



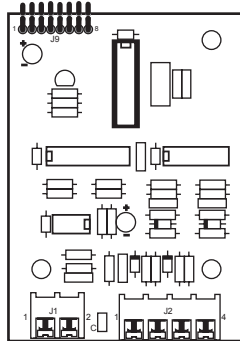
TECHNICAL Practice

TELECOM SOLUTIONS FOR THE 21ST CENTURY

AES-NET
Wiegand/CAN
Network Board

September 25, 2002

Add One Local and up to 32 Remote Wiegand Type Proximity Card Readers to the AES-2000



Adding the **AES-NET** board to the **AES-2000** allows a local Wiegand device such as a Proximity Card Reader to be added to the **AES-2000** accessible door entry system. Using Proximity cards instead of keyless entry codes, the building manager keeps control over the number of people that can let themselves into the building. The Wiegand device used may be the Viking model **HID-1** Proximity Card Reader or any other card reader, RF transmitter, or digital keypad that outputs 26 bit Wiegand data.

In addition to a directly connected Wiegand device, the **AES-NET** board also provides two wire CAN bus connections which supports up to 32 additional remote points of entry. Each additional

remote entry point requires one Viking Model **ES-3** door controller, one Wiegand device, and a door strike or magnetic lock of your choice. Only one pair of wires are needed to wire all 32 entry system door controllers back to the **AES-NET** board.

Features

- Enables the addition of a Proximity Card Reader to the **AES-2000**.
- Accepts data from a HID card reader using standard 26 bit Wiegand format.
- Supports up to 32 additional entry points through a two wire CAN communication protocol.
- Two wire CAN bus can be daisy chain wired up to 1/2 mile away using a 24 gauge twisted pair.

Applications

- High rise apartments
- Condos
- Senior citizen buildings
- Assisted care centers
- Retirement homes
- Gated communities

info@vikingelectronics.com

Phone...715.386.8861

<http://www.vikingelectronics.com>

Specifications

Power: Powered from **AES-2000** control board

Dimensions: 90mm x 64mm (3.5" x 2.5")

Shipping Weight: .45Kg (1 lb)

Environmental: -26° C to 54° C (-15° F to 130° F) with 5% to 95% non-condensing humidity

Connections: One 8 pin header and six cage clamp screw terminals.

Max CAN length: 0.8 Km (2600 ft) - 24 AWG twisted pair

1.6 Km (5300 ft) - using 2 pairs of 24 AWG twisted pair

Max Wiegand Length: 183 m (500 ft) - 24 AWG wire

Definitions

Entry point: A door or gate allowing access into a secure or controlled area.

CAN Communications: A highly reliable two wire communications protocol developed for the automotive industry.

26 bit Wiegand format: The industry standard data output of access control card readers.

Installation

Step 1.	Unlock and open the AES-2000 front panel.
Step 2.	Disconnect the power to the AES-2000 .
Step 3.	Remove the (4) screws holding the inner shroud and remove the shroud (see diagram A).
Step 4.	Disconnect all cables to the control board.
Step 5.	Remove the (4) mounting posts holding the control board (see diagram B).
Step 6.	Lift off the control board and set it aside.
Step 7.	Place provided 3/16" metal spacers over the three threaded studs. (see diagram C).
Step 8.	Mount the AES-NET board onto the studs using the #4 nuts provided (see diagram D).
Step 9.	Re-mount the AES-2000 control board back onto the panel.
Step 10.	Connect all cables. The AES-NET control cable connects to J9 on the AES-2000 main board. Replace the inner shroud, being careful not to pinch any wires. .
Step 11.	Reconnect the power to the AES-2000

