Manufacturer:	QMotion	Widget:	Shade
Model Number/s:	ZigBee	Aliases:	Qadvanced ZigBee
Driver Version:	v. 21 or higher	Driver Category:	Shades/Blinds
DC Version:	v. 3.2	Connection Type:	IP (Ethernet)

I. Overview

As part of its Premier Partner Program, Vantage Equinox products support the QMotion ZigBee for control of your shades. After setting up the ZigBee in Design Center, the Equinox shades widget user interface automatically appears in the EQ41 and EQ73 in-wall touch screens and on mobile devices installed with the Equinox App (available for iPhones, iPads, iPods, and Android products).

II. Features Supported / Not Supported

Feature	EQ40	EQ41, EQ73 & EQApp
Open/ Close / Stop Full control over open, close, and stop for all shades	▤	✔
Position Control Set the shades to specific positions	▤	✔
Group Control Configure and control a shade group or individual shades	▤	✔
Visual Feedback Graphic presents the position of every shade	✖	✔
Configure Presets Set up to four user-defined presets for each group	✖	✔

✔ Supported   ▤ Task Only Support   ✖ Not Supported

III. Notes

- In the QMotion product line-up, roller shades, honeycomb shades, and transition shades all have the same controls. In this document, and in Design Center, all of them are referred to generically as 'shades.'
- The QMotion QIS shades also have the capability to join the ZigBee network for ZigBee driver control.

IV. Links

QMotion: http://www.qmotionshades.com/
ZigBee Installation Guide (find link on this page): http://www.qmotionshades.com/support-center

V. Installation Steps

1. Use the documentation provided with the ZigBee, with the associated QMotion mobile app (downloaded from the Apple App Store or Google Play), to install the shades and add them to the ZigBee network.
2. Take note of the (16 digit hexadecimal) addresses assigned to each of the individual shades. To see the shade addresses, navigate to the 'Help' page as seen in that last step, at the bottom make sure the box is checked that says 'Show Device EUI on Dashboard'. When you go back to the Dashboard the address should be shown below each shade.

VI. Design Center Setup

Follow these instructions to add the QMotion ZigBee to your Design Center project and configure its settings appropriately.

1. **Project Settings** – Click on *Settings | Project Information | Owner* (tab). Fill out the *Equinox Mobile Passcode:* (alpha/numeric) and the *Equinox Admin PIN:* (numeric).
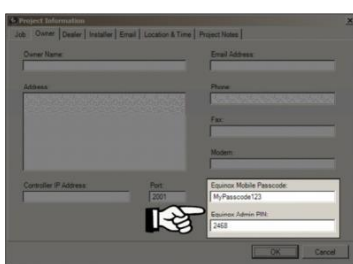
2. **Add QMotion ZigBee** - In the *Object Explorer*, select *Drivers* and double click or drag the ZigBee to add it to the appropriate *Area* (i.e. room).

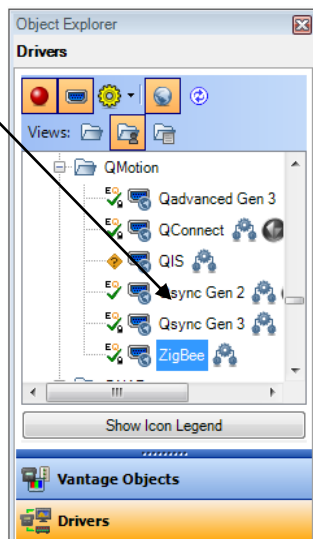   **TIP:** The ZigBee is added to the room currently selected when double clicking.

3. **Name the ZigBee** – In the *Object Editor*, give the ZigBee a user-friendly *Name*. If an alternative or shorter *Display Name* is desired, assign that as well.

   TIP: The *Name* (or the *Display Name*, if given) will appear in the shade widget

4. **Set the Area** – Set the area for each shade. Also, set the area for the system.

5. **Set the MAC Address** – Put the last 6 characters of the MAC address for the Qube as seen written on the bottom. If you only have one Qube you do not have to put anything in this field.

6. **(No Port is Needed)**

7. **Add Groups** – Add the number of groups you programmed during installation.

8. **Add Shades** – Add the number of shades you have in each group.

9. **Configure the Groups** – In the *Object Editor*, fill in the information for each group programmed during installation.
   a. Enter a *Name* (and *Display Name*, if desired.)
   b. Choose an *Area*.
   c. Select the desired *Orientation* and *Type* to reflect the appearance of the shade.

