

CORNELL

Emergency Response Systems

**Door Monitor Systems
Series 1000**

CORNELL Communications, Inc.
Milwaukee, WI USA
800-558-8957 - www.cornell.com



A-1000 SERIES DOOR MONITOR

OPERATION AND WIRING INSTRUCTIONS

BASIC SYSTEM OPERATION:

Each zone switch contains a red and a green LED. Each time the zone switch is pressed, the zone status toggles between armed and disarmed.

The green LED indicates the disarmed status. The associated door may be opened without causing an alarm. A short and/or open in the door contact wiring will cause the panel to go into the alarm condition.

A steady red LED indicates the armed status. If an armed door is opened, the alarm condition occurs. The red LED will flash and an intermittent audio tone will sound. Pressing the *cancel tone* switch on the master panel will silence the audio tone but will not clear the alarm. If another zone should go into the alarm condition, the tone would again sound until the *cancel tone* switch is pressed or until all alarms are canceled.

To cancel an alarm, simply press and release the zone switch. This will return the zone to the disarmed status and automatically cancel the alarm.

POWER SUPPLY REQUIREMENT:

The A-1000 Series Door Monitor System is designed to operate on regulated 12VDC power. Connecting an AC power source or a DC power supply with a voltage above 12V will damage the system. Make sure you are using one of the following *CORNELL* power supplies: P-512241A, P-512243A, or the B-5243A. Use minimum 18 gauge 2 conductor wiring from power supply to the Master Panel. The B-5243A power supply provides battery back up allowing a typical system to operate 24 hours or more on back-up power.

WIRING:

All wiring to be minimum 22 gauge unless otherwise specified. Refer to drawing D1000W-A for basic system wiring information.

SYSTEM FEATURES:

- *Adjustable alarm volume* - Volume of intermittent tone is adjustable with a screwdriver from the front of the master panel.
- *Door contacts* - The system can use either normally open (N.O.) or normally closed (N.C.) contacts. Two 22 gauge wires required between door switch and zone card. Refer the drawing D1000W-A.
- *Auxiliary output per zone* - Each zone card has a switched negative (open collector) transistor output at terminal 9, which turns on whenever that zone is in the alarm condition. Rating: 500mA, 40VDC
- *Auxiliary output, system* - The "RM" terminal on the tone board is a switched negative (open collector) transistor output, which turns on whenever **any** zone is in the alarm condition. Automatically turns off when all alarms are canceled. Rating: 100mA, 12VDC
- *Door Status Output* - Each zone card has a door status output at terminal 11-switched negative, (open collector) transistor that turns on whenever the door is open, regardless of armed/disarmed status. Rating: 100mA, 12VDC
- *Zone Switch Disable* - Cutting the factory installed Zone Switch Enable jumper between terminals 1 and 3 of a zone card will disable the zone switch from making changes in the armed/disarmed status of the door. Status changes will then only be possible using a remote zone control product (see *OPTIONS-REMOTE ZONE MONITOR/CONTROL PRODUCTS*).
- *Zone Switch Disable during alarm* - Cutting jumper J1 on a zone card will disable the zone switch from making changes in the armed/disarmed status of the door **only when the zone is in the alarm condition**. The zone switch will still function while the zone is either disarmed or armed. Once in the alarm condition, clearing the alarm will only be possible from a remote zone control product. Note: If the Zone Switch Enable jumper (see Zone Switch Disable) is cut, the zone switch will be disabled under all conditions.

OPTIONS-REMOTE ZONE MONITOR/CONTROL PRODUCTS

A-1600 -The Remote Control Panel duplicates the functions of the Master Panel except it has a high/low switch instead of a "Cancel Tone" switch for control of the alarm tone. When the Master Panel tone is silenced the tone for the Remote Control Panel is also silenced. Individual zones have one green LED, one red LED, and a momentary three position, center neutral toggle switch. Activating the toggle switch to the left or right will disarm or arm the zone, respectively. More than one A-1600 panel may be used.

Wiring: Two 18-gauge conductors, one 22-gauge conductor plus four 22-gauge conductors per zone, all to master panel. Refer to drawing DA1600WM.

A-1700 - The Remote Monitor Panel provides a visual and audible indication of any or all zones. Each zone contains one green LED and one red LED. The panel contains a tone hi/low switch to control the audible alarm tone volume. When the Master Panel tone is silenced, the tone at the A-1700 panel is also silenced. More than one A-1700 panel may be used.

Wiring: Two 22-gauge conductors, one 22 conductor plus two 22-gauge conductors per zone, all to master panel. Refer to drawing DA1600WM.

A-1800 - Remote control station for a single zone comprised of one green LED, one red LED, a key switch, and a toggle switch on a single gang stainless steel plate. The key switch will enable/disable the use of the toggle switch. When enabled, the toggle switch will change the status of that zone.

Wiring: Requires 5-conductor 22-gauge cable to Master Panel. Refer to drawing DA1800WM.

A-1801- A key operated switch with built-in timer designed to permit authorized personnel to pass though the door when the zone is armed. The A-1801 has a key switch and red LED mounted on a single gang stainless steel plate. The red LED will glow when the zone is armed. The red LED will flash when the zone is in the alarm condition. Operating the key switch will disarm the zone and start the timer allowing the user to pass through the door. After the user adjustable time period (1 second to one minute, approximately) that zone will automatically re-arm itself.

