LUTRON

Integrating Infratech Heaters with Lutron Residential Systems

Overview

Lutron residential systems are capable of controlling 0–10 V== devices and lighting loads via LMJ-5T-DV-B, LQSE-4T5-120-D/LQSE-4T20-120-D, GRX-TVM2, or GRX-TVI-CPN3876. This document describes how to utilize LMJ-5T-DV-B, LQSE-4T5-120-D/LQSE-4T20-120-D, GRX-TVM2, or GRX-TVI-CPN3876 to control Infratech heaters.

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⚠️ **WARNING – Entrapment Hazard** – To avoid the risk of entrapment, serious injury, or death, these controls must not be used to control equipment that is not visible from every control location or that could create hazardous situations if operated accidentally or through malfunction (for example, motorized gates, garage doors, industrial doors, microwave ovens, heating pads, fireplaces, space heaters, etc.) It is the installer's responsibility to ensure that these controls are connected only to suitable loads and equipment types and that such equipment is visible from every control location. Failure to do so could result in serious injury or death.

1.0 Controlling Infratech Heaters Using 0–10 V⎓

Infratech heaters require a control device to source a 0–10 V⎓ signal. For more information on the ANSI standard for sourcing 0–10 V⎓ controls, refer to Application Note #587 (048587) at www.lutron.com. In order to turn off an Infratech heater, the Lutron control will need to interrupt the 0–10 V⎓ signal using an EPC-2-D manufactured by LVS Controls (not sold by Lutron). An EPC-2-D is required because the relays used to turn on/off 0–10 V⎓ lighting are not rated to control Infratech heaters.

2.0 LMJ-5T-DV-B Controlling Infratech Heaters in HomeWorks/RadioRA Systems

2.1 Installation

Items needed for this installation:

Item	Company	Function
LMJ-5T-DV-B	Lutron	Controls the 0–10 V⎓ load
EPC-2-D	LVS Controls	Interrupts the 0–10 V⎓ signal
Infratech relay module	Infratech	Interrupts line voltage to heaters
HomeWorks or RadioRA processor	Lutron	Stores the database
HomeWorks hybrid repeater (if using a HomeWorks processor)	Lutron	Creates Clear Connect wireless signal

The diagram below demonstrates how an LMJ-5T-DV-B needs to be wired to the Infratech system.
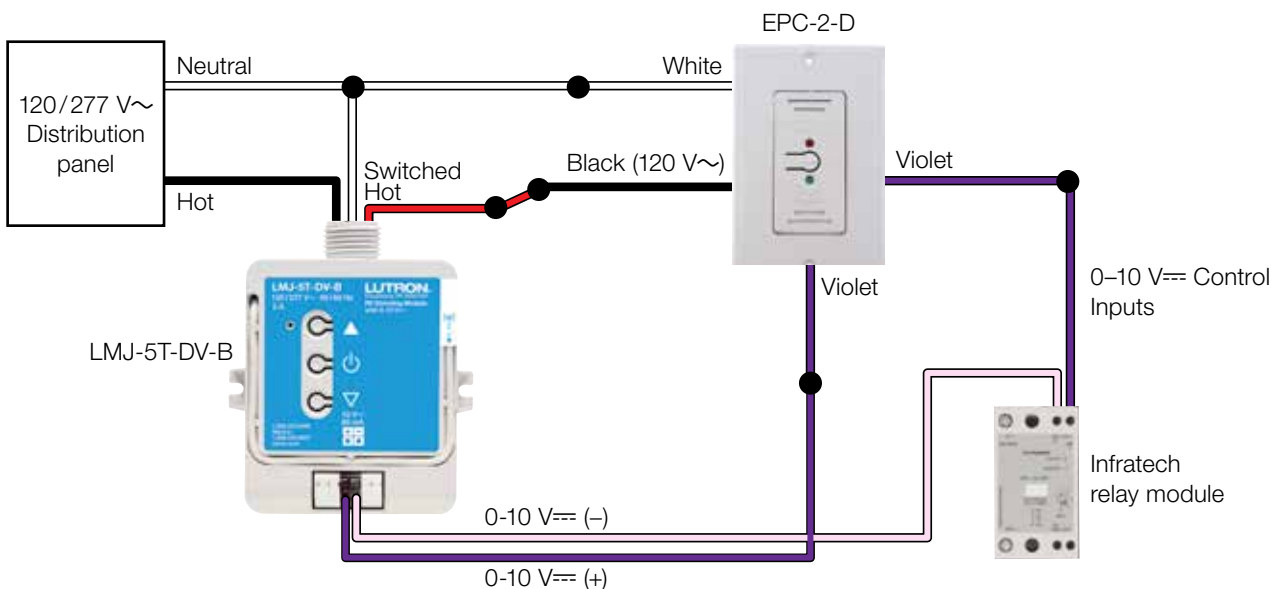
- The neutral wires of the LMJ-5T-DV-B and the EPC-2-D must originate in the same distribution panel. This neutral may only return loads supplied by the same circuit breaker as the LMJ-5T-DV-B and EPC-2-D (Split/Single Phase and Three Phase systems: This neutral may not be shared with other circuit breakers).

2.0 LMJ-5T-DV-B Controlling Infratech Heaters in HomeWorks/RadioRA Systems (continued)

2.1 Installation (continued)

Important Note: LMJ-5T-DV-B is a wireless device and must be located within 30 ft (9 m) of a repeater or wireless processor. In a HomeWorks system, an RF link with a hybrid repeater (HQR-REP-120) or dual-radio wireless processor (HQP7-RF-2) is required.

Wired and RF Configuration (RadioRA and HomeWorks)

* In HomeWorks and RadioRA systems, hybrid/auxiliary repeaters can be used to extend the wireless range.

2.0 LMJ-5T-DV-B Controlling Infratech Heaters in HomeWorks/RadioRA Systems (continued)

2.2 HomeWorks Database Design

2.2.1 HomeWorks Load Schedule

Important Note: HomeWorks Designer version 7.0 or higher is required to use LMJ-5T-DV-B.

To begin building the load schedule, go to the *design* tab menu and select *loads*.

Select an area that will contain the Infratech heaters by clicking on that area name in the tree to the left. The selected area will be highlighted green.

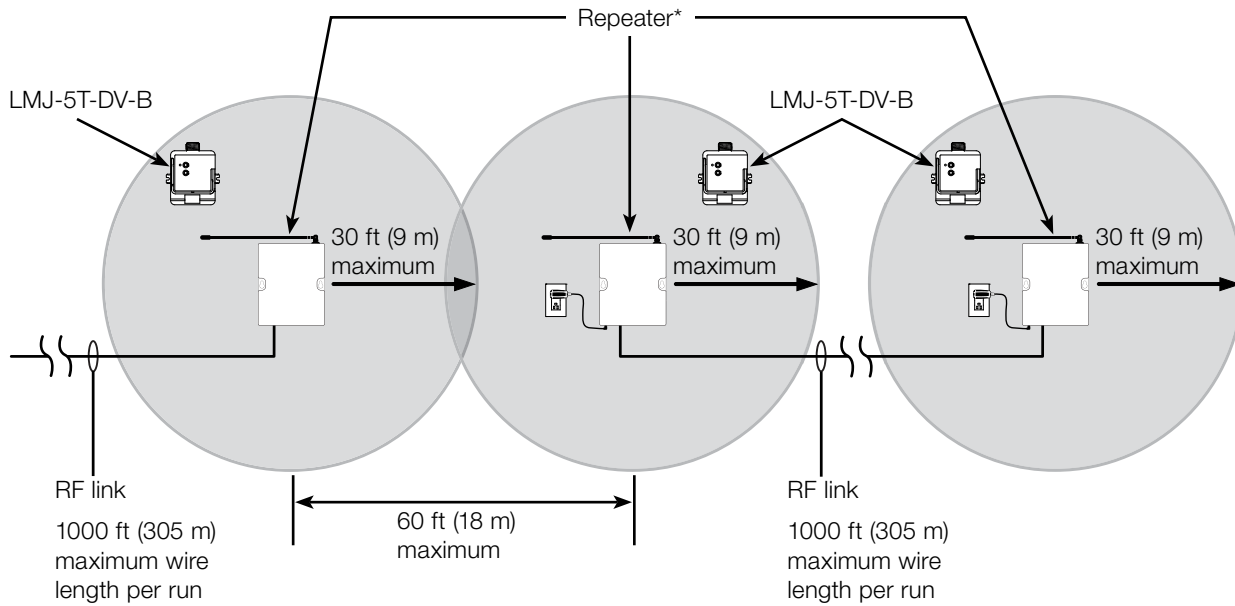In the upper-right corner of the software window, click **Edit Fixture Types**.
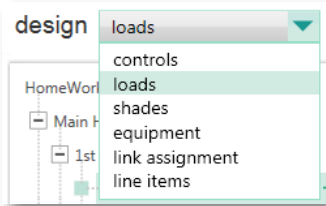

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2.0 LMJ-5T-DV-B Controlling Infratech Heaters in HomeWorks/RadioRA Systems (continued)
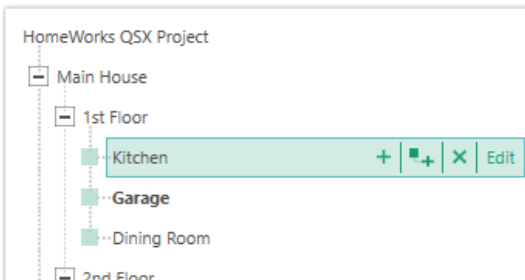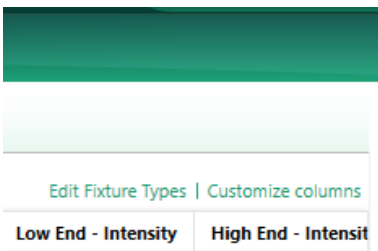
2.2 HomeWorks Database Design (continued)

2.2.1 HomeWorks Load Schedule (continued)

The **System Fixtures** configuration window will appear which allows you to create fixture placeholders for easy placement into the load schedule. On the **Custom** tab, create a fixture placeholder for the 0–10 V⎓ devices/loads that will be controlled by an LMJ-5T-DV-B. There are two options for 0–10 V⎓ loads: **LED** or **Fluorescent**. Selecting either **LED** or **Fluorescent** will still control the Infratech heaters even though a lighting load is selected. Choosing either **LED** or **Fluorescent** changes the trim level that can be set to 1% on the low-end and 99% on the high-end. You may need to show **High End** and **Low End** by customizing the columns.

Fixture	Voltage	Load Type	Lamp Wattage	Lamp Qty.	Wattage	High End	Low End
Infratech	120 V	LED 0-10 V	10	1	10	99%	1%

Click **Done** to close the **System Fixtures** window and return to the load schedule for the selected area. Double-click in the **Fixture Type** field to reveal a drop-down menu with all currently created custom or Ivalo fixture options within the project. Select **Infratech** and the software will add a load schedule line item in the selected area for the Infratech heaters in that space.

