1: Create System Macro on XP-8 Processor
- Step 2: After completing System Macro, Click "Add Event">"Add Startup Event"
- Step 3: Reference the System Macro that will be initiated when the XP-8 is powered on, reset, or downloaded to.

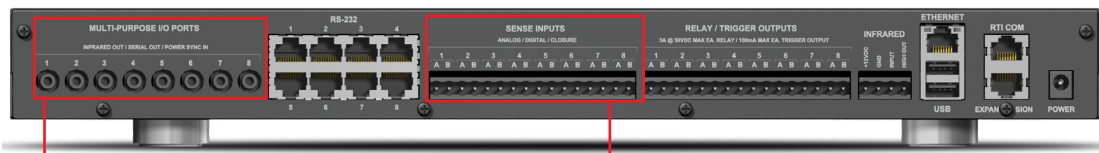
Note: The Startup Event will be grayed out from the Event options once you have created a Startup Event.

Tip: A Startup Event is a good way to create a "default" state for equipment that is being controlled by the XP-8. For example, a startup macro may consist of a string of commands to establish the relay settings on the RCM-12 (relay control module).



Sense Events

The XP-8 features eight dedicated sensing ports, as well as eight MPIO (multi-purpose input/output) ports, for a total of 16 available ports for sense events. The XP-8 can be programmed to execute "Sense Events", based on the status of these connections.



MPIO Ports- When used with RTI SPS-1 video sync module or VPS-1 voltage sensing module, the XP-8 can be programmed to react to a change in status of a video device or change in voltage. (Example: If TV is turned on, execute System Macro X)

Sense Inputs- Eight dedicated sensing inputs can be programmed to react to a voltage trigger (2-12VDC) or contact closure.

Sense Events - Setup

If you will be using any of the eight dedicated sensing inputs for the Sense Event, it is important to identify what type of sensing activity the XP-8 should be performing. Each of the eight dedicated sensing inputs can be configured individually from within Integration Designer Software. Each input gives you the choice of two options: Sense Voltage or Sense Closure. **It is VERY IMPORTANT to correctly program the sensing inputs, as there may be permanent damage caused by incorrect assigning of these ports.**

To configure the sense inputs:

Open the XP-8 device and choose "Properties" from the "Device" menu.

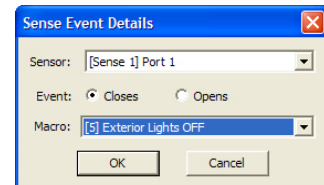
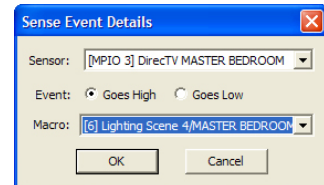
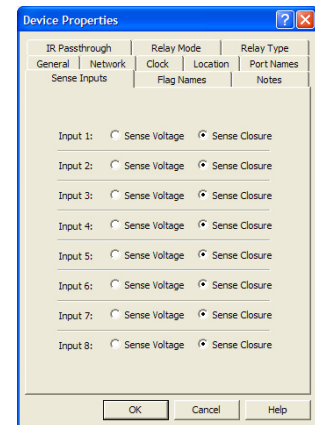
Note: Cabling contact closure sense: Connect conductors from device to be sensed to each side of a sense input (A and B).

Cabling voltage trigger sense: Connect positive lead from voltage source to Side A of sense input, and negative lead to Side B

Adding Sense Events

To add a Sense Event:

- Step 1: Create System Macro on XP-8 Processor
- Step 2: After completing System Macro, Click "Add Event">"Add Sense Event"
- Step 3: Indicate which port the XP-8 should be monitoring for the new event.
- Step 4: Chose event that will trigger the System Macro to be executed. If selected port has been configured for voltage sensing, the event choices will be "Goes High/Goes Low". If configured as a contact closure, event choices will be "Opens/Closes".
- Step 5: Reference the System Macro that will be initiated when the selected sensing port goes high or low.



Event Control* - How to Enable/Disable Events

All events are enabled by default. Unchecking the checkbox after creating an event will cause the event to be disabled by default. Integration Designer also allows for events to be enabled or disabled at any time using the "Event Control" Macro command.

Event Control allows for the ability to enable or disable events on the fly. For example, if you no longer wish to have the lights turn on 15 minutes before sunset, a button can be created on a handheld or in-wall controller to disable this event.

Event Control - Defined

There are four actions available for Event Control:

Enable Event: This will activate the selected event. The event will remain active until it has been disabled.

Disable Event: Event will be deactivated and no longer occur, until it has been re-enabled

Toggle Enable Status: This feature will flip the current status of the selected event. For example, if an event is enabled, the first button press would disable the event, the following button press would then enable the event.

Test Enable Status: This feature creates a conditional statement allowing for other commands (infrared or RS-232), macros, or events to be triggered based on the status of a desired event. For example, if a event is enabled to run the "Exterior Lights ON" System Macro at sunset everyday, you may want to also enable an event to run the "Exterior Lights OFF" macro 240 minutes every day after sunset. However if the "Exterior Lights ON" event is not enabled, the corresponding "Exterior Lights OFF" event would not be enabled.

Time Range Test*

The Time Range Test option in the command type menu provides the ability to tie execution of a command or macro with the current time and/or day of the week. The Time Range Test can be particularly beneficial in relation to lighting. For example, the "pause" button on the DVD page may feature a Time Range Test that will turn on an "Intermission" lighting scene, but only if it is between sunset and sunrise. A time range test can also specify an exact time and day reference. (Ex: Run System Macro X if the time is between 8a.m. and 11a.m. on Thursday.)

*Event Control and Time Range Test features are only available in the macro editor when in System Mode, and an XP-8 Processor the established communication device.

Scheduled Macros

It is possible to setup scheduled macros with the XP-8. The scheduling of the macros can be as short as 1 second, to as long as 360 minutes. A common application for this feature would be for use as a sleep timer. The illustration to the right shows how a 30 minute sleep timer would be set for a "Master Bedroom OFF" system macro. (Note that the device must be in System Mode, and programmed to communicate with an XP-8 for these options to be available in Integration Designer)

Directions:

- 1) Create System Macro on XP-8
- 2) Right click on a button of a device, select "Create Macro" (or "Edit Macro" if macro already exists on selected button)
- 3) Choose System Macro from the Command Type options. Select desired System Macro from list. Default setting is for macro to be executed immediately. To delay the execution of a System Macro, select the appropriate time interval in the "Run this Macro" section of the Macro Editor.
- 4) Drag completed System Macro into Macro Editor window.

Note: Only one outstanding instance of each macro may be scheduled. If another schedule is created for the same System Macro, the clock on the scheduled macro will simply be reset to the new time specified. It is possible, however, to have two or more different system macros scheduled at the same time.

