

MAXSYS[®]

PC4850 v1.0 • Installation Manual

WARNING: *This manual contains information on limitations regarding product use and function and information on the limitations as to liability of the manufacturer. The entire manual should be carefully read.*

WARNING Please Read Carefully

Note to Installers

This warning contains vital information. As the only individual in contact with system users, it is your responsibility to bring each item in this warning to the attention of the users of this system.

System Failures

This system has been carefully designed to be as effective as possible. There are circumstances, however, involving fire, burglary, or other types of emergencies where it may not provide protection. Any alarm system of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some but not all of these reasons may be:

Inadequate Installation

A security system must be installed properly in order to provide adequate protection. Every installation should be evaluated by a security professional to ensure that all access points and areas are covered. Locks and latches on windows and doors must be secure and operate as intended. Windows, doors, walls, ceilings and other building materials must be of sufficient strength and construction to provide the level of protection expected. A reevaluation must be done during and after any construction activity. An evaluation by the fire and/or police department is highly recommended if this service is available.

Criminal Knowledge

This system contains security features which were known to be effective at the time of manufacture. It is possible for persons with criminal intent to develop techniques which reduce the effectiveness of these features. It is important that a security system be reviewed periodically to ensure that its features remain effective and that it be updated or replaced if it is found that it does not provide the protection expected.

Access by Intruders

Intruders may enter through an unprotected access point, circumvent a sensing device, evade detection by moving through an area of insufficient coverage, disconnect a warning device, or interfere with or prevent the proper operation of the system.

Power Failure

Control units, intrusion detectors, smoke detectors and many other security devices require an adequate power supply for proper operation. If a device operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as a security system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

Failure of Replaceable Batteries

This system's wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

Compromise of Radio Frequency (Wireless) Devices

Signals may not reach the receiver under all circumstances which could include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

System Users

A user may not be able to operate a panic or emergency switch possibly due to permanent or temporary physical disability, inability to reach the device in time, or unfamiliarity with the correct operation. It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm.

Smoke Detectors

Smoke detectors that are a part of this system may not properly alert occupants of a fire for a number of reasons, some of which follow. The smoke detectors may have been improperly installed or positioned. Smoke may not be able to reach the smoke detectors, such as when the fire is in a chimney, walls or roofs, or on the other side of closed doors. Smoke detectors may not detect smoke from fires on another level of the residence or building.

Every fire is different in the amount of smoke produced and the rate of burning. Smoke detectors cannot sense all types of fires equally well. Smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches or arson.

Even if the smoke detector operates as intended, there may be circumstances when there is insufficient warning to allow all occupants to escape in time to avoid injury or death.

Motion Detectors

Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation.

Passive infrared motion detectors operate by sensing changes in temperature. However their effectiveness can be reduced when the ambient temperature rises near or above body temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbecues, fireplaces, sunlight, steam vents, lighting and so on.

Warning Devices

Warning devices such as sirens, bells, horns, or strobes may not warn people or waken someone sleeping if there is an intervening wall or door. If warning devices are located on a different level of the residence or premise, then it is less likely that the occupants will be alerted or awakened. Audible warning devices may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners or other appliances, or passing traffic. Audible warning devices, however loud, may not be heard by a hearing-impaired person.

Telephone Lines

If telephone lines are used to transmit alarms, they may be out of service or busy for certain periods of time. Also an intruder may cut the telephone line or defeat its operation by more sophisticated means which may be difficult to detect.

Insufficient Time

There may be circumstances when the system will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time to protect the occupants or their belongings.

Component Failure

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

Inadequate Testing

Most problems that would prevent an alarm system from operating as intended can be found by regular testing and maintenance. The complete system should be tested weekly and immediately after a break-in, an attempted break-in, a fire, a storm, an earthquake, an accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

Security and Insurance

Regardless of its capabilities, an alarm system is not a substitute for property or life insurance. An alarm system also is not a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.

Limited Warranty

Digital Security Controls Ltd. warrants the original purchaser that for a period of twelve months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use. During the warranty period, Digital Security Controls Ltd. shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original owner must promptly notify Digital Security Controls Ltd. in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period.

International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, with the exception that Digital Security Controls Ltd. shall not be responsible for any customs fees, taxes, or VAT that may be due.

Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to Digital Security Controls Ltd. must first obtain an authorization number. Digital Security Controls Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of Digital Security Controls Ltd. such as excessive voltage, mechanical shock or water damage;
- damage caused by unauthorized attachment, alterations, modifications or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by Digital Security Controls Ltd.);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance;
- damage arising out of any other abuse, mishandling or improper application of the products.

Digital Security Controls Ltd.'s liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty. Under no circumstances shall Digital Security Controls Ltd. be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) And of all other obligations or liabilities on the part of Digital Security Controls Ltd. Digital Security Controls Ltd. neither assumes nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

WARNING: Digital Security Controls Ltd. recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

Installer's Lockout

Any products returned to DSC which have the Installer's Lockout option enabled and exhibit no other problems will be subject to a service charge.

Out of Warranty Repairs

Digital Security Controls Ltd. will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to Digital Security Controls Ltd. must first obtain an authorization number. Digital Security Controls Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained.

Products which Digital Security Controls Ltd. determines to be repairable will be repaired and returned. A set fee which Digital Security Controls Ltd. has predetermined and which may be revised from time to time, will be charged for each unit repaired.

