

**Overview**

InFusion is Vantage's latest home automation system. Existing Q Systems may be upgraded to InFusion Systems and most of them with minimal cost to the client, and minimal work for the Vantage Dealer. This is a win, win combination for Vantage customers and dealers. There are many compelling reasons for updating an existing Q installation to InFusion. This document outlines some of the more prominent advantages and contains an easy checklist of steps that need to be completed allowing the upgrade to proceed in a professional manner.

**Advantages, Upgrading Q to InFusion**

1. Upgrades your system to Vantage's latest technology
2. A source of generating new business
3. Keeps client excited about system
4. Future proof - support for future products
5. Renews warranty on Controllers and other new products that may be installed
6. Controllers are programmed through an Ethernet port
  - a. Program from any computer on the local network
  - b. Program from wireless computers, allowing the programmer to be in a room at the same time it is being programmed
  - c. It is not necessary to be directly connected to the Controller when programming over the local network
7. Adds support for Vantage's *InFusion Driver Tools™* software, with drivers for thousands of products and the ability to create new drivers
8. Ethernet (station) Bus
  - a. Used on select current stations and will be used on future stations when applicable
  - b. Adds support for high resolution *TPT650* and *TPT1040* TouchScreens (i.e., *TPT650* has four times more resolution than the *TPT550*)
  - c. Adds support for Vantage's *DMM-4S(T)* Digital Music Manager (four source output) Server
9. Added support for InFusion Media Client™ on Windows OS Tablets and pc's.
10. Added support for iPhone, iPad applications
11. Improved time keeping reliability in InFusion Controllers
12. Depending on the design, it may be possible to upgrade using less Controllers (Masters)

**What to Know About Upgrading Q to InFusion**

1. Existing station bus wire runs may be used
2. Existing enclosures may be used
3. Existing keypad stations may be used\*
4. Existing load switching modules may be used\*\*
5. Existing motion sensors etc. may be used.
6. The QLink project file is converted - as far as possible - when opened into Design Center software reducing, but not eliminating the need for new programming;
  - a. Use caution, do not under estimate the amount of new programming when bidding an upgrade
  - b. Basic floor plan layout is maintained
  - c. Basic module load layout is maintained
  - d. Advanced programming features may need to be fixed or possibly reprogrammed
  - e. For more complicated Q Systems, it is a good idea to plan on extensive programming fixes and "tweaks" in the converted project file
7. InFusion supports 24V or 36V systems
8. USB and Ethernet ports on InFusion Controllers eliminate the need for an RS-232 port on computers

**Basic Q to InFusion Feature Comparison**

Feature	Q	InFusion
Non-polarized station bus, 2-wire	Y	Y
Built-in Ethernet for programming Controller		Y
USB Port for programming Controller		Y
RS-232 Port for programming Controller	Y	
Support for Ethernet stations, e.g. TPT650		Y
36V station bus		Y
24V station bus	Y	Y
System status retention after power outage	Y	Y
SD Memory Card support		Y
Flash Memory On Controller Terminal Boards	Y	
Astronomical and Real Time Clocks	Y	Y
Override Switch support	Y	Y
<i>InFusion Driver Tools</i> support		Y
Plug and Play module enclosure system	Y	Y
Once programmed, runs independently	Y	Y
Runs programmable timed events	Y	Y
Unlimited Tasks (no phantom stations)		Y

**\* CAUTION: Vantage recommends the use of an *IC-24-1* Controller for all QLink to InFusion Upgrades. If any stations are not 36V compatible they must not be connected to an *IC-36-1* InFusion Controller.**

