# **Specializing In Electronic Controls**

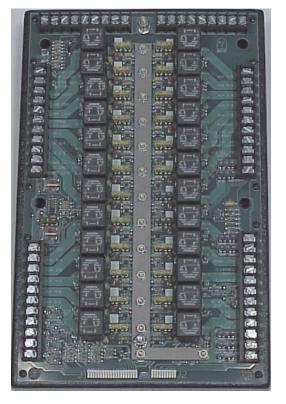
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R.C. TRONICS, INC.

2573 Elimber Re

**BPC Power Center Revision M** 

2573 East Kercher Road Goshen, Indiana 46528 Toll Free 1-800-642-8171 Phone 1-574-642-3857 Fax 1-574-642-3858 Http://www.rctronics.com



# **RCT-786 Bus Power Center**



Laser Custom-Cut Faceplate

Dash Switch Panel & Power Center is connected with a Thirty-Conductor Data Cable. The diameter is 3/8". The total length is determined by the installer.

Many Different Switch Panels are Available.

All Inputs and Outputs are Monitored with LEDs, makes Trouble-shooting a visual event.

Twenty-Four, Fuse Protected Power Relays Provide +12 VDC @ 30 Ampere For All Loads.

Electric Door Operator with Inputs to Limit Door Travel.

Latching Inputs for ADA and Passenger Stop Request.

ADA, Vehicle Secure System, Provides Output for Chair Lift, Locks Vehicle Shift Lever, Interfaces with Ford & Chevy Chassis.

ADA Information Panel, Displays all Inputs and Outputs.

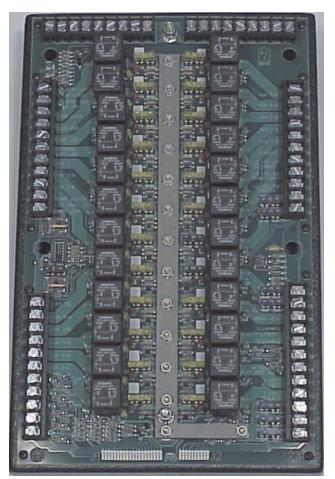
Rear Door Unlock, Prevents Engine Start-Up if not Unlocked.

Information Indicators, Lift Door, ADA Stop, Passenger Stop, Egress Window, Rear Door and Electric Door Open.

Size 16.5" x 10.5" x 2.5" Deep / Weight 10 lbs.

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# **RCT-786 Bus Power Center**



# RCT-948 Switch Center





Switch Assy. RCT-1083 With Indicator Assy. RCT-1010

RCT-790 Four Switch PCB

RCT-747 Indicator PCB



**RCT-789 Eight Switch PCB** 



ADA / RCT-1010 RCT-1010 Indicator Assy

Switch Assy. RCT-1067

Switch Assy. RCT-1068

Switch Assy. RCT-1069

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ADA, Vehicle Secure System, Provides Output for Chair Lift, Locks Vehicle Shift Lever, Interfaces with Ford & Chevy Chassis.

ADA Information Panel, Displays all Inputs and Outputs.

Rear Door Unlock, Prevents Engine Start-Up if not Unlocked.

Information Indicators, Lift Door, ADA Stop, Passenger Stop, Egress Window, Rear Door and Electric Door Open.

Size 19.5" x 13.4" x 2.5" Deep / Weight 9 lbs.

**Optional RCT-1077 Water Tight Enclosure** 

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Goshen, Indiana 46528 Fax 1-574-642-3858 Email; dchiddister@rctronics.com

#### **RCT-786 Revision M**

Changes From Revision L

Added R106 680 ohm, <sup>1</sup>/<sub>4</sub> watt resistor from "system ignition" to anodes of D9 & D30. This modification "loads" the "REAR DOOR SWITCH". (Problem, low band RF would cause the alarm buzzer to operate.)

Changed the oscillator U3 to operate continuously. Add D112, R107 and Q12 to operate the "FLASHER", relay 18. Installed *D/SW*. *E*. When this dip switch is in the "*ON*" position the switching action of relay #18 is inhibited.

Added D111, R108, Q11, D115 and D/SW.-F this addition will permit the buzzer to operate in an alternating fashion any time the "*ADA Stop Request Switch, (Terminal #39)*" is taken to ground. Placing switch #1 (*D/SW.F*) in the "ON" position and placing switch #3 (*D/SW.F*) "*OFF*" will latch the buzzer on and can only be turned off by opening the "*Lift Door, (Terminal #22)*". Reversing the switch positions will only permit buzzer alternating operation during the time a ground is placed on "*ADA Stop Request Switch, (Terminal #39)*".

The buzzer will operate any time the "Stop Request Switch, (Terminal #40)" is taken to ground. Placing switch #4 (D/SW.F) in the "ON" position and placing switch #2 (D/SW.F) "OFF" will latch the buzzer on and can only be turned off by opening the "Entry Door Is Open, (Terminal #2)". Reversing the switch positions will only permit buzzer operation during the time a ground is placed on "Stop Request Switch, (Terminal #40)".

Added Relay-29, (G6CK-2114P-US-DC12) this modification will substitute one or both of the limit switch inputs, "ENTRY DOOR IS CLOSED (Terminal #1)" and / or "ENTRY DOOR IS OPEN (Terminal #2)". "Entry Door Is Closed", can be substituted by closing SW.#1 and opening SW#2 on dip switch labeled "D/SW-A". "Entry Door Is Open", can be substituted be closing SW#3 and opening SW#4 on the same dip switch, "D/SW-A". This dip switch is located in the upper left hand corner of the Bus Power Center, RCT-786.

Added Dip Switch, labeled D/SW-B, located upper right hand side of PCB-786 and the addition of D119, D120, D121, D122, D115, R-109 AND Q13. We also renamed terminal #29 to +12 *VDC Aux.* #8, (was +12 VDC Clearance Light) and terminal #30 to +12 *VDC Aux.* #9, (was +12 VDC Brake OEM Light). We also renamed three outputs, terminal #36 *Aux.* #9, (was Brake Lights) and terminal #37 & #38 to *Aux.* #8, (was Clearance Lights). Switching D/SW-B, Switch #1 thru Switch #4 to the "ON" position will cause relay #22 to energize, providing an output to terminals #37 & #38. <u>Switch #1 = Aux. #6/A terminal #24, Switch #2 = Aux. #6/B terminal #25, Switch #3 = Aux. #7/A terminal #26 and Switch #4 = Aux. #7/B terminal #27.</u>

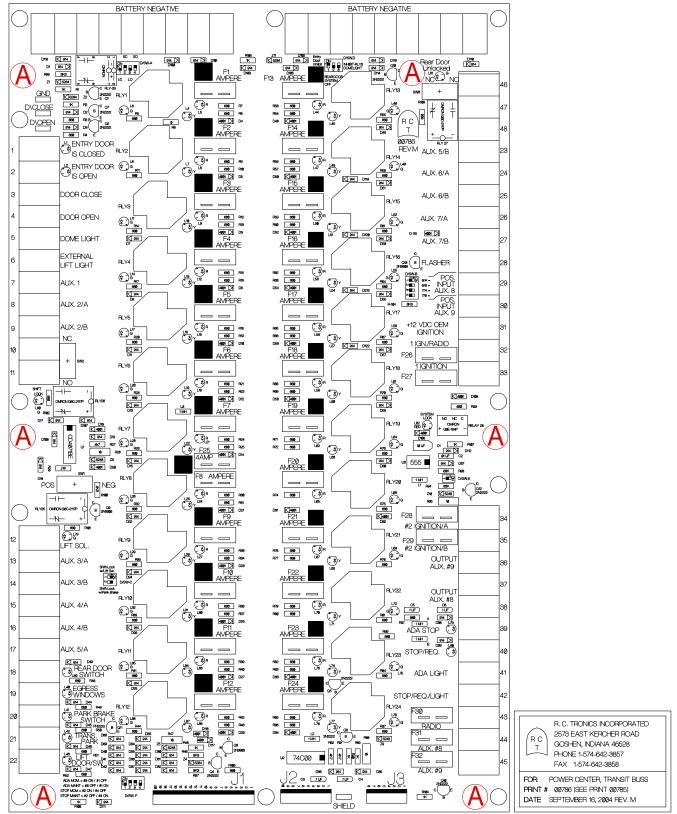
Switch nomenclature back lighting, which operated with the old clearance light input will now operate with "+12 VDC OEM Ignition, (Terminal #31).

Added Dip Switch, D/SW-C. Switch #1 "ON" = Shift Lock with "*Lift Switch*". Switch #2 "ON" = Shift Lock with "*Park Brake*", terminal #20. This dip switch is located lower left hand side of PCB.

Added Dip Switch D/SW-D, locate upper right top of PCB. Switch #1 "ON" = "Entry Door Open" is inoperable until "Transmission In Park" is present on terminal #21. Switch #2 "ON" = "Rear Door Switch" terminal #18 a ground here will cause the system to remain locked on. Removing system "+12 VDC OEM IGNITION" terminal #31 or shutting off the "MASTER SWITCH" will have no effect until the rear door is closed. Switch #3 "ON" = "Dome Light" (Relay #3) inhibit. Dome light will not operate when "Entry Door Is Closed", terminal #1 ground is removed.

Added slider switch, SW3 to Rear Door Unlock, Rly .27. Provides either N.O or N.C. to terminals #47 and #48.

# Six Mounting Openings, Marked A. (See Note #1)



Note #1 Six Mounting Openings, .5 Inch. Do Not Capture PCB with Screw Head PCB May Crack Causing Malfunction Use # 8 or # 10 Screw & Center In Opening.

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### Bus Power Center, Revision M

The BPC is a complete system consisting of main power center which houses twenty-four (24) power relays. A field replaceable, standard ATO fuse protects each. Three LED's monitor each power relay. The red led depicts fuse status. A visible led indicates open fuse or circuit breaker. Amber led shows that control system is commanding power relay on. Lastly a green led shows 12 VDC is being supplied to the load, which is connected to the Power Center, via the numbered terminal strip.

