SUPER TWO®

Access Control Panel

Installation & Service Manual

Continental Access

A NAPCO SECURITY GROUP COMPANY

355 Bayview Avenue, Amityville, NY 11701
Phone: 631-842-9400 Fax: 631-842-9135

www.cicaccess.com

Publicly traded on NASDAQ Symbol: NSSC

© Continental Instruments 2020

WI1265CLF 11/20

FCC Warning

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE

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 designed 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 the user will be required to correct the interference at his own expense.

Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits.

DISCLAIMER

Continental Access makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. Further, Continental Access reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of Continental Access to notify any person of such revision or changes.

Information furnished by Continental Access is believed to be accurate and reliable. However, no responsibility is assumed by Continental Access for its use; nor for any infringements of other rights of third parties which may result from its use. No license is granted by implications or otherwise under any patent or patent rights of Continental Access.

Copyright © 2020 by Continental Access. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, or stored in a retrieval system, without the prior written permission of Continental Access,
355 Bayview Avenue, Amityville, NY 11701. 631-842-9400

A NAPCO SECURITY TECHNOLOGIES COMPANY

THE INSTALLATION OF THIS PRODUCT SHOULD BE MADE BY QUALIFIED SERVICE PERSONNEL AND SHOULD CONFORM TO ALL LOCAL CODES.

CAUTION
ATTENTION
VORSICHT

RISK OF ELECTRIC SHOCK

DO NOT OPEN

RISQUE DE CHOC ÉLECTRIQUE
NE PAS OUVRIR

GEFAHR EINES ELEKTRISCHEN SCHLAGS NICHT ÖFFNEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK

DO NOT REMOVE COVERS (OR BACK).

NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

ATTENTION: POUR REDUIRE LE RISQUE DE CHOC ÉLECTRIQUE NE PAS RETIRER LES COUVERTURES (OU L'ARRIÈRE).

AUCUNE PIÈCE UTILISATEUR À L'INTÉRIEUR CONFIER L'ENTRETIEN DE PERSONNEL ALIFIÉ

VORSICHT: UM DIE GEFAHR EINES ELEKTRISCHEN SCHLAGS ZU VERMEIDEN ENTFERNEN SIE KEINE ABDECKUNGEN (ODER RÜCKSEITE). KEINE BENUTZER-SERVICEBARE TEILE INNERHALB WERDEN, WENN DAS QUALIFIZIERTE SERVICEPERSONAL WARTET

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Le symbole éclair avec une flèche dans un triangle équilatéral, est destiné à alerter l'utilisateur de la présence de non isolée "tension dangereuse" dans l'enceinte du produit qui peut être d'une ampleur suffisante pour constituer un risque de choc électrique pour les personnes.

Der Blitz mit dem Pfeilspitzen-Symbol in einem gleichseitigen Dreieck soll den Benutzer darauf hinweisen, dass sich keine unisolierte "gefährliche Spannung" innerhalb des Produktgehäuses befindet, die ausreichend groß ist, um die Gefahr eines elektrischen Schlags für Personen darzustellen.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Le point d'exclamation dans un triangle équilatéral est destiné à alerter l'utilisateur de la présence d'instructions dans la documentation accompagnant le produit d'exploitation et de maintenance (entretien).

Das Ausrufezeichen in einem gleichseitigen Dreieck soll den Benutzer auf wichtige Bedienungs- und Wartungsanweisungen in der dem Produkt beiliegenden Literatur hinweisen.

WARNING

This product generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this product in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

UNPACKING AND INSPECTION

Unpack carefully. This is an electronic product and should be handled as such. Compare the items received with the packing list with your order.

BE SURE TO SAVE THE SHIPPING CARTONS AND INSERT PIECES. THEY ARE THE SAFEST MATERIAL IN WHICH TO MAKE FUTURE SHIPMENTS OF THE PRODUCT.

WARNING

To reduce the risk of fire or shock hazard, do not expose this product to rain or moisture.

ATTENTION

Pour réduire le risque d'incendie ou de choc électrique, ne pas exposer ce produit à la pluie ou à l'humidité.

WARNUNG

Um das Risiko von Brand- oder Stromschlaggefahr zu verringern, darf dieses Produkt weder Regen noch Feuchtigkeit ausgesetzt werden.

MAINTENANCE

User maintenance of this unit is limited to external cleaning and inspection.

ENTRETIEN

l'entretien de l'utilisateur de cet appareil se limite au nettoyage et l'inspection externe.

INSTANDHALTUNG

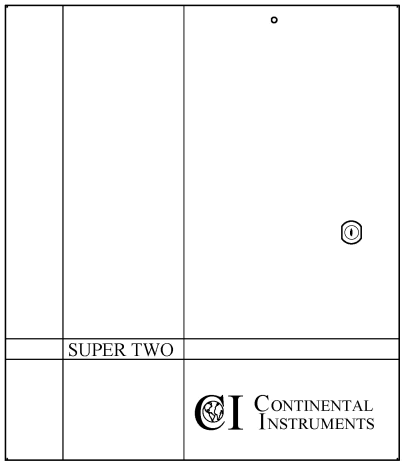
Die Bedienung dieses Gerätes ist auf externe Reinigung und Inspektion beschränkt.

TABLE OF CONTENTS

DESCRIPTION 7
IMPORTANT SAFETY INFORMATION 8
CONFIGURATION 9
Capacities *9*
Memory Configurations *9*
EXPANSION BOARDS AND ACCESSORIES 10
2 MB Expansion *10*
Matrix Keypad Option Board CICP1300XYBD *10*
Network Interface Board CICP1300NETBD *10*
Network Interface Board CICP1300NETBD2 ..... *10*
Battery Backup *10*
AC Power Supply *10*
INSTALLATION 11
Installation Preparation *12*
Cabinet Mounting *13*
Cable and Wiring Categories *14*
Mains Power Cables and Wiring *14*
Low-Voltage Power and Accessory Relay Devices *14*
Communication Cables *14*
Incoming Power Conduit Knockout *14*
Accessory Conduit Knockouts *14*
Grounding Accessory Drain and Shield Wires *14*
POWER CONNECTIONS 15
AC Power Source Grounding *15*
VAC Power *15*
Super Two Circuit Board Layout *16*
DOOR CONNECTIONS 17
Wiegand/Proximity Reader Connections *17*
Wiegand/Proximity Reader Cable Requirements *17*
Magnetic Stripe Reader Connection *19*
Magnetic Stripe Reader Cable Requirements *19*
KEYPAD CONNECTION 20
Wiegand-Output Card and Keypad Readers - *20*
X-Y Matrix Keypads *20*

Keypad Cable Requirements *20*
Door Status Sensor Connection *21*
Door Status Sensor Cable Requirements *21*
Request-to-Exit (Bypass) Sensor Connection *22*
Request-to-Exit Sensor Cable Requirements *22*
RELAY CONNECTIONS 23
Description *23*
Door Strike Relays *23*
Auxiliary Relays *23*
Console Relay *23*
Relay Characteristics *23*
Powering Electromagnetic (EM) Locks *24*
Fire Alarm Control Panel (FACP) Connection *24*
ACCESSORY POWER 25
ALARM CONNECTION 26
Supervised Alarms *26*
Configuring an Alarm in the Supervised Condition *26*
Alarm Cable Requirements *26*
Tamper Switch *26*
RS-232 Communications - Host/Modem Operation *27*
RS-232 Cable Requirements *27*
RS-232 Jumper Settings *27*
Address Setting *27*
Super Two to Host Computer/Modem Connection *27*
NETWORKING 29
Network Jumper Settings *29*
Network Cable Requirements *29*
Network Address Settings *29*
RS-232 to RS-422 REPEAT Network *30*
RS-232 to RS-422 REPEAT Jumper Settings *30*
RS-232 to RS-422 REPEAT Ground and Drain Cables *30*
RS-232 to RS-422 MULTIDROP Network *32*
RS-232 to RS-422 MULTIDROP Network Ground and Drain Wires *32*
RS-232 to RS-422 MULTIDROP Network Jumper Setting *32*
RS-422 to RS-422 REPEAT Network *34*
RS-422 to RS-422 REPEAT Network Jumper Settings *34*

RS-422 to RS-422 REPEAT Network Ground and Drain Cables *34*
RS-422 to RS-422 MULTIDROP Network *36*
RS-422 to RS-422 MULTIDROP Network Jumper Settings *36*
RS-422 to RS-422 MULTIDROP Network Ground and Drain Cables *36*
JUMPER SETTINGS 38
EOL Jumper *38*
MD/RPT Jumper *38*
Memory Battery Activation *38*
TROUBLESHOOTING 40
LED Diagnostics *40*
CIRCUIT PROTECTION 41
Super Two Primary Fuse - 120VAC Installations (USA/Canada) *41*
Super Two Primary Fuse - 230VAC Installations (European Union) *41*
Super Two Power Supply Fuse *42*
Super Two Accessory Circuit Protection *42*
Super Two +5/+12V Reader Circuit Protection *42*
MAINTENANCE 43
Power Supply Replacement *43*
Backup Battery Replacement *43*
Memory Coin Cell Replacement *43*
Clear Memory and Force Download to Panel *43*
SPECIFICATIONS 44
POWER RATINGS 45
OTHER RATINGS 46
APPENDIX A 47
2 MB MEMORY BOARD INSTALLATION INSTRUCTIONS CICP1300MB2 ..... *47*
APPENDIX B 48
NETWORK INTERFACE BOARD INSTALLATION INSTRUCTIONS CICP1300NETBD *48*
APPENDIX C 49
NETWORK INTERFACE BOARD INSTALLATION INSTRUCTIONS CICP1300NETBD2 ..... *49*
WARRANTY 52



DESCRIPTION

The Super Two is a fully programmable, self contained, 2-door access control panel that offers users flexibility, expandability, and simplicity. Operating as a stand-alone unit or within a network, each Super Two makes independent access control decisions.

The Super Two accepts Wiegand, Magnetic Stripe, Proximity card readers, and Keypads to control the access functions for a maximum of two individual access points (entrances/exits). Contact Continental Access to determine specific readers and keypads supported.

It supports eight supervised alarm devices including door contact sensors, door bypass switches, or other related detection accessories. Five onboard Form C relays support door locking mechanisms, door alarm shunts or handicapped access privileges.

The standard Super Two features a user-programmable, onboard database that supports a maximum of 20,000 card holders. Expansion components enable the Super Two to support up to a maximum 125,000 card holders with 2MB memory expansion.

NOTE: Card Capacities can vary due to changes in Firmware, Badge Length and Panel Configuration (Transaction buffer size, Time Schedule Blocks, and Access Groups). Maximum Card Count can be verified by checking Communication Driver (Max Card Count Column).

The Super Two can use an onboard 7AmpHour (AH) backup battery to carry out full access control functions for a period of four hours (assuming typical accessory loads) in the event of an AC power supply loss.

The Super Two power supply automatically switches from 120 VAC/60Hz to 230 VAC/50Hz to meet the requirements of both North American and the European Union. With built-in overcurrent protection, this Access Control panel meets the requirements for Energy-Limited installations.

In addition, a replaceable lithium battery protects the onboard database and programmed operating instructions from loss for a period of 4 weeks. In the event of a total failure of the AC power supply *and* the backup battery, the Super Two would immediately be ready for full operating capability once a source of operating power is re-established.

For enhanced site access control requirements, multiple Super Two units (a maximum of 63) may be networked together or with other Continental Access products including Smarterm, Miniterm, Microterm, Superterm and Turbo Superterm. A Super Two network may be configured to operate in a repeater mode or in a multidrop mode, using the RS-422 communications protocols.

A single host computer may be used to manage and program one Super Two or a fully developed network of Super Two's, saving equipment and installation costs, database entry/deletion procedures, and monitoring individual access usage.

The host computer may communicate with the Super Two network by RS232/RS422 serial communication or by Ethernet using a plug-in Network Interface Adapter.

Changes or upgrades to the Super Two operating software are readily downloadable from the host computer to either one specific Super Two or an entire network of Super Two's, eliminating the need to physically change the EPROM chip inside the unit.

IMPORTANT SAFETY INFORMATION

The Super Two is defined as a Stand-Alone Access Control System. The PC connection provides convenient setup and monitoring of the system, but all decision-making for a Cardholder's Authorizations at a particular Time and Place are made by the Access Control Panel.

Disruptions to the communication with the PC, or to the operation of the PC itself will not result in impaired operation of the Access Control System. Thus, the use of any particular Personal Computer or Software Package with the Super Two has not been evaluated by ETL and is not controlled by ETL.

Nevertheless, safe operation of the system requires that the connected Accessory Computer Equipment carry markings showing the units are UL-Listed to UL 1950, UL 6095 or EN62368-1. Power line surge protection must be used, with these devices listed to UL 1449, and marked to show the maximum rating as 330 V. Serial Data Lines and Ethernet equipment must be protected by signal line surge suppressors carrying UL 497B markings and a maximum marked rating of 50 V. Modem equipment connected to the telecommunications network (TNS) must be protected on the secondary side using surge arrestors listed to UL 497A. These must be used only on the protected side of the TNS.

The Super Two Access Control panel is to be installed in a secured area. Nevertheless, because opening the Enclosure Door gives access to Terminals that can allow an invalid entrance, a Tamper Switch is installed on the Door. The Tamper Switch must be configured at the Host Computer to signal an Alert when the Tamper Switch is activated. The Tamper Switch may also be configured to activate the Console Relay, which may then be wired into an Alarm Signal Circuit or an Alarm Sounding Circuit.

ETL has examined the construction, performance and operation of the Super Two Access Control Panel when used with HID ProxPoint™ Readers [Model 6005BGB00] and 36-bit cards. The many other Card Reader Formats and Card Technologies that are supported by the Continental Access Control Panels were not evaluated by ETL.

In some localities, the Access Control System Reader, Serial Communication, Door Lock Circuits and other signal wiring may use UL Type CM or UL Type CL2 foil-shielded multiconductor and multi-pair cable. Where the AHJ's (Authorities Having Jurisdiction) require Plenum-Rated Cabling, UL Type CL2P cabling will be acceptable. In Canadian Installations, CSA CMG FT4 foil-shielded cabling may be used in non-plenum installations, and CSA CMP FT6 foil-shielded cabling may be used in installations requiring plenum ratings.

Replace the Lithium Memory Backup Battery with a Matsushita/Panasonic BR1225 or BR1225A. Use of Another Battery may present a risk of Fire or Explosion.

The Super Two must be installed on a wall, permanently connected to the AC Mains. For EN62368-1 installations install a Mains Disconnect Device to open both poles of the branch circuit for servicing.

Fault-Tolerance, Fault Isolation, and Conditions that may result in impaired operation.
As described above, a faulted computer or communication link with the computer will not impact the ongoing access management of the Access Control Panel. Furthermore, the transactions occurring during the equipment outage will be recorded in the Access Control Panel, then forwarded to the computer when the fault is removed.

If the Access Control Panel itself fails due to a long-term power failure or internal fault, the Access Control Software on the host computer will normally detect this failure, signal an alert, and log the time of this event.

Sensing the status of the Door Monitor Contacts, the Request to Exit (REX) and the Accessory Alarm Inputs will be impaired by a cut cable or short-circuit in the Signal Circuit Wiring. By installing end-of-line termination resistors, as described in this manual, the Alarm and Signal Circuits may be supervised to detect such faults and indicate the need for a repair.

The ULC-S319 Compliance would be invalidated by the use of any add on expansion, memory or other module not evaluated by ETL

CONFIGURATION

Standard Version

Capacities

The standard version Super Two provides access control functions for up to two doors and two card readers. Each 5V reader may draw as much as 100mA from the PWR pin of the reader connector, for a total current draw of 200mA per panel. Each 12V reader may draw 200mA from the PWR pin of the reader connector, for a total of 400mA.

Each of the 8 alarm inputs on the main board may be configured as supervised alarms (requiring termination resistors), or standard alarms (requiring plain electrical contacts).

Memory Configurations

The standard 512K memory configuration provides resources for downloadable firmware as well as for the cardholder database and a transaction buffer. A 2MB memory expansion board (CICP1300MB2) is available for expansion of card database and transaction buffer space. The 2MB expansion board allows the Super Two to meet the requirements of managing large cardholder populations and provides a total of 2.5MB of RAM.

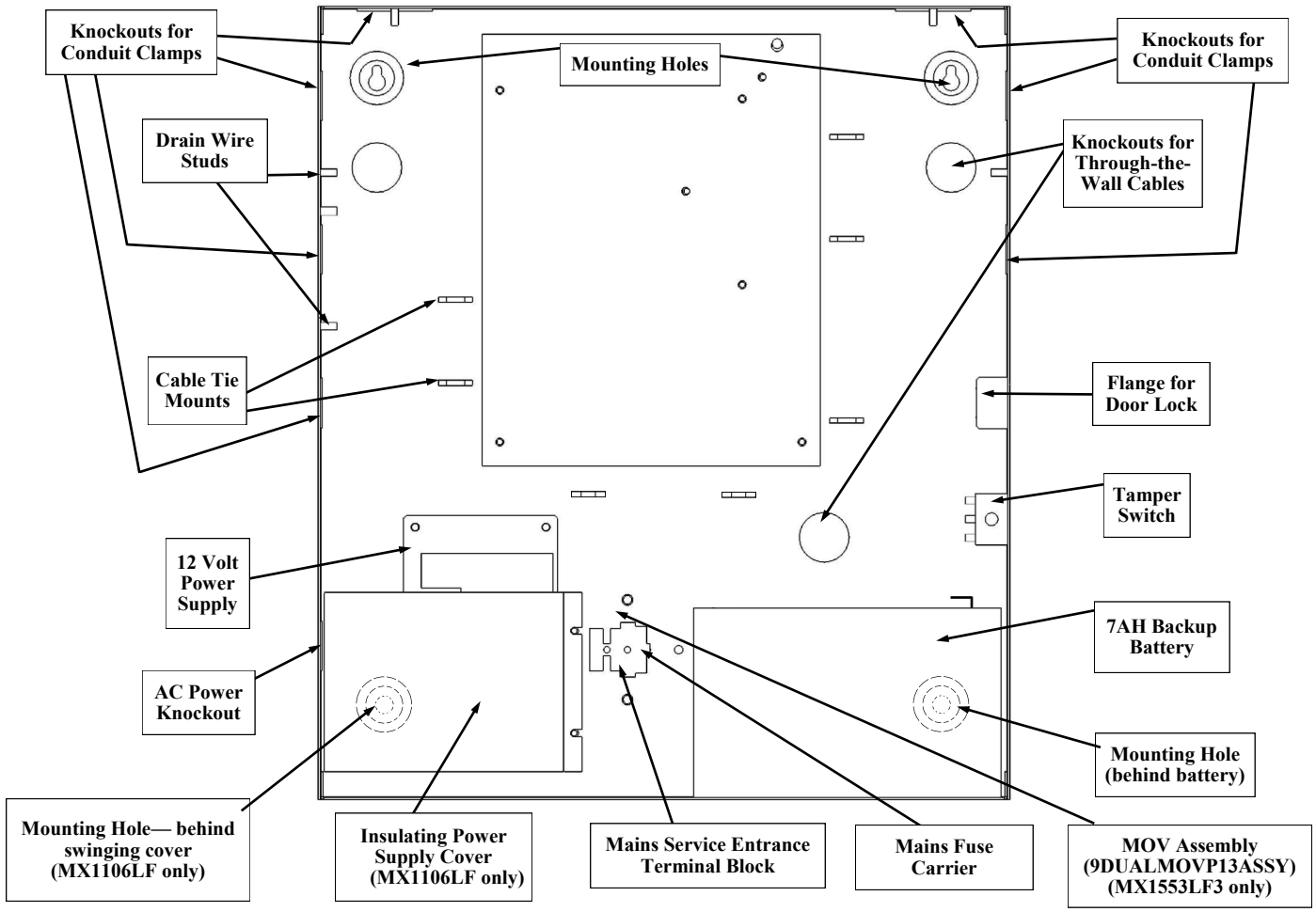


Figure 2 - Super Two Components

Expansion Boards and Accessories

2 MB Expansion

The CICP1300MB2 2MB Memory Expansion Board may be added to the Super Two to increase capacity up to 125,000 Card Holders. See the Appendix for the Installation Instructions for this option.

Matrix Keypad Option Board CICP1300XYBD

The Super Two is compatible with Wiegand Output Reader/ Keypad units such as the HID 5355AGK00 or 5355ABK00. These reduce the cost of cabling and installation and are therefore preferred for Card/Keypad Installations. The CICP1300XYBD Expansion Board is available where traditional 3x4 X-Y Matrix Keypad units must be used. See the Appendix for the Installation Instructions for this option.

Network Interface Board CICP1300NETBD

This plug-in board provides direct 10/100 Base-T Ethernet connect capability.

Network Interface Board CICP1300NETBD2

This plug-in board provides direct 10/100 Base-T Ethernet connect capability with additional functionality for hosted systems.

Battery Backup

During power interruptions, the Super Two normally continues operating for 4 hours via an on-board 7 Amp Hour back-up battery.

The backup battery provides DC power for all Super Two access control and alarm monitoring functions. After charging for 48-hours, the battery carries the rated load for four or more hours. A low-voltage battery sensing circuit protects the Super Two by disconnecting the battery from the main circuit before it becomes too deeply discharged.

AC Power Supply

The original Super Two power supply (MX1106LF) contained an insulated power supply cover. The new Super Two power supply (MX1553LF3) does not require the insulated power supply cover.

The power supply provides 12VDC to the on-board power supply. An AC power terminal block and grounding screw provide connection points for the three incoming AC service lines.

The Super Two may be powered by 230VAC/50Hz when used outside North America. No switches and jumpers need to be set, but the supplied IEC127-approved fuse must be used for installations in the European Union.

