



K&K Systems, inc.
Traffic Safety Products Manufacturer



**EMERGENCY VEHICLE
WARNING
ECO-122-D12
OPERATING MANUAL**



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THANK YOU FOR YOUR BUSINESS!

To Our Valued Customer,

K&K Systems, Inc. is excited that you have purchased our product.

Our company has been serving the traffic industry since 1997. Since that time we have risen to become a leader in the traffic industry. We offer a complete line of traffic safety products that include message boards, arrow boards, radar speed monitors, solar school zone flashers, solar 24-hour flashers and many other quality products that serve our industry today.

At K&K Systems, Inc., we strive to improve the quality of our products. We are dedicated to the concept that our customers are our most valuable resource. We strive to serve our customers as we would want to be served.

Tim Keith,
President





INTRODUCTION EMERGENCY VEHICLE WARNING ECO 122-D12

K&K Emergency Vehicle Warning Manual (ECO-122-D12) is a device using LED flashing beacons in combination with warning signs that is remote controlled by a user. It is designed to be used where on demand warning lights must be used, and turned off when not needed. The 122-D12 can also be used as the primary unit to trigger other nearby systems that are further away from the users range.

WHAT IS THE CROSSTALK

The CrossTalk is an Advanced, Solar-Powered Lighting Controller. CrossTalk controllers are used for a variety of traffic & safety applications including cross-walk / pedestrian systems, speed/radar systems and more. CrossTalk applications can be setup quickly and provide more functionality and flexibility than traditional “wired” systems.

The CrossTalk device is a rugged, integrated unit which provides a built-in solar controller with Maximum Power-Point Tracking (MPPT), battery management with low-voltage disconnect (LVD), short-range wireless (900MHz), multi-function programmable lighting control, support for up to (4) beacons, auto-dimming, and a scheduler all in one compact enclosure.





BASIC OPERATION

The CrossTalk for Railroad Crossings is used in conjunction with the Key Fob Remote. It is operated by simply pressing the key fob to activate. The CrossTalk Controller, located inside the control cabinet, wirelessly activates all the warning lights and LEDs.



KEY FOB REMOTE

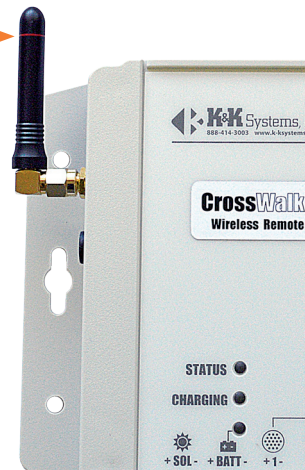
The fob is used to remotely activate the lights. It uses a 433mhz radio to communicate with the crosstalk. It has a range of approximately 700ft with direct line of sight. All the buttons activate the same light. Additional fobs can be purchased in order to give multiple people control over the lights.

Note: Antennae with the same color ring communicate with each other.