10. **Configure the Shades** – In the *Object Editor*, fill in the information for each shade in the desired group.
   a. Enter the *Name* (and *Display Name,* if desired).
   b. Choose an *Area*.
   c. Enter the *Shade ID* (16 digit hexadecimal) address that was noted in the Installation Steps section. (You can copy and paste the ID by following the steps in the Displaying Shade Attributes section below, under Shade IDs and Names.)
   d. Select the desired *Orientation* and *Type* to reflect the appearance of the shade.
   e. Enter the *Blind Close Duration* and *Blind Open Duration* to the number of seconds the shade takes to open and close (a stopwatch or smartphone may be used to time the full duration).
   f. Set the *Low Battery Threshold* to the battery level that you want the *Low Battery task* to be launched.
   g. In *Low Battery Task* select the task you would like to be launched when the battery level goes below the *Low Battery Threshold.*

Name	ZigBee
Category	Shades/Blinds
Display Name	
VID	53
Area	Project
Log Level	None
Power Tracking	Disabled
Sensor	
Port	
MAC Address	0972ED

Name	Dining Room
Category	Shades/Blinds
Display Name	
VID	80
Area	Project
Log Level	None
Position	1
Exclude From Widgets	False
Orientation	
Type	

Name	ZigBee Shade 1
Category	Shades/Blinds
Display Name	
VID	185
Area	Project
Log Level	None
Position	2
Close Transition Time	5.00
Open Transition Time	5.00
Low Battery Threshold	12
Low Battery Task	
Shade ID	0000000000000000

VII.Displaying Shade Attributes

Shade IDs and Names:

If you do not want to type in each ID for each shade in Design Center, there is an easy way to copy and paste them. Open any internet browser (e.g. Google Chrome, Mozilla Firefox, Internet Explorer), type in the URL http://<Qube IP Address>/devices/info (e.g. http://192.168.0.105/devices/info). You will then see in your browser a list of all of the shades, the names that were used during setup on the app, their ID, and some other information. From here you can copy and paste the ID into the *Shade ID* field in Design Center. You do not need the ":0" portion of the ID.

See Battery Level of Each Shade:

There is a task that can be used to see the battery level left on each shade. It will send the shades to the height of the battery level (i.e. if the shade has 90% battery left, the shade will go to 90% open). You can create a task for a specific shade, a group, or all of the shades depending on the task's applied object. The procedure for the task is under Audio/Video, Power, and then Synchronize Power State.

Battery Level, Upper Limits, and Lower Limits:

After following the steps in section VI above, program the system. Under the System menu open *Diagnostics*. In the Diagnostics window, select *Host Commands* under the *Diagnostics* menu. At the bottom of the Host window select the Controller number to match the physical controller then set the Log to On. In the command window, at the top of the Host diagnostic window just under 'Show History', type "invoke <Zigbee VID> Control.SendCommand 6". The Zigbee VID is the VID of the top-level Zigbee Object, as shown in the highlighted portion of the image below. All of the VIDs of each shade along with their attributes will then be displayed.
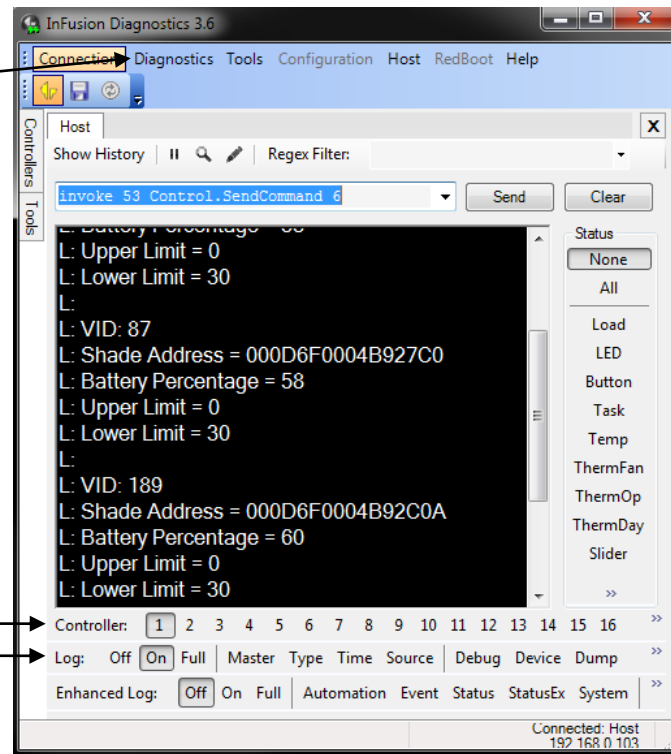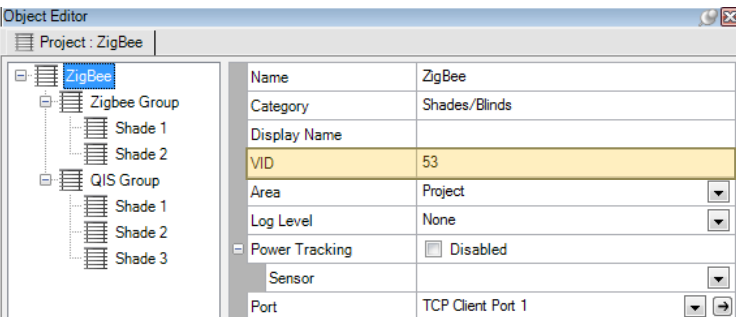
VIII. Setting Shades' Upper and Lower Limits

