

The Un-Official

RCMC & RailSounds LITE Guide

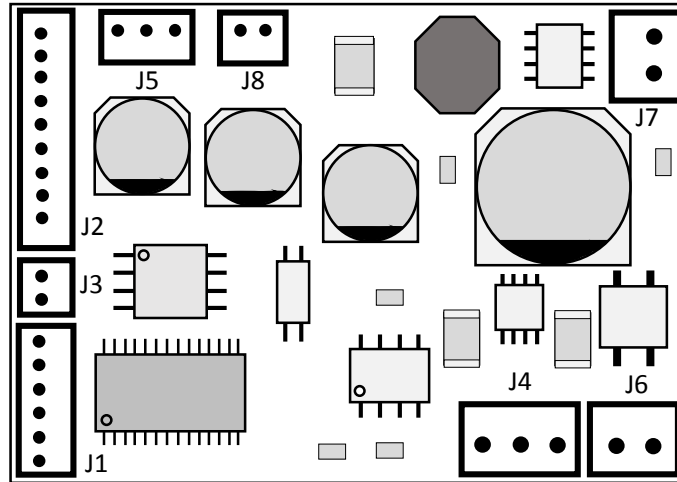
Covers basic wiring information about the RCMC and LITE boards.

Info & Discretion

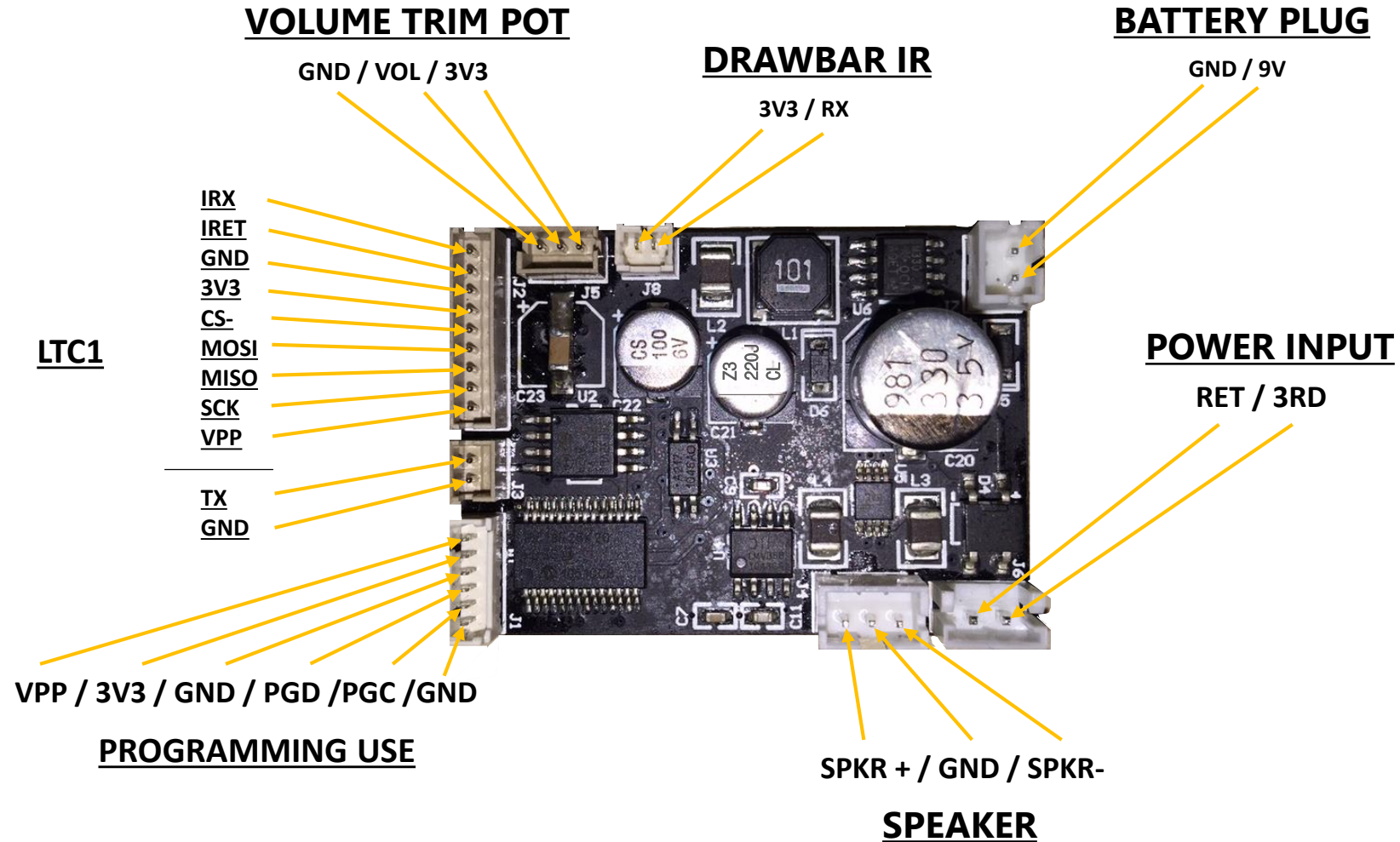
- Covers basic pin out and wiring information about the RCMC and LITE boards.
- This does not cover technical troubleshooting.
- This has not been looked at by Lionel. It is unclear how accurate the wiring diagrams are. I warn you to always trace your wires. Some wiring will vary from model to model.
- Colors of wires will vary model to model. Colors shown are not 100% accurate.
- Lighting outputs will vary from model to model.
- **The “common” outputs on the RCMC is not common to the chassis ground.** You will damage the board if grounded to chassis.
- I’m still not 100% Clear on all the abbreviations for the pin outs. Educated guess mostly.
- 5 volt output is not used anymore its now 3v. Or 3.3v

