K&K Systems, inc.
Traffic Safety Products Manufacturer

K&K Systems, inc.
888-414-3003   www.k-ksystems.com

Cross
Link·))

900MHz
USB
Radio

LINK

POWER

SCHOOL
SPEED
LIMIT
20
WHEN
FLASHING

CROSSLINK
OPERATING MANUAL

TABLE OF CONTENTS

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 mainte-nance.

3. The buyer expressly agrees that the buyer's sole remedy and the manufacturer's sole re-sponsibility, 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.

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

K&K Systems, inc.
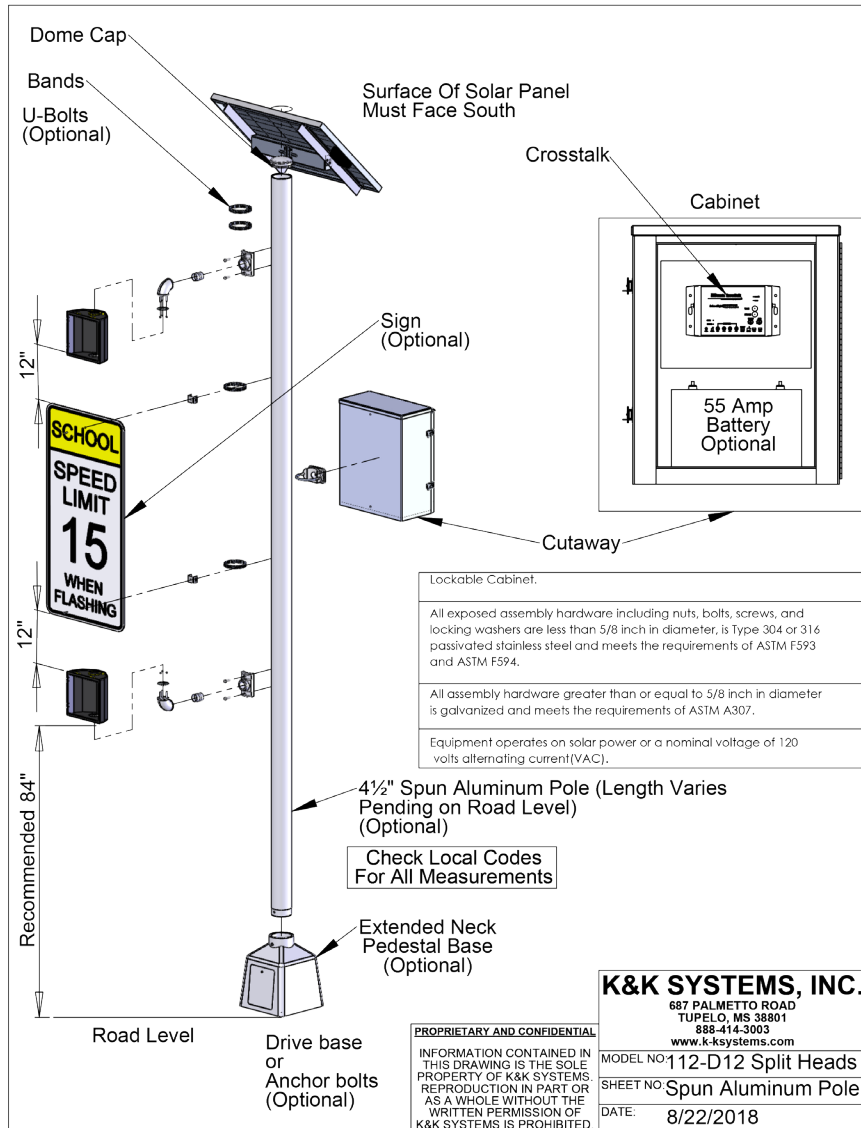## Traffic Safety Products Manufacturer

INTRODUCTION
WHAT IS THE CROSSLINK

The K&K Systems CrossLink is a small USB-connected antenna that uses short range radio frequency to allows access your school zone sign systems via the CrossTalk Controller. This system is perfect for areas where internet access is weak or inaccessible.

The CrossLink, when inserted into your computer and software installed, allows connection with the Primary CrossTalk. The Primary CrossTalk is located in the control box on the sign system within approximately 500 feet and within direct line of sight of the CrossLink. The CrossLink provides access to the CrossTalk software to set/edit schedules or to retrieve status information for your entire sign system group.