Table of Contents

Section 1:Introduction	1	3.2 Programming PC4850 From a Keypad	5
1.1 About PC4850 Manuals	1	3.3 Programming From DLS-3	5
1.2 Features	1	3.4 Enrolling the PC4850	5
1.3 Specifications	1	3.5 Programming Users' Names, Telephone Numbers, and Codes	6
1.4 Additional Devices	1	3.6 Programming the Greeting Display	7
Section 2:Installing & Wiring PC4850	2	3.7 Selecting Touch-Tone* or Pulse Dialing	7
2.1 Unpacking the PC4850	2	3.8 Using the No Bill Option	7
2.2 Preparing a Mounting Location	2	3.9 Changing the Battery Supervision Option	8
2.3 Installing a Postal Lock	2	3.10 Setting the Talk Time, Door Time, Auxiliary Relay, and the Call Time	8
2.4 Installing the PC4850	2	3.11 Setting up Access Codes for Two Building Entry Points	8
2.5 Connecting Door Strikes	2	3.12 Resetting to Factory Default Programming	8
2.6 Connecting Magnetic Locks	3	Section 4:Testing and Troubleshooting	9
2.7 Connecting the Telephone Line	3	4.1 Testing the PC4850	9
2.8 Connecting the PC4850 to a PC4851 (No Bill Option)	3	4.2 Troubleshooting	9
2.9 Connecting the Combustion	3	4.3 "System is Busy. Please Wait" Message	9
2.10 Connecting More Than One PC4850	3	Section 5:Programming Worksheet	10
2.11 Connecting a PC4850 with a PC4820 Installed on the Same Door	3	5.1 PC4850 Toggle Options	10
2.12 Connecting the PC4850 to Ground	4	5.2 Miscellaneous Options	10
2.13 Connecting the Power	4	5.3 Entry Access Divider	10
2.14 Lithium Batteries	4	5.4 Greeting Display	10
2.15 Connecting Tamper	4	Tenant Information Record Sheet	11
Section 3:Programming the PC4850	5		
3.1 How the PC4850 Works	5		

*'Touch-Tone' is a registered trademark of Stentor Resource Centre, Inc.

FCC COMPLIANCE STATEMENT

CAUTION: Changes or modifications not expressly approved by Digital Security Controls Ltd. could void your authority to use this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

The user may find the following booklet prepared by the FCC useful: "How to Identify and Resolve Radio/Television Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402, Stock # 004-000-00345-4.

Important Information

This equipment complies with Part 68 of the FCC Rules. On the side of this equipment is a label that contains, among other information, the FCC registration number of this equipment.

NOTIFICATION TO TELEPHONE COMPANY The customer shall notify the telephone company of the particular line to which the connection will be made, and provide the FCC registration number and the ringer equivalence of the protective circuit.

FCC Registration Number: F53CAN-35604-OT-E

Ringer Equivalence Number: 0.1B

USOC Jack: RJ-11

TELEPHONE CONNECTION REQUIREMENTS Except for the telephone company provided ringers, all connections to the telephone network shall be made through standard plugs and telephone company provided jacks, or equivalent, in such a manner as to allow for easy, immediate disconnection of the terminal equipment.

Standard jacks shall be so arranged that, if the plug connected thereto is withdrawn, no interference to the operation of the equipment at the customer's premises which remains connected to the telephone network shall occur by reason of such withdrawal.

INCIDENCE OF HARM Should terminal equipment or protective circuitry cause harm to the telephone network, the telephone company shall, where practicable, notify the customer that temporary disconnection of service may be required; however, where prior notice is not practicable, the telephone company may temporarily discontinue service if such action is deemed reasonable in the circumstances. In the case of such temporary discontinuance, the telephone company shall promptly notify the customer and will be given the opportunity to correct the situation.

ADDITIONAL TELEPHONE COMPANY INFORMATION The security control panel must be properly connected to the telephone line with a USOC RJ-11 telephone jack.

The FCC prohibits customer-provided terminal equipment be connected to party lines or to be used in conjunction with coin telephone service. Interconnect rules may vary from state to state.

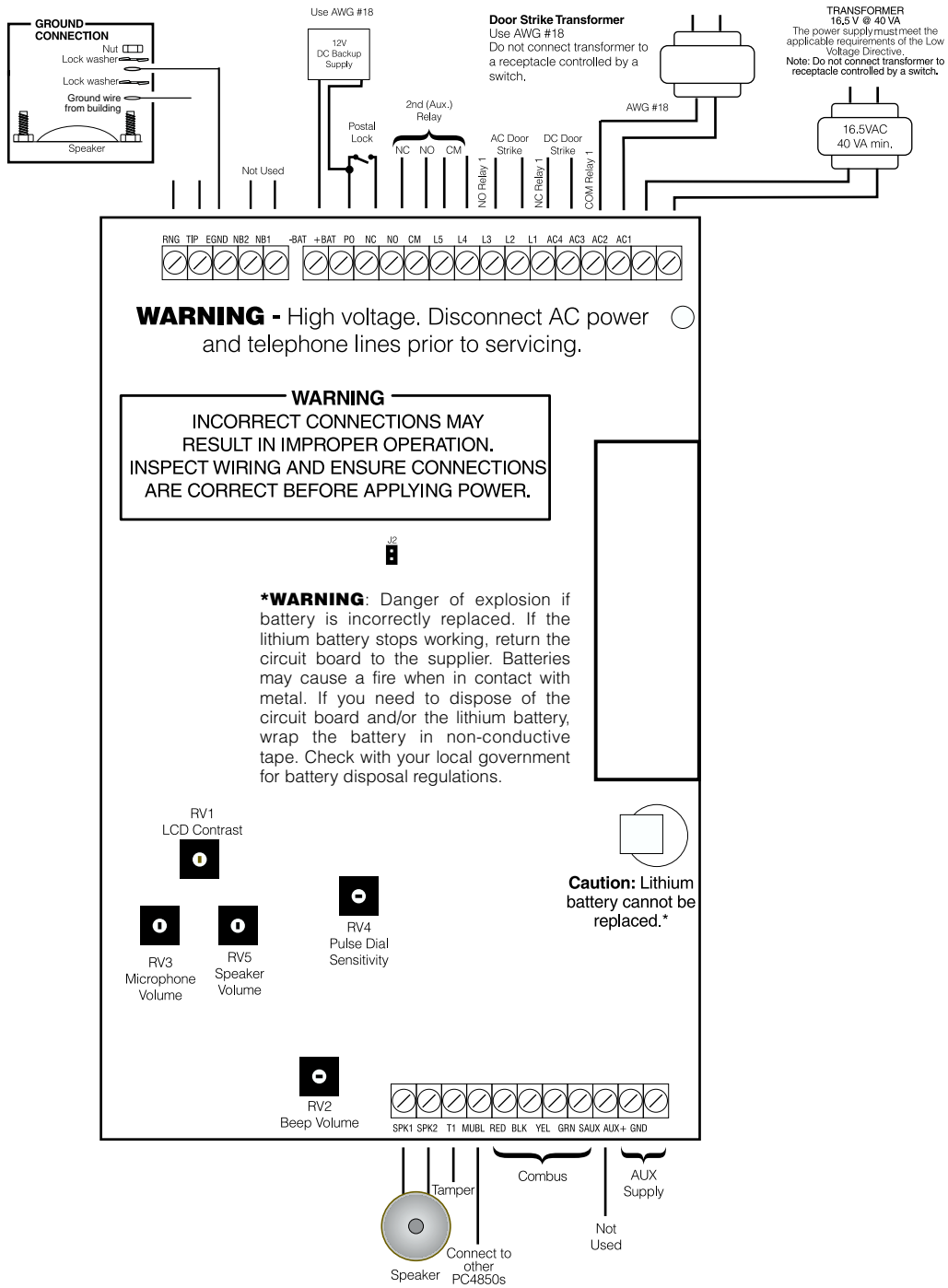
CHANGES IN TELEPHONE COMPANY EQUIPMENT OR FACILITIES The telephone company may make changes in its communications facilities, equipment, operations or procedures, where such actions are reasonably required and proper in its business. Should any such changes render the customer's terminal equipment incompatible with the telephone company facilities the customer shall be given adequate notice to the effect modifications to maintain uninterrupted service.