There are nine (10) signal inputs on the Power Center. All have amber LED's, which are located at the terminal strip. All are taken to battery negative. A lighted led shows the input is grounded and will be referred to as "ON" in the following descriptions.

On board is digital circuitry, which controls the operation of the "*Lift Interlock System*" Four conditions must be meant prior to allowing operation of this output.

"LIFT SWITCH," (Located on dash switch center, PCB-790 switch #3)

1st, "PARK BRAKE SWITCH", On. (Terminal #20)

2nd, "TRANMISSION PARK", On. (Terminal #21)

3rd, "Lift Door Switch", (Terminal #22)

Once these four conditions are present, a 12 VDC, rated at 4 Ampere (fuse F25) will be present at "LIFT SOL.", (Terminal #12). In addition, when the "Park Brake Switch (Terminal #20)", "Lift Door Switch" (Terminal #22) or "Lift Switch" is present the "Shift Lock Relay, (RLY-26)" will operate between terminal #10 and #11. A dip switch labeled "D/SWC" has two switches on it. Opening switch #1 will cause the "Lift Switch" not to operate the "Shift Lock Relay, (Rly-26)", opening switch #2 will cause the "Park Brake, Terminal #20", not to operate the "Shift Lock Relay, (Rly-26)", This contact is interfaced with, shift lock so as not to permit the shift from being removed from "PARK". There is a slide switch marked, "Shift Lock Switch, (Sw3)". This switch is located on the PCB RCT-786. By selecting the "NC" you may interface with a Ford chassis series E & F. This is a "Green Wire", cut and series. Placing the "Shift Lock Switch, (Sw3)" to NO you can interface with a Chevy chassis. A +12 VDC wired in parallel will lock the shift; this is a "Green/White wire. Additionally the system cannot be disabled until the lift is stored and the lift door is closed. There is a red led, L82,"System Lock", located on the main RCT-786 Power Center which will not permit system shut down unless the lift is returned to it's stored position and the lift door is closed.

An optional led display is available which shows the status of all inputs and outputs associated with the *"Lift Interlock System"*, part number RCT-1010. This status indicator and be located at any location inside or outside the bus.

NOTE:

The above-described "*Lift Interlock System*" complies with the requirements of the American Disabilities ACT (ADA) Title 49 Code of Regulations

4th, "EGRESS WINDOW, (Terminal #19)", a ground, here operates a warning buzzer.

5<sup>th</sup>, "*REAR DOOR SWITCH, (Terminal #18)*", a ground, here operates the warning buzzer unless the "*PARK BRAKE, (Terminal #20)*" is taken to ground. There are four additional inputs.

6th, "ENTRY DOOR IS CLOSED, (Terminal #1)" a ground here from a Door Is Closed Limit Switch; limits the travel of the entry door by removing power to door actuator, terminal #3 and turning off the "Dome Lights, terminal #5, (RLY3)".

<u>Note:</u> With D/SWA, SW#1 to the "ON" position will provide a simulated input to turn off the "Dome Lights, (RLY-3)". When this option is used you would normally place on D/SWA, SW#2 to the "OFF" position. This will cause the "Close Relay, (RLY-1) not to remove power from its terminal #3 on the RCT-786, Power Center.

7th, "*ENTRY DOOR IS OPEN, (Terminal #2)*" a ground here from a *Door Is Open Limit Switch;* limits the travel of the entry door by removing power to door actuator, terminal #4 providing a reset signal to the ADA stop request.

**Note:** With D/SWA, SW#3 to the **"ON"** position will provide a simulated input to provide a reset signal to the ADA stop request. When this option is used you would normally place on D/SWA, SW#4 to the **"OFF"** position. This will cause the **"Open Relay, (RLY-2)** not to remove power from its terminal #4 on the RCT-786, Power Center.

8th, "STOP REQUEST, (Terminal #40)" a ground, here operates "Stop Request Relay, (RLY-24)" rated 12 vdc @ 20 ampere, present at terminal #42. The power relay will remain energized until "ENTRY DOOR IS OPEN, (Terminal #2)" is taken to ground.

**Note:** A four position dip switch, labeled D/SWF is provided. By placing SW2 to the **"ON"** position will cause the stop request buzzer to operate in a continuous manner as long as the ground is provided to **"Stop Request, (Terminal #40)"**. Placing SW2 to the "OFF" and SW#4 to the "ON" position will cause the stop request buzzer to latch on until the **"ENTRY DOOR IS OPEN, (Terminal #2")** is taken to ground.

9th, "ADA STOP REQUEST, (Terminal #39)" a ground, here operates "ADA Stop Request Relay, (RLY-23)" rated 12 vdc @ 20 ampere, present at terminal #41. ADA Stop Request Relay will remain energized until the "Lift Door Switch, (Terminal #22)" is taken to ground. Note: A four position dip switch, labeled D/SWF is provided. By placing SW3 to the "ON" position will cause the stop request buzzer to operate in a continuous manner as long as the ground is provided to "Stop Request, (Terminal #40)". Placing SW3 to the "OFF" and SW#1 to the "ON" position will cause the stop request buzzer to latch on until the "ENTRY DOOR IS OPEN, (Terminal #2") is taken to ground.

10<sup>th</sup>, "*REAR DOOR UNLOCKED, (Terminal #46)*" a ground, here operates relay, (RLT-27) which provides a either a N.O. or N.C. Contact which is selected by slider switch SW3 between Terminal #47 & Terminal #48. This is rated at 8 Ampere and permits engine start when Rear Door is Unlocked.

#### LIST OF TERMINAL ASSIGNMENTS

- 1. *Entry Door Is Closed*, to normally open contact, closes when door is closed.
- 2. *Entry Door Is Open*, to normally open contact, closes when door is open.
- 3. *Door Closed*, 12 vdc out, to operate door close actuator. (2-wire motor)
- 4. *Door Open*, 12 vdc out, to operate door open actuator. (2-wire motor)

- 5. *Dome Lights*, 12 vdc out, operates with, "Entry Door Is Open" & Switch 2, on PCB-790
- 6. *External Lift Lights*, 12 vdc out, operates with, "Lift Door Switch" (Terminal #22)
- 7. Aux. #1, 12 vdc out, operates with Switch #4 on PCB-790.
- 8. Aux. #2/A, 12 vdc out, operates with Switch #1 PCB-789.
- 9. *Aux.* #2/*B*, 12 vdc out, operates with Switch #1 PCB-789.
- 10. *Shift Lock*. Shift Lock Switch, Provides either N.O or N.C. Output.
- 11. Shift Lock. Shift Lock Switch, Provides either N.O or N.C. Output.
- 12. *Lift Solenoid*, 12 vdc, sends power or a battery negative to enable Chair Lift Control.
- 13. Aux. #3/A, 12 vdc out, operates with Switch #2 on PCB-789.
- 14. *Aux.* #3/*B*, 12 vdc out, operates with Switch #2 on PCB-789.
- 15. Aux. #4/A, 12 vdc out, operates with Switch #3 on PCB-789.
- 16. *Aux.* #4/*B*, 12 vdc out, operates with Switch #3 on PCB-789.
- 17. Aux. #5/A, 12 vdc out, operates with Switch #4 on PCB-789.
- 18. *Rear Door Switch*, N.O. contact to battery negative. (50 ma.)
- 19. Egress Windows, N.O. contact to battery negative. (50 ma.)
- 20. Park Switch Brake, N.O. contact to battery negative. (50 ma.)
- 21. Transmission Park, N.O. contact to battery negative. (50 ma.)
- 22. Lift Door Switch, N.O. contact to battery negative. (50 ma.)
- 23. *Aux.* #5/*B*, 12 vdc out, operates with Switch #4 on PCB-789.
- 24. Aux. #6/A, 12 vdc out, operates with Switch #5 on PCB-789.
- 25. *Aux.* #6/*B*, 12 vdc out, operates with Switch #5 on PCB-789.
- 26. Aux. #7/A, 12 vdc out, operates with Switch #6 on PCB-789.
- 27. *Aux.* #7/*B*, 12 vdc out, operates with Switch #6 on PCB-789.
- 28. *Flasher*, 12 vdc out, operates with Switch #7 on PCB-789, rate 1/second, and aprox.
- 29. +12 VDC OEM Clearance, input, 150 ma. operates Clearance Relay, terminal #37
- 30. +12 VDC OEM Brake Light, input, 150 ma., operates Brake Relay, terminal #36
- 31. +12 VDC OEM Ignition, input, 150 ma., operates Ignition relays, terminal #32, #33, #34, and

#35. This input must be supplied to enable system. (Master Switch #8 on PCB-789 must be on to enable Bus Power Center.

- 32. Ignition, 12 vdc out, operates with OEM Ignition and Master Switch.
- 33. *Ignition*, 12 vdc out, operates with OEM Ignition and Master Switch.
- 34. *Ignition*, 12 vdc out, operates with OEM Ignition and Master Switch.
- 35. Ignition, 12 vdc out, operates with OEM Ignition and Master Switch.
- 36. Aux. #9, 12 vdc out, operates with OEM Brake, terminal #30.
- 37. Aux. #8, 12 vdc out, operates with OEM Clearance, terminal #29
- 38. Same as above, dual connection point.
- 39. ADA Stop Request, N.O. to battery negative. Signals wheel chair stop.(50 ma.)
- 40. Stop Request, N.O. to battery negative. Signals passenger exit. (50 ma.)
- 41. ADA Stop Request, 12 vdc out.
- 42. Stop Request, 12 vdc out.
- 43. Battery / Radio, 12 vdc out.
- 44. *Battery* #1, 12 vdc out.
- 45. *Battery* #2, 12 vdc out.
- 46. *Rear Door Unlock*, Input. (To battery negative, 12 VDC @ 30 ma.)
- 47. *Rear Door is Unlocked*, Engine Start. (12 VDC @ 8 Ampere)
- 48. *Rear Door is Unlocked*, Engine Start. (12 VDC @ 8 Ampere)

The Power Center, RCT-786 is connected via a (thirty) 30-conductor cable. Which is routed to RCT-948 Dash Switch Panel or RCT-789 Dash Switch Panel, which houses eight switches, warning buzzer and connector J4, which provides six outputs, spare, plus ground they are as follows.