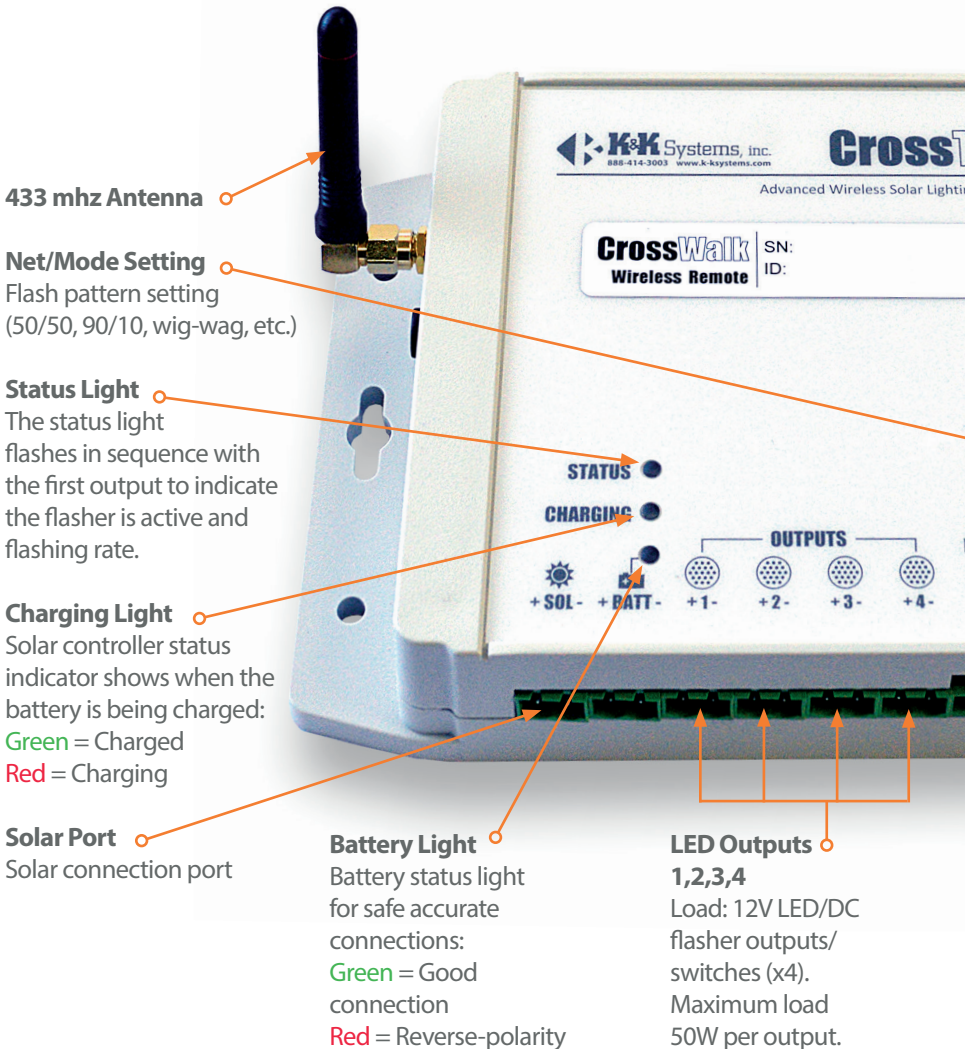
433MHZ ANTENNA

The primary unit in a system will have a short antenna on the left side of the crosstalk. This antenna is used to communicate to the Key Fob. At least one pole system should have this antenna – preferably the one nearest to the user. Additional antennas may be purchased if you would like individual control over each light, but only if their distance is over 700ft.





DESCRIPTION OF CROSSTALK CONTROLS



433 mhz Antenna

Net/Mode Setting
Flash pattern setting
(50/50, 90/10, wig-wag, etc.)

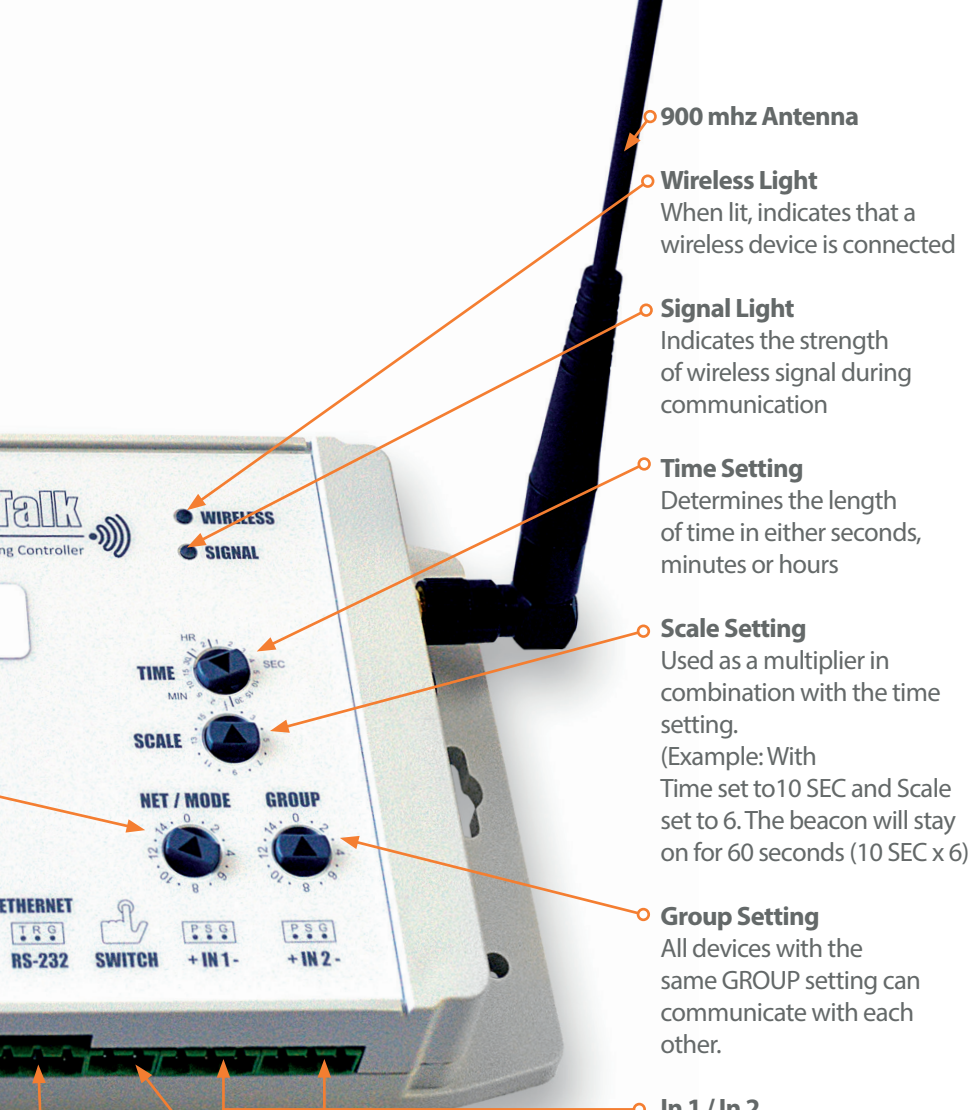
Status Light
The status light
flashes in sequence with
the first output to indicate
the flasher is active and
flashing rate.