- The wiring diagrams were created from inspecting 15 current products of my own, that were produced at different time periods from Lionel® ranging from diesel to steam locomotives that have this electronic package.
- I spent my own time creating these documents to help myself and the repair/service station community.
- There is no documentation in this detail currently about this generation of LEGACY® Electronics.
- As of 2016 there are 7 revisions of the RCMC. Current one has Thermal resistors inside the smoke units to measure the temperature. An extra pin was added to each smoke unit harness for this.
- Electrocoupler plugs on board have 1 extra pin now too. It is unknown to me why they were added.

RailSounds LITE

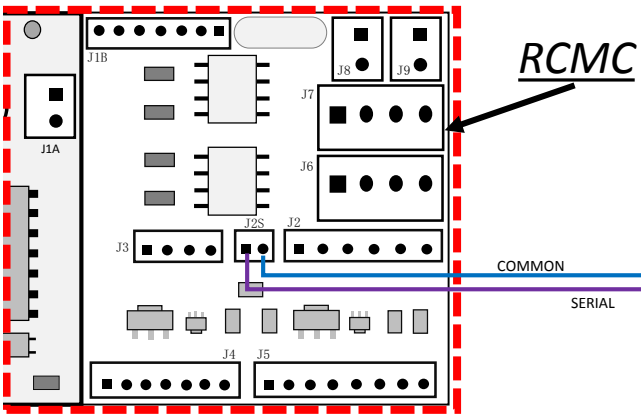


RAILSOUNDS LITE PLUG BREAK DOWN

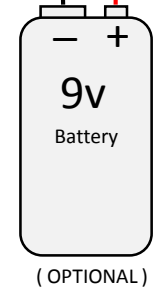
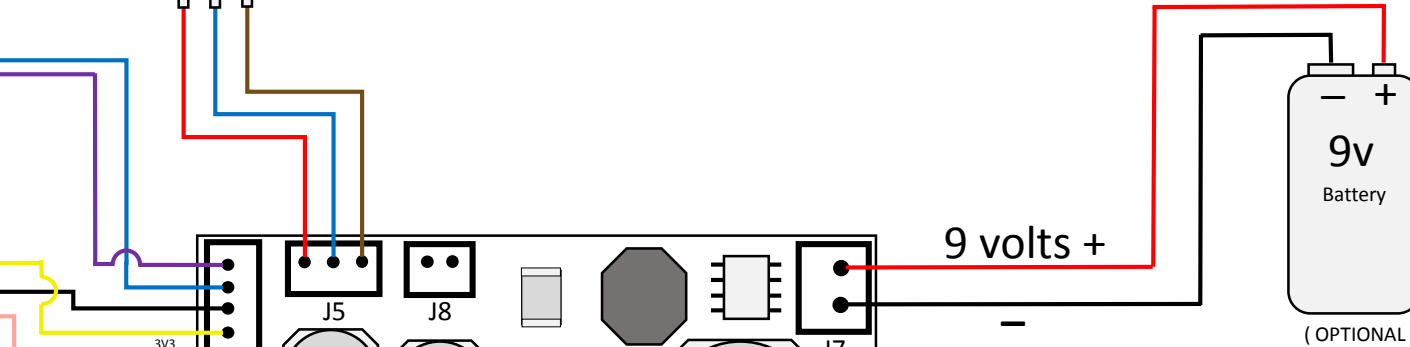


WIRE COLOR WILL VARY

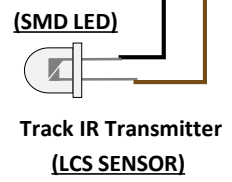
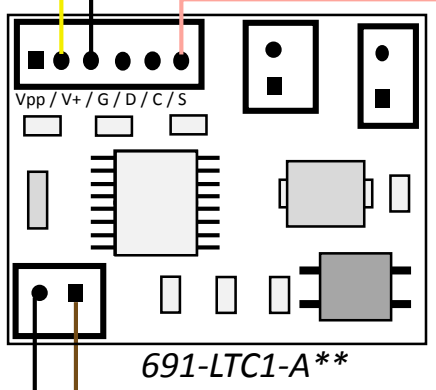
RAILSOUNDS LITE Wiring Diagram (Diesel/Electric)