SIGN SYSTEM ASSEMBLY/
CONTROL CABINET COMPONENTS

Dome Cap

Bands

U-Bolts (Optional)

Surface Of Solar Panel Must Face South

Crosstalk

Cabinet

12"

Sign (Optional)

SCHOOL
SPEED LIMIT 15 WHEN FLASHING

12"

55 Amp Battery Optional

Cutaway

Recommended 84"

Lockable Cabinet.

All exposed assembly hardware including nuts, bolts, screws, and locking washers are less than 5/8 inch in diameter, is Type 304 or 316 passivated stainless steel and meets the requirements of ASTM F593 and ASTM F594.

All assembly hardware greater than or equal to 5/8 inch in diameter is galvanized and meets the requirements of ASTM A307.

Equipment operates on solar power or a nominal voltage of 120 volts alternating current(VAC).

4½" Spun Aluminum Pole (Length Varies Pending on Road Level) (Optional)

Check Local Codes For All Measurements

Extended Neck Pedestal Base (Optional)

Road Level

Drive base or Anchor bolts (Optional)

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MODEL NO: 112-D12 Split Heads
SHEET NO: Spun Aluminum Pole
DATE: 8/22/2018

CROSSTALK CONNECTION

The CrossTalk, compact, all-in-one advanced lighting controller, flasher, auto-dimmer and scheduler, works in combination with CrossLink to control and program an entire school year schedule directly from your computer using the CrossTalk software.

The CrossTalk Controller's 900MHz antenna is used to communicate with the CrossLink. The Primary CrossTalk which must be within 500 feet and with a direct line of sight allows you to control multiple sign systems at once.

HARDWARE INSTALLATION
The CrossTalk is located inside the aluminum control box located low on the sign system pole or under the solar panel for ECO models.
1) Connect the batteries and test the unit before erecting the pole for convenient working conditions.
2) Make a note of the CrossTalk Net Address and Group settings before erecting the system. You will need the settings for establishing a connection with the CrossLink device.
3) Check cardinal directions with a compass to ensure the solar panel is **facing South** for proper charging.
4) Insert the CrossLink into your computer's USB port.
5) See page 10 for software installation and use.
6) Check the sign system a few days after installation to ensure it is charging and fully operational.
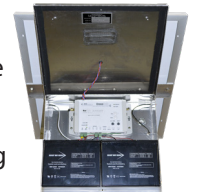
MAINTENANCE
• Periodically inspect sign mounting and antennas to ensure that they are tight and have not shifted. The solar panel may shift direction over time. Ensure the panel pointing South.
• Clean the solar panel with glass cleaner to remove the build up grime that reduces charging efficiency.
• Check your battery every 6 months to ensure its health. If below 12V, charge to keep power reserves high, check solar system.

CROSSTALK CONTROLS & NETWORKING

A single CrossTalk can control multiple Sign Alert Systems across an entire campus and connectivity for setting and editing schedules, status monitoring, and diagnostics with real-time control.

NET ADDRESS Each CrossTalk unit has a NET ADDR switch setting that provides each CrossTalk unit with a unique network address (0-15) and which can be set easily by hand with no programming required. This unique address allows devices (laptops, desktop computers, etc.) to communicate with a specific CrossTalk unit. This setting also allows the user to designate a specific CrossTalk in a group as the primary link of communication to other CrossTalk controllers. *The primary CrossTalk is most centralized and easily accessed unit. The NET ADDR for the primary CrossTalk unit should be set to "zero" (0).* All other CrossTalk secondary devices in that same group must have their own unique NET ADDR without duplication (1-15).

