

# CHILD CHECK-MATE™ SAFETY SYSTEM



*and check!*

## Installation Instructions Manual -Model EP1-

*Use as a supplement to our Installation Training Video.*

CHILD CHECK-MATE SYSTEMS INC.  
U.S. Patent #5874891

Thank you for choosing the **Child Check-Mate Safety System™**. Our product consists of two main components, the **EP1 Alarm Unit** and the **Rear Vehicle Transmitter & Reset Button**. The **EP1 Alarm Unit** includes a six-pin harness that mounts at the front of the bus near the driver, while the **Rear Vehicle Transmitter & Reset Button** mounts on the inside rear of the bus. Please note that some RVT models will require a '**Conduit Kit**' to install.

## Installing the EP1 Alarm Unit

### Location and Mounting

1. Locate a convenient mounting area for the EP1 Alarm Unit within the main electrical panel at the front of the bus. Before securing the unit, check to ensure that its location is central enough so that the plug leading from the wires can reach it easily, once all of the wires have been connected.
2. Secure the unit to the wall using the two-sided tape provided.
3. Once mounted, screws may be applied to the holes located at each end of the Unit.

### Connecting the 6-pin Harness

Before plugging into the EP1 Alarm Unit, connect the wiring harness as follows:

1)	BATTERY	- RED WIRE	
2)	GROUND	- BLACK WIRE	
3)	IGNITION	- YELLOW WIRE	
4)	FRONT WARNING BUZZER	- BLUE WIRE	
5)	OVERHEAD FLASHING LIGHTS	- BROWN WIRE	
6)	VEHICLE HORN	- GREEN WIRE	

1. Connect the **RED** wire to a 12-volt battery- always in the positive mode.
2. Connect the **BLACK** wire to a viable ground connection.
3. Connect the **YELLOW** wire to ignition - 12 volts.
4. Find the bus' front warning buzzer. It has two wires-one runs to the rear door switch while the other becomes positive when the ignition is turned on. Join the **BLUE** wire of the **Child Check-Mate Safety Systems™** to the wire running to the rear door switch.
5. The **BROWN** wire is the activation wire, which you connect to the overhead lights. Ensure that it does become live whenever the **overhead lights are activated**. Never connect this wire to the master switch!
6. Find the bus' horn relay and connect the **GREEN** wire to its **grounded side**. **Note:** You may need to run extra 18-gauge wire if the relay or ground wire is located under the steering column. If there is no horn relay, one must be installed.

**Note:** Do not plug harness into the EP1 at this time!

## Adding Dome Light & Brake Signal Harnesses (Optional)

### Connections for the 2-Pin Harness

#### BRAKE- GRAY WIRE

1. Connect the **GRAY** wire to the brake light wiring. This wire should supply 12 volts in order to activate the brake lights when the brake pedal is depressed.
2. Locate the wire leading from the dome light switch to the dome lights in the electrical box. The dome light wire must be cut before making the following connections:
  - **BLUE** Wire – Connect to wire leading *towards* dome lights.
  - **RED** Wire – Connect to wire leading *away* from dome light switch.
  - **RED** Fused Wire – Connect to 12-volt battery positive.

*(Please refer to EP1 Upgrade schematic at end of manual)*

**The installation of the dome light wiring at the front of the bus is now complete.**

### Installing the Rear Vehicle Transmitter (RVT & Reset Button)

#### Location and Mounting

The RVT mounts two different ways depending upon the particular bus type, namely 'rear-engine' or conventional 'rear-door' models.

#### Rear-Engine Buses

On this model, the wires extend out of the 'back' of the unit directly into the wall panel. The RVT is mounted above the window on the bus wall over the furthest rear seat on the driver's side of the bus. The RVT is connected to the furthest rear-window or side-door buzzer.

The proper mounting procedures for rear-engine buses are as follows:

1. Drill a 23/64<sup>th</sup>-inch hole at the desired location over the rear seat.
2. Insert plastic grommet (supplied) into the drilled hole.
3. Loosen the panels required to run the two wires to the closest emergency buzzer such as the rear emergency window buzzer or the side emergency door buzzer.  
Feed the two wires out the 'back' of the RVT through the pre-drilled hole, securing the RVT to the panel with the top screw (supplied).

**Note:** To ensure a good grounding, the lock washer (supplied) **must** be installed between the bus body and the Rear Vehicle Transmitter.

