

**\* Try these other fine ELK products \***

**M1 Cross Platform Control**

**M1 (Std)** Integrates Security, Lighting, Telephone, and Energy Management. Powerful "Rules" based automation capabilities. Up to 208 Zones.

**M1G (Gold)** More powerful version of M1 with more expansion and capabilities.

- M1KP** LCD Keypad, 2 x 16 Character, backlit
- M1XIN** 16 Zone (input) expander. Up to 12 per sys.
- M1XOVR** 16 Output expander. 8 voltage/8 Relays
- M1XOV** 16 Output expander. All low voltage pins
- M1RB** 8 relay board for use w/Ctrl,XOVR, or XOV
- M1DBH** Data Bus wiring hub for multiple homeruns
- M1XEP** Ethernet port expander/interface
- M1XSP** Serial port expander for additional serial ports.

**Magic Module Series**

- MM220** Magic Module, 2 Input, 2 Output, Programmable
- MM443** Magic Module, 4 Input, 4 Output, Programmable
- MM447** Automation Controller w/Voice, Caddx Interface
- MV480** Recordable Voice Module, 400 Channels
- MK400** Starter Kit, Includes MM443 & MK485
- MK485** Programming Kit, MB485, Cables, Software
- MB485** Data Bus Interface, RS232 to RS485

**Rust Free Sirens / Speakers**

- 1RT** Speaker & Stainless Steel Enclosure
- 150RT** Siren & Stainless Steel Enclosure

**Speakers & Sirens**

- 44** Speaker, 30 W, 8 Ohm Compact Horn
- 45** Siren, Compact Horn, 118db
- M120** Siren, Single Tone, 107db, Mini Horn
- SP15** Speaker, 15 watt, Small Horn
- SP30** Speaker, 30 watt, Horn
- SP35** Speaker, 20 watt, Interior
- SP40** Speaker, 40 watt, Horn
- SS15** Siren, Dual Tone, 110db, Horn
- SS30** Siren, Dual Tone, 120db, Horn
- SS36** Siren, Dual Tone, 105db, Interior

**ECHO™ Sirens & Speakers**

- 73** ECHO Speaker, 20 Watt, Interior
- 74** ECHO Dual Tone Siren, Interior
- 75** ECHO Voice Siren, Interior
- 870** ECHO Speaker, Self Amplified

**Siren & Voice Drivers**

- 100** High Performance Siren Driver
- 110** Voice Siren Driver, English & Spanish
- 120** Recordable Voice Module and Siren
- 124** Recordable Voice Module, 4 Channels

**Surge Suppressors**

- 950** Surge Suppressor, Phone & Power Line
- 951** Surge Suppressor, Phone - Single Line
- 955** Surge Suppressor, Phone - Dual Line

**Relay Modules**

- 912** Compact Relay, 12 Vdc, SPDT
- 912B** Heavy Duty Compact Relay, 12/24 Vdc, SPDT
- 924** Sensitive Relay, 12/24 Vdc, DPDT
- 941** Alarm Output Director
- 960** Delay Timer Relay, 1 sec. to 60 min.

**Power Products**

- 1250** Battery, Lead Acid, 12v, 5Ah
- 1280** Battery, Lead Acid, 12v, 8Ah
- P112** 12 Volts DC, 1 Amp Power Supply w/Enclosure
- P124** 24 Volts DC, 800mA Power Supply w/Enclosure
- P1216** 12 Volts DC, 1.5 Amp Power Supply
- P412** 12 Volts DC, 4 Amp Power Supply
- P624** Power Supply & Battery Charger
- PD9** Power Distribution Module
- 965** Low Battery Cutoff and Power Switch
- TRG1640** Transformer, 16.5VAC @ 40 VA
- TRG2440** Transformer, 24VAC @ 40 VA