Wiring: Requires 5-conductor 22-gauge cable from switch to Master Panel. Refer to drawing DA1800WM.

A-1802 - A key switch and a red LED on a single gang stainless steel plate. It is designed to be used in conjunction with the A-1801. A typical application would consist of an A-1802 installed on the outside of a secured door allowing entry into the building when the zone is armed. Operating the key switch starts the timer in the A-1801 disarming the door. After the delay period of the A-1801 timer, the zone will automatically re-arm itself. The red LED will glow when the zone is armed and will flash when the zone is in the alarm condition.

Wiring: Requires four 22-gauge conductors to A-1801. Refer to drawing DA1800WM.

A-1806D - A keypad station with arm/disarm exit-delay feature. The exit delay feature will disarm the zone for a user programmable period of 10-60 seconds allowing passage though an armed door. At the end of the delay period, the zone will automatically re-arm itself. The A-1806D contains a 12-key keypad, a red LED, a green LED, and a yellow LED on a two-gang stainless steel plate. The green LED glows when the zone is disarmed. The red LED glows when the zone is armed and flashes when the zone is in the alarm condition. The yellow LED glows during the exit-delay period.

Wiring: Requires six 22-gauge conductors to Master Panel. Refer the drawing DA1806WM.

A-1808D - A keypad station with the exit delay feature. The zone cannot be armed or disarmed using the A-1808D.

Wiring: Requires six 22-gauge conductors to Master Panel. Refer to drawing DA1806WM.

A-1900 and A-1901 - Disable switch - Master Panel. Option to disable individual zone switches at the Master Panel. Switch may be mounted on the Master Panel or at a remote location on single gang stainless steel plate (A-1900).

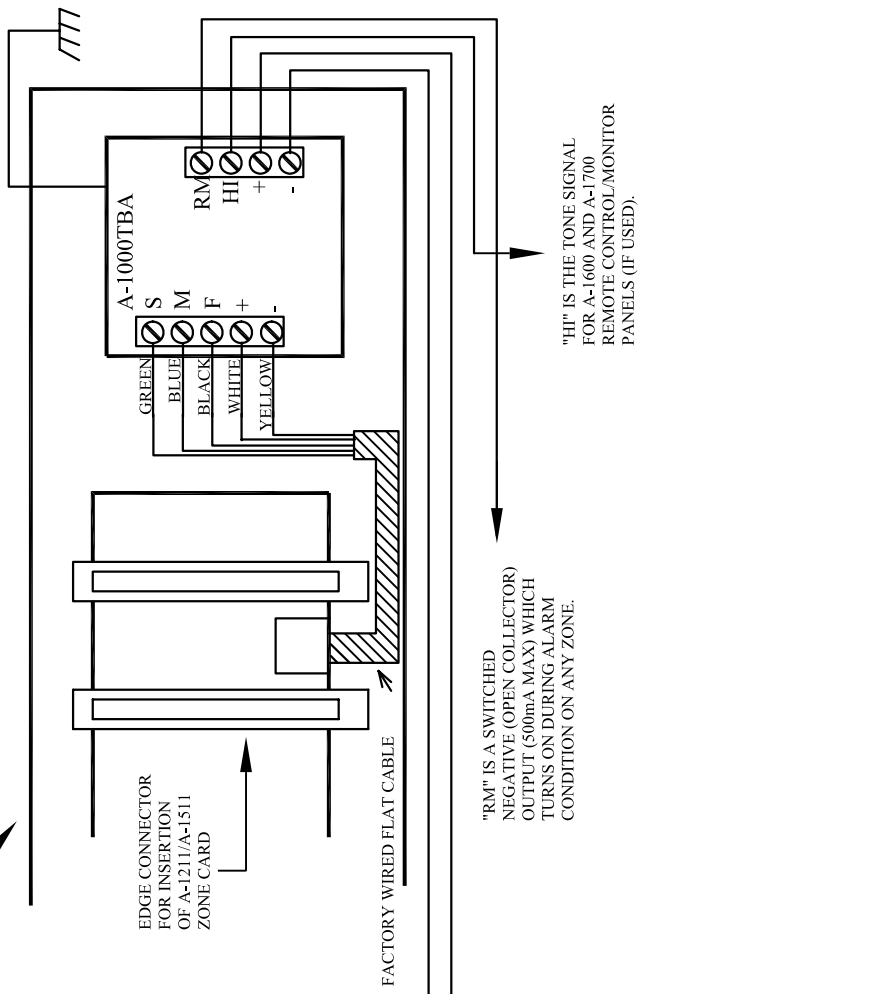
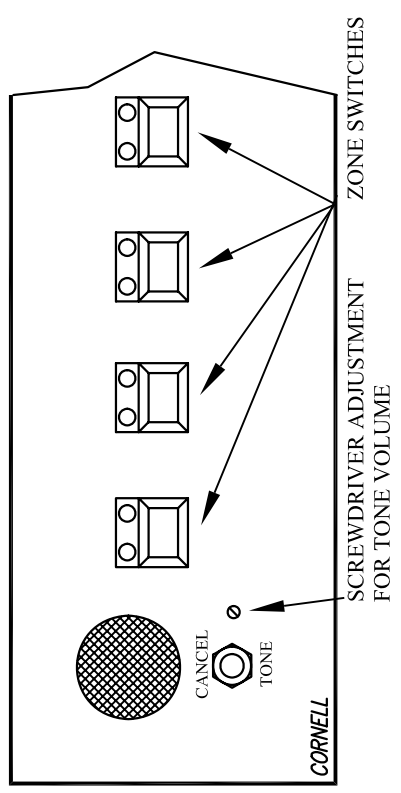
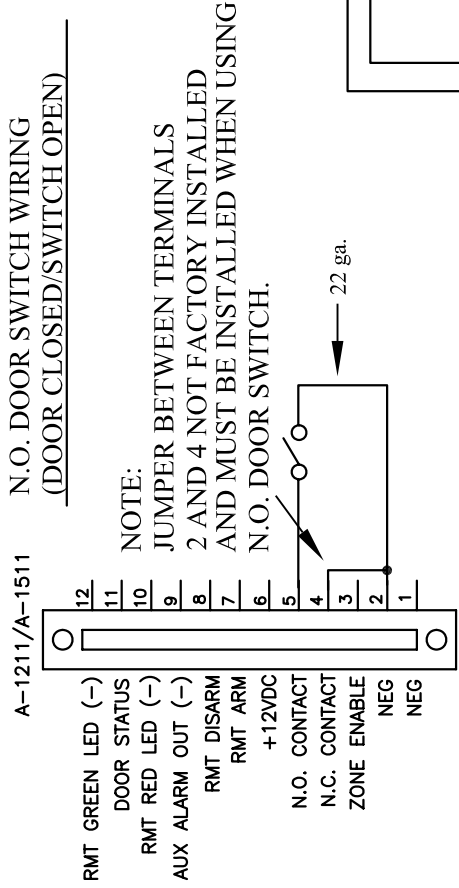
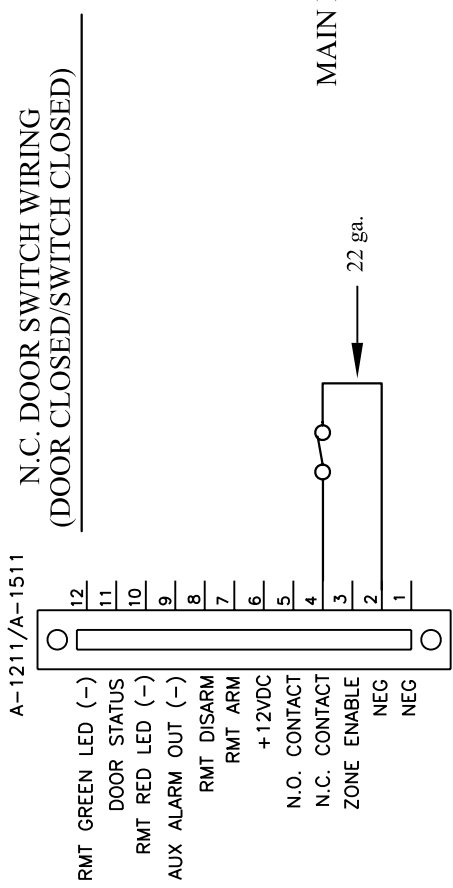
Wiring: Use 2 conductor cable from switch location to pins 1 and 3 on terminal (edge connector) as shown. Jumper from pin 1 to pin 3 must be removed. The disable feature can be wired to selected zones. Refer to drawing DA1900WM.