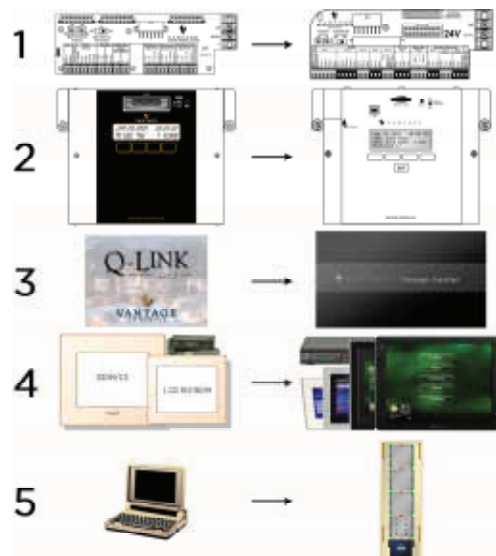
**\*\* Model *MDR8RW101* & *MDR84W201* Relay Modules must have 3.6 firmware or higher. See additional module restrictions in, TABLE # ONE, STEP 3 and STEP 4.**

**5 Easy Steps Upgrading:**

1. Replace Terminal Board - see note\*
2. Replace Controller - see note\*
3. Convert the QLink Project File
4. Replace other hardware as needed
5. Reprogram the new system - Ethernet, Wireless, or USB

**NOTE:**

\*Upgrade Kits available for Terminal Board and Controller:  
 part # **Q21-24R** (2-screw terminal board)  
 part # **Q21-24** (4-screw terminal board)

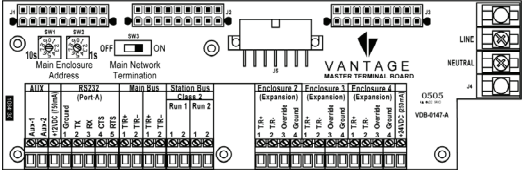
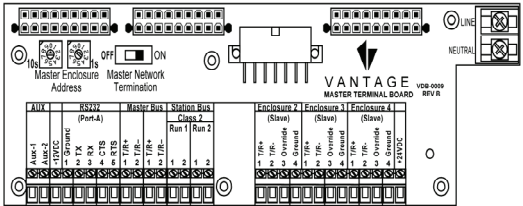
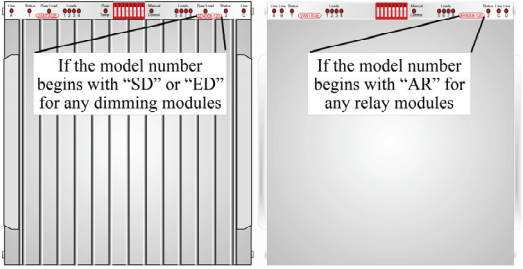



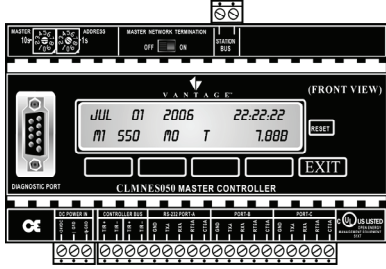
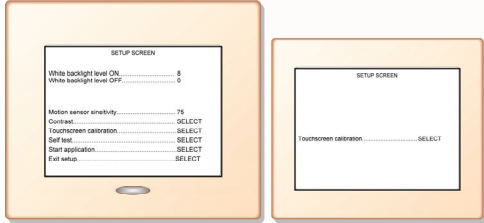


**Choose the Correct Upgrade Parts**

- Most existing hardware on Q Systems is supported on InFusion Systems
- It should be noted that older Q Systems may contain hardware that is only supported on 24V Controller systems
- Newer Q Systems *may* contain hardware that is supported on either 24V or 36V controllers, however it is anticipated that most Q Systems being upgraded to InFusion will use a 24V controller
  - Remember, 36V stations have a **36** symbol on the Serial Number sticker
- Follow the table steps below to determine what hardware will be needed to upgrade the existing Q System to an InFusion System

Answer the questions in TABLE # ONE to start the process of determining what hardware needs to be replaced to upgrade the Q System to an InFusion System.