Zone #	Zone Name	Fixture Type	Fixture Wattage	Product Type	Load Type	Total Watts	Voltage
1	Infratech Heater	Infratech ▼	10	-	LED 0-10 V	12	120 V
		Undefined					
		Infratech					
		Edit Fixture Types					

Provide a zone name, zone description, and any other pertinent information. Repeat this process for each Infratech heater that is to be controlled by an LMJ-5T-DV-B.
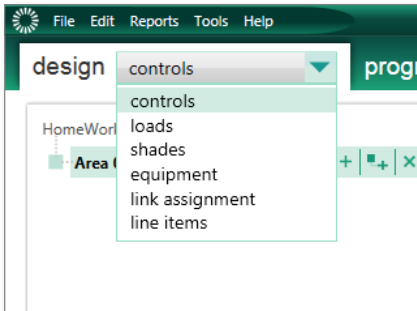
2.0 LMJ-5T-DV-B Controlling Infratech Heaters in HomeWorks/RadioRA Systems (continued)
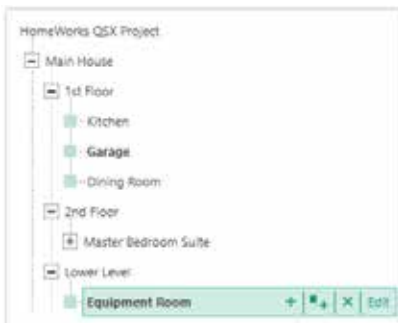
2.2 HomeWorks Database Design (continued)

2.2.2 Adding an LMJ-5T-DV-B to a HomeWorks System

Add the LMJ-5T-DV-B to which the Infratech heaters will be assigned. To add the LMJ-5T-DV-B to the database, go to the **design** tab drop down menu and select **controls**.

Select the area in which the LMJ-5T-DV-B is to be physically located using the area tree on the left side of the screen.

Use the **Controls** toolbox to add an LMJ-5T-DV-B to the area. If the LMJ-5T-DV-B is not currently available in the toolbox, click **Edit Toolbox** and add the LMJ-5T-DV-B to the toolbox.
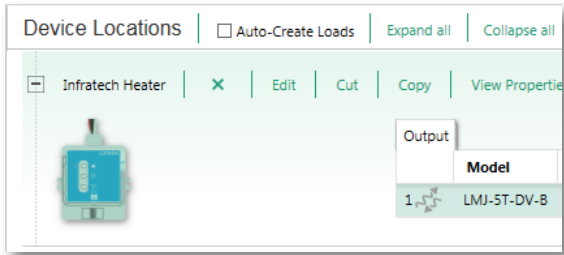
2.0 LMJ-5T-DV-B Controlling Infratech Heaters in HomeWorks/RadioRA Systems (continued)

2.2 HomeWorks Database Design (continued)

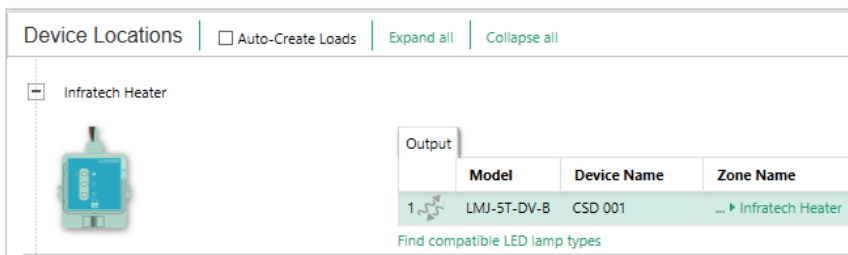#### 2.2.3 Assigning Infratech Heaters to an LMJ-5T-DV-B in a HomeWorks System

Go to the **design** tab drop down menu and select **controls**. To the right of the LMJ-5T-DV-B image, there will be assign links which will show the **Assign** window when clicked. Click on the **Assign** link for an LMJ-5T-DV-B controlling an Infratech heater.

Find the appropriate Infratech heater to assign to the LMJ-5T-DV-B and click **Assign** for that zone.
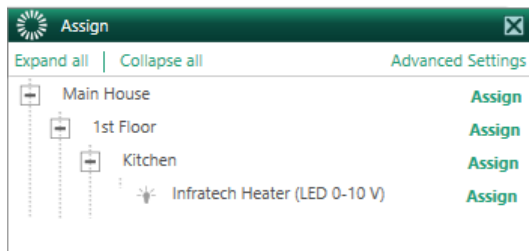
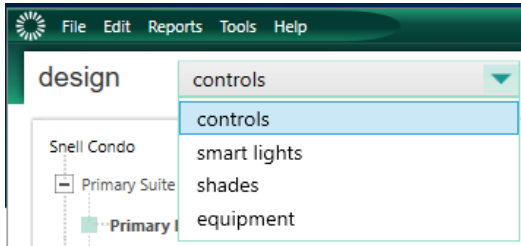The zone will now be assigned to the selected output on the LMJ-5T-DV-B.

Important Note: If using the Lutron mobile app, the Infratech heater will appear as a lighting zone.
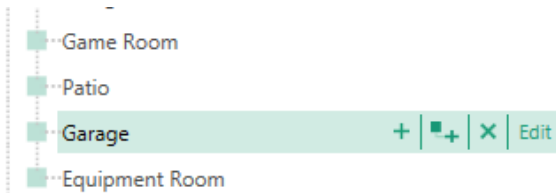
2.0 LMJ-5T-DV-B Controlling Infratech Heaters in HomeWorks/RadioRA Systems (continued)

2.3 Adding an LMJ-5T-DV-B to a RadioRA 3 Database

Add the LMJ-5T-DV-B to which the Infratech heaters will be assigned. To add the LMJ-5T-DV-B to the database, go to the **design** tab drop down menu and select **controls**.

Select the area in which the LMJ-5T-DV-B is to be physically located using the area tree on the left side of the screen.

Use the **Controls** toolbox to add an LMJ-5T-DV-B to the area. If the LMJ-5T-DV-B is not currently available in the toolbox, click **Edit Toolbox** and add the LMJ-5T-DV-B to the toolbox.

Important Note: If using the Lutron mobile app, the Infratech heater will appear as a lighting zone.

2.0 LMJ-5T-DV-B Controlling Infratech Heaters in HomeWorks / RadioRA Systems (continued)
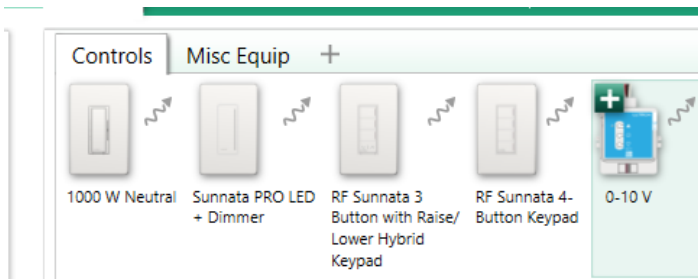
2.4 Adding an LMJ-5T-DV-B to a RadioRA 2 Database

Important Note: RadioRA 2 Inclusive version 7.5 or higher is required to use LMJ-5T-DV-B.

Select the room where the LMJ-5T-DV-B is located. To the right of the selected room, click the "**+**" above ***Click here to add device location***.

To add the LMJ-5T-DV-B that will control the Infratech heater to the database, click on the picture of the LMJ-5T-DV-B under ***Available Devices*** > ***Dimmers & Switches***.
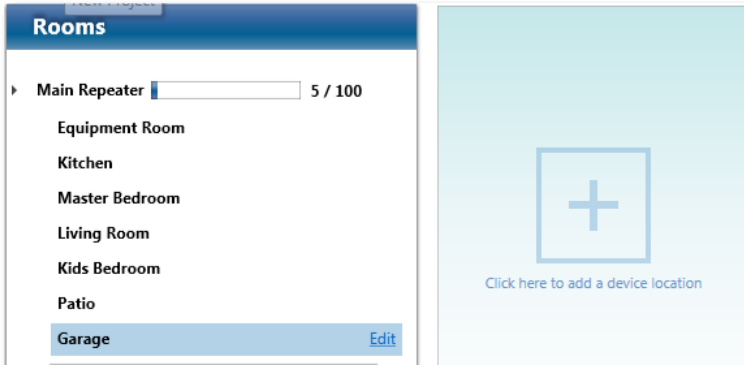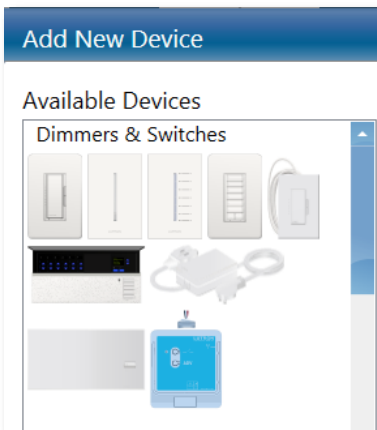
2.0 LMJ-5T-DV-B Controlling Infratech Heaters in HomeWorks / RadioRA Systems (continued)

2.4 Adding an LMJ-5T-DV-B to a RadioRA 2 Database (continued)


Once the LMJ-5T-DV-B is added, select **0-10V Dimmer** from the **Device Type** drop down menu.

On the right side of the screen the model number will change to LMJ-5T-DV-B. Add the **Device Location**, **Zone Name**, and **Load Type** and click **Done**. This will add the Infratech heater to the area specified.

There are two options for 0–10 V=== loads: **LED** or **Fluorescent**. Selecting either **LED** or **Fluorescent** will still control the Infratech heaters even though a lighting load is selected. Choosing either **LED** or **Fluorescent** changes the trim level that can be set to 1 on the low-end and 99 on the high-end.