Charging Light
Solar controller status
indicator shows when the
battery is being charged:
Green = Charged
Red = Charging

Solar Port
Solar connection port

Battery Light
Battery status light
for safe accurate
connections:
Green = Good
connection
Red = Reverse-polarity

LED Outputs
1,2,3,4
Load: 12V LED/DC
flasher outputs/
switches (x4).
Maximum load
50W per output.



900 mhz Antenna

Wireless Light
When lit, indicates that a wireless device is connected

Signal Light
Indicates the strength of wireless signal during communication

Time Setting
Determines the length of time in either seconds, minutes or hours

Scale Setting
Used as a multiplier in combination with the time setting.
(Example: With Time set to 10 SEC and Scale set to 6. The beacon will stay on for 60 seconds (10 SEC x 6)

Group Setting
All devices with the same GROUP setting can communicate with each other.

In 1 / In 2
Digital input range 5-24V DC for radar, advance warning, and more

Ethernet RS-232
Communication Port / Laptop Connection

Switch Attachment
Sensor connection port. Connect any sensor for use in conjunction with sign alerts.

- Sensor options:**
- Push Button
 - Moisture Sensor
 - Water Level Sensor
 - Motion Sensor
 - Overspeed Sensor



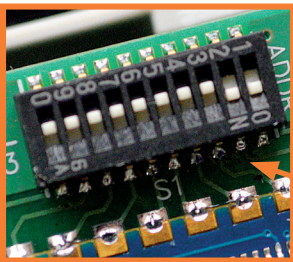
HOW TO SET UP A KEY FOB REMOTE

The initial Key Fob Remote is programmed upon purchase. The below instructions are for programming additional Key Fobs.

A DIP switch is a manual electric switch that is arranged in a dual in-line package (DIP) used to select the operating mode of a device. The CrossTalk CrossWalk and the Key Fob Remote have slide type DIP switches which can be either ON or OFF. These switches need to be set the same on each CrossTalk and the matching Key Fob to activate emergency vehicle beacons.

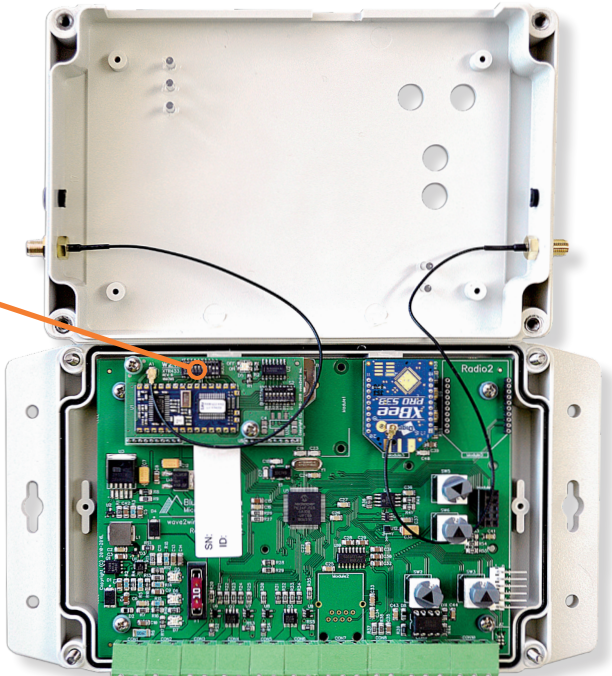
Access the CrossTalk DIP Switches by removing the CrossTalk from the control cabinet. Turn the CrossTalk onto the face to reveal 4 screws on the backside of the housing on the corners. Loosen each screw until the face cover easily separates from the back of the housing. The screws will remain in the housing. Carefully lay the cover over as to not break the connection of the antennae wires.

Locate the BUTTONS DIP switch on the CrossTalk receiver board.