D1000P

CORNELL COMMUNICATIONS, INC.

Milwaukee, Wisconsin USA - 800-558-8957 - 414-351-4660 - Fax 414-351-4657
www.cornell.com - sales@cornell.com





| | | | | |
|--|---|---|--|-----------------|
| | CORNELL Communications, Inc. sales@cornell.com 414-351-4660 Web: www.cornell.com 414-351-4657(fax) | DATE: SEPTEMBER 25, 2006 TITLE: 1000 SYSTEM WIRING | SYSTEM: DOOR MONITOR DRAWING # 90031-06 | D1000W-A |
|--|---|---|--|-----------------|

A-1800:

A-1800 REMOTE CONTROL STATION FOR A SINGLE ZONE COMPRISED OF ONE GREEN LED, ONE RED LED, KEY SWITCH AND TOGGLE SWITCH ON A SINGLE GANG STAINLESS STEEL PLATE. THE KEY SWITCH WILL ENABLE OR DISABLE THE USE OF THE TOGGLE SWITCH. WHEN ENABLED, THE TOGGLE SWITCH WILL CHANGE THE STATUS OF THAT ZONE FROM A REMOTE LOCATION.

ARMED CONDITION--STEADY RED LED, ALARM CONDITION--FLASHING RED LED, AND UNARMED CONDITION--STEADY GREEN LED.

A-1801:

THE A-1801 IS A KEY OPERATED SWITCH WITH TIMER DESIGNED TO PERMIT AUTHORIZED PERSONS TO EXIT THE BUILDING WHEN THE ZONE IS ARMED. THE A-1801 HAS A KEY SWITCH AND RED LED MOUNTED ON A SINGLE GANG STAINLESS STEEL PLATE. THE RED LED WILL INDICATE WHEN THE DOOR IS ARMED. OPERATING THE KEY SWITCH WILL START THE TIMER AND ALLOW THE PERSON TO EXIT. AFTER THE ADJUSTABLE TIME CYCLE (1 SECOND TO TWO MINUTES) THAT ZONE WILL AUTOMATICALLY RE-ARM ITSELF.

