

# USB Z-Wave® Adapter with Stand User Manual

for Models WDUSB-10, WDUSB-10R, WDSF-10 Create, Manage and automate your Home Control System from your PC





Thank you for purchasing the USB Z-Wave® Adapter. Z-Wave® products by Wayne-Dalton allow you to control your home by remote control. You can create a complete Home Control and Access Network by combining your USB Z-Wave® Adapter with other Z-Wave® certified products. Indoor and outdoor lighting, security systems, garage door openers, and thermostats are just a few of the items you can easily control with additional Z-Wave® certified products.

Your new USB Z-Wave® Adapter is compatible with the complete range of Wayne-Dalton Z-Wave® certified products. Furthermore, other Z-Wave® enabled modules, regardless of brand, will also work with your Wireless Gateway. Please consult with your module supplier for more details.

#### **Home Control Basics**

Z-Wave® certified products will allow you to easily control multiple devices in a home with the push of a button in what is known as a "scene". Turning on all of the lights as you come home is an example of a scene. Dimming lights and closing your curtains to watch TV, it's also a scene.

Visit www.wayne-dalton.com/access to get ideas on how to create scenes with your USB Z-Wave® Adapter and other Z-Wave® certified products.

#### PACKAGE CONTENTS

USB Z-Wave® Adapter

**USB Stand** 

Software on CD

Quick Start Guide









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#### **GLOSSARY**

Copy - See Replicate.

**Delete** – Erase transmitter or scene information from Controller. Also known as Exclude.

**Device** – Any item that is connected to a module (for example, lamps).

**Exclude** – Remove a module, transmitter or scene from the controller.

**Include** – Add a module to the controller. Also known as Inclusion.

**Module** – Any HomeSettings or Z-Wave® product that is controlled with a HomeSettings or

Z-Wave® remote controller. A module can be part of more than one scene.

**Network** – A collection of Z-Wave® modules controlled by primary and secondary controllers operating on the same system. A network has its own unique identification code so that no one else can control the system.

Node - Single Z-Wave® endpoint (controller or module) on a network .

**Operator** – Garage door opener or garage door operator.

**Primary Controller** – The first controller used to set up your modules and network.

NOTE: Only the Primary Controller can be used to include or delete modules from a network. It is recommended that you mark the primary controller for each network for ease in modifying your network.

**Replicate** – Copy from one controller to another.

**Scene** – A scene is a series of Z-Wave® modules programmed to turn to a specific level (on, off or dim) with the push of a button on a controller.

**Schedule** - A timer based event in the software that will activate a scene or turn on/off a zone at a specified time of day, or at sunrise or sunset.

**Secondary Controller** – A controller containing network information about other modules within the network, and is created FROM the primary controller. Secondary controllers cannot include or delete modules to the network.

**Sunrise/Sunset Function** -- Allows the software to follow sunrise or sunset times.

ThinkEssentials® will automatically adjust schedules as daylight length increases or decreases, without the need to be reprogrammed.

**Zone** - Zones can include one or more modules in your network, allowing them to be turned on or off when pressed or based on a schedule. Also known as groups.

#### **Safety Precautions**

This software is intended to be used in normal household circumstances and is expressly not for use in applications where health or safety are dependent on the accurate and timely functioning of the software or in circumstances where a malfunction or error could result in the loss of valuable property.

You should not use this software in conjunction with wireless devices or with items connected to or powered by wireless devices which are not designed for unattended operation.

#### **USB Z-Wave® Adapter Basics**

The Wayne-Dalton USB Z-Wave® Adapter with ThinkEssentials® software allows you to use your PC to create, manage and automate your Z-Wave® home control system.

The USB Z-Wave® Adapter, WDUSB-10R, using ThinkEssentials® software is designed to work with your Z-Wave® network as either a primary or secondary controller and requires that you have one or more Z-Wave® modules. With your controller you can create scenes for controlling multiple Z-Wave® modules including lighting devices, thermostats, window coverings and appliances.

Some of the features of the ThinkEssentials® software are:

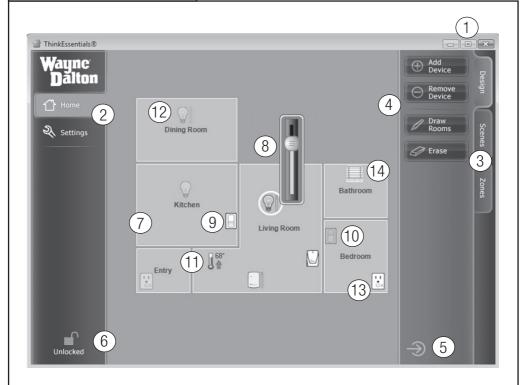
- Set up and control up to 230 Z-Wave® devices
- Draw a basic floor plan of your home with ease and see the state of all your devices
- Activate mood lighting (scenes) in your home or turn on/off zones of devices
- Schedules activate scenes or zones at specific times of day, including sunrise/sunset
- Schedules can be set for every day, individual days of the week, or multiple days of the week
- Turn all devices on or off with the push of one button
- Optimize and repair your network of Z-Wave® devices

To begin using Z-Wave® Home Control technology it is helpful to understand that each Z-Wave® module, including the USB Z-Wave® Adapter, communicate with each other using a low power radio transmitter and receiver. Large metal objects, house wiring, walls, furniture, refrigerators, microwaves and similar items can interfere with communication between the modules to reduce the range or even prevent communication. Therefore, placement of the USB Z-Wave® Adapter and Z-Wave® modules is very important. A USB adapter stand is included to allow for optimum placement of the USB Z-Wave® Adapter.

A Z-Wave® network is a collection of Z-Wave® modules in a mesh type of network. Therefore, each Z-Wave® module, regardless of manufacturer, communicates with all the other modules within its range to route and repeat the signals from one device to the next, thus creating a highly robust transmission throughout the home.

A Z-Wave® network can have only one primary controller. The primary controller establishes the network security to ensure your network will not operate your neighbors network and vice-versa. It is a good practice to label and protect your primary controller since it is the only Z-Wave® controller that can add modules to or remove modules from your network. It is easy to add secondary controllers as your network grows.

For more tips and great ideas on how to use and expand your network please visit our website, www.wayne-dalton.com/access.



The number below corresponds to the bubble number above.

- 1. Minimize, Maximize and Close Buttons control Wayne-Dalton ThinkEssentials® window.
- 2. Home Tab for application operations and Settings Tab for global software settings.
- 3. Design, Scenes and Zones Tabs for specific tasks within the Home Tab
- 4. Specific task Buttons within each Task tab.
- 5. Hide Pane Button to hide task buttons.
- 6. Lock/Unlock Button.
- 7. Example of Floor plan showing multiple named rooms.
- 8. Example of Slider Bar to adjust dim level on a dimming module.
- 9. Example of highlighted Switch indicating module is ON.
- 10. Example of greyed out Switch indicating module is OFF.
- 11. Example of Thermostat module.
- 12. Example of greyed out module that has dimming capability indicating it is OFF.
- 13. Example of highlighted duplex switch module indicating it is ON.
- 14. Example of window shade module icon.