NOTE: The Super Two may be used to power 12 Volt Electromagnetic (EM) Locks as well as standard Access Control Readers and Accessories. Should AC power fail, the internal 12 Volt, 7AH battery will power the panel, readers, locks and accessories for up to four hours, assuming normal operating conditions.

INSTALLATION

Only qualified service personnel familiar with all local building codes should attempt this installation. Take appropriate safeguards to avoid unintentional operation by employees and maintenance personnel working about the premises.

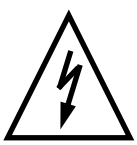
The installation of each Super Two system should be completed and tested on its own before connecting into a network. Any possible wiring or installation problems are magnified many times by the complexity of the network.

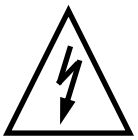
Once an individual panel has been tested and found operating satisfactorily, it can then be safely brought into the network.

The Super Two is categorized as PERMANENTLY CONNECTED EQUIPMENT with fixed wiring. This system must be installed within the protected premise in accordance with the National Electrical Code (NFPA70), local codes, and the authorities having jurisdiction.

A Ground Bond Strap is bolted between the Enclosure and the Door to reduce the risk of electric shock. If the Ground Bond Strap is unbolted from the Door to allow the Door to be removed, it is critical that the Ground Bond Strap be correctly attached before putting the Access Control Unit into service.

The following warnings are designed for the safety of the Super Two install/service technician and for the continued proper function of the Super Two unit.

NOTES: **NOTIZEN:**	Notes are included with a procedure informing the installer about related material. Les notes sont incluses dans une procédure informant le programme d'installation sur le matériel connexe. Die Hinweise sind in einem Verfahren enthalten, das den Installateur über das entsprechende Material informiert.
CAUTION **PRUDENCE** **VORSICHT** 	Cautions indicate that a particular process requires special attention. Précautions indiquent qu'un processus particulier nécessite une attention particulière. Vorsichtsmaßnahmen indiquent qu'un processus particulier nécessite une attention particulière.
WARNING **ATTENTION** **WARNUNG** 	Warnings indicate that a particular process exposes the installer to live circuits or that making wrong connections can lead to equipment failure. Mises en garde indiquent qu'un processus particulier expose l'installateur aux circuits sous tension ou que des connexions erronées peut conduire à une défaillance de l'équipement. Warnungen zeigen an, dass ein bestimmtes Verfahren den Installateur zu lebenden Schaltungen freigibt oder dass falsche Verbindungen zu einem Ausfall der Geräte führen können.

CAUTION **PRUDENCE** **VORSICHT** 	Do not place accessory circuit cables in the same conduit sections containing power cables. Ne placez pas les câbles de circuits accessoires dans les mêmes sections de conduit contenant les câbles d'alimentation. Stellen Sie keine zusätzlichen Stromkreiskabel in dieselben Leitungsabschnitte mit Stromkabeln.
CAUTION **PRUDENCE** **VORSICHT** 	Prevent the risk of a fire by replacing ALL fuses with the same type and rating. The main fuse protects the power supply circuit against excessive currents and short circuits. Failure of the power supply (other than a blown fuse) fuse usually indicates a fault in a power supply component. There are no user-serviceable parts in the Super Two cabinet. The power supply must be replaced if it fails. Prévenez le risque d'incendie en remplaçant TOUS les fusibles par le même type et la même valeur. Le fusible principal protège le circuit d'alimentation contre les courants excessifs et les courts-circuits. Une défaillance du fusible d'alimentation (autre qu'un fusible grillé) indique généralement un défaut dans un composant d'alimentation. Il n'y a pas de pièces réparables par l'utilisateur dans l'armoire Super Two. L'alimentation doit être remplacée en cas de panne. Verhindern Sie die Brandgefahr, indem Sie ALLE Sicherungen mit dem gleichen Typ und der gleichen Leistung ersetzen. Die Hauptsicherung schützt den Stromversorgungskreis vor übermäßigen Strömen und Kurzschlüssen. Ein Ausfall der Sicherung der Stromversorgung (außer einer durchgebrannten Sicherung) weist normalerweise auf einen Fehler in einer Stromversorgungskomponente hin. Der Super Two-Schrank enthält keine vom Benutzer zu wartenden Teile. Das Netzteil muss ausgetauscht werden, wenn es ausfällt.
WARNING **ATTENTION** **WARNUNG** 	The lower part of the power supply has exposed terminals and components (see page 10). DO NOT probe the power supply and expose yourself to high voltage and a shock hazard. La partie inférieure du bloc d'alimentation comporte des bornes et des composants exposés (voir page 10). NE sondez PAS l'alimentation électrique et ne vous exposez pas à une tension élevée et à un risque d'électrocution. Der untere Teil des Netzteils verfügt über freiliegende Klemmen und Komponenten (siehe Seite 10). Prüfen Sie das Netzteil NICHT und setzen Sie es Hochspannung und Stromschlaggefahr aus.
WARNING **ATTENTION** **WARNUNG** 	The risk of a serious electrical shock exists if the wiring harness power connector is removed from the Super Two circuit board, but AC power remains live at the AC Input Terminal Block (see Figure 7, page 15). Il existe un risque de choc électrique grave si le connecteur d'alimentation du faisceau de câbles est retiré de la carte de circuit imprimé Super Two, mais l'alimentation CA reste sous tension au bornier d'entrée CA (voir Figure 7, page 15). Das Risiko eines schweren Stromschlags besteht, wenn der Netzstecker des Kabelbaums von der Super Two-Leiterplatte abgezogen wird, die Wechselstromversorgung jedoch am AC-Eingangsklemmenblock unter Spannung bleibt (siehe Abbildung 7, Seite 15).

About This Manual

This manual describes the installation of the Super Two Access Control Unit and the specific accessories that connect to it.

End-User Periodic Tests and Emergency Planning

The Host Computer Software supervises the Access Control System, reporting failures at an individual panel within seconds of the occurrence. Nevertheless, failures can occur at the Door Sense and Bypass contact monitoring hardware, the individual Card Reader electronics and wiring, or the Electric Door Lock Hardware that will not be detected until the equipment is used. For this reason, please instruct staff at the installation to perform a "walk through" test at every controlled entrance and verify operation of all the monitored contacts at least once per week, especially at sites that are less frequently used. Assist the Security Staff at the installation to devise acceptable alternates to allow entrance and monitoring of access at controlled sites impacted by equipment failures, especially in high-traffic areas.

Provide staff members at the facility with contact information that will help assure the swift correction of equipment outages.

Installation Preparation

First, select a mounting location within a secure, limited access area (see Figure 3). Note the type of wall construction that the enclosure will be secured to.

- Determine that adequate space is available for mounting the Super Two cabinet on a wall with no interference from wires, pipes, or other obstructions.
- Proper installation of the Super Two cabinet requires an area of free space measuring:

  20 inches high (508mm)
  X
  20 inches wide (508mm)
  X
  4.0 inches deep (101.6mm)

- Confirm that adequate free space exists on both sides of the Super Two cabinet for cabling conduit entering and exiting the cabinet.
- Determine the directions of the cabling conduit exiting the Super Two cabinet. Confirm sufficient access to ceilings and/or walls before fitting the conduit lengths.
- Knockouts at the back of the unit may be used for "hidden wiring" installations.

  NOTE: All Super Two signal wiring and accessory power circuits are certified as power limited. The use of conduit is optional for these circuits.

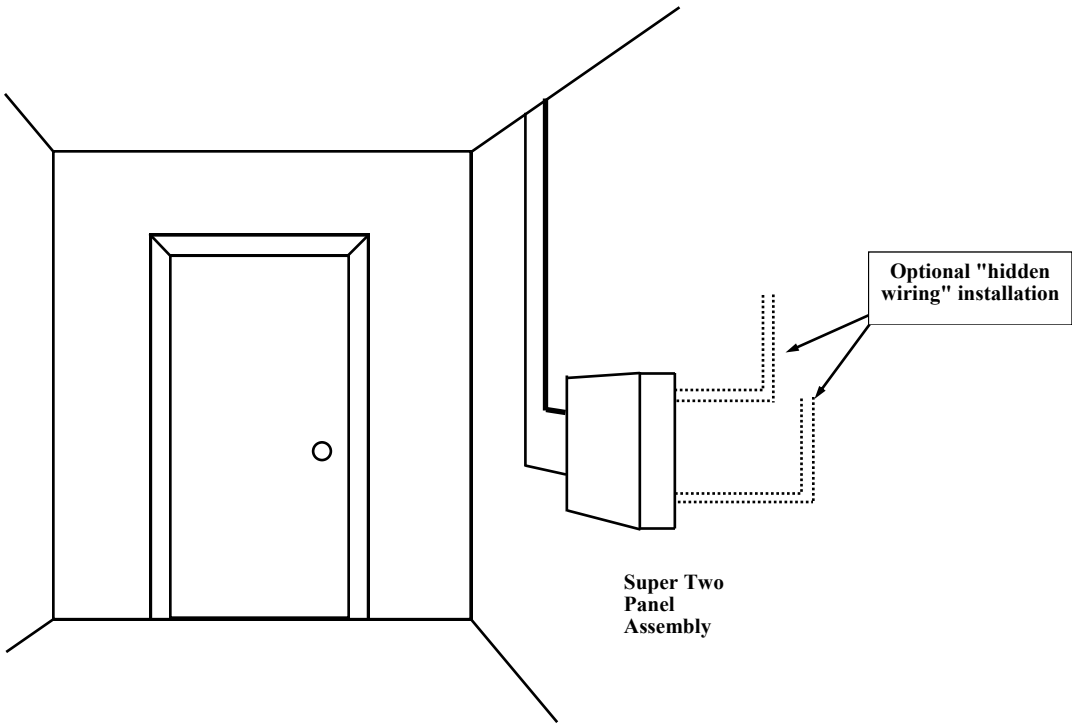


Figure 3 - Super Two Installation Location

Cabinet Mounting

Inspect the mounting surface around the proposed installation site. The mounting surface must be capable of supporting 14 pounds (6.3Kg) plus any additional weight of the installation hardware.

CAUTION
Use only suitable mounting hardware for the type of wall construction encountered.

1. Determine the Super Two cabinet mounting location.

2. Mark the four mounting holes against the mounting surface using the Super Two cabinet as a template or using the measurements provided in Figure 4.

NOTE: Mark the small oval portion of the cabinet screw holes (see Figure 5, Detail A and B).

3. Place the Super Two cabinet out of the way.

4. Drill pilot holes to the required depth and size for the mounting screws.

5. Insert the top two mounting screws into the wall. Leave approximately one quarter of the screw's length protruding from the wall.

NOTE: Do not tighten screws completely at this time.

6. Place the Super Two cabinet over the mounting screws.

   Secure the Super Two cabinet to the mounting surface using the two lower screws, and then tighten the remaining length of the screws.

   Note: Use all 4 mounting screws to secure cabinet to wall. For mounting to 3/4" thick plywood, use four 1/4" x 3/4" wood screws. For mounting to sheetrock, use four 1/4" toggle bolts.

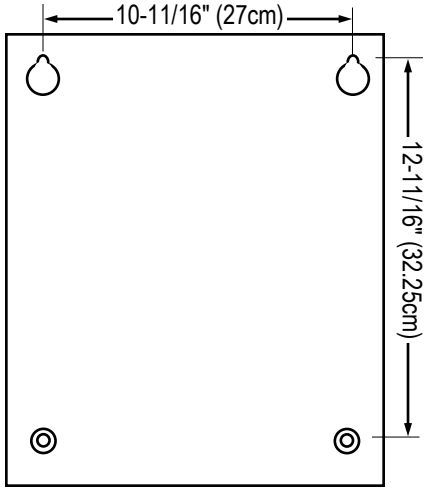


Figure 4 - Super Two Cabinet Mounting Hole Dimensions

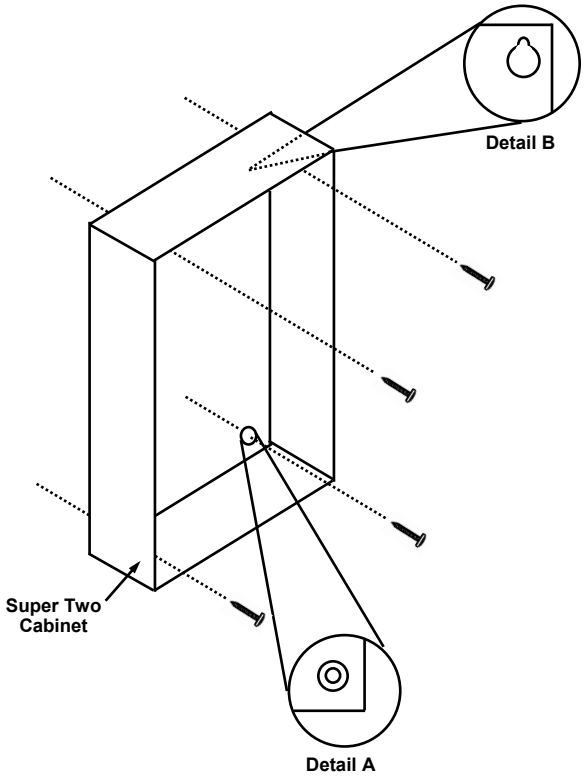


Figure 5 - Super Two Mounting Screws

Cable and Wiring Categories

The wiring and cabling for the Super Two are divided into three categories:

Mains Power Cables and Wiring
This category contains Mains AC power cables servicing the Super Two Panel. The connection to the mains must be carried out by qualified personnel.

Low-Voltage Power and Accessory Relay Devices
12 or 5 Volt Reader Power, any accessory relay controlled devices connected to the Panel, and any 12 Volt Accessories receiving battery-backed power from the panel. (These are power-limited circuits, and normally do not require a licensed electrician to complete this work). The wiring inside the enclosure must be kept at least 1/4" away from the high-power (black and white pair) wires between the AC Terminal Block and the Power Supply, as well as the Red and Blacks Leads between the Battery and the PC Board.

Communication Cables
This category contains all the communication cabling between the Super Two and all communication equipment, all alarm circuits, and all card reader devices. (These are power-limited circuits, and normally do not require a licensed electrician to complete this work). The wiring inside the enclosure must be kept at least 1/4" away from the high-power wires, as described in the paragraph above. **NOTE:** For proper operation of the Super Two, route EACH category of cabling in SEPARATE conduit or bundle (i.e., **DO NOT mix alarm and communication cables in the same conduit as relay and power cables**). Plenum-Rated cabling may be required in certain installations. See Important Safety Information, page 8.

Incoming Power Conduit Knockout
The Super Two System requires 120VAC, 60 Hz voltage to the AC Input Power Terminal Block (see page 15). The power cabling is delivered to the Super Two through a knockout located on the lower center of the left side cabinet wall (see Figure 6). The 3/4 inch knockout accepts EIA standard conduit connectors.

NOTE: This system must be installed within the protected premise in accordance with the National Electrical Code (NFPA70), local codes, and the authorities having jurisdiction.

Accessory Conduit Knockouts

All cabling for the Super Two is routed through EIA standard 3/4-inch knockouts located on the left and right sides of the cabinet (see Figure 6). On the top of the enclosure, three-size knockouts are available.

Grounding Accessory Drain and Shield Wires

Ensure electromagnetic compatibility and reliable performance by keeping all accessory drain and shield wires as short as possible.

All accessory drain and shield wires connect to ground posts mounted along the knockout strips on both sides of the Super Two cabinet (see Figure 6).

The following procedures assure proper installation of all drain and shield wires.

- Carefully remove the cable jacket after the cable enters the Super Two cabinet.
- Place the drain wires under the ground post screw. Trim as needed.
- Verify a good connection and tighten the ground post screw.
- Connect the accessory wires to the appropriate terminal strip on the Super Two circuit board.

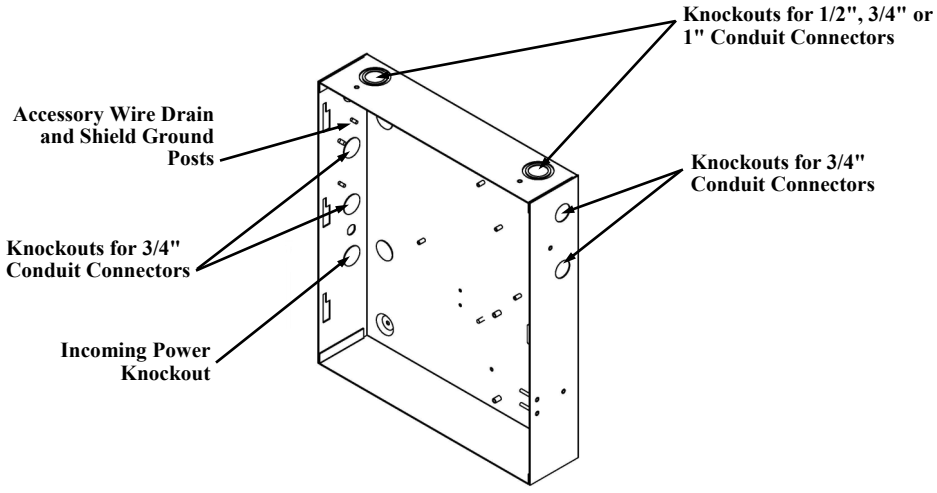


Figure 6 - Cabling Conduit Knockouts

POWER CONNECTIONS

AC Power Source Grounding

The Super Two main circuit board has built-in surge suppression devices. The surge suppressors require a good earth ground connection to operate effectively.

WARNING: Verify that the AC source voltage is switched off at the breaker panel before proceeding with connections.
AVERTISSEMENT: Vérifiez que la tension de la source CA est coupée au panneau de disjoncteurs avant de procéder aux connexions.
WARNUNG: Stellen Sie sicher, dass die Wechselstromquellenspannung an der Schalttafel ausgeschaltet ist, bevor Sie mit dem Anschließen fortfahren.

AC Power

The incoming AC source voltage connects to the AC Input Power Terminal Block located in the lower middle of the Super Two cabinet (see Figure 7 on page 17). Run the AC power wiring through a knockout normally hidden by the insulation cover. Do not place any other wiring in this area.

First, secure the Green or Green/Yellow "Ground" wire to the center terminal of the AC Input Terminal Block. Then secure the White "Neutral" wire to the left terminal. Finally, secure the Black "Line" wire to the right terminal.

After the wiring is completed, use a cable-tie to secure the wires to the cable-tie mount (provided) located below the AC Input Power Terminal Block. **NOTE:** Use of a dedicated, unswitched AC power source results in optimal performance with minimum interference.

Table 1 on page 17 lists the incoming AC source voltage connections to the AC Input Power Terminal Block.

NOTE: Knockouts for conduit Fittings are located on the back of the metal housing and can be used if "hidden cable" installation is required.

IMPORTANT SAFETY REQUIREMENT: If the enclosure door is removed, the Ground Strap may be unbolted--but MUST be REATTACHED after installation or service is completed. Failure to Reconnect the Ground Strap may increase the Risk of Electric Shock.
EXIGENCES DE SÉCURITÉ IMPORTANTES: Si la porte de l'enceinte est retirée, la sangle de mise à la terre peut être déverrouillée - mais DOIT ÊTRE REATTACHÉE une fois l'installation ou l'entretien terminé. Le fait de ne pas reconnecter la sangle de mise à la terre peut augmenter le risque de choc électrique.
WICHTIGE SICHERHEITSANFORDERUNGEN: Wenn die Gehäusetür entfernt wird, kann das Erdungsband gelöst werden - MUSS jedoch nach Abschluss der Installation oder Wartung wieder angebracht werden. Wenn der Erdungsgurt nicht wieder angeschlossen wird, kann sich das Risiko eines Stromschlags erhöhen.

Backup Battery Installation

1. Place the backup battery (P/N CI-HE0042) into to the lower right of the cabinet with the terminals on the right side.
2. Push the terminal of the BLACK lead onto the NEGATIVE (Black) Tab of the battery.
3. Push the terminal of the RED lead onto the POSITIVE (Red) Tab of the battery.

NOTE: Because of the Low Battery Voltage Disconnect feature, the Super Two will not start to operate until mains (AC) power is connected.

Table 1- AC Input Power Terminal Block Connections

Incoming AC	Wire Color	AC Input Terminal Block
Line	Black	L
Neutral	White	N
Ground	Green	⏚

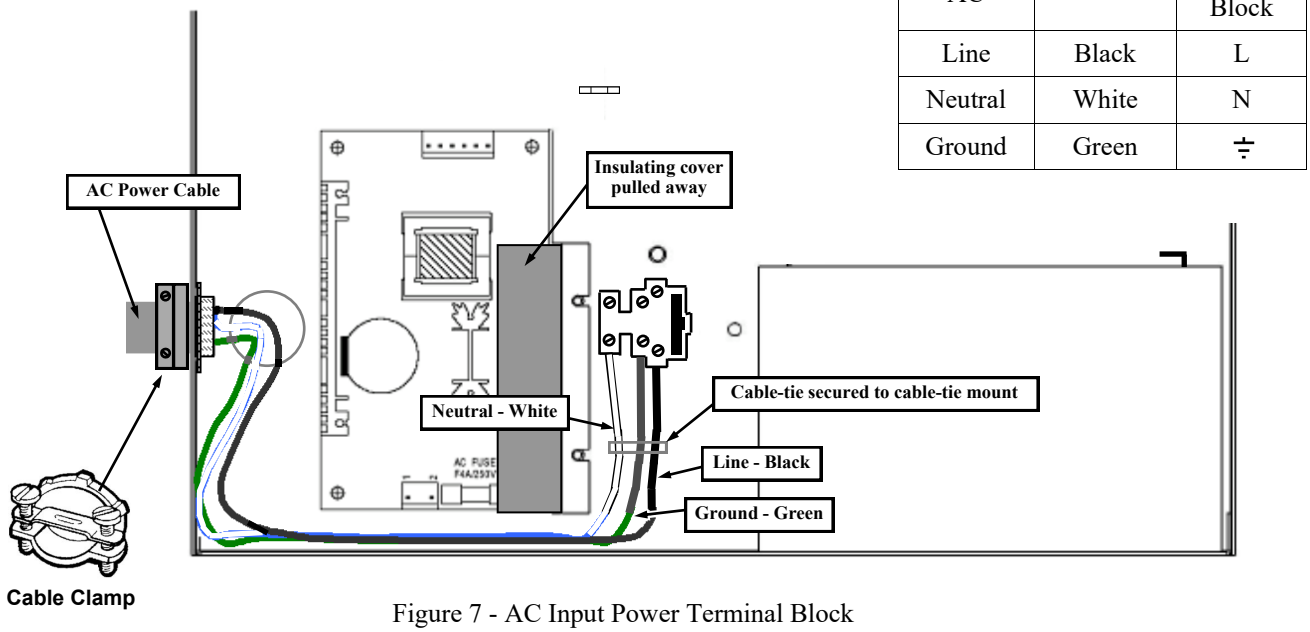


Figure 7 - AC Input Power Terminal Block

Super Two Circuit Board Layout

The Super Two circuit board (see Figure 8) provides wiring terminal strips for external access control devices (card readers, keypads, alarms, etc.).

