



Hardware and Software Instructions





Attention

This section serves as a notice of the immediate or potential dangers involved when working with the equipment described throughout this manual. Any person involved in installation, maintenance, or service of the equipment should first carefully examine the equipment and read the instructions contained in this manual to ensure that personal and/or equipment injury is avoided.

The following safety messages appear throughout this manual to alert of immediate or potential danger to life as well as property.



Disclaimer

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designated to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Instructions contained in this user's guide should be performed only by qualified persons in accordance with local and national codes. Blue Ridge Technologies International, LLC and its affiliates assume no responsibility for any consequences related to the improper use of this manual.



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	20	Visit www.BRTint.com/tandc.html for Terms and Conditions of Sale	





USB-TK Components Overview

The USB Tech Kit (USB-TK) includes the following items :

1 - USB Cable for RS-485 / Access Port 18" Length (Figure 1)

1 - USB Thumb Drive with Software & Files (Figure 2)

LPPK Files LPPK Install LPPK User Guide LPPK Product Codes LPPK Unlock LPX Files AppLoader Clipping Files BACnet Integration Guide Utilities USB Drivers RealTerm





(Figure 1)



Document Overview

This document provides instructions for configuration of the following Blue Ridge Technologies Lx5 Controller products :

BR Series Relay Panel BR Series Retrofit-Kit BR Series Retrofit Interiors

Also applies to legacy products :

L2500, L2600, and L3500 LP3500 Qwik-Kit Pro

The LX5 controller has many features encompassed by software and hardware elements.

This User Guide details the relationship of inputs and outputs through Groups in the LPPK software. Each software feature is discussed as it appears on the LPPK screens.

The LX5 Hardware User Guide focuses on the hardware features of the controller. In the guide components and related explanations are arranged by function. The configuration of related elements is also discussed.

For physical installation of Relay Panels, Retrofit Kits, and Retrofit Interiors refer to the appropriate Mounting Instructions.

For network point descriptions and integration to a Building Automation System (BAS), refer to the Lx5 BACnet Integration Guide.



Installation : Software Installation LPPK

Before starting use Windows un-install utility to remove any previous versions of LPPK software. After the un-install process has been performed, check for remaining files in C:\Program Files\LUMISYS and delete manually if needed.

- 1. After un-installing any previous versions of LPPK, insert the USB-TK Thumb Drive into an open slot on your PC
- 2. The USB-TK Thumb Drive is configured to auto-run and display the Main Menu screen (Figure 3)
- 3. From the Main Menu screen, click on the LPPK button to view the LPPK Menu choices
- 4. From the LPPK Menu, click on LPPK Install to launch the installation process
- 5. At the end of the installation process, launch LPPK from your computer Desktop or Start Menu
- 6. After you launch LPPK, the splash screen appears (Figure 4)
- 7. Click OK on the splash screen
- After clicking OK, the Software Registration dialog box will appear (Figure 5)



(Figure 3)



```
(Figure 4)
```

Software Registration Software Registration Rease supply the following system ID to Lumisys Lighting's Technical Support to obtain an activation code for this software. Software Code Activation Code Activate

(Figure 5)

🖘 Lumisys LPPK Key Ge	nerator	E
Customer Software Code		
Liberation Key		
Generate File		
Generate File Warning: Please do not dis	tribute this application to customers.	Close

(Figure 6)



(Figure 7)

Installation : Register and Unlock LPPK

- 1. Go to http://www.BRTint.com/Tech_LPPK.html
- 2. Enter the requested information click Submit Now
- After clicking Submit Now, you will need to select the version of LPPK (5.0 or 5.1)
- 4. After selecting the appropriate version the Lumisys LPPK Key Generator screen will open (Figure 6)
- 5. Copy the "Software Code" from the LPPK Software Registration screen
- 6. Paste that value in the Key Generator field entitled "Customer Software Code"
- 7. Then, click on the Generate Key button
- 8. A numeric value will appear in the "Liberation Key" field
- 9. Copy the "Liberation Key" value
- 10. Paste the "Liberation Key" value into the LPPK Software Registration field entitled "Activation Code"
- 11. Then, click on the Activate button
- 12. The Product Activation screen will appear (Figure 7)
- 13. Click the OK button to complete the process



Installation : Connecting the USB Technicians Cable

PC Connection

- 1. Insert the USB end of the Technicians Cable into an available USB port on your PC.
- Insert the USB-TK Thumb Drive into another available USB port on your PC.
- 3. The USB-TK Thumb Drive is configured to auto-run and display the Main Menu screen (Figure 3)
- 4. From the Main Menu screen, click on the Utilities button to view the Utilities Menu (Figure 8)
- 5. From the Utilities Menu, click on USB Drivers to open Windows Explorer
- 6. From Windows Explorer, double-click on the file CDM20600
- 7. After double-clicking on CDM20600, the USB driver install process will begin.
- 8. At the end of the installation process, the USB Technicians Cable is ready to be connected to a controller.

Lx5 Controller Connection

- To ensure proper communication with LPPK ensure that only dip switch 4 is in the "On" position (switch 7 or 8 may also be ON for addressing). To activate changes to switch settings the controller must be power cycled.*
- 2. Remove the EIA-485 terminal block to reveal EIA-485 port.
- Connect the LPPK cable to the EIA-485 port on the controller. (Figure 9)
- 4. On the Connect screen, select the Comm Port of the PC connected to the controller. (Figure 10)
- 5. Enter address of controller and select "Read This Address". LPPK will try to establish communication with this controller. If communication is established the controller address and its software version will be displayed. Or select "Scan Address" if you don't know the Controller address.*
- 6. Click on OK to connect to the controller and select OK when prompted to read controller database.
- 7. If communication is not established, verify you have the correct address and communication port selected.



(Figure 8)



New status: programming an M	X08 Version 5.00+ at address	1.
Program an online device	_	
Address: 1	<u>R</u> ead This Address	O COM1
Untested Address	O COM2	
		⊙ COM3
<u>o</u> k		

(Figure 10)

* Refer to Lx5 Hardware Users Guide for additional dip switch setting and controller addressing instructions



Installation : Connecting LPPK to Multiple Controllers Over Network

- 1. On the Connect screen, select the Comm Port of the PC connected to the controller.
- Enter the address of the controller and select "Read This Address" or select "Scan Addresses". LPPK will try to establish communication with this lighting control panel or scan addresses 1-255 and list all controllers on this network.
- Make sure the address of the controller is in the "Program for address" box and then click OK to connect to the controller. Click OK when prompted to read the controller database.
- 4. If communication is not established, verify you have selected the correct communication port.

Installation : Configuring a Database Online or Offline

A database can be configured while connected to the controller or offline. To configure a database while connected to a controller follow the instructions to connect to a controller listed above.

- 1. To configure a database offline select "Offline" as the Communication Port during start-up. (Figure 11)
- 2. Select the desired controller address in the box labeled "Program for Address". Then select the type and software version to be programmed in the box labeled "Program for product".
- 3. Select OK.
- 4. The LPPK main screen will be displayed.

Current status:		
New status:	Offline programming an MX08 Version 5.00+ a	at address 1.
Program for a	n offline device	Comm Port
Program for a	ddress: 🚺 🚔	O COM1
Program for p	roduct: MX08 Version 5.00+	O COM2
		O COM <u>3</u>
	<u>o</u> k	O COM <u>4</u>
		O Internet

(Figure 11)





Getting Started : Creating a Controller Configuration Database

Overall Concept

The essential function of the LPPK software is to assign inputs to outputs utilizing a grouping method. Inputs (switches, occupancy sensors, light level sensors, etc) are configured with various settings. The input and settings are assigned control of a group. Each group contains outputs (relays and related lighting circuits). Therefore input commands and configurations are applied to outputs through groups.