GROUPING CROSSTALK CONTROLLERS A single CrossTalk controller can monitor and control up to 15 additional CrossTalk units (for a total of 16 units in a "group"). In addition to the NET ADDR switch each CrossTalk unit also has a GROUP switch (0-15) which allows CrossTalk units to be "grouped" together. All devices

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

Net/Mode Setting
Unique address setting for each unit in a group

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
Amber = Charging

Solar Port
Solar connection port

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
Set the amount of time that lights flash in hours, minutes, and seconds

Scale
Multiplies time setting meaning:
TIME x SCALE= run duration

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

Battery Light
Battery status light for safe accurate connections:
Green = Good connection

LED Outputs 1,2,3,4
Load: 12V LED/DC flasher outputs/ switches (x4). Maximum load 50W per output. Output changes based on the CrossTalk Mode Settings.
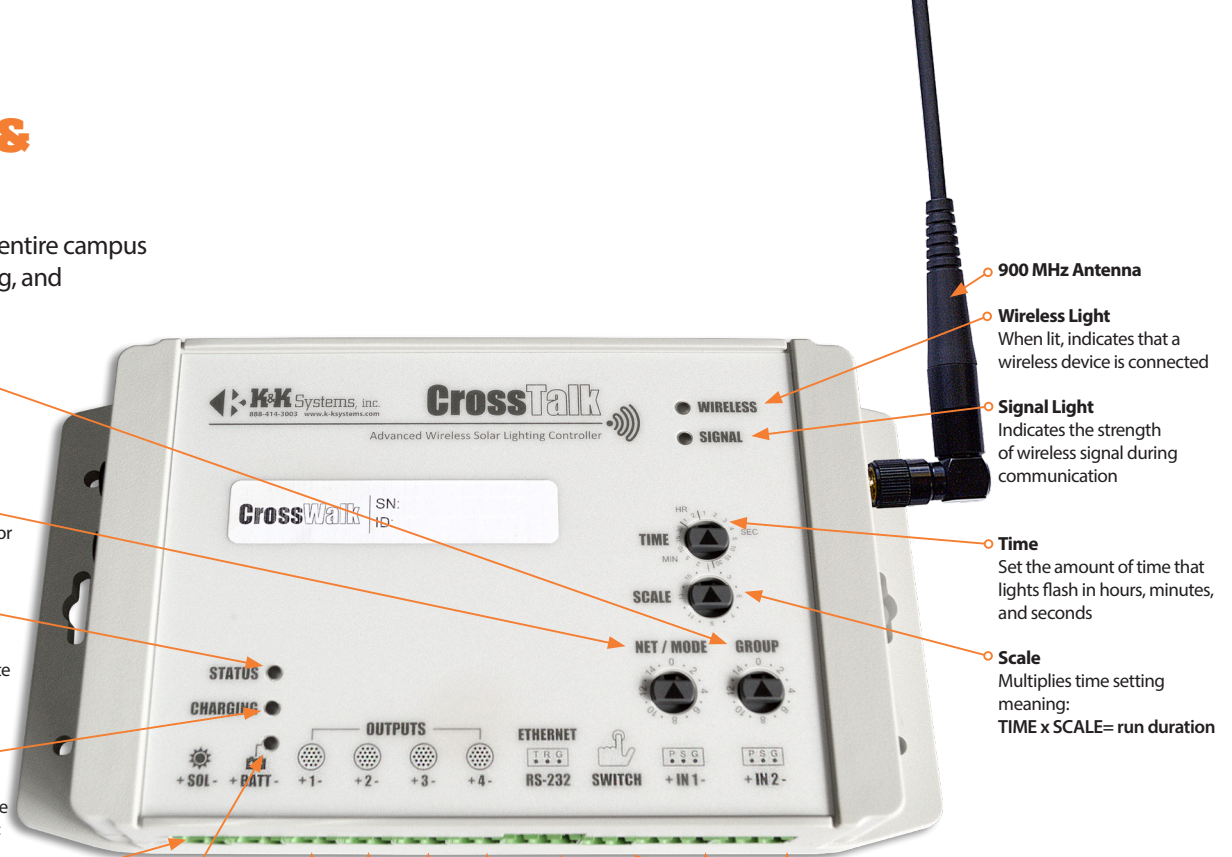
Ethernet RS-232
Communication Port / Laptop Connection

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*

with same Group number can communicate with each other. This grouping function allows multiple, separate CrossTalk applications to operate in the same general location (e.g, multiple cross-walks or schools on the same street) yet provide independent control of each CrossTalk "group".

