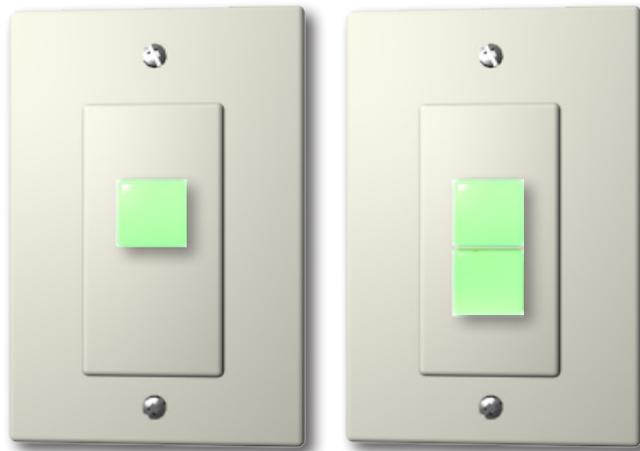


Digi-Touch Installation Guide



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 are used throughout this manual to alert of immediate or potential danger to life or property:



Hint Indicates a tip or trick to help you.



Note Indicates an important note.



DANGER! Indicates an immediately hazardous situation which, if not avoided, will result in death or serious injury.



WARNING! Indicates a potentially hazardous situation which, if not avoided, can result in death or serious injury.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, can result in minor or moderate injury.

CAUTION: Used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, can result in personal or property damage. Failure to comply with proper handling of the Blue Ridge Technologies products may void your warranty



In addition, this symbol may appear in the margin of specific portions of text as a safety reminder. Applicable instruction steps will be listed beneath the symbol.

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 Lighting and its affiliates assume no responsibility for any consequences related to the improper use of this manual.



Digi-Touch Installation Guide

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Parts List

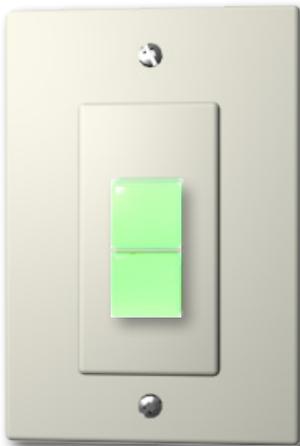
Digi-Touch®			
Part #	Description	Panel Compatibility	Finish
DDN-SW1	Digi-Touch SWITCH 1-BUTTON	All Blue Ridge Panels	White
DDN-SW2	Digi-Touch SWITCH 2-BUTTON	All Blue Ridge Panels	White

Note:

- *No Panel switch inputs required
- **Maximum of 16 buttons for LX5.

DDN-SW1

Digi-Touch 1-button digital switch shown with Decora Style wall plate (not included)

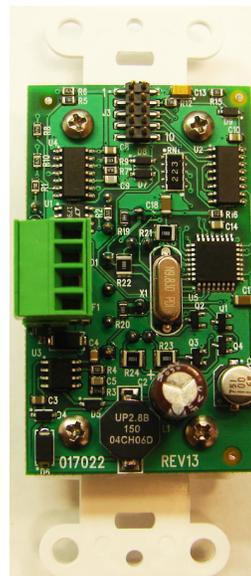


DDN-SW2

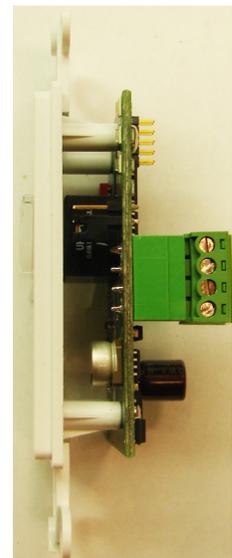
Digi-Touch 2-button digital switch shown with Decora Style wall plate (not included)



Digi-Touch
Digital switch back view



Digi-Touch
Digital switch side view





Digi-Touch Installation Guide

Overview

The Digi-Touch Network consists of three parts:

1. Digi-Touch Device Network Link. (DDN-Link). The first module is a communication interface board, the DDN-Link. The Link provides communication between a Blue Ridge Technologies Panel Controller and the Digital Switch devices on a twisted pair network.
2. Digi-Touch Device Network Switch (DDN-SW). The second module is a Digital Switch, DDN-SW1 (single button) or DDN-SW2 (two button). Each button provides users on/off control of a lighting group. Each contains an integral bi-color LED that illuminates red when the associated lighting group is turned on and green when turned off.
3. Network wire.

Quick Install Summary

The summary below is followed by 2 sections containing details for each step.

Step1.

Physical Mounting and Setting Dip Switches on the Switch Modules (DDN-SW1 and DDN-SW2). Switches are physically mounted and addressed by dip switches. A look-up table is provided for binary dip switch settings equivalent to lighting Group decimal numbers. See section entitled, "Physical Dimensions and Dip Switch Settings" for details.