Concept in Practice





Getting Started : LPPK Main Screen

Developing a Controller Configuration Database with LPPK (assigning inputs to outputs through groups) begins on the Main Screen. All functions and features are accessible from this window. (Figure 12)

🔅 LP Programming Kit V5.:	l			E X			
File Device Input Gro	up Other About						
Communications and Device Status Status:Offline Port:N/A Address:1 Type:MX08 Version:5.00+ EPROM:N/A EEPROM:N/A							
Address 1 Inputs 16 1120 Relays 8 18 Input # - Name 1 2	Flash Durations On Time mm:ss (After Flash 10:00 (Flash Off Time 0.5 • Type Momentary On •	00:10 to 60:00 secs Normally Open Closed V	Assigned group By name or number 0.60	Relays Refresh Period OFF ▼ mins Energize Duration 0.04E ▼ secs Setup S 0 ▼ 1 S 0 ▼ 2			
	Momentary Un Momentary Un Momentary On		 2 3 4 5 6 7 8 9 	S 0 2 S 0 3 S 0 3 S 0 4 S 0 5 S 0 5 S 0 6 S 0 7 S 0 9			
VARNI	Momentary On	s may result in	erratic behavior and/or circuit	S 0 10			

(Figure 12)



Helpful navigation labels appear at the bottom of the Main Screen as your cusor passes over features.



Getting Started : Opening a File

- 1. Select Tool Bar File > Open or Open Names. (Figure 13)
- File > Open provides the capability to open a saved .lpx file. The suffix .lpx is used for all Blue Ridge Controller files. (Figure 14)
- File > Open Names reads only .lpx name data and displays it on the screen.
- 4. Select the File you want to open.
- 5. Press "Open" to open the file.

Getting Started : Saving a File

- 1. Select Tool Bar File > Save.
- File > Save provides the capability to save the current information as an .lpx file. The name can be up to eight characters in length. (Figure 15)
- 3. "File Description" provides the capability to describe the file's content such as "North Wing Electrical Closet" or "Fifth Floor Lighting", etc.
- 4. Press "Save" to save the file.

	O	he Status	Jui								
	Open	Address:2	Type:N	1×60	V	ersion: 5.0	O EPROM:OI	(EE	PROM: O	ĸ
	Save Print Exit	- Flash Durati On Time r After Flash 1 Flash Off Time	ons nm:ss 0:00 0.5_	00:10 to 60:00		imer Dur hh:mm 1) 01:00 2) 02:00 3) 03:00	ations	Re R Er D	elays — efresh Period ergize uration	0FF	•] m •] se
Inp	ut # - Name —	Туре		Norm	ally -	Assign	ed group			Timer	- FI
-	1	Momentary On	-	Open C		By name	or number U.	50 S	S	0 🗸	
	2	Momentary On	•	☑			•	٢	S	0 🕶	
	3	Momentary On	•	☑			•	٢	S	0 🗸	
	4	Momentary On	•	2			•	٢	S	0 🗸	
	5	Momentary On	•	~			• !	٢	S	0 🗸	
	6	Momentary On	•	☑			• 6	٢	S	0 💌	
	7	Momentary On	•	•			•	\$	S	0 💌	
	8	Momentary On	-	2			•	\$	S	0 💌	
	9	Momentary On	•	•			•	\$	S	0 🗸	
-	10	Momentary On	-				→ 1	D 🌲 🛛	S	0 🕶	

(Figure 13)

🞲 Open file	e *
Look in: Documents	- ← 🗈 📸 -
BAS_Integration_Diagram Brochure Commercial_Usage_Graph Demo_Kit Document_Temp_Development FlexNet	 Hi-Lo_Bay IMMIX_Sample L>5 microsoft Midori Native_Relay_Panels
•	•
File name:	Open
Files of type: LPPK Data Files	✓ Cancel
File Information	
Address Product Version	Date Time
File Description	

(Figure 14)



(Figure 15)



(Figure 16)

Inputs : Number of Inputs

The number of inputs represents the number of switches, occupancy sensors, etc. connected to the lighting controller.

- 1. Select the number of inputs that will be utilized by typing in a number between 1 and 120 in the box labeled "Inputs". (Figure 16)
- 2. Select Tool Bar File > Save to save data to .lpx file
- 3. Select Tool Bar Device > Write, to save data to the controller memory.

Inputs : Naming Inputs for .lpx File

Each input can have a name in addition to a number. Input names are only saved to a disk as .lpx file. All other panel configuration data is saved to both the disk and the panel's processor.

- To automatically name the inputs as Input 1, Input 2, etc. select Tool Bar Input > Create Default Names for All > As Input N.
- 2. To automatically name the inputs with the name of the group it controls select Tool Bar Input > Create Default Name for All > Copy Name From Assigned Group.
- 3. To individually assign a name to an input type in the desired name of each input in the box labeled "Name". (Figure 16)
- 4. Repeat for each input.
- 5. Select Tool Bar File > Save to save data to .lpx file. Input names are never saved to the controller memory.

🔅 LP Programming Kit V5.1		e					
File Device Input Group Other About							
Communications and Device Status Status:Offline Port:N/A Address:1 Type:MX08 Version: 5.00+ EPROM:N/A EEPROM:N/A							
r	Flash Durations	Timer Durations Relays					
Address 1	On Time mm:ss 00:10 to After Flash 10:00 60:00	1) 01:00 Refresh OFF v mins					
Relays 8 18	Flash Off Time 0.5 💌 secs	2) 02:00 00:00 to 18:00 Energize 0.04€ ▼ secs 3) 03:00 Duration 0.04€ ▼ secs					
Input # - Name	- Type	ally Assigned group Timer Flash					
▲ 1	Momentary On 💌 🗹						
2	Momentary On 💌 🗹	□ ↓ 2 ♣ S 0 ↓ □ 2					
3	Momentary On 💌 🗹	□ ↓ 3 ♣ S 0 ▾ □ 3					
4	Momentary On 💌 🗹	□ ↓ 4 ♣ S 0 ↓ □ 4					
5	Momentary On 💌 🗹	□ ▼ 5 \$ 0 ▼ □ 5					
6	Momentary On 💌 🗹						
7	Momentary On 💌 🗹	□ ▼ 7 € 0 ▼ □ 7					
8	Momentary On 💌 🗹	□ ▼ 8 ♦ S 0 ▼ □ 8					
9	Momentary On 💌 🗹	9 9 9 9 9					
▼ 10	Momentary On 💌 🗹	□ ▼ 10 ▼ □ 10					
WARNI	WARNING: Modifying these values may result in erratic behavior and/or circuit damage!						



Inputs : Types

Maintained inputs require the input be maintained to activate the output.

Momentary On inputs require a momentary closure to activate the output. It also requires a separate input be assigned as a Momentary Off input to deactivate the output.

Momentary Off inputs require a momentary closure to deactivate an output. It also requires a separate input be assigned as a Momentary On input to activate the output.

Momentary On/Off inputs require a momentary closure to toggle the state of the output. This type of input requires only one input to perform both ON and OFF control of an output. It also requires the input device to be in a location where the lights are within visual contact.