The following descriptions in this manual reference the Super Two main circuit board, shown below, and use cutaway drawings to identify specific locations on the circuit board.

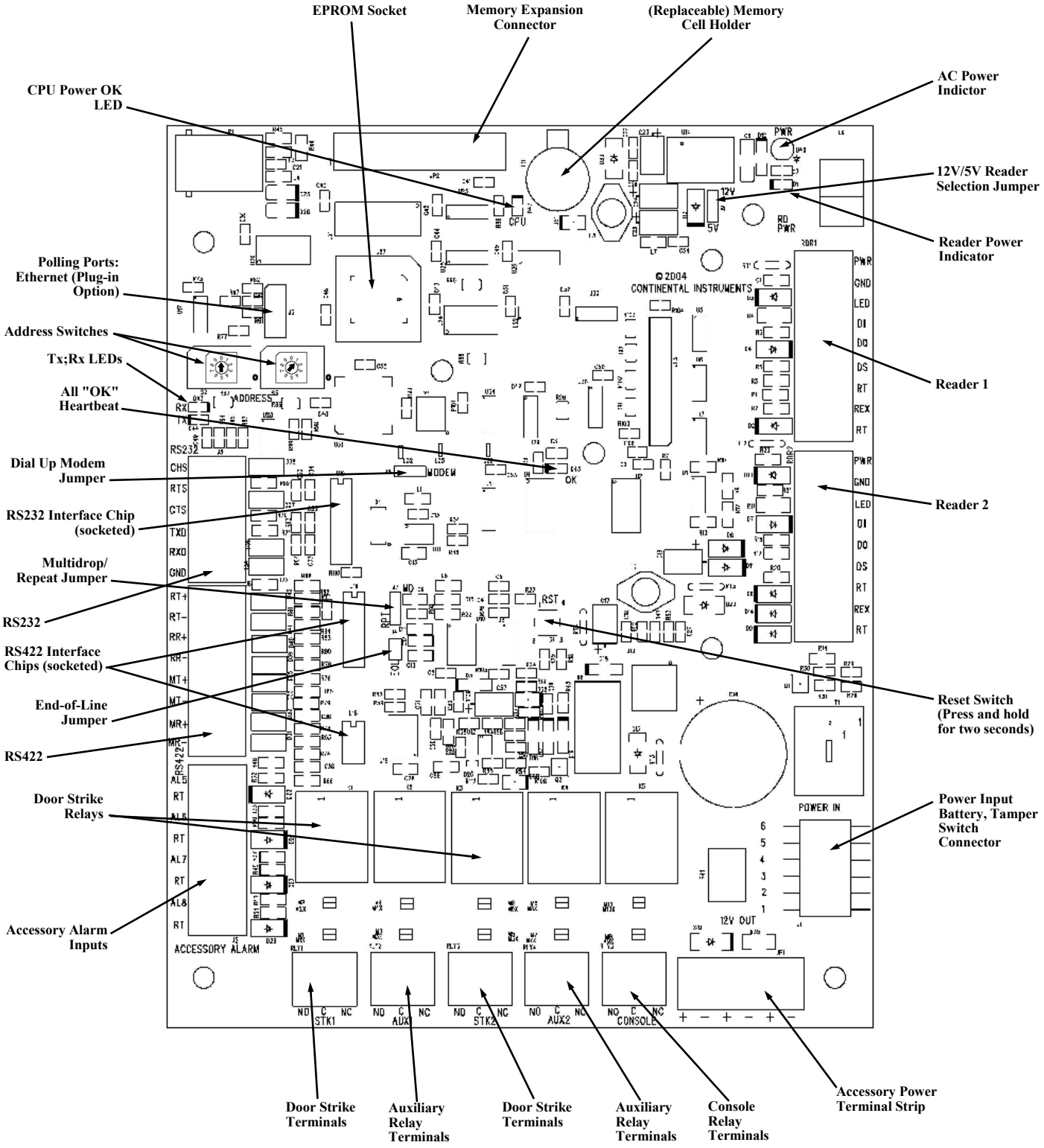


Figure 8 - Super Two Circuit Board Layout

DOOR CONNECTIONS

Inputs from Card Readers, Keypad/Card Readers and Door Alarms connect to the Super Two via the two terminal strips on the right of the board labeled RDR1 and RDR2.

Wiegand/Proximity Reader Connections

Table 2 below lists the connections between the RDR1 and RDR2 terminal strips and the Wiegand/Proximity Readers.

* Proximity Reader may be powered by either +5VDC or +12VDC, set by jumper.

Table 2 - Connection Table for Wiegand / Proximity Reader

RDRx Terminal Strip Pin	Function	Wire Color
PWR	+5VDC/+12VDC	Red *
GND	Ground	Black
LED	LED	Brown
D1	Data-1	White
D0	Data-0	Green
*Jumper Selectable. +12VDC Normally preferred for Proximity Readers.		

Note: ETL performed the product evaluation of Super Two Access Control Panel with HID ProxPoint™ Readers [Model 6005BGB00] and 36-bit cards. All other Card Reader Formats and Card Technologies were not evaluated by ETL.

Wiegand/Proximity Reader Cable Requirements

Wiegand/Proximity Readers require a 5-conductor cable between the Super Two and the particular unit (see Figure 9). **Do not use twisted pair cable.**

NOTE: Readers may have a maximum current draw of 200mA each at +12VDC, or a total current draw of 200mA if +5VDC Reader Power is selected.

EXAMPLE: If two identical +5VDC Readers are connected to one Super Two, each Reader could draw up to 100mA.

Table 3 lists the cable gauge-vs-length requirements for proper operation of the Super Two and a Wiegand/Proximity Reader.

CAUTION
Keep all drain and cable shield wires between the Super Two and any Wiegand/Proximity Readers short. Connect drain and cable shield wires to the ground posts located on both sides of Super Two cabinet. DO NOT ground drain wires and cable shields at any other point.

Table 3 - Cable Requirements for Wiegand/Proximity Readers

Unit	Distance (maximum)	Wire Gauge
Wiegand Reader	500ft/153m	22AWG Shielded w/drain
Proximity Reader**	500ft/153m	22AWG Shielded w/drain
**500ft/153m maximum for unbuffered Wiegand units.		

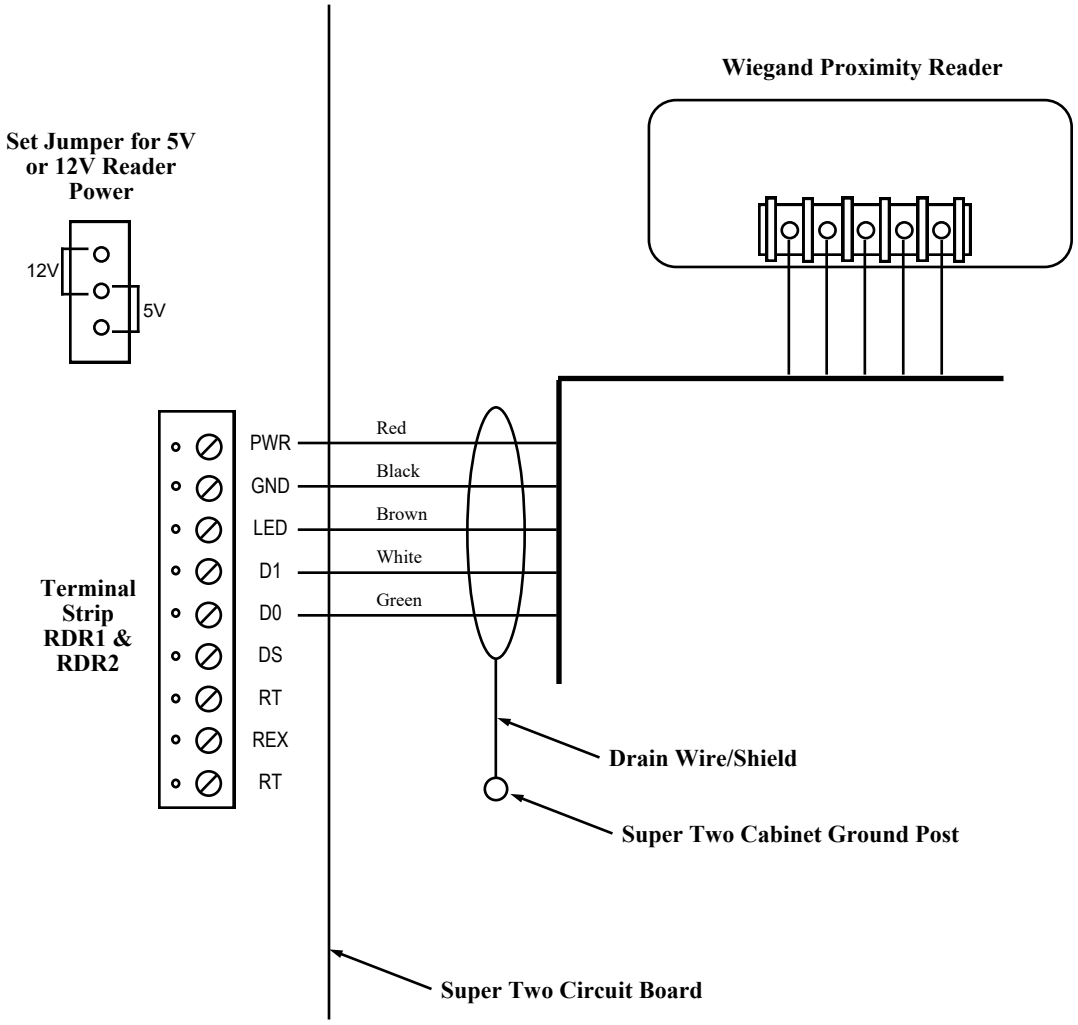


Figure 9 - Wiegand/Proximity Reader Connection to Super Two Board

Magnetic Stripe Reader Connection (Not Evaluated by UL)

Magnetic Stripe Readers connect to terminal strips RDR1 and RDR2 (see Figure 10). Terminal strips RDR1 and RDR2 follow the same connection procedures.

Table 4 lists the connections between the RDRI and RDR2 terminal strips and the Magnetic Stripe Reader.

Table 4 - Connection Table for Magnetic Stripe Reader	
DRx Terminal Strip Pin	**Function**
PWR (Red)	+5VDC/12VDC (Red)
GND (Black)	Ground (Black)
LED (Brown)	LED[1] (Yellow)
D1 (White)	Data-1/DAT (Blue)
D0 (Green)	Data-0/CLK (Green)
Note 1: If the Magstripe Reader does not feature an LED indicator, 4-conductor cable may be used.	

Magnetic Stripe Reader Cable Requirements

Magnetic Stripe Readers require a 5-conductor cable between the Super Two and the particular unit (see Figure 10). **Do not use twisted pair cable.**

Table 5 lists the cable gauge-vs-length requirements for proper operation of the Super Two and Magnetic Stripe Readers.

CAUTION

Keep all drain wires between the Super Two and Magnetic Stripe Readers short. Connect drain wires to the ground posts located on both sides of Super Two cabinet. DO NOT ground drain wires and cable shields at any other point.

Table 5 - Cable Requirements for Magnetic Stripe Reader		
Unit	**Distance**	**Wire Gauge**
Magnetic Stripe Reader	(maximum) 500ft/153m	22AWG Shielded w/drain

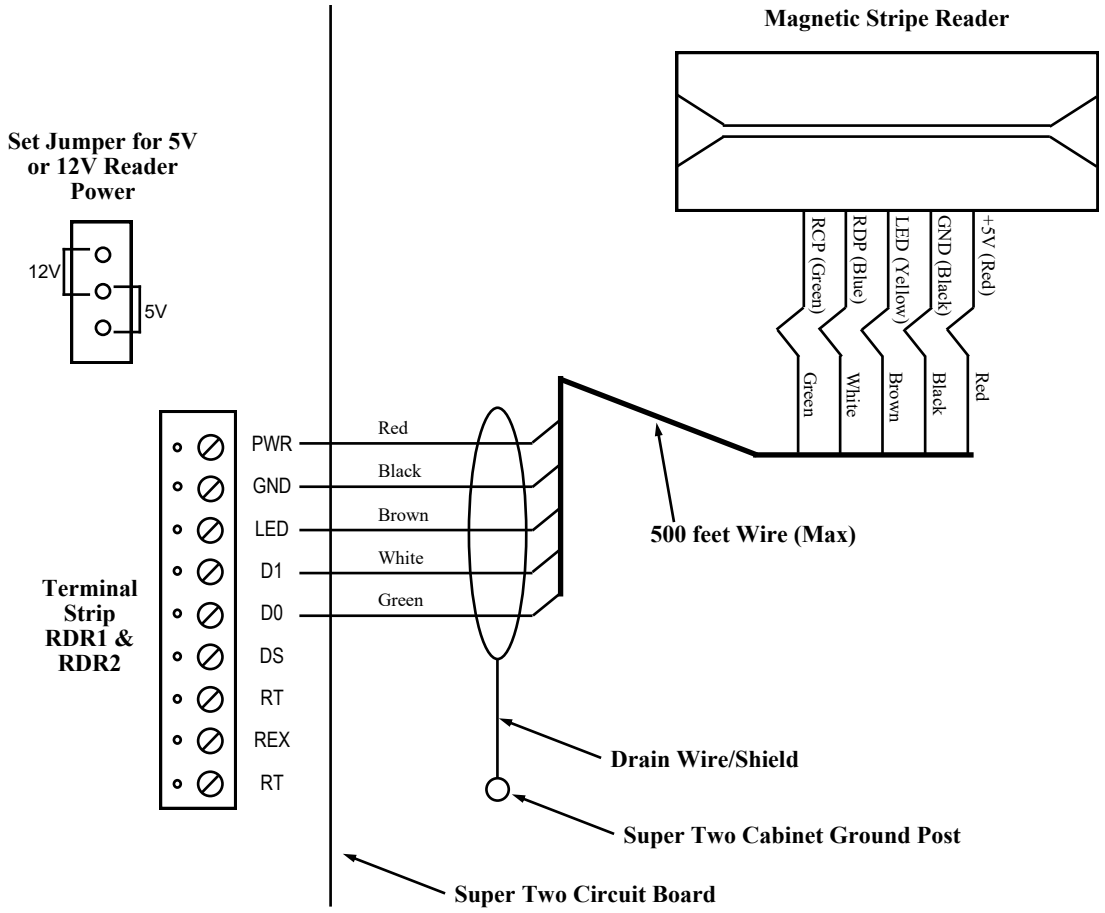


Figure 10 - Magnetic Stripe Reader Connection to Super Two Board

Keypad Connection

Wiegand-Output Card and Keypad Readers -
The preferred connection for "Card and Keypad" installations is the use of a Wiegand – Output Reader/Keypad such as the HID 5355AGK00 or 5355ABK00. These products eliminate the cost of additional wiring, and require no addition Interface Equipment. Compatible equipment produce the following codes for Keypad entries:

0 = 0000	4 = 0100	8 = 1000
1 = 0001	5 = 0101	9 = 0101
2 = 0010	6 = 0110	* = 1010
3 = 0011	7 = 0111	# = 1011

NOTE: Wiegand-output Keypads may simply be connected to the Card Reader inputs at DR1 and DR2 for "Keypad Only" connections.

X-Y Matrix Keypads (Not Evaluated by ETL)
If traditional twelve-position keypads must be used, these may be wired to the optional Super Two X-Y Matrix Keypad Board. Connect the wiring to terminal strips KP1 and KP2 (see Figure 11). Terminal strips KP1 and KP2 follow the same connection procedures.

Table 6 lists the connections between the KP1 and KP2 terminal strips and the keypad.

Keypad Cable Requirements
Keypads require a 22AWG, 7-conductor, stranded, shielded, cable with drain wire between the Super Two and the particular unit (see Figure 11). **Do not use twisted pair cable**.

Table 6 - Connection Table for Keypad Reader Interface Board CICP1300XYBD		
KPx Terminal Strip		
Pin #	**Function**	**Wire Color**
R1	Row 1	Brown
R2	Row 2	Red
R3	Row 3	Orange
R4	Row 4	Yellow
C1	Column 1	Green
C2	Column 2	Blue
C3	Column 3	Violet

Table 7 lists the cable gauge-vs-length requirements for proper operation of the Super Two and the Keypad.

CAUTION
Keep all drain wires short. Connect drain wires to the ground posts located on both sides of Super Two cabinet. DO NOT ground drain wires and cable shields at any other point.

Table 7 - Cable Requirements for XY Matrix Keypad		
Unit	**Distance**	**Wire Gauge**
XY Matrix Keypad	(maximum) 500ft/153m	22AWG Shielded w/drain

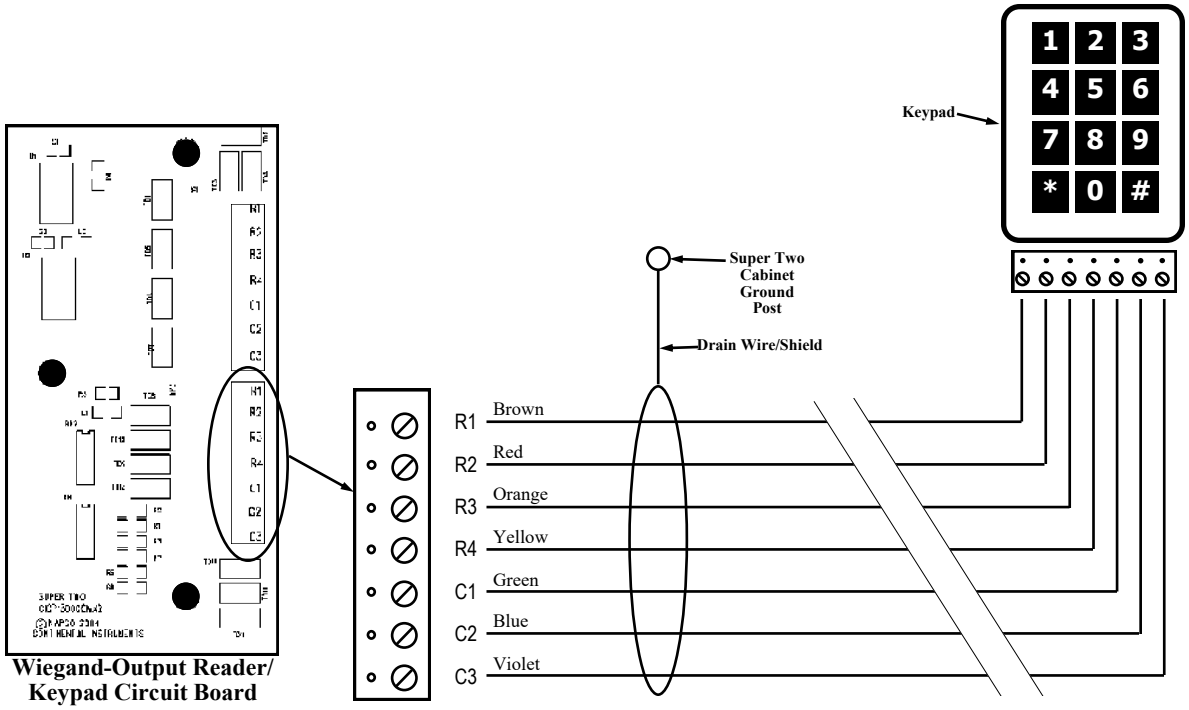


Figure 11 - Keypad Connection to Super Two Board

Door Status Sensor Connection

Door Status sensors connect to the Super Two through two terminal strips labeled RDR1 and RDR2 (see Figure 12).

Table 8 lists the connections between the RDR1 and RDR2 terminal strips and the Door Status sensor.

Table 8 - Connection Table for Door Status Sensor		
RDRx Terminal Strip Pin	**Signal**	**Door Status Sensor Function**
DS	Alarm	Positive
RT	Return	Negative

Door Status Sensor Cable Requirements

Door Status sensors require a 22AWG, 2-conductor, stranded, shielded, cable with drain wire between the Super Two and the particular unit (see Figure 12).

Table 9 lists the cable gauge-vs-length requirements for proper operation of the Super Two and the Door Status sensor.

NOTES: Refer to page 26, Alarm Connections, to configure Door Status sensors as supervised alarms.

Table 9 - Cable Requirements for Door Status Sensor		
Unit	**Distance**	**Wire Gauge**
Door Status Sensor	500ft/153m	22AWG Shielded w/ drain

CAUTION
Keep all drain wires short. Connect drain wires to the ground posts located on both sides of Super Two cabinet. DO NOT ground drain wires and cable shields at any other point.