ARMED CONDITION--STEADY RED LED, ALARM CONDITION--FLASHING RED LED, UNARMED CONDITION RED LED IS OFF.

A-1802:

THE A-1802 IS A KEY OPERATED SWITCH WITH A RED LED AND IS IDENTICAL TO THE A-1801 WITHOUT THE TIMER. IT IS DESIGNED TO BE USED IN CONJUNCTION WITH THE A-1801. TYPICAL APPLICATION WOULD CONSIST OF AN A-1802 INSTALLED ON THE OUTSIDE OF A SECURED DOOR CONNECTED TO AN A-1801 INSTALLED ON THE OTHER SIDE OF THE DOOR. OPERATING THE KEY SWITCH ON THE A-1802 ACTIVATES THE TIMER ON THE A-1801 ALLOWING PASSAGE THROUGH THE DOOR.

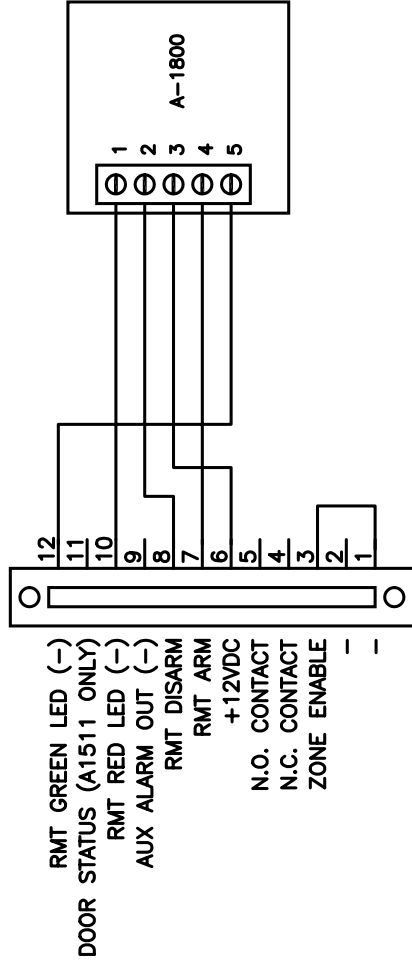
WIRING SUMMARY

A-1800 TO A-1211/A-1511 USE 5 CONDUCTOR 22 AWG.

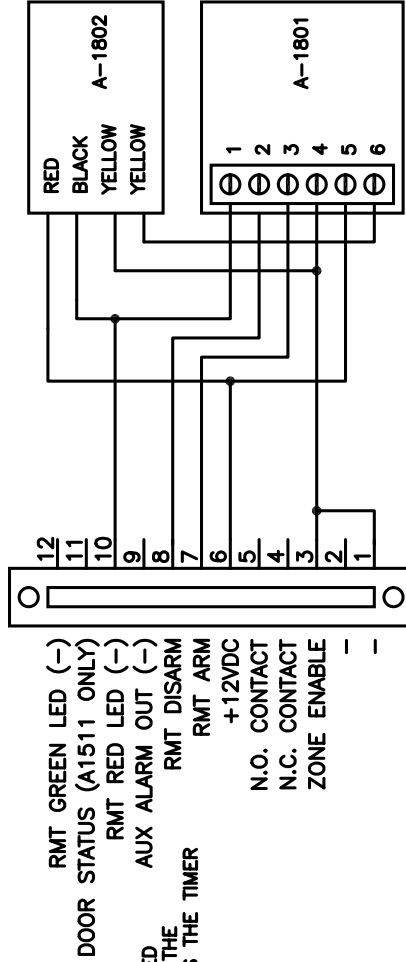
A-1801 TO A-1211/A-1511 USE 5 CONDUCTOR 22 AWG.

A-1802 TO A-1801 USE 4 CONDUCTOR 22 AWG.

A1501/A1511



A1501/A1511



CORNELL Communications, Inc.
 sales@cornell.com 414-351-4660
 Web: www.cornell.com 414-351-4657(fax)

DATE: MAY 21, 2002
TITLE: A-1800, 1801, 1802 WIRING

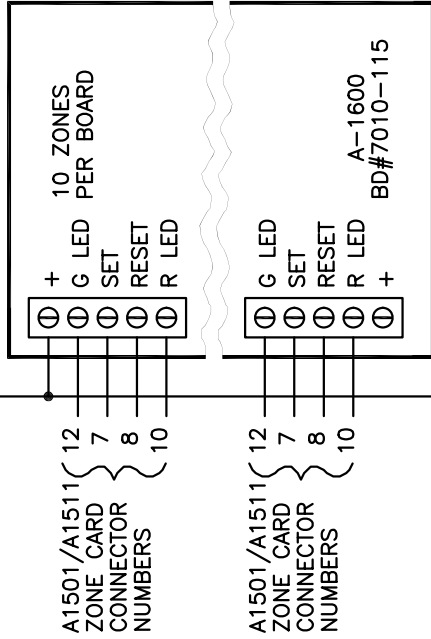
SYSTEM: 1000 DOOR SYSTEM
DRAWING # 90018-02 DA1800VVM

TO +12VDC ON POWER SUPPLY +
18 AWG

A-1600 REMOTE MASTER PANEL:

DUPLICATES FUNCTIONS OF THE A-1000 MASTER PANEL WITH THE FOLLOWING DIFFERENCES. A-1600 HAS A TONE HI-LO INSTEAD OF A CANCEL SWITCH TO CONTROL THE ALARM SIGNAL. ALSO, EACH ZONE HAS A GREEN LED, RED LED, AND SPRING LOADED CENTER OFF SWITCH.