In most school lighting applications, for example, there is a designated "primary" CrossTalk unit and one or more "secondary" CrossTalk units. The secondary units will receive instructions from and be managed by the primary CrossTalk unit. As noted above, the NET ADDR for the primary CrossTalk unit should be set to "zero" (0). All other CrossTalk secondary devices in that same group must have their own

unique NET ADDR without duplication (1-15). To associate or "group" the primary unit with the secondary units set the GROUP switch to the same setting for all units.
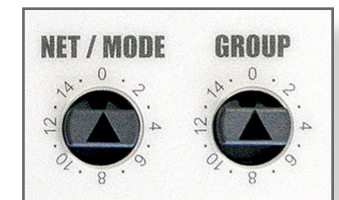
This CrossTalk is NET ADDR 0 in GROUP 0

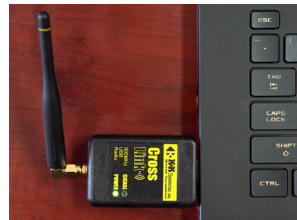# CROSSLINK/CROSSTALK COMMUNICATION SOFTWARE INSTALLATION

CrossTalk controllers are used for a variety of traffic & safety applications including school zone safety systems, bridge navigation beacons, cross-walk / pedestrian systems, speed/radar systems and more. Utilizing solar power and both cellular and short-range wireless connectivity, CrossTalk applications can be setup quickly and provide more functionality and flexibility than traditional "wired" systems. A single CrossTalk can control multiple nodes across an entire campus and provide web connectivity for schedules, status monitoring, diagnostics, and real-time control. Follow the steps below to begin using your CrossLink.

1) Insert the **CrossTalk Software Flash Drive** that was provided with your sales documentation into your computer.
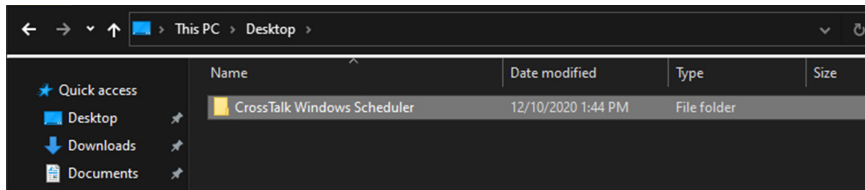
2) Drag the **CrossTalk Windows Scheduler** folder to your computer's hard drive.

3) Insert the **CrossLink Device** into your computer's USB port. *(Note: It must be plugged directly into your computer. It does not support access through a hub.)*

4) Open the **CrossTalk Windows Scheduler** folder.

5) Open the **CrossWIN** software.
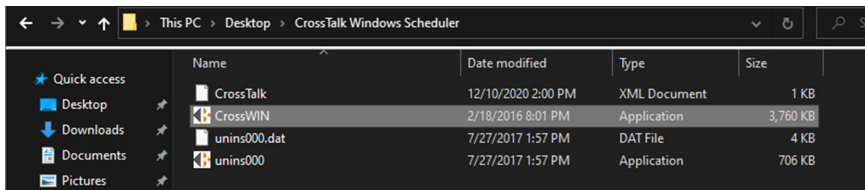
CROSSTALK SOFTWARE

To communicate with the CrossTalk(s) to set or edit schedules or to retrieve status information on your system(s), follow the instructions below. The Schedules and the Commander tabs provide detailed information about the CrossTalk devices. By default the Schedules tab opens first. Select the **Commander** tab to start the connection process.
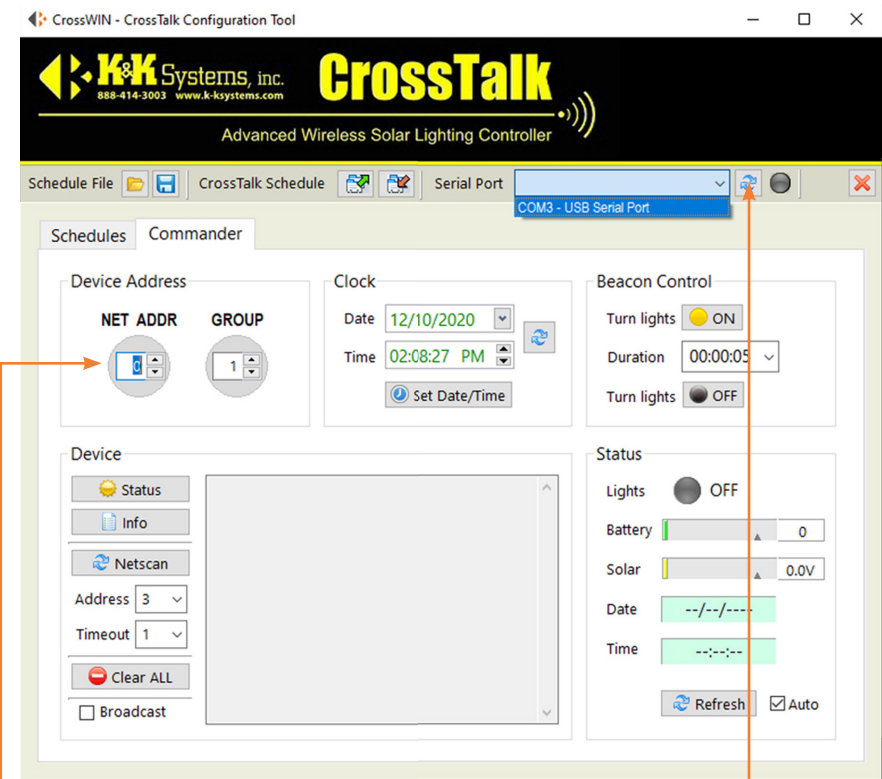
CONNECT TO CROSSTALK CONTROLLERS