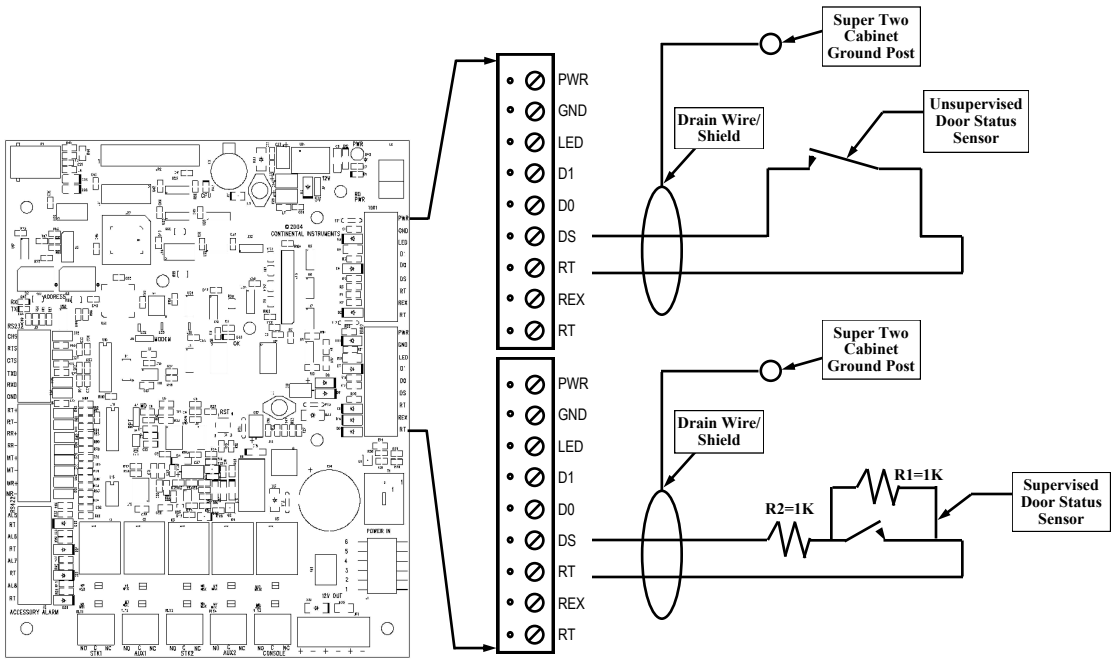


Figure 12 - Door Status Sensor to Super Two Connections. Plain (Unsupervised) Contacts, and Supervised Contacts

Request-to-Exit (Bypass) Sensor Connection

Request-to-Exit sensors (also known as Bypass sensors) work in conjunction with Door Status Sensors to provide complete facility entry and exit control. The Request-to-Exit sensor input connects to the same Super Two terminal strip (RDR1 and RDR2) that the associated Door Status Sensor connects to (see Figure 13).

Table 10 lists the connections between the RDR1 and RDR2 terminal strips and the associated Request-to-Exit sensor.

Table 10 - Connection Table for Request-to-Exit Sensor		
DRx Terminal Strip Pin #	Signal	Request-to-Exit Sensor Function
REX	Alarm	Positive
RT	Return	Negative

Request-to-Exit Sensor Cable Requirements

Request-to-Exit sensors require a 22AWG, 2-conductor, stranded, shielded, cable with drain wire between the Super Two and the particular unit (see Figure 13).

Table 11 lists the cable gauge-vs-length requirements for proper operation of the Super Two and the Request-to-Exit sensor.

Table 11 - Cable Requirements for Request-to-Exit Sensor		
Unit	Distance	Wire Gauge
Request-to-Exit Sensor	(maximum) 500ft/153m	22AWG Shielded w/ drain

CAUTION
Keep all drain wires short. Connect drain wires to the ground posts located on both sides of Super Two cabinet. DO NOT ground drain wires and cable shields at any other point.

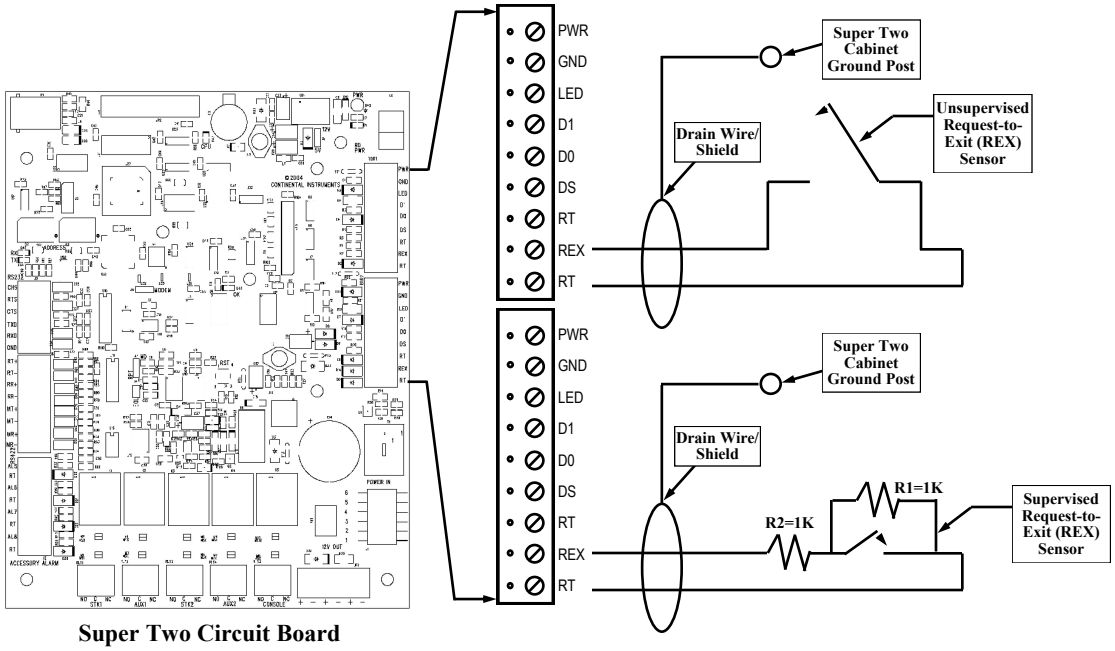


Figure 13 - Request-to-Exit Sensor to Super Two Connections. Plain (Unsupervised) Contacts, and Supervised Contacts

RELAY CONNECTIONS

Description

The Super Two provides five Form C relays to control door strikes, door alarm shunts, console functions, etc.

The relays are divided into three categories: Door Strike Relays, Auxiliary Relays, and Console Relay

Door Strike Relays

Two relays are designated as door strike relays and work in conjunction with Wiegand/Proximity readers, Magnetic Stripe readers and Keypad to control access at particular door sites.

The door strike relays, labeled STK1 and STK2, are located on the bottom of the Super Two Circuit Board (see Figure 14).

The door strike relay circuits are rated 2A at 24V AC/DC.

Auxiliary Relays

Two relays are designated as Auxiliary Relays are typically used to control door alarm shunts.

The Auxiliary Relays are user-programmable and may be used for low-voltage control functions.

The Auxiliary Relays outputs, labeled AUX1 and AUX2 are located on the bottom of Super Two Circuit Board (see Figure 14).

Console Relay

The Console Relay activation may be linked to specific events such as invalid door access, alarm input, and tamper switch input. The console relay is linked to an event through software.

The console relay output is labeled CONSOLE and is located on the far right hand side of the relay terminal strips on the Super Two Circuit Board (see Figure 14).

Relay Characteristics

The relays on the Super Two Circuit Board all share the following characteristics:
Form C relay with a contact rating of 2A at 24V AC/DC.
The Normally Open (NO), and the Normally Closed (NC) contacts are the default state of non-energized relays.
Metal oxide varistors (MOVs) are placed across the contacts to reduce electrical noise. The MOVs limit any noise caused by the strike coil to 56 volts.

NOTES: Installing a 56V MOV at the strike coil further reduces possible noise input.

Additional MOVs are available from Continental Access as part number R783R.
Because of this noise, door strike wiring MUST NOT be put in the same conduit with other wiring.

Using door strikes with a coil voltage greater than 24VDC or 24VAC requires using external relays that can be driven by Super Two relays.

Super Two Circuit Board

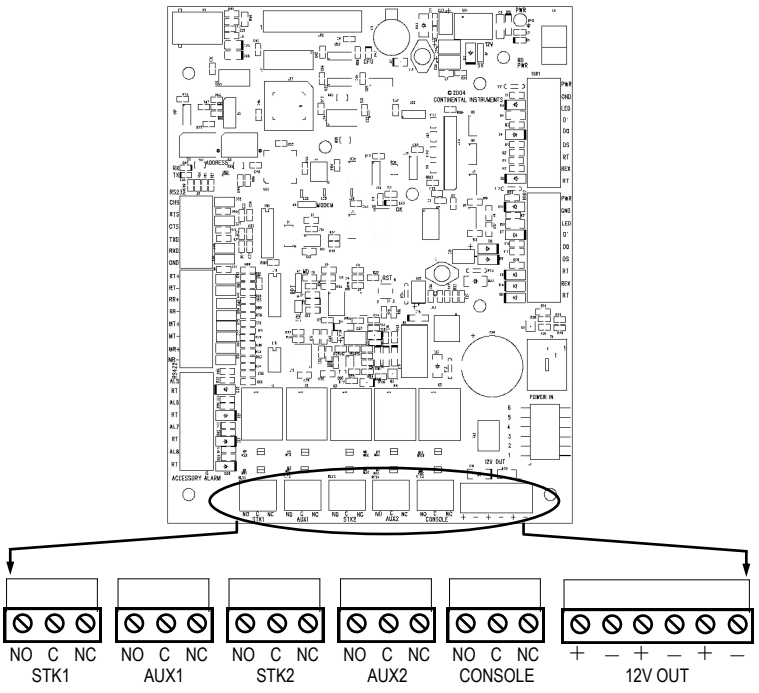


Figure 14 - Relay Contact and Accessory Power Outputs

Powering Electromagnetic (EM) Locks

Sufficient Battery-Backed 12-Volt DC Power is available to power the Super Two Circuit Board, two Access Control Readers, the Network Interface Adapter, and two modern EM Locks.

After a Power Failure, the installed 7AH Battery can be expected to keep the system operating for two hours (under normal conditions).

If two EM Locks used each consume 400mA or less, operation under backup power can be expected to last four or more hours.

Fire Alarm Control Panel (FACP) Connection

Emergency Disconnect of the Fail–Safe EM Lock Power can be accomplished as shown for the STK2 Circuit in Figure 15.

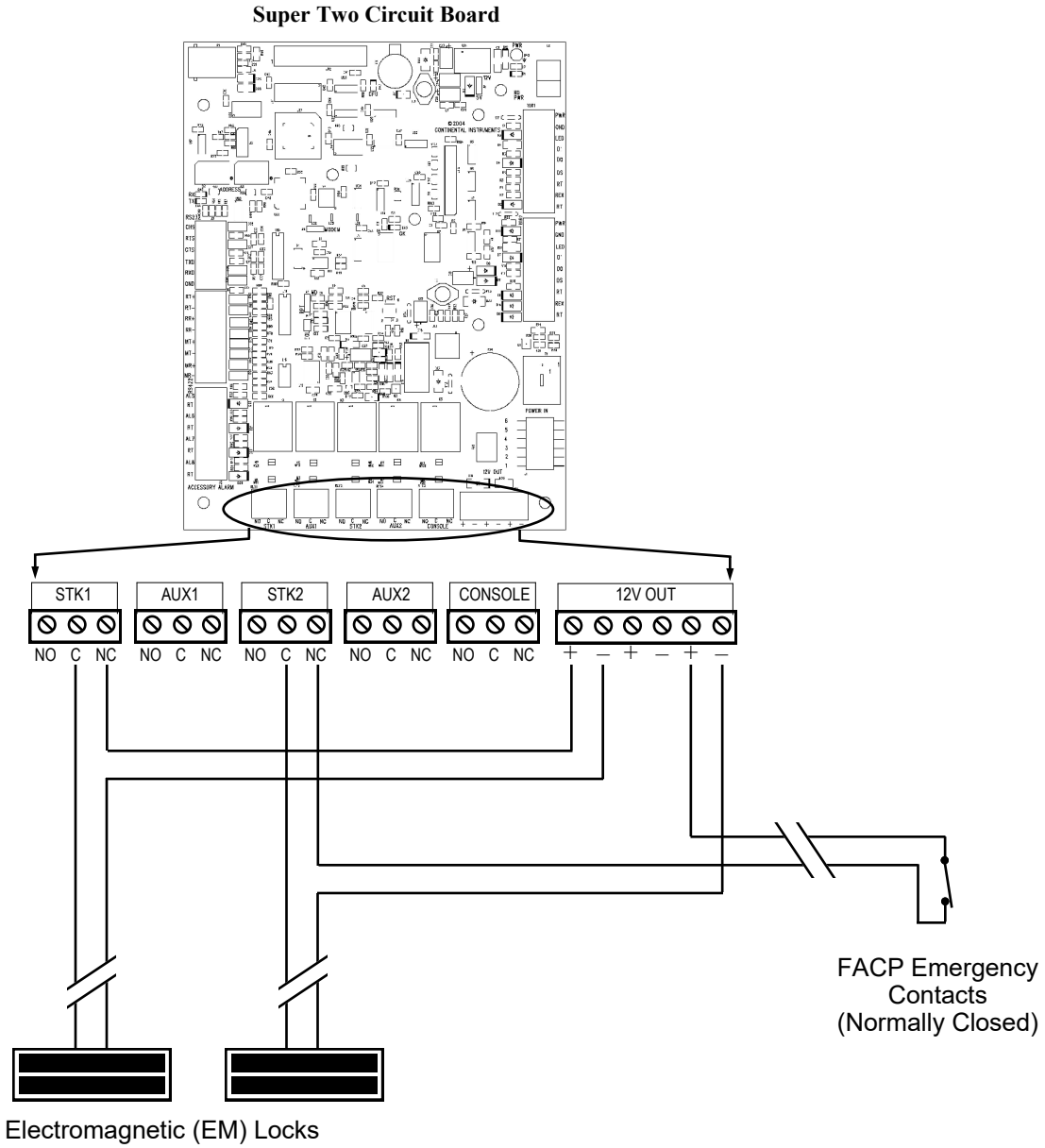


Figure 15 - Fire Alarm Control Panel (FACP) Connection

ACCESSORY POWER

The ACCESSORY POWER terminal strip (labeled 12V OUT) provides battery backed +12VDC power outlets for auxiliary devices. This terminal strip is located in the lower right-hand corner of the Super Two circuit board.

Table 12 lists the ACC. POWER terminal strip pin numbers and their associated functions.

Table 12 - ACCESSORY POWER (12V) Terminal Strip Functions

Pin	Function
1	+12
2	GND
3	+12
4	GND
5	+12
6	GND

NOTE: +12VDC current draw is limited to a total maximum of 1.60 Amps for Readers, EM Locks, and Accessories.

WARNING
Observe Positive and Negative wire polarity between accessory devices and the Super Two.

ALARM CONNECTION

The Super Two has a total of 8 supervised alarm inputs. Four alarm inputs are located on the RDR1 and RDR2 terminal strips, and are used for Request-to-Exit and Door Status sensor functions (see pages 21 and 22).

An additional four accessory alarm inputs are located on the Accessory ALARM terminal strip located on the lower left corner of the Super Two circuit board (see Figures 25 and 26). These alarm inputs may be used for dry contact type inputs (unsupervised) or supervised alarms.

Supervised Alarms

Supervised alarms provide monitoring of alarm inputs for fault or tamper conditions. Two additional alarm states may be detected by installing two-1K Ohm) resistors near the alarm contacts.

In addition to the standard Normal and Abnormal alarm conditions, the supervised alarms report Line Open and Line Short conditions.

- A Line **Open** condition is the result of a cut wire.
- A Line **Short** condition is the result of a short in the alarm wiring.

These fault conditions may be the result of tampering, and indicate the system cannot correctly detect the state of the alarm contacts.

Configuring an Alarm in the Supervised Condition

1) Use two 1K Ohm, 1/4W, ±5% carbon film resistors per alarm.
2) Install R 1 in parallel with the alarm contacts (see Figure 16).
3) Install R2 in series with the alarm input conductor.

NOTE: For maximum protection, install the resistors close to the alarm contacts and embed them in epoxy.

Table 13 lists the ALARM terminal strip pin numbers and the respective signals.

Table 13 - ALARM Terminal Strip Input Pins

Pin	Signal
1	AL 5
2	RT 5
3	AL6
4	RT6
5	AL 7
6	RT7
7	AL8
8	RT8

Alarm Cable Requirements

Connecting alarm sensors to the Super Two board requires 22 AWG, stranded, shielded, cables with drain wires.

CAUTION

Keep all drain wires short. Connect drain wires to the ground posts located on both sides of Super Two cabinet. DO NOT ground drain wires at any other point.

Tamper Switch

The Super Two cabinet has a built-in tamper switch. The tamper switch is factory wired and requires no adjustment. For a UL/ETL-Compliant Installation, the Tamper Switch must be configured at the Host Computer to signal an Alert when the Tamper Switch is activated. The Tamper Switch may also be configured to activate the Console Relay that is wired to an alarm signal circuit or an alarm sounder

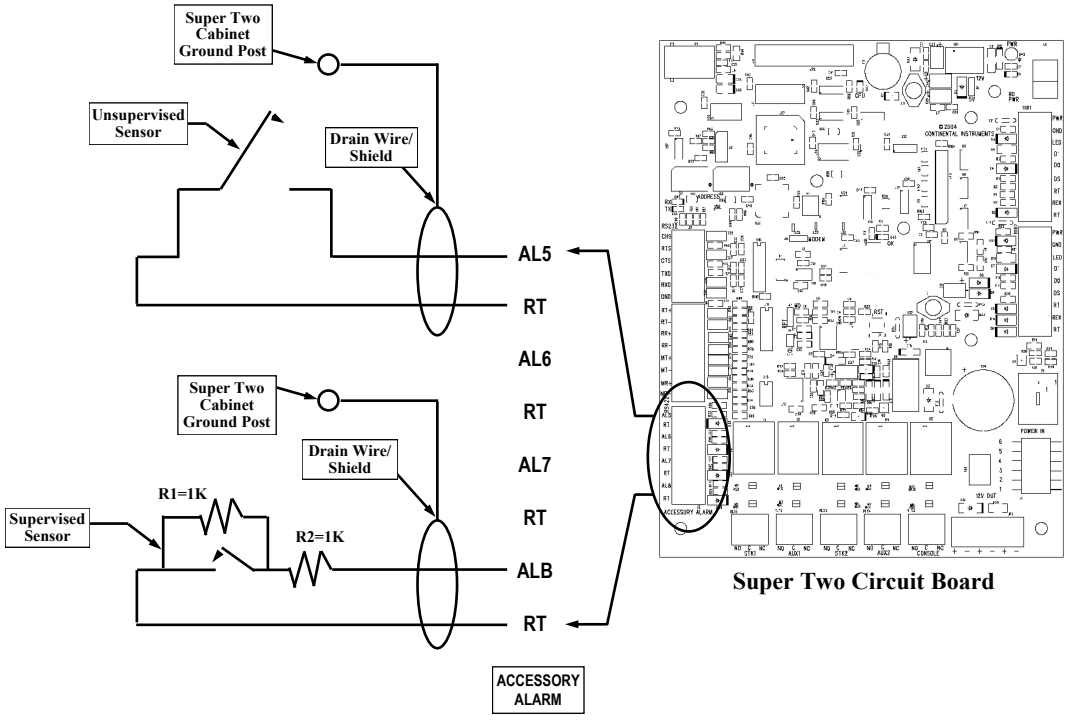


Figure 16 - ALARM Terminal Strip - Unsupervised and Supervised Alarm Connections

RS-232 Communications - Host/Modem Operation

Operating as a stand-alone system, the Super Two communicates with a host computer (directly, through a modem, or through the optional Ethernet Network Interface) through the RS-232 channel.

Proper RS-232 communications requires observing the EIA standard pin definitions of Data Terminal Equipment (DTE) and Data Control Equipment (DCE).

NOTE: All RS-232 equipment made by Continental Access, including the Super Two, are configured as DTE devices.

RS-232 Cable Requirements

RS-232 communication between the Super Two and a host computer/modem require stranded, 3 conductor, 22 AWG cable with shielding and a drain wire. **Do not use twisted pair cable**.

Table 14 displays the cable gauge and length requirements for proper operation of the Super Two and the host computer/ modem.

Table 14 - RS-232 Cable Gauge-vs-Length

Unit	Distance	Wire Gauge
Host Computer/ Modem	50ft (15.2m) (Maximum)	22AWG

NOTES: A host computer is typically connected to the RS-232 cable using either a DB9-S or a DB25-S connector.

Modems are typically connected to the RS-232 cable using a DB25-P connector.

RS-232 Jumper Settings

RS-232 communications between the Super Two and a host computer require setting the MD/RPT and EOL jumpers on the Super Two board. Refer to page 38, EOL and MD/RPT Jumper Settings, for specific information.
NOTE: Operating as a stand-alone system, the Super Two must be configured in the REPEAT mode.

Address Setting

Operating the Super Two on the RS-232 channel requires setting a board address (Address Zero not valid) on the small rotary switches marked ADDRESS (S2 and S3). Refer to page 29, Network Address Settings for specific information.

Super Two to Host Computer/Modem Connection

Figure 17 shows a direct Super Two-to-host computer connection.

Figure 18 shows a Super Two-to-host computer connection through a modem.

NOTE: Set the Modem jumper to the right when using a modem.