1. J4-1, Lift Door Light, sink @ 1 ampere. (From J1-8)

- 2. J4-2, ADA Stop Request, sink @ 1 ampere. (From J1-7)
- 3. J4-3, Egress Windows, sink @ 1 ampere. (From J1-6)
- 4. J4-4, Rear Door Light, sink @ 1 ampere. (From J1-5)
- 5. J4-5, Stop Request, sink @ 1 ampere. (From J1-4)
- 6. J4-6, Entry Door Light, sink @ 1 ampere. (From J1-3)
- 7. J4-7 Spare. (From J2-10)
- 8. J4-8 Ignition (+12 VDC Switched) (From J1-1)

Switches on RCT-789 printed circuit board.

- 1. Aux. #2A/B Switch #1
- 2. Aux. #3A/B Switch #2
- 3. Aux. #4A/B Switch #3
- 4. Aux. #5A/B Switch #4
- 5. Aux. #6A/B Switch #5
- 6. Aux. #7A/B Switch #6
- 7. Flasher Switch #7
- 8. Master Switch #8

A second eight conductor is routed from RCT-789 to RCT-790. This printed circuit board houses four switches, which are as follows.

- 1. Entry Door Open and Door Close Switch #1
- 2. Dome Light Switch #2
- 3. Lift Switch #3
- 4. Aux. #1 Switch #4

Battery Negative should be connected to the  $1/4 \ge 20$  stud mounted to top center of RCT-786. Conductor should be large enough to carry all currents to be imposed upon it. There are eighteen terminal openings, which may be used for returns from circuit loads.

The +12 VDC supply conductor should be mounted to center buss bar and connected to  $1/4 \ge 20$  stud provided. This conductor should be large enough to carry the total current of all connected loads.

The size of power center, 2.5 deep x 16.5 bottom/top x 10.5 left/right weight 9 lb. Bus Power Center total weight including front switch assembly and data cable 10 lb.

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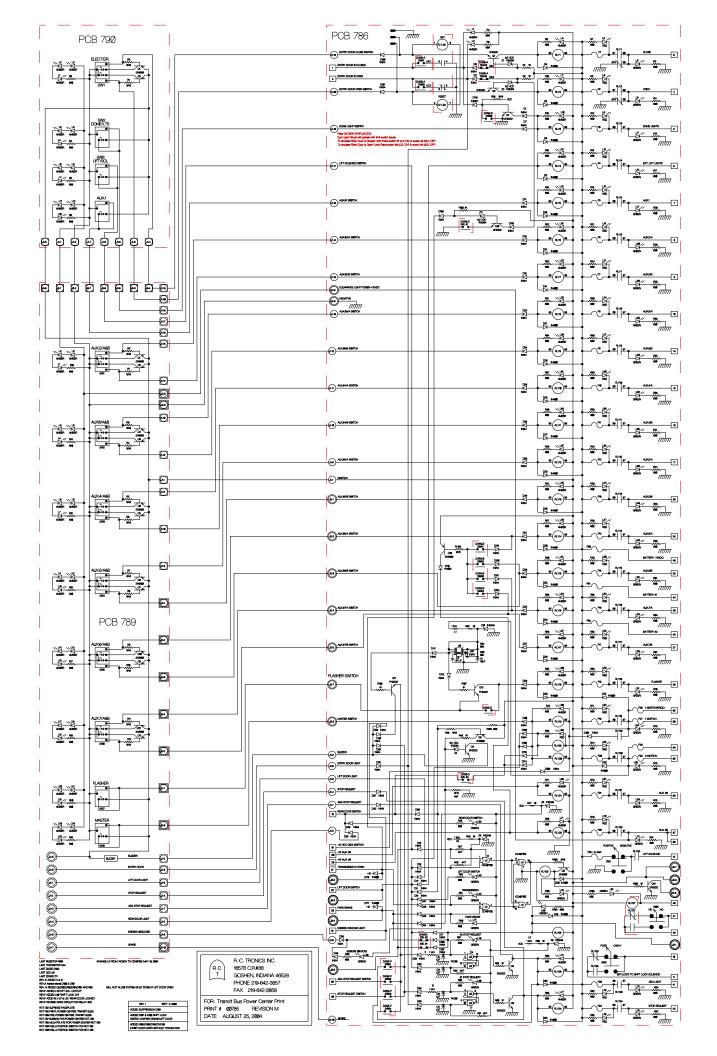
### **RCT-786** Power Center

J1 and J2, Interface between Power Center PCB and Dash Switch PCB.

- J1-1 Ignition +12 VDC (To J4-8)
- J1-2 Buzzer Output (Sink)
- J1-3 Entry Door Light (Sink) (To J4-6)
- J1-4 Stop Request (Sink) (To J4-5)
- J1-5 Rear Door Light (Sink) (To J4-4)
- J1-6 Egress Windows (Sink) (To J4-3
- J1-7 ADA Stop Request (Sink) (To J4-2)
- J1-8 Lift Door Light (Sink) (To J4-1)
- J1-9 Aux. 5/A Switch (Sink) (To J3-)
- J1-10 Aux 4/B Switch (Sink) (To Aux. 4-T/SW)
- J1-11 Aux. 4/A Switch (Sink) (To Aux. 4-B/SW)
- J1-12 Aux 3/B Switch (Sink) (To Aux. 3-T/SW)
- J1-13 Aux. 3/A Switch (Sink) (To Aux. 3-B/SW)
- J1-14 Aux. 2/A Switch (Sink) (To Aux.2-T/SW)
- J1-15 Aux. 2/B Switch (Sink) (To Aux.2-B/SW)
- J1-16 Aux. 1 Switch (Sink)
- J1-17 Lift Solenoid Switch (Sink)
- J1-18 Dome Light Switch (Sink)
- J1-19 Entry Door Close Switch (Sink)
- J1-20 Entry Door Open Switch (Sink)
- J2-1 Aux. 5/B Switch (Sink) (To J3-5)
- J2-2 Aux. 6/A Switch (Sink) (To J3-4)
- J2-3 Aux 6/B Switch (Sink) (To J3-3)
- J2-4 Aux 7/A Switch (Sink) (To J3-2)
- J2-5 Aux. 7/B Switch (Sink) (To J3-1)
- J2-6 Master Switch (Sink)
- J2-7 Flasher Switch (Sink)
- J2-8 Battery Negative
- J2-9 Clearance Light Power +12 VDC
- J2-10 Ignition (+12 VDC, Switched)(to J4-7)

Interface between RCT-786 Power Center and ADA PCB, RCT-1010

- *J3-1* Shift Lock Indicator. (Sink 1-Ampere Maximum)
- *J3-2* Transmission In Park. (Sink 1-Ampere Maximum)
- *J3-3 Lift Enabled Indicator. (Sink 1-Ampere Maximum)*
- J3-4 Park Brake Set Indicator. (Sink 1-Ampere Maximum)
- J3-5 Lift Door Open Indicator. (Sink 1-Ampere Maximum)
- J3-6 Lift Switch On. (Sink 1 Ampere Maximum)
- J3-7 Ignition (+12 VDC, Switched)
- J3-8 Ignition (+12 VDC, Switched)



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Goshen, Indiana 46528 Fax 1-574-642-3858 Email; dchiddister@rctronics.com

#### RCT-789 & RCT-790 Switch Panel

Use with Power Center RCT-786

#### RCT-789, PCB J1 & J2 30 Conductor Data Cable, Interface to Power Center

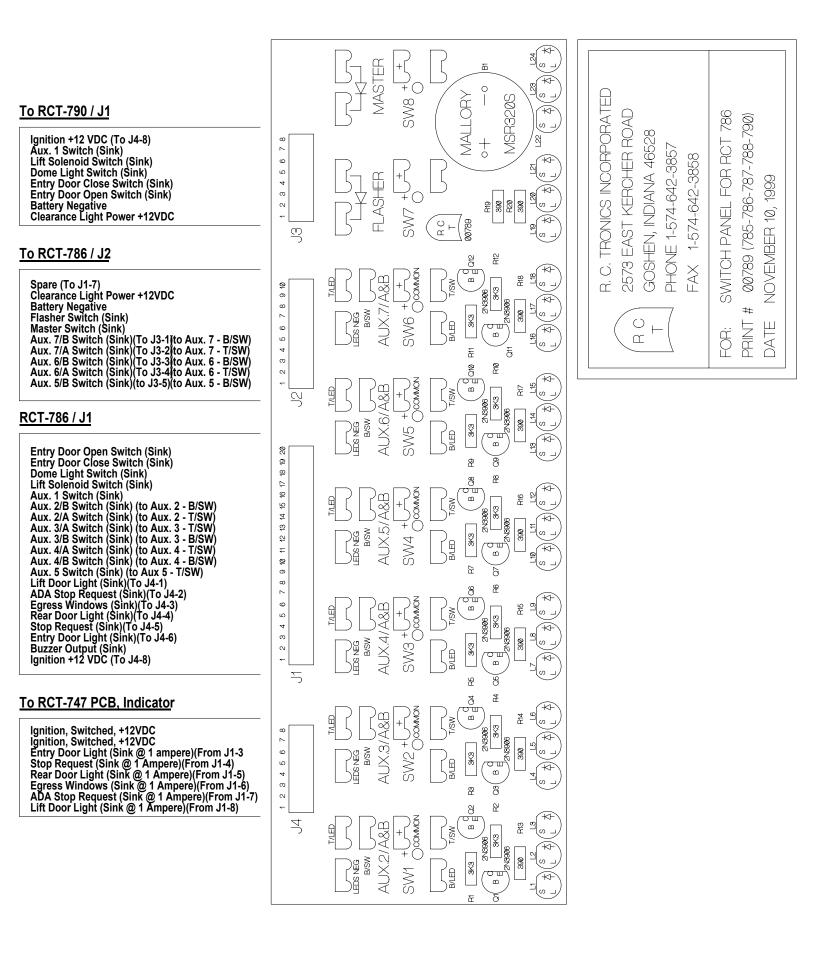
- J1-1 Ignition, Switched +12 VDC
- J1-2 Buzzer Output (Sink)
- J1-3 Entry Door Light (Sink) (to J4-6)
- J1-4 Stop Request (Sink) (to J4-5)
- J1-5 Rear Door Light (Sink) (to J4-4)
- J1-6 Egress Windows (Sink) (to J4-3)
- J1-7 ADA Stop Request (Sink) (to J4-2)
- J1-8 Lift Door Light (Sink) (to J4-1)
- J1-9 Aux. 5/A Switch (Sink) (to Aux. 5 T/SW)
- J1-10 Aux 4/B Switch (Sink) (to Aux. 4 B/SW)
- *J1-11* Aux. 4/A Switch (Sink) (to Aux. 4 T/SW)
- J1-12 Aux 3/B Switch (Sink) (to Aux. 3 B/SW)
- *J1-13* Aux. 3/A Switch (Sink) (to Aux. 3 T/SW)
- J1-14 Aux. 2/A Switch (Sink) (to Aux. 2 T/SW)
- *J1-15* Aux. 2/B Switch (Sink) (to Aux. 2 B/SW)
- J1-16 Aux. 1 Switch (Sink)
- J1-17 Lift Solenoid Switch (Sink)
- J1-18 Dome Light Switch (Sink)
- J1-19 Entry Door Close Switch (Sink)
- J1-20 Entry Door Open Switch (Sink)
- J2-1 Aux. 5/B Switch (Sink) (to Aux. 5 B/SW)
- J2-2 Aux. 6/A Switch (Sink) (to Aux. 6 T/SW)
- J2-3 Aux 6/B Switch (Sink) (to Aux. 6 B/SW)
- J2-4 Aux 7/A Switch (Sink) (to Aux. 7 T/SW)
- J2-5 Aux. 7/B Switch (Sink) (to Aux. 7 B/SW)
- J2-6 Master Switch (Sink)
- J2-7 Flasher Switch (Sink)
- J2-8 Battery Negative
- J2-9 Clearance Light Power +12 VDC
- J2-10 Spare (to J4-7)