Important Note: If using the Lutron mobile app, the Infratech heater will appear as a lighting zone.
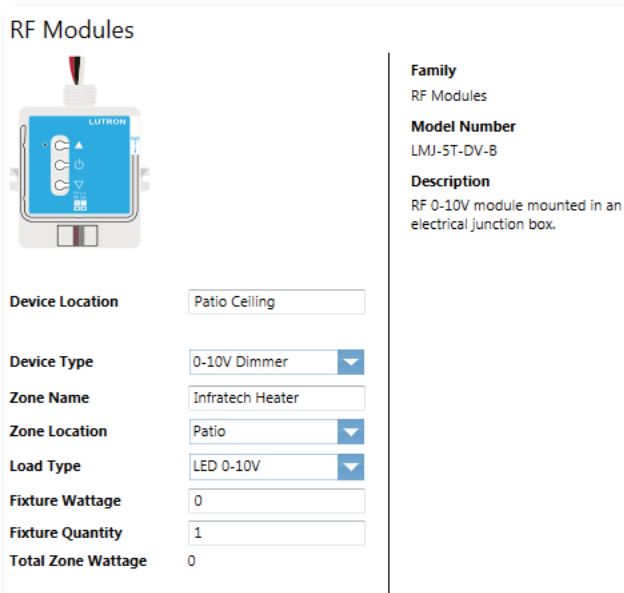
3.0 LQSE-4T5-120-D/LQSE-4T20-120-D Controlling Infratech Heaters in a HomeWorks System

3.1 Installation

Items needed for this installation:

Item	Company	Function
EPC-2-D	LVS Controls	Interrupts the 0–10 V⎓ signal
Infratech relay module	Infratech	Interrupts line voltage to heaters
LQSE-4T5-120-D/LQSE-4T20-120-D	Lutron	Controls the 120 V∼ switching and provides the 0–10 V⎓ to control load (Infratech heater).
HomeWorks System	Lutron	Stores the database

The diagram below demonstrates how a LQSE-4T5-120-D/LQSE-4T20-120-D needs to be wired to the Infratech system.
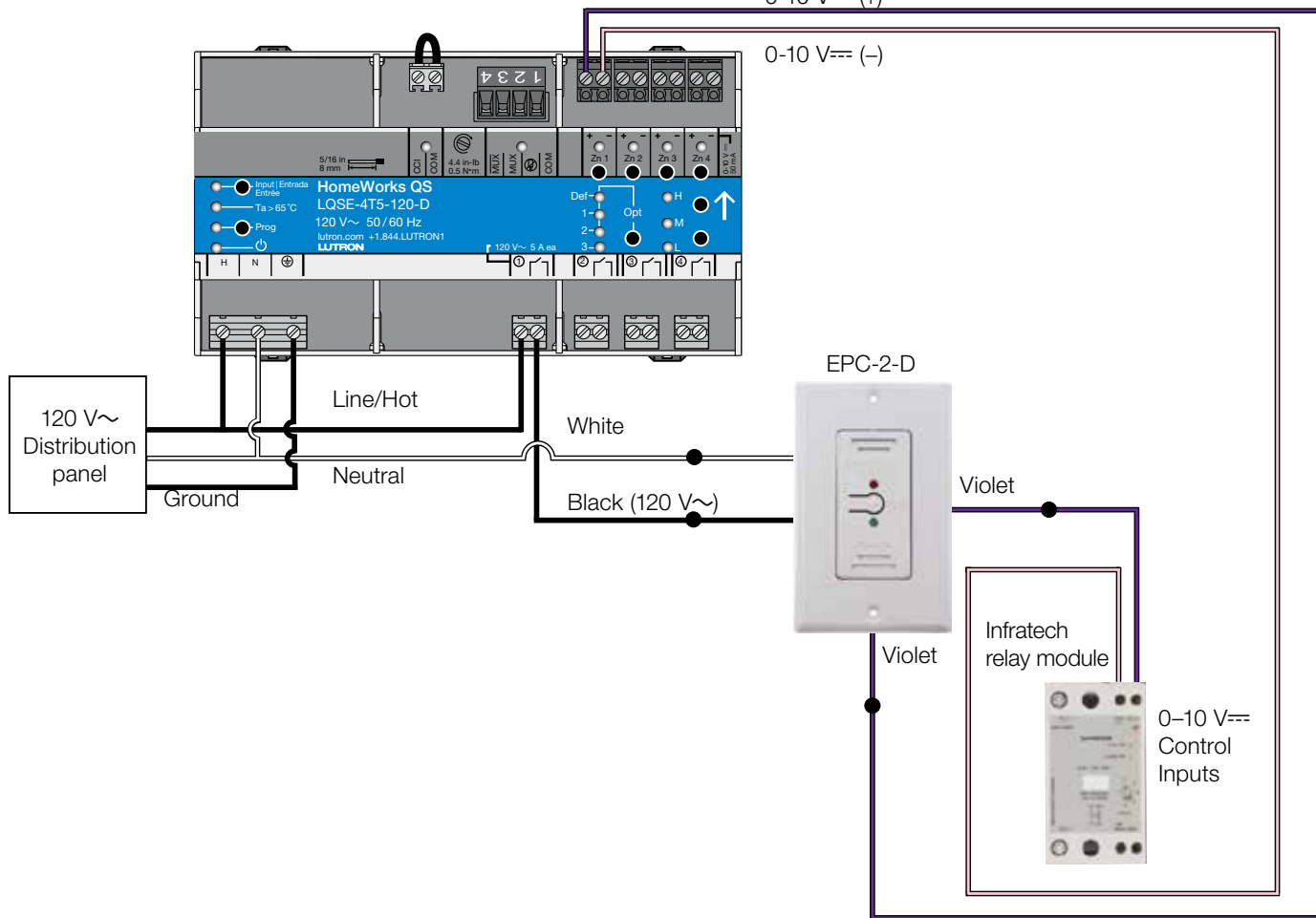
- The neutral wires of the LQSE-4T5-120-D/LQSE-4T20-120-D and the EPC-2-D must originate in the same distribution panel. This neutral may only return loads supplied by the same circuit breaker as the LQSE-4T5-120-D/LQSE-4T20-120-D and EPC-2-D (Split/Single Phase and Three Phase systems: This neutral may not be shared with other circuit breakers).

- Connect the black wire of the EPC-2-D to the output of the LQSE-4T5-120-D/LQSE-4T20-120-D.

- Power switching and 0-10 V⎓ must be on the same zone (zone 1 shown).

- One LQSE-4T5-120-D/LQSE-4T20-120-D can control up to 4 zones of Infratech heaters using separate EPC-2-D relays and Infratech relay modules.
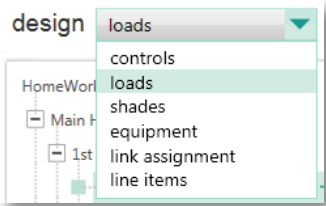
3.0 LQSE-4T5-120-D/LQSE-4T20-120-D Controlling Infratech Heaters in a HomeWorks System (continued)

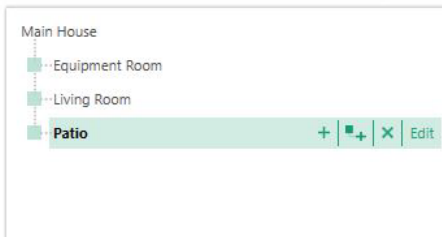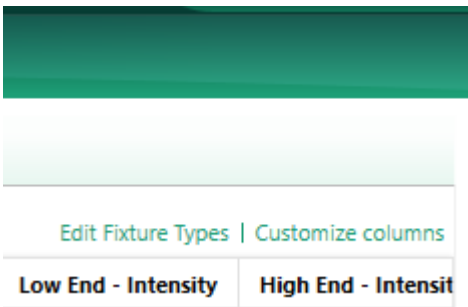## 3.2 Database Design

3.2.1 Load Schedule

To begin building the load schedule, go to the *design* tab menu and select *loads*.

Select an area that will contain the Infratech heaters by clicking on that area name in the tree to the left. The selected area will be highlighted green.

In the upper-right corner of the software window, click *Edit Fixture Types*.

3.0 LQSE-4T5-120-D/LQSE-4T20-120-D Controlling Infratech Heaters in a HomeWorks System (continued)

3.2 Database Design (continued)

3.2.1 Load Schedule (continued)

The **System Fixtures** configuration window will appear which allows you to create fixture placeholders for easy placement into the load schedule. On the **Custom** tab, create a fixture placeholder for the 0-10 V=== devices/loads that will be controlled by a LQSE-4T5-120-D/LQSE-4T20-120-D. There are two options for 0-10 V=== loads: **LED** or **Fluorescent**. Selecting either **LED** or **Fluorescent** will still control the Infratech heaters even though a lighting load is selected. Choosing either **LED** or **Fluorescent** changes the trim level that can be set to 1% on the low-end and 99% on the high-end.

System Fixtures								
Custom	Ketra	Ivalo Downlights		Ivalo Pendants/Sconces				
Fixture	**Voltage**	**Load Type**	**Lamp Wattage**	**Lamp Qty.**	**Wattage**	**High End**	**Low End**	
Infratech	120 V	LED 0-10 V	10	1	10	99%	1%	

Click **Done** to close the **System Fixtures** window and return to the load schedule for the selected area. Double-click in the **Fixture Type** field to reveal a drop-down menu with all currently created custom or Ivalo fixture options within the project. Select **Infratech Heater** and the software will add a load schedule line item in the selected area for the Infratech heaters in that space.

Loads	HVAC Zones							
Load contains customized properties ⑦								
Zone #	**Zone Name**	**Fixture Type**	**Fixture Wattage**	**Product Type**	**Load Type**	**Total Watts**	**Voltage**	
1	Infratech Heater	Infratech ▼	10	-	LED 0-10 V	12	120 V	
		Undefined						
		Infratech						
		Edit Fixture Types						

Provide a zone name, zone description, and any other pertinent information. Repeat this process for each Infratech heater that is to be controlled by a LQSE-4T5-120-D/LQSE-4T20-120-D zone.
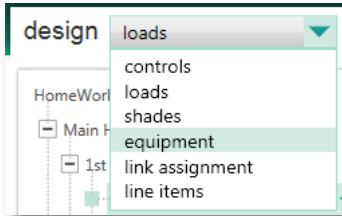
3.0 LQSE-4T5-120-D/LQSE-4T20-120-D Controlling Infratech Heaters in a HomeWorks System (continued)

3.2 Database Design (continued)
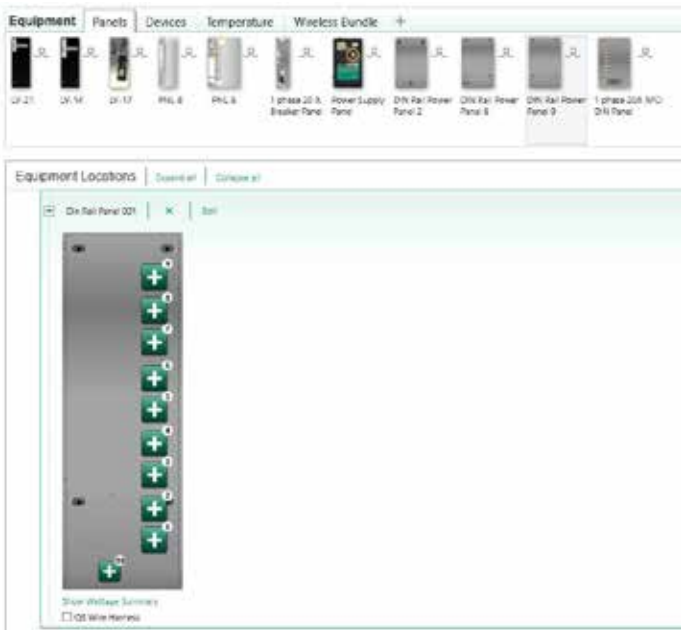
3.2.2 Adding Equipment

Next, add the equipment to which the Infratech heaters will be assigned. In this case, the equipment being added would be the DIN rail panel. To add the panel to the database, go to the **design** tab menu and select **equipment**.

Select the area in which the dimming panel is to be physically located using the area tree on the left side of the screen.