RINGER EQUIVALENCE NUMBER (REN) The REN is useful to determine the quantity of devices that you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company.

EQUIPMENT MAINTENANCE FACILITY If you experience trouble with this telephone equipment, please contact the facility indicated below for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

Digital Security Controls Ltd. 160 Washburn St., Lockport, NY 14094

PC4850 Wiring Diagram



IMPORTANT:

1. The connection to the mains supply must be made as per the local authorities' rules and regulations. In the UK, as per BS6701.
2. If during the installation a knockout is removed, it is the installer's responsibility to ensure that the same degree of protection for the cabinet is provided by the use of bushings, fittings, etc.
3. The cabinet must be secured to the building structure before operation.
4. The equipment is intended to be installed by **SERVICE PERSONNEL ONLY** or equivalent (e.g.: persons having appropriate technical training and experience necessary to be aware of hazards to which they are exposed in performing that task.
5. Internal wiring must be routed in a manner that prevents:
 - excessive strain on wire and on terminal connections;
 - loosening of terminal connections;
 - damage of conductor insulation.
6. Regarding the power supply
 - it must be **PERMANENTLY CONNECTED**
 - In EU countries, it must meet the applicable requirements of the Low Voltage Directive and must be **PERMANENTLY CONNECTED** and protected, as per EN60950 requirements. In all other countries, it shall be of an approved type acceptable to the local authorities. It must not produce an Earth leakage current higher than 3.5mA at maximum rate voltage.
7. The ground connection must be as shown above, or equivalent.

Section 1: Introduction

The PC4850 Telephone Entry Module connects to PC4020 v3.2 and higher systems to provide access control and communication to tenants of condominiums, offices, or apartment buildings. The PC4850 uses the tenant's existing telephone line to allow tenants to communicate with visitors and, if desired, to open the entry door for them. Each PC4850 module can provide access control for up to two building entry points.

You can program up to 1500 users on each PC4020 v3.2 and higher system.

1.1 About PC4850 Manuals

The PC4850 manual set provides installation and programming instructions for the PC4850 module.

Installation Manual

Please read this manual before installing the PC4850 module.

On page 11 of this manual is a Tenant Information Record Sheet. You can photocopy this form for your customers so that they can keep a record of the user programming for their system. On page 10 of this manual is a programming worksheet for you to record your PC4850 programming choices.

1.2 Features

- Supports up to 1500 users
- Connect up to 16 PC4850 modules to the system (all PC4850 modules share one telephone line)
- Programmable locally using a Maxsys system keypad
- Uploading and downloading of data from a remote computer using DLS-3
- Each PC4850 can control up to 2 entry points

1.3 Specifications

- Connects to PC4020 panel with 4-wire Combus
- AC input - 16VAC, 40VA
- Backup power source - 12 VDC, 4Ah compatible (not included)
- Battery charger - 350mA to charge 12VDC lead acid batteries
- Door strike transformer connection - 8 to 24VAC, 1.6A
- Primary relay outputs - 24VAC, 1.6A continuous; 24V, 2.0A peak
- Auxiliary relay output - 24VAC, 1.6A
- Postal lock switch - 12VDC, 0.25A
- Lithium backup battery for programming memory and clock included - lasts up to 10 years
- Speaker impedance: 45 Ω
- Aux output: 12VDC, 25mA with 1.2Ah backup
12VDC, 200mA with 4Ah backup

1.4 Additional Devices

- AC or DC style door strikes, magnetic locks, and electric doors can be used
- A postal lock may be connected (optional Postal Switch Kit required)
- CCTV board camera (optional Camera Mount Hardware Pack is required)

Section 2: Installing & Wiring PC4850

2.1 Unpacking the PC4850

Check that the following parts are in your PC4850 package:

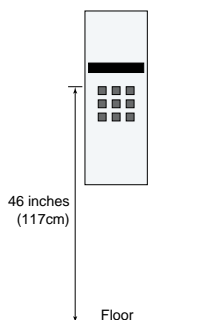
- 1 - PC4850-C cabinet
- 1 - PC4850 board (mounted in cabinet)
- 1 - Speaker (mounted in cabinet)
- 1 - 16VAC, 40VA transformer (N.A. only)
- 1 - Postal bracket (mounted in cabinet)
- 1 - Postal lock delete plate (mounted in cabinet)
- 1 - Hole plug (mounted in cabinet door)

2.2 Preparing a Mounting Location

1. **Select a mounting location for the PC4850 using the following guidelines:**

- close to the entry door
- away from areas with a large amount of background noise.

NOTE: It is recommended that you mount the PC4850 so that the top of the keypad is no higher than 46 inches (117cm) from the floor.



NOTE: If mounting the PC4850 on a gatepost, mount it on the post which **does not** receive continuous vibration when the gate closes.