#### Installing ThinkEssentials®

# Use this procedure to install the ThinkEssentials® software on your Personal Computer.

- 1. Insert the ThinkEssentials® CD into your Windows XP, Vista, or newer computer.
- 2. The installer program should run automatically. If the program does not start, double-click SETUP.EXE found on the CD.
- 3. Follow the instructions provided by the installer program. Once complete, a shortcut to the ThinkEssentials® program will be placed in your Start menu.
- 4. Your CD contains additional information which can be found by browsing to the CD folders.

Note: Do not lose the CD jacket. Located on the jacket is the license key which will be needed in later set-up steps.

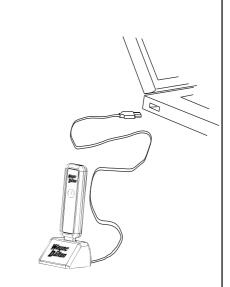


#### Installing the USB Z-Wave® Adapter

Use the following procedure to install the Wayne-Dalton USB Z-Wave® Adapter to your Personal Computer. ThinkEssentials® requires the USB Z-Wave® Adapter to communicate with a Z-Wave® network.

- 1. Plug the USB Z-Wave® Adapter into the supplied USB extension cable with stand.
- 2. Plug the USB extension cable with stand into an available USB port on your Personal Computer and place the stand in an open area away from walls or other dense materials or metal, for best performance.

Optionally, you may plug the USB Z-Wave® Adapter directly into a USB port on your computer, although this may reduce performance and range.



Install USB Adapter and USB stand into computer USB port.

#### ThinkEssentials® Setup

### Use the following procedure to initially setup vour ThinkEssentials® software.

- 1. Find the icon on your desktop, or find the link in your Start Menu (Programs), entitled ThinkEssentials® and double-click it to get it started.
- 2. When prompted for the license key, simply enter this number or code and then press the "Activate" button. The license key for your software is printed on a sticker on the back of the CD jacket accompanying the CD.
- 3. Select the location nearest you, by first selecting your country, then city/province and then your city. If your city does not appear in the list, select the city nearest you instead.

Note: Your location is used to program sunrise and sunset times. It may be changed at any time by choosing CHANGE LOCATION in the SETTINGS tab.



ThinkEssentials®



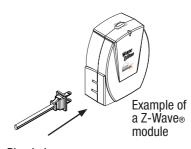
Use CHANGE LOCATION link to set your physical location.

#### **Z-Wave® Network Setup**

Use the following procedure to setup your Z-Wave® network with the Wayne-Dalton USB Z-Wave® Adapter as your primary controller. Setting up your network refers to assigning Z-Wave® modules to the USB Z-Wave® Adapter's network. All modules must be assigned to the Z-Wave® USB Adapter's network before any configuration or control functions can be accomplished.

Note: Devices, such as lamps and appliances, should be plugged into a Z-Wave® module before adding them to the network.

Note: If you are adding the Z-Wave® USB Adapter to an existing network, please see the section titled "Joining ThinkEssentials to an Existing Network" on page 22.



Plug in lamp or appliance

Continued next page...

#### **Adding Modules to the Network**

- 1. From the Design tab, press the ADD DEVICE button. A message window will ask you to press the button on the device to add.
- 2. Press-and-release the PROGRAM button on the Z-Wave® module. If successful, a message window will appear stating that the device has been successfully added. Repeat this procedure if a message window states that the module failed to be included.

NOTE: For your security, the USB Z-Wave® Adapter must be within 3 feet of the Z-Wave® module to be added. If this is not possible, please set up your network with a portable remote controller and then copy this information to the USB adapter (See "Joining ThinkEssentials® to existing Networks", page 22).

NOTE: Please see the User
Manual or Instruction Manual for
the specific Z-Wave® module
being programmed to locate the
PROGRAM button and for specific
programming information. To add
a new controller as a secondary
controller to the network, please
see the section "Adding a Controller
to the Network" page 24.

TIP: If the Z-Wave® module fails to be included in the network it may have previously been used in another network and needs to be reset. Press the REMOVE DEVICE button in ThinkEssentials® and then press and release the PROGRAM button on the Z-Wave® module.

NOTE: The process of adding modules to a network is often referred to as INCLUSION.

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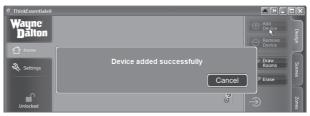


Press ADD DEVICE to add a 7-Wave® module.



Press-and-Release PROGRAM button on module

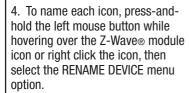




Device added successfully message window.

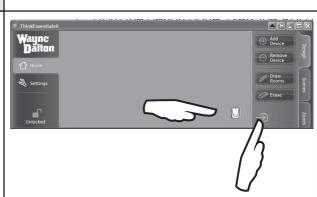
### Adding Modules to the Network (continued)

3. The added Z-Wave® module will appear as an icon in the lower right corner of the ThinkEssentials® window. You may move these icons around by clicking and dragging them into open spaces or into rooms (see Drawing a floor plan, page 11-12.)



To view the name of a Z-Wave® module in the ThinkEssentials® window, hover over its icon with your mouse and the name will pop up automatically. If the module does not have a name, it will be named UNNAMED and the internal Z-Wave® node ID will follow in brackets

5. Repeat Steps 1 thru 4 for each device you wish to add to the network.



Icon of Z-Wave® module appears in lower right corner of screen. NOTE: You may need to click the HIDE PANE Button to reveal the icon.



Name the icon by right-clicking on the icon and selecting RENAME DEVICE.



Hover over module to see current name of module.



Unnamed modules have the name "Unnamed".

#### **Controlling Modules**

Use the following procedures for controlling Z-Wave® modules individually. For more advanced control functions please see the section titled "Creating/Modifying Schedules", page 19-20.

1. To turn a specific Z-Wave® module ON or OFF, simply click on the icon of the intended module. Clicking repeatedly will typically toggle the module on and off. Typically, the icon will appear dimmer or greyed out when the Z-Wave® module is in the OFF position.

In the case of window shades, clicking the icon will typically open or close the shade.

Advanced functionality for a module can be accessed by pressing-and-holding the left mouse button while hovering over an icon or by right-clicking the icon. For example, lamp modules and dimmable light switches pop up a dimmer bar. If a menu pops up instead, you may click the lock icon in the bottom-left corner to switch to LOCKED mode to suppress the additional options. Dimming Bar button can be manually adjusted with the mouse to the level desired.

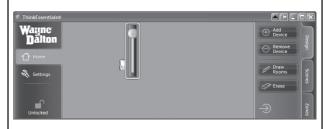
NOTE: Many types of Z-Wave® modules have not been invented yet or are not known to the software, and may appear as question marks in the software interface. Additionally, some modules will not react when their icons are clicked on. There may be an upgrade available online at http://www.wayne-dalton.com/access/TE which enables functionality for more types of devices.



Module appears bright indicating it is in ON position.



Module appears dim indicating it is in OFF position.



Example of Dimming bar.

#### **Drawing Floor Plan**

You may optionally draw a basic floor plan or room layout in the software for organizing your Z-Waye® modules.