Step2.

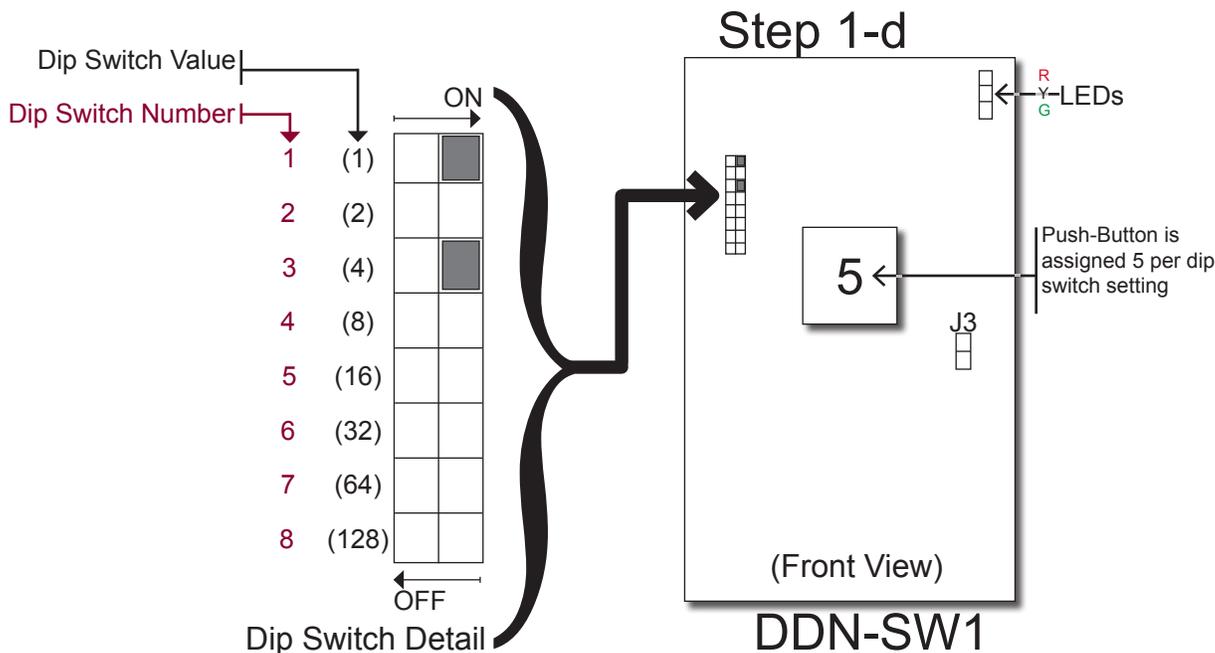
Network the switches for communications and power. Make all connections before applying power. Daisy chain the switches and power supplies with a 2-pair, twisted wire daisy chain. Use 18 AWG (for power) and twisted pair 22 AWG (for signal) or better. Use Belden 1502P or equivalent. See section, "Network the Switches for Communications and power" for details.

Installation Steps

Step 1 - Physical Dimensions & Dip Switch Settings (DDN-SW1)

- Ensure proper size gang box and Decora plate for DDN-SW1.
- If exact settings per each location have not been pre-set, set the correct dip switch address on each module (see look-up table, Appendix A). It is helpful to use a worksheet to layout all the switch numbers for each panel before setting addresses on the switches.
- For SW1, set the address using the dip switches under the Decora style plate. It is not necessary to remove the entire switch. Use the Appendix A table to get the binary dipswitch setting for the decimal lighting group number
- See example below for DDN-SW1 (1-button). Dip switch is "5" in binary. Thus the single button controls panel group 5. The "group" refers to group assignments made in the Blue Ridge Technologies panel via Lighting Panel Programmer's Kit (LPPK).

DDN-SW1



1.75"



4.19"



1.50"

