

# SIGNALERT 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

STOP

#### WHAT IS A SIGN ALERT

K&K Systems' Sign Alerts™ Systems are LED illuminated signs. They are operated by solar or AC power and are designed to enhance the visibility of highway signs in any weather conditions to increase road safety. Any sign type (regulatory, warning, construction, or school) can be a Sign Alert. All signs are also MUTCD compliant.

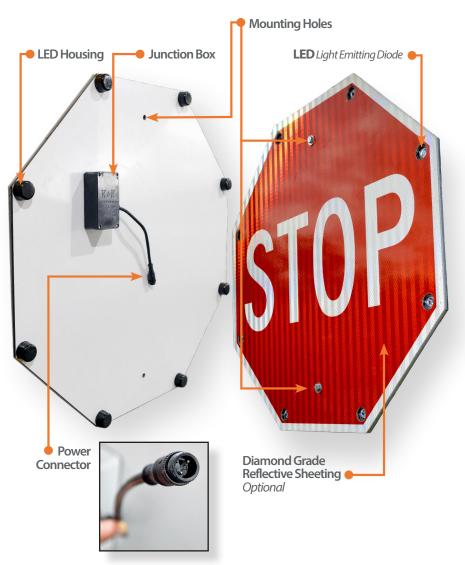
K&K Sign Alerts can utilize any one of our smart controllers, the SPLasher or the CrossTalk, or a timing module for 24/7 or custom functionality.

K&K Sign Alert Systems paired with K&K SMART Add-Ons can be activated using our High Water Sensor, Motion Sensor, Push Button Sensor, Moisture Sensor, Radar Sensor, or Key Fob remote.





# **DESCRIPTION OF SIGN ALERT COMPONENTS**





# CONTROL CABINET AND COMPONENTS

### **CONTROL CABINET**

The control box is aluminum fabricated and hinged at the top to protect the batteries and the controller. Lower height mounting hardware for easier access is available.



#### **POWER SOURCE**

Our products incorporate a battery pack wired for 12V operation, depending on the requirements of the design. The battery bank is regulated by and protected by a solid-state charge controller/ low voltage disconnect. This prevents gassing and over discharging of the batteries, which can result in premature failure. A thermal compensation and related circuitry adjusts the charge rate of the system with variances in temperature.



#### **SOLAR PANEL**

During operation, keep the solar panel clean of excessive dirt and debris by using soapy water or glass cleaner and a soft cloth or sponge only. Periodically check the integrity of wiring connections in the junction box. Inspect for signs of damage to the solar panel glass or frame.



### **LIGHTING CONTROLLER**

The SPLasher Beacon Controller and the CrossTalk Advanced Lighting Controller are compact all-in-one solar controllers with flashers and auto-dimmers. They are compatible with all 24-7 Solar Sign Alerts and beacons. They have dry contact switches for activation via sensors such as radar, high water, push button and more. The CrossTalk allows monitoring/status reporting, and control of one or multiple systems.







# SAFETY / WARNINGS / PRECAUTIONS

The following are K&K Systems' recommendations for the safe and responsible use of pole units.

#### **PRECAUTIONS**

Inspect your unit upon delivery. The system arrives ready to run. However, wires and plugs may loosen during shipment causing operational issues.

Please inspect all components and test before erecting the pole. It's always easier to work on the ground. Connect the batteries and test the unit before installation for convenient working conditions.



Connect batteries and test components before erecting the pole system.



Check cardinal directions with a compass to ensure the solar panel is **facing South** for proper charging. Check the system a few days after installation to ensure proper charging and operation.

#### MAINTENANCE

- Periodically inspect the poles. This includes but is not limited to the solar panel, battery, signs, and boxes.
- Check sign mounting to ensure it is tight and has not shifted as the solar panel may shift direction over time. Ensure the panel is facing South with a compass.
- Check the battery every 6 months to ensure proper charging. If below 12.3 volts, charge to keep power reserves high. Check solar system by cleaning the panel and inspecting wiring for wear and secure connection.
- K&K recommends that the user clean the solar panels every 6 months. Over time the solar panels may build up a thin layer of dust/dirt/road grime that can adversely affect their efficiency significantly. Clean with soapy water or glass cleaner and a soft cloth or sponge only.