Use the **Equipment** toolbox to add a DIN rail device compatible dimming panel to the area. In this case, a PD9-59F-120 has been selected. If the dimming panel is not currently available in the toolbox, click **Edit Toolbox** and add the dimming panel to the toolbox.
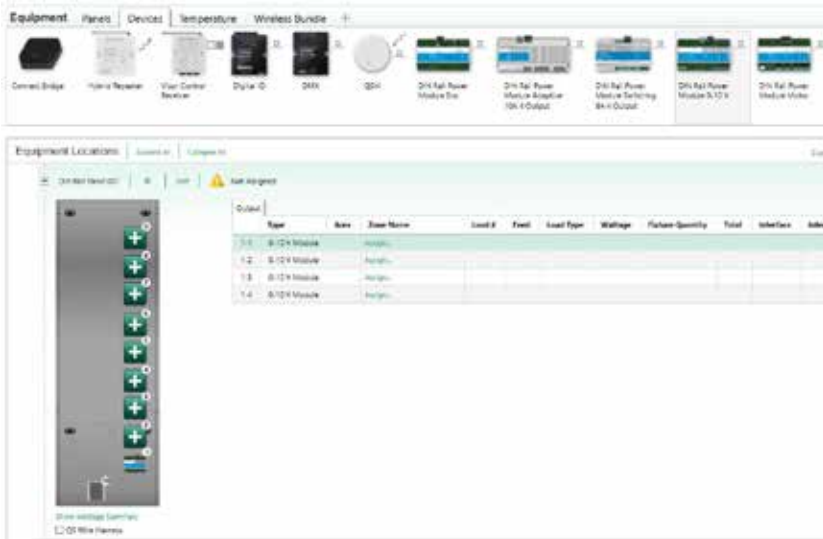

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3.0 LQSE-4T5-120-D/LQSE-4T20-120-D Controlling Infratech Heaters in a HomeWorks System (continued)

3.2 Database Design (continued)

3.2.2 Adding Equipment (continued)

Configure the DIN rail panel in the software to match the needs of the application. In the example below, for the QS communication link, a QS-WLB has been added to position 10. For the Infratech heater, one LQSE-4T5-120-D/ LQSE-4T20-120-D has been added to position 1.

3.0 LQSE-4T5-120-D/LQSE-4T20-120-D Controlling Infratech Heaters in a HomeWorks System (continued)

3.2 Database Design (continued)

3.2.3 Assigning the Infratech Heaters to the Panel

Proceed to the **design** > **equipment** section of the programming software. To the right of the panel 9 image and parameters, there will be assign links which will show the **Assign** window when clicked. Click on the **Assign** link for one of the zones that will control an Infratech heater via a LQSE-4T5-120-D/LQSE-4T20-120-D.
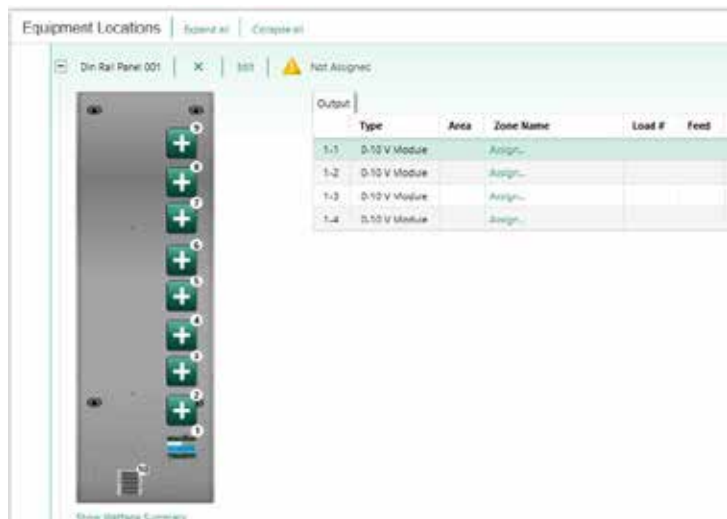
Find the zone to assign within the **Assign** window and click **Assign** for that zone.
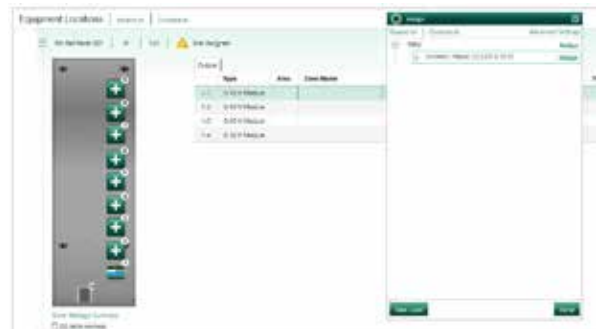
The zone will be assigned to the selected output on the panel. A LQSE-4T5-120-D/LQSE-4T20-120-D should appear in the **Interface** field along with the address of the LQSE-4T5-120-D/LQSE-4T20-120-D.

4.0 GRX-TVM2 Controlling Infratech Heaters in a HomeWorks QS System

4.1 Installation

Items needed for this installation:

Item	Company	Function
GRX-TVM2	Lutron	Controls the 0–10 V=== load. Fits in the 8th RPM location near the top of the panel.
EPC-2-D	LVS Controls	Interrupts the 0–10 V=== signal
Infratech relay module	Infratech	Interrupts line voltage to heaters
HW-RPM-4U-120	Lutron	Controls the 120 V∼ switching of the Infratech heater
HW-TVMKIT-120	Lutron	Provides power to the GRX-TVM2 through a GRX-TVM-ISO2. Also includes DIN rail mounting hardware and wire harness.

The diagram below demonstrates how an GRX-TVM2 needs to be wired to the Infratech system. An output of a RPM module is needed for switching since the GRX-TVM2 controls only 0-10 V===.
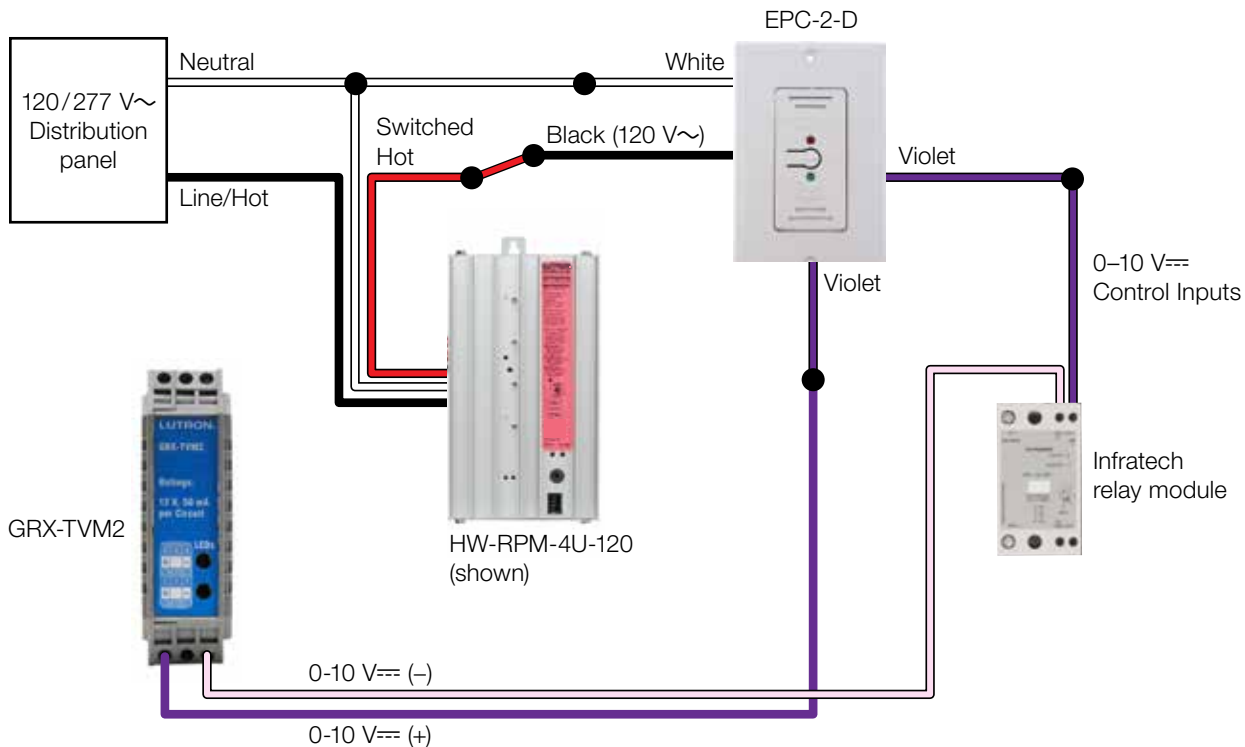
- The neutral wires of the HW-RPM-4U and the EPC-2-D must originate in the same distribution panel. This neutral may only return loads supplied by the same circuit breaker as the HW-RPM-4U or HW-RPM-4A and EPC-2-D (Split/Single Phase and Three Phase systems: This neutral may not be shared with other circuit breakers).
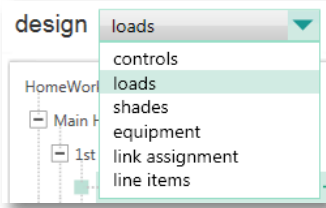- Connect the black wire of the EPC-2-D to the output of the HW-RPM-4U or HW-RPM-4A.

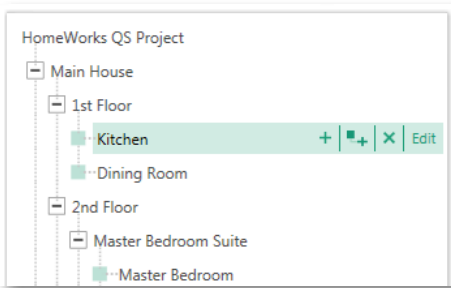# 4.0 GRX-TVM2 Controlling Infratech Heaters in a HomeWorks QS System (continued)

4.2 Database Design
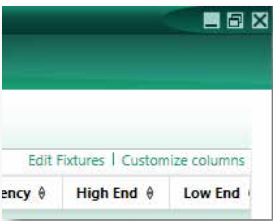
4.2.1 Load Schedule

To begin building the load schedule, go to the **design** tab menu and select **loads**.

Select an area that will contain the Infratech heaters by clicking on that area name in the tree to the left. The selected area will be highlighted green.

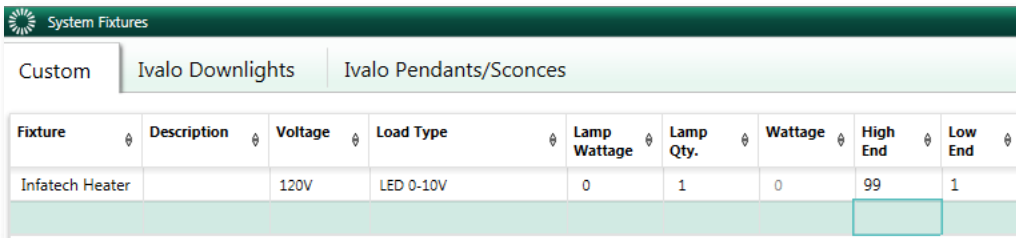In the upper-right corner of the software window, click **Edit Fixtures**.