1) Connect the Transmit pin of the RS-232 device to COMM terminal strip pin number 5 (labeled RxD) (See Figure 18).
2) Connect the Receive pin of the RS-232 device to COMM terminal strip pin number 4 (labeled TxD).
3) Connect the Ground pin of the RS-232 device to COMM terminal strip pin number 6 (labeled GND).
4) Connect the RS-232 cabling drain wire/shield to GROUND at the host computer/modem end of the cable. Do Not connect the drain wire at the Super Two end of the cable.

Table 15 lists the connections between the COMM terminal strip and a host computer.

Table 15 - Connection Table for Host Computer

Signal	Super Two COMM Pin #	Host Computer DB9-S pin
TXD	4	2
RXD	5	3
GND	6	5

Table 16 lists the connections between the Super Two COMM terminal strip and a modem.

Table 16 - Connection Table for Modem

Signal	Super Two COMM Pin #	Modem DB25-P
TXD	4	2
RXD	5	3
GND	6	7

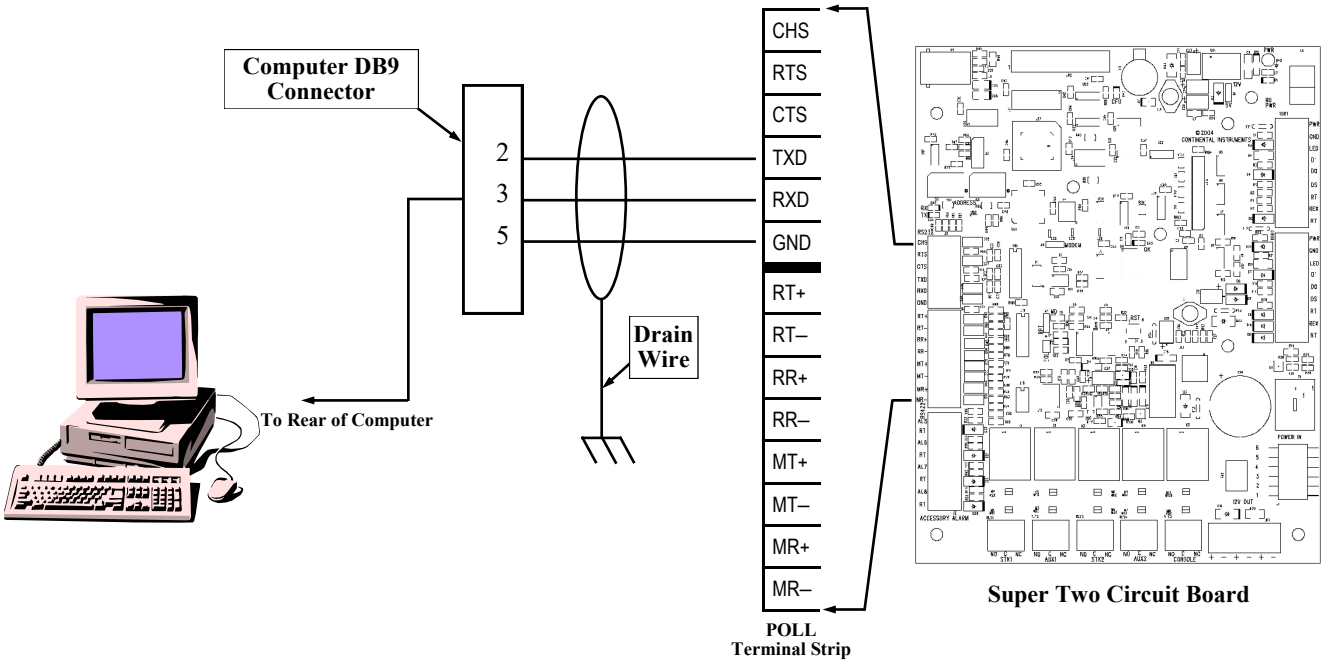


Figure 17 - Super Two-to-Host Computer Connection

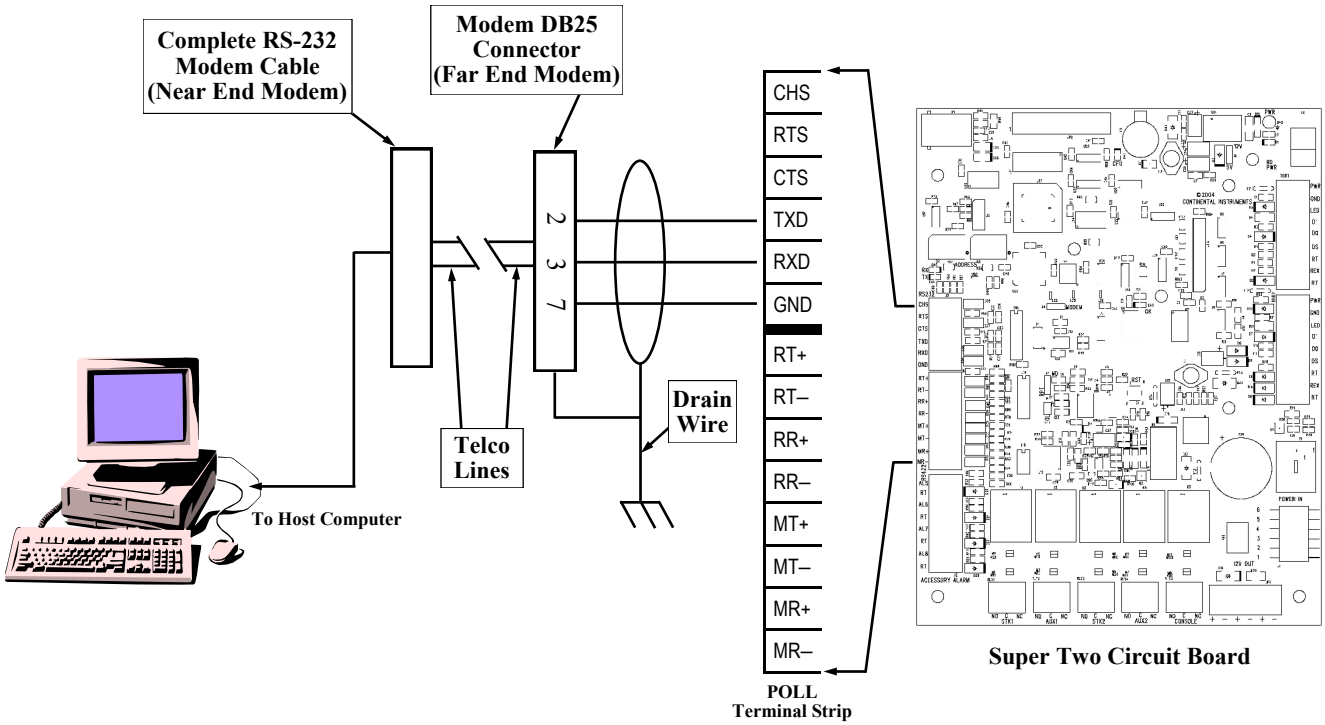


Figure 18 - Super Two-to-Modem-to-Computer Connection

Networking

The Super Two can be networked with a maximum of 62 other Super Two units or other Continental Access access control devices (Superterm, Turbo Superterm, Smarterm, Miniterm and Microterm).

NOTE: Multidrop networks require line drivers if more than 32 Super Two Panels are configured.

The following network configurations are possible:

RS-232 to RS-422 Networks
RS-232 to RS-422 REPEAT Networks
RS-232 to RS-422 MULTIDROP Networks

RS-422 to RS-422 Networks
RS-422 to RS-422 REPEAT Networks
RS-422 to RS-422 MULTIDROP Networks

NOTES: If the first Super Two in the network is less than 50 feet (15.2m) from the host computer, the first Super Two in the network may be used to convert the RS-232 polling signal to RS-422 for the remainder of the network.

If the first Super Two in the network is more than 50 feet (15.2m) from the host computer, an RS-422 polling line converter is required (CICE1941).

Network Jumper Settings

The MD/RPT and EOL jumpers on each Super Two must be set depending on the type of network configuration.

Refer to page 38 for specific information regarding the EOL jumper. Also refer to page 38 for specific information regarding the MD/RPT jumper.

Network Cable Requirements

Networking multiple Super Two panels requires 4-conductor cable (2-two wire twisted pair), stranded, 22AWG, with shielding, and drain wire.

For REPEAT network configurations, cable length between EACH Super Two is restricted to a maximum length of 4000 feet (1220m).

For MULTIDROP network configurations, total cable length is restricted to a maximum 4000 feet (1220m) between the FIRST Super Two and the LAST Super Two in the network.

Network Address Settings

Operating the Super Two with a host computer, or in a network, requires that each Super Two (and other devices) have an individual, unique address other than zero.

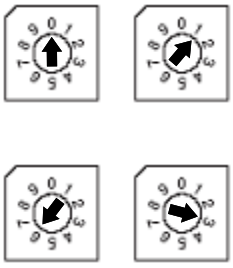


Figure 19a – Setting Network Address

The BCD Rotary Switches are set with a small screwdriver. There is a click detent for each number. The valid address range is "01" to "63". (Address "00" is not valid).

See "Clear Memory and Force Download to Panel" on page 43.

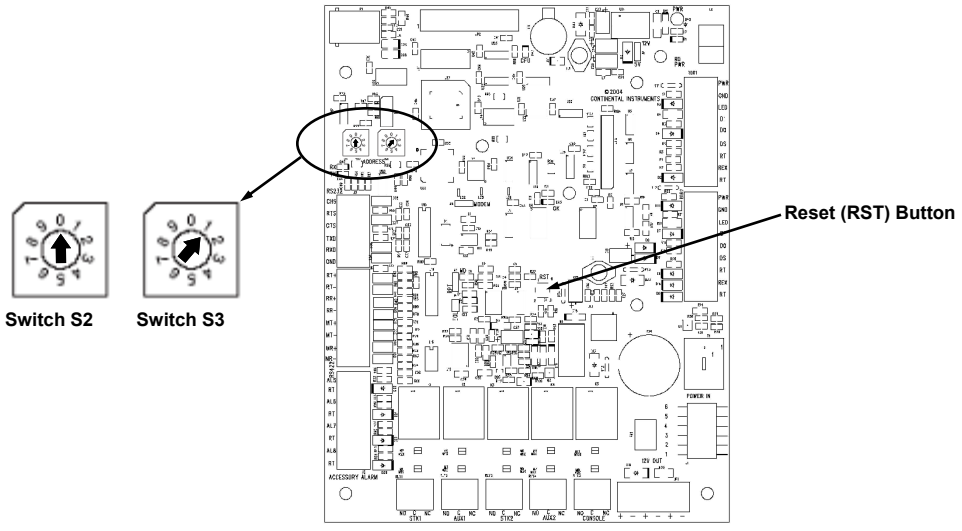


Figure 19 - Super Two Address Switch (S2 & S3) Location

RS-232 to RS-422 REPEAT Network

If the first Super Two in the network is less than 50 feet (15.2m) from the host computer, it may be used to convert the RS-232 polling signal from the host to RS-422 for the remainder of the network.

1. Connect the first Super Two to the RS-232 port of the host computer.
2. Connect the remainder of the network using the Super Two's RS-422 ports.

Refer to Figure 20, page 31, for a typical REPEAT mode network connection diagram.

Table 17 lists the required connections for an RS-232 to RS-422 REPEAT network.

RS-232 to RS-422 REPEAT Jumper Settings

To convert an RS-232 signal to an RS-422 signal, the first Super Two unit in the network must be in REPEAT mode.

Operating a Super Two network in the REPEAT mode requires setting the MD/RPT and EOL jumpers.

Refer to page 38 for information regarding setting the MD/RPT jumper and for information regarding setting the EOL jumper.

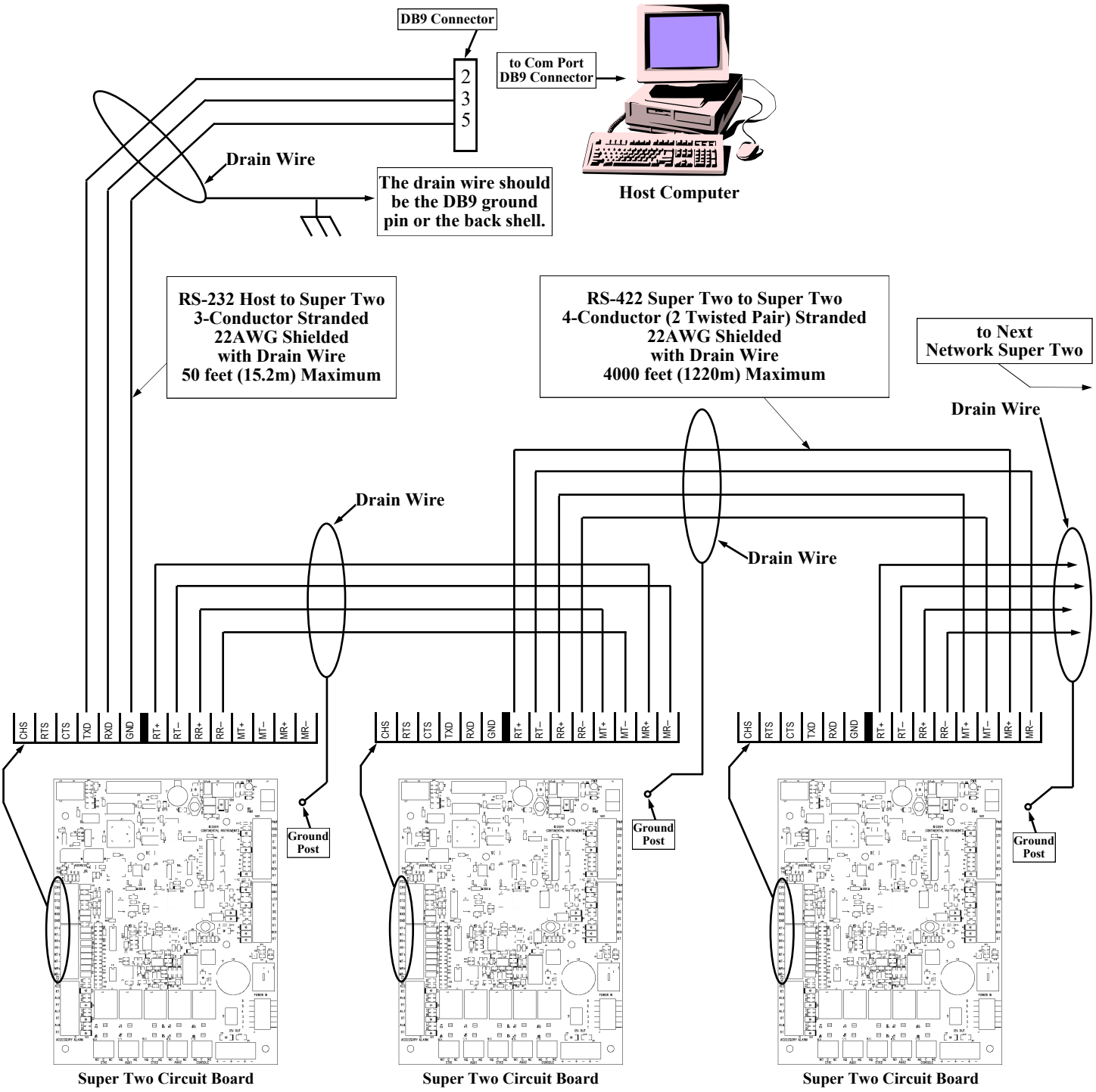
RS-232 to RS-422 REPEAT Ground and Drain Cables

The drain wires for all RS-422 cables in the network must be grounded to the individual Super Two's Cabinet Ground Post (see Figure 20). Ground RS-422 cables at the end closest to the host computer.

NOTE: Ground the drain wire for the RS-232 cables at the host computer end of the cable.

Table 17 - RS-232 to RS-422 REPEAT Network Connections

Host Computer	**Super Two #1**	**Super Two #2**	**Super Two 3#**	**Super Two #4**	**to next Super Two**
	MODE1 Jumper = REPEAT EOL jumper = IN	MODE1 Jumper = REPEAT EOL jumper = IN	MODE1 Jumper = REPEAT EOL jumper = IN	MODE1 Jumper = REPEAT EOL jumper = IN	MODE1 Jumper = REPEAT EOL jumper = IN
Signal	Connector	Connector	Connector	Connector	Connector
RS-232 RXD RS-232 TXD RS-232 GND	TXD RXD GND				
	RT+ RT- RR+ RR-	MR+ MR- MT+ MT-			
		RT+ RT- RR+ RR-	MR+ MR- MT+ MT-		
			RT+ RT- RR+ RR-	MR+ MR- MT+ MT-	>>>> >>>> >>>> >>>>



First Network Super Two
REPEAT Mode
MD/RPT Jumper = RPT pins 2 and 3)
EOL Jumper - IN

Second Network Super Two
REPEAT Mode
MD/RPT Jumper = RPT (pins 2 and 3)
EOL Jumper = IN

Third Network Super Two
REPEAT Mode
MD/RPT Jumper = RPT (pins 2 and 3)
EOL Jumper = IN

Figure 20 - Super Two RS-232 to RS-422 REPEAT Network Connection

RS-232 to RS-422 MULTIDROP Network

Figure 21 shows the required connections for an RS-232 to RS -422 MULTIDROP network.

- Connect the first Super Two to the RS-232 port of the host computer.
- Connect the remainder of the network using the Super Two's RS-422 ports.

NOTE: Thirty-two (32) Super Two panels may be installed in a Multidrop network.

Table 18 lists the required connections for an RS-232 to RS-422 MULTIDROP network.

RS-232 to RS-422 MULTIDROP Network Ground and Drain Wires

The drain wires for all RS-422 cables in a MULTIDROP network must be connected together (isolated from the cabinet ground) and connected only to the ground post at the FIRST Super Two in the network (the Super Two unit CLOSEST to the host computer).

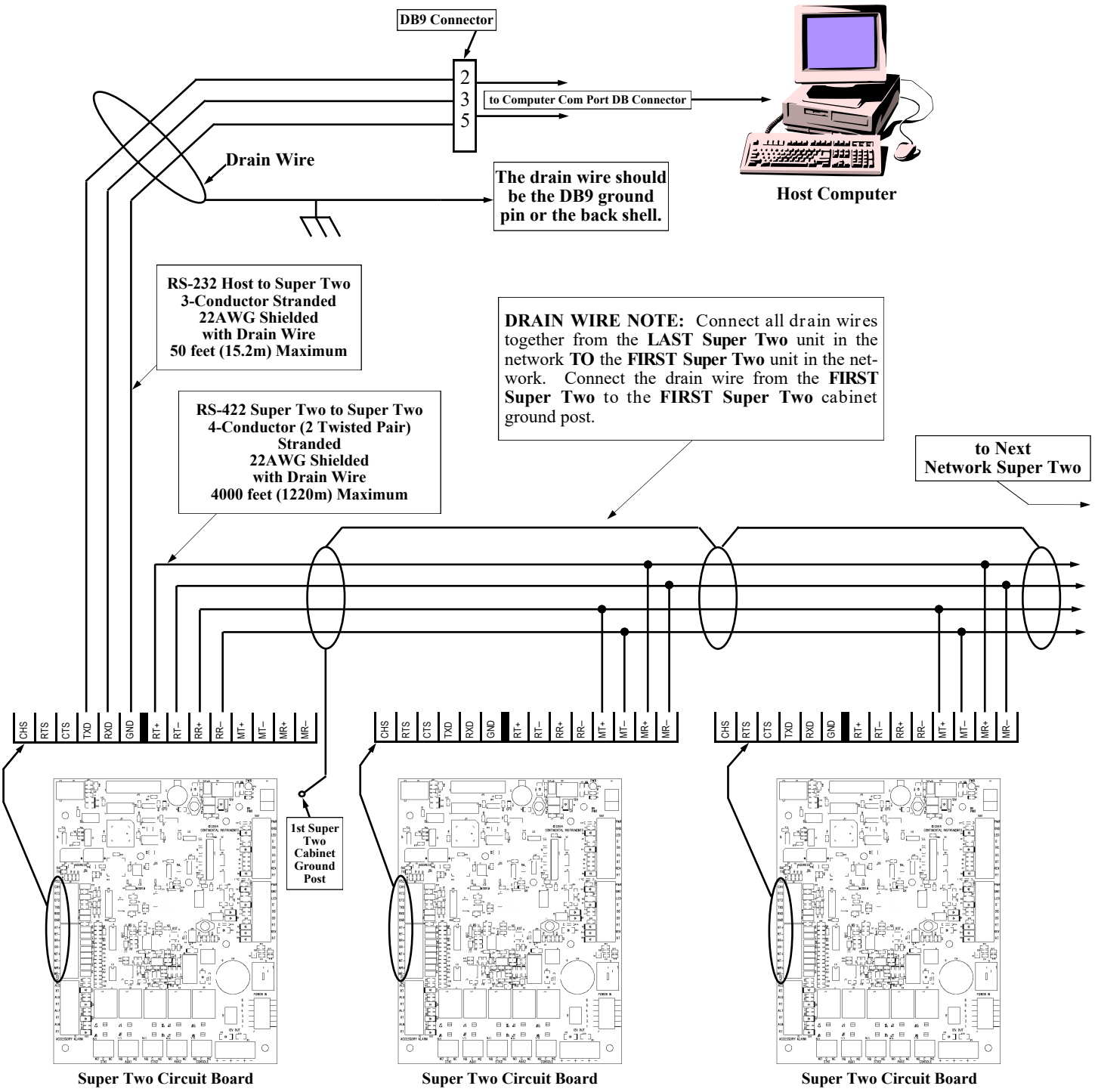
RS-232 to RS-422 MULTIDROP Network Jumper Setting

Operating a Super Two network in the MULTIDROP mode requires setting the MD/RPT and EOL jumpers.

Refer to page 38 for information regarding setting the MD/RPT jumper, and for information regarding setting the EOL jumper.

