

Operating 6 different voltages on the Train Board

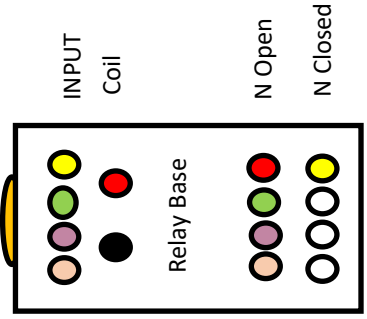
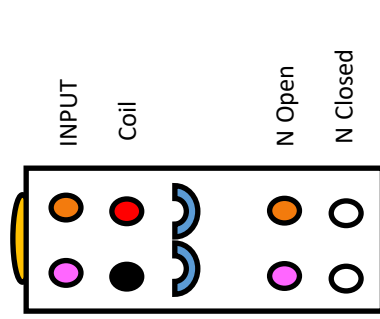
This is a diagram of a controller that will operate through the relays.

It will turn off the button light and turn on the following voltages when hooked up to the controller when you push a button to operate what ever may be attached to the power Molex plugs

Note that I have found these plugs on line that fit the 2 pin activation connection of the timers. I simply plug it to the timer and run the red wire to pin 3 and the black wire to pin 4. Activation Plug - JST 2 Pin Male Female Connector



Voltage	Molex Housing	Wire Color
3 V DC	2 Pin Female	TAN/Black
4.5 DC	2 Pin Male	PURPLE/Black
6 V AC	4 Pin Male	GREEN/White
9 V AC	4 Pin Male	PINK/White
12 V AC	4 Pin Male	ORANGE/White
12 VDC	4 Pin Male	RED/Black
12 VDC	RCA Female	RED/Black



Timers are Converted Not Factory See Page 4 For Factory Original

This diagram is a completed controller that will through the relay turn off the button light and turn on the following voltages when hooked up to the controller.

