RadioRA® Chronos™
System Bridge and Timeclock

Design and Compatibility Considerations
Overview
The RadioRA® Chronos™ System Bridge and Timeclock provides a number of useful features in a single, easy-to-set-up device. This document outlines important information to consider when installing, programming, and using the Chronos.

System Operation Notes

1. In order to install Chronos™ as the Main Repeater in an existing system, all devices in the system must be returned to their factory defaults prior to installation of Chronos.

2. When using a Whole-home Button on a Master Control, there will be a delay between when the Whole-home Button is pressed and when the scene activates. The delay will typically be approximately 2 seconds. This applies for scenes that contain zones of lighting in one system or in both systems. The delay does not apply when the button is activated via RS-232.

3. For Whole-home Buttons that contain lighting in both System 1 and System 2, the scene will activate one system at a time, with a delay in between. The delay is typically 3 seconds. The system that the Master Control is in determines which half of the scene activates first.

4. Only unprogrammed Master Control buttons can be used as Whole-home Buttons. All local programming must be erased from a Master Control button before it can be assigned as a Whole-home Button.

5. When using Cordless Tabletop Master Controls, the Master Control LEDs will not update when the Master Control is first awakened from a “sleep” state.

6. When using Master Controls with Raise/Lower buttons with Chronos, the Raise/Lower buttons will not work on Whole-home scenes.

Compatibility Information

Using the Chronos with Older RadioRA® Lighting Zone Controls

All Lighting Zone Controls
Raise/Lower functions from Master Controls are not fully supported on Lighting Zone Controls shipped prior to January 1, 2001. The Level Capture feature is also not supported.

Dimmers
On RadioRA Dimmers shipped prior to January 1, 2001, the longer Chronos fade times are not available. The Legacy setting for fade times must be used.

Switches
On RadioRA Switches shipped prior to January 1, 2001, only the First On/First Off (FOFO) setting may be used.

GRAFIK Eye® Interfaces and GRAFIK RA™ Control Units
For GRAFIK Eye® Interfaces and GRAFIK RA™ Control Units shipped prior January 1, 2001, the Legacy setting must be used to get the Control Unit to respond. Note: the GRAFIK Eye/GRAFIK RA Control Unit will always use its internal fade rate for the GRAFIK Eye scene activated.

Using the Chronos with Older RadioRA® Master Controls
On Master Controls shipped prior to January 1, 2001, Chronos Whole-home scenes will only work with the All On and All Off buttons.
Using the Multi-Function Entry Master Control
The LEDs for the Multi-Function Entry Master Control contact closure inputs cannot be controlled. The security mode input on the Multi-Function Entry Master Control will not work across systems. If a security system is connected to the Multi-Function Entry Master Control security input, it should be moved to the security input on the Chronos.

Using the Switch Closure Interface
The Switch Closure Interface cannot be used to activate Whole-home scenes. The security mode inputs on the Switch Closure Interface will not work across systems. If a security system is connected to the security inputs on an existing Switch Closure Interface, it should be moved to the security input on the Chronos.

Using the Infrared (IR) Interface
On IR Interfaces shipped prior to August 1, 2001, Chronos Whole-home scenes will only work with the All On and All Off buttons.

Using the RS-232 Interface
On RS-232 Interfaces shipped prior to August 1, 2001, Chronos Whole-home scenes will only work with the All On and All Off buttons. Security mode activated from an RS-232 Interface will not work across systems. If a third-party system is connected to an existing RS-232 Interface, it should be moved to the RS-232 port on the Chronos.
# Device Compatibility Chart

<table>
<thead>
<tr>
<th>Device</th>
<th>Shipped Prior To</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimmers and Switches</td>
<td>January 1, 2001</td>
<td>• Must use Legacy fade rate setting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Must use FOFO setting for Switches.</td>
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<tr>
<td></td>
<td></td>
<td>• Raise/Lower not fully supported.</td>
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<td></td>
<td></td>
<td>• Level Capture not supported.</td>
</tr>
<tr>
<td>GRAFIK RA™ and GRAFIK Eye® Interface</td>
<td>February 1, 2001</td>
<td>• Must use Legacy fade rate setting to get the GRAFIK Eye/GRAFIK RA Control Unit to respond. <strong>Note:</strong> the GRAFIK Eye/GRAFIK RA Control Unit will always use its internal programmed fade rate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Raise/Lower not fully supported.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Level Capture not supported.</td>
</tr>
<tr>
<td>Wired Master Controls (Wall-mount and tabletop)</td>
<td>May 8, 2000</td>
<td>• Only the All On/All Off buttons can be used with Whole-home Scenes.</td>
</tr>
<tr>
<td>Cordless Master Control</td>
<td>August 1, 2001</td>
<td>• Only the All On/All Off buttons can be used with Whole-home Scenes.</td>
</tr>
<tr>
<td>Multi-Function Entry Master Control</td>
<td>All</td>
<td>• The LEDs on the contact closure inputs cannot be controlled.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Security inputs must be programmed via the MFE and will be local to one system.</td>
</tr>
<tr>
<td>Switch Closure Interface</td>
<td>All</td>
<td>• None of the inputs (Normal or Security) can be used with Whole-home Scenes. All programming at the SCI will be local to one system.</td>
</tr>
<tr>
<td>IR Interface</td>
<td>August 1, 2001</td>
<td>• Only the All On/All Off buttons can be used with Whole-home Scenes.</td>
</tr>
<tr>
<td>RS-232 Interface</td>
<td>August 1, 2001</td>
<td>• Only the All On/All Off buttons can be used with Whole-home Scenes.</td>
</tr>
<tr>
<td>Repeaters</td>
<td>January 1, 2001</td>
<td>• Level Capture not supported.</td>
</tr>
</tbody>
</table>
System Design Considerations

Determine if Bridging is Required

Bridging is required if:
- More than 32 Lighting Zone Controls exist, or
- More than 12 Master Controls exist

For Bridging Two Systems

For optimal light response time, devices in System 1 and System 2 should not be used in the same room. Splitting the two systems, as shown below, is recommended.

Determine location of System 1 and System 2.
Examples:
- a. System 1: 1st Floor   (see illustration below)
  System 2: 2nd Floor
- b. System 1: East Wing
  System 2: West Wing
- c. System 1: Interior
  System 2: Exterior
Repeater, Chronos™, Lighting Zone Controls, and Master Control Placement

Place Chronos and Repeaters to provide appropriate RF coverage within each system.

**Repeaters**
- Place System 1 Repeaters within 60 feet (18 m) of each other
- Place System 2 Repeaters within 60 feet (18 m) of each other

**Chronos**
- Place Chronos within 60 feet (18 m) of a Repeater in each system

**Lighting Zone Controls and Master Controls**
- Place System 1 Controls within 30 feet (9 m) of System 1 Repeaters or Chronos
- Place System 2 Controls within 30 feet (9 m) of System 2 Repeaters or Chronos

1st Floor View—System 1