The limits can be set with the Qmotion remote as explained in these two web pages:

http://qmotionshades.com/about-us/gallery/video_galleries/7-setting-upper-limit-for-roller-shade
http://qmotionshades.com/about-us/gallery/video_galleries/8-setting-lower-limit-of-roller-shade

Otherwise, we have also made ways to change the limits on the shades within the driver. Before you can set the shades' limits all shades need to be configured with their Shade ID on the Infusion system using the instructions in section VI. Open Diagnostics and use the same settings as discussed in section VII. The different ways of changing the limits are listed below. Enter these values in the command window, at the top of the Host diagnostic window just under 'Show History'.

Lower Limits:
To adjust the lower limit by a defined number of centimeters for one or more shades use (Down positive, Up negative):
invoke <Zigbee VID> Control.SendCommand 0 {<Number of Centimeters>, <VID of Shade>,<VID of Shade>,…}
Example: invoke 53 Control.SendCommand 0 {5, 55, 56, 58}
(The example will lower the lower limit by 5 cm for shades with VIDs 55, 56, and 58)

To set the lower limit to a defined number of centimeters below the top for one or more shades and/or groups use:
invoke <Zigbee VID> Control.SendCommand 1 {<Number of Centimeters>, <VID of Shade/Group>,…}
Example: invoke 53 Control.SendCommand 1 {30, 55, 56, 88, 58}
(The example will assign the lower limit to 30 cm for shades with VIDs 55, 56, and 58. Along with all of the shades in the group with VID 88)

To copy the lower limit of one shade and apply it to other shades and/or groups use:
invoke <Zigbee VID> Control.SendCommand 2 {<VID of Shade>, <VID of Shade/Group>,<VID of Shade/Group>,…}
Example: invoke 53 Control.SendCommand 2 {55, 54, 88, 89}
(The example will copy the limit from the shade with VID 55 and assign it to shades with VIDs 54 and 89 and group with VID 88)

Upper Limits:
To adjust the upper limit by a defined number of centimeters for one or more shades use (Down positive, Up negative):
invoke <Zigbee VID> Control.SendCommand 3 {<Number of Centimeters>, <VID of Shade>,<VID of Shade>,…}
Example: invoke 53 Control.SendCommand 3 {5, 55, 56, 58}
(The example will lower the upper limit by 5 cm for shades with VIDs 55, 56, and 58)

To set the upper limit to a defined number of centimeters below the top for one or more shades and/or groups use:
invoke <Zigbee VID> Control.SendCommand 4 {<Number of Centimeters>, <VID of Shade/Group>,…}
Example: invoke 53 Control.SendCommand 4 {10, 55, 56, 88, 58}
(The example will assign the upper limit to 10 cm for shades with VIDs 55, 56, 58 and all of the shades in the group with VID 88)

To copy the upper limit of one shade and apply it to other shades and/or groups use:
invoke <Zigbee VID> Control.SendCommand 5 {<VID of Shade>, <VID of Shade/Group>,<VID of Shade/Group>,…}
Example: invoke 53 Control.SendCommand 5 {55, 54, 88, 89}
(The example will copy the limit from the shade with VID 55 and assign it to shades with VIDs 54, 89 and all of the shades in the group with VID 88)

IX. Equinox 40 Setup

The Equinox 40 has no native shade widget support for use with the QMotion. However, EQ40 (and keypad button) control may be accomplished through Design Center tasks. See Design Center Procedure Table in section XV.