# **SPLASHER**

# INTELLIGENT SOLAR CONTROLLER/FLASHER

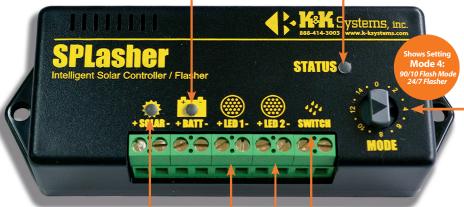
K&K Systems' SPLasher Beacon Controller is a compact all-in-one solar controller with maximum power point tracking, flasher, and auto-dimmer. It is compatible with all 24-7 Solar Sign Alerts and beacons. It has a dry contact for any activation switches such as the High Water Sensor, Motion Sensor, Push Button Sensor, Moisture Sensor, or Radar Sensor. Mode settings allow for an adjustable flash rate from 90/10 to 50/50 and duration settings from 24/7 to 1 minute.

# **Battery Light**

Battery status light for safe accurate battery connections: Green = Good Connection

# Status Light •

The status light blinks in sequence with the first output, letting you know the flasher is active and the flash rate.



# Solar Light

Solar controller status indicator shows when battery is being charged: Green = Full Charge Yellow = Charging

# Load •

12V LED/ DC Flasher outputs/switches (x2). Maximum load 50W per output.

#### Switch

Switch/Dry-Contact: Optional activation

- Moisture Sensor
- Push Button Sensor
- High Water Level Sensor
- Motion Sensor
- Over Speed Sensor



# **SPLASHER MODES**

## **Mode Switch**



#### Beacon Modes

**0**: LED1 - 50/50; LED2 - 50/50; ON 24/7

1:LED1 - 50/50; LED2 - 50/50; Switched 1 minute

2: LED1 - 50/50; LED2 - ON; Switched 1 second (LED2 Always ON to power radar)

3: LED1 - 50/50; LED2 - 50/50; Switched 1 second



### Sign Alert Modes

**4:** LED1 - 90/10; LED2 - 90/10; ON 24/7

5: LED1 - 90/10; LED2 - 90/10; Switched 1 minute

**6:** LED1 - 90/10; LED2 - ON; Switched 1 second (LED2 Always ON to power radar)

**7:** LED1 - 90/10; Switched 1 second



## **Combo Beacon and Sign Alert Modes**

8: LED1 - 50/50; LED2 - 90/10; ON 24/7

**9:** LED1 - 50/50; LED2 - 90/10; Switched 1 minute

**10:** LED1 - 50/50; LED2 - 80/20; Switched 3 minutes (UK MODE: 80/20; Switched 1 second)

11: LED1 - 50/50; LED2 - 90/10; Switched 1 second



# **Specialty Light Mode**

**12:** LED1 ON Full Bright; LED2 ON Photo Cell; Switched 1 second



### Wig/Wag Modes - LED1 and LED2

13: Wig/Wag; Switched 1 second

**14:** ON; Wig/Wag; Switched: ON while switch held, Wig/Wag for duration of switch hold

**15:** Wig/Wag; Switched 1 minute



# **CROSSTALK CONTROLLER**

The CrossTalk is an Advanced, Solar-Powered Lighting Controller. On-board cellular technology provides a secure cloud server connection offering real-time access from almost anywhere. Designed for multiple applications, CrossTalk controllers are used for a variety of traffic & safety applications including school zone safety systems, navigational beacons, crosswalk systems, speed/radar systems and more. Utilizing solar power and both cellular and short-range wireless connectivity, CrossTalk units can be setup quickly and provide functionality and flexibility. A single CrossTalk can control one or multiple Sign Alerts and provide web connectivity for schedules, status monitoring, diagnostics, and real-time control.