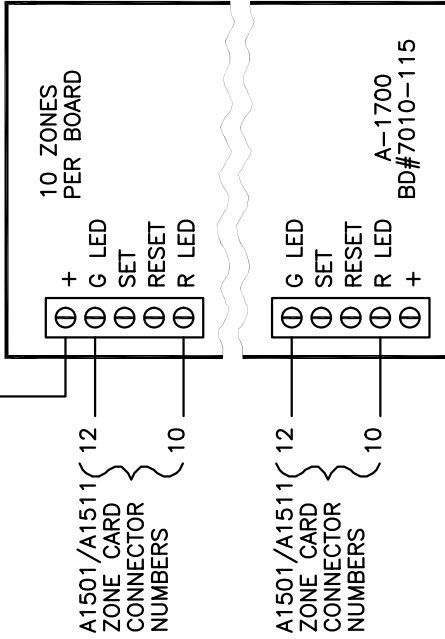
A-1600
PANEL



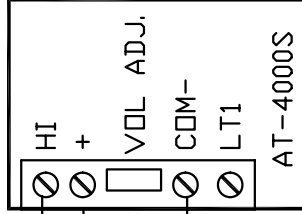
A-1700 REMOTE MASTER PANEL MONITOR:

DISPLAYS, AT A REMOTE LOCATION, THE STATUS OF THE A-1000 MASTER PANEL. EACH ZONE ON THE REMOTE MONITOR HAS ONE GREEN LED, AND ONE RED LED. ALSO, AN AUDIBLE TONE IS EMITTED FROM THE MONITOR DURING AN ALARM CONDITION. ZONE STATUS CAN NOT BE CHANGED FROM THE A-1700.

A-1700
PANEL



TO "HI" ON A1000TBA
TONE BOARD AT
MASTER PANEL



WIRING SUMMARY

A-1600 TO MASTER PANEL

- 2 CONDUCTORS 18 AWG
- 1 CONDUCTOR 22 AWG
- + 4 CONDUCTORS PER ZONE, 22 AWG

A-1700 TO MASTER PANEL

- 2 CONDUCTORS 18 AWG
- 1 CONDUCTOR 22 AWG
- + 2 CONDUCTORS PER ZONE, 22 AWG



CORNELL Communications, Inc.
sales@cornell.com 414-351-4660
 Web: www.cornell.com 414-351-4657(fax)

DATE: SEPTEMBER 25, 2006

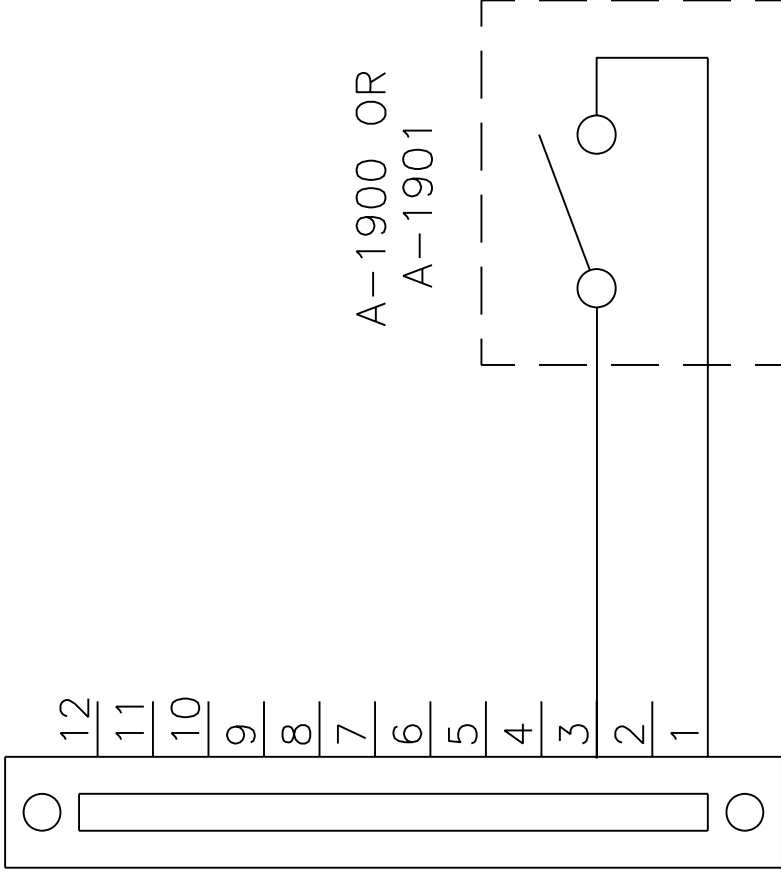
TITLE: A-1600/A-1700

SYSTEM: DOOR MONITOR

DRAWING # 90020-06

DA1600WM

A1211/A1511



RMT GREEN LED (-)
 DOOR STATUS (A1511 ONLY)
 RMT RED LED (-)
 AUX ALARM OUT (-)
 RMT DISARM
 RMT ARM
 +12VDC
 N.O. CONTACT
 N.C. CONTACT
 ZONE ENABLE
 NEG
 NEG

A-1900 AND A-1901

THE A-1900 AND A-1901 ARE KEY SWITCHES USED TO ENABLE/DISABLE ZONE SWITCHES ON THE MASTER PANEL. THE A-1900 IS MOUNTED ON A SINGLE-GANG STAINLESS STEEL PLATE. THE A-1901 IS MOUNTED ON THE MASTER PANEL. when a ZONE SWITCH IS DISABLED, STATUS CHANGES CAN NOT BE MADE USING THE ZONE SWITCH.