1) Check the CrossTalk unit in the beacon system for settings the **NET ADDR** and **GROUP** settings for the desired CrossTalk unit.

2) Input those settings with the same numbers.

3) Click the **Serial Port Refresh** button.

4) Click the drop down menu ⌄

5) Select the desired unit. *Networked Sign Alerts can all be controlled with the Primary CrossTalk. See the Networking section for more information.*

COMMANDER

The **Commander** tab in the CrossTalk main menu provides access to units.

CONNECTION TEST

To ensure the CrossLink is connected to the Sign Alert CrossTalk, click the **ON** button in the **Beacon Control** area. Check the sign that the lights are flashing. You may need to change the Duration for further confirmation.

DEVICE ADDRESS

Set the NET ADDR and GROUP to match the primary CrossTalk to connect to it.

STATUS

The status button reports the functioning condition of the Sign Alert CrossTalk. Click to inspect Lights/Beacons, Battery Voltage, Solar Voltage, Date, Time, Group, Net Address, Last Schedule, and number of times the Modem has reset itself.

INFO Used by manufacturer

NETSCAN

The NetScan button searches for other local CrossTalks. The status of each device that is contacted is displayed. The first number following DEV is the Group number set on the device whereas the second number will be the Net Address. (*i.e.: DEV00, DEV01, DEV02, DEV03*). The Status shown in the Network Scan will list the Battery Voltage, Solar Voltage, and status of the lights if on or off.

BROADCAST

Select the Broadcast box to send the signal to all of the units in a GROUP.

Schedule File
The folder 🗁 contains saved schedules. The disk 🖫 saves newly created schedules.

CrossTalk Schedule
Sends schedules to the CrossTalk.
Retrieves schedules from the CrossTalk.

Serial Port
Selects connected CrossTalk

Refresh Button
Initiates search for CrossTalks.

Status Light
Indicates connection.
Green = Connected

Exit Program

BEACON CONTROL

Turn Lights 🟡 **ON** - manually activates lights.
Duration - amount of time the lights will flash. Primarily used for troubleshooting or special requirements. Lights automatically turn off after the designated duration when testing.
Turn Lights ⚫ **OFF -** manually deactivates lights.

CLOCK

The **Clock** accesses the date and time. The date and time shown should match that of the device being used to access the server.

To Set Date and Time:

1) Click the **Refresh** Button

2) Click the **Set Date/Time** Button

3) Click the **Refresh** Button at the bottom of the Status window.

GROUP NETWORK

Networking gives the user the ability to communicate with a primary unit and the surrounding units. By using the (radio) short range (900Mhz), the primary CrossTalk can access the other units in the Group and send a status messages for the user to review.

SCHEDULES

The CrossTalk software provides a format to allow a complete year's schedule to be programmed. Set Standard and Holiday schedules with up to six exceptions to the those schedules. To set or edit schedules click the **Schedules** tab in the app and follow the steps below.

Schedule File
The folder contains saved schedules.
The disk saves newly created schedules.

CrossTalk Schedule
Retrieves all schedules from CrossTalk.
Sends all schedules to CrossTalk.