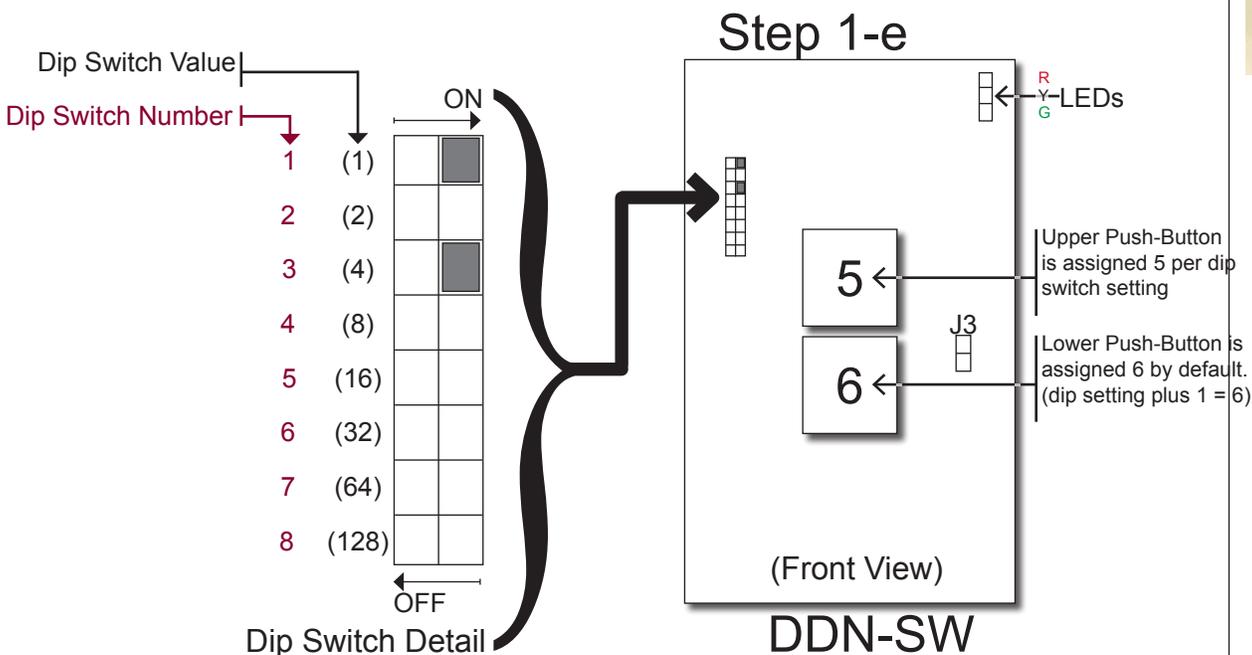
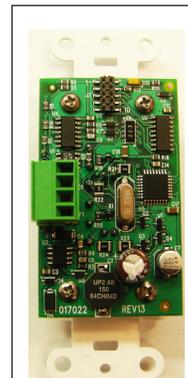
- If you are also responsible for programming the lighting panels, see section entitled "LPPK Setup for Blue Ridge Technologies Digi-Touch Switches", Appendix B in this publication.

Installation Steps

Step 1 - Physical Dimensions & Dip Switch Settings (DDN-SW)

- Ensure proper size gang box and Decora plate for DDN-SW2.
- If exact settings per each location have not been pre-set, set the correct dip switch address on each module (see look-up table, Appendix A). It is helpful to use a worksheet to layout all the switch numbers for each panel before setting addresses on the switches.
- For DDN-SW2, when the dip switch is set for the upper button, the next lighting group is automatically assigned to the lower button. Thus, the physical dip switch number for the next module will typically “skip 1” as the modules are addressed along the network. I.e., 1,3,5.... or 2,4,6....
- Set the address using the dip switches under the Decora style plate. It is not necessary to remove the entire switch. Use the Appendix A table to get the binary dipswitch setting for the decimal lighting group number
- See example below for DDN-SW (2-button). **Dip switch** is “5” in binary. Thus, upper (closest to dip switch) button controls panel group 5 and lower button controls group 6. The “group” refers to group assignments made in the Blue Ridge Technologies panel via Lighting Panel Programmer’s Kit (LPPK).

DDN-SW2



- If you are also responsible for programming the lighting panels, see section entitled “LPPK Setup for Blue Ridge Technologies Digi-Touch Switches”, Appendix B in this publication. For each DDN-SW2, both upper and lower button numbers must be entered in LPPK.

Installation Steps

Step 2. Network the Digi-Touch Switches for Communications and Power

Daisy chain the Switches.
Connect Optional Relays.
Place Auxiliary Power Supplies as Needed.

- a. Use recommended Beldon 1502P paired cable or equivalent. One pair (18AWG 2-conductor, unshielded) is for power and one pair (22AWG twisted pair, shielded) is for communication. Do not “star” or “T-tap” comm wire. Daisy chain only.
- b. Make all connections before applying power.
- c. When the DDN-SW2 is at the end of the network, short the module’s terminating resistor, J3.
(See Front View, previous page)
- d. The controller may be used to Looppower 8 DDN-SW2 or 16 DDN-SW1 modules up to runs of 1000 ft. See step 3.
- e. Additional DC power supplies may be needed for longer runs or larger numbers of switch modules. As a general rule, the controller can Power 8 DDN-SW2s or 16 DDN-SW1s that are within 500’ of the panel and are connected using 18 AWG cable.