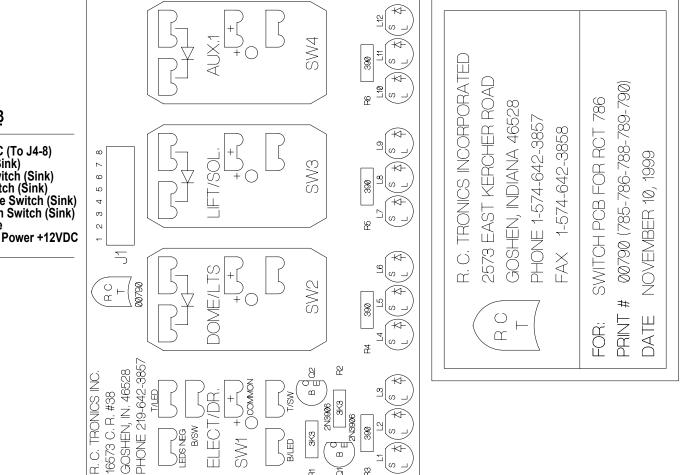
#### RCT-789, PCB J3 Eight Conductor Data Cable to RCT-790 PCB

- J3-1 Clearance Light Power +12 VDC
- J3-2 Battery Negative
- J3-3 Entry Door Open Switch (Sink)
- J3-4 Entry Door Close Switch (Sink)
- J3-5 Dome Light Switch (Sink)
- J3-6 Lift Solenoid Switch (Sink)
- J3-7 Aux. 1 Switch (Sink)
- J3-8 Ignition, Switched +12 VDC

#### RCT-789, PCB J4 Eight Conductor Data Cable To RCT-747 Indicator Panel

- J4-1 Lift Door Light (Sink) (to J1-8)
- J4-2 ADA Stop Request (Sink) (to J1-7)
- J4-3 Egress Windows (Sink) (to J1-6)
- J4-4 Rear Door Light (Sink) (to J1-5)
- J4-5 Stop Request (Sink) (to J1-4)
- J4-6 Entry Door Light (Sink) (to J1-3)
- J4-7 Ignition, Switched +12 VDC
- J4-8 Ignition, Switched +12 VDC





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#### To RCT-789 / J3

Ignition +12 VDC (To J4-8) Aux. 1 Switch (Sink) Lift Solenoid Switch (Sink) Dome Light Switch (Sink) Entry Door Close Switch (Sink) Entry Door Open Switch (Sink) Battery Negative Clearance Light Power +12VDC

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### RCT-948 Switch Panel. Used with Power Center RCT-786

#### J1 and J2, Interface Between Power Center PCB and Dash Switch PCB.

- J1-1 Ignition +12 VDC (To J4-8)
- J1-2 Buzzer Output (Sink)
- J1-3 Entry Door Light (Sink) (To J4-6)
- J1-4 Stop Request (Sink) (To J4-5)
- J1-5 Rear Door Light (Sink) (To J4-4)
- J1-6 Egress Windows (Sink) (To J4-3
- J1-7 ADA Stop Request (Sink) (To J4-2)
- J1-8 Lift Door Light (Sink) (To J4-1)
- J1-9 Aux. 5/A Switch (Sink) (To J3-)
- J1-10 Aux 4/B Switch (Sink) (To Aux. 4-T/SW)
- J1-11 Aux. 4/A Switch (Sink) (To Aux. 4-B/SW)
- J1-12 Aux 3/B Switch (Sink) (To Aux. 3-T/SW)
- J1-13 Aux. 3/A Switch (Sink) (To Aux. 3-B/SW)
- J1-14 Aux. 2/A Switch (Sink) (To Aux.2-T/SW)
- J1-15 Aux. 2/B Switch (Sink) (To Aux.2-B/SW)
- J1-16 Aux. 1 Switch (Sink)
- J1-17 Lift Solenoid Switch (Sink)
- J1-18 Dome Light Switch (Sink)
- J1-19 Entry Door Close Switch (Sink)
- J1-20 Entry Door Open Switch (Sink)
- J2-1 Aux. 5/B Switch (Sink) (To J3-5)
- J2-2 Aux. 6/A Switch (Sink) (To J3-4)
- J2-3 Aux 6/B Switch (Sink) (To J3-3)
- J2-4 Aux 7/A Switch (Sink) (To J3-2)
- J2-5 Aux. 7/B Switch (Sink) (To J3-1)
- J2-6 Master Switch (Sink)
- J2-7 Flasher Switch (Sink)
- J2-8 Battery Negative
- J2-9 Clearance Light Power +12 VDC
- J2-10 (Ignition (+12 VDC, Switched)( to J4-7)

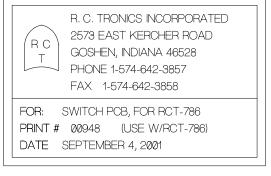
#### **J3** Connector, Spare Relays on Power Center PCB.

- J3-1 Aux 7/B Switch (Sink) (From J2-5)
- J3-2 Aux 7/A Switch (Sink) (From J2-4)
- J3-3 Aux 6/B Switch (Sink) (From J2-3)
- *J3-4* Aux 6/A Switch (Sink) (From J2-2)
- J3-5 Aux 5/B Switch (Sink) (From J2-1)
- J3-6 Aux 5/A Switch (Sink) (From J1-9)
- J3-7 Spare
- J3-8 Battery Negative

#### **J4 Connector, Indicating Lights**

- *J4-1* Lift Door Light, sink @ 1 ampere. (From J1-8)
- J4-2 ADA Stop Request, sink @ 1 ampere. (From J1-7)
- J4-3 Egress Windows, sink @ 1 ampere. (From J1-6)
- J4-4 Rear Door Light, sink @ 1 ampere. (From J1-5)
- J4-5 Stop Request, sink @ 1 ampere. (From J1-4)
- J4-6 Entry Door Light, sink @ 1 ampere. (From J1-3)
- J4-7 Ignition (+12 VDC, Switched) (From J1-1)
- J4-8 Ignition (+12 VDC, Switched) (From J1-1)

<u>To RCT-747</u> <u>PCB</u> Indicator	Ignition, Switched, +12VDC Ignition, Switched, +12VDC Entry Door Light (Sink @ 1 ampere)(From J1-3 Stop Request (Sink @ 1 Ampere)(From J1-4) Rear Door Light (Sink @ 1 Ampere)(From J1-5) Egress Windows (Sink @ 1 Ampere)(From J1-6) ADA Stop Request (Sink @ 1 Ampere)(From J1-7) Lift Door Light (Sink @ 1 Ampere)(From J1-8)	Image: Constraint of the constr
<u>Spare Relay</u> Interface	Battery Negative Spare Aux. 5/A Switch (Sink) (From J1-9) Aux. 5/B Switch (Sink) (From J2-1) Aux. 6/A Switch (Sink) (From J2-2) Aux. 6/B Switch (Sink) (From J2-3) Aux. 7/B Switch (Sink) (From J2-4) Aux. 7/B Switch (Sink) (From J2-5	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
<u>To RCT-786 / J2</u>	Spare (To J1-7) Clearance Light Power +12VDC Battery Negative Flasher Switch (Sink) Master Switch (Sink)(To J3-1) Aux. 7/B Switch (Sink)(To J3-2) Aux. 6/B Switch (Sink)(To J3-3) Aux. 6/B Switch (Sink)(To J3-4) Aux. 5/B Switch (Sink)(To J3-5)	Image: Constraint of the state of the st
<u>To RCT-786 / J1</u>	Entry Door Open Switch (Sink) Entry Door Close Switch (Sink) Dome Light Switch (Sink) Liff Solenoid Switch (Sink) Aux. 1 Switch (Sink)(To Aux.2-B/Switch) Aux. 2/B Switch (Sink)(To Aux.2-T/Switch) Aux. 3/A Switch (Sink)(To Aux.2-T/Switch) Aux. 3/B Switch (Sink)(To Aux.3-B/Switch) Aux. 4/B Switch (Sink)(To Aux.3-T/Switch) Aux. 4/B Switch (Sink)(To Aux.4-T/Switch) Aux. 4/B Switch (Sink)(To Aux.4-T/Switch) Aux. 4/B Switch (Sink)(To Ja-6) Lift Door Light (Sink)(To J4-3) Rear Door Light (Sink)(To J4-3) Rear Door Light (Sink)(To J4-5) Entry Door Light (Sink)(To J4-6) Buzzer Output (Sink) Ignition +12 VDC (To J4-8)	$\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$