**Accessories**

- 129** Computer Sound Card Interface
- 800** Audio Amplifier, 10 Watts
- 900-2** "B" Connectors, Unfilled, 500 pcs
- 902-2** "B" Connectors, Gel filled, 500 pcs
- 980** Telephone Line Fault Monitor
- 999** Double Sided Tape
- SL1** Strobe Light, 4 colors available
- WK1** Wall Mount Kit for SL1 Strobes

For more information contact your local Distributor or:  
 ELK PRODUCTS, INC 828-397-4200 FAX 828-397-4415  
 06/04

# Data Bus Hub ELK-M1DBH

**APPLICATION:**

The ELK-M1DBH is the ideal way to connect multiple home run cables to the M1 Control. It is designed for CAT5 or CAT6 cables with RJ45 plugs on the ends. The M1DBH does all the work of series connecting the data lines (A & B) and provides a clean, organized method for managing the data bus wires.



## Data Bus Hub ELK-M1DBH



**FEATURES:**

- Designed For Multiple Home Run Cables
- Internally Connects Data A & B Lines From Previous Device In to Next Device Out
- Provides up to Nine (9) Data Bus Connections
- Multiple Hubs May be Connected for Expansion
- EOL Bus Termination Can Be Done On-Board, RJ45 Terminating Resistor Plug Included
- Mounting Plate for Structured Wire Boxes

**SPECIFICATIONS:**

- Input Connections: Elevator Screw Terminals
- Output Connections: RJ 45 8-Pin Jacks
- Mounting Plate Dimensions: 6.5" x 3" x .5"
- Circuit Board Dimensions: 5" x 2.5"



828-397-4200 Voice  
 828-397-4415 Fax  
<http://www.elkproducts.com>  
 email: [info@elkproducts.com](mailto:info@elkproducts.com)

PO Box 100 • Hwy. 70W • Hildebran, NC 28637 • USA

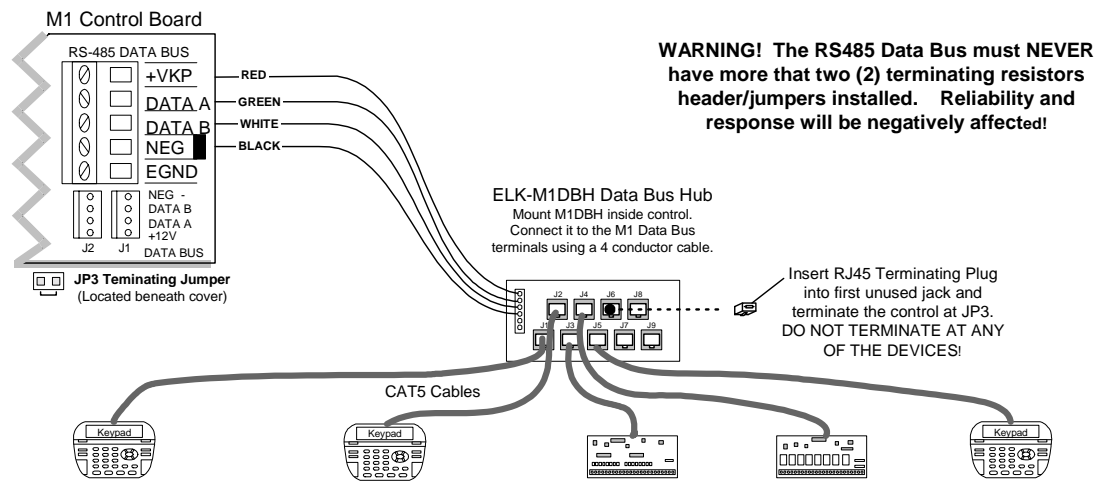
**Instructions Printed On Inside**

## M1DBH Data Bus Hub Installation

The M1DBH is pre-assembled on a 3" structured wiring plate (ELK-SWP3), which mounts inside any ELK Structured Wiring Enclosure. Four (4) black push-pin style fasteners mount the plate to the enclosure. If desired, the board may also be removed from the plate and mounted with double faced tape.