**Note:** The RVT may include a black wire which is an optional ground wire to allow the RVT to be mounted onto plastic. If unneeded, this wire can be tied back or removed, as the backing plate will create the necessary grounding.

4. Place the small plug (supplied) over the two remaining holes at the bottom of the Rear Vehicle Transmitter and secure to panel.
5. Refer to “Connecting the RVT Wires” on the following page.

### **Conventional Buses**

On this model, the RVT can be mounted directly onto a panel, on the left side above the last seat. The wires can extend out of the back of the RVT and be connected directly into the existing bus harness behind this panel. The RVT can then be directly secured to the panel.

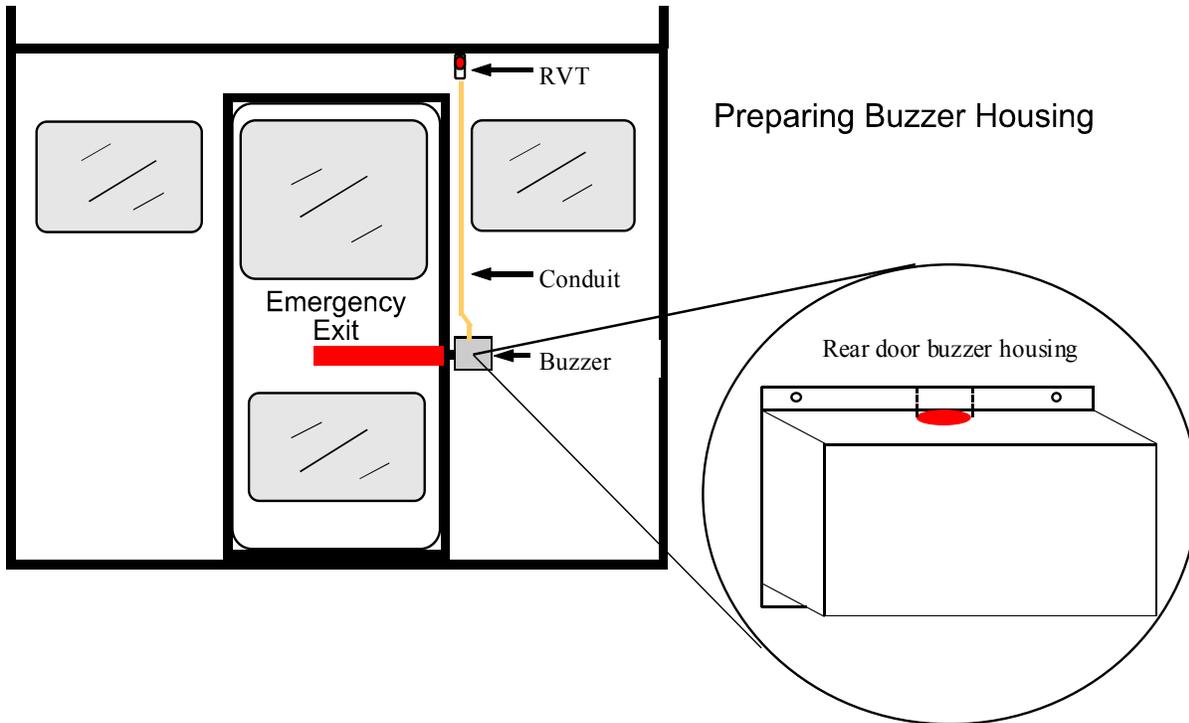
**Reminder:** The panel must be properly grounded for the system to function.

Note that the RVT may have a black wire. It acts as an optional ground wire to allow for the RVT to be mounted onto plastic. If unneeded, it can be tied back or removed, for the backing plate will create the necessary grounding.

Alternatively, the wires can extend out of the ‘bottom’ of the unit using the optional **Conduit Kit**-Model RVT-2Wc, available from *Child Check-Mate*™. The RVT is mounted to the top right of the rear emergency door-frame, and is connected to the rear-door buzzer through the conduit.