2. Schedule Telephone Company Set up

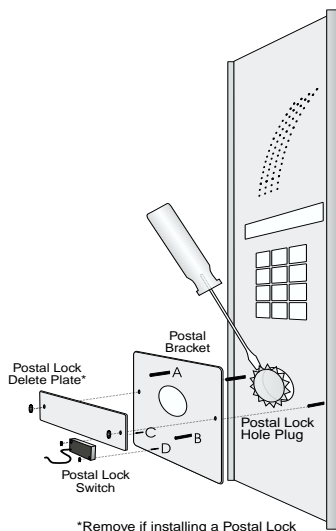
Inform the local telephone company that you will be installing communication equipment. They may need to know the FCC registration number of the system. The FCC number is on a label inside the PC4850 cabinet.

If necessary, schedule an appointment for the telephone company to install an RJ-11 jack for the building. If you are installing more than one PC4850 module, only one module will need an RJ-11 jack.

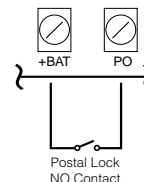
2.3 Installing a Postal Lock

If you need to install a postal lock, you should install it before you mount the PC4850 cabinet. The Postal Switch Kit (optional) must be ordered separately. If you will not be installing a postal lock, you should leave the postal lock delete plate and postal bracket in place. To install the postal lock:

1. Undo the nuts holding the postal lock delete plate in place, and remove the plate. Keep the nuts for step 4.



2. Remove the postal bracket (leave the support cables attached).
3. Use a screwdriver to lift the prongs on the postal lock hole plug, and remove the plug from the hole.
4. Replace the postal bracket on the posts, and secure it with the nuts you removed in step 1.
5. Slide the postal lock switch onto posts C and D, and secure it with the provided nuts.
6. Connect the postal lock switch to the PO and +BAT terminals as shown.
7. Install the postal lock to posts A and B on the postal bracket.



2.4 Installing the PC4850

Mount the panel in a dry area close to an unswitched AC power source. Use appropriate wall anchors when securing the panel to drywall, plaster, concrete, brick or similar surfaces.

NOTE: You must complete all wiring before connecting the battery, or applying AC to the panel.

2.5 Connecting Door Strikes

Please see the door strikes manufacturer's instructions when connecting door strikes.

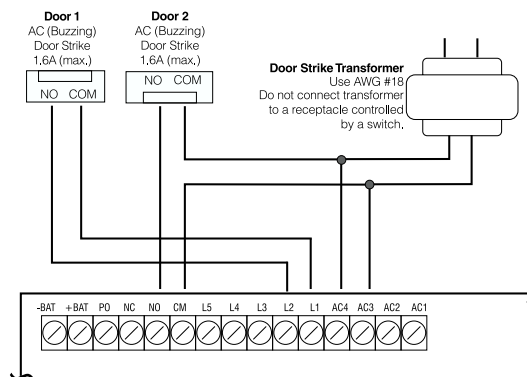
The PC4850 can support AC and DC door strikes. It is important to use the properly rated AC transformer, usually 8 to 24 VAC. Please see the door strike *Installation Manual* and use the recommended transformer for your particular door strike.

If an AC door strike is used, please see the diagram in the 'AC Door Strikes' section. The PC4850 provides an AC output for door 1 at terminals L1/L2 and for door 2 at terminals NO/NC.

If a DC door strike is used, please see the diagram in the 'DC Door Strikes' section. The PC4850 provides a DC output for door 1 at terminals L3(+)/L4(-). If a DC output is needed for door 2, an external bridge rectifier is required as shown in the wiring diagram. When connecting magnetic locks please see Section 2.6, 'Connecting Magnetic Locks'.

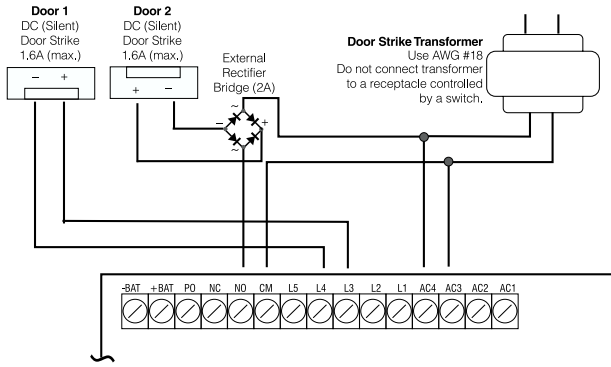
AC (Buzzing) Door Strikes

If you will be connecting AC door strikes, follow the diagram below:



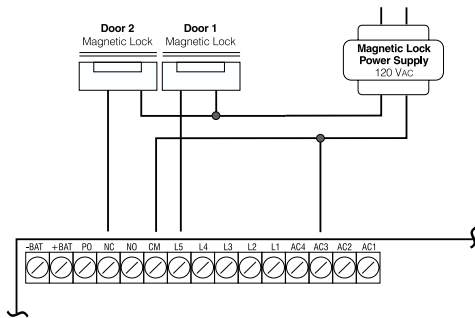
DC (Silent) Door Strikes

If you will be connecting DC door strikes, follow the diagram below:



2.6 Connecting Magnetic Locks

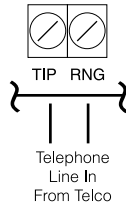
If you will be connecting magnetic locks, follow the diagram below:



Follow the manufacturer's instructions when connecting the magnetic locks to the PC4850.

2.7 Connecting the Telephone Line

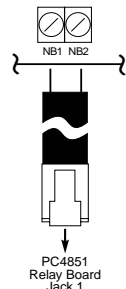
If the PC4850 will be using an incoming telephone line to call tenants, connect the line from the telephone company as shown. If you will be using the existing telephone lines in the building and the No Bill option, you do not need to connect the PC4850 to an incoming telephone line.



NOTE: We recommend that you do not connect a telephone to the incoming telephone line used by the PC4850, as the security of the system may be reduced. If an external telephone is connected to this line, do not attempt outgoing telephone calls when no dial tone is present, as the line is being used by the PC4850.