**TABLE # ONE**

Steps	Items To Check	Q Item Image	What to do if answer is YES
<b>STEP 1</b>	Does the Q Main Power Enclosure have the new reinforced (4-screws) high-voltage connector (connections on the right side)? -or- See Item 2 below		This Q Master Terminal Board must be replaced with an InFusion Main Enclosure Terminal Board. Order InFusion Part # <b>VSUB214</b>  <b>NOTE:</b> If the Q System: <ul style="list-style-type: none"> <li>• Does <b>not</b> have any 24V stations</li> <li>• Does <b>not</b> have any SD Series dimming modules</li> <li>• Does <b>not</b> have any ED Series dimming modules</li> <li>• Does <b>not</b> have any AR Series relay modules</li> <li>• And <b>Does</b> have the 4-screw connector; the system may use a 36Volt Main Enclosure Terminal Board and Controller</li> </ul> Order InFusion Part # <b>VSUB215</b> (36Volt)
<b>STEP 2</b>	Does the Q Main Power Enclosure have the older 2-screw high-voltage connector (connections on the right side)?		This Q Master Terminal Board must only be replaced with a 24Volt InFusion Main Enclosure Terminal Board with the same two screw, high-voltage connection point. Order InFusion Part # <b>VSUB115</b>
<b>STEP 3</b>	Does the Q Main Power Enclosure have any SD series dimming modules, ED series dimming modules or AR series relay modules?		These older model modules are only supported using the 24V InFusion Controller, part # <b>IC-24</b> in the Main Power Enclosure
<b>STEP 4</b>	Does the Q Secondary Power Enclosure have any SD series dimming modules, ED series dimming modules or AR series relay modules?		These older model modules will not work with the InFusion Secondary Enclosure Terminal Boards. If Secondary (Slave) Enclosures have any of these modules, <b>leave</b> the Q Slave Terminal Board and Q Slave Controller in place when upgrading to InFusion. The Q Slave Terminal Board and Slave Controller will still work correctly with a 24V or 36V InFusion System.
<b>STEP 5</b>	Does the Q System have any C-Box Masters?		Q C-Box Masters must be replaced with InFusion Controllers. In this case the recommended upgrade path will use the InFusion Surface/Rack Mount Enclosure part # <b>ISME/IRME-36/24</b> Please see the <i>Enclosures Surface, Rack Mount_install.pdf</i> or the or the <i>IC-DIN_installation instructions</i>

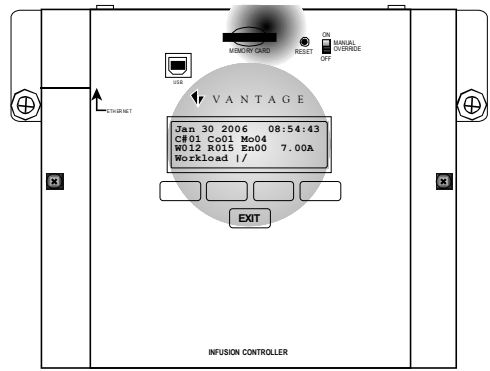
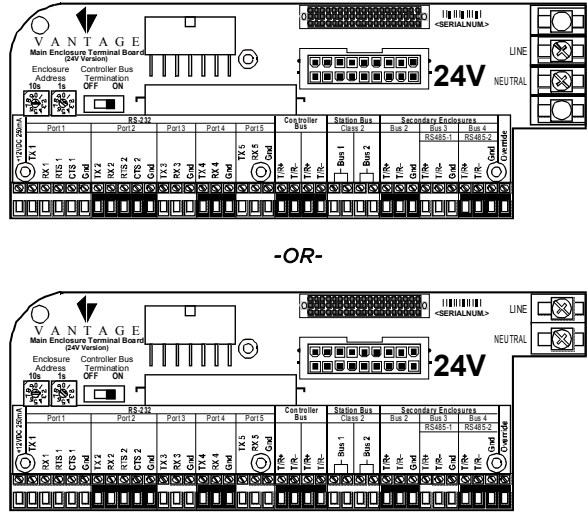