Linked On inputs are designed for multi-level lighting control applications that require timers for automatic shutoff of lighting. A typical application is 1/3, 2/3 and 3/3 lighting levels in a conference room. One input is assigned to the 1/3 level output and a second input is assigned to the 2/3 level output. Typically, two additional inputs are assigned as Momentary Off inputs for the 1/3 and 2/3 outputs. Activating the 1/3 light level switch will turn on the respective output and begin its timer. Once the timer has expired the 1/3 light level output will flash to warn the occupants that the lights are about to turn off. Once the lights flash the two switches, 1/3 and 2/3, are linked as one so either switch can be activated to reinitialize the timer for the 1/3 lighting level. Immediately after either switch is activated the switches are automatically un-linked and return to their independent state until another flash warning occurs. Without this feature a user may accidentally activate the wrong level switch causing frustration for the user.

State Change inputs are designed for use with maintained 3-way switches in retrofit applications. A change of state will toggle the state of the associated output.



Inputs : Assigning Input Types

- 1. To automatically assign all inputs to the same type select Tool Bar Input > Set All As Type > Select the desired type. All inputs will be assigned this type.
- 2. To individually assign input types select the input type in the box directly next to the input number in the column labeled "Type". (Figure 17)
- 3. Repeat for each input.
- 4. Select Tool Bar File > Save to save data to .lpx file
- 5. Select Tool Bar Device > Write, to save data to the controller memory.

* LP Programming Kit V5.1	L			E ×
File Device Input Gro	up Other About			
Communications and Dev Status:Offline Port:N/A	vice Status Address:1 Type:₩	X08	Version: 5.00+ EPROM:N/A	EEPROM:N/A
Address 1 Inputs 16 1120 Relays 8 18	Flash Durations On Time mm:ss (After Flash 10:00 (Flash Off Time 0.5 -	00:10 to 60:00	Timer Durations hh:mm 1) 01:00 2) 02:00 00:00 to 18:00 3) 03:00	Relays Refresh OFF ▼ mins Period OFF ▼ mins Energize 0.04€ ▼ secs Duration 0.04€ ▼ secs
Input # - Name 1 2 3 4 5 6 7 8 9 10	Type Momentary On Momentary On	- Normally Open Closed	Assigned group By name or number 060 v 1 v 2 v 3 v 4 v 5 v 6 v 7 v 8 v 9 v 9 v 1 v 1 v 2 v 3 v 4 v 5 v 6 v 7 v 8 v 9 v 1 v 1 v 1 v 2 v 3 v 1 v 1 v 1 v 1 v 1 v 1 v 1 v 1	Setup Timer Flash S 0 1 S 0 2 S 0 3 S 0 4 S 0 5 S 0 5 S 0 5 S 0 5 S 0 7 S 0 9 S 0 9
WARNI	NG: Modifying these values	s may result i	n erratic behavior and/or circuit	damage!



Inputs : Polarity

Each input can be assigned a normally open or normally closed polarity. This allows LPPK to properly read input commands with varied switch and controller polarity.*

- 1. To automatically assign all inputs to the same polarity select Tool Bar Input > Set Polarity For All To > Select the Desired Type.
- 2. To individually set polarity utilize the column entitled "Normally". (Figure 18)
- 3. Select Tool Bar File > Save to save data to .lpx file
- 4. Select Tool Bar Device > Write, to save data to the controller memory.

😯 LP Programming Kit V5.	1			E x			
File Device Input Gro	up Other About						
Communications and De Status:Offline Port:N/A	vice Status Address:1 Type:N	4×08 V	ersion: 5.00+ EPROM:N/A	EEPROM:N/A			
Address 1 Inputs 16 € 1120 Relays 8 € 18	Flash Durations On Time mm:ss After Flash 10:00 Flash Off Time 0.5	00:10 to 60:00] secs	imer Durations hh:mm 1) 01:00 2) 02:00 00:00 to 18:00 3) 03:00	Relays Refresh Period 0FF ▼ mins Energize Duration 0.04E ▼ secs			
Input # - Name 1 2 3 4 5 6 7 8 9	Type Momentary On ▼ Momentary On ▼	Normally Open Closed V V V V V V V V V V V V V V V V V V V	Assigned group By name or number 060 2 3 2 4 3 4 4 5 5 6 6 7 7 7 8 6 9 7 9 7	Setup Timer Flash S 0 ▼ 1 S 0 ▼ 2 S 0 ▼ 2 S 0 ▼ 3 S 0 ▼ 4 S 0 ▼ 5 S 0 ▼ 5 S 0 ▼ 5 S 0 ▼ 7 S 0 ▼ 8 S 0 ▼ 9			
• 10	Momentary On 🖃		• 10	S 0 ▼ 10			
WARN	WARNING: Modifying these values may result in erratic behavior and/or circuit damage!						

(Figure 18)

* Refer to the USBTK Tech Note and Lx5 Hardware User Guide for additional information.



(Figure 19)

Inputs : Timers Durations

An input's timer represents the amount of time the assigned group will remain ON after the input is activated. (1 minute to 18 hours)

- 1. Type in the duration of the timer in the boxes labeled "Timer Durations 1, 2 and 3". The first two places are for hours and the second two places for minutes. (Figure 19)
- 2. Select Tool Bar File > Save to save data to .lpx file
- 3. Select Tool Bar Device > Write, to save data to the controller memory.

Inputs : Assign a Timer to an Input

- 1. To automatically assign all inputs to the same timer select Tool Bar Input > Set All For Timer > Select the Desired Timer.
- 2. To individually set timers, enter timer duration between 1 and 3 in the box labeled "Timer" or scroll down to the desired timer. Entering "0" will deactivate the timer feature. (Figure 19)
- 3. Repeat for each input.
- 4. Select Tool Bar File > Save to save data to .lpx file
- 5. Select Tool Bar Device > Write, to save data to the controller memory.

🔅 LP Programming Kit V5.1			
File Device Input Grou	up Other About		
Communications and Dev Status:Offline Port:N/A	vice Status Address:1 Type: MX08	Version: 5.00+ EPROM:N/A	EEPROM:N/A
г –	Flash Durations	Timer Durations	- Relays
Address 1	On Time mm:ss 00:10 to After Flash 10:00 60:00	hh:mm 1) 01:00	Refresh Period OFF ▼ mins
Inputs 16 1120 Relays 8 18	Flash Off Time 0.5 ▼ secs	2) 02:00 00:00 to 18:00 3) 03:00	Energize Duration 0.048 💌 secs
Input # - Name	Type Norn	Assigned group	- Timer - Flash
1	Momentary On 💌 🗹		
2	Momentary On 💌 🗹	• 2	🗢 S 🛛 🕶 🗆 2
3	Momentary On 💌 🔽	• 3	🗢 S 🛛 🗕 3
4	Momentary On 💌 🗹	• 4	🖨 S 🛛 🗸 🗖 4
5	Momentary On 💌 🗹	- 5	🖨 S 🛛 🗕 5
6	Momentary On 💌 🗹		S 0 → □ 6
7	Momentary On 💌 🗹	• 7	\$ 0 - □ 7
8	Momentary On 💌 🗹	• 8	S 0 - 8
9	Momentary On 💌 🗹	9	🖨 S 🛛 🖵 🗖 9
▼ 10	Momentary On 💌 🗹	• 10	🖨 S 🛛 🖵 🗖 10
WARNI	NG: Modifying these values may re	sult in erratic behavior and/or circuit	damage!



Inputs : Flash Warning (Flash Before Off)

Applying this setting to an input will schedule a momentary flash of the assigned output to warn of the timer's imminent expiration and lighting shutoff.

