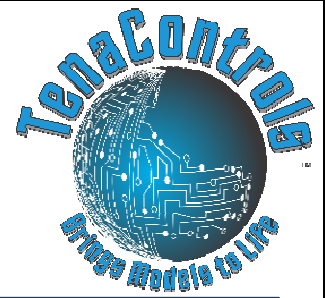


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## **MODEL#: RMTBD-D-A**

### **NAVIGATION, IMPULSE ENGINES, INTERNAL LIGHTS, CHILLER GRILLS AND BOSSARD EFFECT BOARDS FOR STAR TREK ENTERPRISE D 1:1400 SCALE**

The integrated Control and Remote board come completely assembled and tested. The only thing you need to do is connect the LED's, use 9 or 12volt DC 2 Ampere power adapter (**not supplied**). Additionally, hot glue on the four corners of the printed circuit works to ensure the board is secured.

### **ITEMS YOU WILL NEED:**

Soldering Iron  
Solder  
Cutter  
Wire Stripper

**\*\*Note:** When using the shrink tubing, only slide the shrink tubing over one leg of the LED to keep it from shorting against the other leg. Then use a heat gun or solder iron tip to heat the shrink tubing until it shrinks around the wire connected to one of the LED legs.

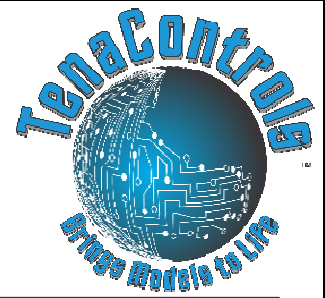
Now connect one side of the on/off switch (**Not Supplied**) to the positive power input, the other side of switch to the Red wire on C1 of the 8 pin JST Connector, then the Minus power input to the Black wire on C1 of the 8 pin JST Connector.

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\*\*\*A digital version of this Manual can be requested, email, [sales@tenacontrols.com](mailto:sales@tenacontrols.com) \*\*\*

How to distinguish an led:



Shorter leg is Cathode (-)

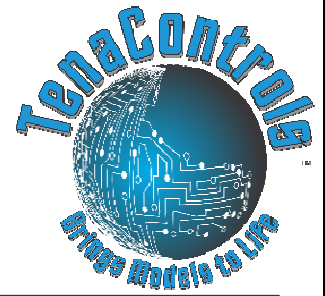
Longer leg is Anode (+)

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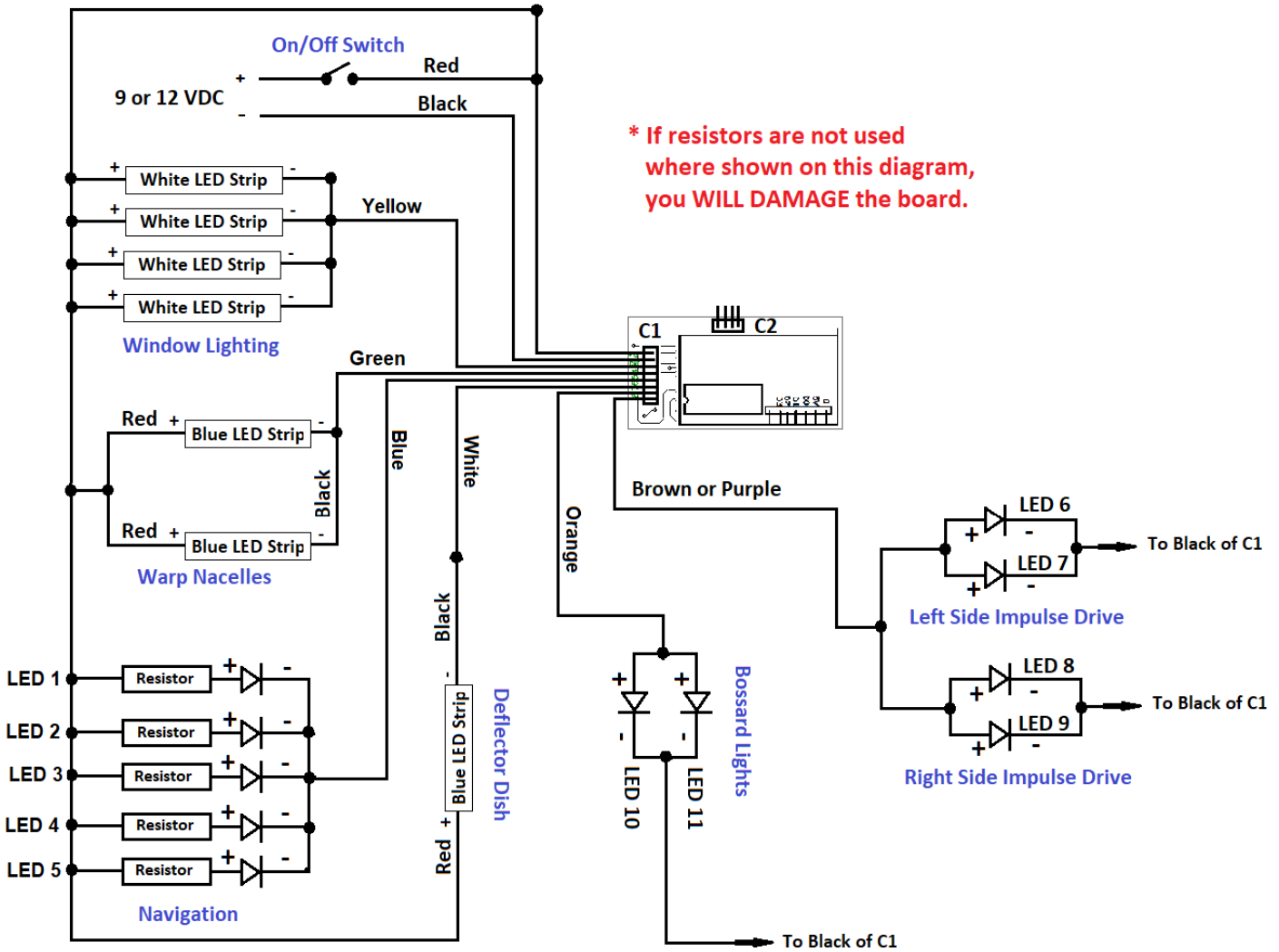
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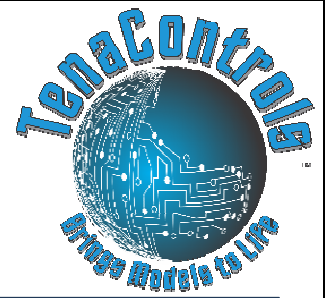