The proper mounting procedures for conventional buses are as follows:

1. When using a conduit mount, prepare the buzzer housing as shown below, or drill a hole and fish the wires through, following the installation procedures outlined above for Rear-Engine Models.
2. With the two wires running out the ‘bottom’ of the RVT, mount the unit to the door-frame with the three self-tapping screws (supplied).  
**Note:** To ensure a good grounding, the lock washer supplied must be installed between the bus panel and the Rear Vehicle Transmitter.
3. Measure the desired length of conduit to be cut. Remember to allow for a half inch for the conduit to be inserted into the buzzer housing and the RVT and for any potential bends.
4. Once the conduit has been cut, feed the two wires through the conduit, pushing it about 1/8<sup>th</sup> of an inch inside the Rear Vehicle Transmitter. Do not force the conduit too far into the RVT.
5. Bend the conduit along the chosen path, securing it to the bus with the ‘P’ clips & screws (supplied). The screw holes will require pre-drilling due to the door-frame’s thickness.
6. Refer to “*Connecting the RVT Wires*” instructions on the following page.



### Preparing the Buzzer Housing

**Note:** The required tools for the buzzer housing's cut-away portion will vary depending upon whether the housing is made from plastic or metal.

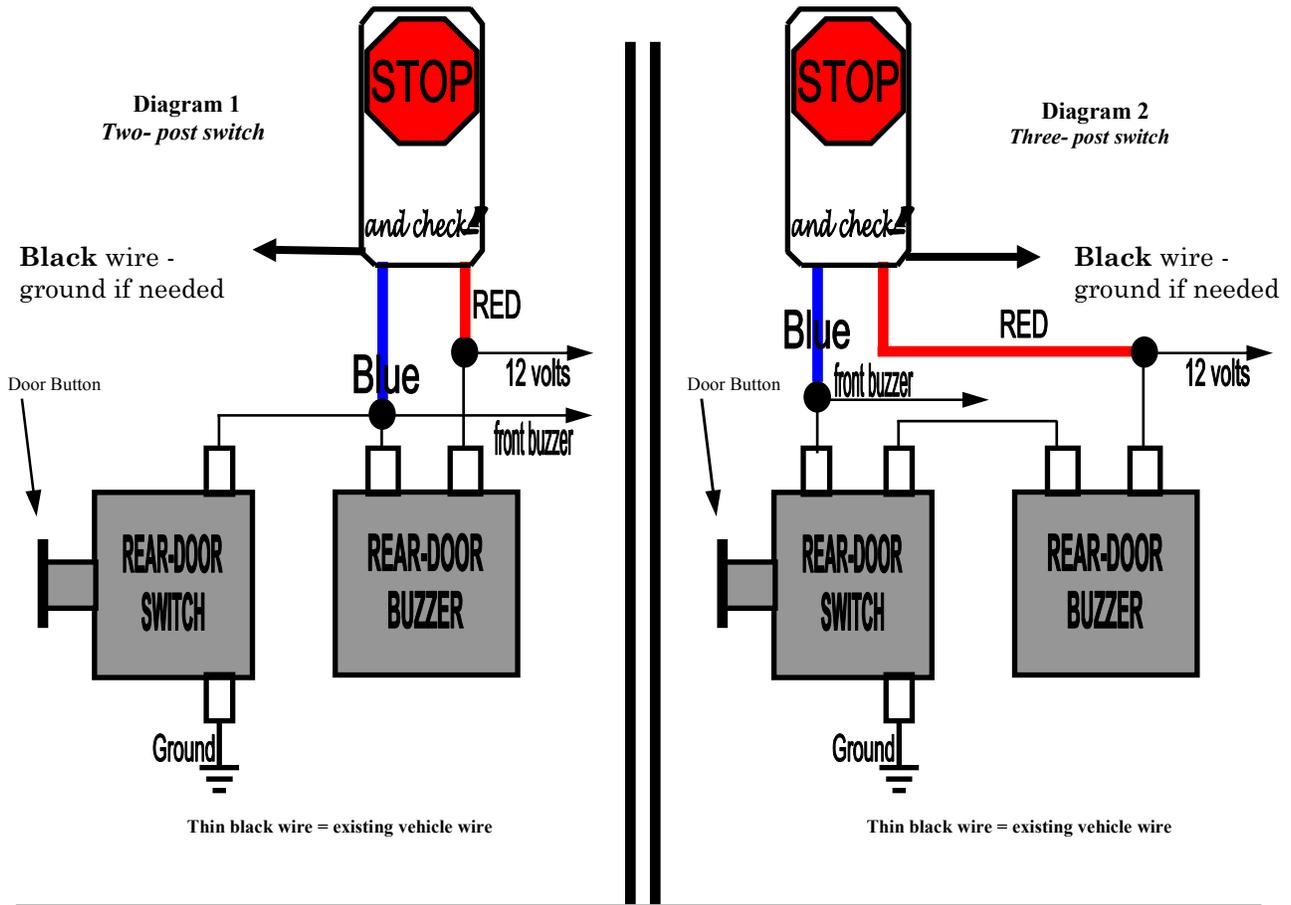
1. Drill a hole large enough for the conduit on the top of the housing. The hole should be close to the middle of the housing, tight against the mounting flange of the housing. *See area marked in red on housing diagram above.*
2. Cut away the mounting flange so it will meet up with both sides of the hole drilled as shown by a dotted line in the housing diagram. This cut-out will allow for the future removal of the buzzer's housing without disturbing the conduit.