## NETWORKING

**NET ADDRESS** Each CrossTalk unit has a unique network address (0-15) set easily with

connection

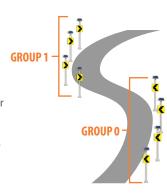
cellular devices (laptops, computers, smartphones) to communicate with the primary CrossTalk that communicates with secondary devices in the same group. The NET ADDR for the primary



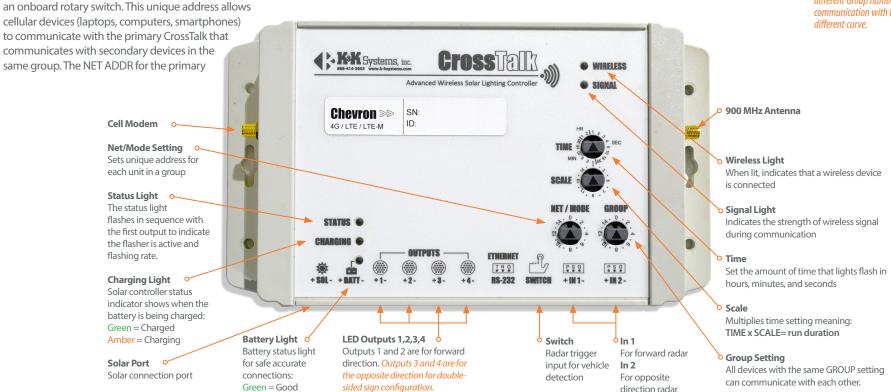
CrossTalk unit is "zero" (0). All other CrossTalk must have their own unique NET ADDR without duplication (1-15).

#### **GROUPING MULTIPLE CROSSTALK**

**CONTROLLERS** A primary CrossTalk controller can monitor and control up to 15 secondary CrossTalk units (for a total of 16 grouped units). Each CrossTalk unit also has a GROUP switch (0-15) which allows CrossTalk units to be "grouped" together. All devices with same GROUP number can communicate with each other. This grouping function allows control/monitoring of each GROUP separate from other GROUPS in the same general location. See the example below.



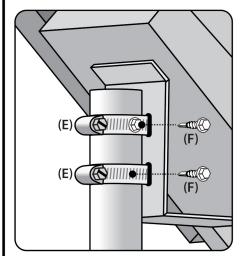
**Example:** Curve Warning Systems within close proximity of each other must have different Group numbers to prevent communication with the system of a



# **MUTCD SIGN ALERT SYSTEMS**

# For Signs up to 36" wide

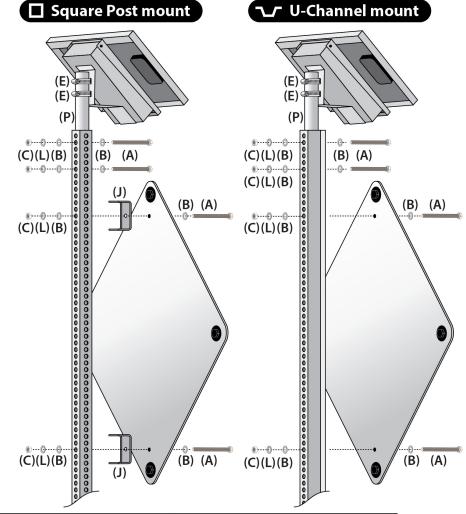
O Round Post mount

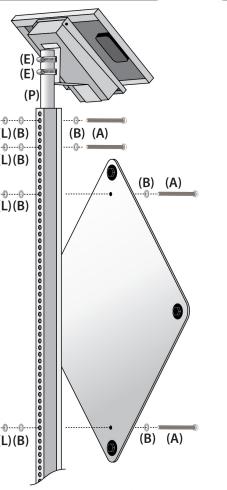


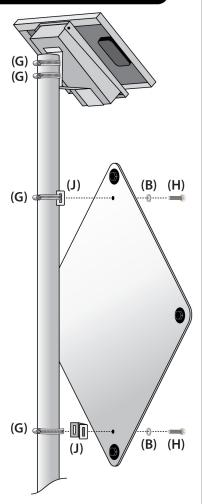
Solar Panel must point South.