2.8 Connecting the PC4850 to a PC4851 (No Bill Option)

If you will be using the No Bill option in the installation, connect the PC4850 to the relay card in the main cabinet of the PC4851, as shown. To install the main cabinet of the PC4851, follow the instructions in the *PC4851 Installation Manual*. See also section "Using the No Bill Option" on page 7.

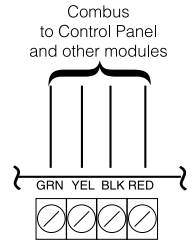


2.9 Connecting the Combus

The Combus is used by the Maxsys control panel and the modules to communicate with each other. The four Combus terminals of the main panel must be connected to the four Combus terminals or wires of all modules.

When wiring the Combus, the following conditions apply:

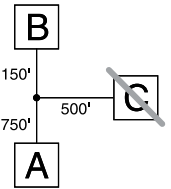
- Combus should be run in minimum 22 gauge quad (0.5mm), two pair twist preferred
- the PC4850 units can be home-run, connected in series or can be T-tapped
- each PC4850 unit should not be more than 1,000' / 305m (in wire length) from the panel
- shielded wire is not necessary unless wires are run in an area that may present excessive RF noise or interference.
- cables greater than 2m in length must be rated VW1, FT1 or better.



Example of Combus Wiring

PC4850 (B) is wired correctly as it is within 1,000' / 305m of the PC4020 (A), in wire distance

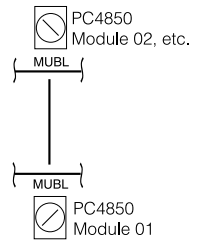
PC4850 (C) is NOT wired correctly as it is further than 1,000' / 305m from the PC4020 (A), in wire distance.



See your *PC4020 Installation Manual* for complete Combus wiring instructions.

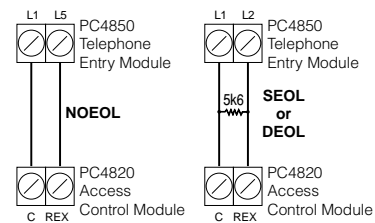
2.10 Connecting More Than One PC4850

You can connect up to 16 PC4850 modules to one PC4020 system. All modules are connected to the same incoming telephone line. As well as connecting each module to the main panel through the Combus, you must also connect the modules to each other through the MUBL terminal, as shown.



2.11 Connecting a PC4850 with a PC4820 Installed on the Same Door

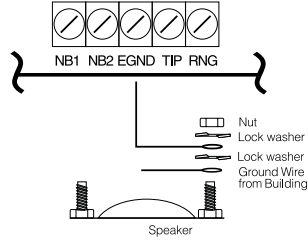
If the PC4850 will be installed on the same door as a PC4820 Access Control module, connect the PC4820 REX output to the PC4850 terminals, as shown.



Note: In this configuration, do not connect door power (AC or DC).

2.12 Connecting the PC4850 to Ground

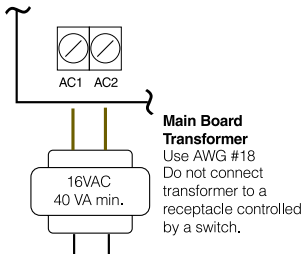
Make a ground connection as shown below:



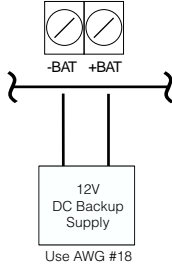
2.13 Connecting the Power

Once all other wiring is complete, power up the PC4850:

- After powering up the PC4850 for the first time, wait for 10 seconds and then remove the shorting jumper J2. During the normal operation of the PC4850, the jumper must be kept removed.
- Connect the main board transformer to terminals AC1 and AC2, as shown.



- If connecting a backup battery, connect the red battery lead to the +BAT terminal and the black lead to -BAT.



2.14 Lithium Batteries

There is a lithium battery on the module. Do not attempt to replace this battery. There is a danger of explosion if the battery is incorrectly replaced.

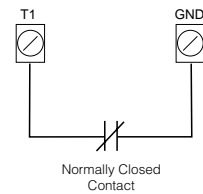
If the lithium battery stops working, return the circuit board to the supplier. Batteries may cause a fire when in contact with metal. If you need to dispose of the circuit board and/or the lithium battery, wrap the battery in non-conductive tape. Check with your local government for battery disposal regulations.

WARNING: Do not store the batteries in such a way that they come into contact with each other or with any piece of metal. Explosion or fire may occur. Should fire occur, use only dry chemical fire extinguishers. Do not use water to put out the fire.

Do not heat the batteries. Do not dispose of the batteries or circuit boards in a fire. Do not disassemble the batteries. Do not apply pressure to or deform the batteries. Ensure that the above precautions are strictly observed by related departments, including, but not limited to, production, sales and outside contractors.

2.15 Connecting Tamper

Please see diagram below for connecting tamper.



Section 3: Programming the PC4850

This section describes how the PC4850 module works, and how to program it. You can program the PC4850 using either of these methods:

- using a Maxsys system keypad
- using DLS-3 and a computer (see section 3.3, “Programming From DLS-3”, and the DLS-3 manual).

3.1 How the PC4850 Works

When the PC4850 is set up and running correctly, visitors will be able to call the tenant they want to talk to and the tenant will be able to open the door for them. Tenants will also be able to enter the building using their access code.

To Call a Tenant

When the PC4850 is not in use, the display will switch between the initial greeting message and the following message every few seconds:

```
To Find Tenant's  
Name, Press #
```

Visitors who know the tenant code for the person they want to call can enter the code at any time. If no tenant code is programmed, or if the visitors don't know the code, they can press [#] to find the name of the tenant they want to call. When scrolling through tenant names, the display shows (for example):

```
Jane Smith  
[*]Prev. [#] Next
```

The visitor may also press the number key corresponding to the first letter of the tenant names. This will display the first name in the list beginning with that letter. For example, the [4] is associated with the letter “J”, “K”, and “L”. Pressing the [4] key will display the first name in the list beginning with “J”. Pressing [4] again will display the first name in the “K” list; pressing [4] again will display the first name in the “L” list. When you have arrived at the letter of the tenant's name scroll to the tenant's name as described above. If visitors find the correct name and press [0], or if they have entered a valid tenant code, the display changes to:

```
Calling Tenant,  
To stop push “#”
```

If the tenant's telephone line is busy, the PC4850 will sound a 5-second busy tone and the display will show:

```
Line is Busy....  
Please Try Again
```

The PC4850 will hang up the line if the tenant does not answer after the call time programmed by the installer.