Steps	Items To Check	Q Item Image	What to do if answer is YES
<p><b>STEP 7</b></p>	<p>Does the Q System have any DIN Masters?</p>		<p>Q DIN Masters must be replaced with InFusion DIN Controllers part # <i>IC-DIN</i></p>
<p><b>STEP 8</b></p>	<p>Does the Q System have any LCD320M or LCD161M TouchScreens?</p>	 <p style="text-align: center;">LCD320M                  LCD161M</p>	<p>These stations are not supported on InFusion Systems. They may be replaced with a TPT550 LCD Touchscreen. The TPT550 may run on the station bus but counts as 14 stations. In other words it uses 9.5125W on the InFusion Station Bus. Please see the installation instructions for the TPT550 to determine if the old location will be able to accommodate the larger size station. The TPT550 has enhanced font resolution and other capabilities when used on an InFusion System.</p> <p><b>NOTE:</b> If it is possible to get an Ethernet cable and a power cable to the location of the new station then a TPT650 or TPT1040 may be used. These LCD Screens have vastly improved resolution and support for InFusion Media components. The TPT650 and TPT1040 will also require more space in the wall.</p>
<p><b>STEP 9</b></p>	<p>Does the Q System have InfraRed Emitter Stations, Part # IRX?</p>		<p>The IRX station is not supported on InFusion Systems. The IRX may be replaced with the IRX-II or a TheatrePoint (domestic or international models).</p> <p>Order Part # <i>IRX-II</i>  Order Part # <i>THEPT-A</i> or <i>THEPT-I</i>  Please see the IRX-II or TheatrePoint installation instructions on the Vantage Dealer site.</p>
<p><b>STEP 10</b></p>	<p>Does the Q System have TheatrePoint stations.</p>		<p>TheatrePoint stations are supported on InFusion Systems if they have boot code version 3.0 or higher. Follow these steps to see the version of boot code in the TheatrePoint:</p> <ol style="list-style-type: none"> <li>1. Press any button on the front</li> <li>2. Press the 4<sup>th</sup> button "Status"</li> <li>3. Press the 1<sup>st</sup> button "Reset"</li> <li>4. Watch the screen as TheatrePoint re-boots, it should display <b>Boot Ver 3.0</b></li> <li>5. Update firmware from Design Center</li> </ol> <p>NOTE: If it is an older boot version the TheatrePoint must be replaced with a new TheatrePoint.</p>

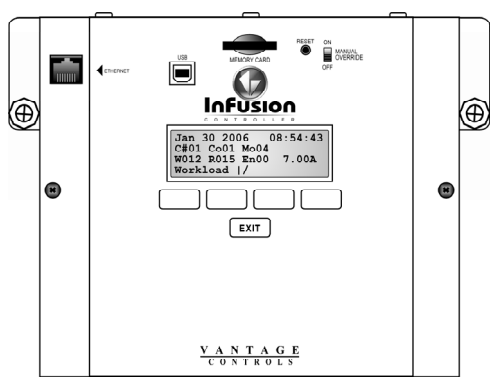
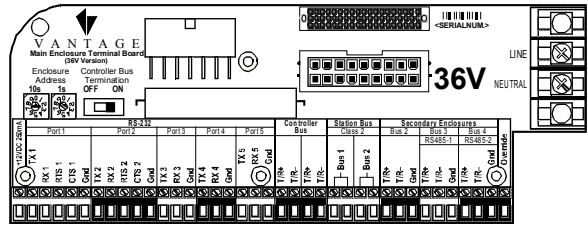
END TABLE # ONE

**Required Hardware Upgrade List**

Every system upgrade will need the following hardware, i.e., a Main Enclosure Terminal Board and correct InFusion Controller or a DIN InFusion Controller. Please enter the quantity needed for each of these items based on the information determined from TABLE # ONE above.