EACH ZONE CARD IS SHIPPED WITH A FACTORY INSTALLED JUMPER BETWEEN TERMINALS 1 AND 3. IT IS NECESSARY TO CUT THIS JUMPER FOR ALL ZONES TO BE CONNECTED TO THE A-1900 OR A-1901.



CORNELL Communications, Inc.
sales@cornell.com 414-351-4660
 Web: www.cornell.com 414-351-4657(fax)

DATE: SEPTEMBER 28, 2006

TITLE: A-1900, 1901 WIRING

SYSTEM: 1000 DOOR MONITOR

DRAWING # 90019-06

DA1900WM



A-1806D REMOTE CONTROL KEYPAD

FEATURES

- User programmable via keypad
- Allows any 1-6 digit access code
- Keypad programmable 10-60 second exit time delay
- Allows remote arm and disarm functions
- Remote exit time delay input from momentary SPST switch
- 48 hour (minimum) power-loss code retention

GENERAL

The keypad must be programmed before it will operate. If the keypad contains no programming when powered up, the yellow LED will flash rapidly. The user must enter the *programming mode*.

PROGRAMING MODE

To enter the programming mode, the following sequence of keys must be entered: *,0,0,*, then #. This is the *programming mode access code*. During entry of the above keys, the yellow LED will turn off. If these keys are not entered properly the yellow LED will again begin flashing rapidly awaiting the programming mode access code. If the code is entered correctly, the yellow LED will pulse once. At this point, enter the desired 1-6 digit *function access code* that will allow access to door functions, followed by the # key. For example, to enter function access code 1-2-3, enter 1,2,3,#. The keypad will acknowledge by pulsing the yellow LED twice. Now enter the *exit time delay* period, in seconds, followed by the # key (must be 10-60 seconds). For example, to program a 15 second delay, enter 1-5-#. The keypad is now programmed and will automatically enter the *operating mode*.

Note: If an invalid *function access code* is entered during programming (i.e., 7 digit code) the *programming mode* will be exited leaving the previously stored *function access code* in place or returning to the power-up condition if no code had been previously stored. Also, if an invalid *exit time delay* period is entered, the 10-second default value will be used.

OPERATING MODE

To access any door functions, the *function access code* must be entered followed by the “#” key. If the correct code is entered, the yellow LED will flash three times. Any of the three functions can now be used.

1. To *disarm* the zone, press and release the “*” key.
2. To *arm* the zone, press and release the “#” key.
3. To initiate an *exit time delay* cycle, press and release the “0” key. The yellow LED will light for the duration of the time period. During this time, the door may be entered/exited without causing an alarm and will re-arm automatically at the end of the delay period again securing the door.

At anytime while in the *operating mode*, the *exit time delay* cycle can be initiated by momentarily connecting terminals 3 and 4 of the keypad together with a SPST switch.

Also, at anytime while in the *operating mode*, the *programming mode* can be accessed to change the keypad programming by entering the *programming mode access code* (see PROGRAMING MODE).

POWER-LOSS MODE

If power is removed from the keypad it will not function. However, its programming will be maintained for a maximum of 48 hours. If power is restored within 48 hours (maximum), the keypad will automatically resume operation. If power is not restored in time to preserve the keypads programming, it will need to be re-programmed when power is restored.

Rev 8/05





1808D REMOTE CONTROL KEYPAD

FEATURES

- User programmable via keypad
- Allows any 1-6 digit access code
- Keypad programmable 10-60 second exit time delay
- Remote exit time delay input from momentary SPST switch
- 48 hour (minimum) power-loss code retention

GENERAL

The keypad must be programmed before it will operate. If the keypad contains no programming when powered up, the yellow LED will flash rapidly. The user must enter the *programming mode*.

PROGRAMING MODE

To enter the programming mode, the following sequence of keys must be entered: *,0,0,*, then #. This is the *programming mode access code*. During entry of the above keys, the yellow LED will turn off. If these keys are not entered properly the yellow LED will again begin flashing rapidly awaiting the programming mode access code. If the code is entered correctly, the yellow LED will pulse once. At this point, enter the desired 1-6 digit *function access code* that will allow access to door functions, followed by the # key. For example, to enter function access code 1-2-3, enter 1,2,3,#. The keypad will acknowledge by pulsing the yellow LED twice. Now enter the *exit time delay* period, in seconds, followed by the # key (must be 10-60 seconds). For example, to program a 15 second delay, enter 1-5-#. The keypad is now programmed and will automatically enter the *operating mode*.

Note: If an invalid *function access code* is entered during programming (i.e., 7 digit code) the *programming mode* will be exited leaving the previously stored *function access code* in place or returning to the power-up condition if no code had been previously stored. Also, if an invalid *exit time delay* period is entered, the 10-second default value will be used.