Diagram A

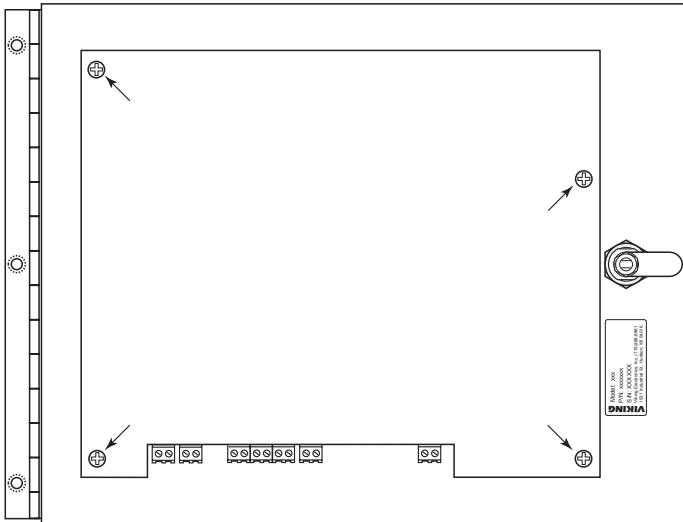


Diagram B

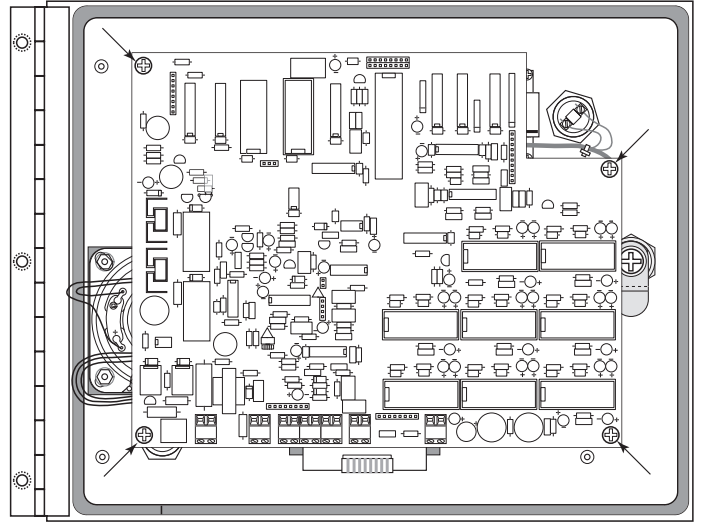


Diagram C

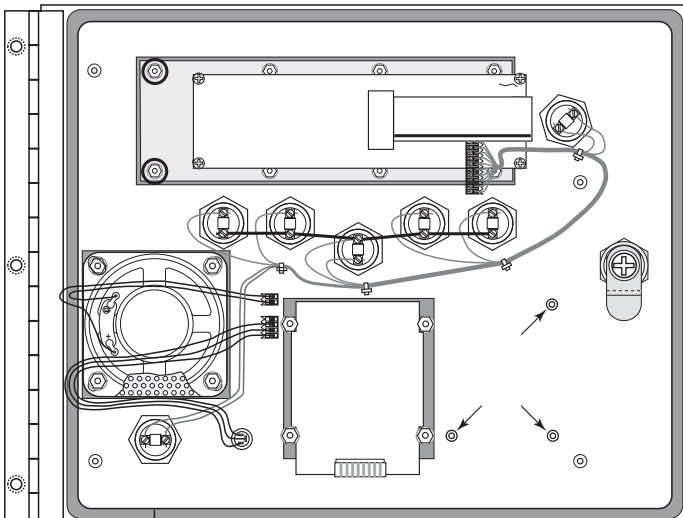
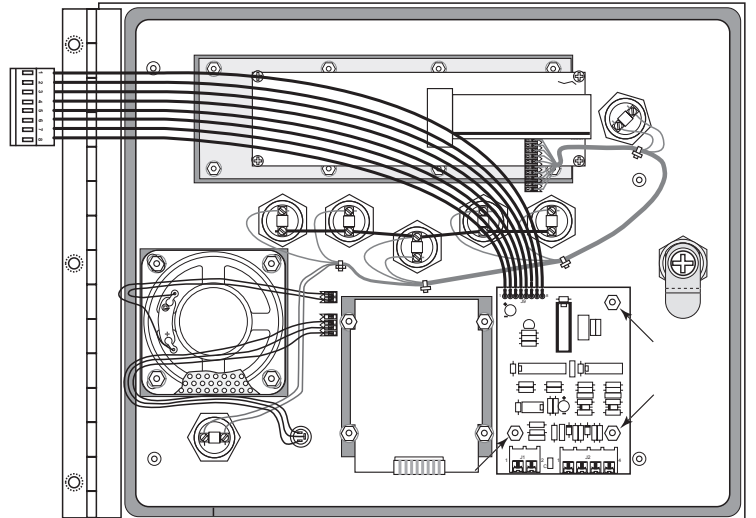
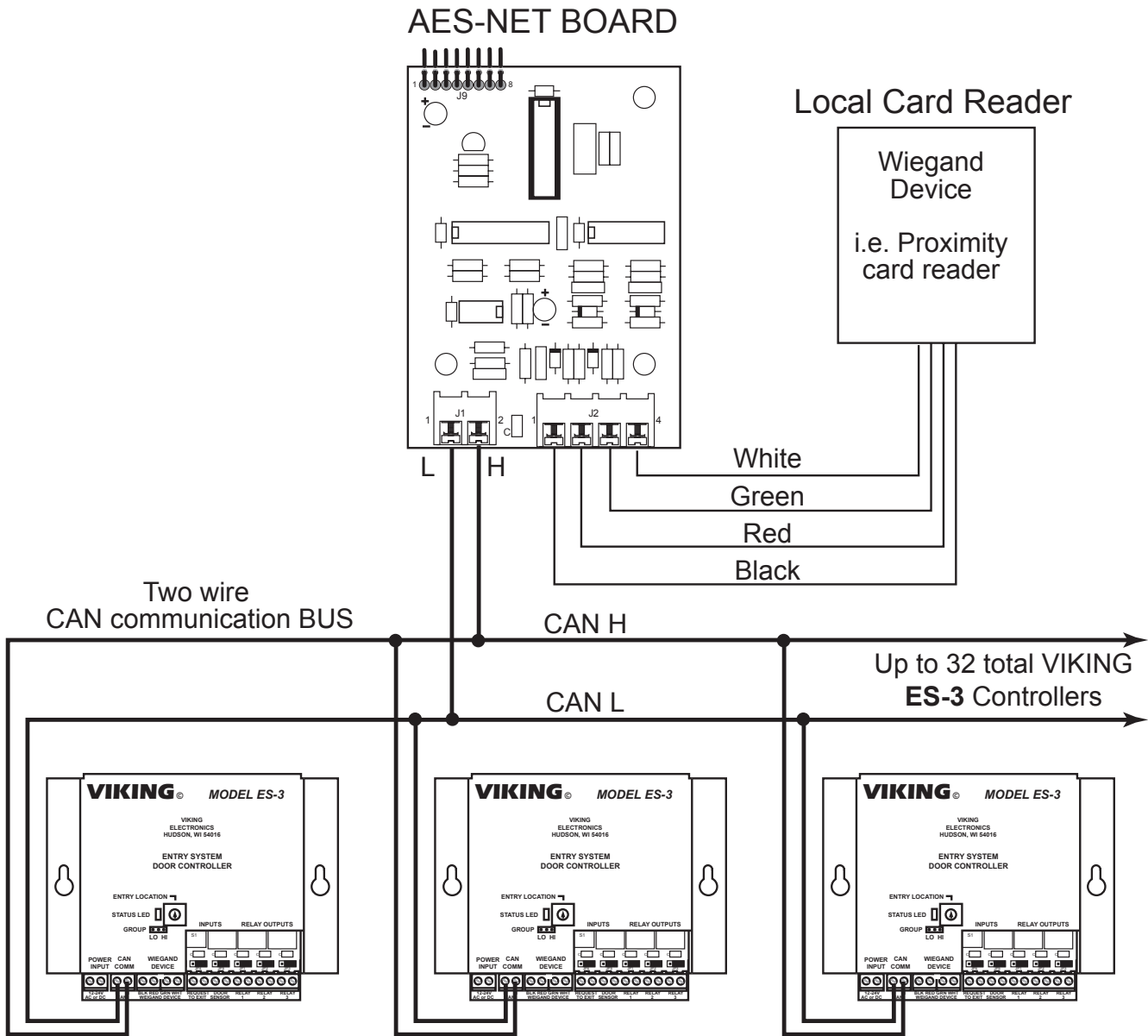