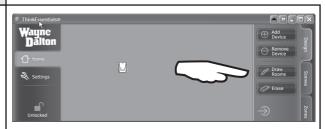
1. To draw a room, click the DRAW ROOMS button in the Design pane. This will enable DRAW ROOMS mode. To exit this mode, click the DRAW ROOMS button again. Once in this mode, you may draw one or more rooms.

#### To draw a room:

- Move your mouse pointer to the location in the open center area of the software interface where you would like to draw your room. This will be one corner of the room.
- Press the left button on your mouse and then move your mouse diagonally to where the opposite corner of the room should be.
- To complete the room, release the left mouse button.
- When prompted, type a name for the room.

To draw a non-rectangular room:

- Draw the largest rectangular section of the room per the above instructions.
- To draw an additional segment of the room, press the left mouse button inside the room and then move your mouse diagonally to an empty area outside of the room.
- To complete the extension to the room, release the left mouse button.
- To erase unwanted sections of the room, use the ERASE mode (See next section).



Click on DRAW ROOMS to enter or leave drawing mode.



Example of Floor Layout.

#### **Drawing Floor Plan (continued)**

To erase a room or rooms, or parts of a room or rooms, click the ERASE button in the Design pane. This will enable ERASE mode. To exit this mode, click the ERASE button again.

Once in this mode, you may erase part or all of one or more rooms. To erase:

- Move your mouse pointer to the location in the open center area of the software interface where you would like to begin erasing. This will be one corner of your erasing block.
- Press the left button on your mouse and then move your mouse over the area you would like to erase.
- When you have finished selecting the area you would like to erase, release the left mouse button

To erase an entire room, you may also press-and-hold the left mouse button over that room or right-click the room and then select REMOVE ROOM from the pop-up menu.

To rename an existing room, pressand-hold the left mouse button over the room or right-click the room and then select RENAME ROOM from the pop-up menu.



Click on ERASE to enter or leave Erase drawing mode.



Example showing sections erased.



Example showing upstairs erased.



Press-and-Hold left mouse button or right click to get the options to RENAME ROOM or REMOVE ROOM.

#### **Removing Modules from Network**

# Use the following procedure to remove Z-Wave® modules from your Z-Wave® network.

- 1. From the Design tab, press the REMOVE DEVICE button. A message window will ask you to press the button on the device to remove.
- 2. Press-and-release the PROGRAM button on the Z-Wave® module. If successful, a message window will appear stating that the device has been successfully removed. Repeat this procedure if a message window states that the module failed to be removed

NOTE: Please see the User Manual or Instruction Manual for the specific Z-Wave® module being programmed to locate the PROGRAM button and for specific programming information.

NOTE: The process of removing modules from a network is often referred to as EXCLUSION.

NOTE: You can also reset modules in other networks using the REMOVE DEVICE button. If the target module is part of another network, it will be reset instead of removed from your network. Please note that some modules do not support being reset in this manner and so this procedure will fail; in such cases, refer to the module's documentation for manual reset instructions.



Press REMOVE DEVICE to remove a 7-Wave® module



Press-and-Release PROGRAM button on module





Device removed successfully message window.

#### Remove/Replace Broken Modules

Use the following procedure to remove or replace a module has been physically removed from the premises without being removed from the network or is broken. A broken module is indicated by a red circle with a slash over the module. A broken module will slow down your network because the network will try multiple times to reach the broken node each time ThinkEssentials@ polls the module or it is used in a Scene or Zone.

- 1. Press-and-hold the left mouse button or right-click on the broken or missing module's icon. You have a choice of either, a) Replacing the broken module, or b) Removing the broken module from your network.
- 2. To remove the module from the network, select the REMOVE BROKEN DEVICE option.
- 3. To replace the module with another module, select the REPLACE BROKEN DEVICE option.
  a) Press-and-release the PROGRAM button on the Z-Wave® module you wish to use as a replacement.

If successful, a message window will appear stating that the device has been successfully added.

Repeat this procedure if a message window states that the module failed to be included.

TIP: Verify the replacement module does not belong to any other network by resetting it. See section "Removing Modules from Network", page 13, for a detailed procedure.



Red Circle with Slash indicates a broken module.



Right-click and select REMOVE BROKEN DEVICE.



NOTE: You should remove modules from the network, such as Christmas light plug-in modules, before unplugging them for a period of time. For best results, this functionality should only be used in case of actual module failure.

#### **Locking/Unlocking ThinkEssentials®**

### Use the following procedure to lock/unlock ThinkEssentials<sub>®</sub>.

ThinkEssentials® software operates in two modes: a) locked and, b) unlocked. Unlocked mode is generally used for setup and configuration of the network. Most users run ThinkEssentials® in locked mode for day-to-day use, and unlock the software to make configuration changes. To toggle between these two modes, simply click on the lock icon in the corner of the software interface or its accompanying text.

#### In LOCKED mode the software:

- Does not allow changes to modules, devices, layout, scenes, zones, or other settings.
- Prevents the adding or removing of modules in the network.
- Does allow general control, such as turning modules on or off or activating scenes.
- Gives quick access to dimming or other regularly used controls by right-clicking on modules.

#### In UNLOCKED mode the software:

- Allows creation and modification of Designs, Scenes, Zones and Settings.
- Allows user more options such as renaming or configuring devices by right-clicking on modules

NOTE: Some options, such as ADD DEVICE and REMOVE DEVICE may still be unavailable when the software is unlocked if your USB Z-Wave® adapter is a secondary controller in the network. Only Primary Controllers can add or remove modules to or from a network.



LOCKED/UNLOCKED link is located in lower left hand corner of ThinkEssentials® window.

#### **Creating Scenes and Zones**

ThinkEssentials® makes it easy to set up scenes and zones. These two features are similar but are uniquely powerful.

Scenes activate a certain set of modules together, with each module changing to its own preset level. An example of this is "movie mode", where the living room lights dim to the OFF position, the living room blinds close, and the kitchen light turns on to 20% for a bit of background light. Other popular scenes include "romantic", "dinner time", etc. Be creative!

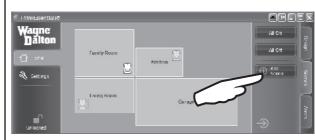
Zones turn on or off a set of modules together. The modules do not change to preset modes, but instead all of them turn on or off. This is very useful for turning on porch or holiday lights or outdoor lighting at sunset, and turning them off again around midnight, as one example.

#### **Creating Scenes/Zones**

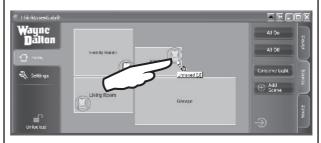
## Use the following procedure to create or add Scenes and Zones in ThinkEssentials®.