4.0 GRX-TVM2 Controlling Infratech Heaters in a HomeWorks QS System (continued)
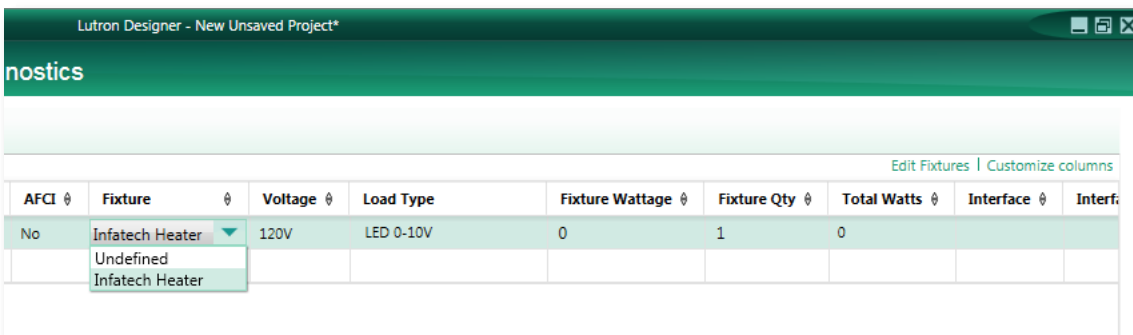
4.2 Database Design (continued)

4.2.1 Load Schedule (continued)

The **System Fixtures** configuration window will appear which allows you to create fixture placeholders for easy placement into the load schedule. On the **Custom** tab, create a fixture placeholder for the 0-10 V⎓ devices/loads that will be controlled by a GRX-TVM2. There are two options for 0-10 V⎓ loads: **LED** or **Fluorescent**. Selecting either **LED** or **Fluorescent** will still control the Infratech heaters even though a lighting load is selected. Choosing either **LED** or **Fluorescent** changes the trim level that can be set to 1 on the low-end and 99 on the high-end.

Click **Done** to close the **System Fixtures** window and return to the load schedule for the selected area. Double-click in the **Fixture** field to reveal a drop-down menu with all currently created custom or Ivalo fixture options within the project. Select **Infratech Heater** and the software will add a load schedule line item in the selected area for the Infratech heaters in that space.

Provide a zone name, zone description, and any other pertinent information. Repeat this process for each Infratech heater that is to be controlled by a GRX-TVM2.
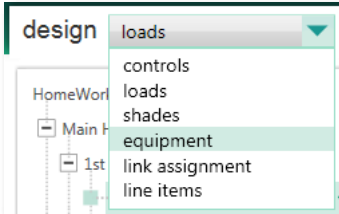
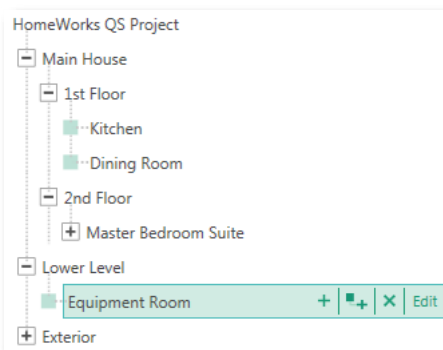# 4.0 GRX-TVM2 Controlling Infratech Heaters in a HomeWorks QS System (continued)

4.2 Database Design (continued)
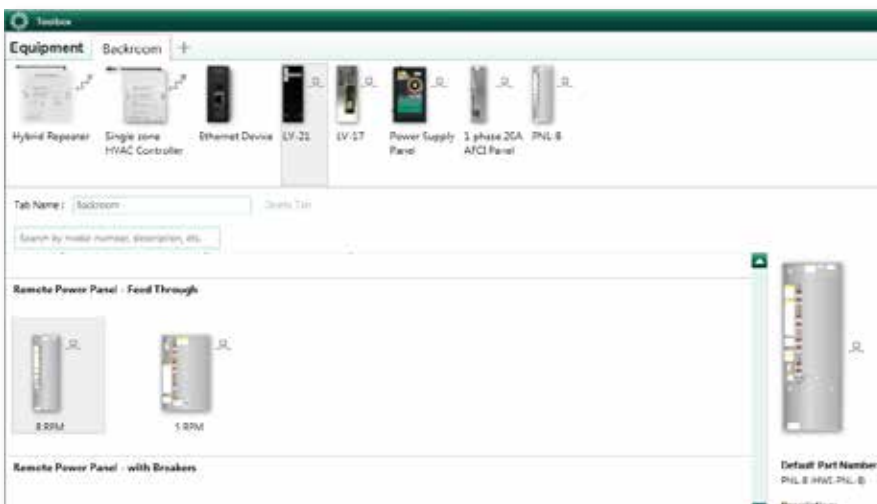
4.2.2 Adding Equipment

Next, add the equipment to which the Infratech heaters will be assigned. In this case, the equipment being added would be the HWI-PNL-8. To add the panel to the database, go to the **design** tab menu and select **equipment**.

Select the area in which the dimming panel is to be physically located using the area tree on the left side of the screen.

Use the **Equipment** toolbox to add an HWI-PNL-8 dimming panel to the area. If the dimming panel is not currently available in the toolbox, click **Edit Toolbox** and add the dimming panel to the toolbox.

4.0 GRX-TVM2 Controlling Infratech Heaters in a HomeWorks QS System (continued)

4.2 Database Design (continued)

4.2.2 Adding Equipment (continued)

Configure the HWI-PNL-8 dimming panel in the software to match the needs of the application. A single panel can be configured to have a maximum of 32 zones; however, the GRX-TVM2 takes the eighth spot in the panel (top location) and can control the first 24 loads in the panel.

Add the GRX-TVM2 kit to the eighth spot in the panel (top location)

Continued on next page...

# 4.0 GRX-TVM2 Controlling Infratech Heaters in a HomeWorks QS System (continued)

4.2 Database Design (continued)

4.2.3 Assigning the Infratech Heaters to the Panel

Proceed to the **design** > **equipment** section of the programming software. To the right of the PNL-8 panel image and parameters, there will be assign links which will show the **Assign** window when clicked. Click on the **Assign** link for one of the zones that will control an Infratech heater via a GRX-TVM2.
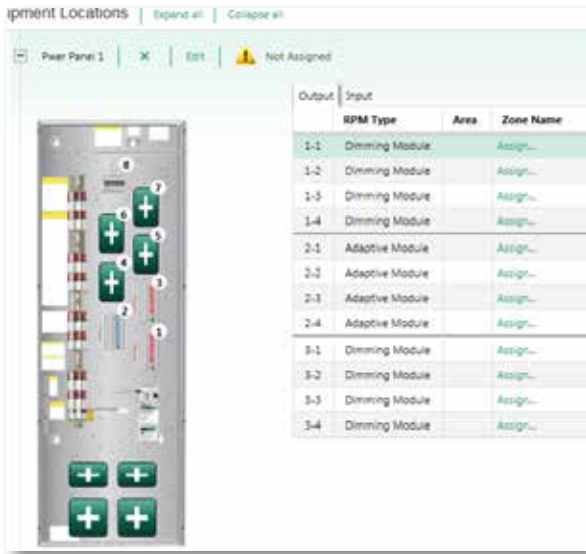
Find the zone to assign within the **Assign** window and click **Assign** for that zone.
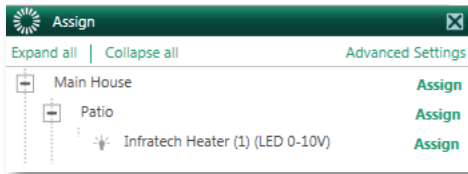
The zone will be assigned to the selected output on the panel. A GRX-TVM2 should appear in the **Interface** field along with the address of the GRX-TVM2.

| Output	Input					
	RPM Type	Area	Zone Name	Load Type	Fixture Quantity	Interface
1-1	Dimming Module	Patio	... ▸ Patio ▸ Infratech Heater	LED 0-10V	1	GRX-TVM2 1-1
1-2	Dimming Module		Assign...			-

5.0 GRX-TVI-CPN3876 Controlling Infratech Heaters in HomeWorks, RadioRA, or Caséta Wireless Systems

5.1 Installation

Items needed for this installation:

Item	Company	Function
GRX-TVI-CPN3876	Lutron	0–10 V=== source signal
EPC-2-D	LVS Controls	Interrupts the 0–10 V=== signal
Infratech relay module	Infratech	Interrupts line voltage to heaters
HomeWorks, RadioRA, or Caséta Wireless neutral wire dimmer	Lutron	Control point