10k TRIM POT
(Volume)

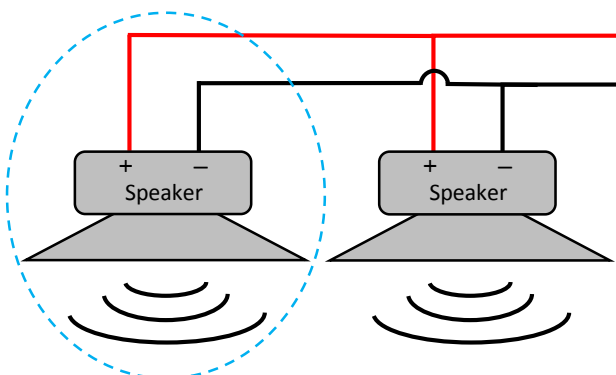


NOTE:
Each sound board is programmed for the specific product it came from. Make sure when ordering a new sound board, it is has the correct part number for the item you are repairing.

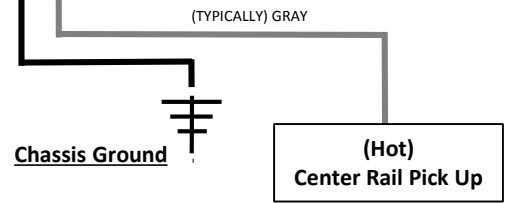


TRACK I.R. DECODER/DRIVER BOARD

- LTC1 Board controls lighting, coupler functions and communicates with LCS track.