To add a scene or zone:

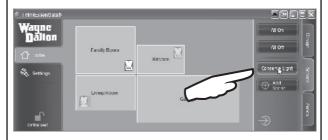
- 1. Go to the Scene or Zone tab, then Click the ADD SCENE or ADD ZONE button, respectively. This button is found at the bottom of the list of scenes or zones.
- 2. The software will prompt you to name the scene or zone. Enter a name, and then press the button to continue. You may also be presented with additional instructions
- 3. To include modules into this scene or zone, simply click on the icon of the module(s) you wish to add. The module's icon will be circled on the screen indicating that it is now part of the scene or zone.
- a.) When including dimming modules into a scene, the module's level will be recorded for use when the scene is activated. To change the module's desired level for the scene, press-and-hold the left mouse button or right-click on the module's icon and utilize the pop-up options.
- b.) There are two special scenes built into the scenes tab: ALL ON and ALL OFF. These scenes will turn the selected modules to the ON or OFF position when activated, and changing these scenes will affect the ALL ON and ALL OFF features of all remote controllers in the network. Changing the modules's current level will not be reflected in these scenes.
- c.) When including modules into a zone, the current level of the module is not relevant. Modules in a zone all turn on or off together.
- 4. To record the scene or zone, press the same Scene or Zone button you created in Step 2. The highlight on the button will then go away.



Click the ADD SCENE button.



Click the modules you wish to add to that scene.



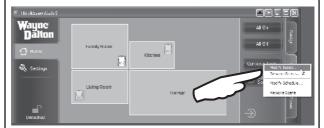
Click the scene button you just created.

#### **Modifying Scenes/Zones**

# Use the following procedure to modify existing Scenes and Zones in ThinkEssentials®.

To modify a scene or zone:

- 1. Press-and-hold the left mouse button or right-click the button for the scene or zone you wish to modify.
- 2. To rename the scene, select the RENAME SCENE or RENAME ZONE option.
- 3. To modify a scene or zone, select the MODIFY SCENE or MODIFY ZONE option. Follow steps 3 and 4 in "Creating Scenes/Zones", page 16-17, to select or de-select devices and re-record the scene or zone.



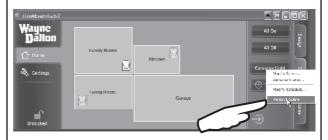
Right-Click to see option for MODIFY SCENES OR ZONES.

#### **Removing Scenes/Zones**

## Use the following procedure to remove Scenes or Zones in ThinkEssentials®.

To remove a scene or zone:

- 1. Press-and-hold the left mouse button or right-click the button for the scene or zone you wish to modify.
- 2. Select the REMOVE SCENE or REMOVE ZONE option respectively.



Right-Click to see option for REMOVE SCENE OR ZONE.

#### **Schedules**

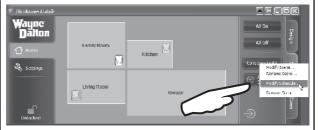
One of the most powerful features of ThinkEssentials® is the ability to create schedules. ThinkEssentials® can help you save energy, make life more convenient, or increase the security of your home by automatically activating scenes or zones at certain times of the day or at sunrise or sunset. These schedules can be activated or deactivated at any time, and can occur on one or more days of the week.

#### **Creating/Modifying Schedules**

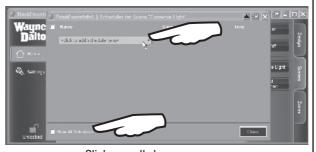
Use the following procedure to create or modify schedules for scenes and zones in ThinkFesentials®

To modify the schedule for a scene or zone:

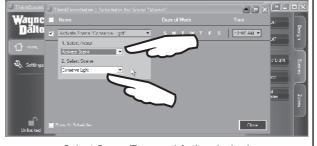
- 1. Press-and-hold the left mouse button or right-click the button for the scene or zone.
- 2. Select the MODIFY SCHEDULE option.
- 3. To add a new schedule item, click on the CLICK TO ADD SCHEDULE ITEM pull-down. To modify an existing schedule item, locate the item in the list. If you cannot locate the item, check the SHOW ALL SCHEDULES check box in the lower-left corner.
- 4. If the desired scene or zone is not already selected, select it now. In the case of zones, select whether to turn the zone on or off.



Right-Click to see option for MODIFY SCHEDULE.



Click on pull-down menu.



Select Scene/Zone and Action desired.

### Creating/Modifying Schedules (continued)

- 5. Click on the days of week when the schedule item should occur.
- 6. Click on the time pull-down near the right to change the time of day when the schedule item should occur. You may also choose sunrise or sunset.
- 7. To enable the schedule item, make sure that the check box on the left side is checked. To disable the schedule item, un-check its check box.
- 8. When done, close the Schedules pop-up window.

NOTE: You may choose to let your computer go to sleep (into standby mode) when it is not used for a period of time. ThinkEssentials® will attempt to wake your computer from standby when a schedule item should occur. If your computer has trouble waking from standby mode, disable standby on your computer.

NOTE: You should remove devices from the network, such as Christmas light plug-in modules, before unplugging them for a period of time. For best results, this functionality should only be used in case of actual device failure.

NOTE: The sun does not rise or set on certain days for locations in the Arctic and Antarctic circles. On these days, any schedule items assigned to sunrise or sunset may not be activated.



Select desired time and days of week.



Check box to ENABLE/DISABLE schedule.

#### **Viewing/Modifying Schedules**

## Use the following procedure to view or modify schedules in ThinkEssentials.

To view or modify all schedules:

- 1. Switch to the SETTINGS tab.
- 2. Click the VIEW ALL SCHEDULES link.

Modify the desired fields per instructions in the section "Creating/Modifying Schedules", pages 19-20.

NOTE: You can also check the SHOW ALL SCHEDULES check box while modifying schedules for any scene or zone to view all schedule items.



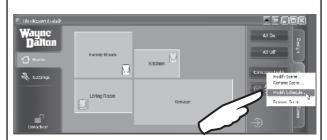
On Settings tab, select VIEW ALL SCHEDULES.

#### **Deleting Schedules**

## Use the following procedure to delete a schedule in ThinkEssentials®

To delete the schedule for a scene or zone:

- 1. Press-and-hold the left mouse button or right-click the button for the scene or zone.
- 2. Select the MODIFY SCHEDULE option.
- 3. To remove an existing schedule item, locate the item in the list. If you cannot locate the item, check the "Show All Schedules" check box in the lower-left corner. Change the Select Action drop down box to "No Action (remove item.)"
- 4. When done, close the Schedules pop-up window.



Right-Click and select MODIFY SCHEDULE.



Click NO ACTION (remove item) to delete the scheduled action.

#### Joining ThinkEssentials® to Existing Networks

Use the following procedure to join an existing network or add ThinkEssentials® as another controller (secondary) to the network.

To join ThinkEssentials® to an existing Z-Wave® network as a secondary controller:

1. Activate the REPLICATION SEND mode on your Primary Controller. This option may also simply be referred to as ADD DEVICE, ADD CONTROLLER or REPLICATE NETWORK INFORMATION ONLY.

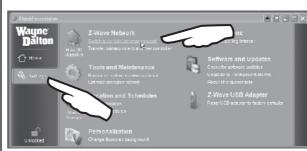
Note: Please see the User Manual or Instruction Manual for the specific Z-Wave® controller being used for information on how to REPLICATE SEND or COPY TO, node and scene information.

2. Switch to the SETTINGS tab, and then click the SWITCH TO (OR JOIN) ANOTHER NETWORK link. The controller will then automatically send the USB Z-Wave® adapter a full listing of all the modules in the network as well as routing information. The software will indicate if the process was successful. If it was not successful, it will be necessary to repeat this step.