Red is 12 Volt DC Positive Yellow is the button light 12 V DC

Black is 12 Volt DC Negative

Lt Blue Button activation

Lt Green Button activation

Tan 3 Volt DC

Purple 4.5 Volt DC

Green 6 Volt AC

Pink 9 Volt AC

Orange 12 Volt AC

This diagram is for the First 6 terminal connections only.
Pos * Description

#1 - 12 Volt DC Red Positive

#1 - 12 Volt DC Yellow Positive

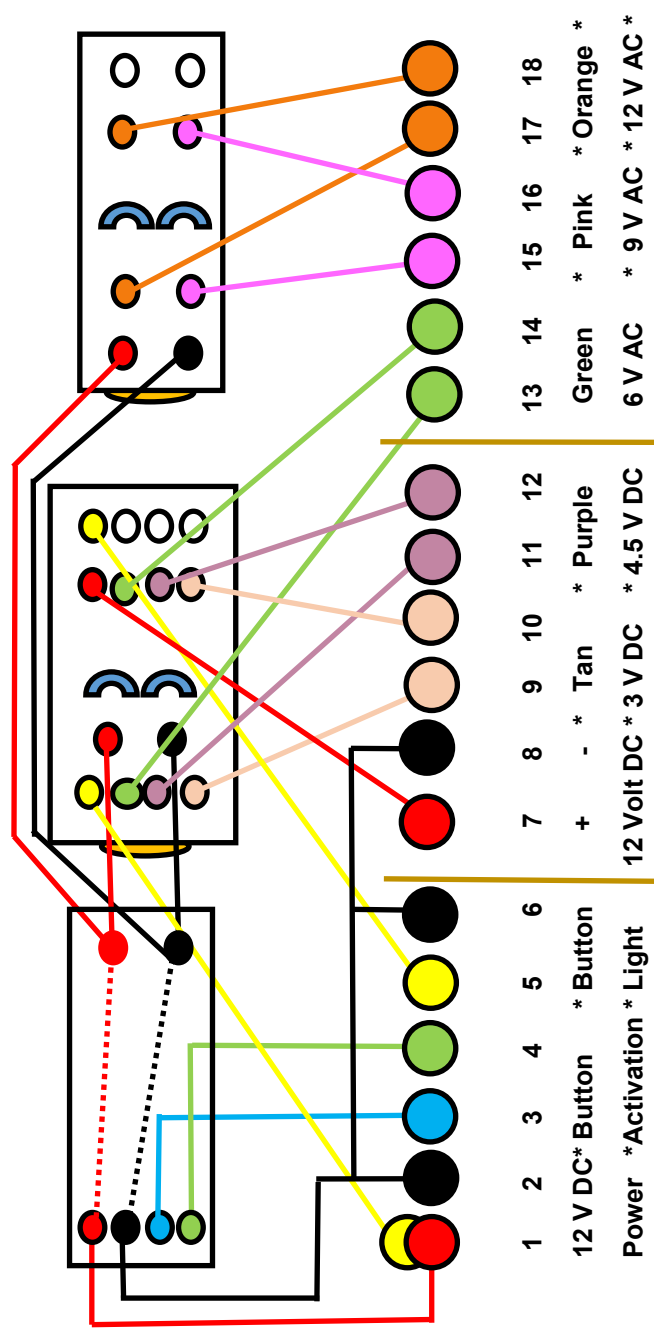
#2 - 12 Volt DC Negative

#3 - Lt Blue Button activation

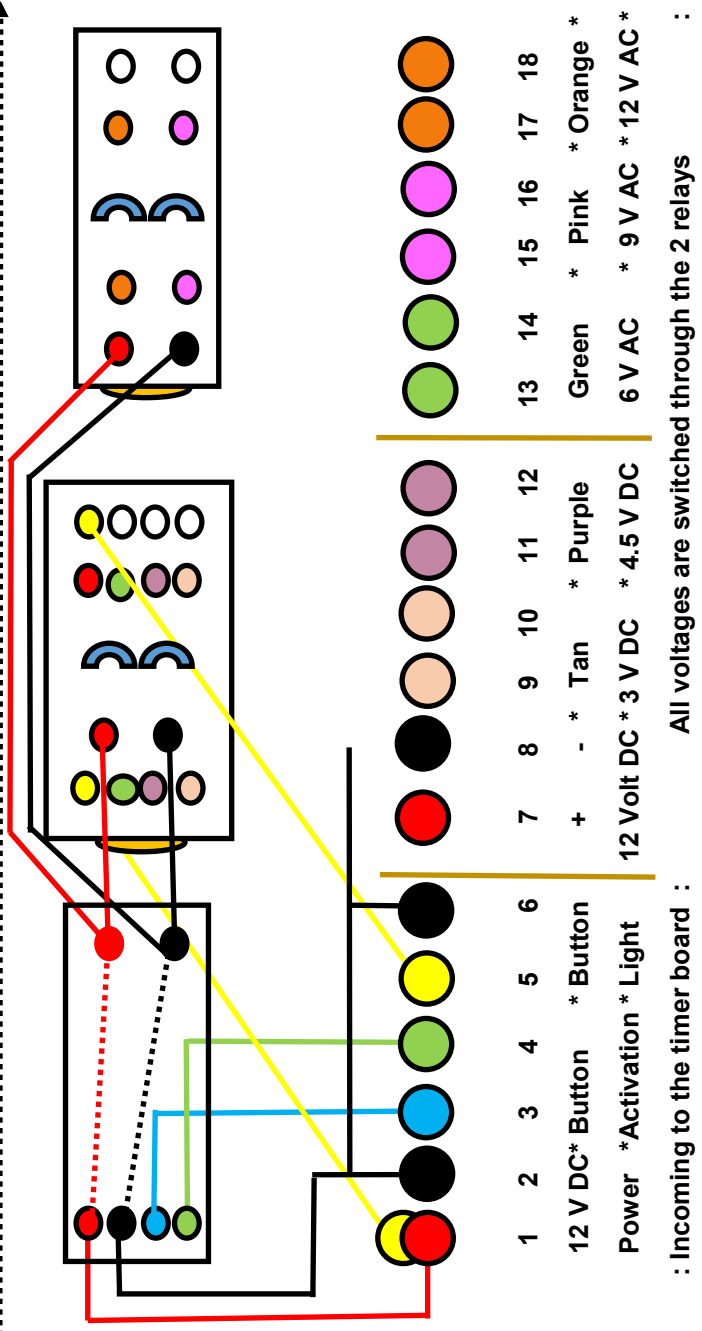
#4 - Lt Green Button activation

#5 - Yellow Button Light Positive

#6 - Black Button Light Negative



: Incoming to the timer board : All voltages are switched through the 2 relays :



: Incoming to the timer board : All voltages are switched through the 2 relays :

BN - Wiring for Multi Operational Timer with Six Circuits and a Button Light.pub
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This diagram is the Second set of 6 wire connections.

Note all Red is Positive 12 Volt also all Yellow is Positive 12 Volt and all Black is Negative 12 Volt