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### RCT-1083 Switch Panel. Used with Power Center RCT-786

#### J1 and J2, Interface Between Power Center PCB and Dash Switch PCB.

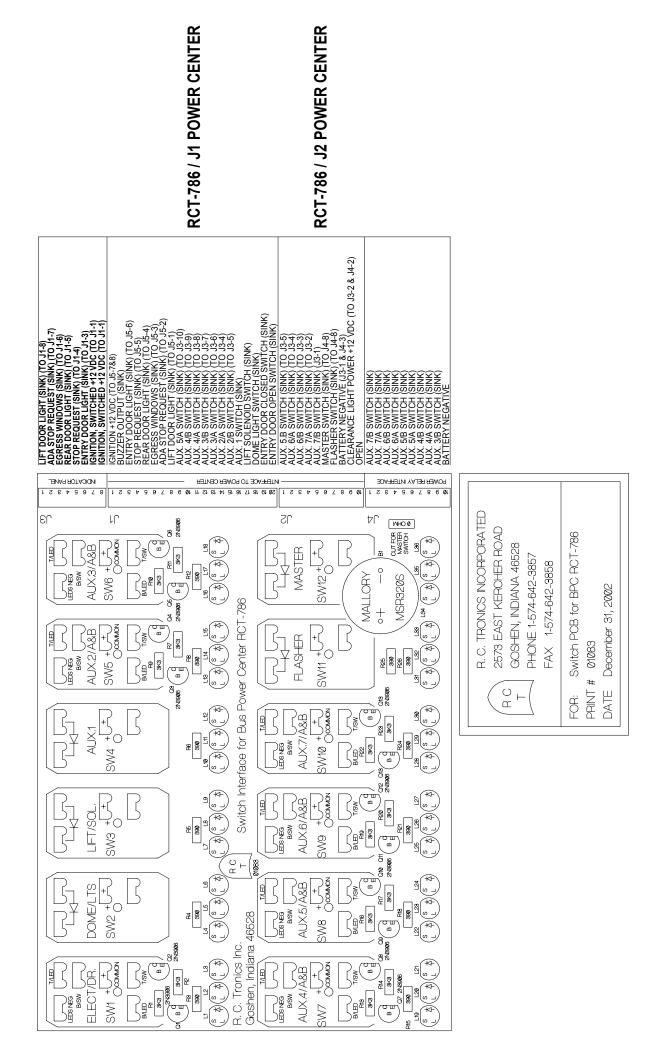
- J1-1 Ignition +12 VDC (To J4-8)
- J1-2 Buzzer Output (Sink)
- J1-3 Entry Door Light (Sink) (To J4-6)
- J1-4 Stop Request (Sink) (To J4-5)
- J1-5 Rear Door Light (Sink) (To J4-4)
- J1-6 Egress Windows (Sink) (To J4-3
- J1-7 ADA Stop Request (Sink) (To J4-2)
- J1-8 Lift Door Light (Sink) (To J4-1)
- J1-9 Aux. 5/A Switch (Sink) (To J3-)
- J1-10 Aux 4/B Switch (Sink) (To Aux. 4-T/SW)
- J1-11 Aux. 4/A Switch (Sink) (To Aux. 4-B/SW)
- J1-12 Aux 3/B Switch (Sink) (To Aux. 3-T/SW)
- J1-13 Aux. 3/A Switch (Sink) (To Aux. 3-B/SW)
- J1-14 Aux. 2/A Switch (Sink) (To Aux.2-T/SW)
- J1-15 Aux. 2/B Switch (Sink) (To Aux.2-B/SW)
- J1-16 Aux. 1 Switch (Sink)
- J1-17 Lift Solenoid Switch (Sink)
- J1-18 Dome Light Switch (Sink)
- J1-19 Entry Door Close Switch (Sink)
- J1-20 Entry Door Open Switch (Sink)
- J2-1 Aux. 5/B Switch (Sink) (To J3-5)
- J2-2 Aux. 6/A Switch (Sink) (To J3-4)
- J2-3 Aux 6/B Switch (Sink) (To J3-3)
- J2-4 Aux 7/A Switch (Sink) (To J3-2)
- J2-5 Aux. 7/B Switch (Sink) (To J3-1)
- J2-6 Master Switch (Sink)
- J2-7 Flasher Switch (Sink)
- J2-8 Battery Negative
- J2-9 Clearance Light Power +12 VDC
- **J2-10 OPEN**

#### J4 Connector, Spare Relays on Power Center PCB.

- J4-1 Aux 7/B Switch (Sink) (From J2-5)
- J4-2 Aux 7/A Switch (Sink) (From J2-4)
- *J4-3* Aux 6/B Switch (Sink) (From J2-3)
- J4-4 Aux 6/A Switch (Sink) (From J2-2)
- J4-5 Aux 5/B Switch (Sink) (From J2-1) J4-6 Aux 5/A Switch (Sink) (From J1-9)
- *J4-7* Aux *4/B* Switch (Sink) (From *J1-9*) *J4-7* Aux *4/B* Switch (Sink (From *J1-10*)
- *J4-8* Aux 4/A Switch (Sink) (From J1-10)
- *J4-9* Aux 3/B Switch (Sink) (From J1-12)
- J4-10 Battery Negative

#### **J3 Connector, Indicating Lights**

- J3-1 Lift Door Light, sink @ 1 ampere. (From J1-8)
- J3-2 ADA Stop Request, sink @ 1 ampere. (From J1-7)
- J3-3 Egress Windows, sink @ 1 ampere. (From J1-6)
- J3-4 Rear Door Light, sink @ 1 ampere. (From J1-5)
- J3-5 Stop Request, sink @ 1 ampere. (From J1-4)
- J3-6 Entry Door Light, sink @ 1 ampere. (From J1-3)
- J3-7 Ignition (+12 VDC, Switched) (From J1-1)
- J3-8 Ignition (+12 VDC, Switched) (From J1-1)



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#### *RCT-1067, RCT-1068 & RCT-1069* Use with Power Center RCT-786

#### RCT-1067 PCB, J1 & J2, 30 Conductor Data Cable, Interface to Power Center

- J1-1 Ignition +12 VDC (To J5-7&8)
- J1-2 Buzzer Output (Sink)
- J1-3 Entry Door Light (Sink) (To J5-6)
- J1-4 Stop Request (Sink) (To J5-5)
- J1-5 Rear Door Light (Sink) (To J5-4)
- J1-6 Egress Windows (Sink) (To J5-3
- J1-7 ADA Stop Request (Sink) (To J5-2)
- J1-8 Lift Door Light (Sink) (To J5-1)
- J1-9 Aux. 5/A Switch (Sink) (To J3-10)
- J1-10 Aux 4/B Switch (Sink) (To J3-9)
- J1-11 Aux. 4/A Switch (Sink) (To J3-8)
- J1-12 Aux 3/B Switch (Sink) (To J3-7)
- J1-13 Aux. 3/A Switch (Sink) (To J3-6)
- J1-14 Aux. 2/A Switch (Sink) (To J3-4)
- J1-15 Aux. 2/B Switch (Sink) (To J3-5)
- J1-16 Aux. 1 Switch (Sink)
- J1-17 Lift Solenoid Switch (Sink)
- J1-18 Dome Light Switch (Sink)
- J1-19 Entry Door Close Switch (Sink)
- J1-20 Entry Door Open Switch (Sink)
- J2-1 Aux. 5/B Switch (Sink) (To J3-5)
- J2-2 Aux. 6/A Switch (Sink) (To J3-4)
- J2-3 Aux 6/B Switch (Sink) (To J3-3)
- *J2-4* Aux 7/A Switch (Sink) (To J3-2)
- J2-5 Aux. 7/B Switch (Sink) (To J3-1)
- J2-6 Master Switch (Sink) (To J4-8)
- J2-7 Flasher Switch (Sink) (To J4-8)
- J2-8 Battery Negative (J3-1 & J4-3)
- J2-9 Clearance Light Power +12 VDC (To J3-2 & J4-2)
- J2-10 Open

#### <u>RCT-1067 PCB TO RCT-1068 PCB.</u>

- J3-1 Battery Negative (J2-8 & J4-3)
- *J3-2* Clearance Light Power (+12 VDC) (To J2-9 & J4-2)
- J3-3 Ignition (+12 VDC, Switched) (J1-1, J4-1 & J5-7 & 8)
- J3-4 Aux. 2/A Switch (Sink) (J1-14) (To Aux. 2 T/SW)
- J3-5 Aux. 2/B Switch (Sink) (J1-15) (To Aux. 2 B/SW)
- J3-6 Aux. 3/A Switch (Sink) (J1-13) (To Aux. 3 T/SW)
- J3-7 Aux. 3/B Switch (Sink) (J1-12) (To Aux. 3 B/SW)
- J3-8 Aux. 4/A Switch (Sink) (J!-11) (To Aux. 4 T/SW)
- J3-9 Aux. 4/B Switch (Sink) (J1-10) (To Aux. 4 B/SW)
- J3-10 Aux. 5/A Switch (Sink) (J1-9) (To Aux. 5 T/SW)
- J3-11 Aux. 5/B Switch (Sink) (J2-1) (To Aux. 5 B/SW)
- J3-12 Open
- J3-13 Open
- J3-14 Open
- J3-15 Open