CrossTalk DIP Switches

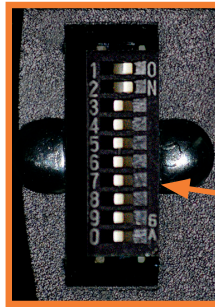
The ADDR DIP switches need to be set the same on each CrossTalk and match the DIP switch settings on the remote so that all the CrossTalks are paired to the same remote. The ADDR switches on both the CrossTalk and the Remote





need to be something other than 0 (all OFF) or the remote will not work. In other words, at least 1 of the ADDR DIP switches needs to be ON and set the same on both the remote and the CrossTalk.

Enable at least (2) buttons on each CrossTalk and Key Fob so that there is an ON and an OFF. To turn a switch ON, use a small tipped tool and move the white button to the ON position.



Key Fob DIP Switches



Set the DIP Switches on the Key Fob the same as the DIP Switches on the CrossTalk. If the respective switch is set to ON then the CrossTalk CWR will respond to the corresponding button on the remote.

ON Buttons:
D0, D2, D4, and D6

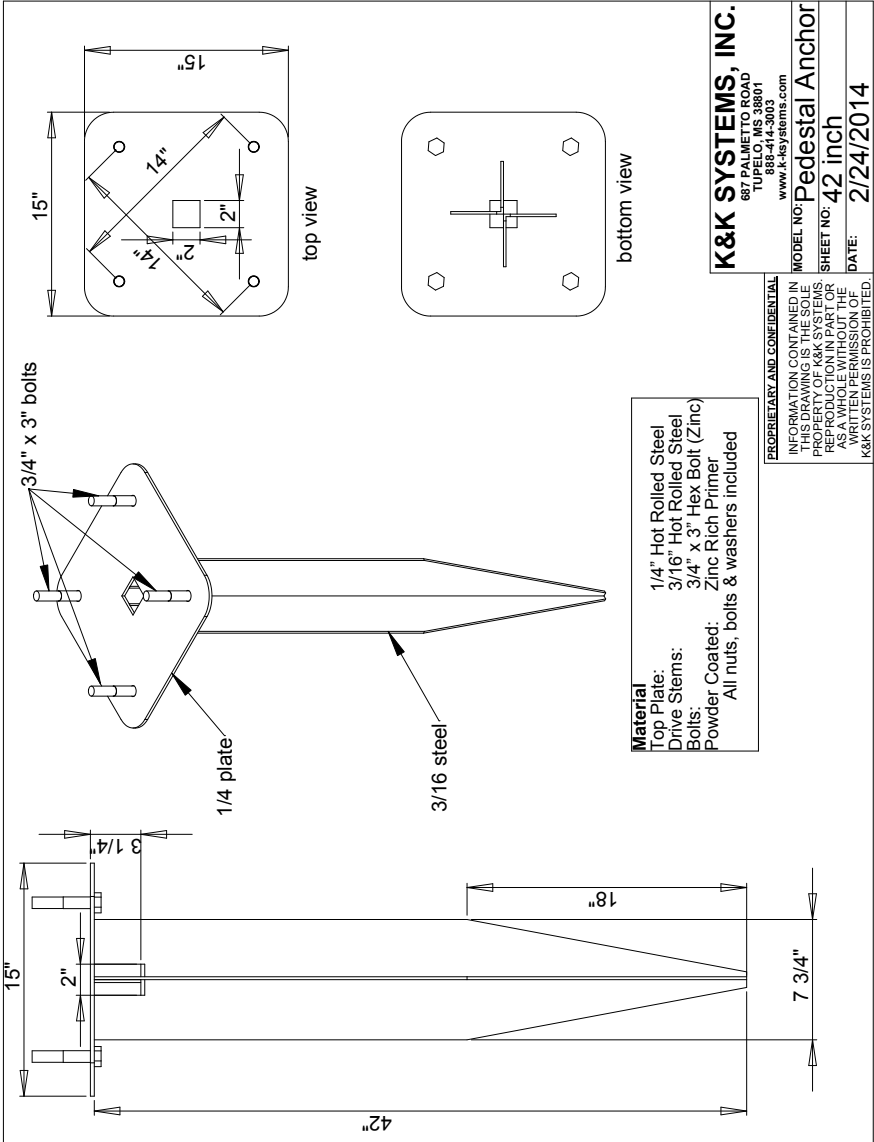
OFF Buttons:
D1, D3, D5, and D7



Key Fob buttons as they are related to the internal DIP Switches.