**Drive Self-tapping screws through** side of Bands and into post to prevent unwanted rotation and slipping of Solar Panel.







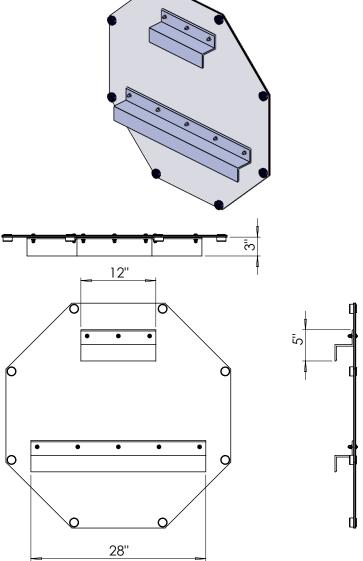


Square Post and U-Channel			Round Pole			
	ltem	Description (	Quantity	ltem	Description	Quantity
	(A)	5/16" x 4-1/2" All-thread bolts	(4)	(G)	1-5/8" - 5" Bands	(4)
	(B)	5/16" Washers	(8)	(F)	Self-tapping screws	(4)
	(C)	5/16" Nuts	(4)	(B)	5/16" Washers	(2)
	(E)	1-5/8" - 5" Bands	(2)	(H)	%" x ¾" All-thread bolts	(2)
	(F)	Self-tapping screws	(2)	(J)	1-1/2" Pre-threaded Mounting Brackets	(2)
	(J)	1-1/2" Pre-threaded Mounting Bracke	ts (2)			
	(L)	5/16" Lock Washers	(4)	l		
	(D)	1_3/," Pound Pine		l		





# Z-BRACKET OPTIONAL MOUNTING ASSEMBLY





PART NUMBER	DESCRIPTION		
Sign Alert	Sign Dependant		
Splasher	Splasher Controller, Flasher, Auto-Dimmer		
ECO1-110704	Eco-Cabinet		
BAT-12-18A	18 amp AGM Battery		
DS-A1-20	20 Watt Solar Panel		
FAMUTCDKIT	Hardware Kit		
OPTIONS	DESCRIPTION		
DR600s	Radar		
HWS	High water Sensor		
MS	Moisture Sensor		
PT-7	7-Day Timer		
DS-A1-30	30 Watt Solar Panel		
DS-A1-40	40 Watt Solar Panel		
CCTR-12 4-1/2"	Spun Aluminum Pole Kit with Base		
CCTUC-12 12'3lb	U Channel Post Kit		
CCTS-12-2	2" x 12' Galvanized Square Post Kit		
SADG	Diamond Grade Reflective Sheeting		
MEZ32111614A	Z-Bracket		
CrossTalk-10	CrossTalk Controller		



# TROUBLESHOOTING GUIDE FOR SPLASHER APPLICATIONS

PROBLEM	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
No Power  If the sign's Splasher is not powering on, the battery light is off, and the status light is not blinking:	<ul> <li>Is the Splahser unplugged?</li> <li>Is the battery wire connected insdie the control cabinet?</li> <li>Check battery voltage while its unplugged from the Splasher. The voltage needs at least 12V. No less.</li> </ul>	If battery is at 12V:  • Charge to at least 12.7-13V. Then test again.	If your battery is okay:  • Check the wires from battery to the Splasher. Make sure the wires are tightly screwed into the terminal.	If problem persists: • Please call K&K Systems	
Not charging  Battery needs recharging  Battery dies quickly	Is the solar panel facing south? If it is not:  • Check with a compass to make sure the solar panel is facing South as directly as possible. Solar Panels must always face South! If not, efficiency is diminished and the battery will not charge as fast as it should.	Check the voltage from your solar panel. While unplugged from the Splasher it should read 15-21V on a sunny day. Make sure it's positive and not a negative voltage. If negative, than your wires are flipped and that would cause the issue.	If the solar voltage is negative:  • The polarity is backwards. Switch the position of the wires and check the polarity again.  If voltage is positive:  • Reinstall wires.	If your wires have no voltage:  Check wires from the panel to the junction box for damage or disconnection. Replace or reconnect the wires and retest.  If your panel is below 15V, but above zero: Ensure the unit is in full sun and the solar panel is clean. Ensure the panel is facing south. Cloudy conditions, dusk or dawn will result in low voltage which is normal.	If problem persists: • Please call K&K Systems
No Lights	If your Splasher is on, battery light is on, and the status light is blinking, but the sign LEDs are off:  • Check to make sure your sign is connected to the Eco-box. Check the power cord on the back of the sign connects to the cable running down from the control box.		If the cable is connected, but still not working:  • Move the wires from LED 1 on the Splasher to LED 2. The first port may have burned out.	If this does not fix your issue: • Please call K&K Systems	
Burnt Fuse	If the battery is good and it is cor lights are out:  • The Splasher has an internal fuse • K&K must make the repair. Please	that might be blown.			