- 1. To automatically assign all inputs the ability to "Flash" or "No Flash", select Tool Bar Input > Set All For > Flash or No Flash. All inputs will be assigned this selection.
- 2. To individually set Flash, click on the box labeled "Flash" to enable the flash warning feature. The input number is located to the right of the box. (Figure 20)
- 3. To deactivate the flash warning uncheck the box.
- 4. Repeat for all inputs.
- 5. Select Tool Bar File > Save to save data to .lpx file
- 6. Select Tool Bar Device > Write, to save data to the controller memory.

🔅 LP Programming Kit V5.:	l			e ×		
File Device Input Gro	up Other About					
Communications and Dev Status:Offline Port:N/A	vice Status Address:1 Type:M	IX08 V	ersion: 5.00+ EPROM:N/A	EEPROM:N/A		
Address 1 Inputs 16 1120 Relays 8 18	Flash Durations On Time mm:ss (After Flash 10:00 (Flash Off Time 0.5 -	00:10 to 50:00 1 secs 3	imer Durations hh:mm 1) 01:00 2) 02:00 00:00 to 18:00 3) 03:00	Relays Refresh Period OFF ▼ mins Energize Duration 0.04€ ▼ secs		
_Input # - Name	Туре	Normally	Assigned group	Setup		
▲ 1	Momentary On 💌			S 0 - 1		
2	Momentary On 💌		- 2	S 0 - 2		
3	Momentary On 💌		- 3	S 0 - 3		
4	Momentary On 💌		- 4	S 0 - 4		
5	Momentary On 💌		- 5	S 0 - 5		
6	Momentary On 💌		- 6	S 0 - 6		
7	Momentary On 💌		7	S 0 - 7		
8	Momentary On 💌		- 84	S 0 - 8		
9	Momentary On 💌		9	S 0 - 9		
▼ 10	Momentary On 💌		- 10	S 0 - 10		
WARNI	WARNING: Modifying these values may result in erratic behavior and/or circuit damage!					



(Figure 21)

Inputs : On-time After Flash

This is the length of time the input's assigned group remains ON after the flash warning occurs. (10 seconds to 60 minutes)

- 1. In the area labeled "Flash Durations" there is a box labeled "On-Time After Flash". (Figure 21)
- 2. Set the length of time (minutes and seconds).
- 3. Select Tool Bar File > Save to save data to .lpx file
- 4. Select Tool Bar Device > Write, to save data to the controller memory.

Inputs : Flash Off-time

This is the length of time the input's assigned group switches OFF creating the flash warning. (factory set for .5 seconds)

- 1. In the area labeled "Flash Durations" there is a drop down box labeled "Flash Off Time".
- 2. Select Tool Bar File > Save to save data to .lpx file
- 3. Select Tool Bar Device > Write, to save data to the controller memory.





(Figure 22)

Outputs : Number of Outputs

This is the number of relays incorporated.

- 1. Select the number of outputs that will be utilized by typing in a number between 1 and 60 in the field labeled "Relays". (Figure 22)
- 2. Select Tool Bar File > Save to save data to .lpx file
- 3. Select Tool Bar Device > Write to save data to the controller memory.

😵 LP Programming Kit V5.1	L		3 X
File Device Input Gro	up Other About		
Communications and Dev Status:Offline Port:N/A	vice Status Address:1 Type:N	X08 Version: 5.00+ EPROM:N/A EEPROM:N.	/A
Address 1 Inputs 16 1120 Relays 8 18	Flash Durations On Time mm:ss After Flash 10:00 Flash Off Time 0.5	Timer Durations Relays 0:10 to 0:00 hh:mm Refresh 1) 01:00 Period OFF 2) 02:00 00:00 to 18:00 Energize 3) 03:00 Duration 0.04E	• mins • secs
Input # - Name 1 2 3	Momentary On Momentary On Momentary On	Normally Open Closed Assigned group By name or number 0.60 Setup Image: Stress of the	Flash 1 2 3
4	Momentary On Momentary On	 ✓ □ ✓ 4 ◆ S ✓ 0 ▼ ✓ 5 ◆ S 0 ▼ 	□ 4 □ 5
	Momentary On 💌	✓ ✓ 6 \$ 0 ✓ ✓ ✓ 7 \$ 0 ✓	□ 6 □ 7
8 9 • 10	Momentary On Momentary On Momentary On	✓ ✓ 8 \$ 0 ✓ ✓ 3 \$ 0 ✓ ✓ 10 \$ 0 ✓	□ 8 □ 9 □ 10
WARNI	NG: Modifying these value	may result in erratic behavior and/or circuit damage!	



Outputs : Refresh Period

Refresh is a pulsing function intended to extend operation of worn-out relays.1

- 1. In the area labeled "Relays" there is a drop down box entitled "Refresh Period." (Figure 23)
- 2. To set an output refresh rate select a time between 3-30 minutes from the drop down box.
- 3. To deactivate this feature select OFF from the drop down box.
- 4. Select Tool Bar File > Save to save data to .lpx file
- 5. Select Tool Bar Device > Write, to save data to the controller memory.

Outputs : Energize Duration

This setting regulates the length of time between the ON/OFF Refresh pulse.

- 1. In the area labeled "Relays" there is a drop down box labeled "Energize Duration".
- 2. The output energize duration is factory set for 0.072 seconds. (There should be no need to change this value.)
- 3. Select Tool Bar File > Save to save data to .lpx file
- 4. Select Tool Bar Device > Write, to save data to the controller memory.

Description: Programming Kit V5.1					> x
File Device Input Grou	up Other About				
Communications and Dev Status: Offline Port: N/A	rice Status Address:1 Type:N	IX08	Version: 5.00+ EPROM:N/	EEPROM:N/	A
Address 1 Inputs 16 1120 Relays 8 18	Flash Durations On Time mm:ss After Flash 10:00 Flash Off Time 0.5 ▼	00:10 to 50:00 secs	Timer Durations hh:mm 1) 01:00 2) 02:00 00:00 to 18:00 3) 03:00	Relays Refresh Period OFF Energize Duration 0.048	• mins • secs
Input # - Name	Туре		Assigned group		- Flash -
▲ 1	Momentary On 💌]	S 0 ▼	□ 1
2	Momentary On 💌		2	S 0 ▼	🗆 2
3	Momentary On 💌] 🗾	🖨 S 🛛 🗸	🗆 3
4	Momentary On 💌] 🔽 4	🖨 S 🛛 🗸	4
5	Momentary On 💌] 🗾 5	🖨 S 🛛 🗸	D 5
6	Momentary On 💌] _ 6	🖨 S 🛛 🗸	6
7	Momentary On 💌		7	🖨 S 🛛 🗸	07
8	Momentary On 💌] 🛛 🔽 🛽 🖉	🖨 S 🛛 🗸	8 🗆
9	Momentary On 💌] 9	🖨 S 🛛 🗸	9
• 10	Momentary On 💌		1 10	\$ 0 ▼	□ 10
WABNI	NG: Modifying these value	s may resul	t in erratic behavior and/or circu	it damage!	

(Figure 23)



¹ To prevent damage to equipment, limit Refresh usage to Qwik / Retrofit Kits 3 or 5.



Group Assignments : Naming Groups

Naming groups is the first step to establishing the relationship between inputs and outputs in the LPPK Controller Configuration Database. Naming may be used to organize the groups according to application such as "1st Floor Conference Room".

- 1. Under the column heading labeled "Assigned Group" select "Setup". This can also be accomplished by selecting Tool Bar Group > Setup.
- 2. The Group Setup screen should appear. (Figure 24)
- 3. Select the desired Group between 1-60, to be named.
- 4. In the box next to the Group number type up to 15 characters to name the output.
- 5. Repeat for each group.
- 6. Select Tool Bar File > Save to save data to .lpx file
- 7. Select Tool Bar Device > Write, to save data to the controller memory.