If more switches are required, a 1.2A 24VDC Power Supply (TLI part# DDN-P5 or greater) can be added to power up to 40 DDN-SWs or 80 DDN-SW1s using 18 AWG cable.

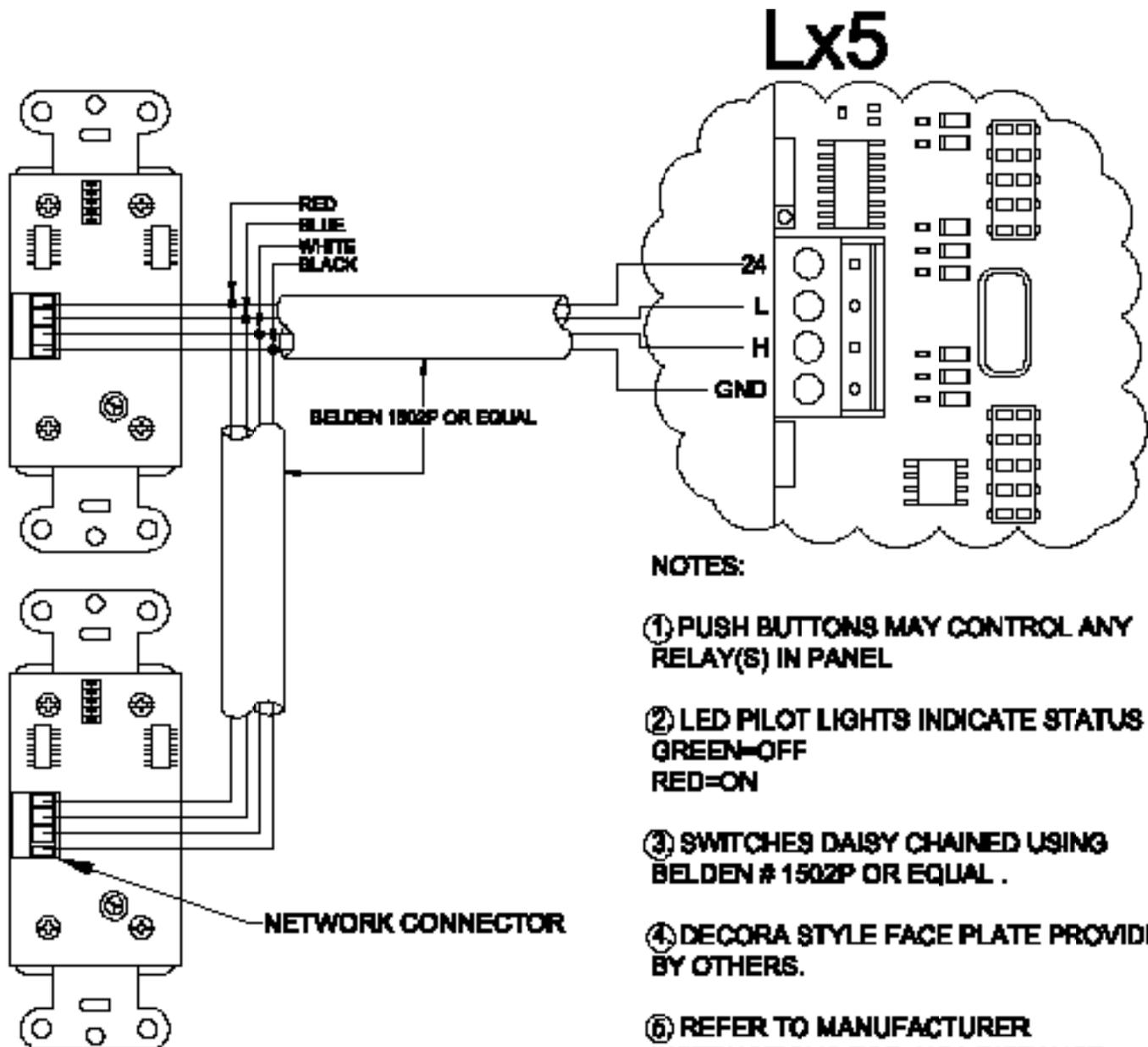
Digi-Touch Input Module:

- Almost any type of 2-wire closure
- Wet / Dry
- Momentary / Maintained
- Occupany Sensor
- Hubble ATPIS00CRP
- Novitas 01- BAS300
- Sensor Switch CM9
- Sensor Switch CM9PDT
- Spy Sensor SS-100
- Watt Stopper CI-200



Blue Ridge Technologies does not recommend powering switches more than 500’ from a power supply.