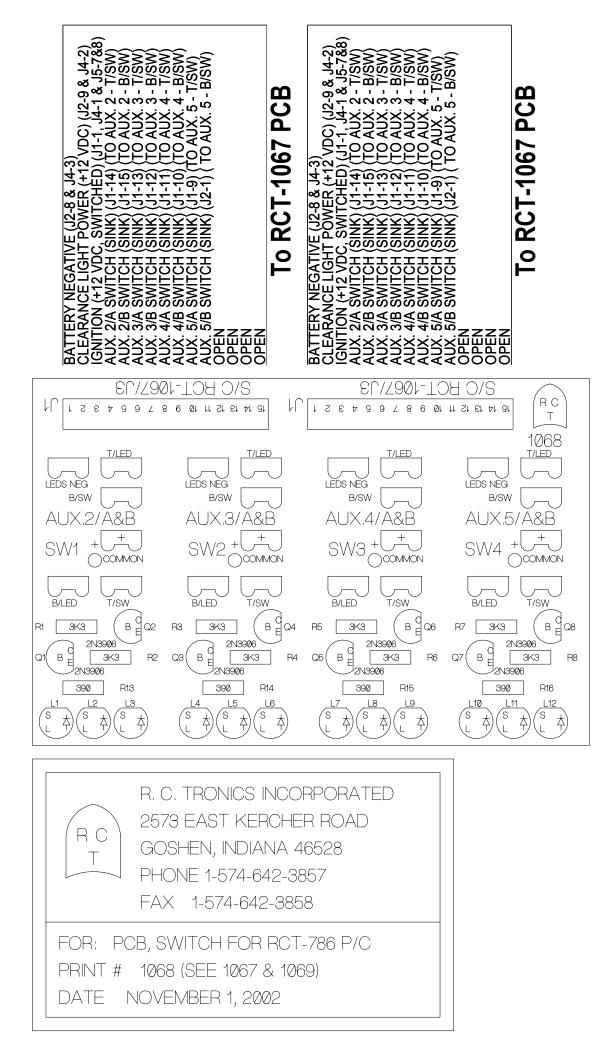
#### <u>RCT-1067 PCB to RCT-1069 PCB</u>

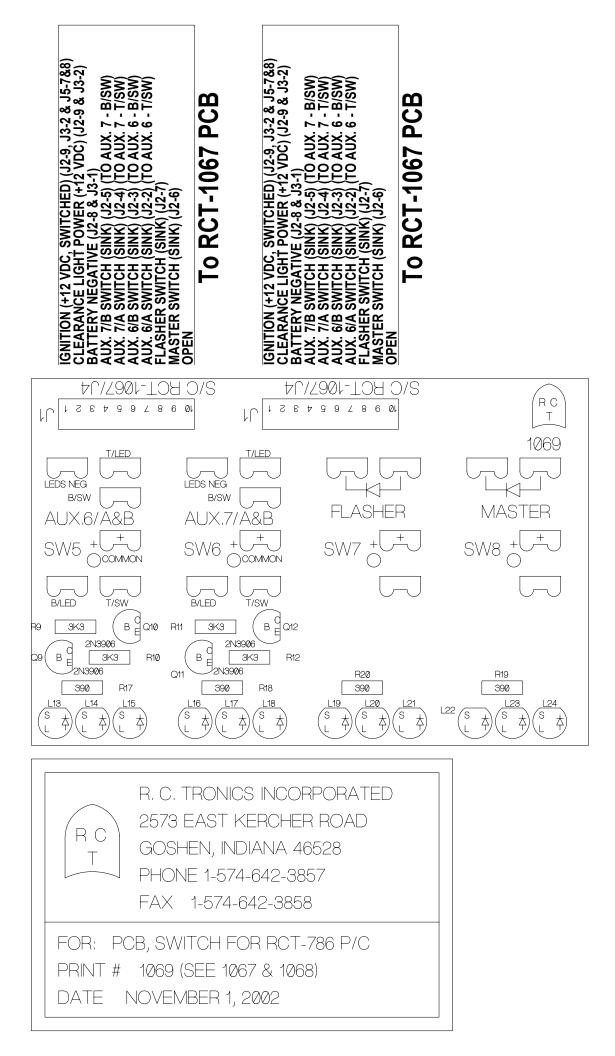
- J4-1 Ignition (+12 VDC, Switched) (J2-9, J3-2 & J5-7&8)
- *J4-2 Clearance Light Power (+12 VDC) (J2-9 & J3-2)*
- J4-3 Battery Negative (J2-8 & J3-1)
- J4-4 Aux. 7/B Switch (Sink) (J2-5) (To Aux. 7 B/SW)
- J4-5 Aux. 7/A Switch (Sink) (J2-4) (To Aux. 7 T/SW)
- J4-6 Aux. 6/B Switch (Sink) (J2-3) (To Aux. 6 B/SW)
- J4-7 Aux. 6/A Switch (Sink) (J2-2) (To Aux. 6 T/SW)
- J4-8 Flasher Switch (Sink) (J2-7)
- J4-9 Master Switch (Sink) (J2-6)
- J4-10 Open

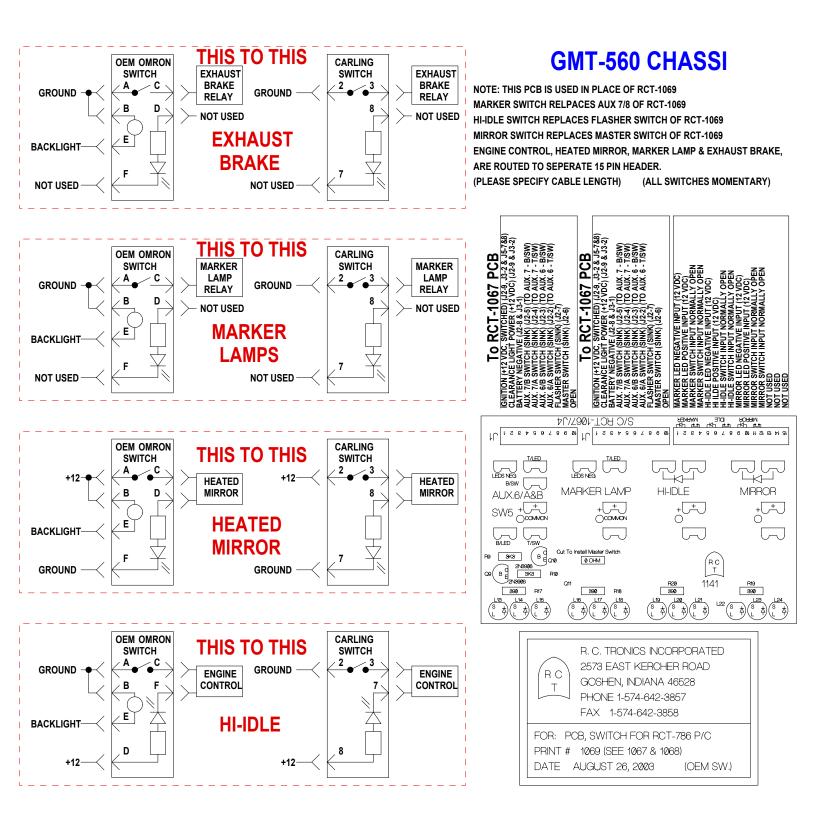
#### RCT-789, PCB J4 Eight Conductor Data Cable To RCT-747 Indicator Panel

- J5-1 Lift Door Light (Sink) (To J1-8)
- J5-2 ADA Stop Request (Sink) (To J1-7)
- J5-3 Egress Windows (Sink) (To J1-6)
- J5-4 Rear Door Light (Sink) (To J1-5)
- J5-5 Stop Request (Sink) (To J1-4)
- J5-6 Entry Door Light (Sink) (To J1-3)
- J5-7 Ignition, Switched +12 VDC (To J1-1)
- J5-8 Ignition, Switched +12 VDC (To J1-1)

	RCT-786 / J2 POWER CENTER	Image: State Stat	
RCT-786 / J1 POWER CENTER	OPEN CLEARANCE LIGHT POWER +12 VDC (TO J3-2 & J4-2) BATTERY NEGATIVE (J3-1 & J4-3) FLASHER SWITCH (SINK) (TO J4-8) MASTER SWITCH (SINK) (TO J4-8) AUX. 7/B SWITCH (SINK) (TO J3-2) AUX. 6/B SWITCH (SINK) (TO J3-2) AUX. 6/B SWITCH (SINK) (TO J3-3) AUX. 6/A SWITCH (SINK) (TO J3-4) AUX. 6/A SWITCH (SINK) (TO J3-5) ENTRY DOOR OPEN SWITCH (SINK) ENTRY DOOR CLOSED SWITCH (SINK) DOME LIGHT SWITCH (SINK) AUX. 1 SWITCH (SINK) (TO J3-5) AUX. 2/B SWITCH (SINK) AUX. 2/B SWITCH (SINK) (TO J3-5) AUX. 2/A SWITCH (SINK) (TO J3-6) AUX. 3/B SWITCH (SINK) (TO J3-6) AUX. 3/B SWITCH (SINK) (TO J3-6) AUX. 3/B SWITCH (SINK) (TO J3-7) AUX. 4/A SWITCH (SINK) (TO J3-7) AUX. 4/A SWITCH (SINK) (TO J3-10) LIFT DOOR LIGHT (SINK) (TO J3-10) LIFT DOOR LIGHT (SINK) (TO J5-1) ADA STOP REQUEST (SINK) (TO J5-3) REAR DOOR LIGHT (SINK) (TO J5-3) REAR DOOR LIGHT (SINK) (TO J5-4) STOP REQUEST (SINK) (TO J5-5) ENTRY DOOR LIGHT (SINK) (TO J5-6) BUZZER OUTPUT (SINK) (TO J1-3) STOP REQUEST (SINK) (TO J1-3) STOP REQUEST (SINK) (TO J1-5) EGRESS WINDOWS (SINK) (TO J1-6) ADA STOP REQUEST (SINK) (TO J1-6) ADA STOP REQUEST (SINK) (TO J1-7) LIFT DOOR LIGHT (SINK) (TO J1-7) LIFT DOOR LIGHT (SINK) (TO J1-6) ADA STOP REQUEST (SINK) (TO J1-7) LIFT DOOR LIGHT (SINK) (TO J1-6) ADA STOP REQUEST (SINK) (TO J1-6) ADA STOP REQUEST (SINK) (TO J1-7) LIFT DOOR LIGHT (SINK) (TO J1-6) ADA STOP REQUEST (SINK) (TO J1-6) ADA STOP REQUEST (SINK) (TO J1-7) LIFT DOOR LIGHT (SINK) (TO J1-7) LIFT DOOR LIGHT (SINK) (TO J1-7)	$ \begin{array}{c} \begin{array}{c} 1 \\ 1 \\ 2 \\ 1 \\ 2 \\ 1 \\ 2 \\ 2 \\ 2 \\ 2 \\$	