Group	=	assigned to the follong supergroups:	owing inputs	: 1	J					×
Group Type Normal Super Priority None Off On/Off Serial on priority Elash before off	Relays included in 1 x 2 3 4 5 6 7 8	group		<u>A</u> dd all <u>R</u> emove <u>I</u> nvert <u>D</u> one	all	EPROM ns :00 to 18:1 group number	N/A R F 00 0.60 1 2	EE Refresh Period Inergize Duration Setup S	PROM:N/ OFF 0.04E - Timer 0 0 0 - V	 Mins Secs Flash 1 2
	4 5 6 7 8 9 0	Momentary On Momentary On Momentary On Momentary On Momentary On Momentary On					3 4 4 4 5 4 6 4 7 4 8 4 9 4 10 4	S S S S S S S S		 3 4 5 6 7 8 9 10



(Figure 25)

Group Assignments : Inputs

The input and its configurations are then assigned to a group. For example, inputs (switches) in the conference room are assigned to the group entitled "1st Floor Conference Room".

- Under the column labeled "Assigned Group" select the name of the group the input will be controlling. If you do not know the Group Name then type in or select the group number between 1 and 60 under the column labeled "0..60". (Figure 25)
- 2. Repeat for all inputs.
- 3. Select Tool Bar File > Save to save data to .lpx file
- 4. Select Tool Bar Device > Write, to save data to the controller memory.

Description: Not State Stat				
File Device Input Gro	up Other About			
Communications and Dev Status:Offline Port:N/A	vice Status Address:1 Type:M	1×08 \	/ersion: 5.00+ EPROM: N/A	EEPROM:N/A
Address 1 Inputs 16 1120 Relays 8 18	Flash Durations On Time mm:ss After Flash 10:00 Flash Off Time 0.5	00:10 to 60:00] secs	Fimer Durations hh:mm 1) 01:00 2) 02:00 00:00 to 18:00 3) 03:00	Relays Refresh OFF ▼ mins Period OFF ▼ mins Energize 0.04€ ▼ secs Duration 0.04€ ▼ secs
Input # - Name 1 2 3 4 5 6 7 8 9 10 10	Type Momentary On Momentary On	Normally Open Closed I<	Assigned group By name or number 060 2 2 3 4 5 6 7 8 9 1 1 1 2 3 4 5 6 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1	Setup 0 ▼ 1 S 0 ▼ 2 S 0 ▼ 2 S 0 ▼ 3 S 0 ▼ 3 S 0 ▼ 4 S 0 ▼ 5 S 0 ▼ 5 S 0 ▼ 5 S 0 ▼ 6 S 0 ▼ 8 S 0 ▼ 9 S 0 ▼ 10
WARNI	NG: Modifying these value	s may result in	n erratic behavior and/or circuit	damage!



Group Assignments : Outputs

The outputs are then included in the appropriate group. For example, outputs (relays and lighting circuits) in the conference room are included in the group entitled "1st Floor Conference Room". This completes configuration of the relationship allowing the input control of all the outputs contained in the group.

- 1. Under the column heading labeled "Assigned Group" select "Setup". This can also be accomplished by selecting Tool Bar Group > Setup from the toolbar.
- 2. The Group Setup screen should appear. (Figure 26)
- 3. Select the desired Group between 1-60, to be created or modified.
- 4. Once the Group number is selected, click on the box associated to the output / relay number to be added to the group. Select each respective box until all the desired outputs/relays are assigned to this group. There are buttons to the left labeled "Add All" to add all relays to the group, "Remove All" to delete all from the group and "Invert" to select the outputs that are not checked.
- 5. Repeat for each group.
- 6. Select Tool Bar File > Save to save data to .lpx file
- 7. Select Tool Bar Device > Write, to save data to the controller memory.

	s included in the followi	assigned to the follong supergroups:	owing ir	nputs:	1							s x
Group Type <u>N</u> ormal <u>S</u> uper Maintained Input Priority None <u>In</u> Off On_20If Serial on griority Elash before off	Relays included in g 1 🕅 2 [] 3 [] 4 [] 5 [] 6 [] 7 [] 8 []	jroup		Ē	<u>A</u> dd all emove <u>I</u> nvert <u>D</u> one	all		EPROF ns :00 to 18 group - iumber	4: N/A 3:00	El Refresh Period Energize Duration Setup	DFF 0.04E	 mins secs Flash 1
								v v	2	S S	0 -	□ 2 □ 3
	4	Momentary On	-				_	Ŧ	4	S	0 -	4
	5	Momentary On	-					Ŧ	5 🚄	S	0 👻	5
	6	Momentary On	-					Ŧ	6	S	0 -	6
	7	Momentary On	-	\checkmark				Ŧ	7 🗳	S	0 💌	7
	8	Momentary On	-	\checkmark				Ŧ	8 🗳	S		8
	9	Momentary On	-	\checkmark				Ŧ	9 🗳	S	0 💌	9
_	10	Momentary On	-	\checkmark				Ŧ	10 🚄	S	0 -	10
	WARN	NG: Modifying thes	e value	s may r	esult in	erratic beh	avi	or and/o	r circuit d	lamage!		



Additional Features : Serial On Priority

This setting allows BAS ON commands priority over input OFF commands.

- 1. Under the column heading labeled "Assigned Group" select "Setup". This can also be accomplished by selecting Tool Bar Group > Setup.
- 2. The "Group Setup" screen should appear. (Figure 27)
- 3. To activate this feature click on the box in the lower left hand corner of the screen labeled "Serial On Priority". An "X" will appear in this box to indicate the feature is selected.
- 4. Select Tool Bar File > Save to save data to .lpx file
- 5. Select Tool Bar Device > Write, to save data to the controller memory.

Additional Features : Serial On Priority Flash Warning (Flash Before Off)

This setting incorporates a flash warning for BAS OFF commands.

- 1. To activate this feature click on the box in the lower left hand corner of the screen labeled "Flash before off". An "X" will appear in this box to indicate the feature is selected.
- 2. Select File > Save to save data to .lpx file
- 3. Select Device > Write, to save data to the controller memory.

Additional Features : Maintained Input Priority

This setting is typically utilized for fire alarm, security, or emergency transfer switch (ETS) override operations.*

- 1. In the box titled "Maintained Input Priority" select either None, On, Off, or On/Off.
- 2. Select Tool Bar File > Save to save data to .lpx file
- 3. Select Tool Bar Device > Write, to save data to the controller memory.

🞲 Group Setup		
Group		
Group: 1	■ v is assigned to the fo	Illowing inputs: 1
It is	included in the following supergroups:	_
Group Type	Relays included in group	
Normal	1 🕱	
Super 〇	2	Add all
	3	D
Maintained Input	4	<u>R</u> emove all
None	5	
<u>0</u> n O	6	Invent
Olio	7	
Un/Ulf ()	8	Done
Serial on priority 💌		
Elash before off		

(Figure 27)

* Refer to USBTK Tech Note for additional information.



Additional Features : Assigning Groups to Super Groups

Super Groups allow application of an input's group settings to multiple groups.