NOTE: If the USB Z-Wave® adapter joins an existing network and becomes a Secondary Controller, you cannot use the software to add or remove modules from the network.

NOTE: Any time you add or remove a module using the Primary Controller, ThinkEssentials® and other Secondary Controllers should be updated. See section "Receiving Network Updates", page 23.

NOTE: The process of joining a network is often referred to as RECEIVE CONFIGURATION or REPLICATION RECEIVE mode. The overall process is often called CONTROLLER REPLICATION.



Select SWITCH TO (OR JOIN) ANOTHER NETWORK.



Note: By joining another network, all existing information on the USB adapter will be lost.



Message window indicating software is ready to receive replication.

#### **Receiving Network Updates**

# Use the following procedure to update network information in ThinkEssentials® when ThinkEssentials® is a secondary controller.

When you add or remove modules using the Primary Controller, those changes will generally not be reflected in the ThinkEssentials® software when ThinkEssentials® is a secondary controller in the network until it is updated using the following procedure.

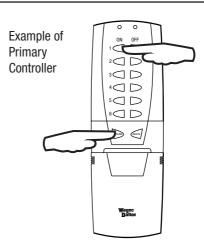
Activate the REPLICATION SEND mode on your Primary Controller. This option may also simply be referred to as ADD DEVICE, ADD CONTROLLER or REPLICATE NETWORK INFORMATION ONLY.

Note: Please see the User Manual or Instruction Manual for the specific Z-Wave® controller being used for information on how to REPLICATE SEND or COPY TO, node and scene information.

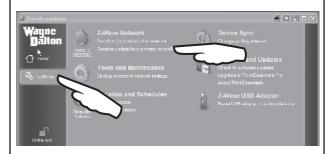
2. Switch to the SETTINGS tab, and then click the RECEIVE UPDATE FROM PRIMARY CONTROLLER link.
The controller will then automatically send the USB Z-Wave® adapter a full listing of all the devices in the network as well as routing information. ThinkEssentials® will indicate if the process was successful. If it was not successful, it will be necessary to repeat this step.

NOTE: Any time you add or remove a device using the Primary Controller, ThinkEssentials® should be updated by repeating this process.

NOTE: The process of receiving network updates is often referred to as RECEIVE CONFIGURATION or REPLICATION RECEIVE mode. The overall process is often called CONTROLLER REPLICATION.



Initiate Primary Controller to SEND REPLICATION.



Select RECEIVE UPDATE FROM PRIMARY CONTROLLER.

### Adding a Controller to the network

Use the following procedure to add secondary controllers to a network where ThinkEssentials® is the primary controller.

Adding another controller to your network as a secondary controller is similar to the procedure "Adding modules to the Network" (see page 8-9), but put the target controller into JOIN NETWORK, RECEIVE CONFIGURATION, or REPLICATION RECEIVE mode

- 1. From the Design tab, press the ADD DEVICE button. A message window will ask you to press the button on the device to add.
- 2. Place the secondary controller into RECEIVE REPLICATION or COPY FROM mode. (Please see the User Manual or Instruction Manual for the specific Z-Wave® controller being programmed for detailed programming information.)

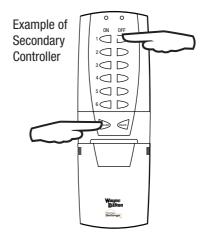
If the operation is successful, a message window will appear stating that the device has been successfully added. Repeat this procedure if a message window states that the module failed to be included. There is NO icon for a secondary controller.

NOTE: For your security, the USB Z-Wave® Adapter must be within 3 feet of the controller to be added.

NOTE: The process of adding a controller to a Z-Wave® network is often referred to as SEND CONFIGURATION or REPLICATION SEND mode. The overall process is often called CONTROLLER REPLICATION.



Press ADD DEVICE to add a secondary controller.



Initiate Secondary Controller to RECEIVE REPLICATION.



Device added successfully message window.

### Removing Controllers from the network

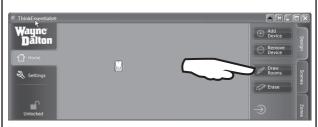
Use the following procedure to remove secondary controllers from a network where ThinkEssentials® is the primary controller.

It is best practice to remove a secondary controller from your network prior to re-setting it when it is no longer needed or if the secondary controller is to be reset for any reason. This procedure is similar to the procedure "Adding a Controller to the Network" (see page 24), but "Remove Device" from ThinkEssentials®

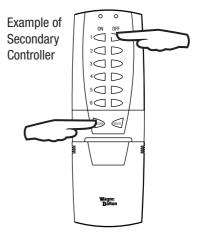
- 1. From the Design tab, press the REMOVE DEVICE button. A message window will ask you to press the button on the device to remove
- 2. Place the secondary controller into RECEIVE REPLICATION or COPY FROM mode. (Please see the User Manual or Instruction Manual for the specific Z-Wave® controller being programmed for detailed programming information.)

If the operation is successful, a message window will appear stating that the device has been successfully added. Repeat this procedure if a message window states that the module failed to be included.

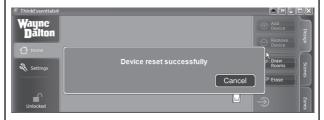
NOTE: For your security, the USB Z-Wave® Adapter must be within 3 feet of the controller to be removed.



Press REMOVE DEVICE to remove a secondary controller.



Initiate Secondary Controller to RECEIVE REPLICATION.



Device removed successfully message window.

#### **Updating Secondary Controllers**

Use the following procedure to update secondary controllers in a network where ThinkEssentials® is the primary controller.

It is best practice to update the network information in your secondary controllers whenever Z-Wave® modules are added or deleted from the network by the primary controller. This will improve the overall performance of your network and the controllers in it.

To update the network and routing information in an existing secondary controller on your network, follow the same procedure as "Adding a controller to the network" (see page 23), but put the target controller into JOIN NETWORK, RECEIVE CONFIGURATION or REPI ICATION RECEIVE mode.

- From the Design tab, press the ADD DEVICE button. A message window will ask you to press the button on the device to add.
- 2. Place the secondary controller into RECEIVE REPLICATION or COPY FROM mode. (Please see the User Manual or Instruction Manual for the specific Z-Wave® controller being programmed for detailed programming information.)

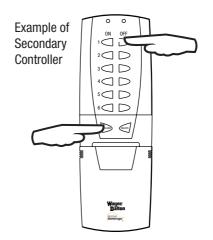
If the operation is successful, a message window will appear stating that the device has been successfully added. Repeat this procedure if a message window states that the module failed to be included. There is NO icon for a secondary controller.

NOTE: For your security, the USB Z-Wave® Adapter must be within 3 feet of the controller to be added.

NOTE: The process of adding a controller to a Z-Wave® network is often referred to as SEND CONFIGURATION or REPLICATION SEND mode. The overall process is often called CONTROLLER REPLICATION.



Press ADD DEVICE to add a secondary controller.



Initiate secondary controller to RECEIVE REPLICATION.



Device added successfully message window.