Pos * Description

Lt Blue Button activation

Lt Green Button activation

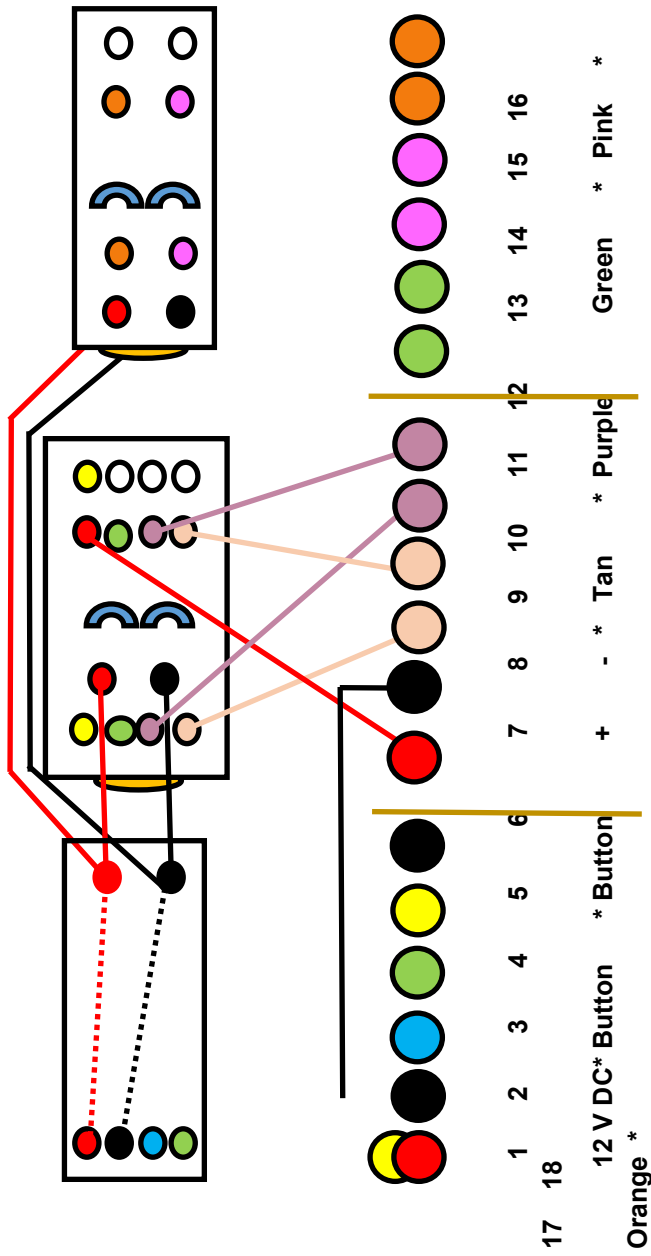
7 - 12 Volt Positive Switched

8 - 12 Volt Negative

9 - Tan 3 Volt DC

10 - Tan 3 Volt DC

11 - Purple 4.5 Volt DC



This diagram is the Third set of 6 wire connections.

Note all Red is Positive 12 Volt also all Yellow is Positive 12 Volt and all Black is Negative 12 Volt