Table 18- RS-232 to RS-422 MULTIDROP Network Connections

Host Computer	Super Two #1	Super Two #2	Super Two 3#	Super Two 4#	Last Super Two
	MD/RPT Jumper=RPT EOL Jumper = IN	MD/RPT Jumper=MD EOL Jumper = OUT	MD/RPT Jumper=MD EOL Jumper = OUT	MD/RPT Jumper=MD EOL Jumper = OUT	MD/RPT Jumper=MD EOL Jumper = **IN**
Signal	**Connector**	**Connector**	**Connector**	**Connector**	**Connector**
RS-232 RXD RS-232 TXD RS-232 GND	TXD RXD GND				
	RT+ RT- RR+ RR-	MR+ MR- MT+ MT-	MR+ MR- MT+ MT-	MR+ MR- MT+ MT-	>>>MR+ >>>MR- >>>MT+ >>>MT-



First Network Super Two
REPEAT Mode
MD/RPT Jumper = RPT (pins 2 and 3)
EOL Jumper = IN

Second Network Super Two
MULTIDROP Mode
MD/RPT Jumper = MD (pins 1 and 2)
EOL Jumper = OUT

Third Network Super Two
MULTIDROP Mode
MD/RPT Jumper = MD (pins 1 and 2)
EOL Juniper = OUT

NOTE: Set the EOL jumper for the last Super Two in the network to IN.

Figure 21 - Super Two RS-232 -to- RS-422 MULTIDROP Network Connection

RS-422 to RS-422 REPEAT Network

If the first Super Two in a network is more than 50 feet (15.2m) from the host computer, the polling line from the host computer must use RS-422 standards.

A Continental Access RS-422 Polling Line Converter (P/N CICE1942) may be used at the host computer to convert RS-232 to RS-422.

Figure 22, page 35 shows the required connections for an RS-422-to-RS-422 REPEAT network.

Table 19 lists the necessary connections between:

A host computer and the first Super Two in the network, and

The first Super Two in the network and the remaining Super Two Panels (63 maximum) in a network.

RS-422 to RS-422 REPEAT Network Jumper Settings

Operating a Super Two network in the REPEAT mode requires setting the MD/RPT jumper and the EOL jumper.

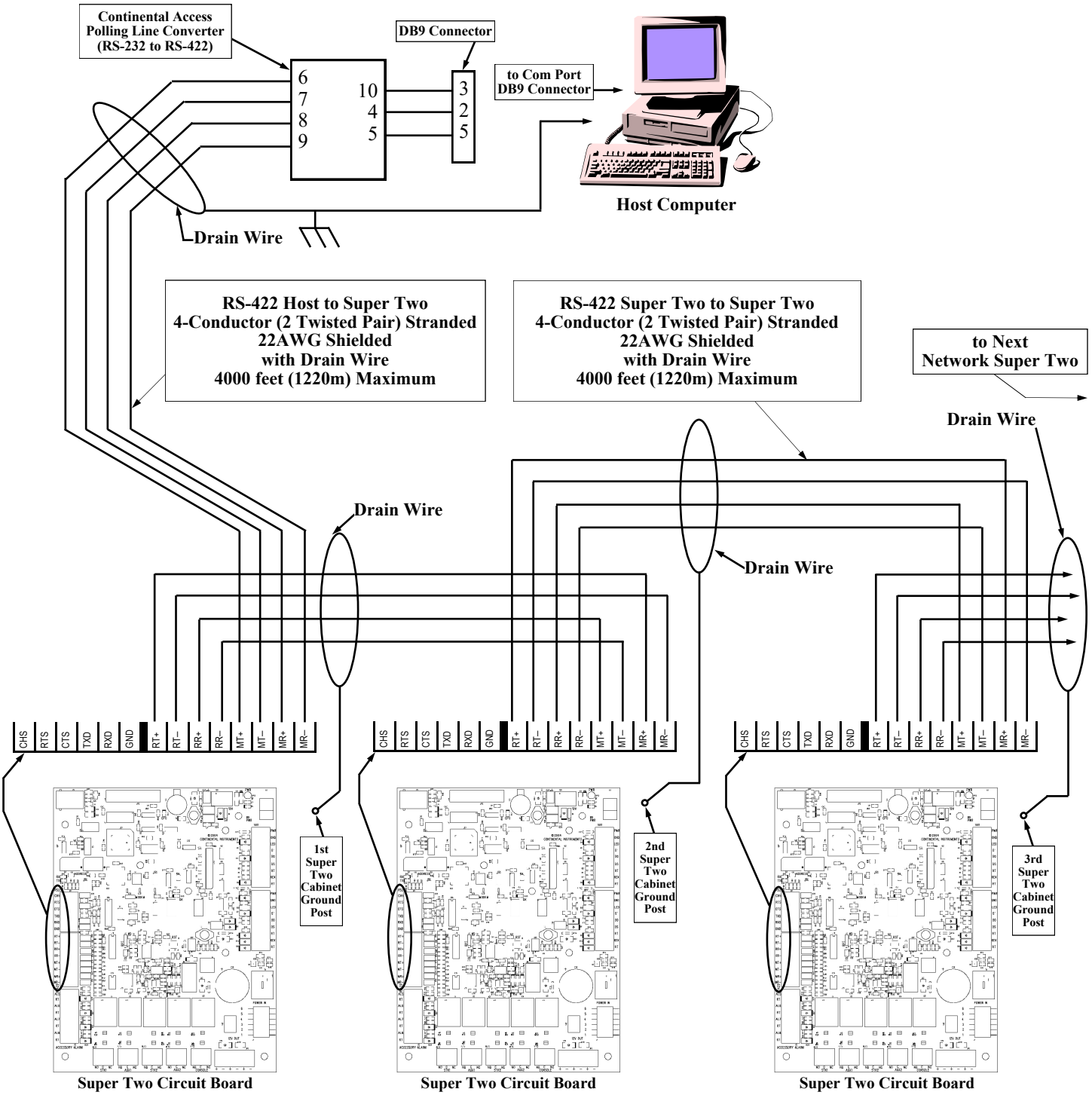
Refer to page 38 for information regarding setting the MD/RPT jumper, and for information regarding setting the EOL jumper.

RS-422 to RS-422 REPEAT Network Ground and Drain Cables

Ground the drain wires for all RS-422 cables in the network at each individual Super Two in the network.

Table 19 - RS-422 to RS-422 REPEAT Network Connections

Host Computer	Super Two #1	Super Two #2	Super Two 3#	Super Two #4	to next Super Two
	MD/RPT Jumper=RPT EOL Jumper =IN	MD/RPT Jumper=RPT EOL Jumper =IN	MD/RPT Jumper=RPT EOL Jumper =IN	MD/RPT Jumper=RPT EOL Jumper =IN	MD/RPT Jumper=RPT EOL Jumper =IN
Polling Line Connector Signal	Connector/Pin	Connector/Pin	Connector/Pin	Connector/Pin	Connector/Pin
RS-422 TXD+ RS-422 TXD- RS-422 RXD+ RS-422 RXD-	MR+ MR- MT+ MT-				
	RT+ RT- RR+ RR-	MR+ MR- MT+ MT-			
		RT+ RT- RR+ RR-	MR+ MR- MT+ MT-		
			RT+ RT- RR+ RR-	MR+ MR- MT+ MT-	>>>> >>>> >>>> >>>>



First Network Super Two
REPEAT Mode
MD/RPT Jumper = RPT (pins 2 and 3)
EOL Jumper = IN

Second Network Super Two
REPEAT Mode
MD/RPT Jumper = RPT (pins 2 and 3)
EOL Jumper = IN

Third Network Super Two
REPEAT Mode
MD/RPT Jumper = RPT (pins 2 and 3)
EOL Jumper = IN

Figure 22 - Super Two RS-422 to RS-422 REPEAT Network Connection

RS-422 to RS-422 MULTIDROP Network

Figure 23 shows the required connections for an RS-422-to-RS -422 MULTIDROP network.

Table 20 lists the necessary connections between:

- A host computer and the first Super Two in the network, and
- The first Super Two in the network and the following Super Two Panels in a network.

NOTE: Thirty-two (32) Super Two panels may be installed in a Multidrop network.

RS-422 to RS-422 MULTIDROP Network Jumper Settings

Operating a Super Two network in the MULTIDROP mode requires setting the MD/RPT and EOL jumpers.

Refer to page 38 for information regarding setting the MD/ RPT jumper, and for information regarding setting the EOL jumper.

RS-422 to RS-422 MULTIDROP Network Ground and Drain Cables

Ground the drain wires for all RS-422 cables in the network to the Super Two ground posts.

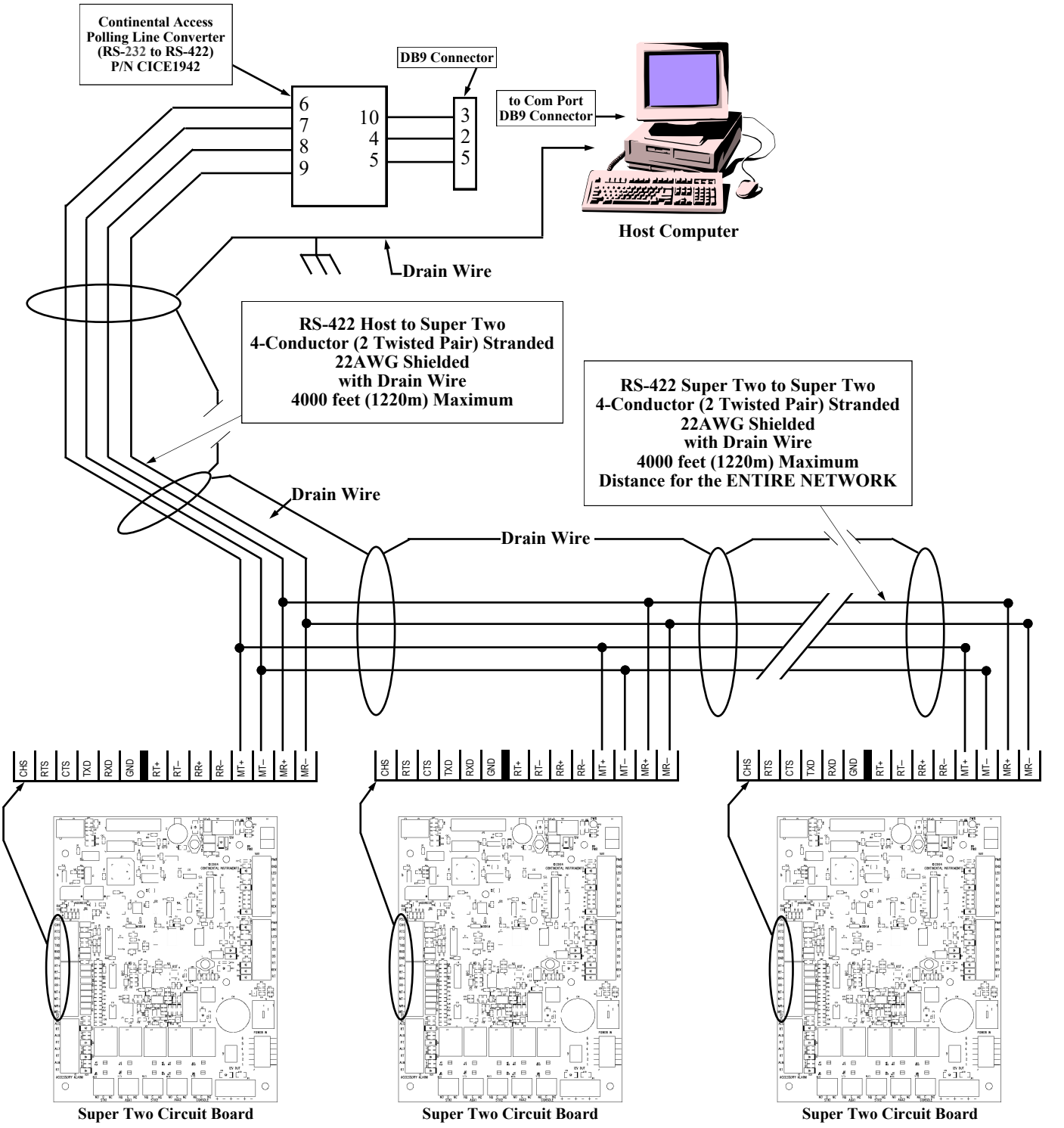
NOTE: Connect all drain wires together starting at the LAST Super Two in the network and working toward the FIRST Super Two in the network.

Connect the drain wire from the FIRST Super Two in the network to the drain wire at the Polling Line Converter (see Figure 23).

Connect the drain wire from the Polling Line Converter to the ground at the rear of the host computer.

Table 20 - RS-422 to RS-422 MULTIDROP Network Connections

Host Computer	Super Two #1	Super Two #2	Super Two 3#	Super Two #4	Last Super Two
	MD/RPT Jumper=MD EOL Jumper = OUT	MD/RPT Jumper=MD EOL Jumper = OUT	MD/RPT Jumper=MD EOL Jumper = OUT	MD/RPT Jumper=MD EOL Jumper = OUT	MD/RPT Jumper=MD EOL Jumper = **IN**
Signal	**Connector**	**Connector**	**Connector**	**Connector**	**Connector**
RS-422 TXD+ RS-422 TXD- RS-422 RXD+ RS-422 RXD-	MR+ MR- MT+ MT-	MR+ MR- MT+ MT-	MR+ MR- MT+ MT-	MR+ MR- MT+ MT-	>>>MR+ >>>MR- >>>MT+ >>>MT-



First Network Super Two
MULTIDROP Mode
MD/RPT Jumper = MD (pins 1 and 2)
EOL Jumper = OUT

Second Network Super Two
MULTIDROP Mode
MD/RPT Jumper = MD (pins 1 and 2)
EOL Jumper = OUT

Third Network Super Two
MULTIDROP Mode
MD/RPT Jumper = MD (pins 1 and 2)
EOL Jumper = IN

Figure 23- RS-422 to RS-422 MULTIDROP Network Connection

JUMPER SETTINGS

The Super Two circuit board functions with a variety of options. Proper circuit operation requires setting specific jumpers depending on the installed access control accessories, the installed system options, and any network configurations.

EOL Jumper

When operating multiple Super Two units in a MULTIDROP RS-422 network, the EOL jumper on the LAST unit in the communication network must be set to the TERMINATED position.

All other Super Two's should have the EOL jumper set to the NOT TERMINATED position.

When operating any Super Two unit in a REPEAT mode (stand-alone or part of a network), set the EOL jumper on EVERY unit to the TERMINATED position.

Super Two TERMINATED
Set the jumper to contact both pins (1 and 2--reference Figure 23a at right).

Super Two NOT TERMINATED
Remove the jumper or hang from lower pin as shown in Figure 23a.

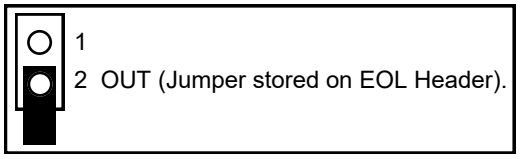


Figure 23a- EOL Jumper

MD/RPT Jumper

The MD/RPT jumper is used to designate the particular Super Two as an active REPEAT or a passive MULTIDROP network member (see Figure 24).

***MULTIDROP* Mode**
Use this mode when the Super Two is operating in the MULTIDROP mode as part of an RS-422 Multidrop network.
Set the jumper to contact the center post (pin 2) and the upper post (pin 1).

***REPEAT* Mode**
Use this mode when the Super Two is operating in the REPEAT mode as a stand-alone system (RS-232) or a part of a REPEAT or MULTIDROP (RS-422) network.
Set the jumper to contact the center post (pin 2) and the lower post (pin 3).

NOTE: Stand-alone Super Two Panels must be configured in the REPEAT mode.

Memory Battery Activation

The Super Two contains a 3.0 volt Lithium battery (B 1) used to preserve memory in the event of a power failure. Refer to Figure 8 for board layout.

The Super Two is shipped with a paper isolator between the battery and the battery holder to prevent unnecessary drainage.

Remove the paper isolator immediately before powering up the Super Two . If the battery is not activated all user-programmed data will be lost if power is interrupted.

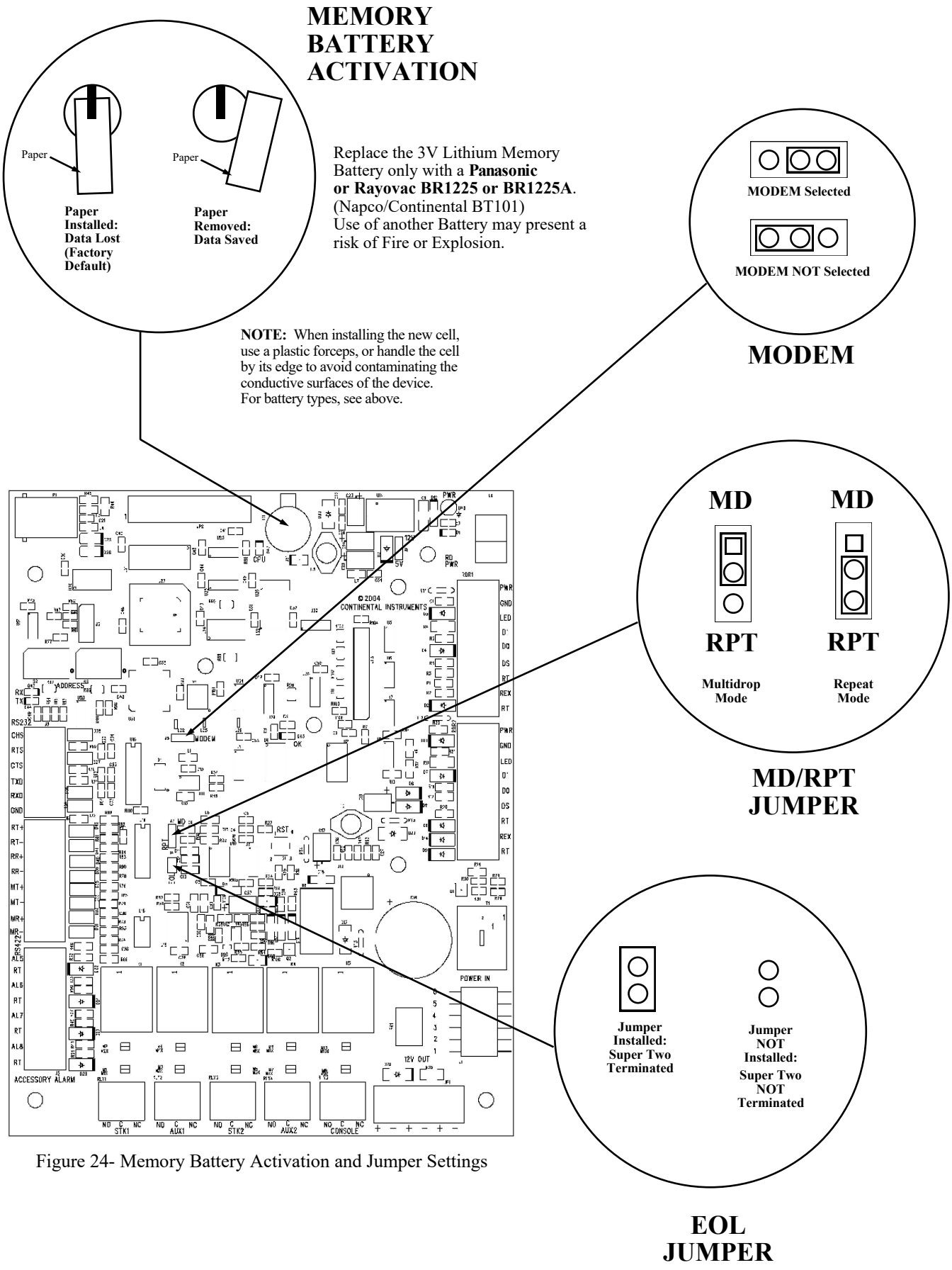


Figure 24- Memory Battery Activation and Jumper Settings

LED Diagnostics

The Super Two circuit board uses LEDs to indicate the presence of a particular voltage and RS-232 signals. Figure 25 shows the LED position on the Super Two circuit board and the individual LED functions.