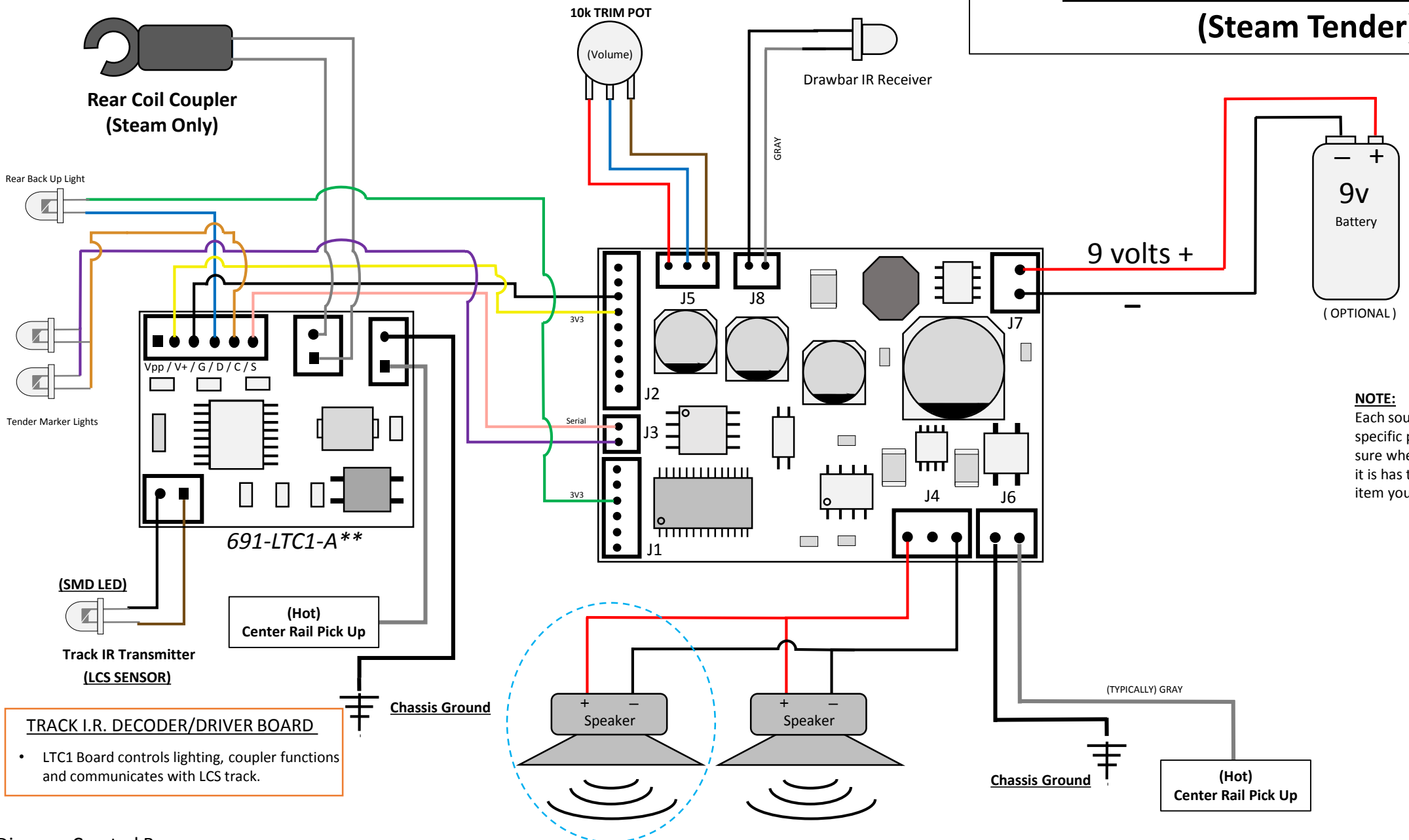
IF EQUIPPED WITH TWO SPEAKERS



WIRE COLOR WILL VARY

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RAILSOUNDS LITE Wiring Diagram (Steam Tender)



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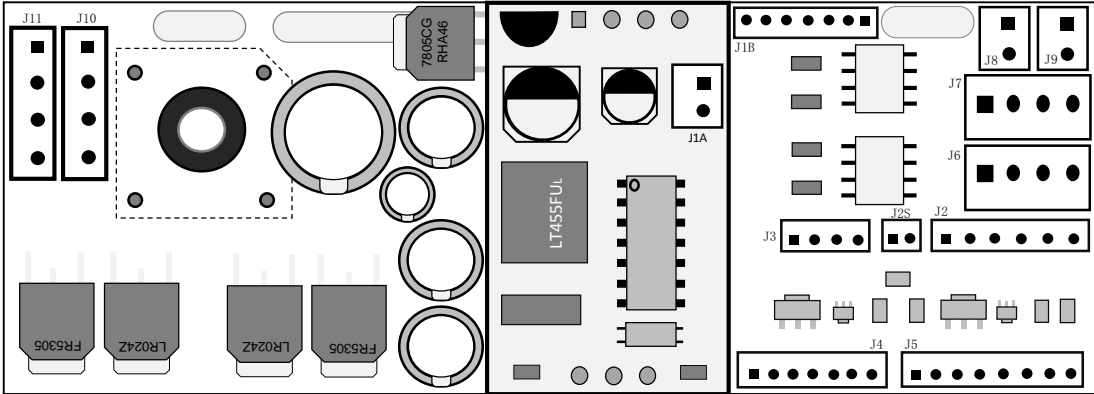
Diagram Created By:
Bruk Bannister with help from **Lionel LLC.**