Pos * Description

13 - Green 6 Volt AC

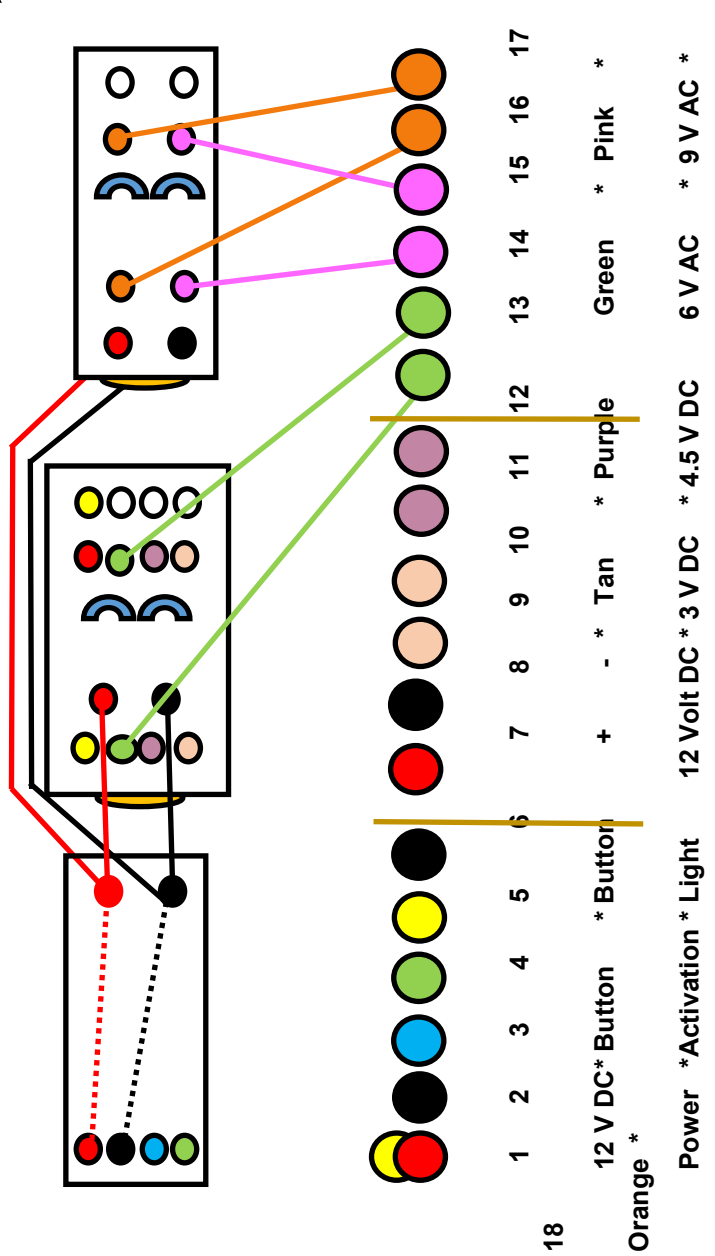
14 - Green 6 Volt AC

15 - Pink 9 Volt AC

16 - Pink 9 Volt AC

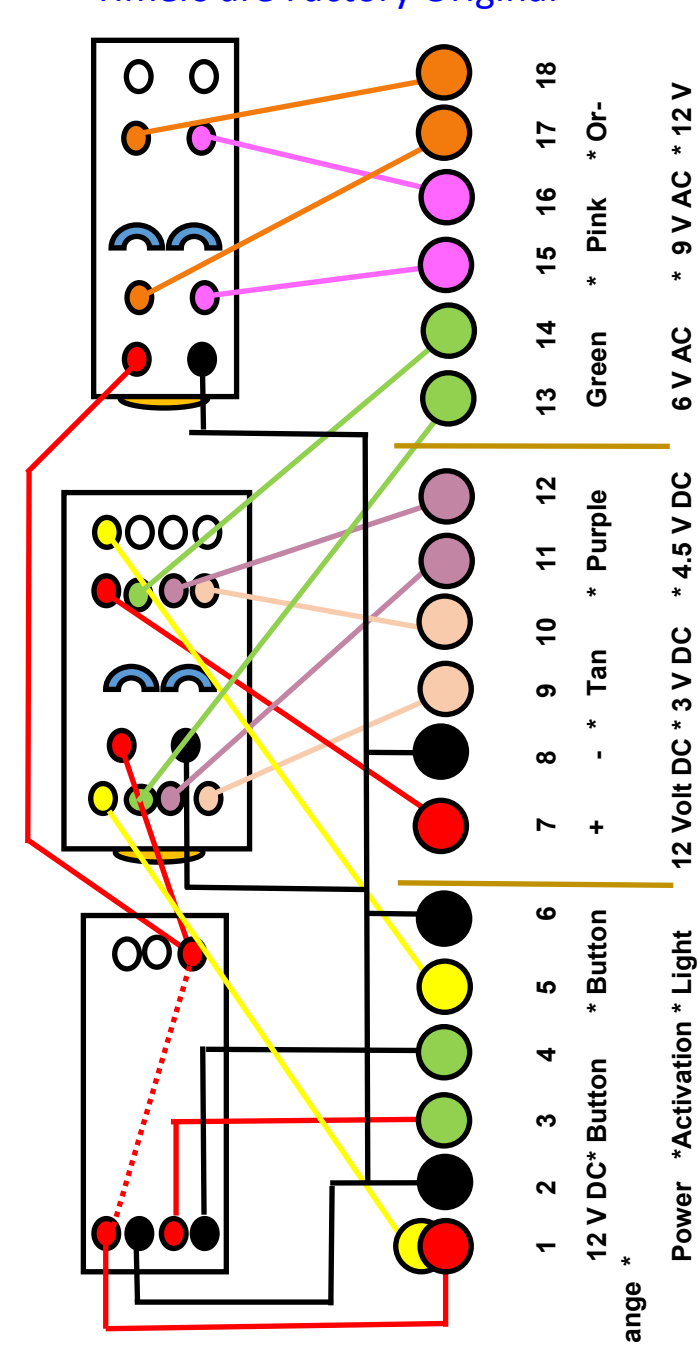
17 - Orange 12 Volt AC

18 - Orange 12 Volt AC



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Timers are Factory Original