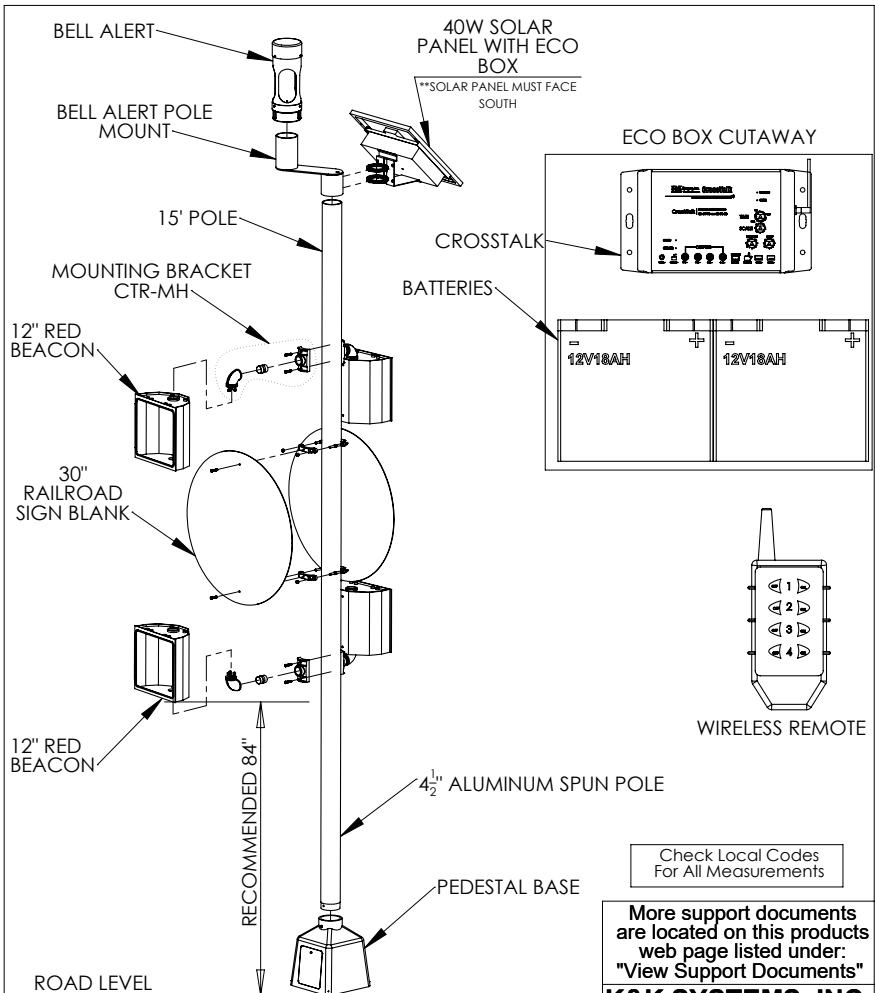


DRIVE BASE MOUNTING





MOUNTING ASSEMBLY



More support documents are located on this products web page listed under: "View Support Documents"

K&K SYSTEMS, INC.
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 888-414-3003
www.k-systems.com

All Spun Aluminum Pole Hardware INCLUDED
 Pole Elbows, Nipples, Pole Plates, Box Bracket & Mounting Bolts
 Solar Brackets, Side Of Pole Mount & Stainless Band Clamps
 Pedestal Base, Galvanized L-Anchor Bolts, Nuts & Washers

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MODEL NO: ECO-122-D12
 SHEET NO: RAILROAD ALERT
 DATE: 2/27/19



MODEL ECO-122-D12 SPECIFICATIONS

(Meets MUTCD & ITE Standards)