Installation Steps



NOTES:

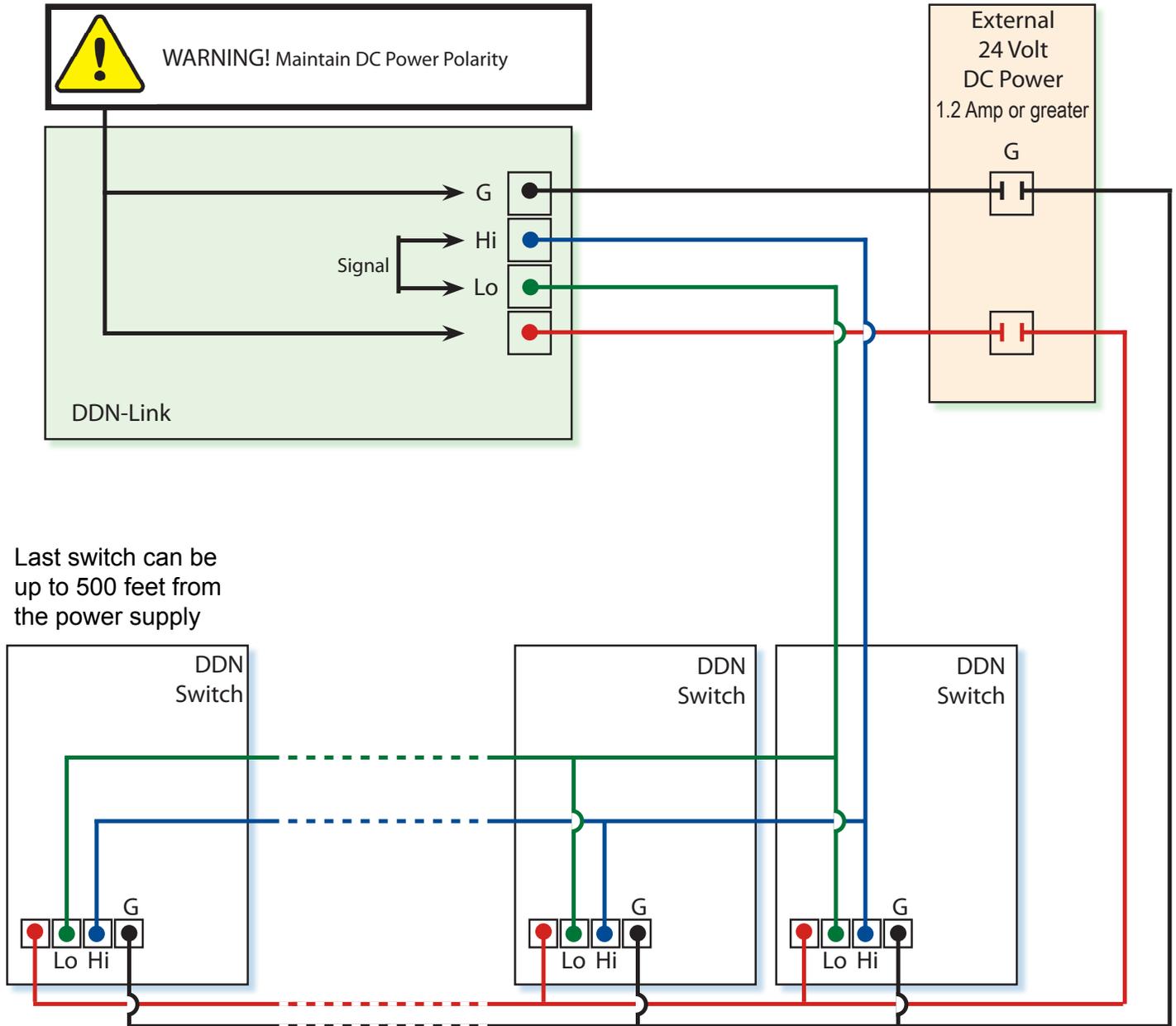
- ① PUSH BUTTONS MAY CONTROL ANY RELAY(S) IN PANEL
- ② LED PILOT LIGHTS INDICATE STATUS
GREEN=OFF
RED=ON
- ③ SWITCHES DAISY CHAINED USING BELDEN # 1502P OR EQUAL .
- ④ DECORA STYLE FACE PLATE PROVIDED BY OTHERS.
- ⑥ REFER TO MANUFACTURER INSTRUCTIONS FOR ANY DISTANCE LIMITATIONS AND POWER REQUIREMENTS.