## CONTROL WIRING DIAGRAM:



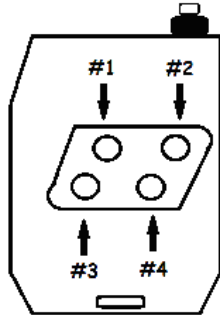
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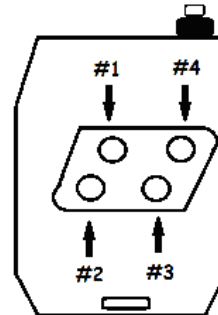


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## FOB DIAGRAM:



Transmitter FOB's will come in one of two types. Buttons 2-4 are located differently.



- Some Manufacturer mark button #1 as A or C
- Some Manufacturer mark button #2 as A or B
- Some Manufacturer mark button #3 as C or D
- Some Manufacturer mark button #4 as B or D

## HOW TO OPERATE THE REMOTE CONTROL:

- NAVIGATION:** PRESS BUTTON#1 ONCE TO TURN ON/OFF THE NAVIGATION LIGHTS.
- IMPULSE ENGINES:** PRESS BUTTON#2 ONCE TO TURN ON/OFF THE IMPULSE ENGINES.
- CHILLER GRILLS:** PRESS BUTTON#2 TWICE TO TURN ON/OFF THE CHILLER GRILLS & RED BOSSARDS.
- INTERNAL LIGHTS:** PRESS BUTTON#3 ONCE TO TURN ON/OFF THE INTERNAL WINDOW LIGHTS.
- DEFLECTOR DISH:** PRESS BUTTON#3 TWICE TO ON/OFF THE DEFLECTOR DISH.
- ON/OFF:** PRESS BUTTON #4 TO TURN EVERY FUNCTION ON/OFF.

**TO BENCH TEST BOARD, CONNECT UP AS SHOWN IN WIRING DIAGRAM, POWER UP AND PRESS BUTTON #4. ALL THE LIGHTS WILL COME ON, PRESS AGAIN ALL THE LIGHTS GO OFF.**

\*\*\*\*\*

IF THE REMOTE CONTROL EVER FAILS TO TURN ON OR OFF A PARTICULAR FUNCTION, SHUT THE POWER GOING TO THE CONTROL BOARD OFF. AFTER 5 SECONDS TURN THE POWER BACK ON AND THE PROBLEM SHOULD BE RESOLVED.

