

## Mounting

Mount the M1DBH using the included 3" structured wiring plate (ELK-SWP3) or double faced foam tape.

1. Connect the M1DBH to the +12V, Data A, Data B, and Neg screw terminals on the M1 Control using a dedicated 4 wire, 22 gauge min. cable.  
- An optional ELK-W018B ribbon cable may be used if the M1DBH is less than 24" from the M1 Board.
2. Run a CAT5/6 (Category 5/6) 4 pair, twisted cable to each data bus device location.  
- Terminate the CAT5/6 cable at the M1DBH location using a RJ45 plug and the appropriate crimping tool. Follow the 568A wiring standard. (see color code on back of page) **Note: RJ45 plugs are not included with the M1DBH due to the variety of brands and terminating tools available.**  
- At each device location, attach the CAT5/6 wires to the devices' screw terminals or flying lead harness using the 568A standards shown on the flip side. The Pos & Neg (CAT5/6 Brn/Wht) wires connect singularly to the Pos & Neg terminations. The data A & B, plus the data A1 & B1 (CAT5/6 Grn/Wht & Org/Wht) wires will connect "doubled up" under the device terminations labeled A and B. This creates a form of 3-way connection which routes the data A1 & B1 back to the cable's RJ45 plug so the M1DBH can feed it to the RJ45 receptacle for the next device. This arrangement places the data lines in a series or "daisy chain" configuration, critical for proper operation. Daisy Chaining is important due to the high speed of the M1's RS-485 data bus. Refer to STEP 4 for terminating of the daisy chain.
3. Plug each data bus cable into it's own RJ45 jack on the M1DBH board starting with J1. Do not skip over empty positions.
4. Insert the included EOL resistor terminating plug in the unused jack that follows the last data bus cable. This plug terminates the data bus with a 120 Ohm resistor across the A & B data return lines coming from the last wired device.
5. An additional M1DBH Hub may be connected in a straight (single) daisy chain from the first by construction of a CAT5/6 Crossover cable with RJ45 plugs on each end. See diagram on flip side. The 2nd M1DBH can be used to increase the total number of data bus home runs. The crossover cable must be plugged into the next available unused port on the first M1DBH and then to the first port (J1) on the next M1DBH.

**WARNING: Never attempt to multi-spoke M1DBH's off one another! They may only be interconnected in a single daisy chain fashion. Never exceed the 4,000 ft. max. bus distance. The length of each CAT5 home run must be calculated as DOUBLE.**

**Never use any cable other than a good quality CAT5/6 cable with the M1DBH ports. Never attempt to splice or extend any of the M1DBH CAT5/6 port cables with ordinary multi-conductor cable! Elk Products will not support or approve any deviance from these instructions.**



## Data Bus Hub ELK-M1DBH

### APPLICATION:

The ELK-M1DBH is the ideal way to connect multiple data bus home runs to the M1 Control. It utilizes 8 conductor CAT5/6 type cables terminated with RJ45 plugs. The M1DBH daisy chains (in series) the data lines (A & B) of each home run and provides a clean, organized method for managing the data bus wires.

### FEATURES:

- Accommodates 9 Data Bus Home Run Cables
- Data lines A & B are series connected on-board between each connected home run
- Two or more M1DBH Hubs may be connected in a straight (single) daisy chain to increase the number of home runs
- Simple EOL Bus Termination Via RJ45 Terminating Resistor Plug (Included)
- Flexible Mounting Options

## Data Bus Hub ELK-M1DBH



### SPECIFICATIONS:

- 6 Position Screw Terminal Input
- 4 Position Quick Connect (J10) - For Use With ELKW018B Cable Assembly
- Data Bus Outputs: RJ 45 8-Pin Jacks
- Circuit Board Dimensions: 5" x 2.5"
- Mounting Plate Dimensions: 6.5" x 3" x .5"

Features or Specifications subject to change without notice.

### Instructions Printed On Inside



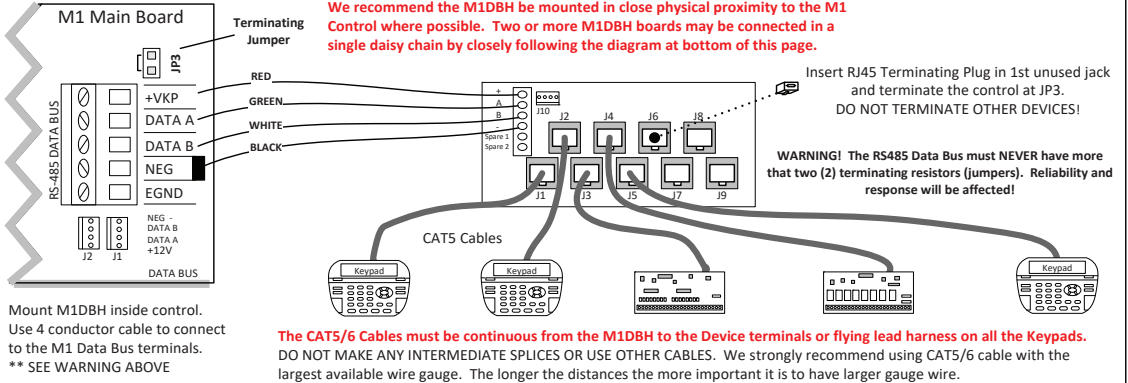
828-397-4200 [www.elkproducts.com](http://www.elkproducts.com)  
Email: [info@elkproducts.com](mailto:info@elkproducts.com)  
PO Box 100 • Hildebran, NC 28637 • USA