If the tenant answers the telephone, he or she can talk to the visitor for the amount of time programmed by the installer (from 0 – 99 seconds). At the last ten seconds of talk time, the PC4850 will beep once and display a count-down of the last 10 seconds.

To Open the Door for a Visitor

- If tenants want to open the door for the visitor, they can dial [7] on their telephone. When they open the door, the speaker beeps once per second while the door is unlocked, and the PC4850 display shows:

```
Door Unlocked,  
Please Enter.
```

- If tenants want to open the alternate entrance (e.g., a second door, or car gate), they can dial [9] on the telephone (Touch-Tone telephones only).

To Enter the Building Using an Entry Access Code

If tenants want to enter the building using the entry access code they should:

1. Press [*] on the keypad.
2. Enter their access code. The PC4850 opens the door, the speaker beeps once per second while the door is unlocked, and the PC4850 display shows:

```
Door Unlocked,  
Please Enter.
```

NOTE: When entering either the entry access code or the tenant code, the PC4850 allows a maximum of 3 seconds between key presses. If you wait longer than 3 seconds before pressing the next key, the PC4850 will go back to the greeting displays.

3.2 Programming PC4850 From a Keypad

You can program the PC4850 right from a system keypad in the same way that you program other Maxsys modules. See your *PC4020 Installation Manual* for more information.

Record all your programming on the “Programming Worksheet” on page 10.

3.3 Programming From DLS-3

You can program the PC4850 from a remote computer using the DLS-3 software. To install and use the software, refer to the DLS-3 manual.

3.4 Enrolling the PC4850

Once you have finished wiring the PC4850 module, you must enroll it on the PC4020 system. To enroll the module:

1. At a system keypad, enter installer's programming by pressing [*] [8] [Installer's Code].

NOTE: The default Installer's Code is [5555].

2. Scroll to “Module Hardware” and press the [*] key.
3. The message “Enroll Module” will appear. Press [*].
4. Scroll through the different modules until the module you wish to enroll is displayed. Press the [*] key.
5. The keypad will display the message “Create Tamper On Desired Unit.” Go to the PC4850 module to be enrolled and tamper it. Return to the original keypad. A message similar to the following will be displayed to confirm enrollment: “PC4850 TCS Mod 02 Enrolled”.

3.5 Programming Users' Names, Telephone Numbers, and Codes

To get the PC4850 up and running, you, or the building staff, will need to program up to four items of information for each user:

- Access code (this is the same access code as for the rest of the system)
- User name (the user name will be displayed on the PC4850 LCD display so that visitors can find the user to call him or her)
- User telephone number, or line number for the No-Bill option (so that the system can call the user when there is a visitor)
- Tenant code (optional - building staff can post a list of tenant codes for visitors to enter on the keypad to call users)

For visitors to be able to call a user, you must program a telephone number, or telephone line number (if using the No Bill option) for each user name.

Make copies of the Tenant Information Record Sheet on page 11 to record user information.

To Program User Information:

1. At a system keypad, enter [*][5] followed by a [Master Code].
2. The keypad displays:
Select (0) < >
User No. Search
Press [0] or [*].
3. The keypad displays:
Sel. Code (0001) < >
User 1
User 1 (Access Code 0001) is the System Master Code. Use the right arrow (>) key to scroll to the user you wish to program (for example, User 2). Press [*] to select the user.
4. The keypad displays:
Select (0) < >
Program Code
This is the Program Code menu. Use the right arrow (>) key to scroll through each display in the Program Code menu. To select any menu item for programming, press [*].

Program Code

If users will enter an access code to enter the building or to use security system functions, program the 4- or 6-digit access code for each user here.

1. When the keypad displays: "Select (0) Program Code." press [0] or [*].
2. The display will indicate "Enter Digits" followed by "AAAA." This is the default setting for the access code. Enter four or six digits for the new code.
3. Press [#]. The display will return to "Select (0) Program Code." The new code has been programmed.

NOTE: Do not program access codes that can be easily guessed and will compromise the security of your system (e.g., 1111 or 1234).

Edit User Name

You must program a user name for each access code. To program the user name:

1. From the Program Code menu, use the right arrow (>) key to scroll to the following display:

```
Select (2) < >  
Edit User Name
```

2. Press [2] or [*].
3. The display will read "Program Name." For access code 0002, the default name will be "User 2." Enter the new user name using the number keys in the following manner:

The letters of the alphabet have been divided up among the 1 to 9 number keys on the keypad as follows:

[1] = A, B, C, 1	[2] = D, E, F, 2	[3] = G, H, I, 3
[4] = J, K, L, 4	[5] = M, N, O, 5	[6] = P, Q, R, 6
[7] = S, T, U, 7	[8] = V, W, X, 8	[9] = Y, Z, 9, 0
[0] = Space		

For example, if you press the [4] key once, the letter "J" will appear above the cursor on the display. Press the [4] key again, the next letter "K" will appear, and so on. If a different number key is pressed, the cursor will automatically move to the right one space. To erase a character, use the [<] [>] keys to move the cursor under the character, then press the [0] key.

NOTE: If a user does not want their name listed on the PC4850 display, but does want to have an access code, you can put a "!" at the beginning of the user name. To enter a "!", press [*], then scroll to the message "ASCII Entry". Press [*], then enter [033*].

4. Once the new name has been entered, press [#]. The display will return to "Select (2) Edit User Name."

Access Code Label Options

There are other options available when programming labels. When programming the label, press the [*] key for the options menu. Use the arrow (< >) keys to scroll through each option. Press the [*] key to select. The available options are:

- **Clear Display:** Selecting this option will clear the entire code label.
- **Clear to End:** This will clear the display from the character where the cursor was located to the end of the display.
- **Change Case:** This will toggle the letter entry between uppercase and lowercase letters.
- **ASCII Entry:** This is for entering uncommon characters. Use the arrow (< >) keys to scroll through the available characters. Each character will be displayed along with the corresponding 3-digit ASCII number. If you know the character's 3-digit number, enter it. Press the [*] key to enter the character into the code label.