The diagram below demonstrates how a GRX-TVI-CPN3876 needs to be wired to the Infratech system and to the neutral wire dimmer.
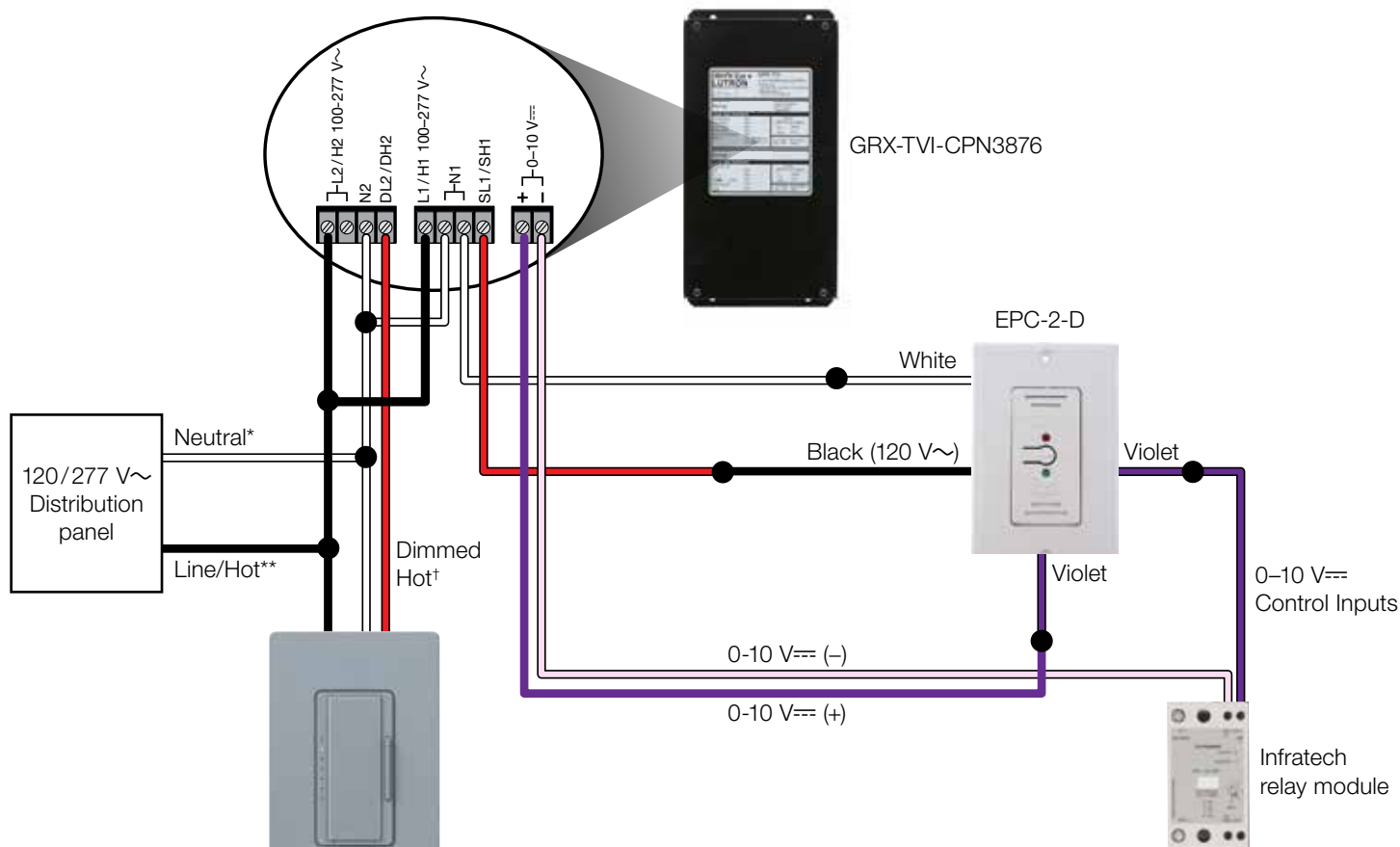
* Connect to the silver terminal on the dimmer.
** Connect to the black terminal on the dimmer.
† Connect to the brass terminal on the dimmer. If using a fluorescent dimmer, connect to the orange wire on the dimmer.
‡ Set the trim of the dimmer accordingly. Refer to section 5.3.3 for trim levels.

• The neutral wires of the neutral wire dimmer, GRX-TVI-CPN3876, and the EPC-2-D must originate in the same distribution panel. This neutral may only return loads supplied by the same circuit breaker as the neutral wire dimmer, GRX-TVI-CPN3876, and EPC-2-D (Split/Single Phase and Three Phase systems: This neutral may not be shared with other circuit breakers.
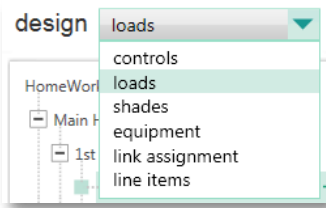
Important Note: In order to utilize this solution, the GRX-TVI-CPN3876 model must be used since the Infratech heaters require the control to source the 0–10 V=== signal. The GRX-TVI model acts as a sink and follows the IEC standard of 0–10 V=== control which is not compatible with Infratech heaters.

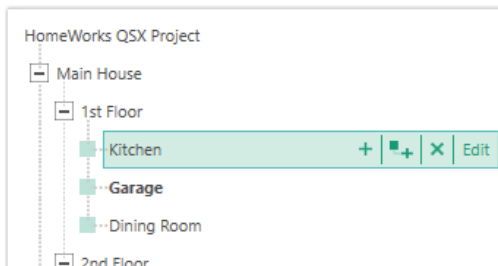# 5.0 GRX-TVI-CPN3876 Controlling Infratech Heaters in HomeWorks, RadioRA, or Caséta Wireless Systems (continued)

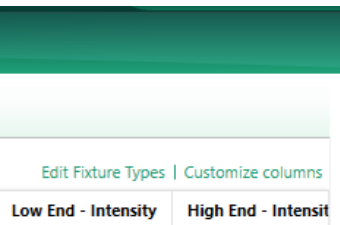## 5.2 HomeWorks Database Design

5.2.1 HomeWorks Load Schedule

To begin building the load schedule, go to the *design* tab menu and select *loads*.

Select an area that will contain the Infratech heaters by clicking on that area name in the tree to the left. The selected area will be highlighted green.

In the upper-right corner of the software window, click *Edit Fixture Types*.

5.0 GRX-TVI-CPN3876 Controlling Infratech Heaters in HomeWorks, RadioRA, or Caséta Wireless Systems (continued)

5.2 HomeWorks Database Design (continued)

5.2.1 HomeWorks Load Schedule (continued)

The **System Fixtures** configuration window will appear which allows you to create fixture placeholders for easy placement into the load schedule. On the **Custom** tab, create a fixture placeholder for the Infratech heaters that will be controlled by an GRX-TVI-CPN3876 and driven by the output of the neutral wire dimmer. There are two options for 0-10 V=== loads: **LED** or **Fluorescent**. Select either **LED** or **Fluorescent**. The system will still control the Infratech heaters even though a lighting load is selected. Choosing either **LED** or **Fluorescent** changes the trim level that can be set to 1% on the low-end and 99% on the high-end. You may need to show **High End** and **Low End** by customizing the columns. As a best practice, give the fixture a name that will provide a good reminder that the load is tied to the GRX-TVI-CPN3876 controlled by neutral wire dimmer.

Important Note: The **Lamp Wattage** must be entered as "10" or greater when using GRX-TVI-CPN3876.

Click **Done** to close the **System Fixtures** window and return to the load schedule for the selected area. Double-click in the **Fixture Type** field to reveal a drop-down menu with all currently created custom or Ivalo fixture options within the project. Select **Infratech Heater** and the software will add a load schedule line item in the selected area for the Infratech heaters in that space.

Provide a zone name, zone description, and any other pertinent information. Repeat this process for each Infratech heater that is to be controlled by a neutral wire dimmer driving a GRX-TVI-CPN3876.
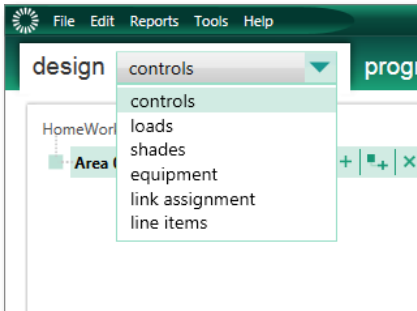
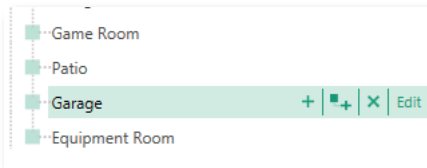# 5.0 GRX-TVI-CPN3876 Controlling Infratech Heaters in HomeWorks, RadioRA, or Caséta Wireless Systems (continued)

5.2 HomeWorks Database Design (continued)

5.2.2 Adding Controls

Add the equipment to which the Infratech heaters will be assigned. In this case, the equipment being added is the neutral wire dimmer. To add the panel to the database, go to the **design** tab drop down menu and select **controls**.

Select the area in which the dimming panel is to be physically located using the area tree on the left side of the screen.

Uncheck **Auto-Create Loads** under Device Locations and use the **Controls** toolbox to add a neutral wire dimmer to the area. If the neutral wire dimmer is not currently available in the toolbox, click **Edit Toolbox** and add the neutral wire dimmer to the toolbox.
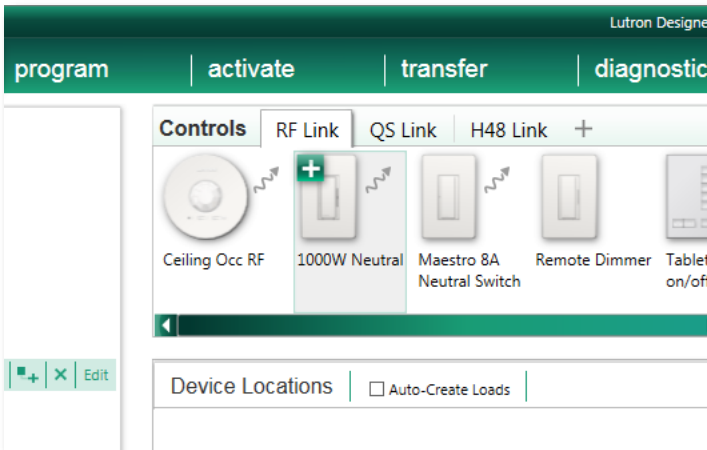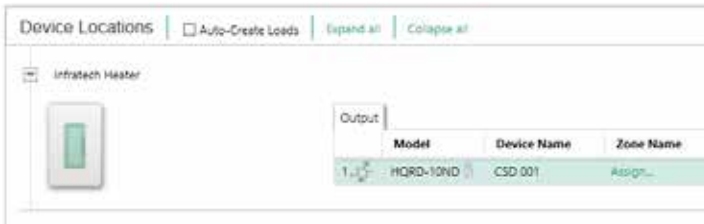
5.0 GRX-TVI-CPN3876 Controlling Infratech Heaters in HomeWorks, RadioRA, or Caséta Wireless Systems (continued)

5.2 HomeWorks Database Design (continued)

### 5.2.3 Assigning Infratech Heaters to the Neutral Wire Dimmer

Remain in the **design** > **controls** section of the programming software. To the right of the dimmer image and parameters, there will be assign links which will show the **Assign** window when clicked. Click on the **Assign** link for one of the zones that will control an Infratech heater via a GRX-TVI-CPN3876.

Find the zone to assign within the **Assign** window and click on **Assign** for that zone
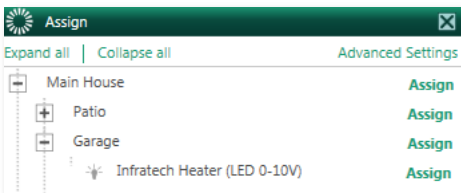
The zone will be assigned to the output of the dimmer. A GRX-TVI-CPN3876 should appear in the **Interface** field.
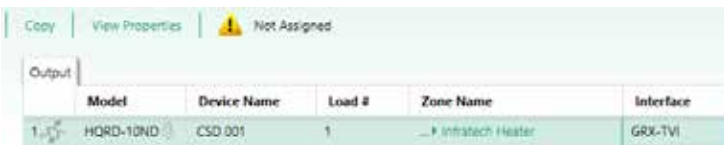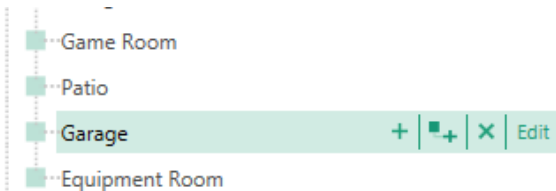
5.0 GRX-TVI-CPN3876 Controlling Infratech Heaters in HomeWorks, RadioRA, or Caséta Wireless Systems (continued)
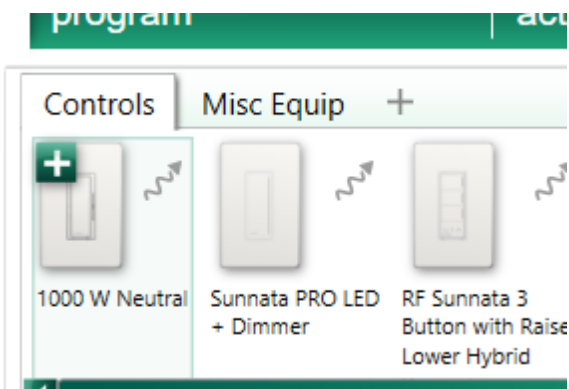
5.3 Adding a Neutral Wire Dimmer to a RadioRA 3 System for Control of an Infratech Heater via GRX-TVI-CPN3876

Add the equipment to which the Infratech heaters will be assigned. In this case, the equipment being added is the neutral wire dimmer. To add the panel to the database, go to the **design** tab drop down menu and select **controls**.