The CrossTalk-10 is used as the Primary CrossTalk unit in a Grouped System. The CrossTalk-4 is used as the secondary units. Please call 888-414-3003 for Tech Support if this guide does not solve your issue.

PROBLEM	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
Light will not flash	Check Battery Level, Must be at least 12V. If not, charge the battery to proceed with troubleshooting.	If battery is at 12V:  Is the battery light on?  If the battery light is not on:  Check for a blown fuse. (See pages 20-21).  Check polarity of battery wires.	If battery light is on: • Check if the Status Light is flashing? The status light indicates that the signs should be flashing.  If the Status Light is flashing: • Check the connections to the signs. Try both outputs for the direction you're using.	If the Status Light is not flashing, Radar's green light is flashing and vehicles are passing:  • Make sure the radar is aimed correctly. In a sequential configuration, if the first unit in curve does not flash, the rest will not flash either.	If you still cannot connect: Call K&K with any questions about mode adjustments and if your lights will not flash.
Battery keeps dying	Check Battery Level,     Must be at least 12V. If not please charge to proceed with troubleshooting. Load test battery. A bad battery will not hold a charge.	If the solar voltage is negative, the polarity is backwards:  • Switch the position of the wires and check the polarity again.  If voltage is positive:  • Reinstall wires	If voltage is low or none: Depending on the time of day it may be low. Dusk or Dawn will produce low voltage.  • Check voltage at the connection behind the panel and at the end of the wires. They must match.  If different, the wires are bad: • Replace and retest.	Is the solar panel facing south and the sunlight unobstructed? If it is not, charging efficiency is decreased and the battery charges slowly:  Check the solar panel direction with a compass.  Clear trees so solar panels have full sun exposure.	If problem persists: • Please call us
ERROR=Timeout Message = No response from remote device	• Repeat attempt to get the status. Occasionally the CrossTalk will not connect on the first attempt.	If no connection:  Go check the CrossTalk  Confirm Wireless Light is ON	<ul> <li>Confirm antennas are on tight.</li> <li>Short Antenna, White wire on the left. (Cell, only applies to Primary units)</li> <li>Large Antenna, black wire, on the right. (900Mhz)</li> </ul>	If Antennas are on correctly:  Open up the CrossTalk and ensure the SIM card is seated correctly, clean and undamaged	If you still cannot connect: • Please call us
Device ID Error	• Check that Device ID matches the CrossTalk you want to communicate with	If ID does not match: • Please call us	Under Device ID/Port:  Check that Device ID matches the CrossTalk you want to communicate with	If ID does not match: • Please call us	



# 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 to 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

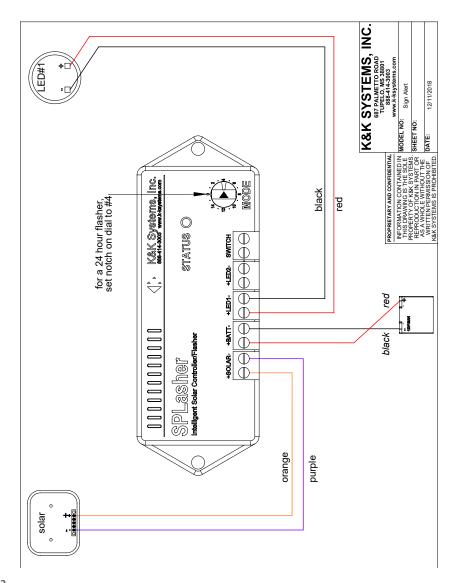
Replace the blown fuse with a new one by inserting into the port and firmly pressing it into place.