User Telephone or Telephone Line Number

Program the telephone number for each user. If you are using the No Bill option, program the 3-digit telephone line number provided by your telephone company instead.

1. From the Program Code menu, use the right arrow (>) key to scroll to the following display:

```
Select (5) < >  
Phone Number
```

2. Press [5] or [*].
3. Enter up to 12 digits for the telephone number. If you are using the No Bill option, program the 3-digit telephone line number provided by your telephone company instead.

If you need to program special characters into the telephone number, you can do this using hexadecimal digits. The following hexadecimal digits will insert special characters into the telephone number:

NOTE: In the No Bill Option, programming of Hexadecimal digits is not allowed. Hexadecimal digits will cause incorrect operation.

Special characters can be added to the telephone number in order to perform designated functions. Press the [*] key to enter the telephone entry options menu. The five options are as follows:

- [0] **Save:** This can be selected for the telephone number to be stored in the panel's memory, or simply press [#] when finished entering the telephone number.
 - [1] **Dial tone search:** This character will force the panel to search for a dial tone at that point in the telephone number. A "D" on the display represents a dial tone search. A dial tone search is already programmed as the first digit for each telephone number.
 - [2] **Pause 2 Seconds:** This will add a 2-second pause to the dialing sequence, represented by the letter "A" on the display.
 - [3] **Pause 4 Seconds:** This will add a 4-second pause to the dialing sequence, represented by the letter "E" on the display.
 - [4] **DTMF [*]:** This will add an asterisk to the telephone number, represented by a "B" on the display. The dialer will output the same frequencies as the Touch-Tone [*] key. This character is frequently required to disable call waiting.
 - [5] **DTMF [#]:** This will add a "#" to the telephone number, represented by the letter "C" on the display. The dialer will output the same frequencies as the Touch-Tone [#] key. In some instances, this character is used to disable call waiting.
4. When you are finished, press [#].

Tenant Code (Optional)

You can give visitors the option of entering a 4-digit code on the keypad to call a user. To do this, enter the 4-digit code for the apartment. If a user knows a visitor is coming, they can give them the tenant code as a faster way to call them.

1. From the Program Code menu, use the right arrow (>) key to scroll to the following display:

```
Select (6) < >
Tenant Code
```
2. Press [6] or [*].
3. Enter up to 4 digits for the tenant code.
4. When you are finished, press [#].

Duplicate Entries

If the **Duplicate Code** toggle option is turned on in the PC4020 programming, you will not be able to program duplicate access codes. See your *PC4020 Installation Manual* for more information.

NOTE: We recommend that users who have different telephone numbers be given different tenant codes. If you program more than one user with the same tenant code, the PC4850 will only call the user who is first in alphanumeric order. Visitors will not be able to call any other user using that code.

You can program users with the same name. However, if users have exactly the same name, visitors will not be able to distinguish between them when scrolling through the list of names.

3.6 Programming the Greeting Display

Ref #: [0017XX03], where XX = PC4850 module number

The greeting display is what the LCD screen will show when the system is not being used. The greeting display is two lines of 16 characters. To change the greeting display:

1. Enter [*][8][Installer's Code].
2. Enter reference number [0017XX03], where XX is the number of the PC4850 module.
3. Press [*].
4. Enter the new user name using the number keys in the following manner:

The letters of the alphabet have been divided up among the 1 to 9 number keys on the keypad as follows:

[1] = A, B, C, 1	[2] = D, E, F, 2	[3] = G, H, I, 3
[4] = J, K, L, 4	[5] = M, N, O, 5	[6] = P, Q, R, 6
[7] = S, T, U, 7	[8] = V, W, X, 8	[9] = Y, Z, 9, 0
[0] = Space		

For example, if you press the [4] key once, the letter "J" will appear above the cursor on the display. Press the [4] key again, the next letter "K" will appear, and so on. If a different number key is pressed, the cursor will automatically move to the right one space. To erase a character, use the [<] [>] keys to move the cursor under the character, then press the [0] key.

5. To save the message, press [#].

3.7 Selecting Touch-Tone or Pulse Dialing

Ref #: [0017XX00], where XX = PC4850 module number

The PC4850 can call users using either Touch-Tone or pulse dialing formats. The default setting is for the Touch-Tone format. To change the dialing format:

1. Enter [*][8][Installer's Code].
2. Enter reference number [0017XX00], where XX is the number of the PC4850 module.
3. Use the arrow (<>) keys to scroll until the display shows:

```
DTMF Dialing
```
4. Press [*] to toggle the option on or off.
5. When you are finished, press [#].

3.8 Using the No Bill Option

Ref #: [0017XX00], where XX = PC4850 module number

Turn on the No Bill option if the PC4850 will use the existing telephone connections in the building to call tenants, and you have connected the PC4850 to a PC4851 unit. See section 2.8, "Connecting the PC4850 to a PC4851 (No Bill Option)".

Do not turn on this option if the PC4850 will be using an incoming telephone line to call tenants.

1. Enter [*][8][Installer's Code].
2. Enter reference number [0017XX00], where XX is the number of the PC4850 module.
3. Use the arrow (<>) keys to scroll until the display shows:
No Bill
4. Press [*] to toggle the option on or off.
5. When you are finished, press [#].

3.9 Changing the Battery Supervision Option

Ref #: [0017XX00], where XX = PC4850 module number
You can choose to have the PC4850 supervise the battery. If the PC4850 supervises the battery, it will send the panel a battery trouble when the battery is low.

1. Enter [*][8][Installer's Code].
2. Enter reference number [0017XX00], where XX is the number of the PC4850 module.
3. Use the arrow (<>) keys to scroll until the display shows:
Battery Suprvs
4. Press [*] to toggle the option on or off.
5. When you are finished, press [#].