OPERATING MODE

To use the *exit time* delay function, the *function access code* must be entered followed by the “#” key. If the correct code is entered, the yellow LED will flash three times. Press and release the “0” key to initiate an *exit time delay* cycle. The yellow LED will light for the duration of the time period. During this time, the door may be entered/exited without causing an alarm and will re-arm automatically at the end of the delay period again securing the door.

At anytime while in the *operating mode*, the *exit time delay* cycle can be initiated by momentarily connecting terminals 3 and 4 of the keypad together with a SPST switch.

Also, at anytime while in the *operating mode*, the *programming mode* can be accessed to change the keypad programming by entering the *programming mode access code* (see PROGRAMING MODE).

POWER-LOSS MODE

If power is removed from the keypad it will not function. However, its programming will be maintained for a maximum of 48 hours. If power is restored within 48 hours (maximum), the keypad will automatically resume operation. If power is not restored in time to preserve the keypads programming, it will need to be re-programmed when power is restored.

Rev 8/05

CORNELL COMMUNICATIONS, INC.

Milwaukee, Wisconsin USA • 800-558-8957 • 414-351-4660 • Fax 414-351-4657
www.cornell.com • sales@cornell.com



A-1806D/A-1808D REMOTE

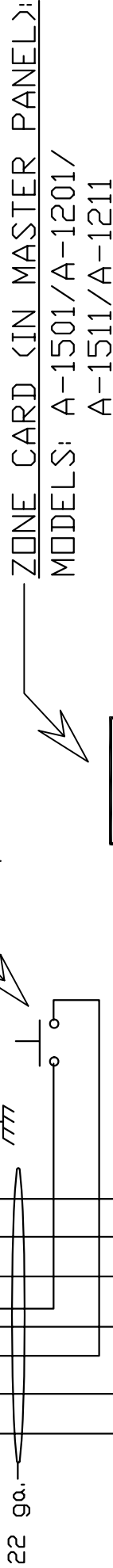
CONTROL KEYPAD

- 1 GRN LED
- 2 RED LED
- 3 RFX
- 4 12 VDC (-)
- 5 12 VDC (+)
- 6 ARM
- 7 DISARM
- 8 EQUIP. GROUND

REQUIRED WIRING BETWEEN ZONE CARD AND KEYPAD:
 6-CONDUCTORS, #22 AWG (7-COND. IF WIRING GROUND)
 [DOES NOT INCLUDE DOOR CONTACT CIRCUIT]

GROUND WIRING: Connect to local Earth Ground or wire back to Master Panel (proper grounding will reduce potential problems due to electro-static discharge)

Optional momentary SPST remote Request-to-Exit Switch



- 12 REMOTE GRN LED (-)
- 11 DOOR STATUS (-) [REGARDLESS OF ARM/BYPASS]
- 10 REMOTE RED LED (-)
- 9 AUX ALARM OUT (-)
- 8 REMOTE DISARM
- 7 REMOTE ARM
- 6 (+) 12 VDC
- 5 N.D. DOOR CIRCUIT
- 4 N.C. DOOR CIRCUIT
- 3 ZONE ENABLE
- 2 (-) 12 VDC
- 1 (-) 12 VDC

PRE-INSTALLED JUMPER:
 REMOVE = ARM/BYPASS VIA REMOTE (KEYPAD) ONLY
 LEAVE IN = ARM/BYPASS VIA MASTER AND REMOTE

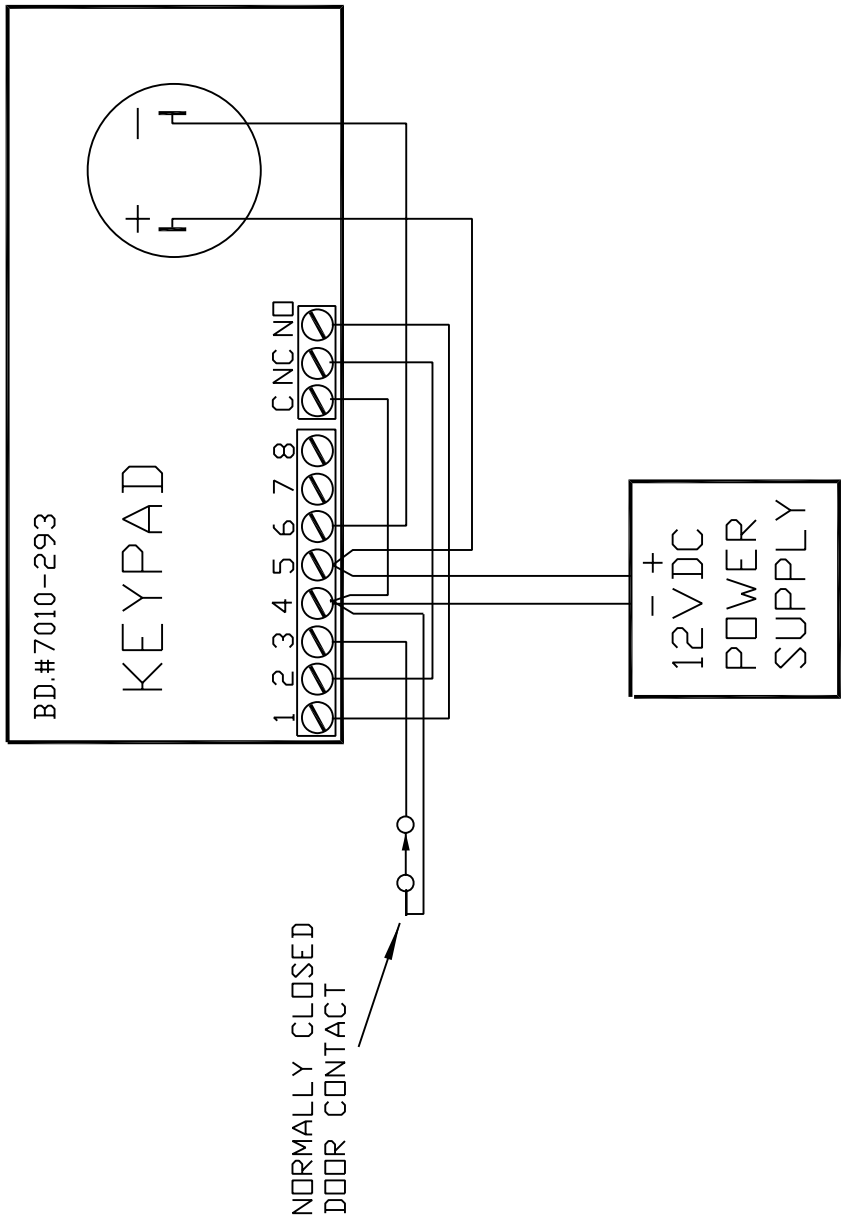
DOOR CONTACT CIRCUIT NOT SHOWN:
 REFER TO DRAWING# 90031-03