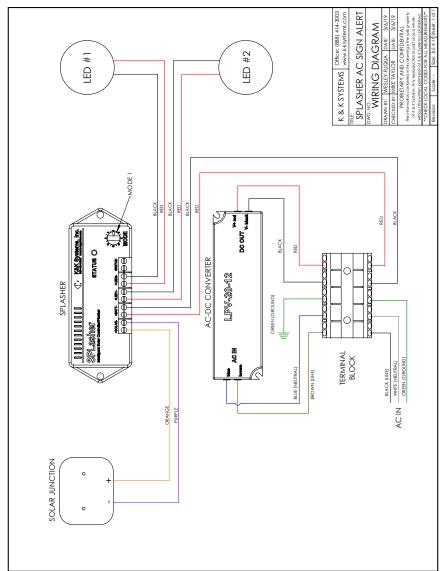
Align the covers and twist the screws until the covers are snug. Remount the CrossTalk to control box.

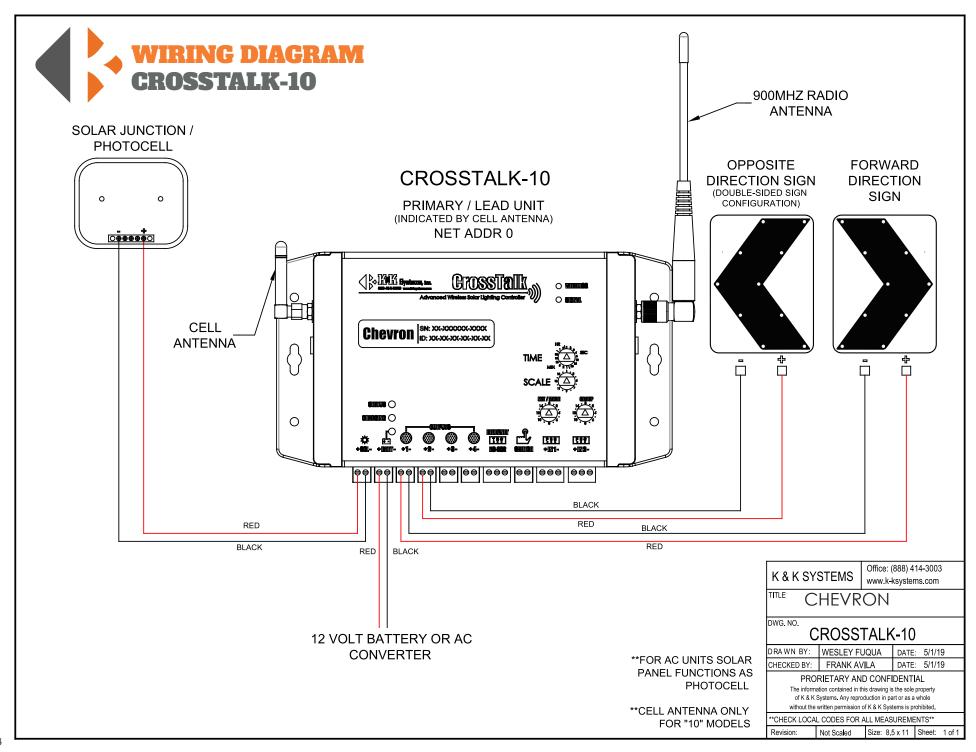














# **MANUFACTURER'S WARRANTY**

- 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 chargers, an 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 tor 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-ksystems.com or look us upon the internet at www.k-ksystems.com.



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