Select the area in which the neutral wire dimmer is to be physically located using the area tree on the left side of the screen.

Use the **Controls** toolbox to add a neutral wire dimmer to the area. If a neutral wire dimmer is not currently available in the toolbox, click **Edit Toolbox** and add a neutral wire dimmer to the toolbox.


Note: For proper operation with the GRX-TVI-CPN3876, verify/adjust the neutral dimmer trim settings per section **6.2 Setting Trim Levels via RadioRA 3 Software**.

5.0 GRX-TVI-CPN3876 Controlling Infratech Heaters in HomeWorks, RadioRA, or Caséta Wireless Systems (continued)

5.4 Adding a Neutral Wire Dimmer to a RadioRA 2 System for Control of an Infratech Heater via GRX-TVI-CPN3876

Select the room where the Infratech heaters are located. To the right of the selected room, click the "**+**" above **Click here to add device location**.
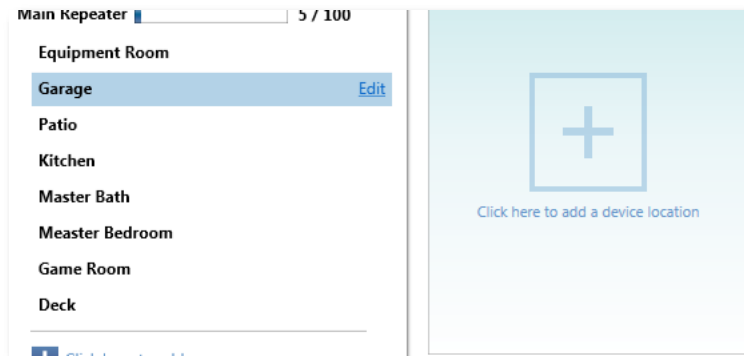
Under the **Available Devices** section, select the dimmer style and then select **0-10 V Dimming With Interface** in the **Device Type** drop down menu. By default, this will add an RRD-10ND with a GRX-TVI.
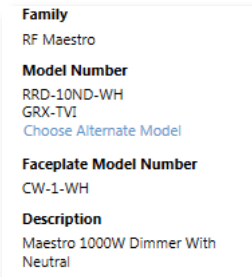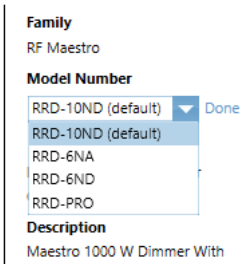
5.0 GRX-TVI-CPN3876 Controlling Infratech Heaters in HomeWorks, RadioRA, or Caséta Wireless Systems (continued)

5.4 Adding a Neutral Wire Dimmer to a RadioRA 2 System for Control of an Infratech Heater via GRX-TVI-CPN3876 (continued)
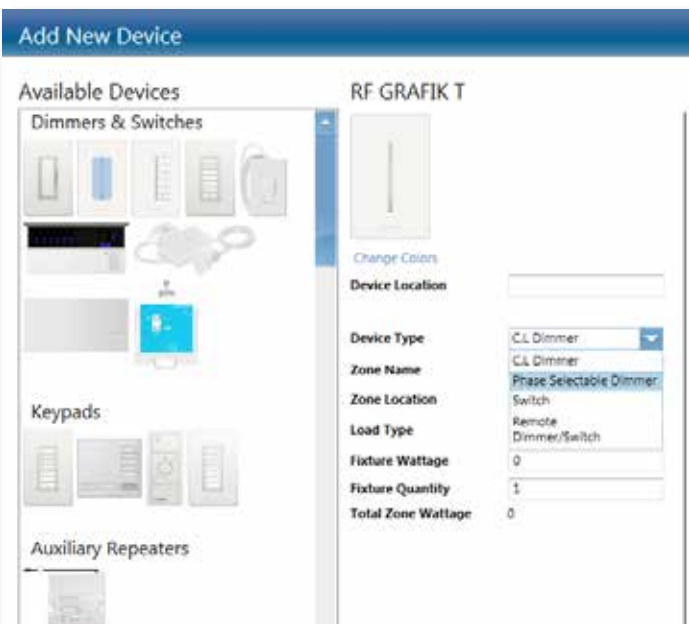
If an RRD-10ND is not the model to be used, click **Choose Alternate Model** under the **Model Number** section on the right side of the **Add New Device** screen.

Family
RF Maestro

Model Number
RRD-10ND-WH
GRX-TVI
Choose Alternate Model

Faceplate Model Number
CW-1-WH

Description
Maestro 1000W Dimmer With Neutral

From the drop down list of neutral wire dimmers, select the appropriate dimmer for the application.

Family
RF Maestro

Model Number
RRD-10ND (default)   Done
RRD-10ND (default)
RRD-6NA
RRD-6ND
RRD-PRO

Description
Maestro 1000 W Dimmer With

If using a GRAFIK T dimmer, select the GRAFIK T dimmer image under **Available Devices** and select either **C.L Dimmer** or **Phase Selectable Dimmer** in the **Device Type** field.

Add New Device

Available Devices   RF GRAFIK T
Dimmers & Switches

Change Colors
Device Location

Device Type   C.L Dimmer
                   C.L Dimmer
Zone Name   Phase Selectable Dimmer
Zone Location   Switch
Load Type   Remote Dimmer/Switch
Fixture Wattage   0
Fixture Quantity   1
Total Zone Wattage 0

Keypads

Auxiliary Repeaters

5.0 GRX-TVI-CPN3876 Controlling Infratech Heaters in HomeWorks, RadioRA, or Caséta Wireless Systems (continued)

5.4 Adding a Neutral Wire Dimmer to a RadioRA 2 System for Control of an Infratech Heater via GRX-TVI-CPN3876 (continued)

In the **Load Type** drop down menu, select any 0–10 V⎓ load. This will auto populate the GRX-TVI under the **Model Number** section.

If using a GRAFIK T keypad, select the GRAFIK T keypad image under **Available Devices** and select either **C.L Dimmer** or **Phase Selectable Dimmer** in the **Device Type** field.

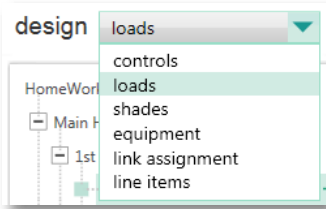
Once added, there will be a "✳" next to the load name
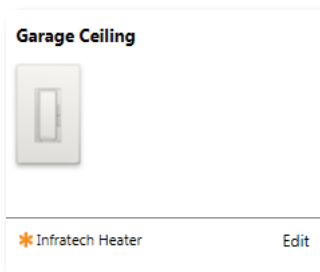
6.0 Setting Trim Levels on Neutral Wire Dimmers

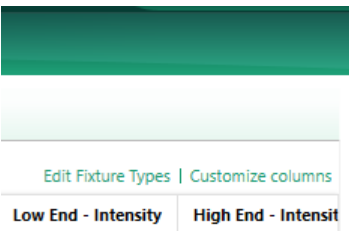## 6.1 Setting Trim Levels via HomeWorks Software

To begin setting the trim levels, go to the **design** tab menu and select **loads**.

Select an area that will contain the Infratech heaters by clicking on that area name in the tree to the left. The selected area will be highlighted green.
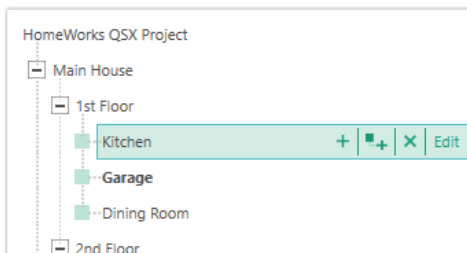
In the upper-right corner of the software window, click **Edit Fixture Types**.

The **System Fixtures** configuration window will appear which allows you to create fixture placeholders for easy placement into the load schedule. On the **Custom** tab, create a fixture placeholder for the Infratech heaters by selecting either **LED** or **Fluorescent**. Choosing either **LED** or **Fluorescent** changes the trim level that can be set based on the dimmer being used. You may need to show **High End** and **Low End** by customizing the columns. When using a neutral wire dimmer with GRX-TVI-CPN3876, refer to **Section 6.4** for trim level settings.

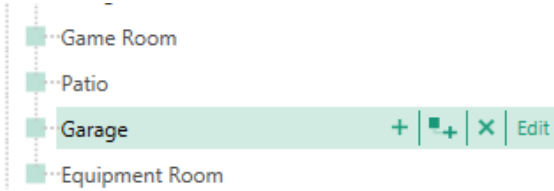| Fixture	Voltage	Load Type	Lamp Wattage	Lamp Qty.	Wattage	High End	Low End
Infratech	120 V	LED 0-10 V	10	1	10	99%	1%

6.0 Setting Trim Levels on Neutral Wire Dimmers (continued)
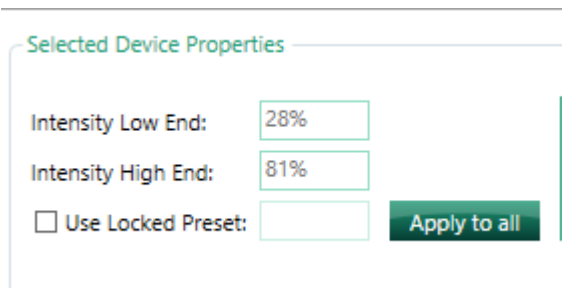
6.2 Setting Trim Levels via RadioRA 3 Software

Select the room where the Infratech heater is located.

Game Room
Patio
Garage   + | ■+ | ✕ | Edit
Equipment Room

Select the dimmer that is controlling the Infratech heater and click **View Properties**.

Infratech Heater   ✕   Edit   Cut   Copy   View Properties

Output

	Model	Zone Name
1	RRD-10ND	Infratech Heater

Set the **Intensity Low End** and **Intensity High End** according to the trim settings specified in **Section 6.4 Setting Trim Levels When Using GRX-TVI-CPN3879**.