SETTING A NEW STANDARD SCHEDULE *Before updating all Schedules to the CrossTalk, it is recommended that the previous schedules on all units in a group be cleared.*

1) Select the Start and End dates.

2) Click the **Events** button

3) Select the time for lights to turn ON in the **TURN-ON TIME** column.

4) Select the **DURATION** column to select the length of time the lights will be on in the.

5) Select the days the schedule applies to by clicking inside the box.

6) Click the **WRITE schedule** button to send the schedule to the Sign Alert System.

SETTING A HOLIDAY SCHEDULE

Setting a Holiday schedule will prevent the lights from flashing during those dates.

1) Select the **Holiday** tab.

2) Click the **Events** button

3) Click the **EVENT** column to change the name if desired

4) Select the Start and End dates.

5) Click the **WRITE schedule** button to send the schedule to the Sign Alert System.

A Confirmation window will warn if the schedule will overwrite a previous schedule.

SETTING AN EXCEPTION

Exceptions allow you to amend a set standard schedule without having to create a entire new schedule.

1) Select an **Exception** tab.

2) **Name** the Exception

3) Select the Start and End dates.

4) Click the **Events** button

5) Set the **TURN-ON TIME**

6) Select the **DURATION**

7) Select the days of the week.

8) Click the **WRITE schedule**

DELETE A SCHEDULE

1) Select the corresponding box next to the schedule.

2) Click the **Delete** button.

TROUBLESHOOTING GUIDE

| PROBLEM	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
Crosstalk Windows Scheduler does not recognize the Crosslink	• While your USB to Serial Port cable is connected to you PC. • Go to Device Manager	• Locate COM PORTS . • You should show "USB to Serial Devicee" COM…"	**If your USB to Serial Converter is not registering under COM Ports or you do not have a COM Port line:** • Install the drivers located in "Driver" folder in the provided USB drive • Restart the application after the installation.	• Attempt to connect to Crosslink after drivers are installed.	**If the problem persists:** • Please call us
Crosslink will not connect to my lights	• Check that the Crosstalk NET ADDR and GROUP numbers match what you have input.	**If NET ADDR & GROUP match:** • Check to see that Crosstalk is powered. Battery and Signal light must be lit. Battery must be at 12V.	**If battery is less than 12V:** • Recharge or replace **If battery is at 12V or above but unit is powered down:** • Check Crosstalks internal fuse. Refer to Page 20.	**If Status shows lights are ON, but lights are not flashing:** • Check light connections at the Crosstalk	**If low or no voltage:** • Follow the wires to the panel and check for damage. • Ensure wires are connected with correct polarity
Lights are not turning ON as scheduled	• Make sure your schedule is accurate	• Ensure you are loading your new schedule onto the crosstalk • Refer the Schedules portion on this manual.	**Under Status, check what time the Crosstalk clock is set to. If clock is incorrect they are turning on at a different time than scheduled:** • Set clock to current time.	**If status shows that lights are on but the lights are not flashing:** • Check connections to bulbs. Check for voltage at the bulbs and at the outputs.	
Lights will not turn OFF as scheduled	• Make sure your schedule is accurate	• Ensure you are loading your new schedule onto the crosstalk • Refer the Schedules portion on this manual.	**In the Schedules Tab:** • Check the TURN-ON Time • Check the Duration Time	**If the problem persists:** • Please call us	
Battery keeps dying	• Check Battery Level is at least 12V. **If not:** • 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, replace wires.	**If voltage is low or none:** • Dusk and dawn will produce low voltage. Check voltage at the connection behind the panel, must match the voltage at the end of the wires. If different the wires are bad. Replace and retest	• Check that the solar panel facing south with a compass. Efficient charging is reduced and slowed if not. **If it is not:** • Reposition the solar panel.	**If the problem persists:** • Please call us

FUSE LOCATION & REPLACEMENT

Access the CrossTalk components by removing the CrossTalk from the control box.

1) Turn the CrossTalk onto the face to reveal 4 screws on the backside of the housing on the corners.

2) Loosen each screw until the face cover easily separates from the back of the housing. The screws will remain in the housing.

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

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

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

6) 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.

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

8) Align the covers and twist the screws until the covers are snug.

9) Remount the CrossTalk to control box.