1. Connect the +V/KP, Data A, Data B, and Neg data bus terminals from the M1 board to the top four (4) input terminals on the M1DBH board using a (4) conductor cable.
2. Pull Category 5 Cable (CAT5) from each data bus device to the control.
3. Terminate each CAT5 data bus cable with an RJ45 plug using the appropriate crimping tool. Use the 568A wiring standard (see wire color code below). **Note: RJ45 plugs are not included with the M1DBH due to the great variety of brands and terminating tools which are subject to dealer preference.**
3. Following the color codes used in step 2 and the wiring diagram below, connect the CAT5 cable at each device. The Pos & Neg wires connect singularly to the Pos & Neg terminations (flying lead wires or terminals) of the keypad, zone expander, etc. However the data A & B lines are connected to the device along with a "return" wire so that the data returns back to the M1DBH, which is then used to feed the next device. Effectively, this puts the data lines in a series circuit so that the control communicates with each device in a progression or "daisy chain" fashion. The very end of this daisy chain (which will be the two return wires from the last data bus device) requires a terminating resistor (see step 5). This is very important due to the high speed of the M1's RS-485 data bus communications.
4. Place each data bus cable into it's own RJ45 jack on the M1DBH board starting with J1. If there are more than 9 data bus cables, add a second M1DBH and connect the short CAT5 jumper (included) from J9 on the previous M1DBH board to J1 on the next M1DBH board. This leaves 8 jacks on the first M1DBH and 8 on the second or a total of 16 potential jacks (ports). Additional M1DBH boards may be connected for more cables.
5. Place the EOL resistor terminating plug (included) into the first unused jack. This plug places a 120 Ohm resistor across the A & B data return lines coming from the last wired device, effectively terminating the bus.

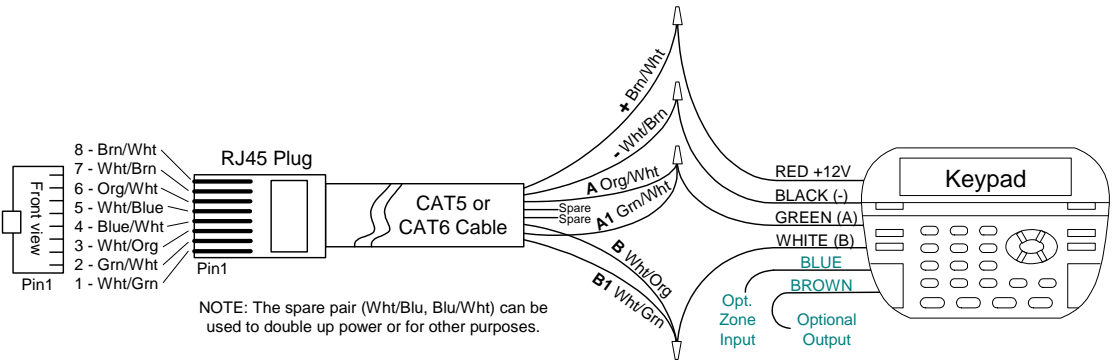
The ELK-M1DBH Data Bus Hub is the ideal way to connect multiple home run cables to the M1. It accepts CAT5 or CAT6 cable with RJ45 plugs on the ends. The M1DBH does the work of series connecting DATA lines A & B and provides a clean, organized method for managing the data bus wires. Data bus termination is done at the hub with an RJ45 Terminating Plug (included) placed into the first unused jack.



**Diagram for Daisy Chain Connection of Data Bus Devices Using ELK-M1DBH And CAT5 Cables.**

**Maximum "TOTAL" Length of the M1 RS-485 Data Bus should NOT exceed 4000 feet.**

When calculating the total length, figure the length of each home run to the M1DBH times 2 (x 2) since the data lines run out and back. Maximum number of data bus devices varies by control.)



**Color Code and Connections of CAT5 or CAT6 Data Bus Cable from Keypad to Data Bus Hub**