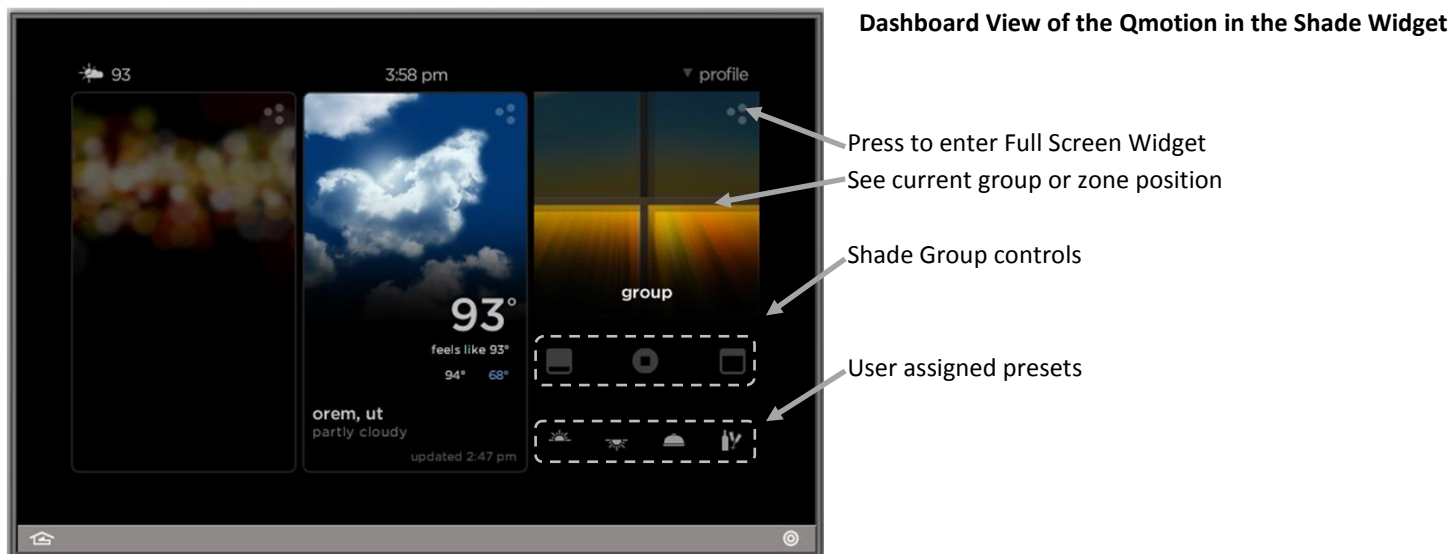## X. Add Additional Equinox Devices and Program Controller

To use the Qmotion with the Equinox Shade widget, simply add and name any EQ 73 or EQ 41 (from *Vantage Objects | Touchscreens* in the *Object Explorer* pane) in their respective areas in your Design Center project. (For the Equinox mobile app, no object needs to be added.) No additional Design Center setup is required.
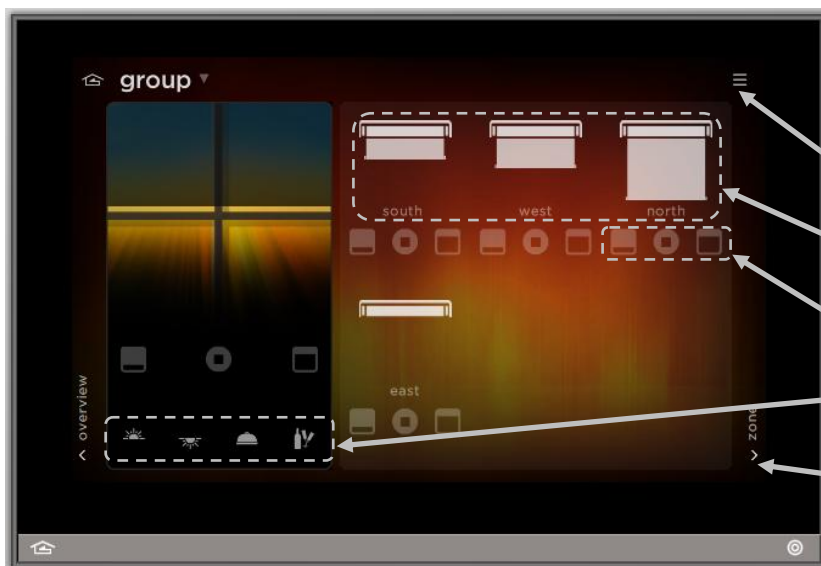
Connect to the InFusion Controller. Configure the devices. After the devices are configured, do an Update or Full Program. The devices should now be operational.