**TABLE # TWO**

Required Items	InFusion Item Image	Quantity
<p>InFusion Main Enclosure Terminal Board (4 screws at high-voltage connection) Order Kit part # <b>Q21-24</b> (4-screw terminal board and controller)</p>		<p>(4-screw KIT)</p>
<p>InFusion Main Enclosure Terminal Board (2 screws at high-voltage connection) Order Kit part # <b>Q21-24R</b> (2-screw terminal board)</p>	 <p style="text-align: center;">-OR-</p>	<p>(2-screw KIT)</p>
<p>If the Q System used C-Box Controllers or C-Box LE Controllers, use an InFusion Controller mounted in the InFusion Surface/Rack Mount Enclosure, see <i>Enclosures Surface and Rack Mount_install.pdf</i> installation instructions Order InFusion Part # ISME/IRME-36/24</p>		
<p>DIN InFusion Controller Order InFusion Part # <b>DIN-IC</b></p>		

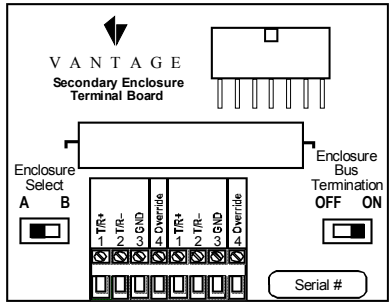



Required Items	InFusion Item Image	Quantity
<p>See NOTE in STEP 1, TABLE # ONE. If the InFusion Main Enclosure Terminal Board is the 4 screws at high-voltage connection and the conditions of the NOTE: are satisfied, you may decide to install a 36V controller            Order InFusion Part # <b>IC-36</b>            (This is used with the 36V Main Enclosure Terminal Board - &lt;4 screws at high-voltage connection point&gt; Order InFusion Part # <b>VSUB215</b>)            Remember 36V Systems will not support SD, ED or AR series modules or any stations that are not rated 36V.</p>		
<p>See NOTE in STEP 1, TABLE # ONE.            InFusion Main Enclosure Terminal Board (36V)            (4 screws at high-voltage connection)            Order InFusion Part # <b>VSUB215</b>  <b>NOTE:</b> If the Q System:  <ul style="list-style-type: none"> <li>• Does <b>not</b> have any 24V stations</li> <li>• Does <b>not</b> have any SD Series dimming modules</li> <li>• Does <b>not</b> have any ED Series dimming modules</li> <li>• Does <b>not</b> have any AR Series relay modules</li> </ul>           And <b>Does</b> have the 4-screw connector; the system may use a 36Volt Main Enclosure Terminal Board and Controller when upgrading</p>		




END TABLE # TWO

**Optional Hardware Upgrade List**

Every system upgrade *may* need the following hardware, if they were part of the original design. Please enter the quantity needed for each of these items based on the information determined from TABLE # ONE and the new design plan.

TABLE # THREE

Optional Items	InFusion Item Image	Quantity
<p>If the Q Secondary enclosure  <ul style="list-style-type: none"> <li>• Does <b>not</b> contain SD, ED or AR series modules, see STEP 4, TABLE # ONE</li> <li>• And the new design will require more than three secondary enclosures connected to the same Controller</li> <li>• Part of the Q Slave Enclosure Terminal Boards will need to be replaced with the InFusion Secondary Enclosure Terminal Boards which support A and B positions for Secondary Enclosures. Please see InFusion Secondary Enclosure examples at the end of this document. Order InFusion Part # <b>VSUB218</b>.</li> </ul>           Otherwise the Q Slave Enclosure Terminal Boards will work in all situations without any modification</p>		
<p>Preference may be to replace all IRX stations or TheatrePoint with an IRX II            Order InFusion Part # <b>IRX-II</b></p>		
<p>Preference may be to replace all IRX stations with a TheatrePoint            Order Part # <b>THEPT-A</b> or <b>THEPT-I</b></p>		
<p>Preference may be to replace all LCD320M or LCD161M TouchScreens with TPT550 TouchScreens. TPT550s will have slightly better fonts and graphics when programmed from Design Center            Order Part # <b>TPT550</b></p>		