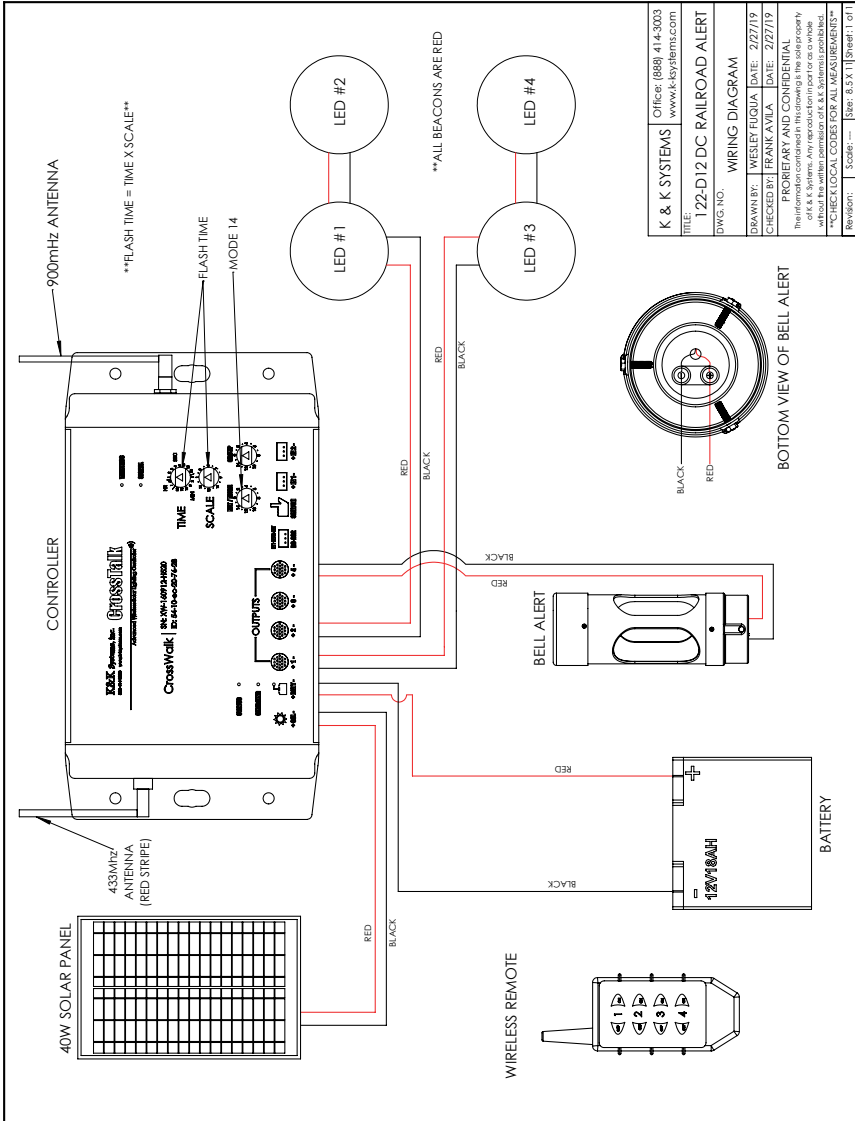
Solar Panel	Maximum Power	(P max)	20W
	Voltage at Pmax	(V mp)	17.3 V
	Current at Pmax	(IMP)	1.16 A
	Short-Circuit Current	(Isc)	1.29 A
	Open-Circuit Voltage	(Voc)	21.6 V
Control Cabinet	7.5" x 11.25" x 4"	aluminum	located below solar panel
Battery	(1) AGM	18 amp	included
Push Button	2" Button with momentary switches rated at 36VDC		
	5" x 7" Button fixture with crossing sign inserted		
Optional	Additional RRFB with mounting hardware		
	Pole with mounting hardware		
	Pedestrian Sign		
	Left Down Arrow Sign		
	Right Down Arrow Sign		
RRFB	Lighting Meets J595 for Class 1		

MODEL ECO-122-D12 PARTS LIST

PART NUMBER	DESCRIPTION
ADD LED	12" Red Flashing Beacon with Black Housing
CWKF-433-4	Key Fob Remote
CrossTalk-CWR	Crosstalk 4-Radio - wireless; 900 mhz radio (Appr. 700 feet range)
ECO2-111704	Eco-Cabinet
BAT-12-18A	18 amp AGM Battery
DS-A1-40	40 Watt Solar Panel
OPTIONS	
W10-1	Railroad Crossing Symbol, 36", High Intensity
CCTR-15 4-1/2"	Spun Aluminum Pole Kit with Base
CTTUC-12 12' 3lb	U Channel Post Kit
CCTS-12-2	2" x 12' Galvanized Square Post Kit
CWKF-433-4	Key Fob Remote



WIRING DIAGRAM



K & K SYSTEMS	Office: (888) 414-3033 www.k-k-systems.com
TITLE:	122-D12 DC RAILROAD ALERT
DWG. NO.	WIRING DIAGRAM
DRAWN BY:	WESLEY FIGUEROA DATE: 2/27/19
CHECKED BY:	FRANK AVILA DATE: 2/27/19
PROPRIETARY AND CONFIDENTIAL The information contained in this drawing is the sole property of K & K Systems. Any reproduction in part or as a whole without the written permission of K & K Systems is prohibited. **CHECK LOCAL CODES FOR ALL REQUIREMENTS**	
Revised:	Scale: --- Size: 8.5 X 11 Sheet: 1 of 1



TROUBLESHOOTING GUIDE

Please call 888-414-3003 for Tech Support if this guide does not solve your issue.

PROBLEM	STEP 1	STEP 2
No Power	<ul style="list-style-type: none">• Check <i>Battery Light</i> on CrossTalk is on	<p>If light is off:</p> <ul style="list-style-type: none">• Check battery voltage is a minimum of 12V.• Check for correct polarity of battery wires to CrossTalk
Not Charging	<ul style="list-style-type: none">• Recharge batteries to test	<ul style="list-style-type: none">• Check <i>Charging Light</i> is illuminated. <p>Solid or flashing is OK.</p>
Not Flashing	<ul style="list-style-type: none">• Check batteries for output of 12V	<ul style="list-style-type: none">• Ensure CrossTalk is set to the proper setting for desired flash pattern