Selected Device Properties

Intensity Low End: 28%
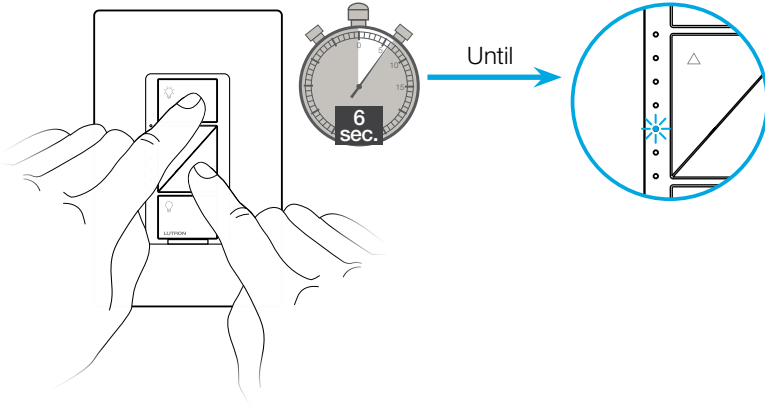Intensity High End: 81%
☐ Use Locked Preset: [ ]   Apply to all

6.0 Setting Trim Levels on Neutral Wire Dimmers (continued)

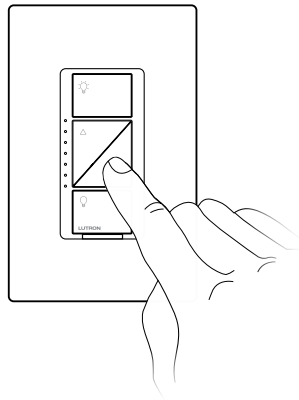## 6.3 Setting Trim Levels on a Caséta Wireless Dimmer (PD-10NXD)

The PD-10NXD trim levels need to be set on the dimmer itself and not through the Caséta Wireless app.
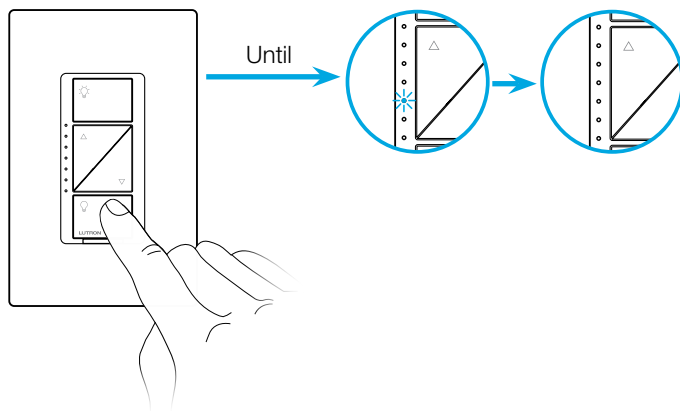
6.3.1 Setting Low-End Trim

Press and hold the "☼" and "▼" buttons until a status LED starts to flash (about 6 seconds).

Press and hold the "▼" button until the Infratech heater is on the lowest setting.

Press and hold the "♀" button until the status LED stops flashing.

6.0 Setting Trim Levels on Neutral Wire Dimmers (continued)

6.3 Setting Trim Levels on a Caséta Wireless Dimmer (PD-10NXD) (continued)

6.3.2 Setting High-End Trim

Press and hold the "☼" and "▲" buttons until a status LED starts to flash (about 6 seconds).

Press and hold the "▲" button until the Infratech heater is on the highest setting.

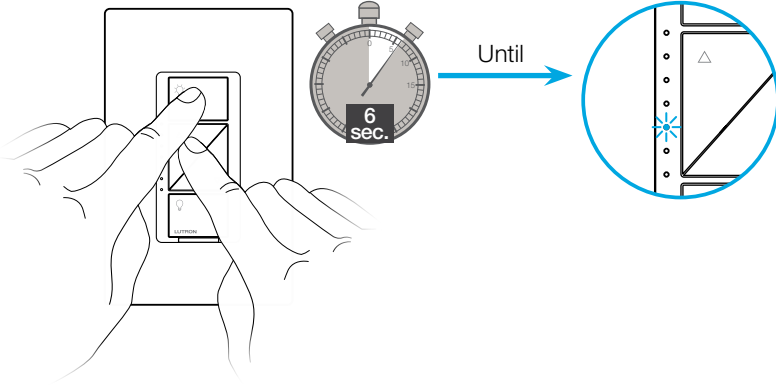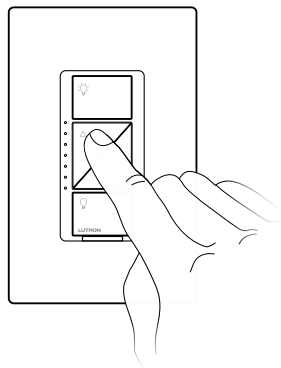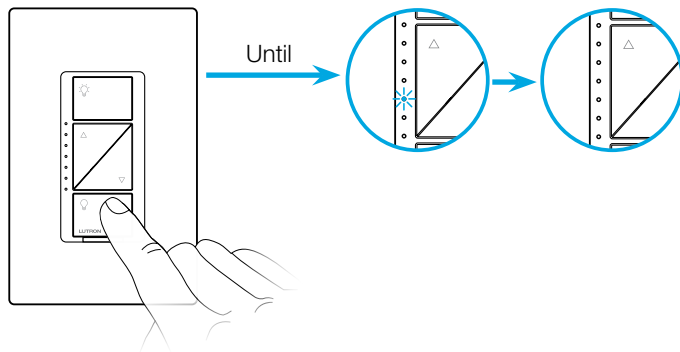Press and hold the "♀" button until the status LED stops flashing.

6.4 Setting Trim Levels When Using GRX-TVI-CPN3876

Below is a list of devices used in HomeWorks, RadioRA, and Caséta Wireless systems that can control Infratech heaters through a GRX-TVI-CPN3876. Trim levels need to be set on each device and a phase needs to be selected for dimmers capable of either forward or reverse phase control. This is due to the fact that the GRX-TVI-CPN3876 is looking for a signal from a fluorescent dimmer. When using any of the dimmers below to control the Infratech heaters through the TVI use the following settings:

- Set the **low-end trim to 28%**.

- Set the **high-end trim to 81%**.

- Set dimmers capable of forward- and reverse- phase control to **forward-phase**.

Important Note: If using a fluorescent dimmer, no trim level adjustments are required.

| System	Model Number
HomeWorks QS	HW-RPM-4A
HomeWorks QS	HW-RPM-4U
HomeWorks	HQRD-6NA or HQRA-6NA
HomeWorks	HQRD-10ND or HQRA-10ND
HomeWorks	HQRD-F6AN or HQRA-F6AN
HomeWorks	HQRD-H or HQRA-H
HomeWorks	HQRD-HN or HQRA-HN
HomeWorks	HQRT-5NEW
HomeWorks	HQRT-G25LW
HomeWorks	HQRT-GH2B, HQRT-GH4B, HQRT-GH5B, or HQRT-GH6B
HomeWorks	HQRD-PRO or HQRA-PRO
HomeWorks	LQSE-4A5-120-D
HomeWorks / RadioRA 3 / RadioRA 2	LQRJ-WPM-6P
HomeWorks / RadioRA 2	QSGRJ-3P, QSGRJ-4P, or QSGRJ-6P
RadioRA 3 / RadioRA 2	RRD-6NA
RadioRA 3 / RadioRA 2	RRD-10ND
RadioRA 3 / RadioRA 2	RRD-F6AN
RadioRA 2	RRD-H
RadioRA 3 / RadioRA 2	RRD-HN
RadioRA 2	RRD-G5NEW
RadioRA 3 / RadioRA 2	RRD-PRO
RadioRA 2	RRT-G25LW
RadioRA 2	RRT-GH2B, RRT-GH4B, RRT-GH5B, or RRT-GH6B
Caséta Wireless	PD-5NE
Caséta Wireless	PD-10NXD
RadioRA 3	RRST-PRO-N
RadioRA 3	RRST-HN

6.0 Setting Trim Levels on Neutral Wire Dimmers (continued)

## 6.5 Setting Trim Levels via RadioRA 2 Software

Select the room where the Infratech heater is located.

Right click on the control for the Infratech heater and select **Advanced Settings**.
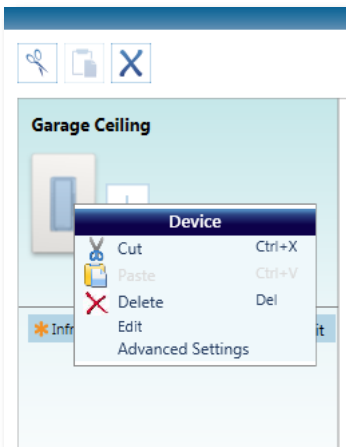
In the **Advanced Settings** screen, fill in the **Low End Trim** and **High End Trim** fields and click **Done**. When using a neutral wire dimmer with GRX-TVI-CPN3876, refer to **Section 6.4** for trim level settings.

Lutron Contact Numbers
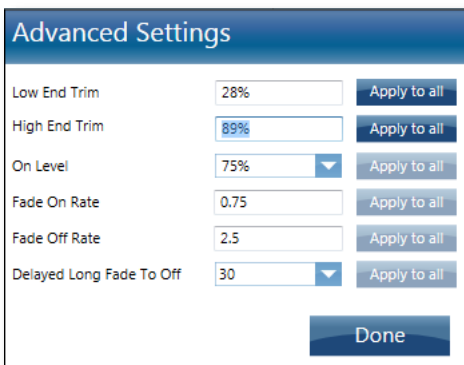
WORLD HEADQUARTERS
USA
Lutron Electronics Co., Inc.
7200 Suter Road
Coopersburg, PA 18036-1299
TEL: +1.610.282.3800
FAX: +1.610.282.1243

support@lutron.com

www.lutron.com/support

North & South America
Customer Assistance
USA, Canada, Caribbean:
1.844.LUTRON1 (1.844.588.7661)
Mexico:
+1.888.235.2910
Central/South America:
+1.610.282.6701

EUROPEAN HEADQUARTERS
United Kingdom
Lutron EA Limited
125 Finsbury Pavement
4th floor, London EC2A 1NQ
United Kingdom
TEL: +44.(0)20.7702.0657
FAX: +44.(0)20.7480.6899
FREEPHONE (UK): 0800.282.107
Technical Support: +44.(0)20.7680.4481

lutronlondon@lutron.com

ASIAN HEADQUARTERS
Singapore
Lutron GL Ltd.
390 Havelock Road
#07-04 King's Centre
Singapore 169662
TEL: +65.6220.4666
FAX: +65.6220.4333
Technical Support: 800.120.4491

lutronsea@lutron.com

Asia Technical Hotlines
Northern China: 10.800.712.1536
Southern China: 10.800.120.1536
Hong Kong: 800.901.849
Indonesia: 001.803.011.3994
Japan: +81.3.5575.8411
Macau: 0800.401
Taiwan: 00.801.137.737
Thailand: 001.800.120.665853
Other Countries: +65.6220.4666