#### **Optimize/Repair Network**

Over time, you may notice the software response slowing down or there may be communication failures in your Z-Wave® network indicated by the red circle slash. This condition may be caused by one or more reasons such as Z-Wave® modules with burned out light bulbs, weak antenna strength, missing or broken modules, or modules which have been moved in the network. To optimize and repair the communication paths in your network, switch to the SETTINGS tab and click the OPTIMIZE AND REPAIR NETWORK link.

NOTE: With some versions of Z-Wave® firmware, this link will not be available unless the USB Z-Wave® Adapter is acting as Primary controller. If this link is not available, try to repair the network using your Primary controller and then update the USB Z-Wave® Adapter using the RECEIVE UPDATE FROM PRIMARY CONTROLLER feature.



On Settings tab, select OPTIMIZE AND REPAIR NETWORK.



#### **Polling**

Use the following procedure to modify the polling interval in ThinkEssentials®.

ThinkEssentials® will query every Z-Wave® device in your network at a specific time interval in order to update the Z-Wave® modules' icons on the ThinkEssentials® user interface with their latest states. By default, the polling interval is 60 minutes.

- 1. To change the polling interval to be more or less frequently, switch to the SETTINGS tab and click CHANGE POLLING INTERVAL.
- 2. Use the slider bar to adjust to the desired interval.



On Settings tab, select CHANGE POLLING INTERVAL.



Use slider bar to set desired interval.

### Transfer Primary Role from Thinkessentials®

Use the following procedure to transfer the Primary Controller role from ThinkEssentials® to another controller.

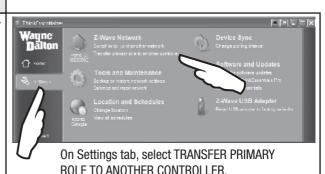
Transferring the primary controller role between controllers is sometimes necessary or convenient when working with your Z-Wave® network. For example, to add a new Z-Wave® module to a network where ThinkEssentials® is set-up as the primary controller and is running on a desktop computer, would be difficult since the desktop computer is generally not very portable. It would be much easier to temporarily transfer the primary controller role from ThinkEssentials® on the desktop to a portable controller, add the new Z-Wave® module with the portable controller and then transfer the primary controller role back to ThinkEssentials®.

- Switch to the SETTINGS tab and click on the TRANSFER PRIMARY ROLE TO ANOTHER CONTROLLER link.
- 2. Put the target controller in JOIN NETWORK, RECEIVE CONFIGURATION, or REPLICATION RECEIVE mode. (Please see the User Manual or Instruction Manual for the specific Z-Wave® controller being programmed for detailed programming information.)

NOTE: If the target controller is a secondary remote in different network, it will need to be reset before it will accept the primary controller role transfer. See the User Manual for the specific controller being programmed for details.

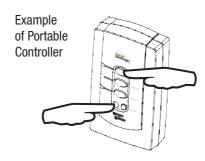
NOTE: For your security, the USB Z-Wave® Adapter must be within 3 feet of the controller to be added.

NOTE: The process of transferring the primary controller role to another controller may delete all previous network information on the target controller. See the User Manual for the specific controller being programmed for details.

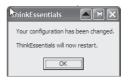




Initiate TRANSFER in ThinkEssentials®.



Initiate secondary controller to RECEIVE REPLICATION.



Confirmation of successful transfer.

### Transfer Primary Role to Thinkessentials®

Use the following procedure to transfer the Primary Controller role from another controller to ThinkEssentials.

Transferring the primary controller role between controllers is sometimes necessary or convenient when working with your Z-Wave® network. For example, if you started your network with a portable controller as your primary controller and now want the safety and security of using ThinkEssentials® in a stationary position, you can transfer the primary role to ThinkEssentials®.

- Switch to the SETTINGS tab and click on the SWITCH TO (OR JOIN) ANOTHER NETWORK link.
- 2. Put the existing primary controller in TRANSFER PRIMARY ROLE TO ANOTHER CONTROLLER, or CONTROLLER SHIFT mode. (Please see the User Manual or Instruction Manual for the specific Z-Wave® primary controller being used for detailed programming information. Note that some controllers do not support the Controller Shift command.)

NOTE: For your security, the USB Z-Wave® Adapter must be within 3 feet of the controller to be added.

NOTE: If ThinkEssentials® was a secondary controller in the same network prior to being promoted to the primary controller role, all configuration, scene and zone data will remain intact.

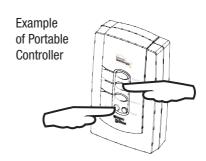
NOTE: If ThinkEssentials® and the USB Z-Wave® Adapter were a secondary remote in different network, they will need to be reset before accepting the primary controller role transfer. See the section on "Resetting ThinkEssentials®" on page 38 for details.



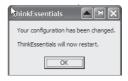
On Settings tab, select SWITCH TO (OR JOIN)
ANOTHER NETWORK



Initiate TRANSFER in ThinkEssentials®.



Initiate primary controller to do CONTROLLER SHIFT.



Confirmation of successful transfer.

#### **Backup Network Settings**

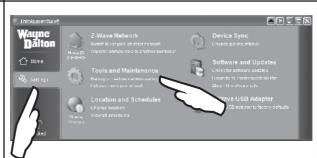
# Use the following procedure to backup your ThinkEssentials® configuration to the drive and directory of your choice.

The Wayne-Dalton USB Z-Wave® adapter stores basic information about the devices in your network, but the layout, scenes and zones, and many other configuration options are stored by ThinkEssentials® on your computer.

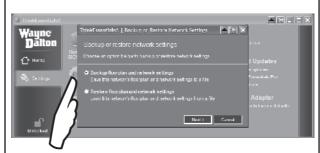
When moving the ThinkEssentials® software from one computer to another, you'll generally want to BACKUP your network settings on the original computer, move the software to the new computer, and then RESTORE your network settings on the new computer. This will preserve your device and floor plan layout and configuration.

You may also wish to store the backup file on a disk or other backup storage drive as security in the event of hard drive failure with your PC.

- 1. Switch to the SETTINGS tab and click the BACKUP OR RESTORE NETWORK SETTINGS link.
- 2. Select the BACKUP FLOOR PLAN AND NETWORK SETTINGS link. Save the file to the computer drive and directory location you desire.
- 3. Save the file to the computer drive and directory location you desire and click on SAVE to complete the process.



On Settings tab, select BACKUP OR RESTORE NETWORK SETTINGS.



Select BACKUP FLOOR PLAN AND NETWORK SETTINGS.



Select the drive and directory location for back up.

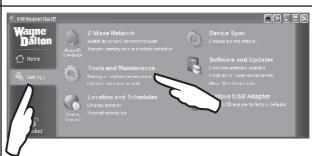
#### **Restore Network Settings**

# Use the following procedure to restore your ThinkEssentials® configuration to the drive and directory of your choice.

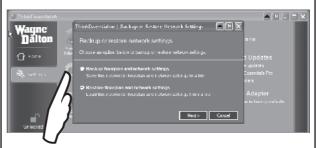
The Wayne-Dalton USB Z-Wave® adapter stores basic information about the devices in your network, but the layout, scenes and zones, and many other configuration options are stored by ThinkEssentials® on your computer.