3.10 Setting the Talk Time, Door Time, Auxiliary Relay, and the Call Time

Ref #: [0017XX01], where XX = PC4850 module number
You can change the settings for:

- length of time users can talk to visitors (Talk Time);
- length of time the door unlocks when a user presses [7] on their telephone (Door Time);
- length of time for the auxiliary relay when a user presses [9] on their telephone (Aux Rly Time).
Example: the auxiliary relay could control a gate to a car entrance;
- the amount of time the PC4850 will wait for the user to pick up the phone before canceling the call (Call Time).

To change any of these settings follow the steps below.

1. Enter [*][8][Installer's Code].
2. Enter reference number [0017XX01], where XX is the number of the PC4850 module.
3. To change the Talk Time, press [00].
To change the Door Time, press [01].
To change the Aux Rly Time, press [02].
To change the Call Time, press [03].
4. Enter the new 3-digit time for the timer you selected (000-255 seconds).
5. Repeat steps 3 and 4 until you have programmed all the timers.

NOTE: When using the No Bill option, the Call Time should not be set for more than 60 seconds.

3.11 Setting up Access Codes for Two Building Entry Points

Ref #: [0017XX02], where XX = PC4850 module number
The PC4850 can control two entry points (e.g., a door and a car gate) using the door strike and the auxiliary relay circuits. If the users will be using access codes to enter the building, you can assign one set of codes to one entry point and another set of codes to the second entry point. To do this, tell the PC4850 what the last code will be for the first entry point – this is the Entry Access Divider. For example, if you set the divider to be 4999, codes from 0001 to 4999 will open the first entry point (e.g., the building's main door), and codes 5000 to 9999 will open the second entry point (e.g., the car gate).

NOTE: With the setting (9999), none of the entry access codes will open the 2nd entry point.

NOTE: When using the Entry Access Divider with a 6-digit access code, only the first four digits of the access code are used to determine which entry point is unlocked.

To set the Entry Access Divider:

1. Enter [*][8][Installer's Code].
2. Enter reference number [0017XX02], where XX is the number of the PC4850 module.
3. Enter the 4-digit code that will be the divider between the two access points. Valid entries are 0000 to 9999
4. When you are finished, press [#].

3.12 Resetting to Factory Default Programming

You can reset all the PC4850 programming to factory default settings.

To do this, create a temporary short on jumper J2 on the PC4850 circuit board.

1. Power down the PC4850.
2. Create a short on J2.
3. Power up the PC4850.
4. Wait 10 seconds and remove the short.

Section 4: Testing and Troubleshooting

4.1 Testing the PC4850

Once the PC4850 is connected and programmed, test each of its functions to make sure it is working correctly. The PC4850 should work as described in section 3.1, "How the PC4850 Works".

4.2 Troubleshooting

The PC4850 should work correctly without the need for adjustments. However, if you encounter problems getting the unit to work, you can try adjusting the following controls on the PC4850 circuit board. To adjust these controls, first, remove power from the PC4850 (AC and battery power), then use a small screwdriver to change the appropriate setting.

LCD Contrast

If the LCD is hard to read, turn the control marked RV1 clockwise to increase the display contrast. To decrease the display contrast, turn the control counter-clockwise.

"Beep" Volume

The PC4850 keypad beeps whenever a key is pressed. You can adjust the volume of these beeps. To increase the volume, turn the control marked RV2 clockwise. To decrease the volume, turn the control counter-clockwise.

Microphone Volume

If users cannot hear visitors when they call using the PC4850, turn the control marked RV3 clockwise to increase the microphone sensitivity. To decrease the microphone sensitivity, turn the control counter-clockwise.

Pulse Dial Sensitivity

If the PC4850 does not unlock the door when a user dials 9 using a pulse dial telephone, turn the control marked RV4 clockwise or counter-clockwise 1/10 of a revolution, until the door unlocks when 9 is dialed.

Speaker Volume

If visitors cannot hear the user they are calling on the PC4850, turn the control marked RV5 clockwise to increase the speaker sensitivity. To decrease the speaker sensitivity, turn the control counter-clockwise.

4.3 "System is Busy. Please Wait" Message

Whenever the system displays this message, visitors will not be able to call users using the PC4850, but users will still be able to enter the building using their access codes. Postal workers will also be able to enter if a postal lock has been installed.

If this message is displayed, check for a Telephone Line Trouble. This trouble will occur when the outgoing telephone line is disconnected from one or more units, or if the telephone line is out of service. When the telephone line is restored, the PC4850 will work normally. This message is also displayed when another PC4850 current has the line.

Section 5: Programming Worksheet

Record your PC4850 programming here.

5.1 PC4850 Toggle Options

DTMF Dialing: Default = Y
No Bill: Default = N
Battery Suprvs: Default = N

5.2 Miscellaneous Options

Default
Talk Time: 060 seconds
Door Time: 010 seconds
Aux Rly Time: 000 seconds
Call Time: 060 seconds

5.3 Entry Access Divider

Default: [9999] Valid entries are 0000 to 9999.

5.4 Greeting Display

Default: [DSC Ltd.
MAXSYS]

Greeting Display:

AVIS: L'étiquette de l'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme à certaines normes de protection, d'exploitation et de sécurité des réseaux de télécommunications. Industrie Canada n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêchent pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être effectuées par un centre d'entretien canadien autorisé désigné par le fournisseur. La compagnie de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, les lignes téléphoniques et les canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

AVERTISSEMENT: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

Indice d'équivalence de la sonnerie (IÉS) assigné à chaque dispositif terminal indique, pour éviter toute surcharge, le pourcentage de la charge totale qui peut être raccordée à un circuit téléphonique bouclé utilisé par ce dispositif. La terminaison du circuit bouclé peut être constituée de n'importe quelle combinaison de dispositifs, pourvu que la somme des indices d'équivalence de la sonnerie de l'ensemble des dispositifs ne dépasse pas 5.

Indice d'équivalence de la sonnerie de ce produit est 0.1.

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

User should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Ringer Equivalence Number of all the devices does not exceed 5.

The Ringer Equivalence number of this unit is 0.1.



©2001 Digital Security Controls Ltd., Toronto, Canada

1-800-387-3630 • www.dsc.com

Printed in Canada 29005231 R003