WITH ANY RADIO FREQUENCY DEVICE, IT CAN BE SUBJECTED TO ELECTRICAL NOISE INTERFERENCE FROM THE SURROUNDING ENVIRONMENT OR VOLTAGE FLUCTUATION FROM THE POWER SOURCE.

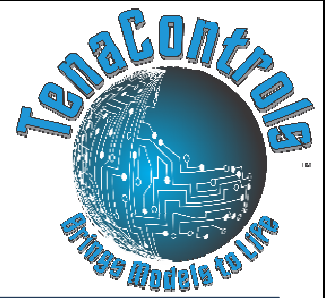
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## NAVIGATION:

1. **Five White 1.8 mm LED's, LED1,2,3,4 and LED5.** All the Anodes (+) of the Navigation led LED1-LED5 will terminate to one side of the resistor and the other side of resistor to the Red Wire of the 8 pin JST Connector, C1. Then connect the Cathodes (-) of LED1-LED5 to the Blue Wire of the 8 pin JST Connector, C1. **See above Control Wiring diagram (pg. 3).**

### **Left Side Impulse Engines:**

2. **Two Red 3 mm LED's, LED6 and LED7.** The Two Anodes (+) of the Left side Impulse Engines LED's, LED15 and LED16 will terminate to the Brown Wire of the 8 pin JST Connector, C1. Then connect the Cathodes (-) of LED6 and LED7 to the Black Wire of the 8 pin JST Connector, C1. **See above Control Wiring diagram (pg. 3).**

### **Right Side Impulse Engines:**

6. **Two Red 3 mm LED's, LED8 and LED9.** The Two Anodes (+) of the Right-side Impulse Engines LED's, LED8 and LED9 will terminate to the Brown Wire of the 8 pin JST Connector, C1. Then connect the Cathodes (-) of LED8 and LED9 to the Black Wire of the 8 pin JST Connector, C1. **See above Control Wiring diagram (pg. 3).**

### **Right & Left Side Bossard Lights:**

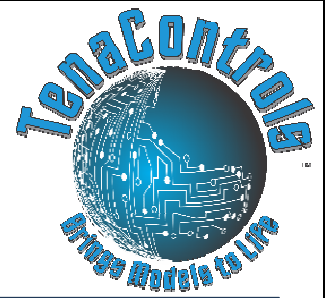
7. **Two Red 5 mm LED's, LED10 and LED11.** The Two Anodes (+) of the Right & Left side Bossard LED's, LED10 and LED11 will terminate to the Orange Wire of the 8 pin JST Connector, C1. Then connect the Cathodes (-) of LED10 and LED11 to the Black Wire of the 8 pin JST Connector, C1. **See above Control Wiring diagram (pg. 3).**

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## **Right & Left Side Warp Nacelle Lights:**

- 8. Two Blue LED Strips.** The Two Red Wires, Anodes (+) of the Right & Left side Warp LED Strips will terminate to the Red Wire of the 8 pin JST Connector, C1. Then connect the Two Black Wires, Cathodes (-) of the Right & Left side Warp LED Strips the Green Wire of the 8 pin JST Connector, C1. See above Control Wiring diagram (pg. 3).

## **Deflector Dish Light:**

- 9. One Blue LED Strip.** The Red Wire, Anode (+) of the Deflector Dish LED Strip will terminate to the Red Wire of the 8 pin JST Connector, C1. Then connect the Black Wire, Cathode (-) of the Deflector Dish LED Strip the White Wire of the 8 pin JST Connector, C1. See above Control Wiring diagram (pg. 3).

## **Interior Window Lights:**

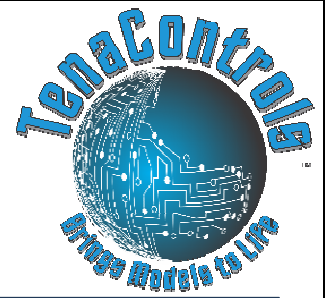
- 10. The White LED Strips.** The Red Wires, Anodes (+) of the Internal Window LED Strips will terminate to the Red Wire of the 8 pin JST Connector, C1. Then connect the Black Wires, Cathodes (-) of the Internal Window LED Strips the Yellow Wire of the 8 pin JST Connector, C1. See above Control Wiring diagram (pg. 3).