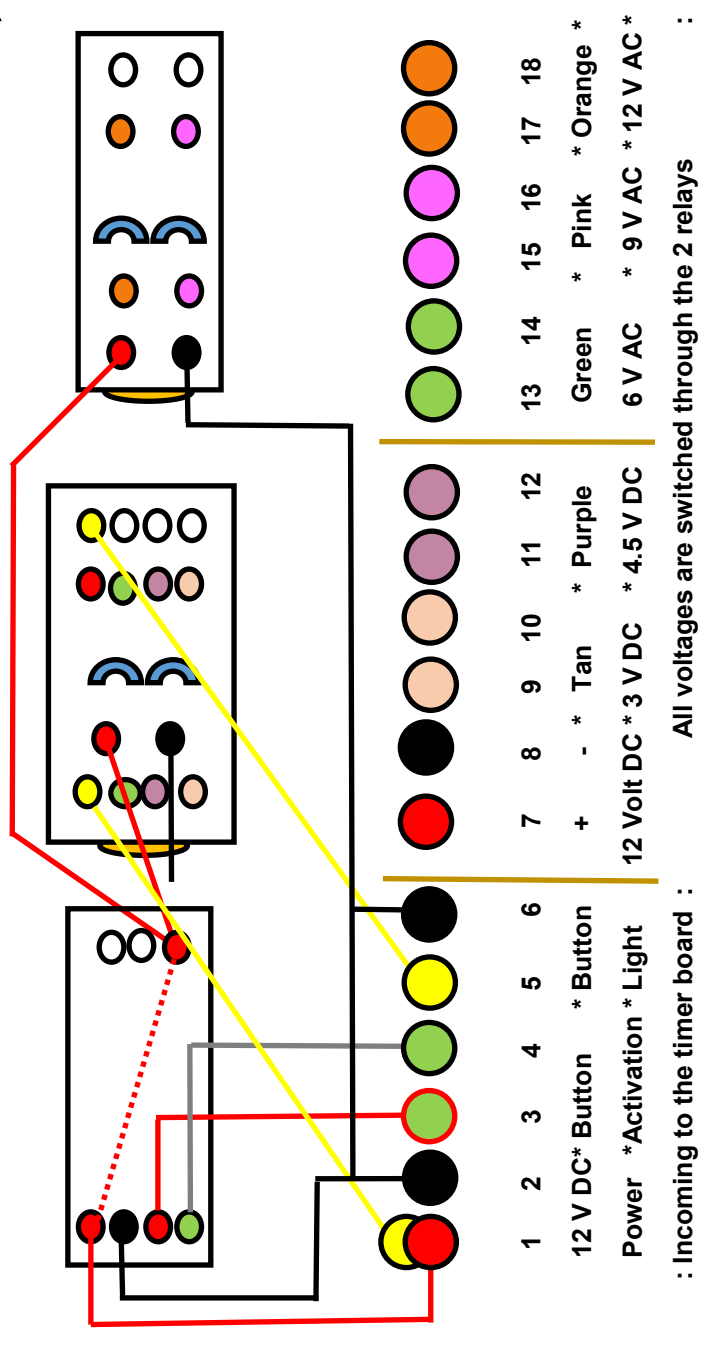
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- Red is 12 Volt DC Positive Yellow is the button light 12 V DC
- Black is 12 Volt DC Negative
- Lt Blue Button activation
- Lt Green Button activation
- Tan 3 Volt DC
- Purple 4.5 Volt DC
- Green 6 Volt AC
- Pink 9 Volt AC
- Orange 12 Volt AC