- 1. Under the column heading labeled "Assigned Group" select "Setup". This can also be accomplished by selecting Tool Bar Group > Setup from the toolbar.
- 2. Select the desired Group number between 1-60, to be created or modified.
- Once the Group number is selected, click on the circle in the "Group Type" area labeled "Super". The numbers next to the boxes represent the groups included in the Super group. The group that matches the Super group number will be grayed out because it cannot be assigned to the Super group. (Figure 28)
- 4. Select the desired groups to be included in the Super Group by clicking the respective box.
- 5. Repeat until desired Super Groups are defined.
- 6. Select Tool Bar File > Save to save data to .lpx file
- 7. Select Tool Bar Device > Write, to save data to the controller memory.

			i				
pergroup: 1977=	= 	▼ 14 a (alla	is assig	ned to t	he follo	wing inpu	ts: 1
It is i	nciuaea in	the rollo	wing sup	pergroup	s:		<u> </u>
roup Type	⊂Groups ir	ncluded i	in super	aroup —			
Normal O	1	11	21	31	41 🖂	51 🕅	
Super 🖲	2	12	22	32	42	52	<u>A</u> dd all
	3	13	23 🖂	33 🗖	43 🖂	53 🕅	
aintained Input	4	14	24 🖂	34 🖂	44 🖂	54 🕅	<u>R</u> emove all
None	5	15	25	35 🕅	45	55 🗂	
<u>0</u> n O	6	16	26	36 🕅	46	56 🕅	Invert
O <u>fi</u> O	7	17	27	37	47	57	
0n <u>/</u> 0ff ()	8	18	28	38	48	58	Done
Serial on priority 🗖	9	19	29	39	49	59	
Elash before off	10	20	30	40	50	60	

(Figure 28)





Additional Features : Special Options

Option 1 : N/A

Option 2 : N/A

Option 3 : When checked, this option changes all inputs types that were "Momentary On/Off" to operate as "Momentary On/Off/On" - when flash warning is enabled.

Option 4 : Future Use

Option 5 : Future Use

Group 1 > Timer 1, Group 2 > Timer 2, Group 3 > Timer 3 : This option provides the capability to overide all timer dependant switches in a panel. Examples are classrooms or offices that need a switch without a timer during the day and utilize the timer after hours.¹*

- 1. Select Tool Bar Other > Special Options
- 2. Special Options Screen will appear (Figure 29)
- 3. Choose desired options
- 4. Select Tool Bar File > Save to save data to .lpx file
- 5. Select Tool Bar Device > Write, to save data to the controller memory.

ℜ Special Options	E - • 💌
Option 1	Option 5
Option 2	🔲 Group 1 -> Timer 1
🔲 Flash Mode	🔲 Group 2 -> Timer 2
Option 4	🔲 Group 3 -> Timer 3

(Figure 29)

¹ Be sure groups 1, 2, and 3 do not have relays assigned if these options are selected.

BAS Command	Switch Timer State	On Switch is Activated
Panel X, Group 1 On	All switches in Panel X with Timer 1 will respond as if there is no timer	Lights will stay on until command off
Panel X, Group 1 Off	All switches in Panel X with Timer 1 will now respond to Timer 1	Lights will stay on for duration of Timer 1 then turn off
Panel X, Group 2 On	All switches in Panel X with Timer 2 will respond as if there is no timer	Lights will stay on until command off
Panel X, Group 2 Off	All switches in Panel X with Timer 2 will now respond to Timer 2	Lights will stay on for duration of Timer 2 then turn off
Panel X, Group 3 On	All switches in Panel X with Timer 3 will respond as if there is no timer	Lights will stay on until command off
Panel X, Group 3 Off	All switches in Panel X with Timer 3 will now respond to Timer 3	Lights will stay on for duration of Timer 3 then turn off

* Refer to USBTK Tech Note for additional information.



Additional Features : Setting LMB Controller Address

This feature allows you to remotely alter the controller's address. (Legacy Feature - Only available on LMB)

- 1. Connect to LMB Controller.
- 2. Double click on the address box. The "Address Change" screen will appear. (Figure 30)
- 3. Enter the new address and click 'Change'.

Address 1 On Time mm:ss 00:10 to After Flash hh:mm 10:00 20:00 00:00 to 18:00 Energize 0.04£ • secs Input # - Name Type Normally Assigned group 0.60 Setup Timer Flash 1 Momentary On • ✓ 1 S ✓ 1 1 0.46€ • secs 3 Momentary On • ✓ Assigned group Setup Timer Flash 4 Momentary On • ✓ 1 S • 1 5 Momentary On • ✓ ✓ 3 S • 3 6 Momentary On • ✓ ✓ 5 • 5 • 5 6 Momentary On • ✓ • 5 • 5 6 Momentary On • ✓ • 6 5 • 5 7 Momentary On • ✓ 7 5 0	 LP Programming Kit V5.1 File Device Input Group Other Communications and Device Status – Status: Offline Port: N/A Address: 	 Address Change WARNING: You are change Wew address: 1 	Image: Cancel	EEPROM:N/A
Input # - Name Type Normally Open Closed Assigned group Timer Flash 1 Momentary On V I S I	Address 1 Inputs 16 1120 Relays 8 18 Flash Du On Time After Flas	mm:ss 00:10 to hi 10:00 60:00 1) 0 ne 0.5 v secs 3) 0:	1:mm 1:00 2:00 00:00 to 18:00 E 3:00 [Period OFF rimins nergize 0.04E risecs
▼ 10 Momentary On ▼	Input # - Name Type 1 Momentary 0 2 Momentary 0 3 Momentary 0 4 Momentary 0 5 Momentary 0 6 Momentary 0 8 Momentary 0 9 Momentary 0 Momentary 0 Momentary 0 Momentary 0 Momentary 0 Momentary 0 Momentary 0 10 Momentary 0		ssigned group name or number 060	Timer Flash S 0 1 S 0 2 S 0 3 S 0 4 S 0 5 S 0 6 S 0 7 S 0 9 S 0 10



Additional Features : Write Database to Controller

This allows writing a database (in part or whole) from your PC to the controller.

- 1. Select Tool Bar Device > Write
- Select Header if header information is to be written to a selected controller. Header information includes all the global controller data such as "inputs", "relays", "on-time after flash", "flash off time", "switch timer durations", "relay refresh rate" and "relay energize duration". (Figure 31)
- 3. Select Input Configuration if input configurations are to be written to a selected controller. Input Configurations includes "input names/ numbers", "types", "timers", "flash", and "input polarity".
- 4. Select Group Information if group information is to be written to a selected controller. Group information includes all group information listed in the "Group Setup" screen.
- 5. Select the number of groups to be written to a selected controller. (This information takes the longest time to write.)
- 6. Select "Write" to begin writing to controller.

Additional Features : Read Controller Database

This allows reading an existing database from the controller.

1. Select Device > Read

Additional Features : Print Controller Database

We recommend you print a copy of the controller data for your files.

- 1. Select Tool Bar File > Print
- Select the desired number of groups between 1 and 60. (Figure 33)
- 3. Select "Print" to print desired groups.
- 4. Select "Cancel" to cancel print selection and return to the "Main Screen".



(Figure 31)

Group 7 maintained priority LR507	
Response	
Response Time Average: 38 ms Max Allowed: 500 ms Relative Speed	<u>C</u> ancel

(Figure 32)

🞲 Print	e - • 💌
Using default printer. Select a	nd setup with 'Print Manager'.
Number of gro	ups to print: 🛅 🚔
Print	<u>C</u> ancel

(Figure 33)

NOTE	

As information is being written or read a screen appears to display the process. (Figure 32)

The box to the left of entitled "Command" and to the left entitled "Response", displays the information being communicated. The box to the right displays the actual protocol commands. The "Response Time" with "Relative Speed" indicator will reflect system communication speed.