IF EQUIPPED WITH TWO SPEAKERS

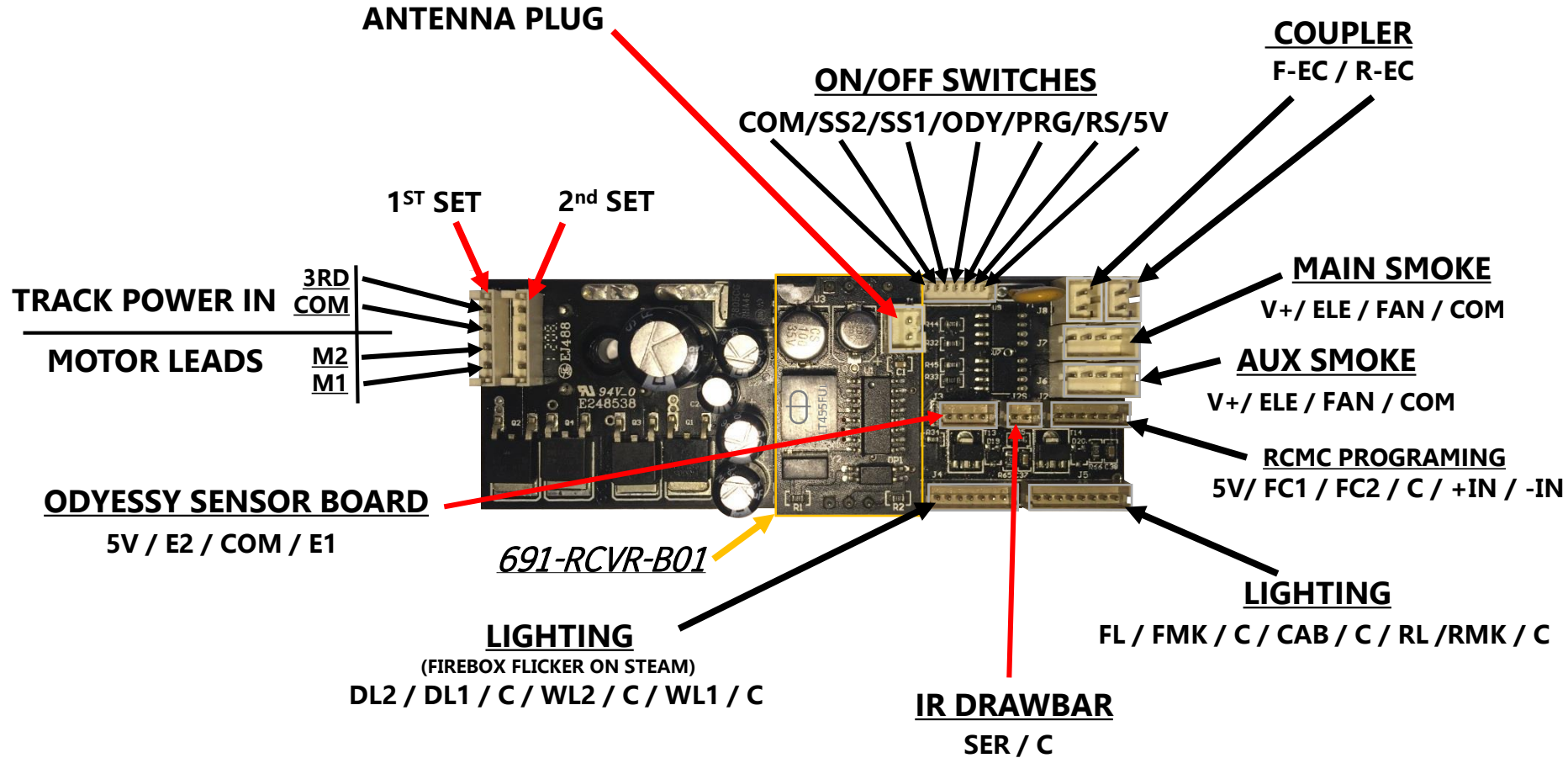
WIRE COLOR WILL VARY

Revised September, 2016

RCMC



RCMC PLUG BREAK DOWN



RCMC PIN BREAK DOWN	
ABRV	TERM
3RD	HOT (CENTER RAIL PICK UP)
COM	COMMON GROUND
M1	MOTOR LEAD 1
M2	MOTOR LEAD 2
SS1	SMOKE SWITCH 1
SS2	SMOKE SWITCH 2
ODY	ODYSSEY SWITCH
PRG	PROGRAM/RUN SWITCH
RS	RAIL/SIGNAL SOUNDS SWITCH
5V	5 VOLTS +
F-EC	FRONT ELECTRO COUPLER
R-EC	REAR ELECTRO COUPLER
V+	POSITIVE OUTPUT VOLTAGE
ELE	HEATING ELEMENT
FAN	SMOKE FAN MOTOR
FC1	?
FC2	?
FL	FRONT LIGHT
FMK	FRONT MARKER LIGHTS
RMK	REAR MARKER LIGHTS
CAB	CAB LIGHT
RL	REAR LIGHT
SER	SERIAL DATA LINE
DL1	DITCH LIGHT 1
DL2	DITCH LIGHT 2
WL1	WORK/GROUND LIGHT 1
WL2	WORK/GROUND LIGHT 2
C	COMMON GROUND
+IN	?
-IN	?
E1	?
E2	?

NOTE:

Each RCMC board is programmed for the specific product it came from. Make sure when ordering a new RCMC board, it is has the correct part number for the item you are repairing.

NOTES:

- (C)= COMMON GROUND TO BOARD NOT CHASSIS GROUND
- THIS VERSION HAS NO THERMAL RESISTORS IN THE SMOKE UNITS

Diagram Perfected By:

Bruk Bannister with help from **Lionel LLC.**

Revised September,2016

RCMC Wiring Diagram (Steam)

WIRE COLOR WILL VARY

NOTE:
LED's are Polarity Sensitive.
If installed backwards they
will not work.

NOTE:
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specific product it came from. Make
sure when ordering a new RCMC board,
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item you are repairing.

(Hot)
Center Rail Pick Up

TRACK
CHASSIS
GROUND

(TYPICALLY) GRAY

A FEW STEAM MODELS WILL
HAVE TWO MOTORS. BUT
TYPICALLY ONE IS USED.
CONSULT DIESEL DIAGRAM
FOR WIRING TWO MOTORS.

MOTOR LEAD 2

MOTOR LEAD 1

MOTOR

SOLDERED TO
MOTOR LEADS

ASH PAN GLOW LIGHTS
(IF EQUIPPED) THERE IS A SET ON THE
LEFT AND RIGHT SIDE OF MOTOR.