ange *

Power *Activation * Light 12 Volt DC * 3 V DC * 4.5 V DC * 6 V AC * 9 V AC * 12 V

AC *



This diagram is for the First 6 terminal connections only.
Pos * Description

- #1 - 12 Volt DC Red Positive
- #1 - 12 Volt DC Yellow Positive
- #2 - 12 Volt DC Negative
- #3 - Lt Blue Button activation
- #4 - Lt Green Button activation
- #5 - Yellow Button Light Positive
- #6 - Black Button Light Negative

: Incoming to the timer board :

All voltages are switched through the 2 relays

This diagram is the Second set of 6 wire connections.

Note all Red is Positive 12 Volt also all Yellow is Positive 12 Volt and all Black is Negative 12 Volt

Pos * Description

Lt Blue Button activation

Lt Green Button activation

7 - 12 Volt Positive Switched

8 - 12 Volt Negative

9 - Tan 3 Volt DC

10 - Tan 3 Volt DC

11 - Purple 4.5 Volt DC

12 - Purple 4.5 Volt DC

This diagram is the Third set of 6 wire connections.

Note all Red is Positive 12 Volt also all Yellow is Positive 12 Volt and all Black is Negative 12 Volt

Pos * Description

13 - Green 6 Volt AC

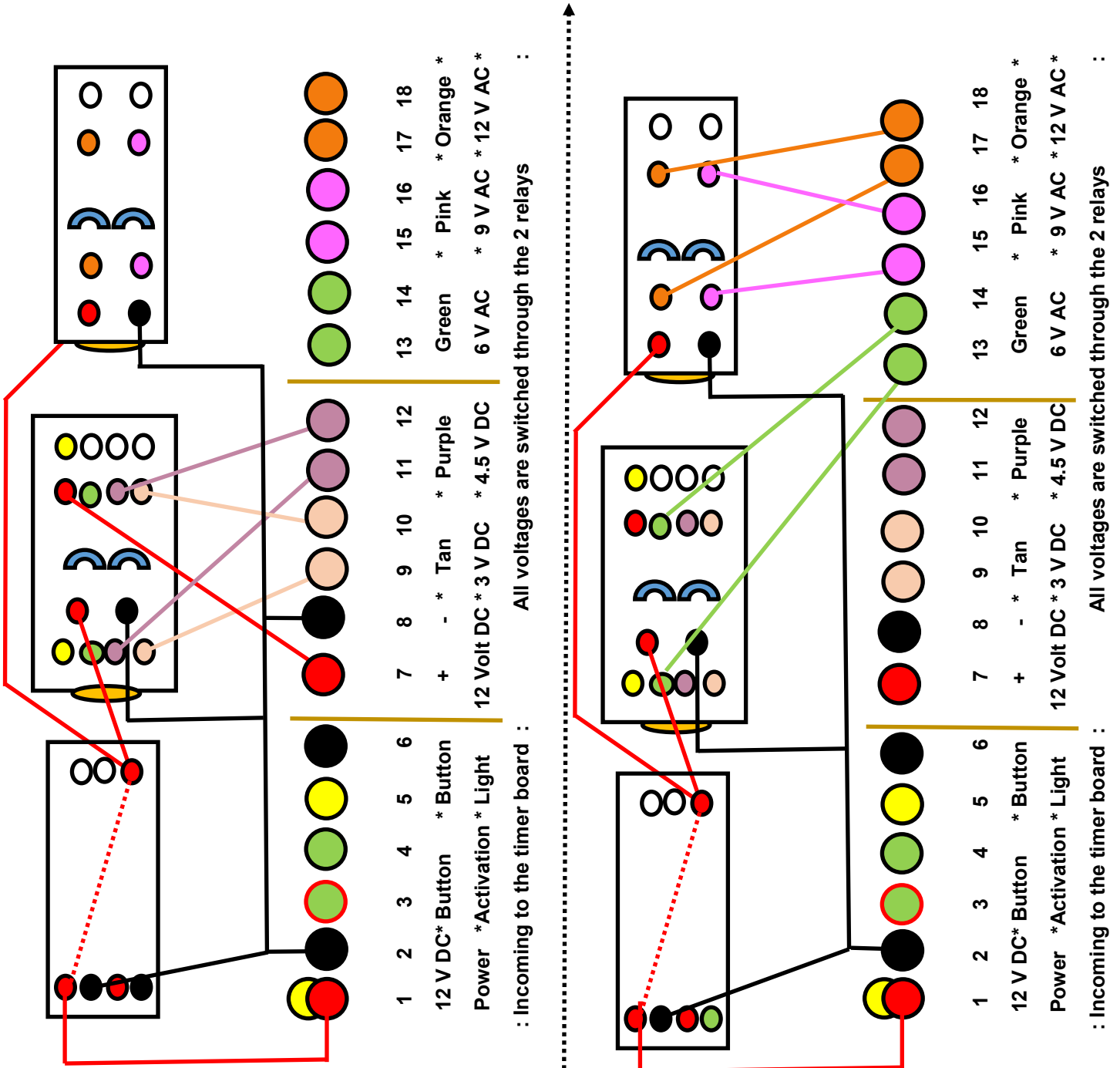
14 - Green 6 Volt AC

15 - Pink 9 Volt AC

16 - Pink 9 Volt AC

17 - Orange 12 Volt AC

18 - Orange 12 Volt AC



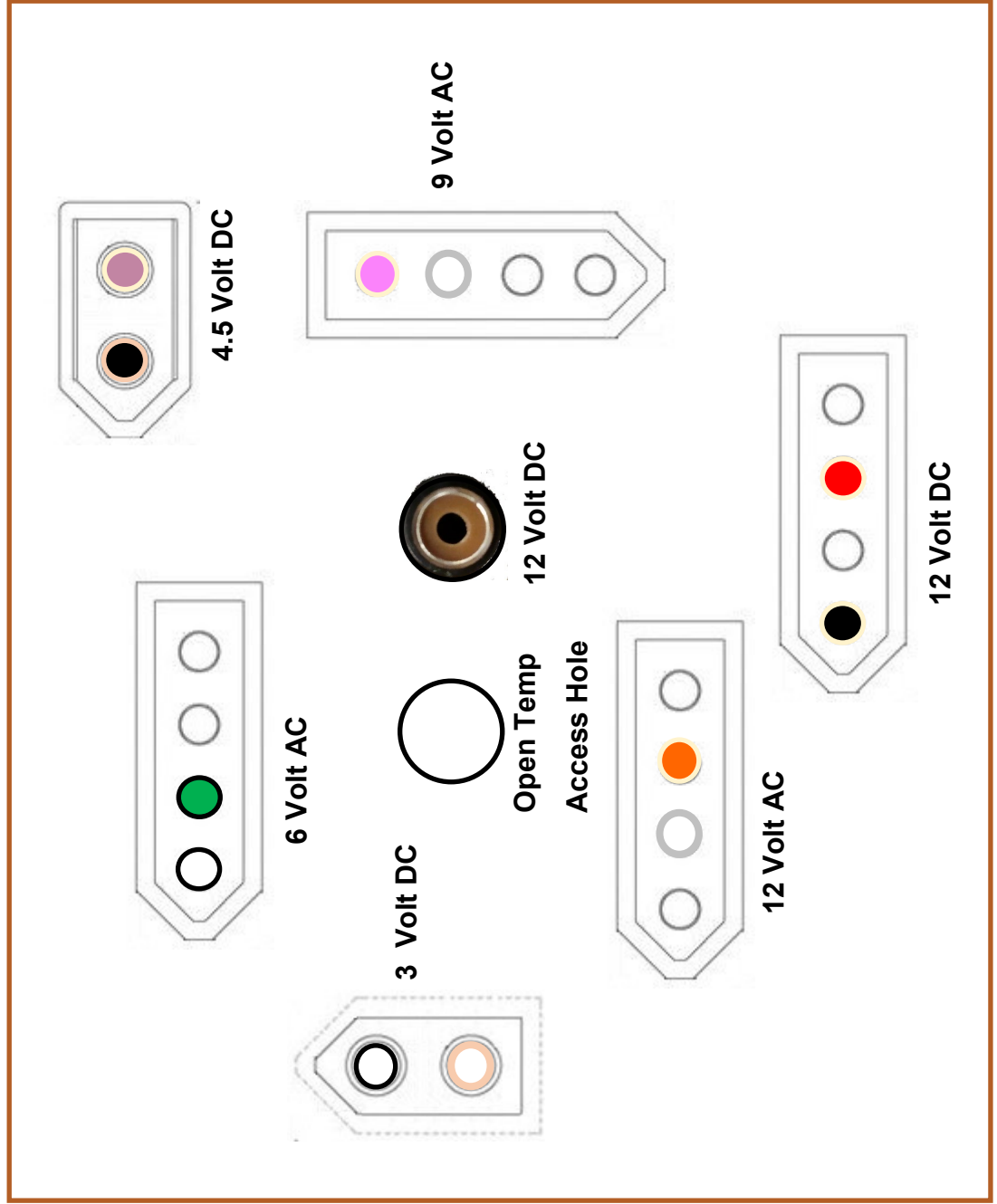
: Incoming to the timer board : All voltages are switched through the 2 relays