Table 21 - LED Diagnostic Functions

Marking	Function	Notes
PWR	AC Power Status	AC Power connected and 12 Volt Power Supply Working
CPU	Processor Power Ind.	5 Volt Power on the PC Board
RD PWR	Reader Power	5 Volt or 12 Volt Reader Power. Brighter when 12 Volt is selected.
OK	Processor Running okay	Flashing "Heartbeat" verifies operation of CPU, Memory, etc.
RX	Receiving Host Signal	Serial Port or Ethernet Port receiving data from the Host Computer
TX	Transmitting to Host	Serial Port or Ethernet Port sending data to the Host Computer

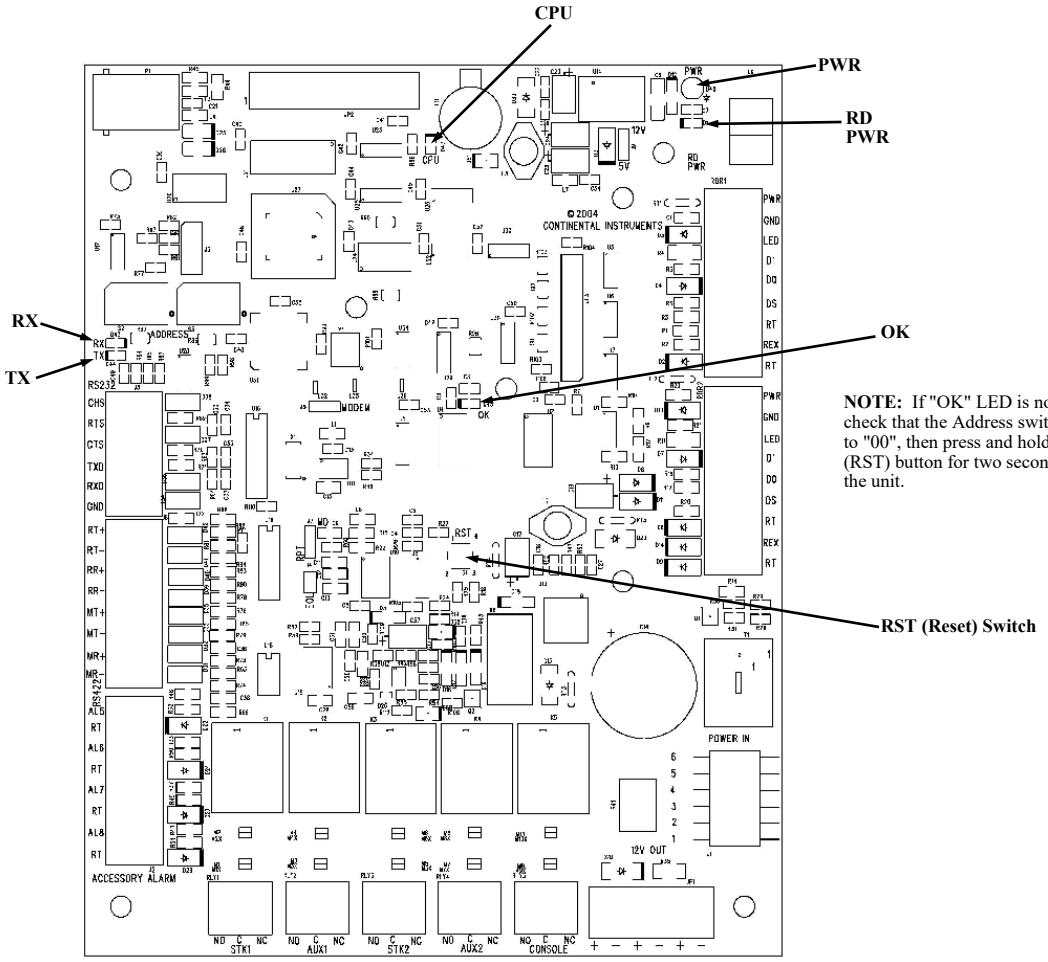


Figure 25 - Super Two Status LED's

Super Two Primary Fuse - 120VAC Installations (USA/Canada) -

A 1 ampere (1.00A) 5x20mm slow-blow, UL approved fuse protects the Super Two primary circuit. The fuse is located on the Service Entrance Terminal Block on the bottom of the Super Two. (see Figure 26). The Fuse Holder is "shocksafe," and may be carefully removed while the unit is powered.

1. Find the Service Entrance Terminal Block near the Bottom Middle of the enclosure.
2. Grasp the Black Fuse Holder and pull straight out.
3. Replace the fuse with a 1-ampere (1.00A) 5x20mm slow-blow, UL approved fuse.
4. Re-install the fuse holder with the new fuse.

Super Two Primary Fuse - 230VAC Installations (European Union)

A 1/2 ampere (0.500A) time delay fuse meeting IEC standards protects the Super Two primary circuit. The fuse is located on the Service Entrance Terminal Block on the bottom of the Super Two. (see Figure 26). The Fuse Holder is "shocksafe," and may be carefully removed while the unit is powered.

1. Find the Service Entrance Terminal Block near the Bottom Middle of the enclosure.
2. Grasp the Black Fuse Holder and pull straight out.
3. Replace the fuse with a 1/2-ampere (0.500A) 5x20mm time-lag, IEC127 approval fuse.
4. Re-install the fuse holder with the new fuse.

MOV Assembly (9DUALMOVP13ASSY)

The MX1553LF3 Power Supply contains a MOV assembly (9DUALMOVP13ASSY) for AC mains surge protection.

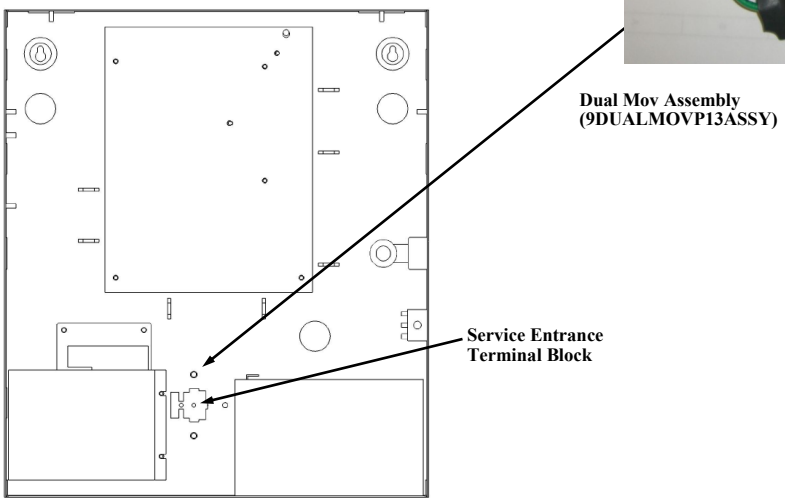
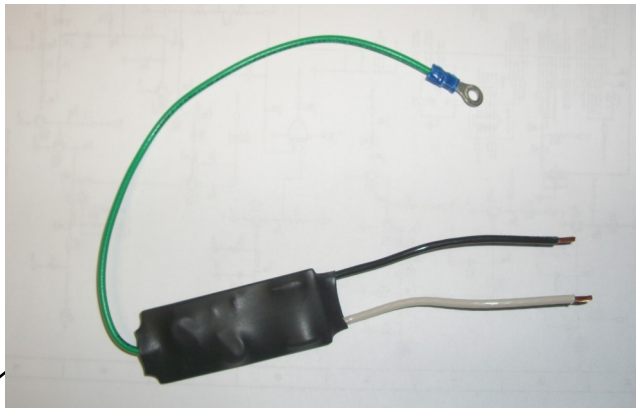


Figure 26 - Super Two Primary Fuse Location



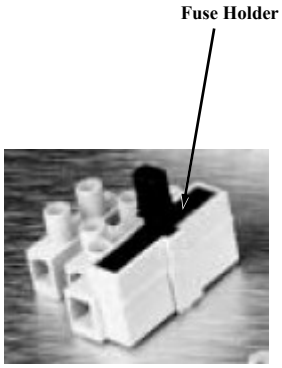


Figure 27 - Fuse Holder

Super Two Power Supply Fuse (only on the MX1106LF) model power supply

A 4-ampere (4A) fast-blow fuse mounted on the lower part of the Power Supply Circuit Board, provides protection to the Power Supply from high-energy surges. If this fuse faults frequently, consider adding a UL-1449-Listed power-line surge protection device.

Very Important: The new MX1553LF3 Power Supply does not contain the above mentioned fuse.

WARNING
Verify that the main AC power to the Super Two cabinet is switched OFF and locked against accidental starting.

1. Turn OFF the main circuit breaker controlling power to the Super Two cabinet.
2. Pull the insulating fishpaper cover away from the Power Supply.
3. Using a non-conducting fuse puller, remove the old fuse (see Figure 29).
4. Replace the fuse with a 5x20mm, 4-Amp, 250V, fast-blow (not a time-lag) fuse.
5. Reset the main circuit breaker.

Super Two Accessory Circuit Protection

A 0.75 Amp resetable fuse protects the Battery Charger Circuit, and a 3 Amp resetable fuse limits the output to the Accessory Circuits to safe levels. These devices limit the Accessory Current even when the product is operating under backup power from the battery.

Under conditions of moderate overloads, the power supply will shut down its output, but periodically power-up briefly to test to determine if the overload is removed. This will be visible because the PWR Lamp will flash on about once per second. Power will be restored immediately upon removal of the overload condition.

Super Two +5/+12V Reader Circuit Protection

0.25 ampere (0.25A) Resetable Fuses (RT1 and RT2) are used to limit the Reader current for RDR1 and RDR2. These are found near the RDR1 and RDR2 Terminal Blocks. A fault in the Reader Circuit may be indicated by one of these devices becoming warm to the touch.

NOTE: A fault in one Reader Circuit will **not** result in the other Reader Circuit loosing power.

NOTE: Removing the cause of the over-current fault will normally restore power to the affected circuit. If power is not restored after the fault is removed, disconnect the load by removing the RDR1 or RDR2 Terminal Block for about a half-minute. The Resetable Fuse will cool, and allow power to the circuit again when the Terminal Block is plugged onto the PC Board again.

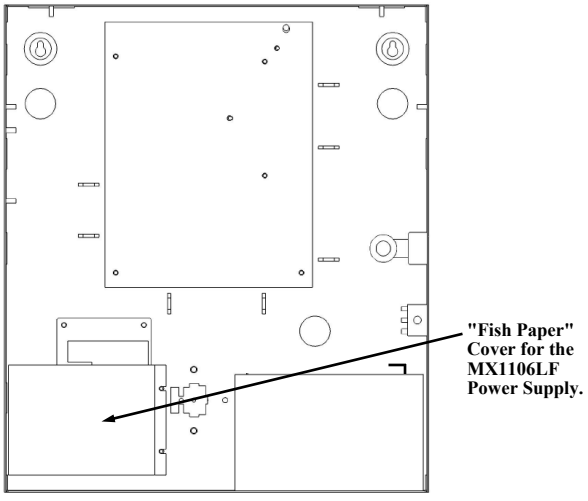


Figure 28 - Super Two Power Supply Fuse Location

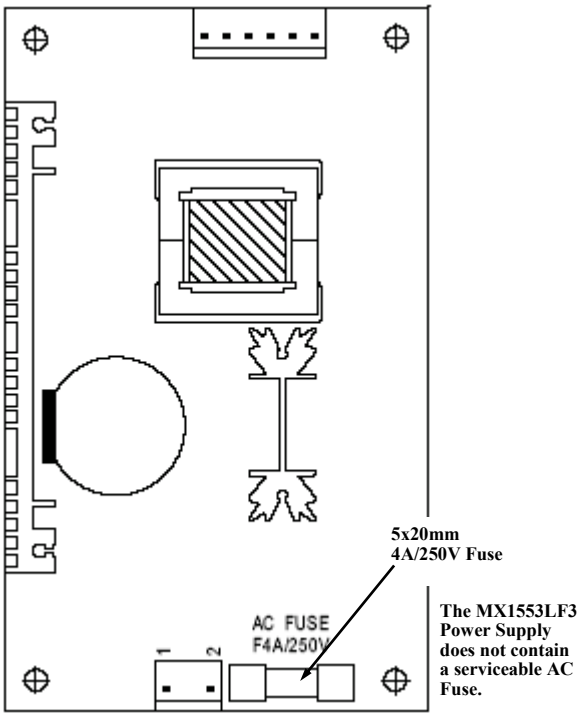


Figure 29 - Power Supply Fuse Location

MAINTENANCE

Power Supply Replacement

The following procedure applies after determining that the Super Two Power Supply (P/N MX1106LF) needs replacing. Please Contact Continental Customer Service for an MX1106LF replacement. You must replace it with the same model Power Supply.

WARNING
Verify that the AC source voltage is switched off at the breaker panel before proceeding with power supply replacement.

1. Open the Super Two cabinet and locate the 12VDC power supply in the lower left corner of the cabinet. Pull the insulating cover out of the way.
2. Disconnect the lower Molex connector from the power supply (one black and one white).
3. Disconnect the upper 6-pin Molex connector from the power supply.
4. Remove the four 6-32 screws securing the power supply bracket to the Super Two cabinet.
5. Remove the power supply from the Super Two cabinet.
6. Install the new power supply in the reverse order of the removal.

Backup Battery Replacement

WARNING
Verify that the AC source voltage is switched off at the breaker panel before proceeding with backup battery replacement.

1. Open the Super Two cabinet and locate the backup battery (P/N CI-HE0042) secured to the lower right of the cabinet.
2. Disconnect the RED lead from the POSITIVE terminal of the battery.
3. Disconnect the BLACK lead from the NEGATIVE terminal of the battery.
4. Remove the old battery.
5. Install the new battery in the reverse order of the removal.
6. Replace the Backup Battery at least once every five years.

NOTE: Because of the Low Battery Voltage Disconnect feature, the Super Two will not start to operate until mains (AC) power is connected.

Memory Coin Cell Replacement

The Super Two is normally powered on a 24/7 schedule. If the power is to be removed to the unit for more than a few days, **please re-install the insulating paper under the Cell Clip** to de-activate the Memory Battery.

If power was removed from a Super Two unit for more than four weeks without the Memory Cell protected by the insulating paper, please replace the Memory Coin Cell, as follows:

1. Open the Super Two cabinet and locate the Memory Coin Cell on the upper-middle of the PC Board.
2. Remove the old cell by pressing backward and downward.
3. Replace the Lithium Cell only with a Panasonic or Rayovac BR1225 or BR1225A. Use of another Battery may present a risk of Fire or Explosion.
4. When installing the new cell, use plastic forceps, or handle the cell by its edge to avoid contaminating the conductive surfaces of the device.
5. The expected life of the Lithium Cell is ten years. Changing the battery every five years is recommended.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTION.

Clear Memory and Force Download to Panel

1. Note setting of Address switches.
2. Set Address switches to "00".
3. Press and hold the reset (RST) button for at least two seconds.
4. Set Address switches to their original settings.

   Panel memory is cleared. The panel will request a new download.

SPECIFICATION	Quantity (8/4-Door)	Comments
Readers	2	Full function on or off line
Anti-Passback		Standard
Access Modes	4	Card Only, Unique PIN Only, Card and PIN, Free Access
Ethernet Port	1	Optional, 10/100 Base-T
Serial Port	1	Host computer. 3 with optional auxiliary communications board
Polling Modes	4	Dial-up (RS-232), RS-422 Multidrop and Repeat
Baud Rates	7	1200, 2400, 4800, 9600, 19.2kbps, 38.4kbps, 57.6 kbps
Keypads	2	Four-bit Wiegand keypad input is standard. Optional 3x4 Matrix Keypad Interface Board available
Relays	5	Form "C", contact rating of 2A @24V AC/DC
Alarms	8	Supervised or non-supervised (host programmable)
LEDs	2	One LED output per door
Tamper Switch	1	Pre-assigned
Reader Types		Wiegand/Proximity, Magnetic Stripe, Proximity and PIN
Supply Voltage		120/230 VAC 60/50Hz
Current Draw		1.0A @ 120VAC; 0.5A@230VAC
Accessory 12V Output	3	1.6A for Readers, Locks, and Accessories. Battery Backed.
Primary Battery Backup (Memory Only)		1 Month nominal at 25°C (field-replaceable)
Battery Backup		Approx. 4-6 hours. (When powering two EM locks rated 600mA each: 2 hours).
Weight		14 lbs. (with 7AH battery installed)
Enclosure Dimensions		15.75"H x 13.85"W x 3.25"D
Temperature Range Operating Storage		 32-115°F (0-46°C) 32-149°F (0-65°C)
Relative Humidity		0% to 85% non-condensing
Card Capacity	20,000	Standard, expandable to 125,000
Time Schedules	128	Standard. 255 with CA3000 Host Software Release 2.1
Access Groups	1000	Standard, configurable and expandable with CA3000 Host Software Release 2.1
Holidays	50	Standard. 100 with CA3000 Host Software Release 2.1
Link Programs	64	Standard
Facility Codes	10	Standard
Transaction Buffer	1000	Standard, configurable and expandable

Cables	AWG	Type *	Maximum Length
Alarm Inputs	22 ga	Stranded, shielded, w/drain 2-conductor alarm	500 ft (153m)
Readers: Magnetic Stripe & Wiegand/Proximity	22 ga	Stranded, shielded, w/drain 4 or 5-conductor (5-conductor for readers w/ LEDs)	500 ft 500 ft w/unbuffered Wiegand (153m unbuffered)
Readers: Magnetic Stripe	22 ga	Stranded, shielded, w/drain 4 or 5-conductor (5-conductor for readers w/ LEDs)	500 ft (153m)
Keypad	22 ga	Stranded, shielded w/drain 7-conductor	500 ft (153m)
Polling Line RS-422 (Network)	22 ga	Stranded, shielded, w/drain 2-twisted pair	4000 ft (1220m)
RS-232, Dial-Up (Host Computer)	22 ga	Stranded, shielded, w/drain	50 ft (15m)
Relay Lock Circuits	18 ga	Stranded, shielded, w/drain	500 ft (153m)

*** NOTE:** DO NOT use twisted pair cables for Reader, Keypad or RS232 connections.

POWER RATINGS

As supplied from the factory, the Super Two contains a Power Supply that operates on 120VAC/60Hz for North America, or 230VAC/50Hz for the European Union.

Continental Access recommends using a dedicated, unswitched power outlet to prevent any interference from other equipment that might be connected on the same line.

Voltage	Current (Maximum)
120VAC	1.0 Amperes
230VAC	0.5 Amperes
Accessory Output- 12VDC	1.6 Amperes**

**Including Readers, EM Locks, and Accessories such as PIR Sensors.

OTHER RATINGS

Ratings	CICP1300: Input 120VAC, 1A, 60Hz: Output:12 VDC CICP1300MB2: Powered from CICP1300 CICP1300NETBD: 5V 0.275A CICP1300NETBD2: 5V 0.275A

Summarized levels of Access Control Units according to UL 294

Access Control Features

Models	Destructive Attack	Line Security	Endurance	Standby power
Super Two CICP1300	1	1	IV	IV
CICP1300MB2	NA	1	IV	NA
CICP1300NETBD	NA	1	IV	NA
CICP1300NETBD2	NA	1	IV	NA

Classification for Canada according to ULC S319

All Models	Class (Level)	1

APPENDIX A
2 MB MEMORY BOARD INSTALLATION INSTRUCTIONS CICP1300MB2

1. **Remove power from the SUPER TWO®.** Inside the housing, remove the 6-pin Molex connector marked "Power In" located at the lower-right side of the panel. (see Figure A, below). Ensure that all power LED's are off.
2. **Insert paper insulator** under the clip of the Memory Battery to protect the memory board (see Figure B). Note: Upon removing all power as per steps 1 and 2, all memory will be erased and reloaded when power is reapplied.
3. **Insert the white plastic "Snap" type standoff into the SUPER TWO® main board.** See Figure C. The hole into which you will insert the standoff is located just below and to right of address switches. Insert (push firmly) the small double-pronged end first until the standoff snaps securely into the hole.
4. **Place the 2MB Memory Board on to the main board**, parallel to the top, as shown in Figure D. Align the standoff hole in the memory board with the standoff installed in step 3. Align all pins of the memory board with the JP2 connector. Press and snap in to secure.

CAUTION: Before handling the 2MB memory board, use a grounding strap (or touch the Controller PCB metal chassis) to reduce the possibility of static discharge damaging the PCB and the memory board.

5. **Restore power**. First restore Memory Battery by removing paper insulator (see Figure B). Next reconnect the 6-pin Molex connector marked "Power In". The "OK" LED should blink (at a rate of approximately once every second).

   If you must remove the 2MB memory board, remember to push in the locking tab on the "Snap" type standoff before removal. See Figure E.

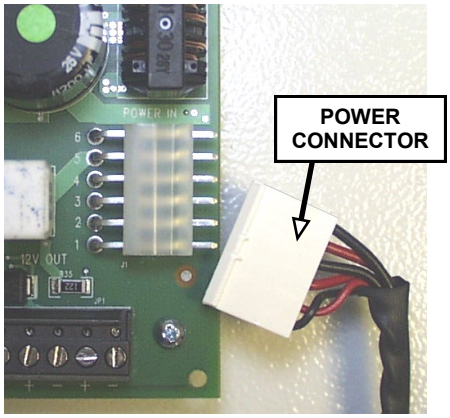


Figure A: Remove Power.

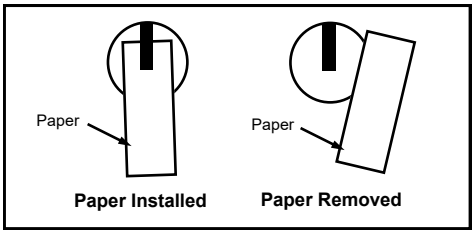


Figure B: Remove and Restore Memory Battery.

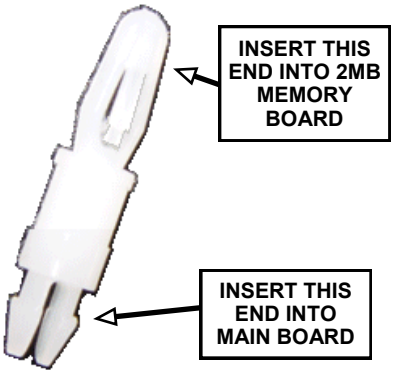


Figure C: "Snap" type standoff.

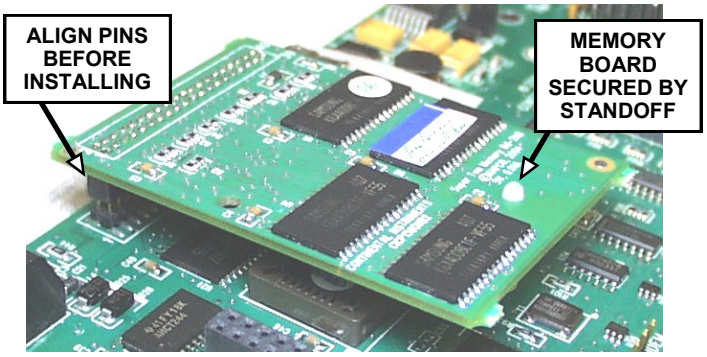


Figure D: Memory board placed on top of main board. Press in to secure.