Diagnostics : Communication and Device Status

Status

The Status box displays either online or offline programming. If online is displayed then your computer is currently connected to a controller. (Figure 34)

Port

The computer USB port will be displayed in this box if you have selected online programming. Port is not applicable with offline programming.

Address

The address is the address of the controller you selected in online or offline setup.

EPROM

This displays the status (OK or Error) of the controllers EPROM which contains the controller's software. This is not applicable for offline programming and newer controllers.

EEPROM

This displays the status (OK or Error) of the controller's non-volatile EEPROM which contains the controller database. This is not applicable for offline programming.



Diagnostics : View Current Input States

- 1. Select Tool Bar Group > View > Modify Current States.
- 2. An Input Status screen will appear and continuously display input status for each input configured in the database. (Figure 35)

The boxes and numbers represent the input numbers. An "X" in the box indicates the input is activated. Momentary inputs will only display the "X" for the duration of the momentary closure.

The area labeled "Analog Input" allows you to select a value range from 0-255 with which LPPK will display a value in proportion to 0-5VDC analog input signal. Controllers use six inputs. (LMB controllers have five inputs)

沢 Input S	Status - c	ontinuou	sly upda	ted							
1 🕱	11 🖂	21 🕱	31 🕱	41 🕱	51 🕱	61 🕱	71 🕱	81 🕱	91 🕱	101 🕱	111 🕱
2 🕱	12	22 🕱	32 🕱	42 🕱	52 🕱	62 🕱	72 🕱	82 🕱	92 🕱	102 🕱	I12 🕱
3 🕱	13	23 🕱	33 🕱	43 🕱	53	63 🕱	73 🕱	83 🕱	93	103 🕱	113 🕱
4 🕱	14 🖂	24 🗙	34 🕱	44 🕱	54	64 🕱	74 🗙	84 🗙	94	104 🕱	114 🕱
5 🕱	15	25 🗙	35 🕱	45 🗙	55	65 🕱	75 🕱	85	95	105 🕱	115 🕱
6	16 🕅	26 🕱	36	46 🕱	56	66 🕱	76	86 🕱	96	106 🕱	116 🕱
7 🕱	17 🕱	27 🕱	37 🕱	47 🗙	57 🕱	67 🕱	77 🕱	87 🕱	97	107 🕱	117 🕱
8 🗙	18 🕱	28 🗙	38	48 🗙	58	68 🕱	78 🗙	88	98	108 🕱	118 🕱
9 🗖	19 🗙	29 🕱	39	49 🗙	59	69	79 🗙	89 🗙	99	109 🕱	119 🗙
10	20 🕱	30 🗙	40 🕱	50 🗙	60	70 🗙	80 🕱	90	100 🕱	110 🕱	120 🕱
		🗙 Input	is activ	ated			🗆 Ini	put is no	ot activa	ted	
Analog Units @	Input 0 V	0		I	Jnits @	5 V	100				
	1	2		3	4		5	6	6	[
	0	0		0	0		0	()		Finse

(Figure 35)



Diagnostics : View/Modify Current Output States

- 1. Select Tool Bar Group > View/Modify Current States.
- 2. A Group Status screen will appear and continuously display the output status for each output configured in the database. (Figure 36)
- 3. To check the status of a Group, right-click once with the cursor on the desired Group status display. Text boxes at the bottom of the screen will display status information and the current status of the group including what caused the group to be in its current state.
- 4. To manually change the state of a Group, right-click twice on the Group status display. The State of the group will change.



(Figure 36)



Ba

Diagnostics : Check Bad Relays/Circuits

This feature provides the capability to display the relays which are not in the correct state. Relays must be physically capable of providing feedback via auxiliary contact.

- 1. Select Tool Bar Other > Check For Bad Relays.
- 2. LPPK will determine which relays are not in the correct state and will list them in a dialog screen. (Figure 37)

These relays may be malfunctioning and need replacing. Resetting the relays will be required to clear this screen. If you do not reset the bad relays then the same relay numbers will be displayed the next time you check bad relays. Be sure to reset the bad relays by selecting "YES". If you want to keep the Bad Relay listing the next time you select this screen then select "NO".

			Page 32	S
d Relays				
Bad rel	ays are: 5 Do you want to	o clear Bad Relay information	?	
		Yes	No	
	LPPK			
	Bad relay informat	tion is cleared.		
			(Figure 37	')



Troubleshooting the Controller

Be sure to check the Blue Ridge website <www.BRTint.com> for latest troubleshooting support.

Outputs Will Not Turn On

Verify power is connected to the controller. There should be LEDs illuminated.

Verify there is at least 24 VAC present to the secondary of the transformer supplying power to the controller. Use a voltmeter to check the power.

Check to see if Maintained input priority for the group that is not responding to control commands is not set to Maintained Off Priority or Maintained On/Off Priority.

Verify that the output ribbon cable connector is properly seated.

Press the OVER push button to see if all the relays will turn on. If so, then the output portion of the controller is operating properly.*

Verify that the connector to output (relay or Circuit breaker) is properly seated.

Use LPPK to verify that the controller sees the inputs change state. Use an alligator clip or shorting wire to test.

Controller not communicating or Communication LED TX / RX Not Blinking

Verify the LPPK cable or network cable is connected correctly.

If you are using LPPK verify that the correct communication port is selected.

Verify the controller is addressed properly.

Ensure that only dip switch 4 is in the "On" position (switch 7 or 8 may also be ON for addressing). To activate changes to switch settings the controller must be power cycled.

* Refer to Lx5 Hardware User Guide for explanation of controller hardware





Worksheets : Switch Input Programming

Installed Relays

Blue Ridge part #

Panel Location

Panel Summary

Relays	Refresh Rate (Off or 3-30 mins)	Energize Durations (0.024-1.560)
Timers Durations (hh:mm/00:00-18:00)	1)	2) 3)
Flash Duration	On Time After Flash (mm:ss)	Flash Off Time (0.5-2.0)
		Used Spare
Panel Address	Inputs (1-120)	Relays (1-60)

Switch Input Programming

anel Name:		Panel Location:						
			Switch Inf	formation				
Input	Input Name	Switch Type	Normally Open	Normally Closed	Assign Name or N	ned group Jumber (1-60)	Timer # 0, 1, 2, or 3	Flash
-								
2								
e								
4								
5								
9								
7								
8								
6								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								





Worksheets : Group Programming

	Serial Override																														
	Flash Warning																														
	Relays in Group																														
Group Information	Maintain Switch Priority None, On, Off or On/Off																														
	Type Normal or Super																														
	Group Name																														
	Group #	-	2	3	4	5	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

Group Programming Panel Name:

Panel Location:





Worksheets : Group Programming

Serial Override Flash Warning Relays in Group Maintain Switch Priority None, On, Off or On/Off Group Information Type Normal or Super Group Name Group # 31 33 559 559 60 34

Group Programming

Panel Name:

Panel Location:



AppLoader : Overview and Installation

AppLoader software allows field service personnel to restore or update Lx5 firmware utilizing the USB Tech Kit cable.

AppLoader performs two functions. First the software downloads firmware to the controller in the form of Clipping (extension .clipping) files. Second AppLoader displays Modstat consisting of diagnostic firmware and operational data.

- 1. The USB-TK Thumb Drive is configured to auto-run and display the Main Menu screen. (previously shown in Figure 1)
- 2. From the Main Menu screen, click on the AppLoader button to view the AppLoader Menu choices. (Figure 38)
- 3. From the AppLoader Menu, click on AppLoader Install to launch the installation process. (Figure 39)
- 4. At the end of the installation process select Done to complete the installation.