: Incoming to the timer board : All voltages are switched through the 2 relays

This block is representative of the multilabel outlets of various voltages that are used on the Bethesda Train Board.

There are 6 various voltages that can be used by simply plugging into the desired receptacle.

These blocks are used in conjunction with the multilabel voltages timer or on a stand alone when wired directly to the buss wires. When wired direct to the buss the voltages are always hot. When wired to the timer board then they are hot only when the timer is running by pushing one of the buttons weather they are lit or not.



Wired colors and locations in Molex Plugs

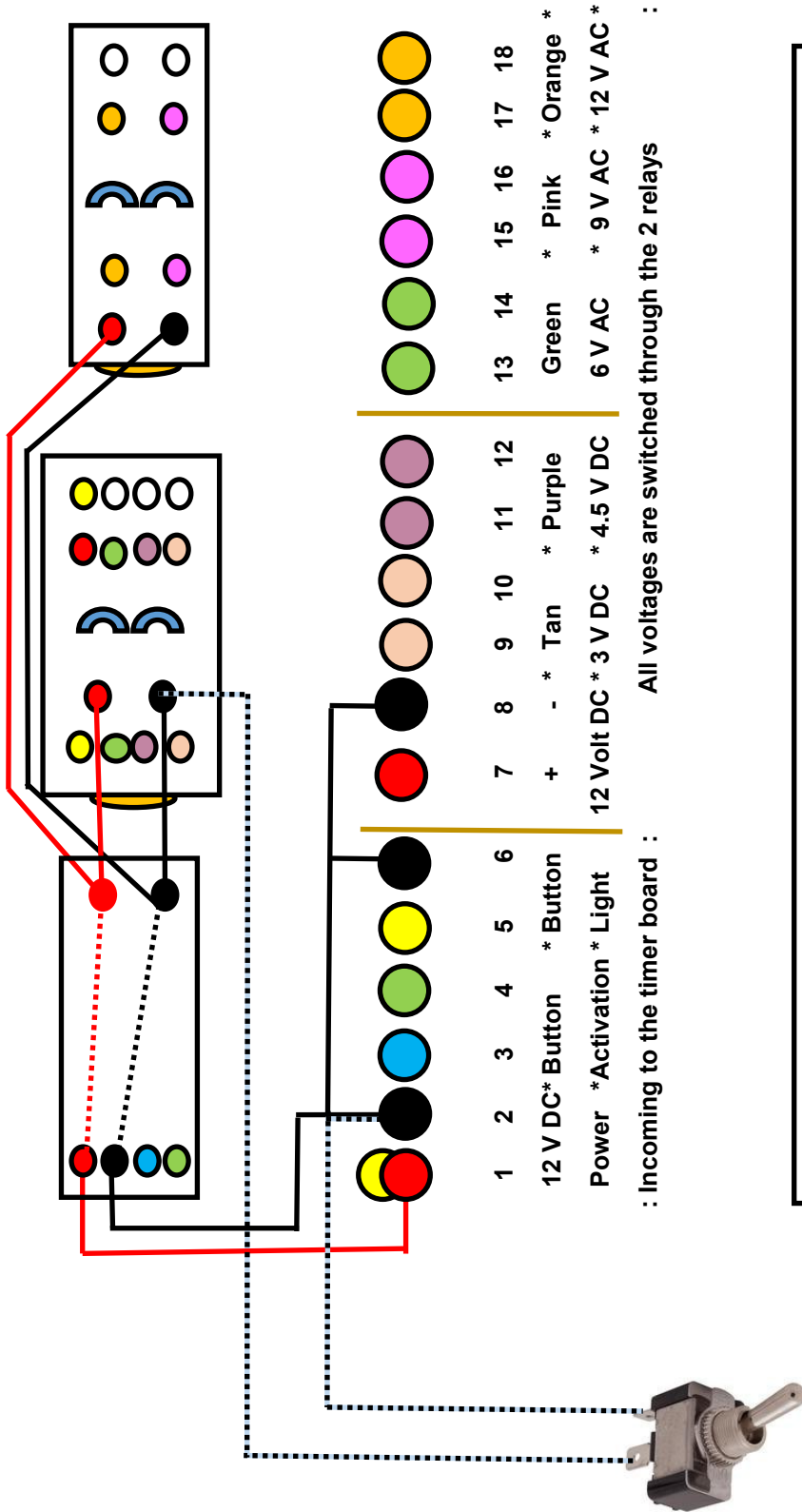
All DC Negative connections are BLACK

All AC Common Connections are WHITE

Voltage	Molex Housing Wire Color
3 V DC	2 Pin Female TAN/BLACK
4.5 DC	2 Pin Male PURPLE/BLACK
6 V AC	4 Pin Male GREEN/WHITE
9 V AC	4 Pin Male PINK/WHITE
12 V AC	4 Pin Male ORANGE/WHITE
12 VDC	4 Pin Male RED/BLACK
12 VDC	RCA FEMALE RED/BLACK

Update this page 04-01-2026

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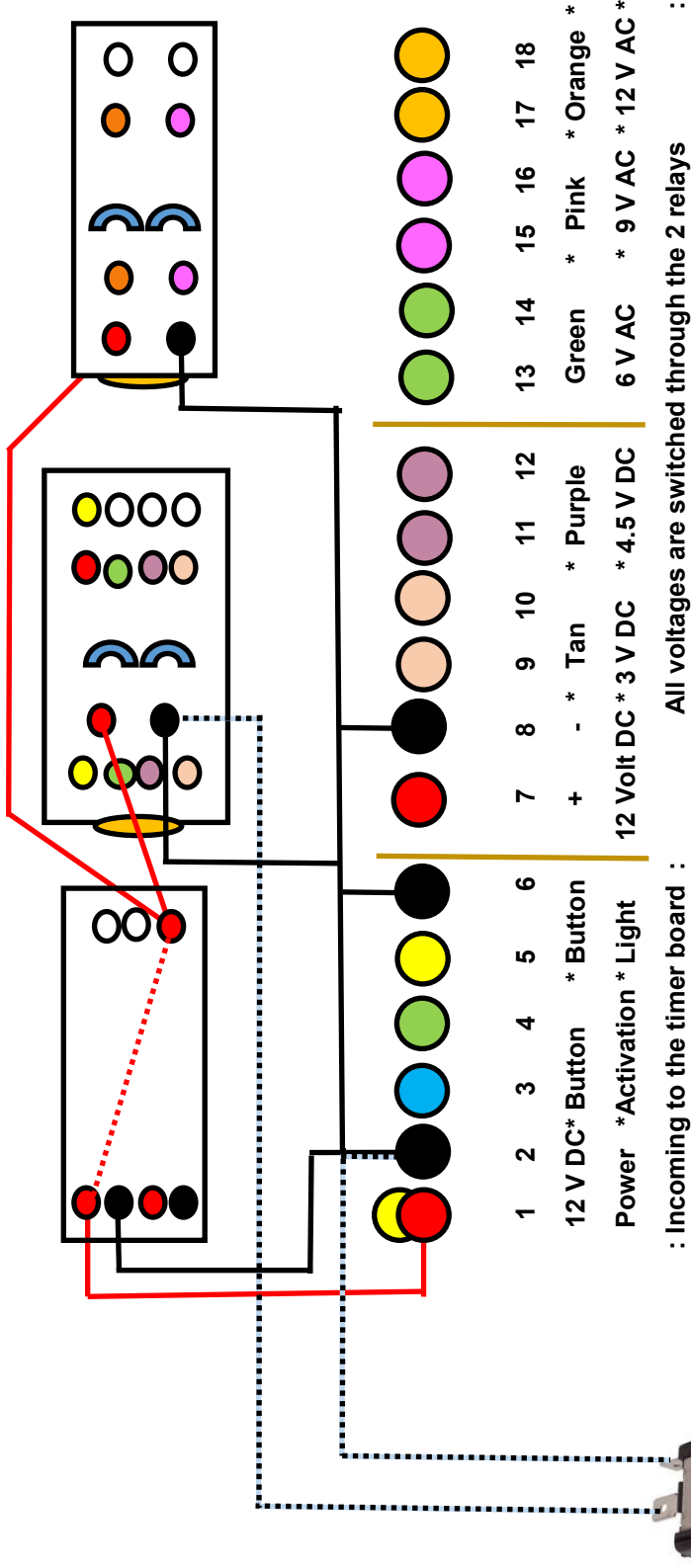


Adding a single pole single throw toggle switch to turn on all of the powers that are connected for testing or temporary operation.

Simply hook up one leg of the toggle switch to the 12 V DC Negative power pin that is operating the control board. Then hook the other leg of the toggle switch to the Negative side of the first coil you bypass the timer that powers the relays directly.

These timers the negative is internally broken and we have to bypass the negative to then fire the relays when the toggle is thrown.

Timers are Factory Original-



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These timers the negative is internally broken and we have to bypass the negative to then fire the relays when the toggle is thrown.

Multiple Terminal Strip Diagrams to put on controller boards