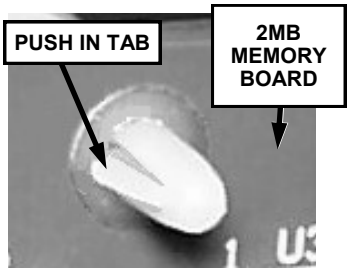


Figure E: Push in tab to detach "Snap" type standoff if necessary.

APPENDIX B
NETWORK INTERFACE BOARD INSTALLATION INSTRUCTIONS CICP1300NETBD

1. **Remove power from the SUPER TWO®.** Inside the housing, remove the 6-pin Molex connector marked "Power In" located at the lower-right side of the panel. (see Figure A below). Ensure that all power LED's are off.
2. **On the Super Two main board, remove the 4-40 1/4" Phillips pan-head screw from the top left mounting hole.** Into this mounting hole, screw in the 7/16" round MF type standoff hand tight (see Figure B). **HINT:** Before installing the Network Interface Board, make a note of its MAC Address (see Figure C).
3. **Place the Network Interface Board on to the main board**, at the upper left corner (parallel to the top), as shown in Figure C. Align the standoff hole in the network interface board with the standoff installed in step 2. Align all pins of the board with the J3 socket and press to insert the pins.

   Note: The Network Interface Board cannot be used in conjunction with RS232 polling. Before installing the Network Interface Board, please remove any wires that may be connected to J5 pins 4, 5 and 6.

CAUTION: Before handling the Network Interface board, use a grounding strap (or touch the Controller PCB metal chassis) to reduce the possibility of static discharge damaging the PCB and the memory board.

4. **Secure the Network Interface board.** Screw in the 4-40 1/4" Phillips pan-head screw (removed in step 2) into the standoff hole.
5. **Install Flexible shield: (Required for FCC Compliance, allows the use of Unshielded Network Cable)**. Install Cable Clamp to the knockout nearest the Network Interface board on left side of metal enclosure. Insert the CAT5 or CAT6 Network UTP cable through the cable clamp, slip the 3-inch flexible shield over the cable, then plug in the CAT5 or CAT6 Network UTP cable into the Network Interface. Slide the shield so the left side is under the clamp, then gently tighten the clamp to secure the cable and shield into place. (see Figure 4 for image of finished installation).
   NOTE: Pull shield snugly over Ethernet cable--do not extend shield over jack--install as shown in Figure D).
6. **Restore power.** Reconnect the 6-pin Molex connector marked "Power In". The "OK" lamp should blink (at a rate of approximately once every second). An LED next to the cable socket on the Network Interface will light or blink, indicating a successful connection and/or network activity.

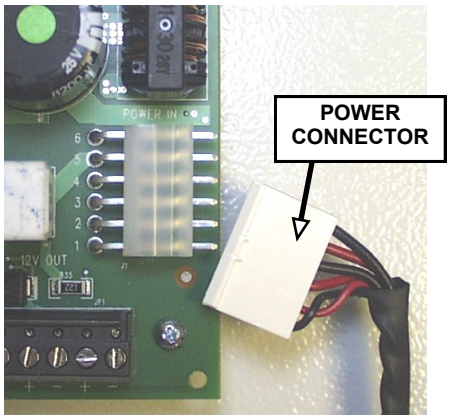


Figure A: Remove Power.

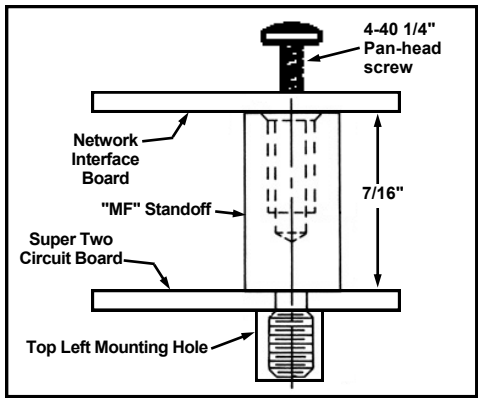


Figure B: 7/16" "Screw-on" type standoff.

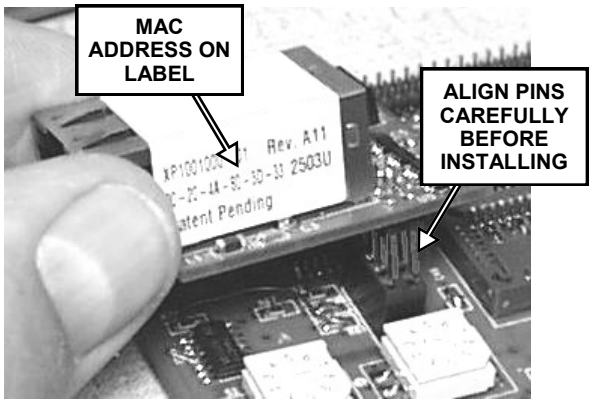


Figure C: Network Interface board placed on top of main board. Press in to secure. Location of MAC address is shown

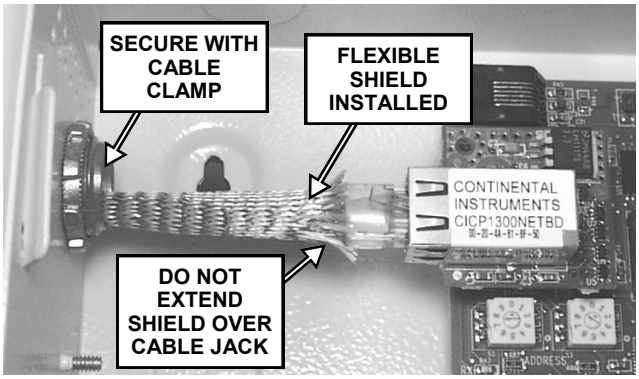


Figure D: Install Flexible Shield over Ethernet Cable

APPENDIX C
NETWORK INTERFACE BOARD INSTALLATION INSTRUCTIONS CICP1300NETBD2

1. **Remove power from the SUPER TWO®.** Inside the housing, remove the 6-pin Molex connector marked "Power In" located at the lower-right side of the panel. (see Figure A below). Ensure that all power LED's are off.

   Note: If the 2MB Memory Expansion Board is installed as per Appendix A, the installation instructions for the CICP1300NETBD2 are slightly different. The differences will be noted in the following steps. The required spacers and flexible shield are included in the kit (9CICP13NET2BAG).
2. **On the Super Two main board, remove the 4-40 1/4" Phillips pan-head screw from the top left mounting hole.** Into this mounting hole, screw in the 7/16 MF type metal standoff (HW2190LF3) hand tight (see Figure B). **HINT:** Before installing the Network Interface Board, make a note of its MAC Address. The MAC address will be noted on a label on the Network Interface Board.
3. **Place the Network Interface Board on to the main board**, at the upper left corner (parallel to the top), as shown in Figure C. Align the standoff hole in the network interface board with the standoff installed in step 2. If the Memory Expansion board is not installed, place the long nylon spacer (SO247LF3) between the Super Two Main board and the Network Interface board (see Figure C). If the Memory expansion board is installed, place the short nylon spacer (SO249LF3) into the hole on the top of the Memory Board. The short nylon spacer goes between the Memory board and the Ethernet Board. (The short nylon spacer cannot be seen in Figure D). Align all pins of the board with the J3 socket and press to insert the pins.

CAUTION: Before handling the Network Interface board, use a grounding strap (or touch the Controller PCB metal chassis) to reduce the possibility of static discharge damaging the PCB and the memory board.

4. **Secure the Network Interface board.** Screw in the 4-40 1/4" Phillips pan-head screw (removed in step 2) into the standoff hole.
5. **Install Flexible shield: (Required for FCC Compliance, allows the use of Unshielded Network Cable)**. Install Cable Clamp to the knockout nearest the Network Interface board on left side of metal enclosure. Insert the CAT5 or CAT6 Network UTP cable through the cable clamp, slip the 3-inch flexible shield over the cable, then plug in the CAT5 or CAT6 Network UTP cable into the Network Interface. Slide the shield so the left side is under the clamp, then gently tighten the clamp to secure the cable and shield into place. **NOTE:** Pull shield snugly over Ethernet cable--do not extend shield over jack--install as shown in Figure D on the previous page).
6. **Restore power.** Reconnect the 6-pin Molex connector marked "Power In". The "OK" lamp should blink (at a rate of approximately once every second). An LED next to the cable socket on the Network Interface will light or blink, indicating a successful connection and/or network activity.
   Note: The Network Interface Board cannot be used in conjunction with RS232 polling. Before installing the Network Interface Board, please remove any wires that may be connected to J5 pins 4, 5 and 6.

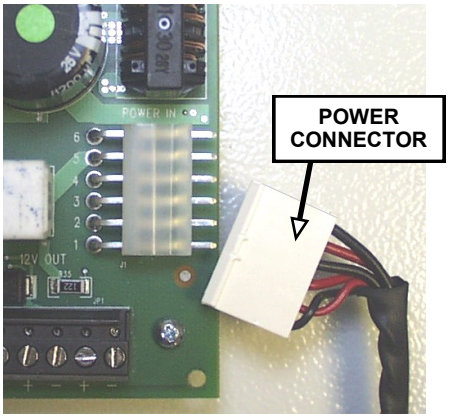


Figure A: Remove Power.

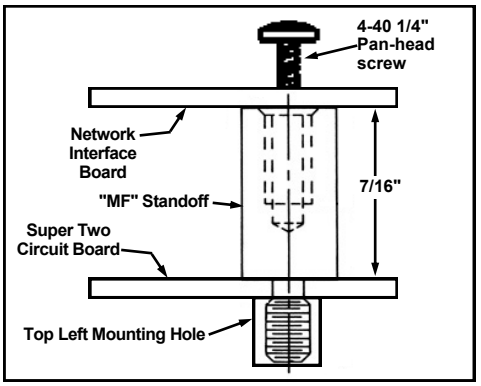


Figure B: 7/16" "Screw-on" type standoff.

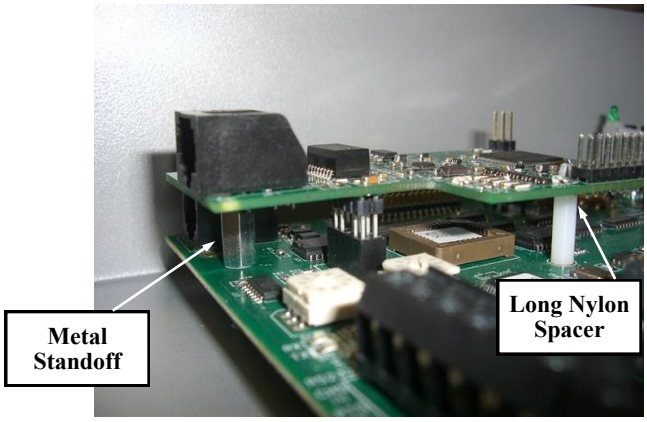


Figure C: CICP1300NETBD2 without Memory Expansion Board.

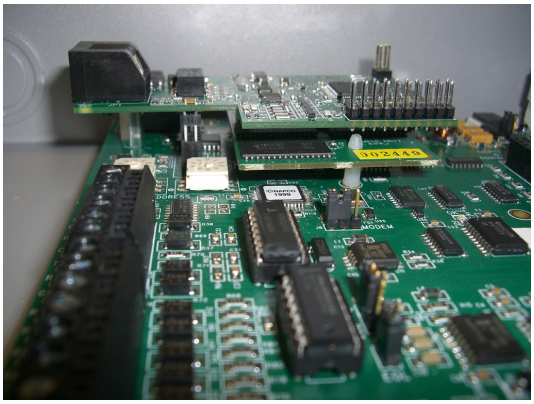


Figure D: CICP2100NETBD2 with memory Expansion Board installed.

A

AC Power Source Grounding 15
Accessory Circuit Protection 42
Accessory Conduit Knockouts..... 14
ACCESSORY POWER..... 25
Accessory Relay Devices 14
Alarm Cable Requirements..... 26
ALARM CONNECTION..... 26
APPENDIX A..... 47
APPENDIX B..... 48
APPENDIX B..... 49
Auxiliary Relays 23

B

Backup Battery Replacement 43
Battery Backup 10
BCD Rotary Switches..... 29

C

Cabinet Mounting 13
Cable Clamp 47
Cable Requirements..... 26
Capacities..... 9, 44
Card Capacities..... 7, 44
CICP1300MB2 ..... 9, 47
CICP1300NETBD..... 10, 48
CICP1300NETBD2 10,49
CICP1300XYBD..... 10
CIRCUIT PROTECTION 42
Clear Memory and Force Download to Panel 43
Communication Cables..... 14
Conduit Knockouts 14
CONFIGURATION 9
Console Relay..... 23

D

DESCRIPTION 7
DISCLAIMER..... 2
DOOR CONNECTIONS..... 17
Door Status Sensor Cable Requirements 21
Door Status Sensor Connection 21
Door Strike Relays..... 23
downloadable firmware 9
Drain and Shield Wires..... 14

E

Electromagnetic (EM) Locks..... 10, 24
EOL Jumper..... 38
EOL jumpers..... 29
Ethernet 10
EXPANSION BOARDS AND ACCESSORIES 10

F

FCC Warning..... 2
Fire Alarm Control Panel (FACP) Connection..... 24
Flexible shield..... 47
Force Download to Panel..... 43
Form C relays..... 23
Fuse
  Power Supply Fuse..... 42

G

Grounding 15
Grounding Accessory Drain and Shield Wires..... 14

H

HID 5355AGK00..... 10
Host/Modem Operation 27

I

IEC127 10
IMPORTANT SAFEGUARDS 3
Incoming Power Conduit Knockout 14
INSTALLATION 11
Installation Preparation 12

J

JUMPER SETTINGS 38
Jumpers
  EOL Jumper 38
  MD/RPT Jumper 38

K

Keypad Cable Requirements..... 20
KEYPAD CONNECTION 20
Keypad Option Board..... 10
Knockouts 14

L

LED Diagnostics..... 40
line drivers 29
Lithium Cell..... 39

M

Magnetic Stripe Reader Cable Requirements 19
Magnetic Stripe Reader Connection 19
MAINTENANCE 43
Matrix Keypad Option Board 10
MD/RPT Jumper..... 38
MD/RPT jumpers..... 29
Memory Battery Activation 39

MEMORY BOARD INSTALLATION INSTRUCTIONS 47
Memory Coin Cell Replacement 43
Memory Configurations 9
memory expansion board 9
Metal oxide varistors 23
mounting 12
MOVs 23
MULTIDROP Networks 29

N

Network Address Settings 29
Network Interface Board 10
NETWORK INTERFACE BOARD INSTALLATION INSTRUCTIONS 47,48
Network UTP cable 47
NETWORKING 29

P

Power Cables and Accessory Relay Devices 14
POWER CONNECTIONS 15
power interruptions 10
POWER RATINGS 45
Power Supply Fuse 42
Power Supply Replacement 43
PTZ Camera Controllers 10

R

Reader Circuit Protection 42
Relay Characteristics 23
RELAY CONNECTIONS 23
REPEAT Networks 29
Request-to-Exit (Bypass) Sensor Connection 22
Request-to-Exit Sensor Cable Requirements 22
RFID Readers 10
RS232 10
RS-232 Cable Requirements 27
RS-232 Communications 27
RS-232 Jumper Settings 27
RS-232 to RS-422 MULTIDROP Network 32
RS-232 to RS-422 MULTIDROP Network Ground and Drain Wires 32
RS-232 to RS-422 MULTIDROP Network Jumper Setting 32
RS-232 to RS-422 Networks 29
RS-232 to RS-422 REPEAT Ground and Drain Cables 30
RS-232 to RS-422 REPEAT Jumper Settings 30
RS-232 to RS-422 REPEAT Network 30
RS-422 to RS-422 MULTIDROP Network 36
RS-422 to RS-422 MULTIDROP Network Ground and Drain Cables 36
RS-422 to RS-422 MULTIDROP Network Jumper Settings 36
RS-422 to RS-422 Networks 29
RS-422 to RS-422 REPEAT Network 34
RS-422 to RS-422 REPEAT Network Ground and Drain Cables 34
RS-422 to RS-422 REPEAT Network Jumper Settings 34
RS485 10

S

SAFETY INFORMATION 8
Setting Network Address 29
SPECIFICATIONS 44
Super Two Circuit Board Layout 16
Super Two Primary Fuse - 120VAC Installations (USA/Canada) 41
Super Two Primary Fuse - 230VAC Installations (European Union) 41
Supervised Alarms 26

T

Tamper Switch 26
transaction buffer 9
TROUBLESHOOTING 40
Two-Channel Auxiliary Communication Board 10

V

VAC Power 15

W

Warrantee 52
Wiegand Output Reader/Keypad 10
Wiegand/Proximity Reader Cable Requirements 17
Wiegand/Proximity Reader Connections 17
Wiegand-Output Card and Keypad Readers 20

X

X-Y Matrix Keypads 20

WARRANTY / TERMS & CONDITIONS
Standard Terms of Sale

Ordering

Orders for Continental products may be placed by calling Continental's order department or by issuing a purchase order specifying the quantity of Products, the desired delivery date, shipping method, and the location to which product should be shipped. If an order is placed by telephone, it must be confirmed in writing by fax or mail.

If the customer requests a guaranteed ship date or expedited shipping, Continental reserves the right to add to the price, with the customer's approval, expenses which increase the cost of production and delivery, i.e. freight charges, overtime expenses, etc. Continental reserves the right to change any price on this price list and all prices are subject to factory reconfirmation at the time of placing an order.

Sales Assistance

Continental will furnish to customers, reasonable quantities of product-related catalogs and other sales and promotional literature.

Continental will provide customer training, both technical and sales at Continentals facilities in New York. Contact the factory for costs and requirements.

Payment Terms

- Sales terms are Cash on Delivery (COD) unless prior credit arrangements are established.
- If credit arrangements are established with Continental, terms of sale are net 10 days.
- Interest charges shall accrue on all past due accounts at a rate of 1.5% per month (18% APR).
- Continental reserves the right to place a customer on a C.O.D. status in the event that customer's account becomes delinquent or Continental becomes unsure about customer's financial capabilities.
- Continental will charge a Service Fee of $50.00 for any returned check.
- If customer believes an invoice to be in error, customer shall notify Continental of the error within thirty (30) days.
- Continental reserves a security interest in all products sold hereunder, together with all proceeds thereof to secure the performance of the customer's obligations hereunder.
- All orders unless otherwise requested are shipped F.O.B. Amityville, NY.

Cancelled Orders

Special or custom order items that cannot be cancelled with our suppliers are subject to a 100% cancellation charge.

No unauthorized, returned merchandise will be accepted for credit.

Orders returned or canceled are subject to a 25% restocking charge.

Return Material Authorizations

No products will be accepted for return to Continental without prior written authorization (RMA). Unauthorized returns will not be accepted from the carrier by the receiving department. The customer may request a return material authorization (RMA), whether for credit or repair of the product. Continental will either issue an RMA or provide the customer with a written explanation for not issuing the RMA. Except for warranty claims, no returns will be accepted more than 60 days after shipment from Continental. Orders that are accepted for return are subject to a 25% restocking charge. No product will be accepted for return which has been special ordered or custom in nature.

Limited Warranty

Return Material Authorization (RMA) numbers are required to be issued by Continental prior to returning any Product for service, repair, credit or exchange. Continental warrants that its Products shall be free from defects in materials and workmanship for a period of one year from date of shipment of the product to purchaser. The warranty on 3rd party equipment such as terminals, printers, and communications devices shall be 1 year from date of shipment. Remediation of this warranty shall be limited to the repair or replacement of those products which are defective or become defective under normal use. Continental's warranty shall not extend to any product which is found after examination to be defective as a result of misuse, improper storage, incorrect installation, operation or maintenance, alteration, modification or accident.

There are no other warranties which extend beyond this provision. This warranty is in lieu of all other warranties whether express, implied or statutory, including implied warranties of merchantability or fitness for any particular purpose. No representation or warranty of the distributor shall extend the liability or responsibility of the manufacturer beyond the terms of this provision. In no event shall Continental be liable for any costs, loss of profits, loss of use, incidental, consequential or special damages to any person resulting from the use of Continental's products.

The above limited warranty is the only warranty provided by Continental. Continental makes no other warranties or guarantees, whether expressed or implied, including, but not limited to, warranties and/or guarantees of merchantability or fitness for a particular purpose. In no event shall Continental be liable for any indirect, consequential or incidental damages, including those to person and those for lost wages, or other economic loss.

Product Liability

Continental's sole Liability and the customer's exclusive remedy for damages, shall not exceed the cost of correcting the defect and in no event shall such liability be greater than the purchase price paid by the customer for the defective equipment or software. Under no Circumstances will Continental be liable for direct, indirect or consequential damages of any kind.

General Notices:

In order to assure that Continental's customers receive the most accurate and reliable information possible, Continental at times monitors telephone calls

Information and pricing contained within this document are subject to change without notice.

Continental does not recommend that these products be used as the primary means of monitoring, warning or egress. Primary warning or monitoring systems should always meet local fire and safety code requirements.

This transaction shall be governed and construed in accordance with the laws of the State of New York.

Continental specifically rejects any terms or conditions stated by the customer or contained within purchase documents or correspondence from the customer which are in addition to, conflict with or limit, terms or conditions set forth herein. The customer's execution or other acceptance of this proposal or its acceptance of delivery of all or part of the goods to be delivered hereunder shall constitute customer's acceptance of the terms and conditions herein and shall be deemed to exclude any additional, conflicting or limiting terms stated by customer or contained in customer's purchase documents or correspondence.

Notes

Notes

Continental Access

A NAPCO SECURITY GROUP COMPANY

355 Bayview Avenue, Amityville, NY 11701
Phone: 631-842-9400 Fax: 631-842-9135

www.cicaccess.com

Publicly traded on NASDAQ Symbol: NSSC