If you have previously backed up your Wayne-Dalton ThinkEssentials® configuration, you may restore it using the RESTORE command.

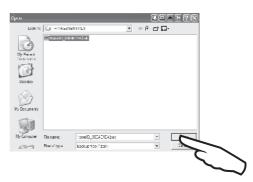
- 1. Switch to the SETTINGS tab and click the BACKUP OR RESTORE NETWORK SETTINGS link.
- 2. Select the RESTORE FLOOR PLAN AND NETWORK SETTINGS option and browse to the location of the stored backup file.
- 3. Click on OPEN to complete the process and click on OK to restart ThinkEssentials®.



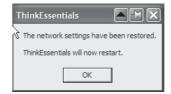
On SETTINGS tab, select BACKUP OR RESTORE NETWORK SETTINGS.



Select BACKUP FLOOR PLAN AND NETWORK SETTINGS.



Browse to the drive and directory location for the backup file.



Select OK to complete the process.

### Command Line Option: Custom Latitude and Longitude

# Use the following procedure to set a specific and custom latitude and longitude.

Wayne-Dalton ThinkEssentials® allows for setting a custom latitude and longitude by using a command line configuration option. The command line option must be used each time ThinkEssentials® is started. The following instructions assume the user has knowledge of Windows and command line syntax. Before you begin, you must EXIT ThinkEssentials®. See page 37 for instructions on "Exiting ThinkEssentials®."

- 1. Please see your computer Operating System documentation for information on how to start the command line option. In the Windows XP example shown, the command line option is started by clicking on START and then clicking on RUN. This will open a RUN dialog box.
- 2. In the RUN dialog box type in CMD and click on OK to open the Command line window.
- 3. Navigate to the drive and directory where ThinkEssentials® is located
- 4. Type the program name, "ThinkEssentials" followed by the latitude/longitude command as noted in the following example substituting your custom coordinates:

ThinkEssentials /lat=XX.XXX /lon=YY.YYY

Negative Values are West or South. There is a single space prior to "/lon"

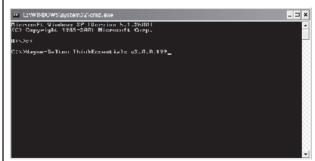
5. Press the ENTER key and ThinkEssentials® will start.

The Custom coordinates will be displayed under the Earth and Clock icon in the Location and Schedules section on the Settings tab.





Initiate command line function.



Change to drive and directory where ThinkEssentials® is located.



Add latitude and longitude coordinates in decimal format.



Custom coordinates displayed under Earth and Clock icon.

#### Adding Command Line Option to ThinkEssentials® Shortcut

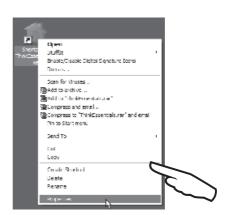
Use the following procedure to add a command line option to your ThinkEssentials® shortcut.

Command line options used with ThinkEssentials® must be initiated each time ThinkEssentials® is started. To make your command line option easier to start and permanent, you can add it to your Windows shortcut icon on your desktop.

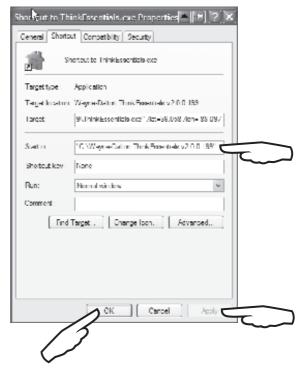
- 1. Right-click on the shortcut icon for ThinkEssentials® on your desktop and select PROPERTIES. The Properties window for the shortcut will open.
- 2. Under the shortcut tab, you will see an are that says "Target" and this will list the exact directory location of the ThinkEssentials® file within quotation marks. Modify the target by adding the command line variables *after* the last quotation mark.

If there is more than one command line option to be added, they are added in the same fashion, one after another, with a leading space.

- 3. Click APPLY, then OK, and the "Properties" window will close.
- 4. Start ThinkEssentials® using the ThinkEssentials® icon.



Right-click the ThinkEssentials® icon and then select PROPERTIES.



Modify the Target , then click on APPLY, then OK.

#### Command Line Option: Multiple Z-Wave® USB Adapters

Use the following procedure to run more than one instance of ThinkEssentials®.

Multiple instances of ThinkEssentials® may be run on one computer simultaneously. Each instance of ThinkEssentials® will require its own USB Z-Wave® adapter. It is important to note that each instance of ThinkEssentials® is running separately and do not create "one network" from two separate networks.

- 1. Please see your computer Operating System documentation for information on how to start the command line option. In the Windows XP example shown, the command line option is started by clicking on START and then clicking on RUN. This will open a RUN dialog box.
- 2. In the RUN dialog box type in CMD and click on OK to open the Command line window.
- 3. Navigate to the drive and directory where ThinkEssentials® is located.
- 4. Type the program name, "ThinkEssentials" followed by the multiple command as noted in the following example:

ThinkEssentials /multi

- 5. Press the ENTER key and ThinkEssentials® will start.
- 6. Choose the Z-Wave USB adapter you wish to use in this instance and click on CONNECT to start the program.

Repeat Step 4-6 for each instance of ThinkEssentials® you want to run.

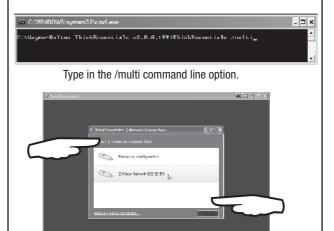




Initiate command line function.



Change to drive and directory where ThinkEssentials® is located.



Click on desired Z-Wave® USB adapter and click on CONNECT.

#### Command Line Option: Poll

Use the following procedure to set the poll rate in ThinkEssentials® by the number of seconds.

You can temporarily establish a specific poll rate in ThinkEssentials® using seconds as the unit. One second is the minimum poll rate. Please be aware that polling too frequently in a Z-Wave® network can cause negative performance behavior for the network by not allowing enough time for each module to report back to the controller. Before you begin, you must exit ThinkEssentials®. See page 37 for instructions on "Exiting ThinkEssentials®."

- 1. Please see your computer Operating System documentation for information on how to start the command line option. In the Windows XP example shown, the command line option is started by clicking on START and then clicking on RUN. This will open a RUN dialog box.
- 2. In the RUN dialog box type in CMD and click on OK to open the Command line window.
- 3. Navigate to the drive and directory where ThinkEssentials® is located.
- 4. Type the program name, "ThinkEssentials" followed by the poll command as noted in the following example:

ThinkEssentials /poll=500

Note in the example 500 is the maximum number of seconds between polling requests.

5. Press the ENTER key and ThinkEssentials® will start.





Initiate command line function.



Change to drive and directory where ThinkEssentials® is located.



Type in the /poll command line option with your desired value.

#### **Refresh Shortcut**

Use the following shortcut to poll the Z-Wave® modules one time to refresh the ThinkEssentials® screen.

Press the F5 key on the keyboard to refresh and poll the Z-Wave® modules in the network.



Press F5 to refresh and poll the network.

#### **Exiting ThinkEssentials®**

Use the following procedure to exit and completely shut down and close the ThinkEssentials® program.