Optional Items	InFusion Item Image	Quantity
<p><b>NOTE:</b> TPT650 and TPT1040 TouchScreens have vastly improved graphics and capabilities over the TPT550. They also support Infusion Media components.</p> <p>Preference may be to replace all or part of the LCD320M or LCD161M or possibly even LDC550 TouchScreens with TPT650 TouchScreens. It is required to get an Ethernet cable and a power cable to the location of the new station. Please note that the TPT650 will also require more space in the wall.</p> <p>Order Part # <b>TPT650</b></p> <p>Please see installation instructions for <i>TPT No Box Retrofit Clips_install.pdf</i> and <i>TPT650 Wall Box_install.pdf</i> on the Vantage Dealer site.</p>		
<p><b>NOTE:</b> TPT650 and TPT1040 TouchScreens have vastly improved graphics and capabilities over the TPT550. They also support Infusion Media components.</p> <p>Preference may be to replace all or part of the LCD320M or LCD161M or possibly even LDC550 TouchScreens with TPT1040 TouchScreens. It is required to get an Ethernet cable and a power cable to the location of the new station. Please note that the TPT1040 will also require more space in the wall.</p> <p>Order Part # <b>TPT1040</b></p> <p>Please also see installation instructions for <i>TPT No Box Retrofit Clips_install.pdf</i> and <i>TPT1040 Wall Box_install.pdf</i> on the Internet Vantage Dealer site.</p>		
<p>Preference may be to replace LCD320M, LCD161M or LDC550 TouchScreens with any Web Tablet TouchScreen. Thanks to InFusion Media Client™, programming Software InFusion Media for Windows OS tablets and PCs and thanks to the iPad app, Vantage allows the homeowners complete wireless control of their Vantage System providing a completely customizable handheld touchscreen. This is the ultimate in portability and power for TouchScreens. Order Part # <b>TPT2APP-PRO, IMC-USB</b> for more information, please visit Vantage Products section on the Vantage website <a href="http://www.vantage-emea.com/Tech.shtml">www.vantage-emea.com/Tech.shtml</a></p>		

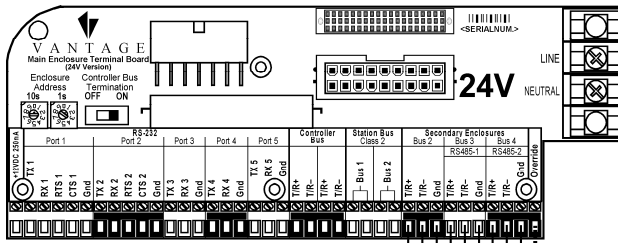
**END TABLE # THREE**

**Upgrading Design Tips**

- InFusion Main Power Enclosures can support up to six Secondary Enclosures
  - Depending on the Q System layout, it may be possible to replace some Q Master Enclosures with an InFusion Secondary enclosure saving additional money (see InFusion Secondary Enclosure Example below)
- If the upgrade allows 36Volt InFusion Controllers, it may be possible to replace two Q Masters with one InFusion Controller. Remember the 36Volt InFusion Controller can support up to 120 standard WireLink stations. Even the 24Volt InFusion Controller may support more than the traditional 50 wired stations as long as the stations are divided between Station Bus 1 and 2 on the controller.
- 24Volt and 36Volt InFusion Controllers support up to 120 RadioLink stations utilizing two RFE1000 RadioLink Enablers on a single InFusion Controller.