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# Test RCT-786

- 1. Connect Dash Switch Panel Via 20 pin and 10-pin Pancon connector.
- 2. Connect Battery Negative to top center of PCB and + VDC to Buss Bar.
- 3. With + VDC, perform the following.
  - A. Connect to terminal #29 (+12 vdc OEM Clearance), relay 22 should operate.
  - B. Connect to terminal #30 (+12 vdc OEM Brake Light), relay 21 should operate.
  - C. Connect to terminal #31 (+12 vdc OEM Ignition), Operate switch # 8, located Dash switch panel (PCB 789), relay's 19 & 20 should operate.
- 4. With a jumper connected to batter negative, connect to the following terminals.
  - A. #1 (Entry Door Is Closed) Amber Led Light. Relay 3 deentergises.
  - B. #2 (Entry Door is Open) Amber Led Light.
  - C. #18 (Rear Door Switch) Amber Led Light and Audible Alarm.
  - D. #19 (Egress Windows) Amber Led Light and Audible Alarm.
  - E. #20 (Park Brake Switch) Amber Led Light.
  - F. #21 (Trans. Park) Amber Led Light.
  - G. #22 (Lift Door Switch) Amber Led Light, Audible Alarm & relay #4 operates.
  - H. #39 (ADA Stop Request Switch) Led Light, Audible Alarm & relay 23 operates.
  - I. #40 (Stop Request Switch) Led Light, Audible Alarm & relay 24 operates.
  - J. #2 (Entry Door Is Open) relay 24 de-energizes.
  - K. #22 (Lift Door Switch) relay 23 de-energizes.
- 5. Operate Switch #1 up, located on PCB 790. Relay #1 should operate. Then De-energize by connecting battery negative to terminal #1. Relay #3 should operate. Ground terminal #21 (Trans. / Park)

Operate Switch #1 down, located on PCB 790. Relay #2 should operate. Then De-energize by connecting battery negative to terminal #2,

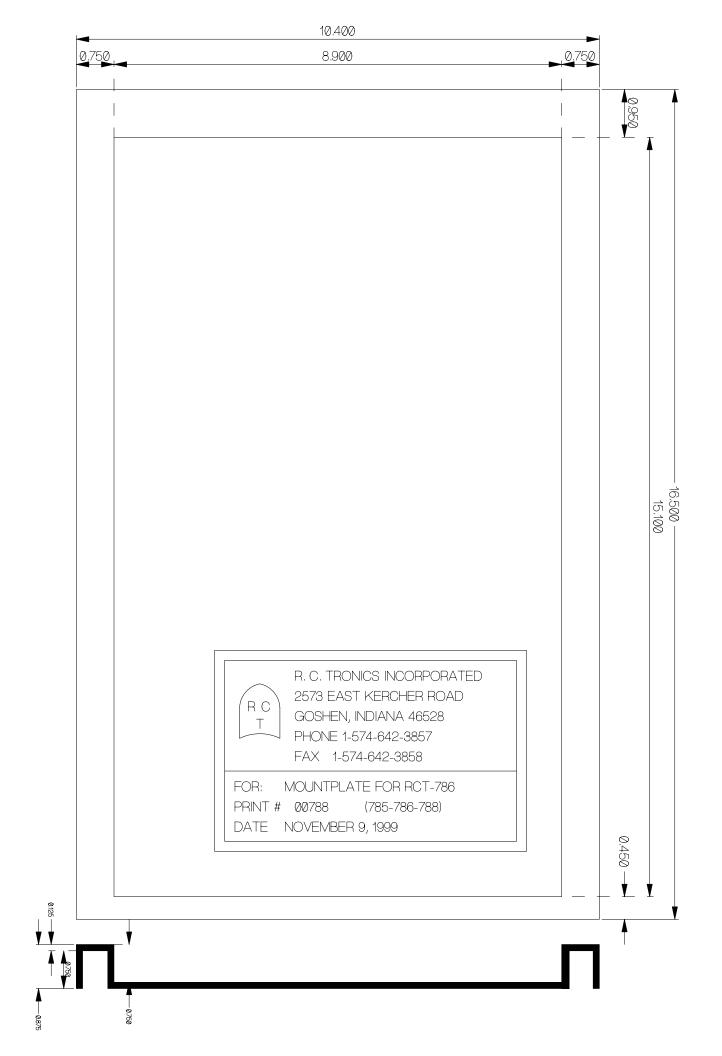
Check terminal #12 for positive voltage when Sw1 is positioned at "POS." then place slider at "NEG" and check for a negative voltage.

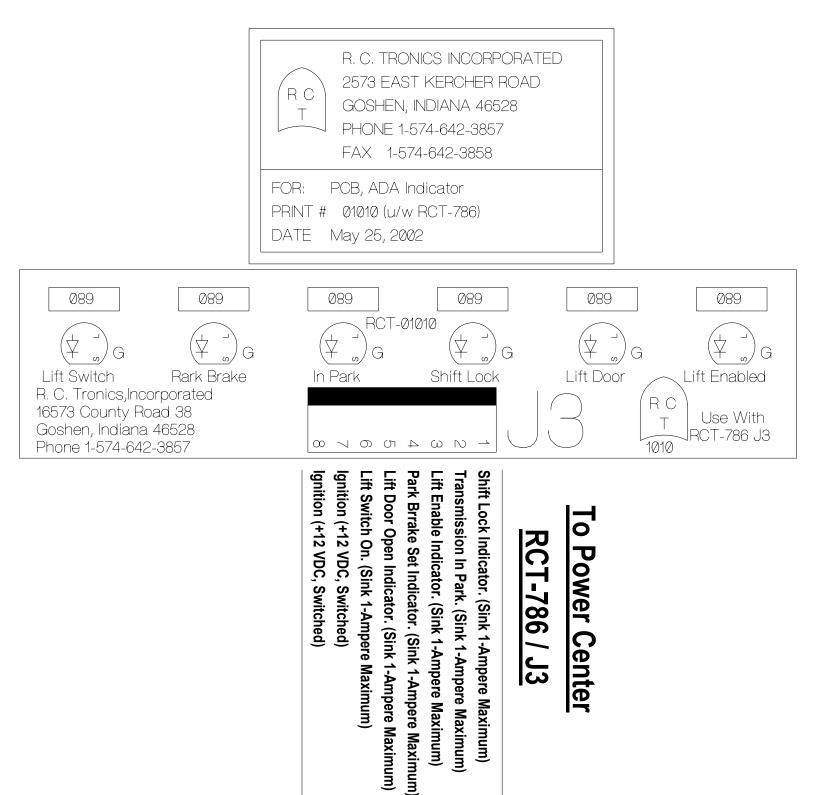
Check Terminal #10 & #11 position slider with Sw2 to N.O. there should be a contact closure. Then position slider to N.C. this should show a non contact closure.

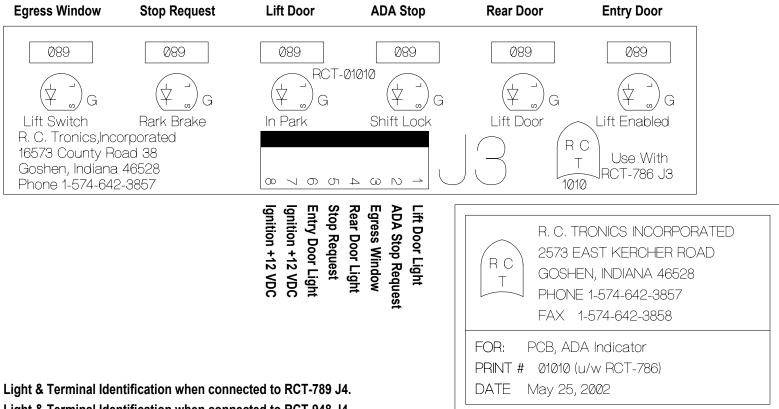
- 6. Operate the following Switches on PCB 790.
  - A. Ground Terminal #1. Switch #2 (Dome Lights). Relay #3 operates.
  - B. Switch #3 (Lift Enable). With three jumper's, connected to battery negative Connect to the following three terminals. #20 (Park Brake Switch), #21 (Trans. Park). Lastly connect to terminal #22 (Lift Door Switch). Relays' 4, 25 and 26 Should operate.
  - C. Switch #4 (Aux. #1), relay #5 operates.
- 7. Operate the following Switches on PCB 789.
  A. Switch #1, up, Aux. #2/A operates. Switch #1, down, Aux. #2/B operates.
  B. Switch #2, up, Aux. #3/A operates. Switch #2, down, Aux. #3/B operates.

C. Switch #3, up, Aux #4/A operates. Switch #3, down, Aux. #4/B operates.
D. Switch #4, up, Aux. #5/A operates. Switch #4, down, Aux. #5/B operates.
E. Switch #5, up, Aux. #6/A operates. Switch #5, down, Aux. #6/B operates.
F. Switch #6, up, Aux. #7/A operates. Switch #6, down, Aux. #7/B operates.
H. Switch #7 operates relay 18 (Flasher)

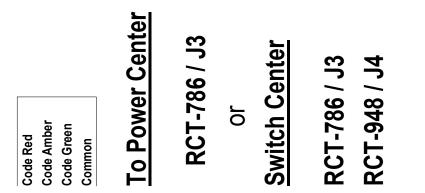
- 8. RCT-786, Revision E PCB only.
  - A. With Master Switch # 8 in the "ON" position and 12 VDC to "OEM Ignition", terminal # 31, perform the following. (Completed step 3 C.)
  - B. Connect "Battery Negative" to, terminal # 22. (Lift Door Switch)
  - C. Operate Master Switch to "OFF". System should not shut down.
  - D. Remove + 12 VDC "OEM Ignition" terminal #31. System should not shut down.
  - E. Remove "Battery Negative" from terminal #22. (Lift Door Switch) System will now shut down.
- 9. A. Ground Terminal #46, Green LED should operate. "Rear Door Unlocked", Relay #27 should operate permitting a contact closure between Terminal's #47 and Terminal #48.