XI. Equinox Widget Navigation

Once a Qmotion Shade is added to the project, the Shade widget will normally appear on the EQ73, EQ41, and Equinox Apps. If the widget is not visible, go to Profile Settings and select the widget to make it visible. Note that if the Shade widget is already on the Equinox device, but the Qmotion Shade is not visible; go to the widget's Edit Mode (see below) to toggle the shade to make it visible.

The following screen shots, taken from a typical EQ73 device, show the basic navigation for full Equinox widgets on the EQ41, EQ73, and Equinox App, among the three widget views: **Dashboard**, **Full Screen**, and **Edit Mode**. Refer to the "Equinox Apps Widget Install" document on Vantage's website for more detailed information.

Dashboard View of the Qmotion in the Shade Widget

Press to enter Full Screen Widget

See current group or zone position

Shade Group controls

User assigned presets

Full Screen View of the Qmotion in the Shade Widget

Enter edit mode

See individual shade positions

Control individual shades

Press and hold to set presets

Swipe or press to switch between groups
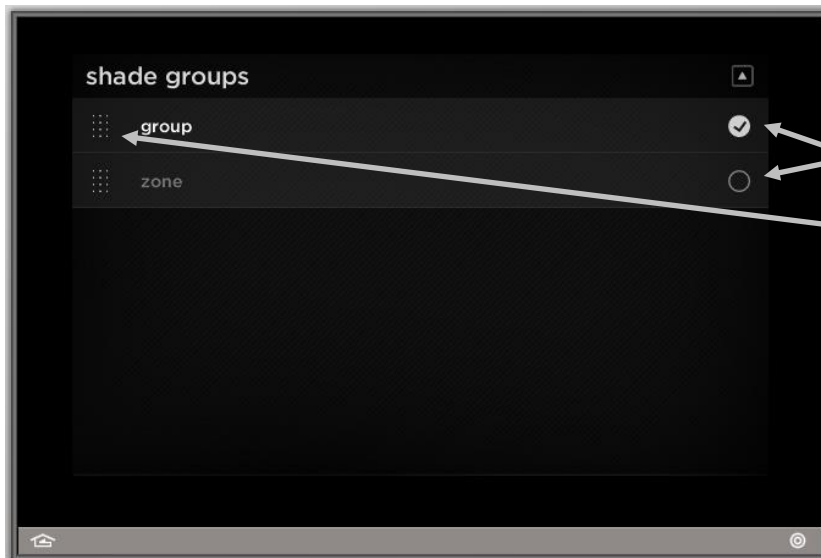
Edit Mode View for Shade Widget

Toggle Inclusion/exclusion in widget

Hold and drag up/down to change the order

Equinox App Licensing Note

Install the Equinox App (search for Vantage Equinox) on your iOS or Android devices. A valid license is needed for each Equinox device connected to a Vantage System. Licenses are available via Controller SD cards for up to 5 (EQ-APP-5), 10 (EQ-APP-10), or unlimited (EQ-APP-X) quantities of Equinox devices. Also, each EQ73 station adds one more license (EQ73TB-T1). Ensure Step 1 of the *Design Center Setup* was completed, as the Equinox App will not run without the Equinox Mobile Passcode. Launch the App, and follow the on-screen prompts in the Setup Wizard.