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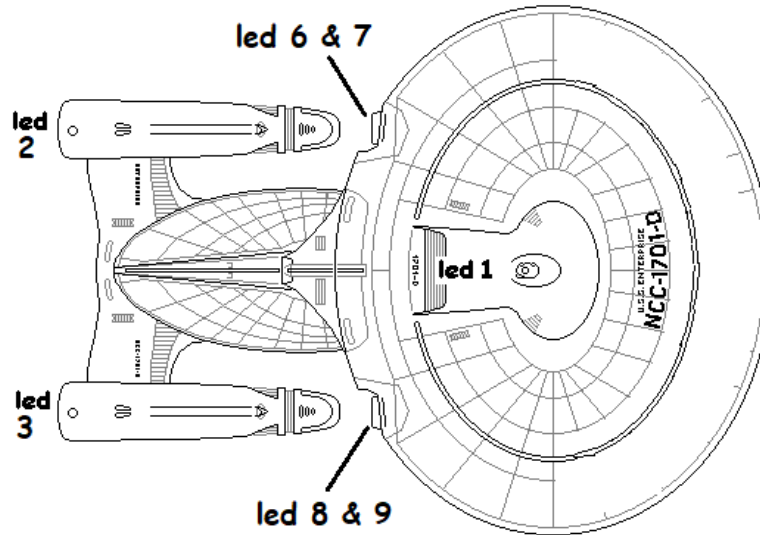
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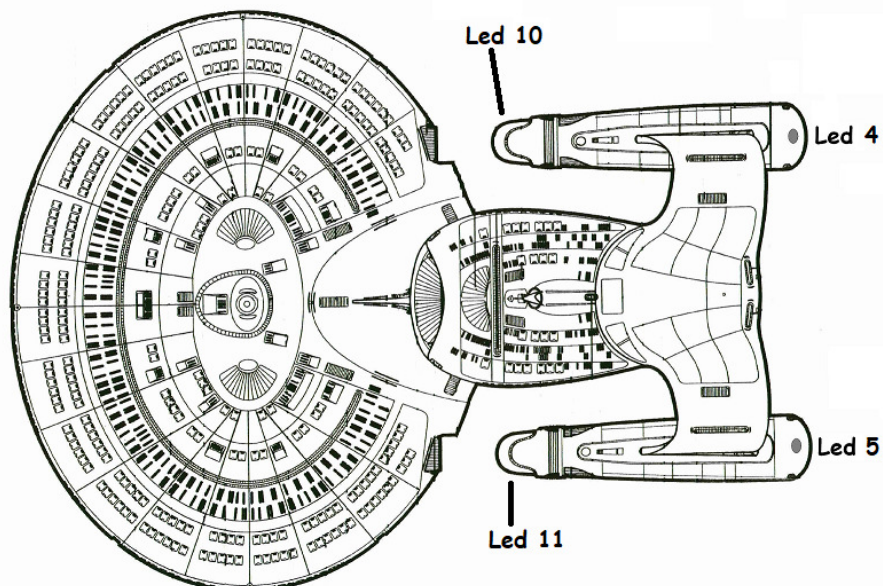
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## Top View of led locations



## Bottom View of led locations

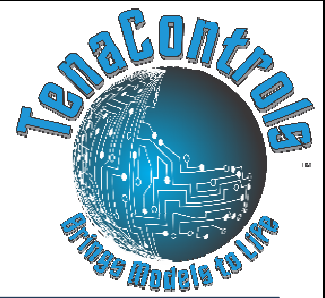


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## Warranty

TenaControls LLC warrants that the control boards sold meet TenaControls LLC specifications and are adequately contained, packaged and labeled and conform to the promises and affirmations of fact made on the container and label. THE FOREGOING WARRANTIES ARE EXCLUSIVE, AND ARE IN LIEU OF ALL OTHER WARRANTIES (WHETHER WRITTEN, ORAL OR IMPLIED) INCLUDING WARRANTY OR MERCHANTABILITY IN OTHER RESPECTS THAN EXPRESSLY SET FORTH ABOVE AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

In the event that there is a breach of express warranty by the manufacturer made in connection with the purchase of this product, if any, the sole remedy of any buyer shall be to return the product along with original sales receipt, at **buyer's expense** for repair (or replacement of the product if repair is impossible) to the manufacturer's facility in the Commonwealth of Massachusetts, located at 22 Hancock Street, Milford, MA 01757. Some states do not allow the exclusion or limitation of any incidental or consequential damages, so the above limitation may not apply to you. Nothing herein contained shall be construed to be a waiver by the manufacturer of any of the obligations imposed upon said buyer under the laws of the Commonwealth of Massachusetts except as herein specifically stated.

This warranty is enforceable only by the buyer of the product or a person in the buyer's immediate family. This warranty is enforceable for a period of **FIVE YEARS** from the date of purchase. Some states do not allow limitations on how long an implied warranty lasts, so the above warranty may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

### Warranty Void if:

- A) Product is altered in any way.
- B) Used for other than its intended use.
- C) Buyer mishandling.