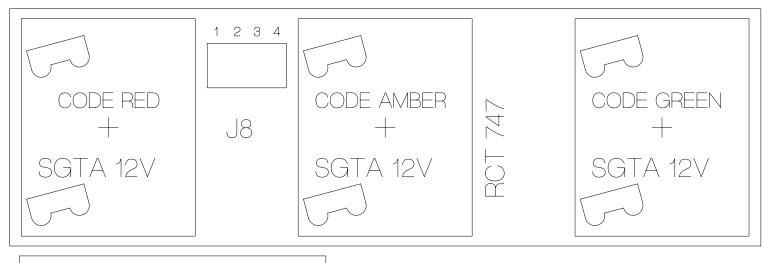






Light & Terminal Identification when connected to RCT-948 J4.



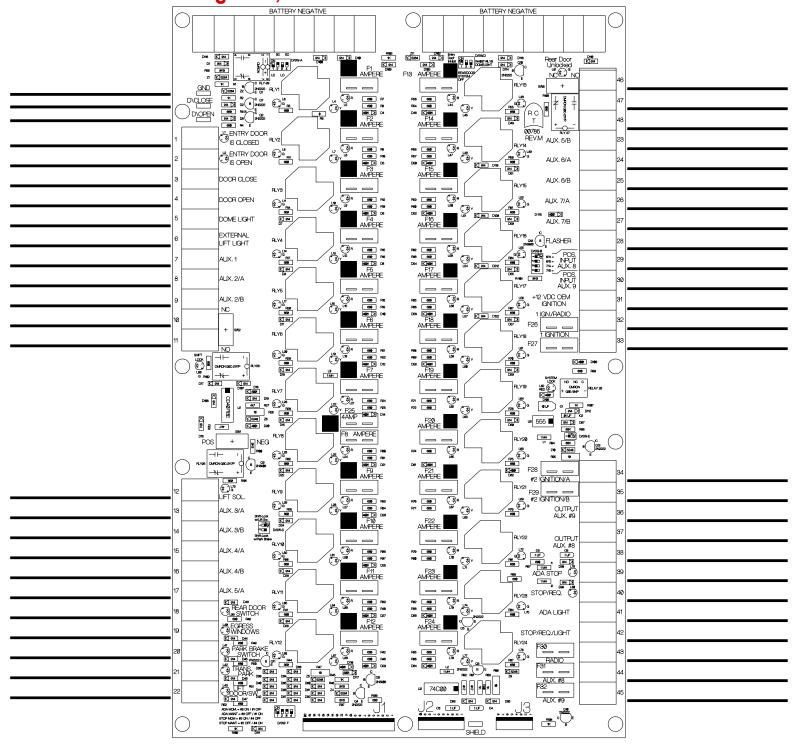


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PRINT #	CODE LIGHT PCB 00747(742-743-744-745-746) APRIL 21, 1999

# **Eight Conductor Data Cable**

Pin #1 - Black	Pin #5 - Blue

- Pin #2 Red Pin #6 Orange
- Pin #3 Green Pin #7 Yellow
- Pin #4 Brown
- Pin #8 White



### Before Removing PCB, Note All Wire Colors For Reconnection To New PCB.

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#### Policy, Warranty Repair, Bus Power Center RCT-786

The following steps required to provide repair of Bus Power Center RCT-786.

- 1. Vehicle user will be required to contact original vehicle manufacture and obtain a *reference number*.
- 2. Call R. C. Tronics, Inc. at 1-800-642-8171, ask for Warranty Repair. You will then be required to provide the following information.

Contact Name: Company Name: Address: City, State & Zip Code: Phone Number: Fax Number: E-Mail Address: Shop Rate/Hour: Today's Date:

**Reference Number: Manufacturer of Vehicle: Unit Number or VIN Number & Year: RCT PCB Number with Revision:** (Example 786 Rev. N, this number can be found below our LOGO, which looks like a tombstone with RCT in the center of the LOGO, on PCB.)

**Credit Card Type & Number: Expiration Date: Card Rear Code Number:** 

- 3. You will then be transferred to warranty repair. <u>You will then be required to provide an</u> <u>accurate detailed description of the failure</u>. In an effort to isolate the problem from between the *front switch panel, data cable & power center,* you may be asked to make a signal check at J1 or J2 on the Power Center PCB-786. This may be accomplished with a standard automotive test lamp.
- 4. Our warranty repair technician will then provide you with an *RMA Number*. He will also indicate which part or parts will be shipped to resolve the failure. All shipments will be ground. Next day air will be approved, if requested.
- 5. Any *warranty claim request* will be then submitted to the original vehicle manufacture. The claim will be limited to a maximum one hour for trouble shooting and one hour for replacement of the control at the posted prevailing shop rate. The only exception to this policy will be thru the warranty repair technician, upon completion of the trouble shooting phase.
- 6. Remittance will be direct from R. C. Tronics, Inc. to the end user. This will occur when the control in question has been examined and the *warranty claim request* has been received from the original vehicle manufacture.

#### The Following Conditions Will Apply.

- 1. If the control is not returned within 15 days it will be charged out against the credit card on file. A call tag will be issued by RCT if requested by vehicle user.
- 2. Post RMA on the shipping label. Failure to do so will result in material being returned.
- 3. If upon receipt and subsequent testing, the control is found to be failure free. R. C. Tronics will not pay any warranty claims. All shipping charges will be billed out against the credit card on file.
- 4. Any time spent trouble shooting <u>Prior</u> to calling either the vehicle manufacturer or R. C. Tronics, Inc. will not be considered for payment.
- 5. We offer a one year warranty on the *Bus Power Center, RCT-786* this warranty only relates to defects in our controls. It does not include damage that occurs as a result of improper installation or unauthorized trouble shooting. Extended warranty can be obtained at additional cost upon request.

#### Notes:

It is our policy to provide you with a rapid resolution to all failures on controls produced by R. C. Tronics, Inc. We also recognize that fair compensation must be allowed for any repairs made to our equipment.

Both **Warranty Policy & Procedure and Control Failure Form** can be found in our booklet pertaining to the Bus Power Center. Additionally the two documents can be electronically transmitted to your location, filled out with Microsoft Word and then be retransmitted to the **Manufacturer of Vehicle** who will provide your with the **authorization number**.

All forms can be obtained from either the Manufacturer of Vehicle or R. C. Tronics, Inc.



# R. C. Tronics, Incorporated, Warranty

2573 East Kercher Road Phone 1-574-642-3857 1-800-642-8171

www.rctronics.com

Goshen, Indiana 46528 Fax 1-574-642-3858 Email: dchiddister@rctronics.com

#### **Control Failure Form**

Contact Name: Company Name: Address: City, State & Zip: Phone Number: Fax Number: E-mail: Labor Rate / Hour: Today's Date:

Vehicle Manufacturer: Reference Number from Vehicle Manufacturer: Unit Number or VIN Number & Year:

Credit Card Type & Number: Expiration Date: Card Rear Code:

Note #1 If unit is not returned within 15 days it will be charged out against this credit card.

Note #2 Please post RMA number provided by R. C. Tronics, Inc. on the outside of the box. Failure to do so will result in material being returned.

Note #3 If the control being tested is found to be operating correctly or has been damaged due to improper handling, i.e. burnt traces it then becomes the responsibility of the end user for any repairs. Additionally, any troubleshooting done prior to calling the control installer or R. C. Tronics, Inc. at 1-800-642-8171 will be the responsibility of the end user.

Information below this line to be filled in by R. C. Tronics, Incorporated

RMA Number: RCT Control Requested: Carrier: UPS Fed X - Method: Ground Blue Red - Date Shipped:
***************************************
Technical Description of Failure:
***************************************

Date Received: Action Taken: Repaired By: Labor Hours:

WAS THE PROBLEM SOLVED BY THIS CHANGE? YES NO

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Goshen, Indiana 46528 Fax 1-574-642-3858 Email; dchiddister@rctronics.com

#### WARRANTY

We warranty our *Bus Power Center* for a period of one year from the time of delivery to the end user. An additional two years of warranty may be obtained from R. C. Tronics, Inc. upon request and at an additional cost of \$250.00.

Covered are all items which are mounted or plugged into the following printed circuit boards (PCB), Bus Power Center PCB-786, Front Switch Panel, ADA display PCB 8 & 30 conductor data cable.

When a determination has been made as to the item to be replaced we will ship the replacement part *ground*. When requested, *next day air* will be granted if the vehicle is *out of service*. Additionally a *call tag* will be granted when requested by the end user.

A warranty claim for repair may be placed thru the manufacturer of the vehicle. The claim will be limited to one hour trouble shooting and one hour change out time. The total dollar amount of remittance will then be at the prevailing posted shop rate. The only exception to this policy will be thru the technician, upon the completion of the trouble shooting phase. Remittance will be direct from R. C. Tronics, Inc. to the end user. This will occur when the control in question has been examined and the *warranty claim request* has been received from the original vehicle manufacture.

We do not provide warranty for damage occurring as a result of improper installation by the vehicle manufacturer or damage that may occur as a result of unauthorized trouble shooting by the end user. All failures must be conveyed to the vehicle manufacturer. Along with an authorization number a call must be placed to R. C. Tronics, Inc. prior to trouble shooting the controls. A printed circuit board found to have circuit traces burnt open generally indicates a direct short has been presented to the PCB by someone attempting a repair. The loads imposed on current traces have been pre-determined and there fore the trace has been sized so as to protect itself even in an event of a component failure.



# R.C.TronicsInc.

SPECIALIZING IN ELECTRONIC CONTROLS

 2573 East Kercher Road
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 Phone 1-574-642-3857
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 Toll Free 1-800-642-8171
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GOSHEN, IN 46528 Fax 1-574-642-3858 http:www.rctronics.com

# **Custom Design of Electronic Controls**





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# Printed Circuit Board Layout

Computer Generated Artwork FR-4 PCB Material Double-Sided Plated-Thru Hole

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