Diagram D





One local Wiegand device (typically a Proximity card reader) is fully supported (power and data) from the **AES-NET** board, yet may be installed up to 500 feet away using common 24 gauge wire. Connect only the BLACK, RED, GREEN, and WHITE wires as shown above. Keep unused leads insulated.

The **AES-NET** board allows the **AES-2000** to communicate with the Viking model **ES-3** entry system door controller via a two wire CAN Communication Bus. CAN bus distances of up to 1/2 a mile (over 2600 feet) are achieved using common 24 gauge CAT-2 through CAT-5 wire, and 1 mile (5280 feet) is possible by doubling up on the 24 gauge twisted pair (or running at least 21 gauge). In addition, up to 32ea **ES-3** entry system door controllers may share the same CAN communication pair. The CAN bus must be polarity correct, so that all CAN-H connections and all CAN-L connections are common.

Programming

All 26 bit Wiegand Access Cards, such as the HID Proximity Card, identify themselves with a six digit number. The first two digits are considered the Facility Code, and the last four digits are the Card Number. When programming the **AES-2000**, enter this unique six digit number as the "Keyless Entry Code" for the person the card will be issued.

Operation

The **AES-NET** board allows **ES-3** Entry System Access Controllers to communicate with the **AES-2000**'s main board to provide up to 32 remote access controlled entry points.

The **AES-NET** board also monitors a local Wiegand device (ie, proximity card reader) for 26 bit data. When data is received, it is sent to the **AES-2000** which compares it against the programmed data base. If the six digit card number matches a programmed Keyless Entry Code, access will be granted just as if the tenant dialed the keyless entry code on the **AES-2000** keypad.

Product Support Line...715.386.8666

Fax Back Line...715.386.4345

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