Good Fuse   *Blown Fuse*

Low Profile Mini Fuse

CAUTION
DO NOT PULL ON WIRE WHEN OPENING THE CROSSTALK
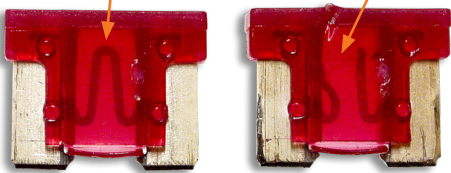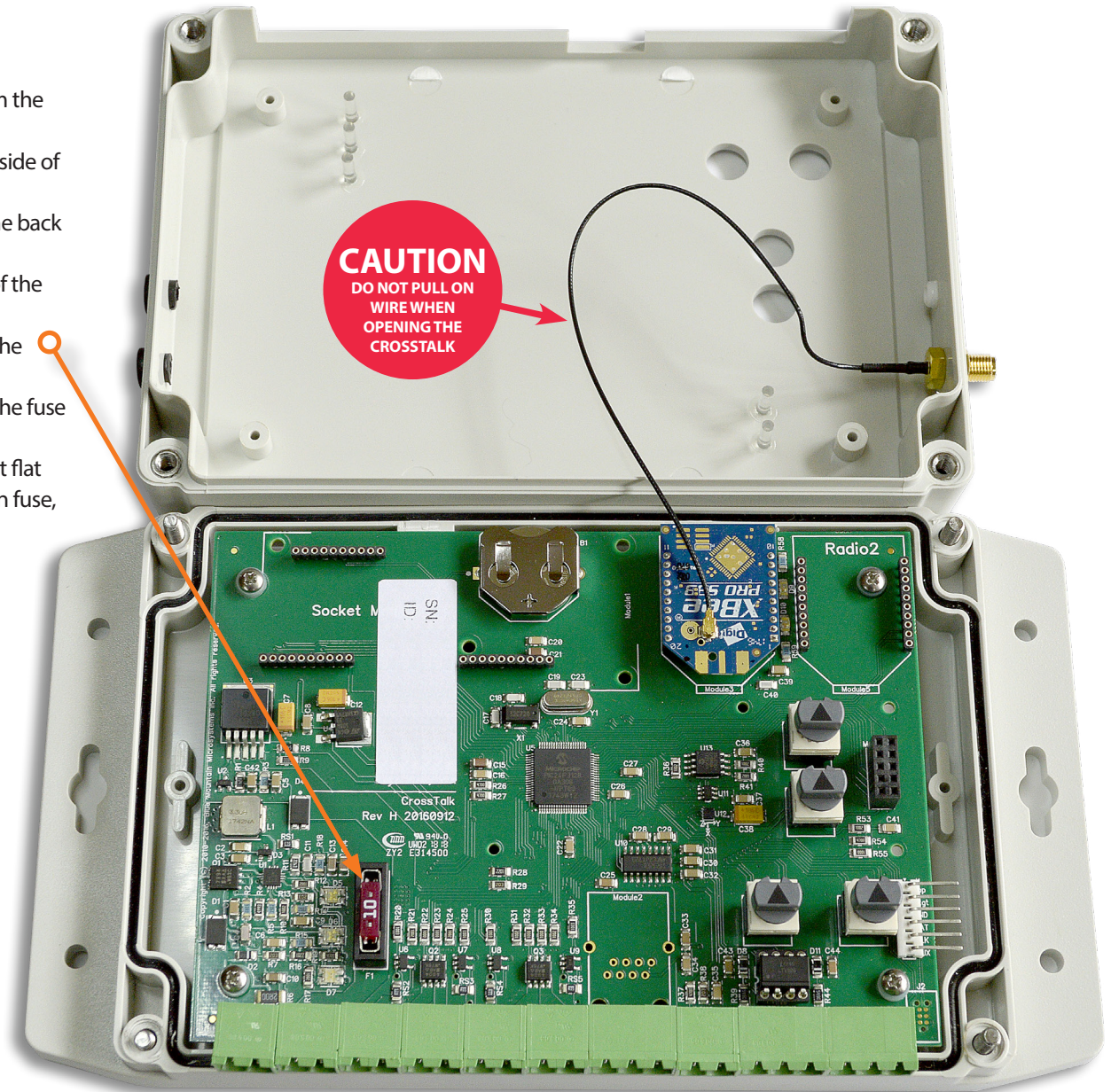
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