Motor Sensor Board

Flickering Fire Box
PCB

Ground Light 1

Ground Light 2

Front Headlight

Front Marker Light

Front Marker Light

Cab Light

Rear Headlight

Rear Marker Light

Rear Marker Light

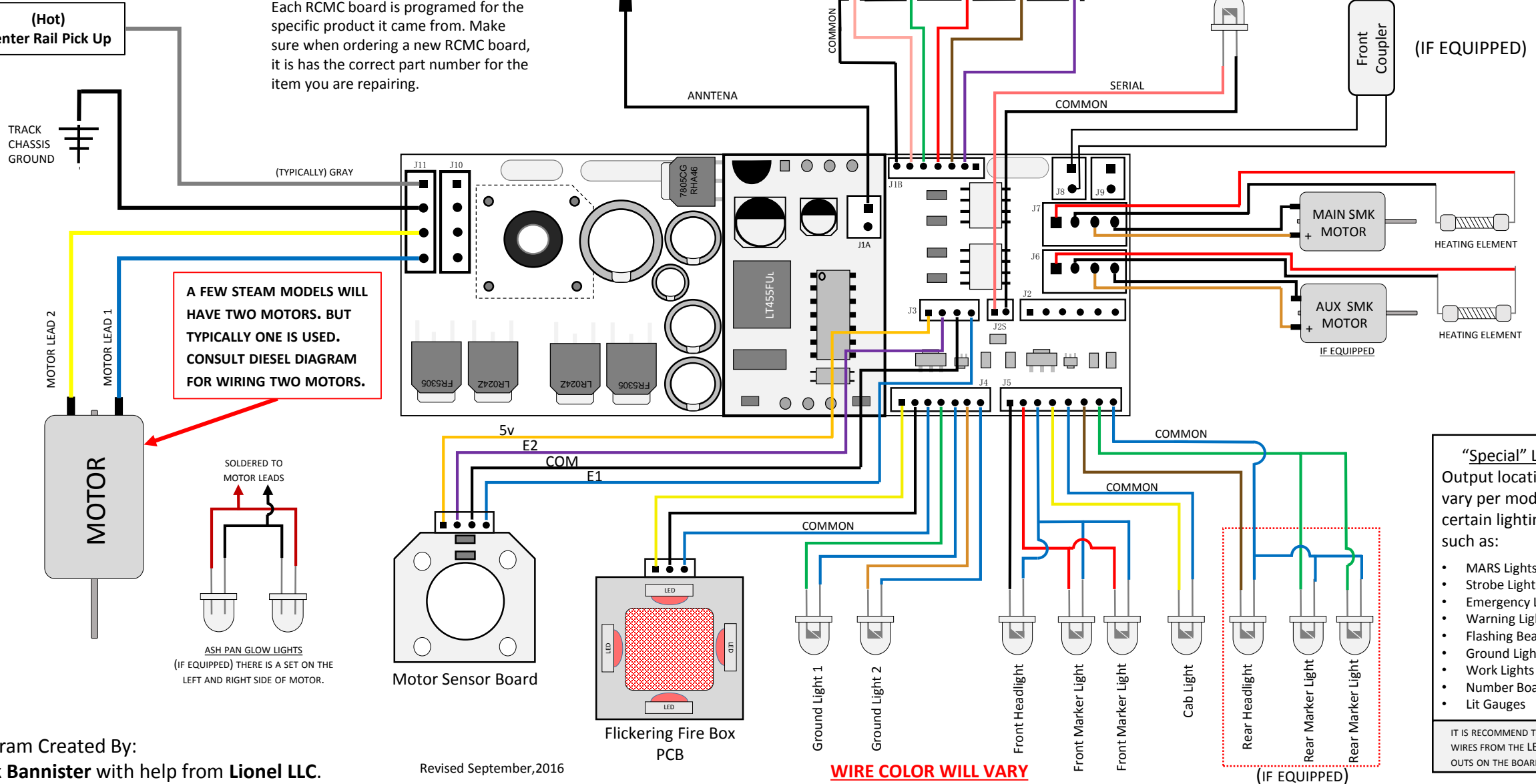
(IF EQUIPPED)

WIRE COLOR WILL VARY

"Special" Lighting
Output location may
vary per model for
certain lighting features
such as:

- MARS Lights
- Strobe Lights
- Emergency Lights
- Warning Lights
- Flashing Beacons
- Ground Lights
- Work Lights
- Number Boards
- Lit Gauges

IT IS RECOMMEND TO TRACE THE
WIRES FROM THE LED TO THE PIN
OUTS ON THE BOARD



RCMC Wiring Diagram (Diesel/Electric)