STEP 3	STEP 4	STEP 5
<p>If batteries are good:</p> <ul style="list-style-type: none"> • Check internal 10 amp blade fuse. <p><i>(See pages 22-23 for access to fuse.)</i></p>	<p>If fuse is good:</p> <ul style="list-style-type: none"> • Inspect CrossTalk for signs of electrical damage 	
<p>If light is off:</p> <ul style="list-style-type: none"> • Make sure the solar panel is: <ul style="list-style-type: none"> - clean - facing south - in full sun 	<ul style="list-style-type: none"> • While the solar wires are unplugged from CrossTalk, check voltage of solar wires (minimum of 15V on a sunny day.) 	<p>If low or no voltage:</p> <ul style="list-style-type: none"> • Follow the wires to the panel and check for damage. • Ensure wires are connected with correct polarity
<ul style="list-style-type: none"> • Check Status Light for flashing when push button is activated. 	<ul style="list-style-type: none"> • Check inputs for push button • Ensure wires are secure in ports 	<ul style="list-style-type: none"> • Check LEDs for 12V output when activated



FUSE LOCATION & REPLACEMENT

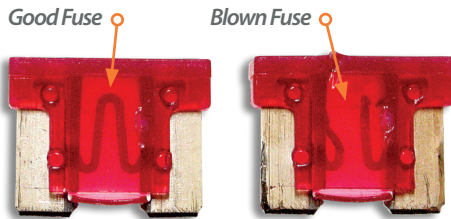
Access the CrossTalk components by removing the CrossTalk from the control box. Turn the CrossTalk onto the face to reveal 4 screws on the backside of the housing on the corners. Loosen each screw until the face cover easily separates from the back of the housing. The screws will remain in the housing.

Carefully lay the cover over as to not break the connection of the aerial wire.

Locate the 10 amp Low Profile Mini Fuse at the bottom left of the control panel.

Remove the fuse by grasping with fingers and gently rocking the fuse side to side.

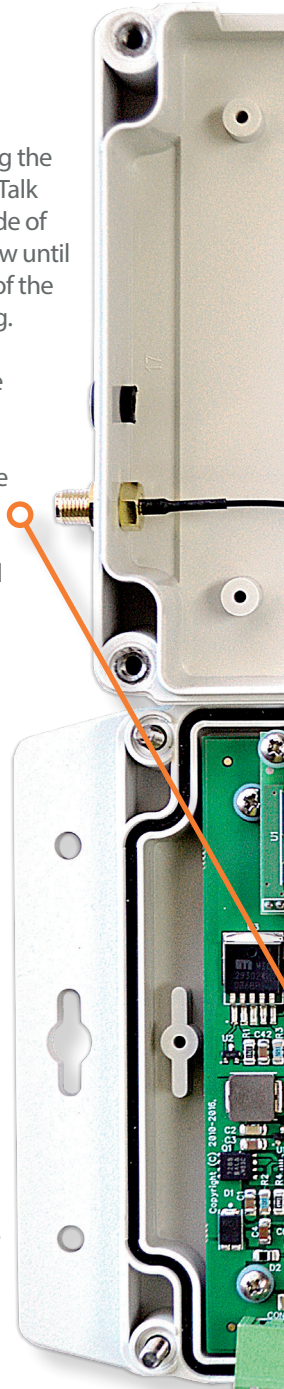
Inspect the fuse by looking through the translucent housing at flat wire in the center. If the wire is solid, the fuse is good. In a blown fuse, the wire will be broken.