ThinkEssentials® will run in the background if schedules are programmed and will not completely shut down when the X (CLOSE button located in the upper right corner) on the window is pressed.

There are 3 ways to confirm ThinkEssentials® is running in the background:

- a) The ThinkEssentials® icon appears in the system tray.
- b) ThinkEssentials® appears as a process in the Task Manager.
- c) When ThinkEssentials® is restarted, the "loading" progress bar does not appear.

To completely shut down and close the software do the following:

- 1. Right-click on the ThinkEssentials® icon in the system tray.
- 2. Select EXIT. ThinkEssentials® will close.

Note: If no schedules are programmed, ThinkEssentials® will shut down completely when the CLOSE or X button is pressed on the window.



ThinkEssentials® icon located in the system tray.



Right-click the ThinkEssentials® icon and select EXIT.

#### **Resetting Thinkessentials®**

Use the following procedure to reset your USB Z-Wave® Adapter to factory conditions.

WARNING: If your USB Z-Wave® Adapter and ThinkEssentials® software are the Primary Controller in a network, and you reset your USB Z-Wave® Adapter, you will no longer be able to add or remove modules from your network without recreating the entire network.

To reset the USB Z-Wave® Adapter:

1. Switch to the SETTINGS tab, and then click the RESET USB ADAPTER TO FACTORY DEFAULTS link.

NOTE: If the USB Z-Wave® adapter is serving as a secondary controller, remove it from the network by clicking the RECEIVE UPDATE FROM PRIMARY CONTROLLER link and instructing the Primary Controller to remove the USB Z-Wave® adapter. This may be referred to as REMOVE DEVICE, REMOVE CONTROLLER, EXCLUDE DEVICE, or EXCLUDE CONTROLLER.

NOTE: If you reset your Primary Controller before removing all the Z-Wave® modules from your network, you must reset each of the modules (see "Removing modules from the network", page 13) before adding modules to the network again.



On the SETTINGS tab, click on the RESET link.

#### **Troubleshooting**

#### Problem:

• I cannot add or remove modules to or from my network. The ADD DEVICE and REMOVE DEVICE buttons are faded out (dimmed).

#### Solution:

- The USB Z-Wave® adapter might be a Secondary Controller. Only a Primary Controller may be used to add or remove modules to or from a network. Use the Primary Controller to add or remove modules, and then update your USB Z-Wave® adapter and software (see Joining a network, page 22).
- The software may be in LOCKED mode. Click on the lock in the lower left corner of your screen until the text UNLOCKED appears.

#### Problem:

• I cannot add or remove a module to or from my network. I press the PROGRAM button on the module but the software never responds.

#### Solution:

- If you cannot successfully add a module, try removing it from your network first using the REMOVE DEVICE button. Even if it is not in your network, this operation may reset the module. Once the module has been reset, try adding it again.
- For your security, the USB Z-Wave® adapter must be within a few feet of the module to be able to add it to your network. If this is not possible, please set up your network with a portable remote controller and then copy this information to the USB Z-Wave® adapter (see "Joining a network", page 22).

#### Problem:

• I tried to reset a module, but another module was removed from my network instead.

#### Solution:

• The module had not been properly reset previously, and another module with its assigned ID was mistakenly identified. Reset the module again if necessary, and then re-add the module which was mistakenly removed.

#### Problem:

• I cannot join another network. I click SWITCH TO (OR JOIN) ANOTHER NETWORK but the process never starts.

#### Solution:

• To join a network, or to receive a network update, the USB Z-Wave® adapter must be within a few feet of the controller adding it to the network or sending the update.

#### **Troubleshooting**

#### Problem:

• I am setting up a scene, but the software will not let me add a particular module to the scene.

#### Problem:

• I have set up a schedule for a zone or scene, but the schedule is not being activated on time or is not being activated at all.

#### Solution:

- If the modules's icon is covered by a red circle-slash (i.e. "broken" symbol), follow the troubleshooting steps for a broken module and then select the module again.
- Some modules do not support the functionality required to add them to a scene.

#### Solution:

- Check to be certain that the schedule item is enabled (by checking the check box to the left of the schedule item's name), and that it is enabled on the desired days of week (by clicking on the desired days of the week between the event name and the event time).
- Check to be certain that your computer's date, time, and time zone are set correctly. You can access these through "Date and Time Properties" in the Windows Control Panel.
- For sunrise and sunset schedules, ensure that the location nearest you is selected in the CHANGE LOCATION link on the SETTINGS tab.
- Your computer must be turned on for the schedule items to occur on time.

  ThinkEssentials® will also attempt to wake your computer out of low-power standby mode, but some computers do not reliably wake up from standby. If your computer does not wake reliably from standby mode, ensure that it is always powered on so that the schedules work properly.

#### **Troubleshooting**

#### Problem:

• I joined a network instead of adding another controller to my network. Now, neither the software nor the controller can control anything.

#### Problem:

• I cannot control a module in my network, or am experiencing intermittent module failures or sluggishness controlling my modules.

#### Problem:

• I moved a module, and now I cannot control it.

#### Solution:

• You have accidentally overwritten your Primary Controller with a blank network. Reset both controllers and all modules in your network, and set up your network again.

#### Solution:

- Check to make sure that there is power supplied to the device.
- For plug-in modules, ensure that the outlet is not a switched outlet, or that the outlet is switched on.
- For modules with no neutral connection (such as dimmers), ensure that the attached load (such as a light bulb) is not burned out.
- Your computer must be able to communicate with the module directly, or must be able to communicate by routing messages through other modules in your network. You may need to add additional modules to your network to provide for reliable communication (in between your computer and the sluggish/noncommunicating module).
- Ensure that there are no broken or missing modules in your network. It is possible that the network is trying to route messages through broken or missing modules, so removing them may enhance network performance. See "Removing or replacing broken modules" on page 14.
- For best performance, attach the USB Z-Wave® adapter to the USB extension cable included in this package. Then, place the USB Z-Wave® adapter in an open area away from walls or other dense materials or metal.

#### Solution:

• Switch to the SETTINGS tab, and click the OPTIMIZE AND REPAIR NETWORK link. If you are not using ThinkEssentials® as your primary controller, remove the module from your network using the primary controller, add it while it is powered in its new location, and then update ThinkEssentials® using the RECEIVE UPDATE FROM PRIMARY CONTROLLER feature.

#### US and Foreign Patents pending

ThinkEssentials® is a registered trademark of Controlthink LC Z-Wave® is a registered trademark of Zen-Sys Corporation Windows XP and Vista are registered trademarks of Microsoft Corporation

#### **FCC and IC Statement**

#### FCC Regulatory Information:

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- a) reorient or relocate the receiving antenna,
- b) increase the separation between the equipment and receiver,
- c) connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

#### IC Regulatory Information:

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Cet appareillage numérique de la classe B répond a toutes les exigences de l'interférence canadienne causant des règlements d'équipement. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif peut ne pas causer l'interférence nocive, et (2) ce dispositif doit accepter n'importe quelle interférence reçue, y compris l'interférence qui peut causer l'opération peu désirée.

**WARNING:** Changes or modifications to this receiver not expressly approved by Wayne-Dalton Corp. could void the user's authority to operate this equipment.