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GROUND

(TYPICALLY) GRAY

MOTOR LEAD 2

MOTOR LEAD 1

MOTOR LEAD 2

MOTOR LEAD 1

MOTOR

MOTOR

Motor Sensor Board

Ditch Light 2

Ditch Light 1

Ground Light 1

Ground Light 2

Front Headlight

Front Marker Light

Front Marker Light

Cab Light

Rear Headlight

Rear Marker Light

Rear Marker Light

SMK AUX SMK MAIN ODY ON/OFF PRG/RUN RS/SS

COMMON

ANNTENA

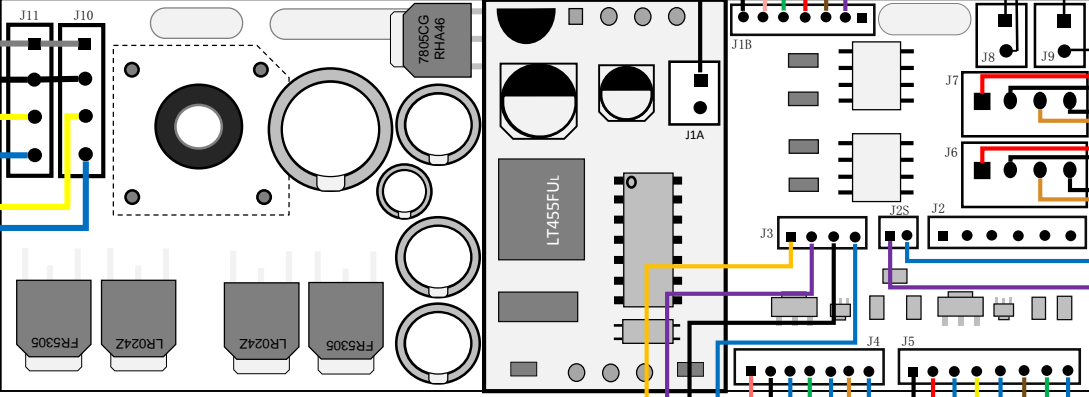
Front Coupler

Rear Coupler

MAIN SMK MOTOR

AUX SMK MOTOR
IF EQUIPPED

CONNECTS TO
SOUND BOARD



5v

E2

COM

E1

COMMON

COMMON

COMMON

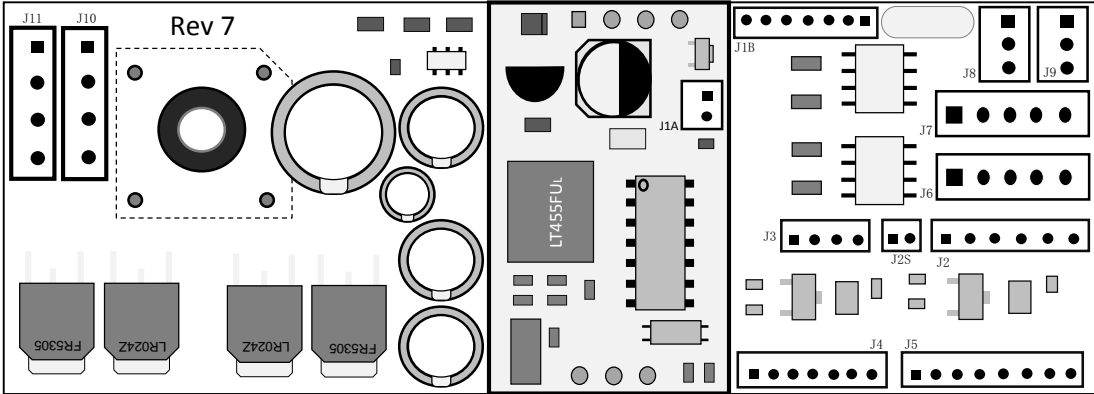
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RCMC



RCMC Wiring Diagram

(Steam) WITH THERMAL RESISTORS

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CONSULT DIESEL DIAGRAM
FOR WIRING TWO MOTORS.