TYP. DIGITOUCH NETWORK WIRING

Installation Steps

Adding An External Power Supply Connecting more than 8 DDN-SW1 or 16 DDN-SW2 Switches

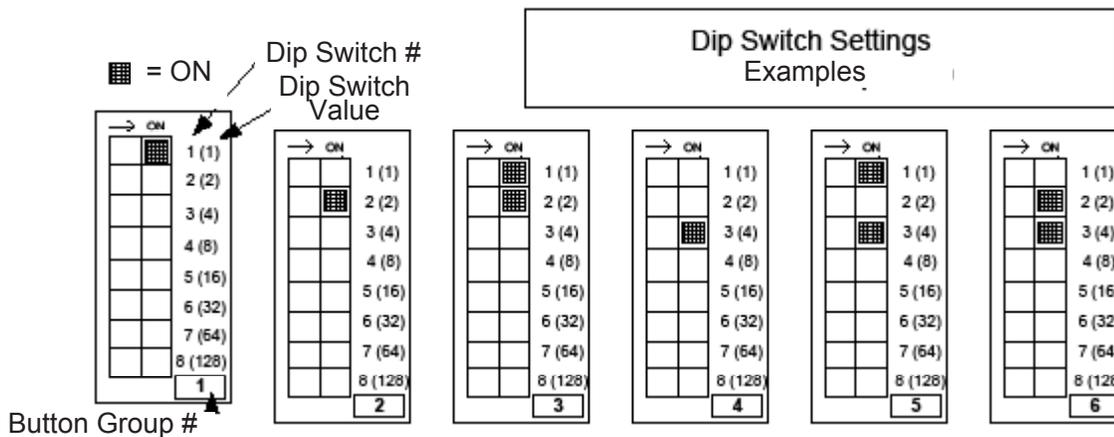


Appendix A

Dip Switch Setting Table

Dip Switch setting assigns group address to upper button, closest to the dip switch. Lower button, not present in the DDN-SW1, is automatically "address + 1". Modules are typically addressed in order as follows:

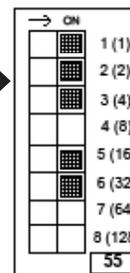
- DDN-SW2 - 1, 3, 5, 7, 9, ...
- DDN-SW1 - 1, 2, 3, 4, 5, ...



Dip Switch Setting Lookup Table for values 1-60

Binary Value	Switches "On"	Binary Value	Switches "On"	Binary Value	Switches "On"
1	1	21	1,3,5	41	1,4,6
2	2	22	2,3,5	42	2,4,6
3	1, 2	23	1,2,3,5	43	1,2,4,6
4	3	24	4,5	44	3,4,6
5	1,3	25	1,4,5	45	1,3,4,6
6	2,3	26	2,4,5	46	2,3,4,6
7	1,2,3	27	1,2,4,5	47	1,2,3,4,6
8	4	28	3,4,5	48	5,6
9	1,4	29	1,3,4,5	49	1,5,6
10	2,4	30	2,3,4,5	50	2,5,6
11	1,2,4	31	1,2,3,4,5	51	1,2,5,6
12	3,4	32	6	52	3,5,6
13	1,3,4	33	1,6	53	1,3,5,6
14	2,3,4	34	2,6	54	2,3,5,6
15	1,2,3,4	35	1,2,6	55	1,2,3,5,6
16	5	36	3,6	56	4,5,6
17	1,5	37	1,3,6	57	1,4,5,6
18	2,5	38	2,3,6	58	2,4,5,6
19	1,2,5	39	1,2,3,6	59	1,2,4,5,6
20	3,5	40	4,6	60	3,4,5,6

Note
Dip switches 7 & 8 should never be in the "On" position.