CORNELL Communications, Inc.
 sales@cornell.com 414-351-4660
 Web: www.cornell.com 414-351-4657(fax)

DATE: MAY 11, 2009
 TITLE: A-1806D / A-1808D KEYPAD WIRING


SYSTEM: 1000 Door Monitor
 DRAWING # 8022-09 DA1806WM

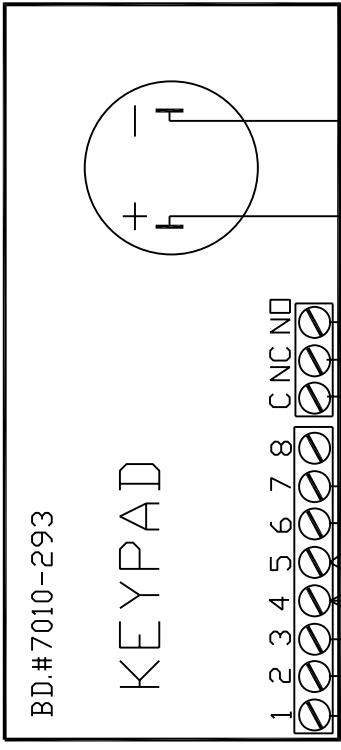
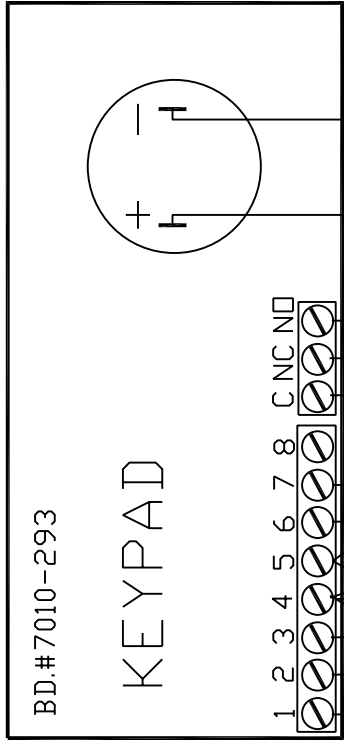


NOTES:

ALL WIRE SHOWN 22 ga.
OR HEAVIER.

THE KEYPAD CONSUMES 20mA MAX.

| | | | | |
|---|---|--|---------------------------------|--|
|  | CORNELL Communications, Inc. sales@cornell.com 414-351-4660 Web: www.cornell.com 414-351-4657(fax) | | DATE: SEPTEMBER 28, 2006 | SYSTEM: DOOR MONITOR |
| | | | TITLE: A-1809C | DRAWING # 8036-06 DA1809CW-A |

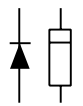


NORMALLY CLOSED
DOOR CONTACT

12VDC
RELAY

ANY RECTIFIER
DIODE WILL WORK

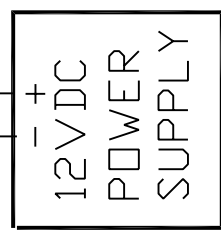
DIODE KEY:




NOTES:
ALL WIRE SHOWN MAY BE
22 AWG OR HEAVIER.

IF EITHER KEYPAD IS
DISARMED, THE DOOR MAY
BE OPENED WITHOUT
INITIATING AN ALARM.

EACH KEYPAD CONSUMES
20 mA MAX.



| | | | | |
|---|---|--|---------------------------------|---|
|  | CORNELL Communications, Inc. sales@cornell.com 414-351-4660 Web: www.cornell.com 414-351-4657(fax) | | DATE: SEPTEMBER 28, 2006 | SYSTEM: DOOR MONITOR |
| | | | TITLE: A-1809C | DRAWING # 8037-06 DA1809CW-B |