(Hot)
Center Rail Pick Up

TRACK
CHASSIS
GROUND

(TYPICALLY) GRAY

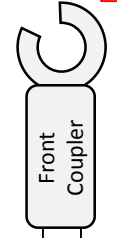


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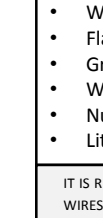
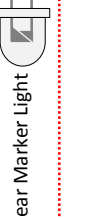
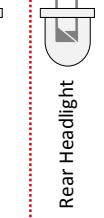
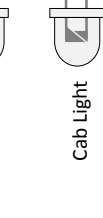
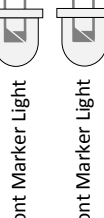
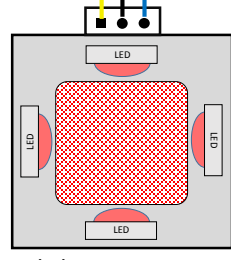
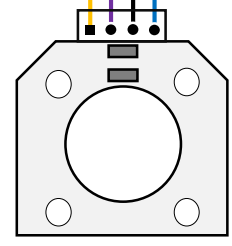
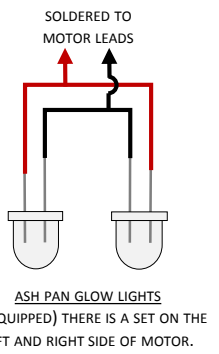
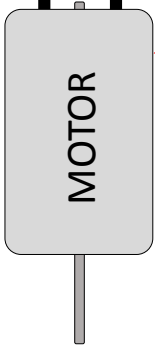
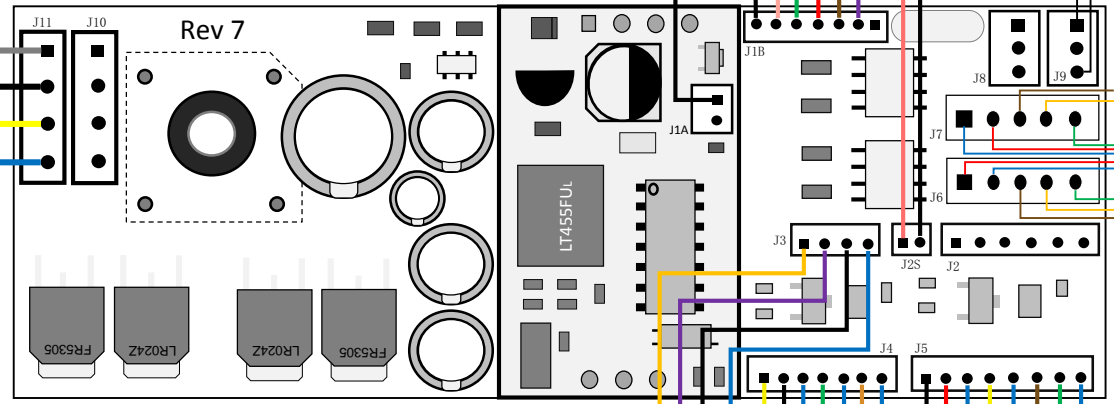
SMK AUX SMK MAIN ODY ON/OFF PRG/RUN RS/SS

TYPICALLY NOT USED IN
STEAM LOCOMOTIVES

IR Drawbar
Transmitter



(IF EQUIPPED)



(IF EQUIPPED)

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WIRE COLOR WILL VARY

RCMC Wiring Diagram

(Diesel/Electric) WITH THERMAL RESISTORS

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(Hot)
Center Rail Pick Up

TRACK
CHASSIS
GROUND

(TYPICALLY) GRAY

Rev 7

ANNTENA

SMK AUX SMK MAIN ODY ON/OFF PRG/RUN RS/SS

COMMON

Front
Coupler

Rear
Coupler

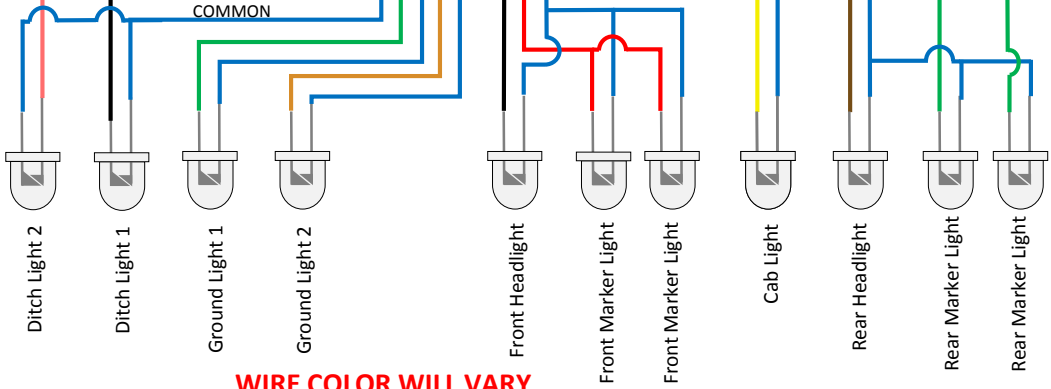
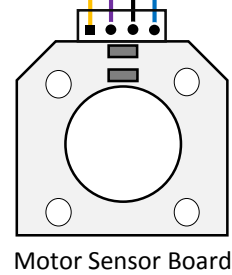
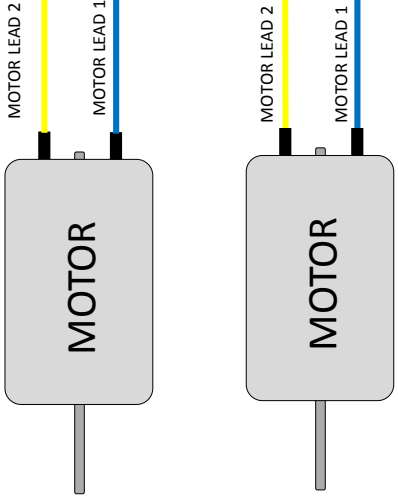
+ MAIN SMK
MOTOR

+ AUX SMK
MOTOR
IF EQUIPPED

Thermal Resistor Heating Element

*SENSOR Thermal Resistor Heating Element

CONNECTS TO
SOUND BOARD



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