Appendix B

LPPK Setup for Blue Ridge Technologies Digi-Touch Switches

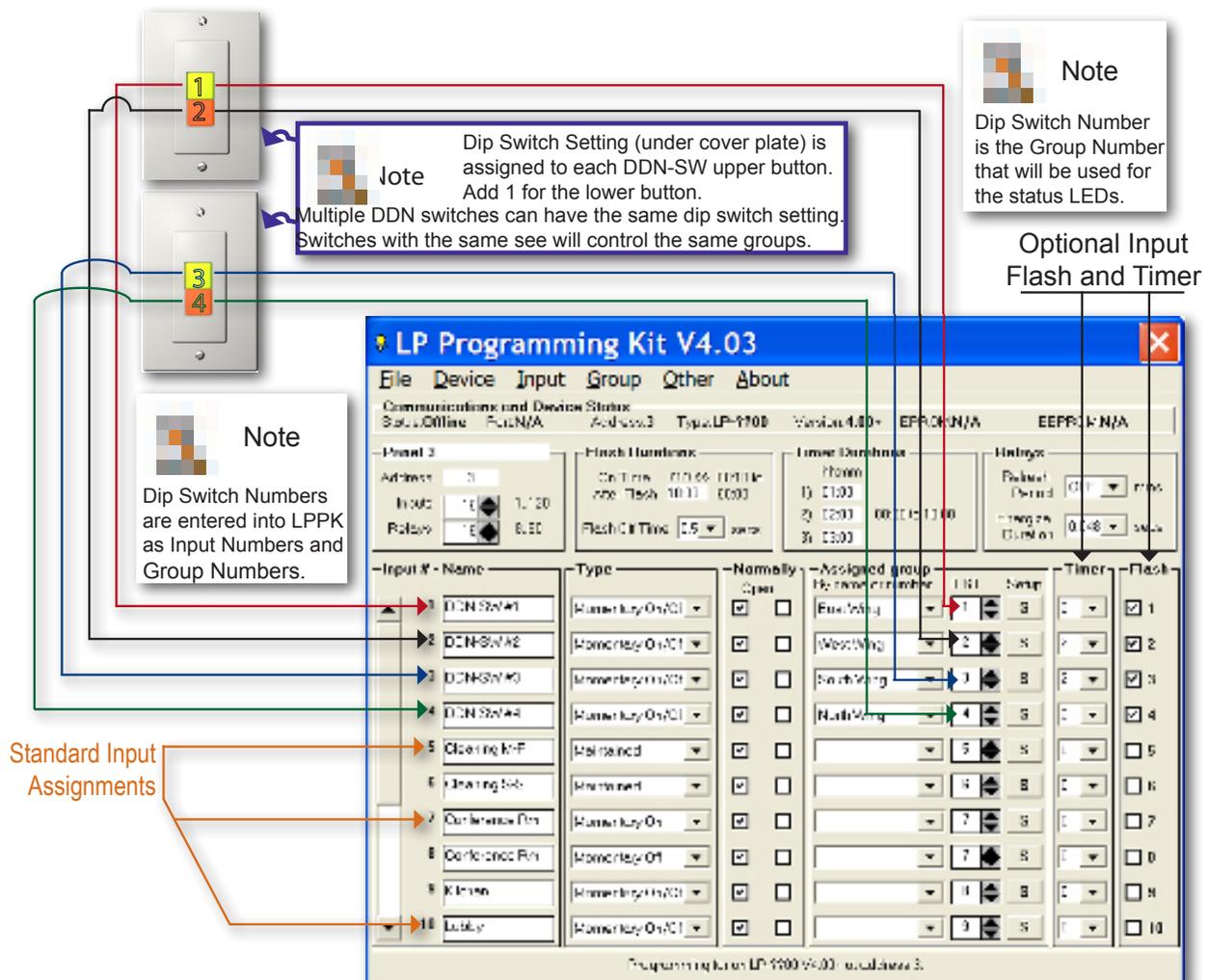
Purpose:

Assign DDN-SW1 or DDN-SW2 switches to LPPK Groups in order to control the correct lighting circuits and report the Group status back to the correct DDN-SW1 or DDN-SW2 button LEDs.

Steps:

- 1) Start LPPK. Go to main page as shown below. In the section, "Input # - Name", note the fixed input numbers along the left side of the page.
- 2) Go to the section "Assigned group", and to the column, "0-60". Assign a Group # to the input box. For each input, assign a Group number. The Group number must equal the switch address. In other words, the Group # = the Input # = DDN dip switch # as shown in the diagram. Note the fixed Input # on the left side of the page is in line with the Group # in the white input box on the right side of the page.
- 3) Remember, the DDN dip switch # represents the upper button. Dip switch # + 1 represents the lower button. Include both numbers in LPPK.
- 4) Set the Input Type to Momentary On/Off and Normally Open. Standard switches to the same panel are not required to follow this "Input# = Group#" configuration.

Example: DDN-SW2 switches will command panel Groups 1-4. DDN-SW2 switches will also have an optional 2-hour timer and flash enabled. The status of the panel groups are reported back to the correct DDN-SW2 LED. Standard switches control all other groups.





Digi-Touch Installation Guide

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AGREEMENT OF SALE: Acceptance by Blue Ridge Technologies, (hereinafter "Seller") of any order, placed for the goods described on the Acknowledgment, Invoice or Sales Contract hereof shall be subject to Seller's Standard Terms and Conditions of Sale and is conditioned upon the Buyer's acceptance of these Standard Terms and Conditions of sale as stated on this Sales Contract.

TERMS OF CONTRACT: Any terms or conditions of the Buyer's order which are inconsistent with these Standard Terms and Conditions shall not be binding on the Seller and shall not be considered applicable to the sale or shipment of goods covered by this Acknowledgment, Invoice, or Sales Contract. **PRICES:** Prices are subject to change to the extent permissible under applicable federal law. Sales contracts which call for delivery in the future will be billed at prices in effect at the time of shipment. Shipping weights shown are approximate and subject to change without notice. Seller shall notify buyer of any significant changes in weight.