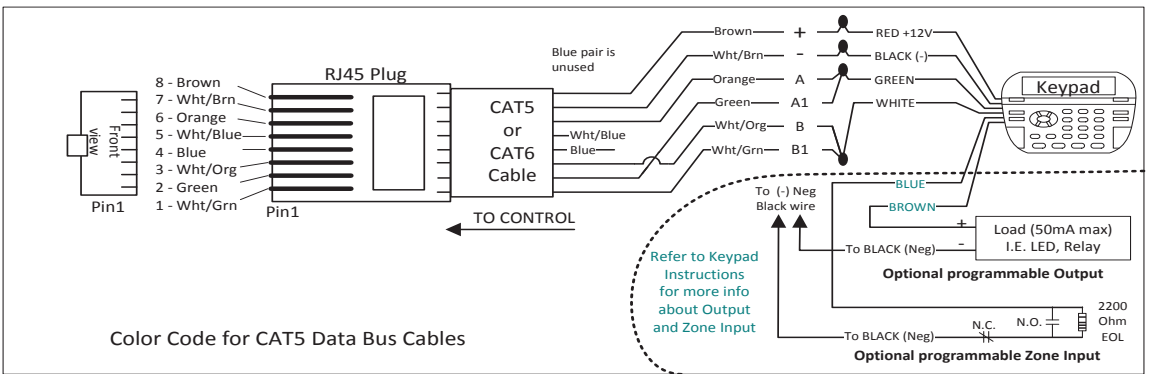
**WARNING:** Cancer and Reproductive Harm  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## ELK-M1DBH Data Bus Hub connected to M1 Main Control

The ELK-M1DBH Data Bus Hub is for new installations where it is possible to run multiple CAT5/6 homerun cables. The RJ45 jacks allow neat and organized connections. The third wire pair in the CAT5/6 cable is used to return the DATA lines back from each device where they are used to feed the next adjacent jack. The result is the M1DBH circuitry daisy chains the devices by series connecting the DATA lines A & B. Termination is accomplished with a plug-in RJ45 terminator (supplied).



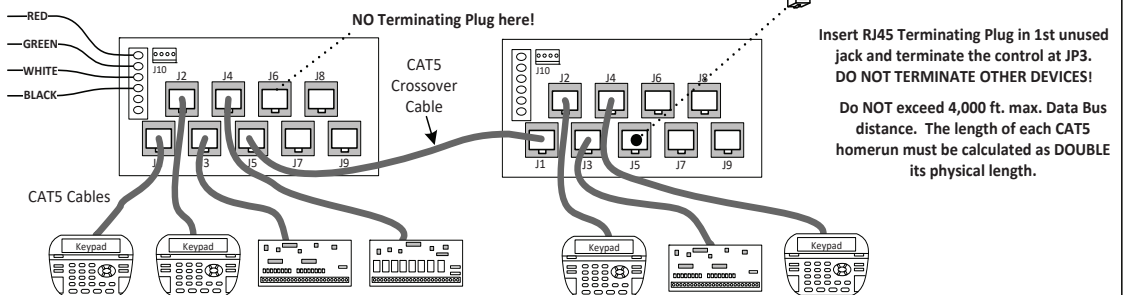
**NOTE: RS-485 Data Bus Max. wire length is 4000 ft. Total. Each CAT5 homerun from the M1DBH must be calculated as double the running distance since the Data A & B lines travel out and then back (A1 & B1) where they are used to feed the next homerun.**



**WARNING: Never use any cable other than a good quality CAT5 cable with the M1DBH ports. Never attempt to splice or extend any of the M1DBH port cables using ordinary multi-conductor cable! Elk Products will not support or approve any deviance from these instructions.**

## Proper (allowed) method for Daisy Chaining two or more ELK-M1DBH Data Bus Hubs

**The data bus must appear as a single series circuit, meaning a single daisy chain type of connection. Never attempt to multi-spoke multiple M1DBH's off a single M1DBH.**



**The CAT5/6 Cables must be continuous from the M1DBH to the Device terminals or flying lead harness on all the Keypads. DO NOT MAKE ANY INTERMEDIATE SPLICES OR USE OTHER CABLES. We strongly recommend using CAT5/6 cable with the largest available wire gauge. The longer the distances the more important it is to have larger gauge wire.**

**A Crossover cable (diagram below) must be plugged into the first unused port of the first M1DBH to port J1 on the next M1DBH.**