XII. Connection Diagram Example

#4
IC-36-1

#7 QMotion
ZigBee

#3 EQAPPs

#1
EQ41

#2
EQ73

#5 XWR-1750

#6 XGS-1008P

Shade/s
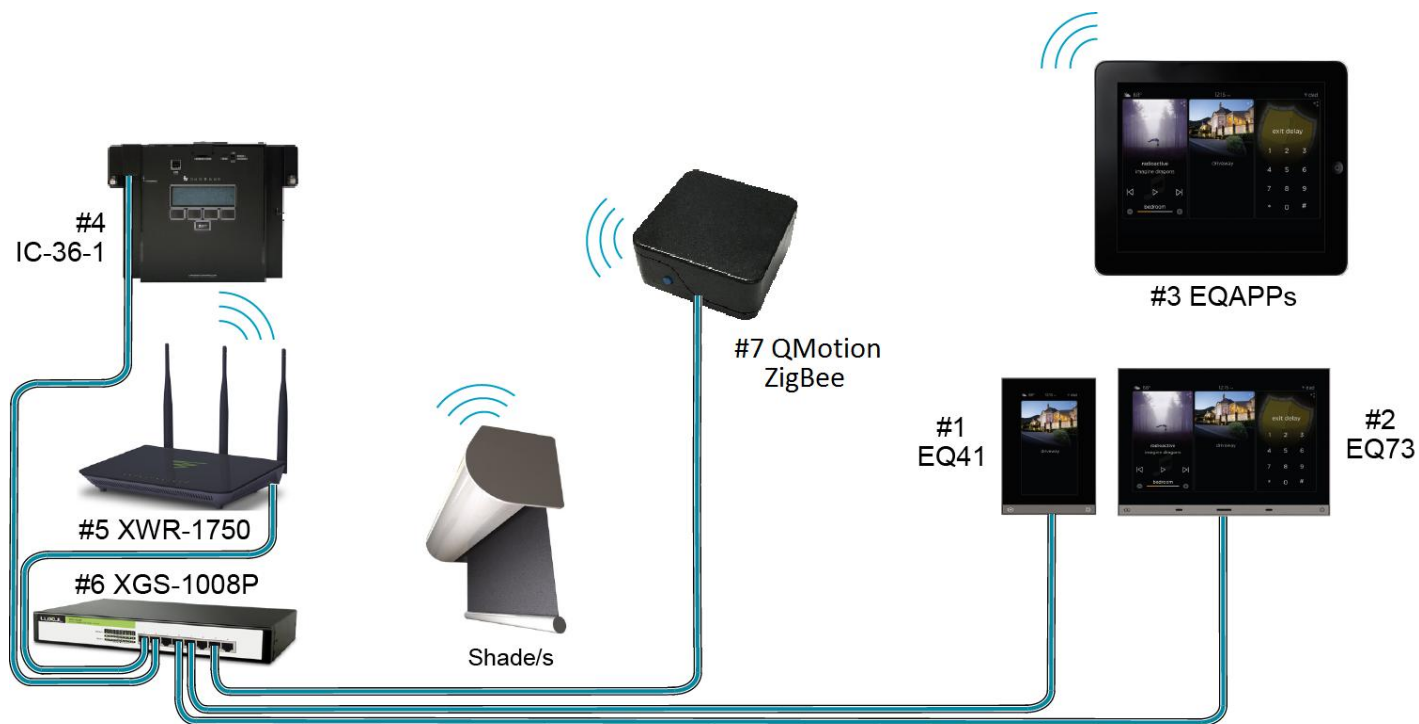
XIII. Bill of Materials Example

#	Device	Manufacturer	Part Number	Protocol	Connector Type
1	EQ41	Vantage	EQ41TB-TI	Ethernet w/ PoE	Cat 5 (RJ45)
2	EQ73	Vantage	EQ73TB-TI	Ethernet w/ PoE	Cat 5 (RJ45)
3	EQ Mobile Apps	Vantage	EQ-APP-5/10/X	Wi-Fi	N/A
4	Infusion Controller	Vantage	IC-36-1	Ethernet	Station bus / Cat 5
5	Wireless Router	Luxul	XWR-1750	Ethernet / Wi-Fi	Cat 5 (RJ45)
6	Gigabit Switch w/ PoE	Luxul	XGS-1008P	Ethernet w/PoE	Cat 5 (RJ45)
7	Shade/Blind Controller Interface	QMotion	ZigBee	Ethernet	Cat 5 (RJ45)

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XIV. Tech Notes

Things to Know / Gotchas:
❖ The battery powered shades on the ZigBee network are designed to only wake up to check for a command every 1.0 seconds to save power. This may cause the shades in a group to move at different times. Similarly, executing a stop command may cause them to stop in uneven places. The uneven stopping points can be avoided by sending shades to certain positions, instead of stopping them mid-movement.

XV. Design Center Task Procedure Table
The following table shows the most common procedures that are available for programming Design Center tasks with the ZigBee. Tasks can be assigned to keypad buttons and Equinox scenes.

Available Task Procedures		
Category	**Folder**	**Procedure**
Shades/Motors	Shades	Open Blind
		Close Blind
		Stop Blind
		Set Blind Position
Audio/Video	Power	Synchronize Power State*
Advanced	LCD Touchscreen	Set Blind to Slider Value

*This procedure sends the shades to the height of the battery level (i.e. if the shade has 90% battery left, the shade will go to 90% open).