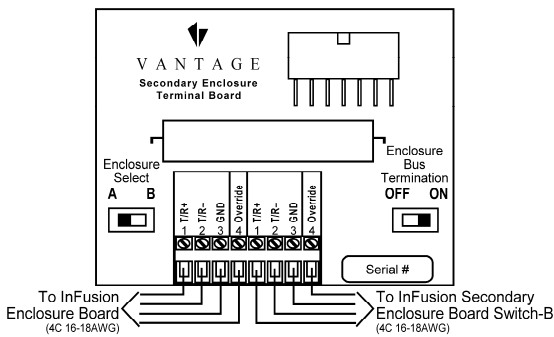
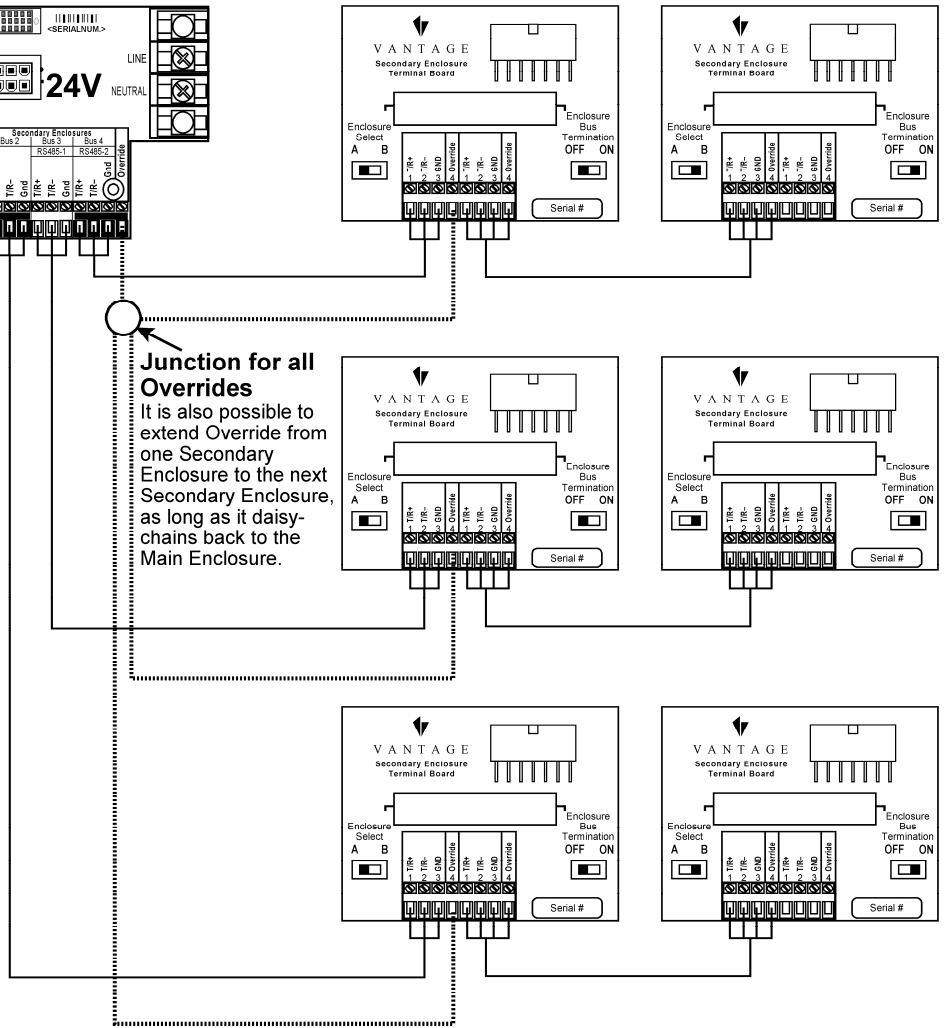
**Disclaimer**

*The information contained in this document has been carefully prepared, with multiple reviews and input from various individuals, providing information aimed at helping dealers and perspective clients make a more informed decision. This document cannot be considered the final source of all information that may be needed in making an upgrade decision. This is only a help tool. Please carefully read this information and discuss all possible issues carefully with clients wanting to upgrade to InFusion. Vantage cannot be responsible for any unforeseen issues that may possibly arise when upgrading an older system. Vantage cannot be responsible for the interpretation and/or use of any information disseminated from Vantage or Vantage Employees. Please carefully consider all available information. Final upgrade decisions are ultimately the responsibility of parties outside of Vantage. NOTE: Some information and/or images may not be the latest at the time this document was prepared.*



## InFusion Main Enclosure to Secondary Enclosure Wiring Overview

Note the position of the Enclosure Select switch and the Enclosure Bus Termination switch on each Secondary Enclosure Terminal Board. All "A" boards are homerun to the Controller board and all "B" boards are homerun to its Parent, "A" board. The termination switch is **OFF** for all "A" boards *only* if they have a "B" board connected. The termination switch is **On** for all "B" boards.



### Summary and Notes

#### NOTES

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