(Figure 38)

📲 AppLoader	E - • ×
	Introduction
Introduction	This installation wizard will install AppLoader 4.1.
License Agreement Choose Install Folder Choose Shortcut Folder	For best results, please log in as an administrator and quit all programs before continuing.
Pre-Installation Summary Installing	Click Next to proceed. Click Previous to make a change to a previous screen.
Install Complete	You may cancel this installation at any time by clicking Cancel.
InstallAnywhere by Macrovision - Cancel	Previous

(Figure 39)



AppLoader : Connection

- 1. Insert the USB end of the Technicians Cable into an available USB port on your PC.¹
- 2. Connect the cable to the Lx5 controller with the red 5 pin socket. (Figure 40)
- 3. Launch AppLoader from your computer Desktop or Start Menu. The AppLoader main screen will appear. (Figure 41)
- 4. Select Tool Bar Access Port > Choose the Com Port to which the Technicians Cable is connected. (Figure 42)



(Figure 40)

👙 AppLoader ·	4.1.003.20070710	
<u>File</u> Options	Access Port	



👙 A	ppLoader -	- 4.1.003.20070710	6 - O - X
Eile	Options	Access Port	
		OM3 OM3 OM3 OM3 OM3 O OM3 O OM3 O OM3 O O O OM3 O	
L			

NOTE

¹ Drivers must be installed to operate the Technicians Cable. Refer to Page 7 for driver installation instructions. (Figure 42)



AppLoader : Downloading

- 1. Select Tool Bar File > Open
- Navigate to Removable Disk (X) (USB-TK Thumb Drive) > App_ Loader > Clippings > Select the Clipping file you wish to download. (Figure 43) (Contact Blue Ridge Technical Support for the latest Clipping files)
- 3. Once the Clipping file opens, select Build (Figure 44)¹
- 4. AppLoader will then construct the file and display the message "Build complete. Choose next action." (Figure 45)
- 5. Select Modstat to confirm communication is established.²
- 6. Modstat will display the controller's current firmware and related data.

👙 Ap <u>F</u> ile	ے میں	
	Look (r: Clippings	
	File Name: Files of Type: Clipping Files	Open Cancel

(Figure 43)

	Outions	Assess Dee						-
ne	Obdous	Access Pul						
		_	Durine	Describert			0	
			Build	Download	Memory	Modstat	Clear	

(Figure 44)



(Figure 45)

¹ If the Build button does not become selectable, resize the AppLoader Window.

² If Modstat is not selectable confirm the proper Com Port is selected.



AppLoader : Downloading

- 1. Select Tool Bar File > Open
- Navigate to Removable Disk (X) (USB-TK Thumb Drive) > App_ Loader > Clippings > Select the Clipping file you wish to download. (Figure 43) (Contact Blue Ridge Technical Support for the latest Clipping files)
- 3. Once the Clipping file opens, select Build (Figure 44)*
- 4. AppLoader will then construct the file and display the message "Build complete. Choose next action." (Figure 45)
- 5. Select Modstat to confirm communication is established.**
- Modstat will display the controller's current firmware and related data.

AppLoader : Downloading (Continued)

- 7. Then select Download Memory.
- The Set Device ID window will appear. "Use auto-assign device ID" creates an ID based on the controller's configuration. "Use assigned device ID" employs the controllers current ID. "Set device ID to (X)" allows maunal assignment of the ID. Select desired device ID setting and select OK. (Figure 46)
- 9. AppLoader will begin loading new Clipping file to controller. (Download may take 10-20 minutes)
- When the download is accomplished "Download Complete and Successful" will display. (Figure 47) (If the download fails first repeat steps 5-8. If failures continue refer to Page 41 and contact Blue Ridge Technical Support)
- 11. Close AppLoader.

ile Options Access	Port	
Power restored after p Reset counters cleare Message log cleared.	Dwer failure	-
ARC156 reconfiguration Total0 Initiated by this node	is during the last hour (cleared upon reset):	
Core board hardware: Type=129, board=74, RAM: 2048 kBytes; F Base board hardware: Type=129, board=58,	Use auto-assign device ID Use assigned device ID ". 1" Set device ID to 1	
argest free heap spa		_
Database size = 1823	OK Cancel	
Raw physical switches	0x01200000	_
Arm Firmware Version: BACnet Device Name: I	Lx5 1.25 Jnknown	
Downloading (this may	take a while)	

(Figure 46)

File Options	Access Port				
Downloading 8	Schedules to "M	STP / LX5" Rei	quest 461		
Downloading S	Schedules to "M	STP / LX5" Re	quest 492		
Downloading S	Schedules to "M	STP / LX5" Re	quest 522		
Downloading S	Schedules to "M	STP / LX5" Re	auest 553		
Downloading S	Schedules to "M	STP / LX5" Re	quest 586		
Downloading S	Schedules to "M	STP / LX5" Re	quest 614		
Downloading S	Schedules to "M	STP / LX5" Rei	quest 634		
Downloading 8	Schedules to "M	STP / LX5" Rei	quest 643		
Downloading 8	Schedules to "M	STP / LX5" Rei	quest 676		
Downloading S	Schedules to "M	STP / LX5" Re	quest 707		
Downloading S	Schedules to "M	STP / LX5" Re	quest 723		
Downloading S	Schedules to "M	STP / LX5" Re	quest: 738		
Downloading S	Schedules to "M	STP / LX5" Re	quest 769		
DownloadReq	uest Detail Res	ults:			
item#0					
Download suc	cessful for MP	SB to "MSTP / L)	(5° (#copy_of_b:5).		
	Firmware was	replaced.			
		Old version=B	OOT(id=0,ver=2.08:0	03,crc=0x2E10) MAIN(i	d=3,ver=2.22:007,crc=0xB
		New version=	BOOT(id=0,ver=2.08:	303,crc=0x2E10) MAIN	(id=3,ver=2.24:015,crc=0x0
Download Con	npiete and Suci	essiul.			
Download	Successful				
4					

(Figure 47)



AppLoader : Formatting

Formatting the controller may be necessary to successfully download new firmware. Contact Blue Ridge Technical Support before formatting any controller.

- 1. Disconnect the controller's power.
- 2. Disconnect the USB Technicians Cable.
- 3. Set both the controller's rotary switches to (0).*
- 4. Install a jumper on the Format (FMT) pins.
- 5. Apply power to the controller. Confirm the red Error LED is blinking (this indicates the controller is formatted).
- 6. Disconnect the controller's power.
- 7. Reset both the controller's rotary switches to original position.
- 8. Uninstall the jumper from the Format (FMT) pins.
- 9. Apply power to the controller.
- 10. Connect the USB Technicians Cable.
- 11. Perform a Modstat to confirm formatting. The Device Instance will display "Unconfigured". (Figure 48)

Die Options Access	ort	
Creating internal databas	e	
Applying data		
Starting communications		
Build complete. Choose	next action.	
Retrieving module status		
**************************************	HIS MODULE TO HAVE A MEL	
12/31/1979 00:00:00	CM: 1	
Device Instance: Unconfi	gured	
0 PRGs loaded - 0 PRGs	running	
	i di i i i i i i i i i i i i i i i i i	
Module status:		
Firmware sections valida	led in flash memory	
Poot16 H v2.09:00	2 Apr 2 2000	
LX5 DRIVER - v2 22	107 Jun 19 2009	
DIODIGIEN TELEE	001 000110 2000	
Reset counters:		
1 Power failures		
0 Brownouts		
0 Commanded warm	poots	
0 Commanded cold b	lots	

(Figure 48)