### Connecting the RVT Wires

- |                              |                     |   |
|------------------------------|---------------------|---|
| ○ GROUND SIDE OF BUZZER      | - <b>BLUE WIRE</b>  |  |
| ○ 12 VOLT IGNITION OF BUZZER | - <b>RED WIRE</b>   |  |
| ○ GROUND WIRE (If Equipped)  | - <b>BLACK WIRE</b> |  |

The Rear Vehicle Transmitter is wired to the closest emergency buzzer / switch assembly, typically located at the rear-emergency door or window. Refer to the following diagram to determine which switch, the **two** or **three**-post, is in use.

## OPERATIONS CHECK LIST



1. Connect the **BLUE** wire to the wire running to the front buzzer.
2. Connect the **RED** wire to the buzzer's 12- volt side.
3. If equipped, connect the **BLACK** wire to a good ground.

## The Child Check Operation Check

1. Upon starting the bus, The EP1 will emit an audible noise indicating that the system is now operational.
2. Close the front door and turn on the master switch. Now open the front door and the overhead lights will flash. Expect an audible sound from the EP1 as the Red Lights are activated.
3. Close the front door and the overhead lights will stop flashing.  
**Note to Californians:** In order to comply with State Regulations, the Brown can be connected to the marker lights. This feature allows for the driver to safely escort young riders off the bus.
4. Turn the ignition off. The system's alarm, a high-pitched beep, will begin to sound. After approximately eight seconds, the bus horn will begin to sound on and off.
5. Turn the ignition back to the 'ON' or 'ACCESSORY' position; the alarm can be silenced in *either* position. An audible tone will sound approximately every 30 seconds, for a total of three cycles, prompting the driver to perform their Child Check.  
**Note:** The EP1 system's deactivation process is designed so that the ignition key *must* remain in the 'OFF' position for at least **one second**, before switching to the 'IGNITION' or 'ACCESSORY' position.
6. Proceed to the rear of the bus and depress the Reset Button for at least **three seconds**. You will hear the deactivation signal, a rapid chirping sound. The system has *now* been deactivated and the key can be removed safely from the ignition.

## Dome Light Option

1. Turn on the ignition to illuminate dome lights for 20 seconds.
2. Stepping on the brake pedal should trigger an audible sound.
3. Once the system has been activated, turn the ignition off and the dome lights will illuminate.
4. To deactivate the system, turn ignition to the 'on' position. The dome lights will remain illuminated proceed to the rear of the bus to deactivate the system.

*Need further installation assistance?  
Have questions about our other products?*

Contact us directly by:

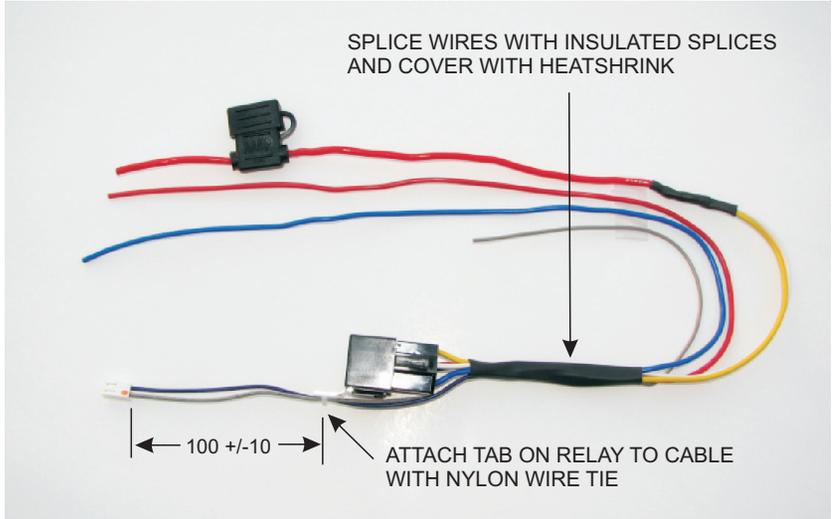
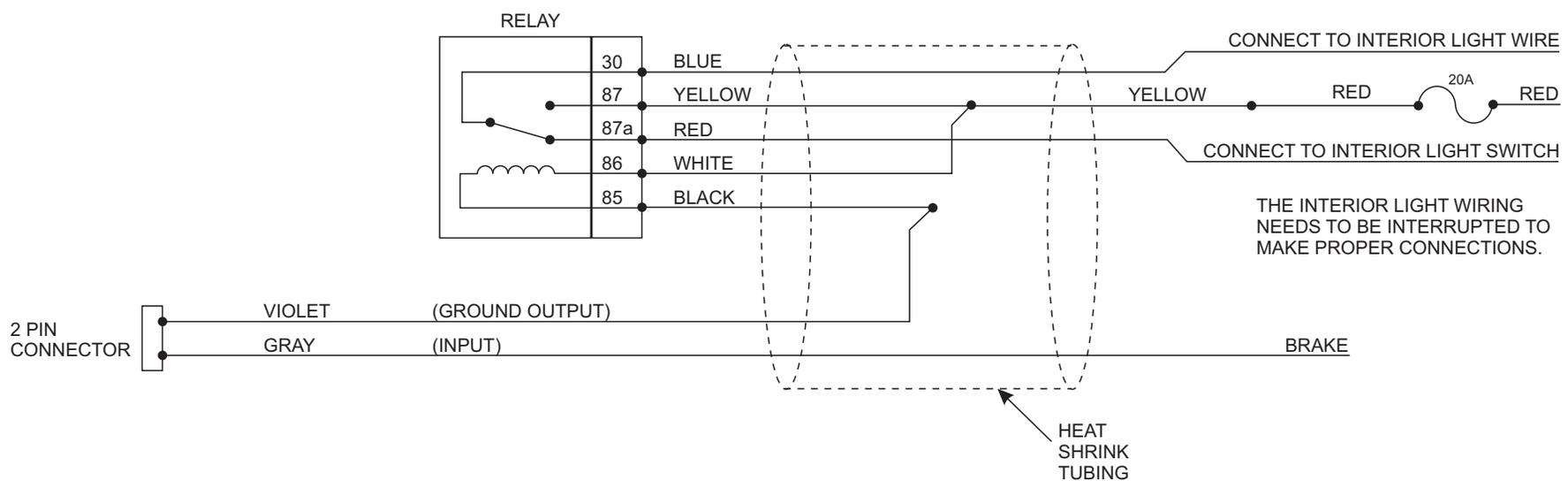
**E-mail:** [ccms@childcheckmate.com](mailto:ccms@childcheckmate.com)

*(To better serve you, please put **Installation** or **Products** in the subject line.)*

**Phone:** 613-835-9828.



#	ITEM	QTY.	DESCRIPTION	DET	PART #	WT
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**NOTE: TOLERANCES UNLESS OTHERWISE SPECIFIED**

FOR ANGULAR DIMENSIONS ± 0° 30'

FOR DECIMAL DIMENSIONS X.XXX ± 0.005"

FOR DECIMAL DIMENSIONS X.XX ± 0.010"

FOR HOLE LOCATIONS ± 1/32"

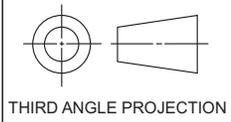
FOR OTHER DIMENSIONS ± 1/16"

ARE TO BE NON-CUMULATIVE

A	RELEASED					
	NO.	REVISION	ECN	BY	DATE	CHK. APP.

**Child Check-Mate Systems Inc.**  
*and check!*

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DRAWN BY:	WHT
CAD DISC FILE:	
LAST DISC REV.:	
LAST PLOT DATE:	
SCALE	PLOT SCALE

<b>EP1 DOME LIGHT HARNESS</b>	
PROJ. NO.	DWG. NO.
SHEET 1 OF 1 REV. 01	