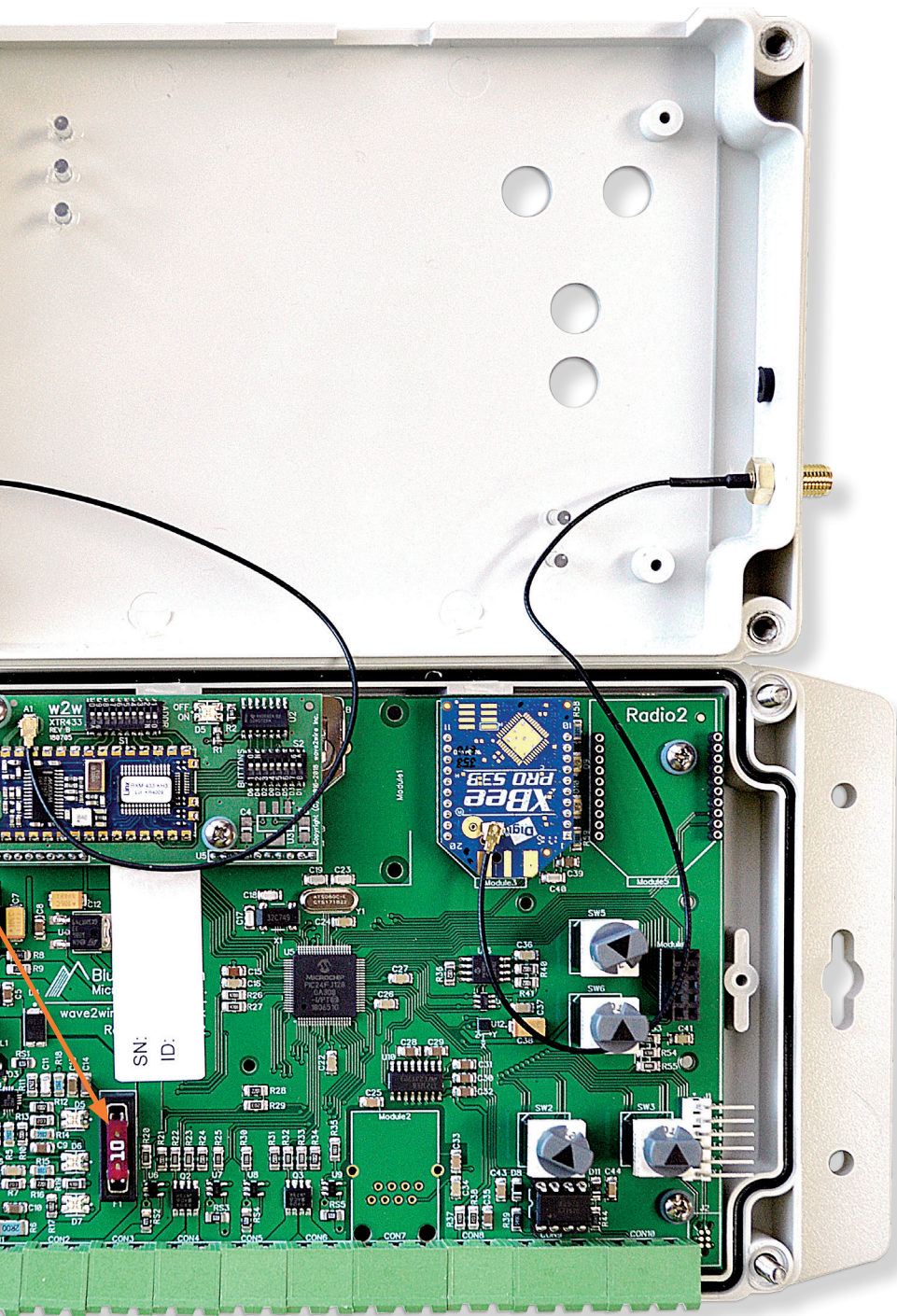


Low Profile Mini Fuse

Replace the blown fuse with a new one by inserting into the port and firmly pressing it into place.

Align the covers and twist the screws until the covers are snug. Remount the CrossTalk to control box.








KEY FOB BATTERY REPLACEMENT

Slide the battery compartment cover off using a flat head screw driver.

Locate the battery. 

Remove the battery by using a fine tipped tool to wedge behind the battery and slide it out of the housing. Be careful not to damage other parts while using the tool.

Replace with a fresh CR2032 3V battery. Ensure that this side is facing up when sliding it into the housing. 



Replace the key fob battery compartment cover and resume use.





MANUFACTURER'S WARRANTY

1. The manufacturer warrants that all products manufactured by K&K Systems, Inc. will be free from defects in material and workmanship for a period of one (1) year from date of shipment, subject to the conditions and restrictions contained herein.
2. This warranty does not apply to a product that has not been installed or maintained in accordance with the manufacturer's instructions, has been subjected to damage in an accident, abused or neglected during operation, repaired or modified by persons other than manufacturer, its employees or authorized agents, or failed to have normal maintenance.
3. The buyer expressly agrees that the buyer's sole remedy and the manufacturer's sole responsibility, in respect to a warranty claim, is exclusively limited to repair or replacement at the manufacturer's option, of product or a portion thereof found by the manufacturer to be defective. The manufacturer is not responsible for labor or other expended charges by buyer including transportation charges, and shall not be liable for any incidental or consequential damages connected with repair of a product deemed to be defective or with installation or replacement of repaired product. Further, the manufacturer disclaims any liability for any incidental or consequential damages, including lost or duplicated time or expense accruing for any reason, to the owner or user or any products sold by the manufacturer, whether claim is made in contract or in tort or under any theory of warranty, negligence or otherwise.
4. The manufacturer reserves the right to make changes in its products from time to time, without incurring any obligation to incorporate such improvements in any products previously sold or in service.
5. The terms and conditions of the warranty cannot be altered without the written consent of the manufacturer.
6. The foregoing warranty is exclusive and in lieu of all other express, statutory and implied warranties **INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE**. There are no warranties which extend beyond the language in the previous six (6) paragraphs.

If you have any further questions, please feel free to call us at our toll-free number, 888-414-3003, email info@k-systems.com or look us upon the internet at www.k-systems.com.



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