SHIPMENT AND PAYMENTS: All prices are F.O.B. Seller's plant in Kennesaw, Georgia. No freight is allowed on any shipments. Shipments and deliveries hereunder shall at all times be subject to the approval of Seller's Credit Department. Seller may, at any time, require payment in advance or satisfactory security or guarantee that invoices will be promptly paid when due. If Buyer fails to comply with any terms of payment, Seller, in addition to its rights and remedies but not in limitation thereof, reserves the right to withhold further deliveries or terminate this Agreement, and any unpaid amount thereon shall become due immediately. Terms of payment shall be as set forth on the face hereof. Unless approved by Seller, all overseas shipments shall require prepayment by wire transfer or an irrevocable letter of credit from Buyer.

FORCE MAJEURE: Delays or defaults in delivery by Seller of the goods covered by this Sales Contract shall be excused as Force Majeure so far as the same is caused by fire, strikes, accident, war, natural disasters, acts of God, terrorism, explosions, death, vandalism, armed robbery, theft, breakage of machinery, governmental regulation, or any other events which were unavoidable or caused by events which are beyond the reasonable control of Seller. In no event shall Seller be liable for any consequential, special, or contingent damages on account of any default or delay in delivery from any Force Majeure event. If any Force Majeure event occurs which may affect Buyer's goods, Seller shall give prompt oral and written notice of its Force Majeure declaration to Buyer within 7 days or as soon as is practicable.

NON-CANCELLATION: Orders are not subject to suspension, reduction, or cancellation, except on terms that will indemnify Seller against loss. **SPECIFICATIONS:** Seller relies on specifications and other data furnished by the Buyer, architect, contractors, and/or consulting engineer in all phases of the work covered by this Acknowledgment, Invoice or Sales Contract. Seller shall be responsible to check quantities only. Alterations, changes in specifications, approval of samples, and/or changes in delivery shall not be binding upon Seller unless approved by Seller in advance. In the event Buyer asks Seller to perform design or engineering work for any and all phases of the work covered by this Acknowledgment, Invoice or Sales Contract, Seller shall not be responsible for any damages claimed by the Buyer as a result of alleged errors or defects in such design or engineering work except for gross negligence on the part of Seller.

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RETURNS: Material returned for credit is subject to a 25% restocking charge. Freight or other costs incurred in restocking will be added. Returns resulting from errors by the Seller will not be subject to the charge. Returned materials shall be received in condition for resale as new equipment to qualify for credit. Returned materials must be returned to the Seller within 30 days of receipt and shall only be accepted with prior written authorization.

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CLAIMS: Claims for shortages of goods or for mistakes or errors in billing must be presented within forty-five (45) days from the date of goods; and must state the packing slip number and container number applicable to the claim. Any claim not so presented shall be conclusively deemed waived.

TAXES: Any federal, state, local or government tax or charge on the sale, shipment, or installation of the goods covered by the Acknowledgment, Invoice or Sales Contract, shall be added to the price and paid by Buyer or, in lieu thereof, the Buyer shall furnish Seller with tax-exemption certificates acceptable to the taxing authority. Buyer agrees to reimburse and save Seller harmless from all such state and local taxes, including interest and penalties thereon, which may at any time be payable to any governmental unit with respect to the sale of any goods covered by this Acknowledgment, Invoice or Sales Contract.

CREDIT BALANCE: Any credit memos granted to Buyer from Seller arising out of returned goods or other circumstances, which are not subsequently requested or applied to the purchase of other goods from Seller within twelve months from the date credit was granted, shall become the property of Seller.

APPLICABLE LAW: All questions arising out of this Acknowledgment, Invoice or Sales Contract, which shall be deemed a Georgia contract, shall be governed by the laws of the State of Georgia. Venue for any disputes arising out of this agreement shall be in Georgia. All disputes arising out of this agreement shall be resolved in the following fashion: the parties shall first engage in good-faith negotiation. If the parties are unable to settle their claims through good-faith negotiation, the parties shall attempt to resolve their dispute through mediation by an agreed upon mediator. Lastly, if mediation fails, the parties shall be subject to binding arbitration by an agreed upon arbitrator who is a member of the American Arbitration Association. The prevailing party in any arbitration or other legal action arising out of this agreement, and/or these terms and conditions of sale, shall be entitled to indemnification of all its attorneys' fees, litigation expenses, and costs from the losing party.

EXCLUSIVE TERMS: This Acknowledgment, Invoice or Sales Contract, which includes these Standard Terms and Conditions, shall constitute the final and binding contract between the parties and shall take precedence over any other terms and conditions from the Buyer. Any changes or deviations from this Acknowledgment, Invoice or Sales Contract must be in writing and mutually agreed to by Buyer and Seller.

LIMITATION FOR SUITS: Any controversy or claim arising out of, or relating to, this Acknowledgment, Invoice or Sales Contract, or the breach thereof, must be commenced within two (2) years

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